7. ENVIRONMENTAL ANALYSIS

The purpose of considering environmental factors in airport master planning is to assist in evaluating future airport development, as well as provide information that will help expedite subsequent environmental processing. FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, are the FAA's environmental guidance for aviation projects/actions to comply with NEPA. However, it is important to note that while the environmental analysis is included in this Master Plan Update, it is not in and of itself a NEPA document.

7.1 National Environmental Policy Act (NEPA)

After GCIAA has completed the planning process for a project(s), they would need to determine what projects would require environmental analysis under NEPA. A project requires NEPA review if:

1. The project results in a change to the Airport Layout Plan (ALP), or
2. The project uses federal funding (e.g., AIP grant)

The following scenarios describe airport projects and whether NEPA is required:

- Project Scenario 1: The Airport operator proposes to construct a new hangar on Airport property that would change the ALP. The change in the ALP results in the need for NEPA documentation.
- Project Scenario 2: The Airport operator proposes to modernize its public bathrooms and does not use federal money. NEPA is not required because the ALP does not change and the Airport is using its own funds (or state or local funds, but not federal funds).

- Project Scenario 3: The Airport operator proposes to rehabilitate a taxiway and plans to use federal money. While there is no change to the ALP, federal funds are used; therefore, NEPA documentation is needed.

Once it has been determined that a project would require environmental analysis, the Airport operator, in coordination with the FAA, would need to determine what type of NEPA documentation the project requires. There are three levels of NEPA review: Categorical Exclusion (CATEX), Environmental Assessment (EA), or Environmental Impact Statement (EIS).

7.1.1 Categorical Exclusion

A CATEX refers to a category of actions that do not individually or cumulatively have a significant effect on the human environment, and for which, neither an EA or an EIS is required. FAA Order 1050.1F paragraphs 5-6.1 through 5-6.6 describe actions that normally do not individually or cumulatively have a significant effect on the human environment. These actions are described under one of the following categories:

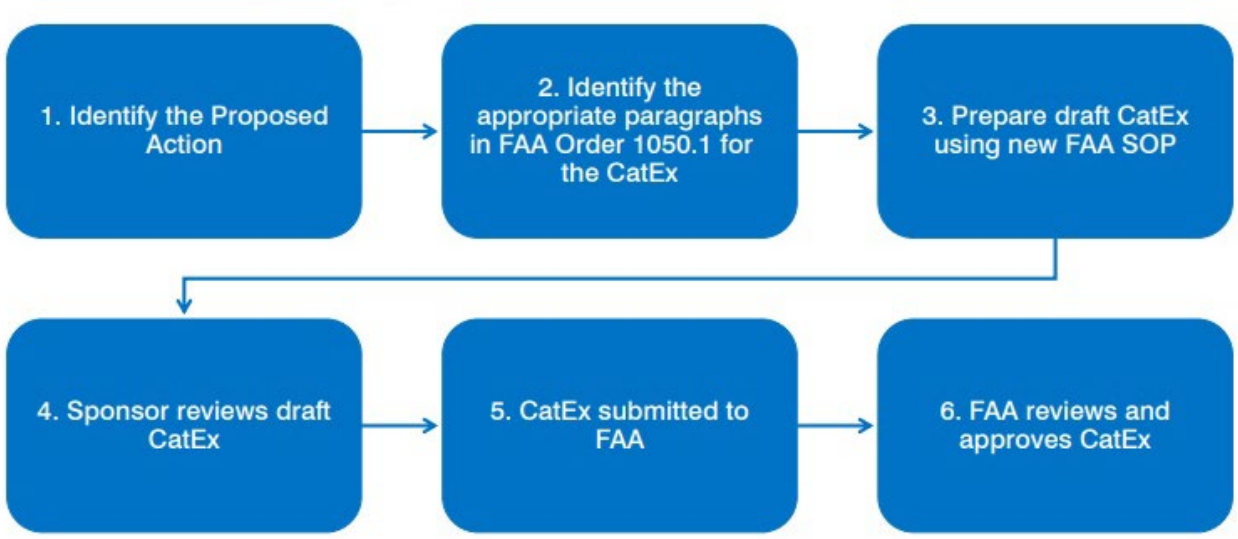
- Administrative/ General (5-6.1): Actions that are administrative or general in nature
    - Example: 5-6.1(p): Conditional approval of an Airport Layout Plan (ALP)
- Certification (5-6.2): Actions concerning issuance of certificates or compliance with certification programs
    - Example: 5-6.2(e): Issuance of certificates and related actions under the Airport Certification Program
- Equipment and Instrumentation (5-6.3): Actions involving installation, repair, or upgrade of equipment or instruments necessary for operations and safety
    - Example: 5-6.3(f): Installation or replacement of engine generators used in emergencies.
- Facility Siting, Construction, and Maintenance (5-6.4): Actions involving acquisition, repair, replacement, maintenance, or upgrading of grounds, infrastructure, buildings, structures, or facilities that generally are minor in nature
    - Example: 5-6.4(a): Access road construction, and construction, relocation, or repair of entrance and service roadways that do not reduce the level of service on local traffic systems below acceptable levels.
- Procedural (5-6.5): Actions involving establishment, modification, or application of airspace and air traffic procedures
    - Example: 5-6.5(j): Implementation of procedures to respond to emergency air or ground safety needs, accidents, or natural events with no reasonably foreseeable long-term adverse impacts.
- Regulatory (5-6.6): Actions involving establishment of, compliance with, or exemptions to, regulatory programs or requirements
    - Example: 5-6.6(a): All FAA actions to ensure compliance with Environmental Protection Agency aircraft emissions standards.

FAA Airport Standard Operating Procedure (SOP) 5.1, effective June 2, 2017, describes two levels of information and documentation required for projects eligible for a CATEX:

- Simple Written Record CATEX
- Documented CATEX

For a simple written record CATEX, the project must meet the definition of a CATEX as described in FAA Order 1050.1F, paragraphs 5-6.1 through 5-6.6 and the project must not involve extraordinary circumstances, as described in FAA Order 1050.1F, paragraph 5-2. For a documented CATEX, the project must have actions where there is greater potential for extraordinary circumstances or other reasons that warrant additional CATEX documentation in accordance with FAA Order 5050.4B, paragraph 607b as well as Order 1050.1F, paragraph 5-3b. As part of a CATEX, agency coordination would occur depending on a project's potential impacts to environmental categories. A public involvement process does not typically occur as part of a CATEX. **Figure 7-1** shows the Steps for Completing a CATEX.

Exhibit 7-1 – Steps for Completing a CATEX



Source: FAA Order 1050.1F, Prepared by RS&H, June 2020

7.1.2 Environmental Assessment (EA)

An EA is conducted to determine whether a proposed action has the potential to significantly affect the human environment. An EA must be prepared when the proposed action does not normally require an Environmental Impact Statement (EIS) and:

- Does not fall within the scope of a CATEX (see FAA Order 1050.1F Paragraph 5-6, the FAA's Categorical Exclusions); or
- Does fall within the scope of a CATEX, but there are one or more extraordinary circumstances (see FAA Order 1050.1F Paragraph 5-2, Extraordinary Circumstances).

- Example: the proposed project creates an impact on properties protected under the DOT Act, Section 4(f) (e.g., Airport project results in noise or land use impacts to publicly owned park).

An EA may be required if an action involves extraordinary circumstances. An extraordinary circumstance occurs when an action has the potential to have a significant environmental impact that requires further analysis. The FAA lists proposed actions where extraordinary circumstances may exist, which include, but are not limited to: an adverse effect on cultural resources protected under the National Historic Preservation Act of 1966, as amended, 45 U.S.C. §300101 et seq; an impact on properties protected under Section 4(f); and an impact on natural, ecological, or scenic resources of federal, state, tribal, or local significance (e.g., federally listed or proposed endangered, threatened, or candidate species, or designated or proposed critical habitat under the Endangered Species Act, 16 U.S.C. §§ 1531-1544).

There are varying levels of EA documentation, depending on the level of potential environmental effects of a proposed action. These documents are:

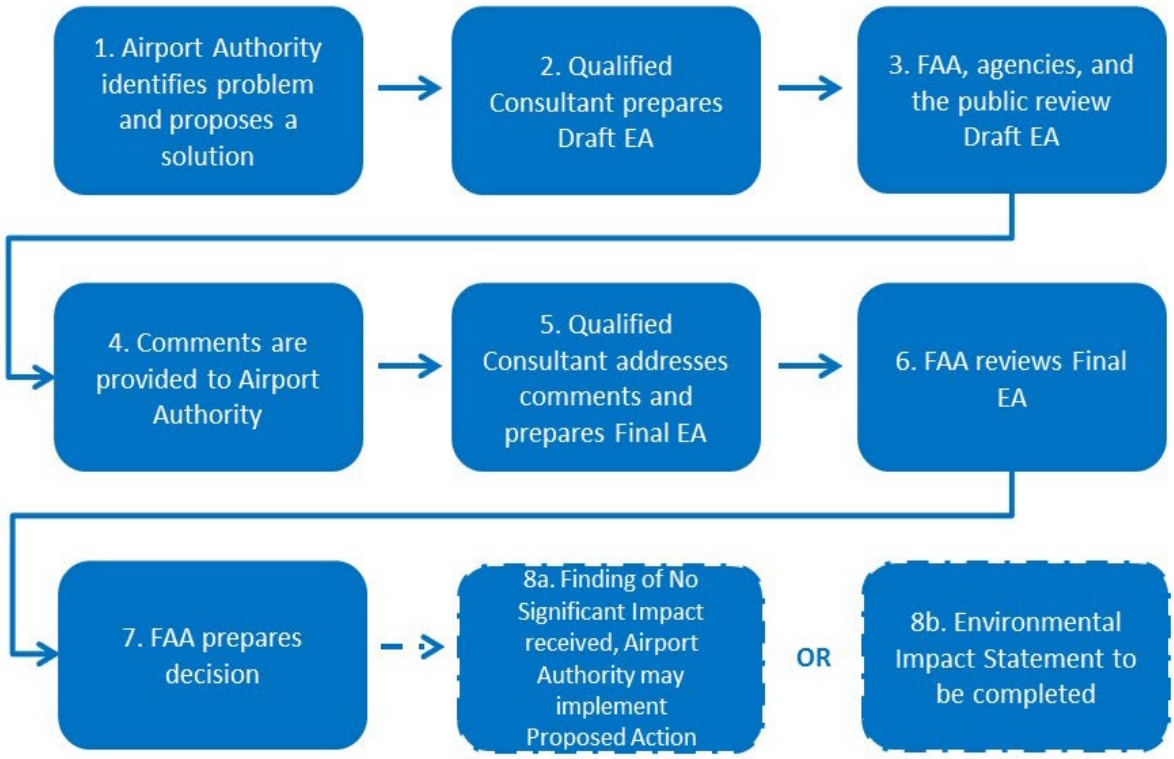
- Condensed EA
- Full EA

A Condensed EA is normally a form disseminated by the local FAA Airports District Office (ADO) to address a proposed action that may not be included within the designated CATEX categories but is also not likely to involve extraordinary circumstances. A Full EA is the proper NEPA documentation for a proposed action that has the potential to have extraordinary circumstances that can be mitigated. The local FAA ADO (Chicago ADO) will determine which type of EA is the proper NEPA documentation for such a proposed project at the Gary/Chicago International Airport.

Agency coordination and public involvement are required as part of the EA process. According to FAA Order 1050.1F, paragraph 6-2.2b, “the FAA or applicant must involve the public, to the extent practicable, in preparing EAs. The appropriate level of public involvement for an EA is determined on a case-by-case basis and will vary based on the proposed action and the potential impacts.” Coordination and consulting with appropriate federal, state, tribal, and local officials must occur throughout the EA process to obtain information regarding potential environmental impacts.

Once a project has gone through the EA process, and has been determined to have no potential for significant environmental impacts, the FAA issues a Finding of No Significant Impact (FONSI).

Exhibit 7-2 – EA Process



Source: FAA Order 1050.1F, Prepared by RS&H, June 2020

7.1.3 Environmental Impact Statement

Under NEPA, the FAA must prepare an EIS for actions significantly affecting the quality of the human environment. An EIS is a detailed written statement required under Section 102(2)C of NEPA when one or more environmental impacts would be significant and mitigation measures cannot reduce the impact(s) below significant levels.

Agency coordination and public involvement are required as part of the EIS process. According to FAA Order 1050.1F, paragraph 7-1.2d(1), the draft EIS should be available at local libraries or similar public depositories. The FAA should hold public meetings or hearings, when appropriate. Additionally, the responsible FAA official must request comments on the draft EIS from appropriate Federal, state, and local agencies, and from tribes when the impacts may be on a reservation or affect tribal interests.

7.1.4 Environmental Agency Coordination

As part of the NEPA process, the Airport or its consultant would engage in an agency coordination and public involvement process. These agencies include federal, state and local entities. The type of

coordination and the specific agencies to be contacted are dependent on the level of environmental process and the environmental categories effected by the master plan CIP projects.

7.2 Environmental Analysis of Airport Development Projects

The Airport's CIP includes landside (e.g., new terminal), airside (e.g., extension of Runway 2-20), GA/support projects (e.g., new T-hangars, aircraft rescue and firefighting (ARFF) facility, maintenance facility), for both aeronautical and non-aeronautical projects (e.g., air cargo expansion). See Chapter 6, Proposed Development Plan, for a full description of the Airport's CIP projects. Table 7-1 lists the Airport's CIP projects, Master Plan projects, and land development concepts (collectively referred to as the Airport's development projects) and environmental resource categories. The table indicates if there is the potential for a project to affect an environmental category. The following subsections describe the potential environmental effects of the Airport's development projects: a description of the Airport's deicing facilities; a general overview of the NEPA process; potential agency coordination related to the NEPA process; and recommended environmental improvement opportunities for the Airport.

Also, as Table 7-1 shows, none of the development projects would have the potential to affect Coastal Resources; Department of Transportation, Section 4(f) Resources; or Farmlands. Therefore, those environmental resource categories are not discussed further.

The environmental analysis included in this section is not in and of itself a NEPA document (e.g., Categorical Exclusion (CATEX), Environmental Assessment (EA), or Environmental Impact Statement (EIS)). Rather, this analysis is meant to guide the GCIAA in planning for the appropriate steps to implement the proposed projects. It is recommended that the Airport staff or its consultant coordinate with the FAA Chicago ADO regarding the actual required NEPA documentation for each project(s).

Table 7-1: Summary of Environmental Analysis

Airport Development Projects	Project identifier	Year (est.)	Environmental Category													NEPA Documentation (to be Verified with the FAA Chicago ADO When Project is "Ripe" for an FAA Decision)		
			Air Quality (Construction Emissions Only)	Biological Resources	Climate	Coastal Resources	DOT Act, Section 4(f)	Farmland	Hazardous Materials, Solid Waste, and Pollution Prevention	Historical, Architectural, Archeological, and Cultural Resources	Land Use	Natural Resource & Energy Supplies	Noise and Noise-Compatible Land Use	Socioeconomics, Environmental Justice, and Children's Health and Safety Risks	Visual Effects	Water Resources	CATEX	EA	EIS
Extend Runway 2-20 & Taxiway B North	A1	2022	Y	Y	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y		S	
Rehabilitate Taxiway A - Phase II	A2	2021	Y	N	N	N	N	N	Y	N	N	Y	N	N	N	N	5-6.4(e)		
Taxiway A Runway Connectors (RIM - Direct Access)	A3	2025	Y	N	N	N	N	N	Y	N	N	Y	N	N	N	N	5-6.4(e)		
Taxiway C Reconstruction as Service Road	A4	2022	Y	N	N	N	N	N	Y	N	N	Y	N	N	N	N	5-6.4(a)		
Construct East De-ice Pad	A5	2025	Y	N	N	N	N	N	Y	N	N	Y	N	N	N	Y	5-6.4(d)		
Install De-ice infrastructure for West Bay to De-ice Pad	A6	2024	Y	N	N	N	N	N	Y	N	N	Y	N	N	N	N	5-6.4(d)		
Relocate Airport Road	L1	2022	Y	N	N	N	N	N	Y	N	N	Y	N	N	N	**Y[1]**		C	
Southeast Service Road Extension	L2	2028	Y	N	N	N	N	N	Y	N	N	Y	N	N	N	**Y[1]**		C	
Replace ATCT	S1	2026	Y	N	N	N	N	N	Y	N	N	Y	N	N	Y	Y		C	
Construct New ARFF Facility	S2	2021	Y	N	N	N	N	N	Y	N	N	Y	N	N	N	**Y[1]**		C	
Construct New Electrical Vault	S3	2022	Y	N	N	N	N	N	Y	N	N	Y	N	N	N	Y	5-6.4(h)		
Construct New Administrative Offices	S4	2026	Y	N	N	N	N	N	Y	N	N	Y	N	N	Y	Y	5-6.4(h)		
Air Cargo Infrastructure	S5	2025	Y	Y	N	N	N	N	Y	Y	N	Y	N	Y[2]	Y	Y		C	
SRE Building Expansion	S6	2021	Y	N	N	N	N	N	Y	N	N	Y	N	N	N	Y	5-6.4(h)		
New T-Hangar Campus	S7	2021	Y	Y	N	N	N	N	Y	N	N	Y	Y	N	N	Y		C	
Construct New Airport Maintenance and Operations	S8	2026	Y	Y	N	N	N	N	Y	N	N	Y	N	N	N	Y		C	
Construct New Terminal	T1	2030	Y	N	N	N	N	N	Y	N	N	Y	Y	N	N	N	5-6.4(v)		
Air Cargo Expansion	F1	Beyond 2035	Y	N	N	N	N	N	Y	N	N	Y	N	Y[2]	N	Y		C	
Future Corporate/Private Hangar Development	F2	Beyond 2035	Y	Y	N	N	N	N	Y	Y	N	Y	Y	Y	N	Y		C	
Shift Taxiway A by 7 ft between Taxiway A2-A8	F3	2033	Y	N	N	N	N	N	Y	N	N	Y	N	N	N	N	5-6.4(e)		
Shift Apron Edge Taxiway	F4	2030	Y	N	N	N	N	N	Y	N	N	Y	N	N	N	N	5-6.4(e)		

Notes: [1] – Wetlands and/or Floodplain impacts; [2] – Surface Traffic (LOS); S – Standard Full EA; C – Condensed EA

Source: RS&H, 2020

7.3 Potential Effects to Environmental Resources

The following sections describe the potential effect of the projects to environmental resources by resource category.

7.3.1 Air Quality/Climate

According to the Indiana Department of Environmental Management (IDEM), the Airport property is located in a "nonattainment" area (Lake County) for the 2008 8-hour ozone standard. The Airport is also in a "maintenance" area for carbon monoxide, particulate matter, and sulfur dioxide. Table 7-1 shows the master plan CIP projects that have the potential to affect air quality.

Construction associated with the master plan CIP projects would temporarily increase construction emissions in the area of construction. Emissions could occur from activities such as disturbing land (particulate dust emissions), demolishing buildings, motor vehicles accessing the site and traversing disturbed grounds, and/or direct emissions from construction and demolition equipment.

The use of fossil fuel powered machinery during construction of most of the Airport's development projects would emit greenhouse gases (GHGs) such as carbon dioxide (CO_2). Construction associated with most of the Airport's development projects would temporarily increase GHG emissions in the area. Emissions could occur from activities such as disturbing land (particulate dust emissions), demolishing structures and/or pavement, motor vehicles accessing the site and traversing disturbed grounds, and/or direct emissions from construction and demolition equipment. These unavoidable GHG emissions would only last as long as construction activities.

Operational emissions would also increase as a result of an increase in aircraft operations and surface transportation (e.g., air cargo truck traffic) at the Airport. The type and amount of emissions is project dependent. An air quality emissions analysis would need to be conducted on a project by project basis. The NEPA documentation for the Runway 2-20 extension should include an aviation air quality analysis using the most recent version of the FAA-approved Aviation Environmental Design Tool (AEDT).

Agency coordination with the U.S. Environmental Protection Agency (USEPA), Indiana Department of Environmental Management (IDEM) and City of Gary Environmental Affairs should occur during the NEPA documentation process. Table 7-2 provides a list of agency contacts.

Table 7-2: Agency Contacts List

Agency	Federal, State, Local	Contact Name	Contact Phone	Contact Email
Air Quality				
U.S. Environmental Protection Agency – Region 5	Federal	Rae Trine	312-353-9228	trine.rae@epa.gov
Indiana Department of Environmental Management (Office of Air Quality - Northwest Regional Office)	State	Rick Massoels, Deputy Director	219-464-0491	N/A
City of Gary Environmental Affairs - Air	Local	Brenda Scott-Henry, Director / MS4 Coordinator	219-882-3000	bhenry@gary.gov
Biological Resources				
U.S. Fish and Wildlife Service – Region 3 Midwest	Federal	Elizabeth McCloskey	219-983-9753	Elizabeth_McCloskey@fws.gov
Indiana Department of Natural Resources (Division of Fish and Wildlife)	State	Amanda Wuestefeld, Director	317-232-4080	N/A
Floodplains				
Federal Emergency Management Agency (FEMA)	Federal	N/A	312-408-5500	N/A
Indiana Department of Natural Resources (DNR) – Division of Water	State	N/A	317-232-4160	WATER_INQUIRY@dnr.in.gov
City of Gary - Department of Environmental Affairs	Local	Brenda Scott-Henry,	219-882-3000	bhenry@gary.gov
Hazardous Materials, Solid Waste, and Pollution Prevention				
U.S. Environmental Protection Agency – Hazardous Materials	Federal	N/A	N/A	olem.cleanup@epa.gov
City of Gary - Public Works Department	Local	N/A	219-755-3185	N/A
City of Gary - Environmental Affairs	Local	Brenda Scott-Henry, Director / MS4 Coordinator	219-882-3000	bhenry@gary.gov
Historical, Architectural, Archeological, and Cultural Resources				
Indiana Department of Natural Resources (Division of Historic Preservation & Archaeology)	State	Beth McCord, Director	317-232-1646	bmccord@dnr.in.gov

Noise and Noise Compatible Land Use				
City of Gary - Planning Department	Local	Gregory H. Jenkins	219-881-1235	gjenkins@gary.gov
City of Gary - Zoning Department	Local	Eric Reaves	219-881-1235	ereaves@gary.gov
Water Resources				
U.S. Army Corps of Engineers, Chicago District	Federal	N/A	312-846-5530	lrcregweb@usace.army.mil
Indiana Department of Natural Resources (Division of Water - Floodplains)	State	Ryan Mueller, Director	317-232-4160	N/A
Indiana Department of Environmental Management (Office of Water Quality – Waters of the U.S.)	State	N/A	317-233-8488	N/A
City of Gary Environmental Affairs – Water resources	Local	Brenda Scott-Henry,	219-882-3000	bhenry@gary.gov

Source: RS&H, June 2020

7.3.1.1 NEPA Guidance

All master plan CIP projects would result in increased emissions from construction equipment. Scopes of work for NEPA documentation at the Airport should include a construction emissions analysis.

7.3.2 Biological Resources

Biological resources include terrestrial and aquatic plant and animal species; special status species; and environmentally sensitive or critical habitats. Provisions have been set forth in NEPA for the protection of fish, wildlife, and plants of national and state significance. The Endangered Species Act (ESA) protects threatened and endangered (T&E) species and their habitats by prohibiting the "take" of listed animals and the interstate or international trade in listed plants and animals, except under Federal permit. Although the ESA does not protect state-protected species or habitats, the FAA ensures that the environmental documents prepared for airport actions address effects on state-protected resources.

Table 7-1 shows the master plan CIP projects that have the potential to affect biological resources at the Airport. The construction of these projects would include land disturbing activities at the Airport. The projects listed would require the removal of vegetation and/or wetlands, which has the potential to impact biological resources.

Construction and grading of the runway safety area (RSA) and runway protection zone (RPZ) associated with the extension of Runway 2-20 as well as the relocation of Airport Road could impact dune and swale habitat. The dune and swale plant assemblages have been described in "good" condition. In addition, based on previous reports, the locations of the T-hangar campus and air cargo infrastructure have the potential to also impact T&E species. It is recommended that biological resource surveys be conducted as part of NEPA documentation for these projects.

Agency coordination with the USFWS and Indiana Department of Natural Resources should occur during the NEPA documentation process. Table 7-2 provides contact information for these agencies.

7.3.2.1 Wildlife Hazard Management Plan (WHMP)

As described previously, the Authority has a WHMP in place at the Airport, which addresses the responsibilities, policies, and procedures necessary to reduce wildlife hazards at the Airport. It is recommended that the Authority continue to coordinate with the U.S. Department of Agriculture to update the Wildlife Hazard Assessment and WHMP based on this master plan CIP. The recommendations in a WHMP are to improve human health and safety at the Airport.

7.3.2.2 NEPA Guidance

If a proposed project at the Airport does not disturb habitat, it is unlikely that threatened or endangered species would be affected. For a proposed project at the Airport that does not result in ground disturbing activities to natural or vegetative habitat(s), the following language should be used by the Authority or its

contractor within the appropriate NEPA documentation, "Since the Proposed Project would not result in ground disturbing activities to natural or vegetative habitat(s), the Proposed Project would not result in an effect to threatened or endangered species."

7.3.3 Hazardous Materials, Solid Waste, and Pollution Prevention

Table 7-1 shows the master plan CIP projects that have the potential to affect hazardous materials, solid waste, and pollution prevention resources.

The extension of Runway 2-20 and relocation of Airport Road could impact a hazardous waste site currently being remediated, the Midco II site, located north of Airport Road. From January through August 1977, activities on site included the storage of waste solvents, other wastes and reclaimable materials, neutralization of acids and caustics, and dumping of wastes. In August 1977, a site fire consumed or damaged an estimated 50,000 to 60,000 drums containing chemicals. Facility operations also contaminated soil with hazardous chemicals. Remediation has been performed at the Midco II site and USEPA has approved the final soil remedy and the groundwater remedy is in the final stages of approval. The USEPA's latest estimate is that the site will be ready for reuse and redevelopment in the September to November 2020 timeframe. The Authority should understand that future construction of Runway 2-20 and relocation of Airport Road may result in the generation of hazardous waste if the soil remedy is disturbed during construction. .

The construction activities for the Airport's development projects would likely entail the use of hazardous materials (e.g., diesel fuel for construction equipment) at the Airport. These hazardous materials, by contract with the construction contractor, would be managed and disposed of in accordance with applicable regulations. Airport development projects may also generate solid or soil waste associated with the clearing and grubbing of land. Any contaminated soils found on site would be removed and disposed of at the appropriate landfills as required by law.

The operation of development projects may also include the use and storage of hazardous materials at the Airport. However, the Airport would continue to manage hazardous materials in accordance with federal, state, and local rules and regulations.

Prior to construction and operation of development projects, the existing Storm Water Pollution Protection Plan and Spill Prevention, Control and Countermeasure Plan (SWPPP) would need to be updated accordingly. (These documents are updated on an annual basis.) Additionally, prior to the start of any structure demolition activities (for example the administration building or terminal), it is recommended that the Authority perform a Phase I Environmental Site Assessment to identify any recognized environmental conditions. If necessary, a Phase 2 Site Assessment may be conducted to collect soil, groundwater, and/or soil vapor samples from the subsurface to evaluate the presence of contamination.

Agency coordination with the USEPA, Indiana Department of Environmental Management, and City of Gary Environmental Affairs should occur during the NEPA documentation process. Table 7-2 provides contact information for those agencies.

7.3.3.1 NEPA Guidance

There is the potential for hazardous materials or contaminated sites to exist on or in the vicinity of the Airport property. All development projects would result in an increase in hazardous materials at the Airport from the use of fuels during construction and materials from excavation and demolition. Scopes of work for NEPA documentation at the Airport should include an analysis of hazardous materials.

Any development project at the Airport would result in potential solid waste impacts as a result of construction and/or demolition activities. Therefore, scopes of work for NEPA documentation should include an analysis of solid waste impacts.

7.3.4 Historic Architectural, Archaeological, and Cultural Resources

The National Historic Preservation Act (NHPA) of 1966 established the Advisory Council on Historic Preservation and the National Register of Historic Places (NRHP) within the National Park Service. Section 106 of the NHPA requires Federal agencies to consider the effects of their undertakings on properties on or eligible for inclusion in the NRHP.

Table 7-1 shows the master plan CIP projects that have the potential to affect historic architectural, archaeological, and cultural resources. Projects that include land acquisition (e.g., extension of Runway 2-20 and its associated protected areas, the relocation of Airport Road, and the air cargo expansion) may require an archaeological resources survey. The Authority or its consultant should be aware that Section 106 coordination must be done between the FAA and the Indiana Department of Natural Resources (DNR) Division of Historical Preservation & Archaeology.

While there are no known historic resources (e.g., architectural, archaeological, or cultural resources) on Airport property, it is recommended that master plan CIP projects be coordinated with the Indiana DNR Division of Historical Preservation & Archaeology during the NEPA documentation process. Table 7-2 provides a list of agency contacts for coordination.

7.3.4.1 NEPA Guidance

If a proposed project at the Airport does not result in a direct or indirect (e.g., noise, visual) impact to a historic property, the following language should be used by the Authority or its contractor within the appropriate NEPA documentation, “The Proposed Project would not require the use of land currently occupied by a historic resource and would not change the aviation noise contours at the Airport or impact other environmental resources that may affect the historic significance of a resource. Therefore, the Proposed Project would not result in a direct or indirect impact to historic property.”

7.3.5 Land Use

As previously described, the Airport property is within the limits of the City of Gary. The areas in the immediate vicinity of the Airport are zoned as heavy manufacturing. Land uses in the area include rail lines, trucking and transportation service companies, high voltage power line towers, major electrical substations, tank farms, chemical processing facilities, sewage treatment plants, and freeways.

Table 7-1 shows the master plan CIP projects that have the potential to affect land use. The following projects require land acquisition and would change land use in the vicinity of the Airport: extension of Runway 2-20 (including the RSA and RPZ), the relocation of Airport Road, and the air cargo expansion. Agency coordination should occur with the City of Gary Planning and Zoning. Table 7-2 provides a list of agency contacts.

7.3.5.1 NEPA Guidance

Scopes of work for NEPA documentation for future Airport projects do not need to include land use analysis when there is no acquisition of land to construct the project. The following language should be used by the Authority or its contractor within the appropriate NEPA documentation, "The Proposed Project would not require the acquisition of land. Therefore, the Proposed Project would not result in a land use impact."

7.3.6 Natural Resources and Energy Supply

Energy use at an airport is a function of the amount of energy required to operate aircraft, support vehicles, airport facilities, support structures, and terminal facilities. There are no special purpose laws that identify thresholds for the use of natural resources and energy supply.

Table 7-1 shows the master plan CIP projects that have the potential to affect natural resources and energy supply. Development projects and maintenance activities at the Airport require the use of consumable materials. Examples include the construction of hangars and the maintenance of airside and landside facilities. In addition, master plan CIP development projects could increase the consumption of electricity and water. However, using sustainable practices (e.g., LED lighting, low flow toilets, automatic shut off sinks, hand dryers, etc.) could minimize consumption increases. The *Transportation Research Board ACRP Synthesis 10: Airport Sustainability Practices*[1] would help the Authority identify and implement sustainable measures. Another good source of sustainability practices can be found on the FAA's Airport Sustainability[2] webpage.

7.3.6.1 NEPA Guidance

Scopes of work for NEPA documentation for future projects at the Airport do not need to include an analysis of natural resources or energy supplies unless the construction or operation of that project would increase the use of natural resources or energy at the Airport. As appropriate, the following language should be

[1] https://crp.trb.org/acrp0267/acrp-synthesis-10-airport-sustainability-practices/
[2] https://www.faa.gov/airports/environmental/sustainability/

used by the Authority or its contractor to describe why this resource is not further analyzed, "The Proposed Project would not change the use of natural resources or energy at the Airport. Therefore, the Proposed Project would not result in impacts to natural resources or energy supplies. Any development project at the Airport would result in potential natural resource and energy supply impacts as a result of construction and/or demolition activities."

7.3.7 Noise and Noise-Compatible Land Use

Noise is the most apparent environmental impact from an airport and at most airports accounts for the majority of comments from nearby residents. There are residential areas south of the Airport and Interstate 90/Indiana Toll Road. This area may be sensitive to aircraft noise associated with the Airport. As described in Chapter 2, Inventory of Existing Conditions, the Airport's aviation noise contours were last updated in 2000. Since that time aircraft engines and performance have greatly improved, resulting in an overall reduction of noise.

Table 7-1 shows the master plan CIP projects have the potential to affect noise and noise compatible land use. The Airport's proposed extension of Runway 2-20 and new corporate/private hangar development have the potential to increase and shift aviation noise and alter the Airport's aviation noise contours (i.e., day-night noise levels or DNL). The NEPA documentation for the runway extension should include an aviation noise analysis using the most recent version of AEDT. Agency coordination with the City of Gary Planning and Zoning and public outreach/engagement should occur during the NEPA documentation process. Table 7-2 provides a list of agency contacts for this coordination.

7.3.7.1 NEPA Guidance

Scopes of work for NEPA documentation for future projects at the Airport do not need to include a noise analysis unless the proposed project has the potential to change the number or type of aircraft operating at the Airport or the aircraft's approach and departure procedures, which could ultimately change the aviation noise contours at the Airport. If a proposed project would not result in a change in aircraft operating at the Airport, the following language should be used by the Authority or its contractor to describe why this resource is not further analyzed within the NEPA documentation, "The Proposed Project would not change the number or type of aircraft operating at the Airport, nor the approach or departure procedures. Therefore, the Proposed Project would not result in a change of the aviation noise contours at the Airport."

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

The construction of the Airport's development projects would not require the division or disruption of established communities, or the disruption of orderly planned development.

Table 7-1 shows the master plan CIP projects that have the potential to affect socioeconomics, environmental justice, and children's environmental health and safety risks. The extension of Runway 2-20 would result in the relocation of a business and alter surface transportation patterns in the vicinity of the Airport. The extension of Runway 2-20 also would require the acquisition of a businesses along Airport Road (e.g., Refax, Inc. a metal fabrication company located at 6200 Airport Road). The project would need to follow the guidance of the Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970. This Act contains provisions that must be followed if acquisition of real property or displacement of people would occur as a result of implementing the selected alternative.

The relocation of Airport Road would also change surface transportation along Airport Road. It is recommended that a traffic study be completed as part of the NEPA documentation for the extension of Runway 2-20 and the road relocation. A traffic study would document the project's potential to impact the level of service of Airport Road and roads in the vicinity of the Airport.

Construction of any of the master plan CIP projects will result in employment of local construction contractors and is considered a positive effect.

7.3.8.1 NEPA Guidance

Scopes of work for NEPA documentation for future projects at the Airport do not need to include an analysis of socioeconomic impacts unless the proposed project would result in relocation of businesses and/or residences, alteration of surface transportation patterns, the division or disruption of established communities, disruption of orderly planned development, or the creation of an appreciable change in employment. As appropriate, NEPA documentation for a proposed project should include the following statement, "The Proposed Project would not relocate businesses and/or residences, alter surface transportation patterns, divide or disrupt established communities, disrupt orderly planned development, or create an appreciable change in employment. Therefore, the Proposed Project would not result in a socioeconomic impact."

Scopes of work for NEPA documentation for future projects at the Airport do not need to include an analysis of environmental justice impacts unless the proposed project would result in adverse impacts that are disproportionately placed on minority or low-income populations. As appropriate, NEPA documentation for a proposed project should include the following statement, "The Proposed Project would not result in disproportionate, adverse effects to minority or low-income populations. Therefore, the Proposed Project would not result in an environmental justice impact."

Scopes of work for NEPA documentation for future projects at the Airport do not need to include an analysis of children's environmental health and safety risks unless the proposed project would disproportionately affect children and resources used by children. As appropriate, NEPA documentation for a proposed project should include the following statement, "The Proposed Project would not result in disproportionate, adverse effects to resources that children use. Therefore, the Proposed Project would not result in impacts to children's environmental health and safety."

7.3.9 Visual Effects

Visual effects deal broadly with the extent to which a proposed project would either: 1) produce light emissions that create annoyance or interfere with activities; or 2) contrast with, or detract from, the visual resources and/or the visual character of the existing environment. Visual effects can be difficult to define and assess because they are subjective. Proposed aviation and aerospace projects do not commonly result in adverse visual effects, but these effects may occur in certain circumstances.

Table 7-1 shows the master plan CIP projects that have the potential to result in visual effects. The projects would result in new structures and roadways (e.g., Runway 2-20 extension, relocated Airport Road, air cargo expansion and infrastructure, etc.). This would change the visual properties of the Airport; however, they are compatible with the existing Airport environment and are not likely to contrast with visual resources and/or visual character in the vicinity of the Airport.

Construction of the Airport's development projects would add new sources of lighting on Airport property to illuminate the proposed new buildings but would not create annoyance or interference with normal activities. Lighting would be required to enhance the safe ground movement of aircraft, vehicles, and people, and to illuminate the interior and exterior of the proposed new structures. Exterior illumination would remain directional and focused on those structures. The lighting would be directional and focused within the Airport and would be similar to lighting currently in place at the Airport.

7.3.9.1 NEPA Guidance

Scopes of work for NEPA documentation for future projects at the Airport do not need to include an analysis of light and visual impacts unless the proposed project includes a change in light emission sources or changes the viewshed of the area (e.g., construction of a hangar, removal of buffers). As appropriate, the following language should be used by the Authority or its contractor to describe why this resource is not further analyzed in NEPA documentation, "The Proposed Project would not create new sources of light, change existing sources of light, or change the viewshed in the area. Therefore, the Proposed Project would not result in changes to light emissions or visual impacts."

7.3.10 Water Resources

Water resources are considered surface water, groundwater, wetlands, and floodplains. The implementation of master plan CIP projects has the potential to impact water resources, specifically wetlands, floodplains, and the potential increase in stormwater runoff to surface waters adjacent to Airport property. Table 7-1 shows the master plan CIP projects that have the potential to affect water resources. The master plan CIP projects would not impact Wild and Scenic Rivers or National Rivers Inventory.

7.3.10.1 Surface Water

The Federal Water Pollution Control Act, known as the Clean Water Act, provides the authority of the federal government to establish water control standards, control discharges into surface and subsurface

waters, develop waste treatment management plans and practices, and issue permits for discharge and for dredged or filled materials into surface waters. The Fish and Wildlife Coordination Act requires consultation with the U.S. Fish and Wildlife Service and appropriate state agencies when any alteration and/or impounding of water resources is expected.

Construction of the following master plan CIP projects would add impervious surfaces at the Airport and could increase stormwater runoff effecting nearby surface waters: replacement ATCT, new ARFF, new electrical vault, T-hangar campus and other GA development, airport maintenance and operations complex, and the southeast service road extension. Development of FAA-compliant stormwater system and use of BMPs by construction contractors would minimize potential indirect impacts (stormwater runoff) to the Grand Calumet River.

The Federal National Pollutant Discharge Elimination System (NPDES) provides regulations that govern the quality of stormwater discharged into the water resources of the United States. The NPDES requires permitting requirements for construction that exceeds five acres. The Indiana Department of Environmental Management provides the administration related to NPDES permitting. Table 7-2 provides a list of agency contacts for coordinating surface water impacts.)

NEPA Guidance

Scopes of work for NEPA documentation for future projects at the Airport do not need to include an analysis of water quality unless a proposed project would 1) create new impervious surface, 2) change the amount and type of potential pollution found in stormwater runoff, or 3) increase the number of employees/enplanements (thereby increasing the use of potable water and generation of waste water). As appropriate, NEPA documentation for a proposed project may include the following statement, "The Proposed Project would not create new impervious surface, change the amount or rate of stormwater runoff, or change the quantity and type of pollutants potentially found in stormwater runoff at the Airport. Therefore, the Proposed Project would not directly or indirectly affect water quality."

7.3.10.2 Groundwater

The Midco II site is located on the north side of Airport Road (5900 Airport Road) and includes a 7-acre disposal area with contaminated groundwater, plus about 4 acres of contaminated sediments and additional groundwater contamination. This is a National Priorities List site with the USEPA. Groundwater monitoring is ongoing as is the Final Phase of site cleanup.[3] The Authority's acquisition of the Midco II site would be needed for the extension of Runway 2-20 and associated RPZ, along with the relocation of Airport Road. The residual soil contamination that remains on the Midco II Site is not expected to affect groundwater prior to acquisition. The USEPA's latest estimate is that the site will be ready for reuse and redevelopment in the September to November 2020 timeframe.

NEPA Guidance

[3] https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0501800

Scopes of work for NEPA documentation for future projects at the Airport do not need to include an analysis of groundwater unless a proposed project would 1) exceed groundwater quality standards established by Federal, state, local, and tribal regulatory agencies; or 2) contaminate an aquifer used for public water supply such that public health may be adversely affected. As appropriate, NEPA documentation for a proposed project may include the following statement, "The Proposed Project would not exceed groundwater quality standards or contaminate an aquifer. Therefore, the Proposed Project would not directly or indirectly affect water quality."

7.3.10.3 Floodplains

According to Executive Order 11988, floodplains are "...lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands, including at a minimum, that area subject to a one percent or greater chance of flooding in a given year." The Order directs federal agencies to take action to reduce the risk of flood loss; minimize the impact of floods on human safety, health, and welfare; and restore and preserve the natural and beneficial floodplains. It does not allow activities in a floodplain unless there is no practicable alternative and there are measures taken to minimize unavoidable short-term and long-term impacts. U.S Department of Transportation Order 5650.2 outlines the policies and procedures for ensuring that proper consideration is given to the avoidance and mitigation of adverse floodplain impacts in agency actions, planning programs, and budget requests. Therefore, the objective is to avoid, to the extent practicable, any impacts within the 100-year floodplain.

Areas of the Airport south of Runway 12-30, particularly along the Grand Calumet River and the Airport's drainage ditch west of Runway 2-20, are within the 100-year floodplain as shown on Exhibit 7-3. Master plan CIP projects that could impact the 100-year floodplain at the Airport include: replacement ATCT, new ARFF, new electrical vault, airport maintenance and operations complex, new T-hangar campus, and southeast service road extension. Agency coordination with the local floodplain administrator and/or the Federal Emergency Management Agency (FEMA) would need to occur during the development of NEPA documentation. Table 7-2 provides a list of agency contacts for this coordination.

NEPA Guidance

Scopes of work for NEPA documentation for future projects at the Airport do not need to include an analysis of floodplains unless the proposed project would occur in a 100-year floodplain. As appropriate, the following language should be used by the Authority or its contractor to describe why this resource is not further analyzed in NEPA documentation, "Because the Proposed Project would not occur within the 100-year floodplain, the Proposed Project would not result in an impact to the 100-year floodplain."

Exhibit 7-3 – Floodplains and Floodways

Source: FEMA, 2012; Esri, 2016; Prepared by: RS&H, 2016

7.3.10.4 Wetlands

Executive Order 11990, Protection of Wetlands (42 Federal Register 26961) requires Federal agencies to "avoid to the extent possible the long and short term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative." The stated purpose of this Executive Order is to "minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands." To comply with the stipulations within these regulations and guidance, the responsible FAA official must consider practicable alternatives to avoid affecting wetlands. The Executive Order states "each agency, to the extent permitted by law, shall avoid undertaking or providing assistance for new construction

located in wetlands unless the head of the agency finds (1) that there is no practicable alternative to such construction, and (2) that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use. In making this finding the head of the agency may take into account economic, environmental and other pertinent factors." Other pertinent factors may include aviation safety. This finding must be made in the FAA's decision document.

Wetlands areas are located across the Airport, as shown in Exhibit 7-4. Multiple master plan CIP projects are proposed which could affect wetlands including, the new T-hangar campus, replacement ATCT, new maintenance and operations complex, new ARFF facility, additional GA expansion, Runway 2-20 extension and Airport Road relocation, and southeast service road extension. In some of these areas, wetlands have been delineated in the field, that is, the boundaries have been identified and mapped. For areas in which delineation hasn't been performed, the Airport would need to coordinate with the appropriate consultants, federal, state, and/or local agencies to conduct wetlands delineations and receive jurisdictional determinations before development occurs on these sites.

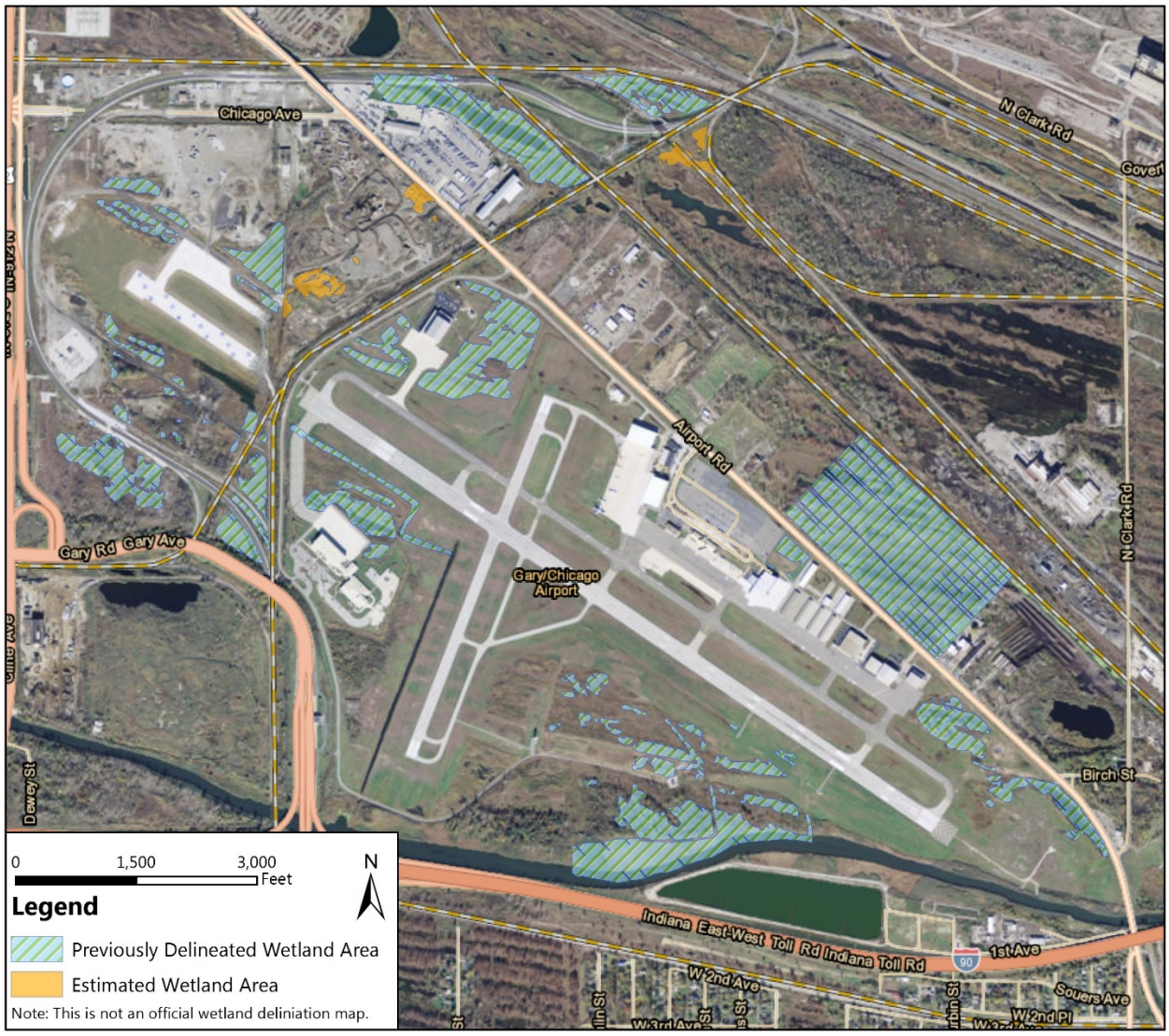
Wetland delineations would need to be performed in accordance with the USACE 1987 Wetlands Delineation Manual. During field evaluations, details of vegetation, hydrology, and soil characteristics would be recorded to confirm if data point is located in a wetland or non-wetland (i.e. upland). Under normal conditions, a wetland contains all three of the following criteria: 1) dominance of hydrophytic vegetation, 2) at least one primary or two secondary wetland hydrology indicators, and 3) presence of hydric soil characteristics. Wetland boundaries would then be mapped using a GPS capable of sub-meter accuracy and flagged in the field for further surveying purposes.

Development of wetlands areas typically required mitigation of the wetlands to be impacted. Three mechanisms for replacement include mitigation banks, in-lieu fee programs and permittee-responsible mitigation. The amount of replacement wetlands environment is based upon the quality and type of wetlands being eliminated and will need to be coordinated with and approved by the USACE.

NEPA Guidance

Scopes of work for NEPA documentation for future projects at the Airport do not need to include an analysis of wetlands unless a proposed project would occur in a wetland area or affect the water quality of water that drains into a wetland area. As appropriate, NEPA documentation for a proposed project should include the following statement, "The Proposed Project would not occur in a wetland or adversely affect the water quality of water that drains into a wetland. Therefore, the Proposed Project would not directly or indirectly affect wetland resources."

Exhibit 7-4 – Wetlands



Sources: Gary/Chicago International Airport Authority, 2013; DLZ Indiana, LLC, 2015; Esri, 2016; Prepared by: RS&H, 2016