
5.13 WATER RESOURCES

This section identifies the water resources in the affected area associated with the Proposed Action, describes the regulatory setting, and identifies impacts to water resources. As discussed in **Section 5.2**, the water resources analysis for this EA was limited to wetlands, floodplains, surface waters, and water quality. The Proposed Action did not have the potential to adversely affect groundwater or wild and scenic rivers; therefore, these subcategories were not analyzed.

The water resources assessment includes all ground disturbing project components. It does not cover the air traffic procedures since there would be no impacts to water resources.

5.13.1 Definition of Resource

According to the FAA's Desk Reference, water resources are surface waters and groundwater that are important in providing drinking water and in supporting recreation, transportation and commerce, industry, agriculture, and aquatic ecosystems. The water resources in the project area are described in **Section 5.13.3**.

5.13.2 Regulatory Context

Several regulations protect water resources. The following sections provide a summary of applicable regulations by water resource.

5.13.2.1 Wetlands and Waters of the United States

Wetlands are regulated under the CWA. The U.S. Army Corps of Engineers (USACE) and USEPA have used the following definition since the 1970s for the regulation of wetlands: "Wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

EO 11990, Protection of Wetlands, requires federal agencies to avoid, to the extent possible, adverse impacts to wetlands unless no practicable alternative exists. The Proposed Action must include all possible practicable measures to minimize the impact.

The CWA, overseen by the USACE and the USEPA, provides the federal regulation for discharge of pollutants into Waters of the U.S. The USACE and the USEPA issued guidance to use in the determination of Waters of the U.S., which includes wetlands. Surface waters meeting this regulatory definition are considered jurisdictional and are subject to protection under the CWA. The USACE is responsible for issuing jurisdictional determinations. Section 404 of the CWA requires a permit be obtained prior to any dredging, or placement of fill, in U.S. jurisdictional waters. The USACE is the Section 404 permitting agency. Non-jurisdictional wetlands are also protected under EO 11990. These non-jurisdictional wetlands may also fall under state regulation. As stated in the OMP EIS, "if any financial assistance will be administered or provided by a State agency, compliance with the Illinois Department of Natural Resources (IDNR) Interagency Wetland Policy Act of 1989 is required." Additionally, DuPage County regulates wetlands under its Countywide Stormwater and Flood Plain Ordinance. Cook County falls under the authority of the Watershed Management Ordinance of the Metropolitan Water Reclamation District of Greater Chicago.

Before the Section 404 permit becomes valid, Section 401 of the CWA requires that the proposed activity be certified for water quality from the applicable state water pollution control agency. The USEPA has delegated water quality certification to the state. Therefore, in addition to receiving a 404 permit from the USACE, a project impacting wetlands and/or Waters of the U.S. is also required to receive 401 Water Quality Certification from the IEPA. The 401 Water Quality Certification requires that the project proponent demonstrate that it meets specific requirements of water quality standards set by the IEPA.

5.13.2.2 Floodplains

EO 11988, Floodplain Management, directs federal agencies to:

1. Assert leadership in reducing flood losses and losses to environmental values served by floodplains.
2. Avoid actions located in or adversely affecting floodplains unless there is no practicable alternative.
3. Take action to mitigate losses if avoidance is not practicable.
4. Establish a process for flood hazard evaluation based on the 100-year base flood standard of the NFIP. It also directs federal agencies to issue implementing procedures, provide a consultation mechanism for developing the implementing procedures, and provide oversight mechanisms.

USDOT Order 5650.2 contains policies and procedures for carrying out EO 11988.¹ According to the EO, federal agencies must comply, at a minimum, with NFIP regulations. The Federal Emergency Management Agency (FEMA) oversees floodplain management and has developed flood hazard maps. FEMA coordinates with the Illinois Department of Natural Resources, Office of Water Resources (IDNR-OWR), on the designation of floodplain boundaries in the state. IDNR-OWR also participates in an administrative process to concur with FEMA map revisions. IDNR-OWR has jurisdiction over construction in areas where the watershed size exceeds one square mile.²

In addition, floodplain activity at O'Hare falls under the jurisdictions of various local municipalities, including Cook and DuPage Counties, the City of Chicago, and the Village of Bensenville. These municipalities regulate floodplains with specific floodplain ordinances and/or indirectly through their stormwater storage and release requirements within airport property. Floodplain regulations include the 100-year (one percent) floodplain and floodway.

5.13.2.3 Surface Water

5.13.2.3.1 Water Quality

Surface water quality comes from on-site and off-site sources, including those associated with de-icing activities and runoff from impervious surfaces including airfield pavements and roads, maintenance activities, and other operations.

¹ FAA Environmental Desk Reference for Airport Actions, October 2007, Chapter 12, page 2. Accessed at: https://www.faa.gov/airports/environmental/environmental_desk_ref/media/desk-ref-chap12.pdf

² EO 14030, Climate-Related Financial Risk, reinstates EO 13690 (January 30, 2015), which established a Federal Flood Risk Management Standard (FFRMS) and a process for further soliciting and considering stakeholder input to address current and future flood risk; however, it was reinstated only after the project began.

The CWA establishes the basic structure for regulating discharges of pollutants into U.S. waters. Pertinent sections of the CWA related to Waters of the U.S. are Section 303(d), Section 404, Section 401, and Section 402, which establishes the National Pollutant Discharge Elimination System (NPDES) program.

5.13.2.3.2 Safe Drinking Water Act

Additionally, the Safe Drinking Water Act allows the USEPA to protect public health by ensuring a safe drinking water supply. This act allows the USEPA to establish National Primary Drinking Water regulations, and it outlines how the USEPA, states, and water systems work together to ensure that drinking water standards are met. As explained in Appendix K of the OMP EIS, "The City of Chicago and municipalities surrounding the airport have ordinances prohibiting the use of groundwater wells as potable water resources." Therefore, the Safe Drinking Water Act is not applicable to the Proposed Action, and groundwater is not considered further in this EA.

5.13.2.3.3 General Use Water Quality Standards

So-called "impaired waters" are any bodies of water that do not meet water quality standards or fully support the waterbody's intended beneficial use. Section 303(d) of the CWA requires that states assess and list impaired waters and establish priority ranking by considering the water's uses and pollutant levels. The IEPA regulates water quality at the airport.

In Illinois, waterbodies have been classified for designated uses that include aquatic life, wildlife, agricultural use, primary contact (e.g., swimming, water skiing), secondary contact (e.g., boating, fishing), industrial use, public and food-processing water supply, and aesthetic quality. Water quality conditions are described in terms of the degree to which the waters attain the designated uses. Water quality is rated as either "fully supporting" or "not supporting," with a "fully supporting" rating meaning a waterbody meets the needs of all designated uses.³

Under the CWA, the State of Illinois is responsible for developing Total Maximum Daily Loads (TMDL) for all impaired waters. For purposes of calculating TMDLs, waterbodies are divided into segments. A TMDL has been developed for the Upper Des Plaines River Watershed, but TMDLs for the reach of river that receives O'Hare discharges and Crystal Creek have yet to be developed.⁴

5.13.2.3.3.1 National Pollutant Discharge Elimination System (NPDES)

The NPDES program, established under the CWA, requires permits for the discharge of treated municipal effluent, treated industrial effluent, and stormwater. In Illinois, the USEPA has delegated the authority to issue NPDES permits to the IEPA. O'Hare has been regulated under the NPDES permit program since 1975, and its NPDES permit was renewed in 2020 (Permit No. IL0002283). Permit conditions include regular monitoring and sampling at specific outfalls. The permit also requires the airport to maintain and update its Stormwater Pollution Prevention Plan (SWPPP) and amend its Spill Prevention, Control and Countermeasure Plan (SPCCP) as necessary. These plans contain methods and management practices to prevent contaminated runoff from entering surface and groundwater.

³ Illinois Environmental Protection Agency, 2018, "Illinois Integrated Water Quality Report and 303(d) List," Illinois Integrated Water Quality Report (illinois.gov)

⁴ Illinois Environmental Protection Agency, 2018, "Illinois Integrated Water Quality Report and 303(d) List, Appendix A-6," https://www2.illinois.gov/epa/topics/water-quality/watershed-management/tmdls/Documents/Appendix_A-6_TMDL_Status_FINAL_5-20-19.pdf

An NPDES permit for construction activity is also required for activities disturbing one acre or more. Permittees are required to control runoff from construction sites and develop a Construction SWPPP that includes BMPs for erosion prevention and sediment control.

5.13.2.3.3.2 Water Quantity

Development typically results in changes to land cover type and drainage systems. Increases in impervious areas would increase the amount of runoff, changing surface water flows (both volumes and rates). Municipalities, counties, and local water management districts adopted ordinances and regulations to address the impact of development to stormwater systems. These regulations apply to both airside and landside development at O'Hare, though stormwater management requirements differ depending on the location of the development. Applicable regulations were compiled from three Christopher B. Burke Engineering, Ltd. (CBBEL) Drainage Systems Engineering Reports⁵ that evaluated O'Hare's future airport layout plan (airside and landside) and the Taxiway A-B/South Airfield Detention consolidation (SADC), for which a separate NEPA document was prepared and a FFONSI issued in July 2021.⁶

Applicable local, state, and federal regulatory requirements are summarized in **Appendix L**. The airport's drainage system must meet these requirements. Applicable federal requirements include the FAA's five-year design storm for airfield facilities and ponding limitations due to the potential for increase in wildlife attractants caused by standing water.

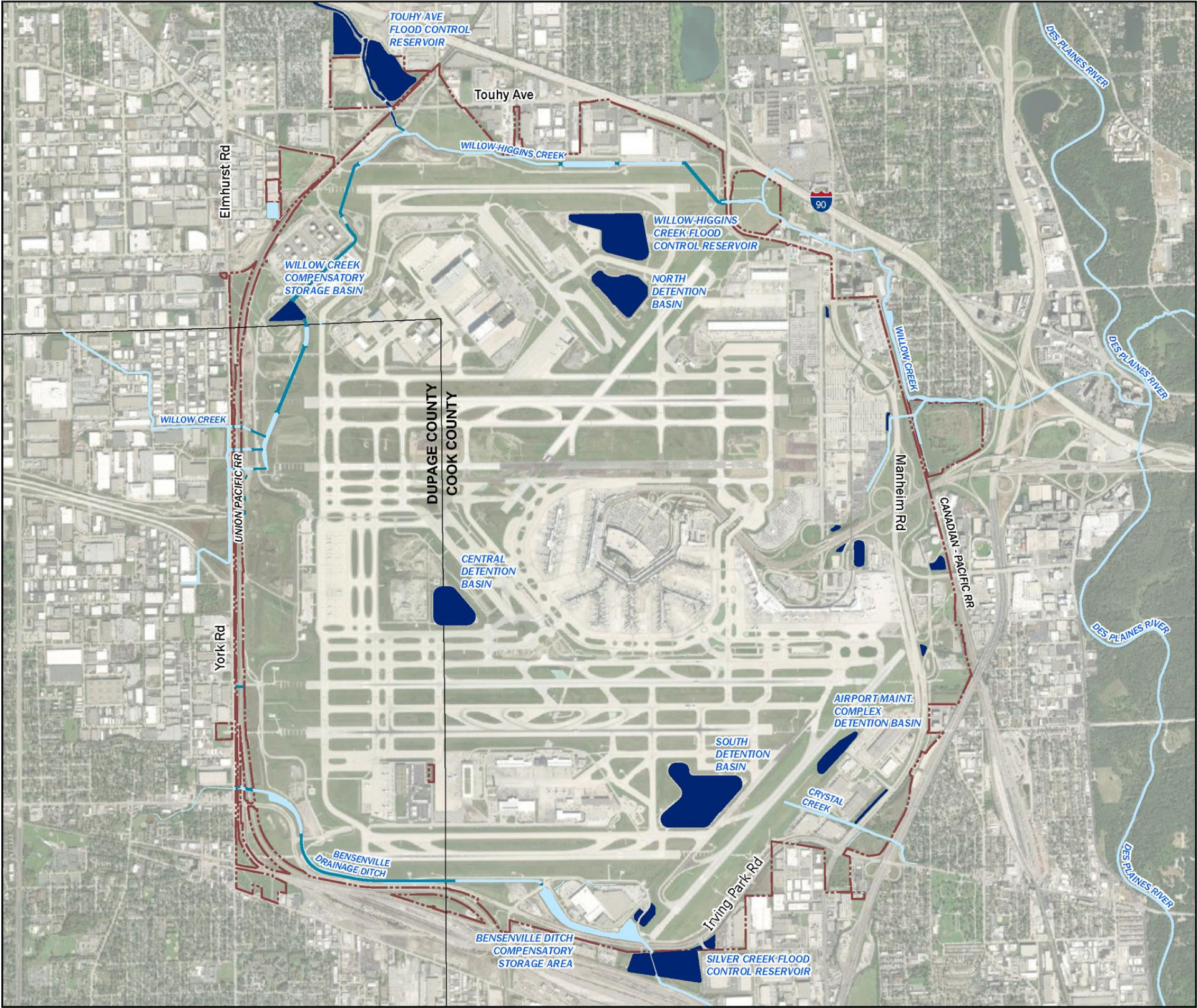
5.13.3 Affected Environment

5.13.3.1 Watershed

O'Hare lies within the Des Plaines River Watershed with three sub-watersheds: 1) Willow-Higgins Creek, 2) Bensenville Ditch (also known as Silver Creek), and 3) Crystal Creek. Willow-Higgins Creek is located on the northside of the airfield, with Crystal Creek to the south and Bensenville Ditch further south. These creeks on the O'Hare property are shown in **Exhibit 5.13-1**. The following describes the water resources in the affected area for the Proposed Action. The description includes the airport property bounded by Touhy Avenue to the north, Union Pacific Railroad to the west, Irving Park Road to the south, Mannheim Road to the east, and Zemke Boulevard and Canadian Pacific Railroad to the northeast.

⁵ Christopher B. Burke Engineering, Ltd. (CBBEL), 2021, "Final Taxiway A-B/South Airfield Detention Consolidation Drainage Systems Engineering Report," March 10, 2021; CBBEL, 2019, "Draft Chicago O'Hare International Airport Future Airport Layout Plan Drainage Systems Engineering Report," August 30, 2019; CCBEL 2019, "Draft Chicago O'Hare International Airport Future Airport Layout Plan – Landside Projects Drainage Systems Engineering Report," October 15, 2019

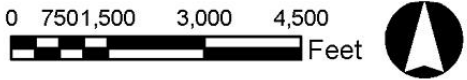
⁶ "Environmental Assessment: Taxiways A&B Relocation and Rehabilitation and South Airfield Detention Consolidation: Chicago O'Hare International Airport," prepared for the U.S. Department of Transportation, Federal Aviation Administration, July 2021



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- County Boundary
- Airport Property Boundary
- Creek Culvert
- Detention Basin/Flood Control Basin
- Open Water/Stream



Existing Water Resources at O'Hare International Airport

► Exhibit 5.13-1

The Des Plaines River was given a “fully supporting” rating by the IEPA in 2018 for aesthetic quality and “not supporting” ratings for aquatic life, fish consumption, and primary contact recreation. Willow-Higgins Creek was given a “not supporting” rating for aquatic life and primary contact recreation.⁷ Water quality degradation in these waterbodies is primarily due to urban surface runoff, municipal point source discharges, and—to some extent—channelization, flow regulation, and loss of riparian habitat.

IEPA also listed the Des Plaines River segments north and south of the airport, along with Willow-Higgins Creek, as impaired waterbodies under Section 303(d) of the CWA. The primary pollutants for which the Des Plaines River is considered impaired (upstream of its confluence with Higgins Creek) include chloride, fecal coliform, mercury, dissolved oxygen phosphorus (total), and polychlorinated biphenyls. Downstream of this confluence, the Des Plaines River's primary pollutants are the same as above with the addition of sedimentation/siltation. Willow-Higgins Creek's cause of impairment is phosphorus (total).⁸

5.13.3.2 Wetlands

Approximately 7,200 acres within the airport property boundary were examined for wetlands and water resources. Details regarding the delineation methods and results are presented in **Appendix L**.

The project area is primarily an active airfield covered by runways, taxiways, aprons, roadway pavement, and associated vegetation associated with the man-made elements. Areas around the periphery of the active airfield contain major roadways on all sides of the project area. Streams flowing through the property have been highly modified, and on-airfield vegetation is regularly mowed.

During fieldwork, all areas in the project area were examined except for certain areas under active construction, stockpile areas, and previously permitted project areas. A total of 146 new wetlands were delineated, and six previously identified wetlands were re-examined and documented. Wetlands on the airfield are generally characterized as small, isolated areas with relatively low water quality and limited runoff storage function due to their small size. The average size of wetlands is 0.19 acres. Few are located close to streams and therefore provide little floodwater storage benefit. **Appendix L** includes additional information on these delineated wetlands.

On October 4, 2019, the FAA and its Third Party Consultant, the CDA, and the Chicago District of the USACE conducted a site review. Representative wetland types were reviewed in the field during the site visit. The USACE issued an Approved Jurisdictional Determination on December 20, 2019. **Exhibits 5.13-2** and **5.13-3** show the delineated jurisdictional and non-jurisdictional Waters of the U.S. within the Proposed Action boundaries. While Waters of the U.S. exist on the airport, the USACE determined there are no jurisdictional Waters of the U.S. in the project area. In addition, the State, DuPage County, and Cook County exert no jurisdiction within the project area. A total of 1.48 acres of non-jurisdictional wetlands were delineated by the project team within the project boundary.

5.13.3.3 Floodplains

The current published FEMA flood hazard maps for the airport have effective dates of August 2008 and August 2019. The regulated 100-year floodplain and floodway (one percent Annual Chance Flood Hazard) and 500-year floodplain limits (0.2 percent Annual Chance Flood Hazard) obtained from FEMA maps are

⁷ Illinois Environmental Protection Agency, 2018, “Illinois Integrated Water Quality Report and 303(d) List, Appendix B-2,” [Appendix_B-2_Streams_FINAL_2019_04_23.pdf](#) (illinois.gov)

⁸ Illinois Environmental Protection Agency, 2016, “Resource Management Mapping Service,” Accessed 08/2021, [www.rmms.illinois.edu](#)

shown in **Exhibits 5.13-4** and **5.13-5** along with the Proposed Action. Although one project falls within a small area of 500-year floodplain, no projects fall within the 100-year floodplain or floodway.

5.13.3.4 Surface Water

Surface water resources include the O'Hare surface water management system (ditches, creeks, and storm sewer) and the receiving water into which the airport discharges. These waters include Willow/Higgins Creek, Bensenville Ditch, and Des Plaines River. **Exhibit 5-13.1** shows the airport's existing surface water system and its primary features, including the North Detention Basin, Willow-Higgins Flood Control Reservoir (WHFCR), Central Detention Basin, and South Detention Basin.

5.13.3.5 Wild and Scenic Rivers

No wild and scenic rivers exist at or in the vicinity of the airport. Therefore, no further consideration was warranted.

5.13.4 Methodology

Various methodologies were employed to assess the impacts of the Proposed Action on water resources. Direct impacts result from ground disturbance, change of land use (impervious area and vegetation changes), drainage patterns, and associated pollutant discharges for the Proposed Action. The methodologies for specific resources are described below.

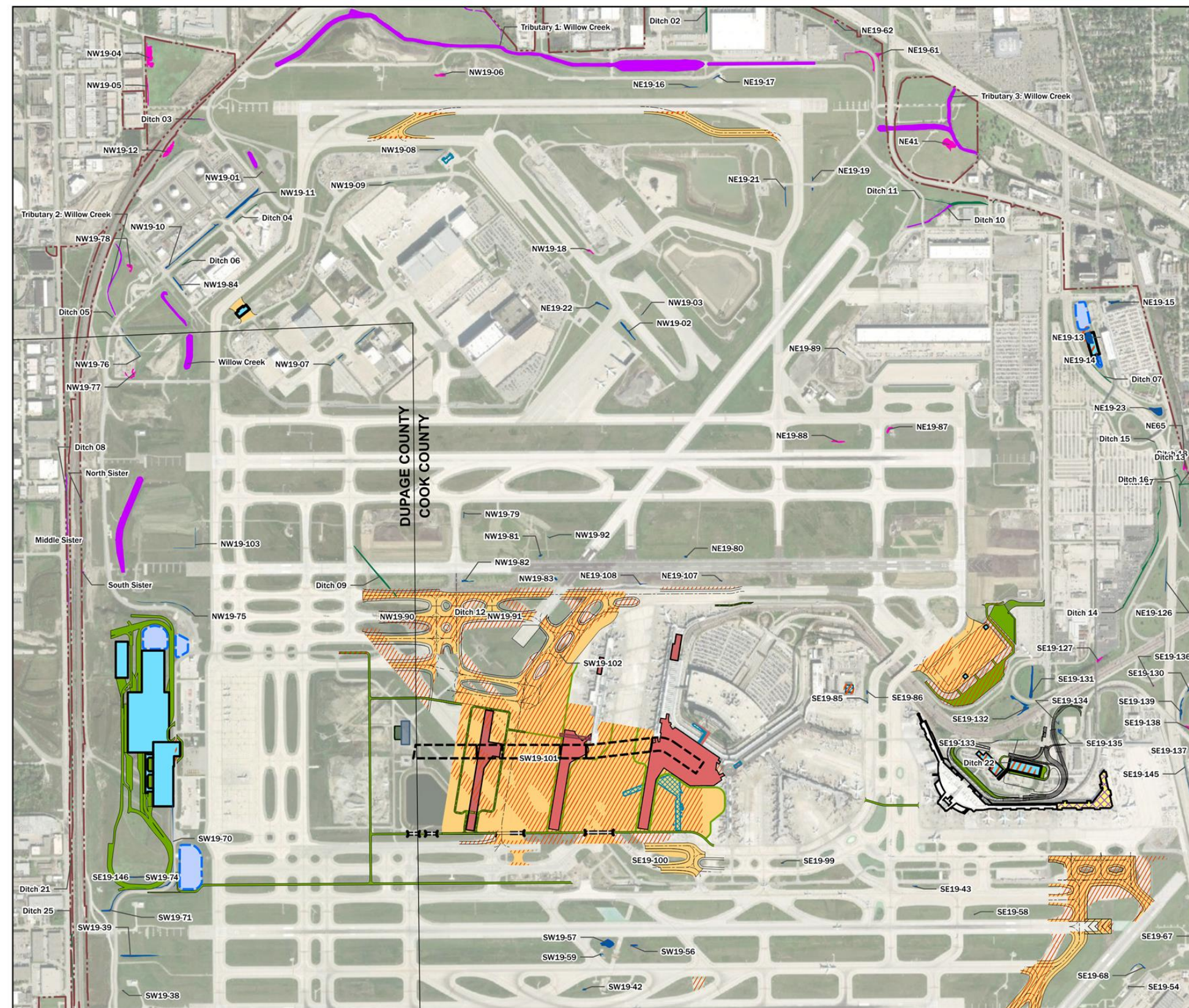
5.13.4.1 Wetlands

The footprint of Proposed Action (including a 50-foot buffer to consider the potential extent of grading limits and ground disturbance) was compared to delineated wetlands to determine direct impact, if any, to these wetlands. Any wetland impacts identified would be classified as natural or artificial to determine whether permitting would be required. Wetlands that would be impacted by the Proposed Action at O'Hare are not natural, are characterized as small, isolated areas with relatively low water quality and limited runoff storage function due to their small sizes. These wetlands are not jurisdictional under the CWA do not provide functions that rise to a level requiring mitigation; therefore, no mitigation is proposed. In addition, DuPage and Cook County regulations were reviewed for applicability to wetland impacts at the airport. No mitigation is required by the County regulations.

5.13.4.2 Floodplains

Changes to drainage patterns, increases in impervious surface area, and changes in the configuration and capacities of storm sewer and detention basins can affect the potential for flooding. To determine the Proposed Action's direct impacts, the footprint of the Proposed Action was compared to existing FEMA regulatory floodplain/floodway maps, including approved Letters of Map Revisions (LOMRs), to determine direct floodplain impacts.






Additionally, there is the potential for indirect impacts resulting from changes in drainage patterns and increases in impervious surfaces. The methodology to evaluate these surface water impacts is included in the following section.



Source: ESRI base mapping ArcPro Version 2.8

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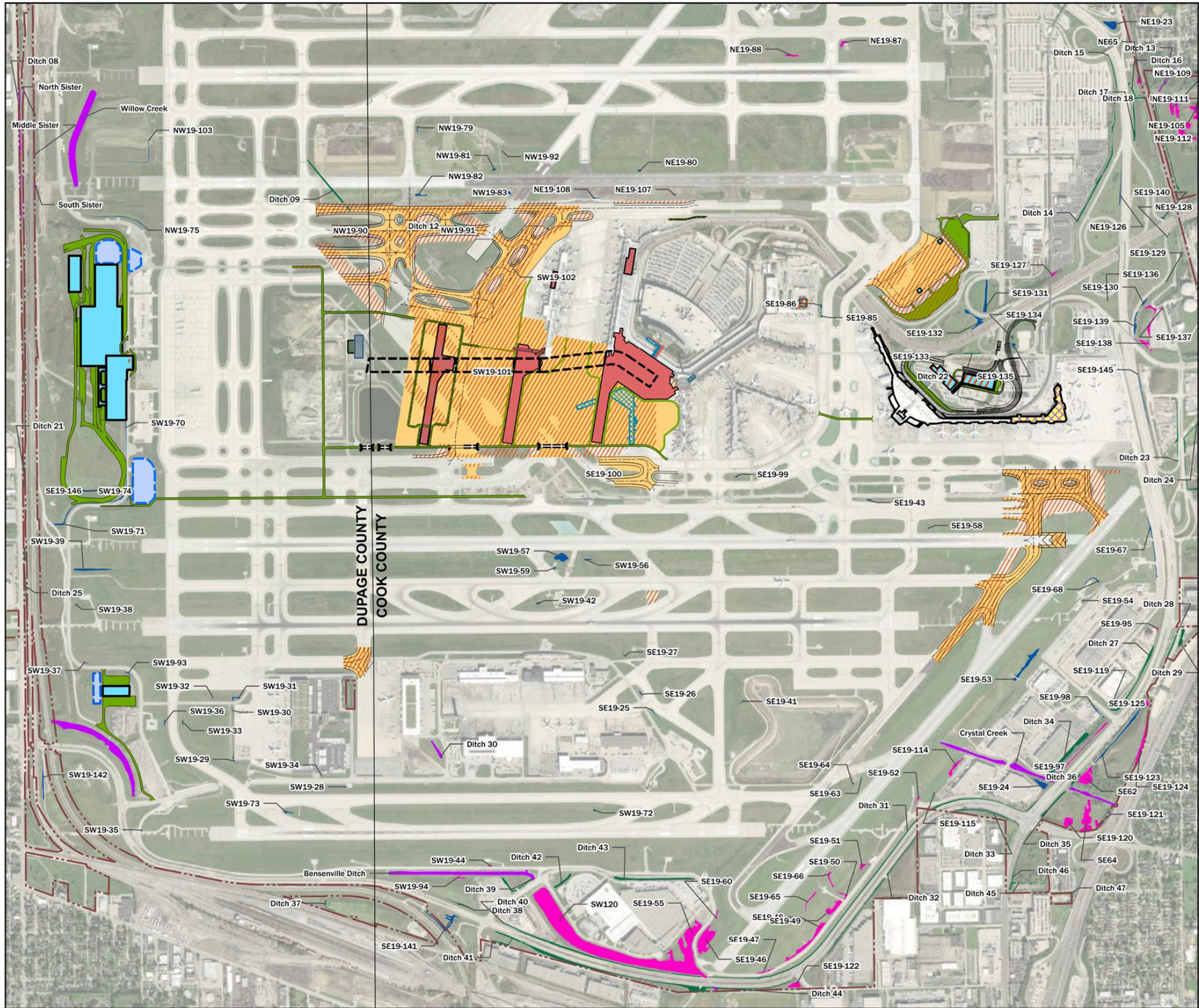
- County Boundary
-  Airport Property Boundary
- Wetlands and WOTUS**
-  Jurisdictional Wetland
-  Non-Jurisdictional Wetland
-  Jurisdictional Water of the U.S. (WOTUS)
-  Non-Jurisdictional Water of the U.S. (WOTUS)
- TAP Project Legend**
-  Future Demolition
-  Future Road
-  Future Pavement
-  Building Relocated
-  Future Terminal Building
-  Future Building
-  Future Detention Basin



Wetlands and Waters of the US Existing Conditions

Note: Delineated wetlands are based on approved Jurisdictional Determination.

► Exhibit 5.13-2



Source: ESRI base mapping ArcPro Version 2.8



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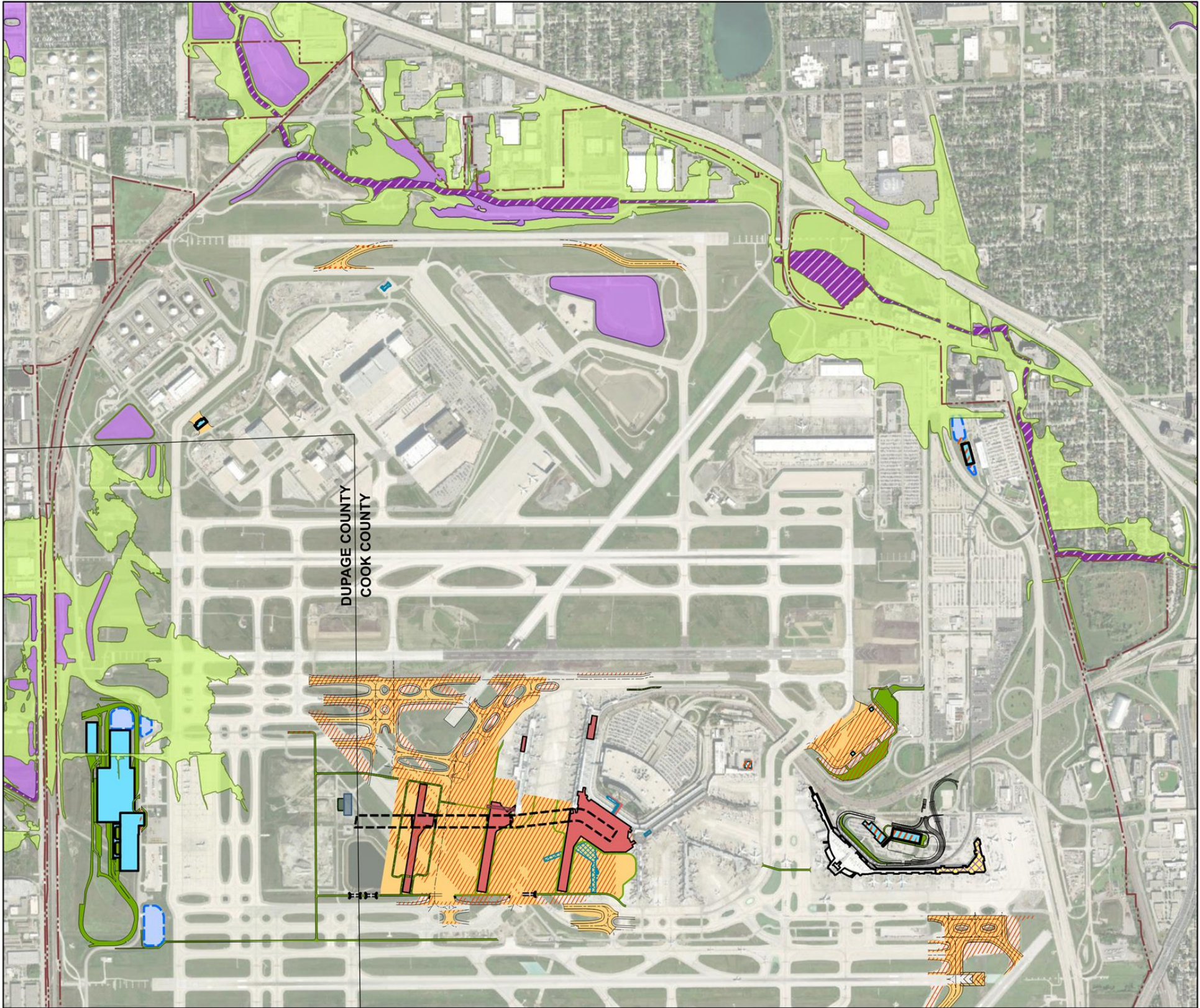
- County Boundary
- Airport Property Boundary
- Wetlands and WOTUS**
 - Jurisdictional Wetland
 - Non-Jurisdictional Wetland
 - Jurisdictional Water of the U.S. (WOTUS)
 - Non-Jurisdictional Water of the U.S. (WOTUS)
- TAP Project Legend**
 - Future Demolition
 - Future Road
 - Future Pavement
 - Building Relocated
 - Future Terminal Building
 - Future Building
 - Future Detention Basin



Wetlands and Waters of the US Existing Conditions

Note: Delineated wetlands are based on
approved Jurisdictional Determination.

► Exhibit 5.13-3



Data Sources: Maxar FEMA Flood Hazard Data, www.fema.gov. O'Hare International Airport, Future Airport Layout Plan Draft, Ricondo & Associates, Inc. TAP Projects, HMMH, Inc.



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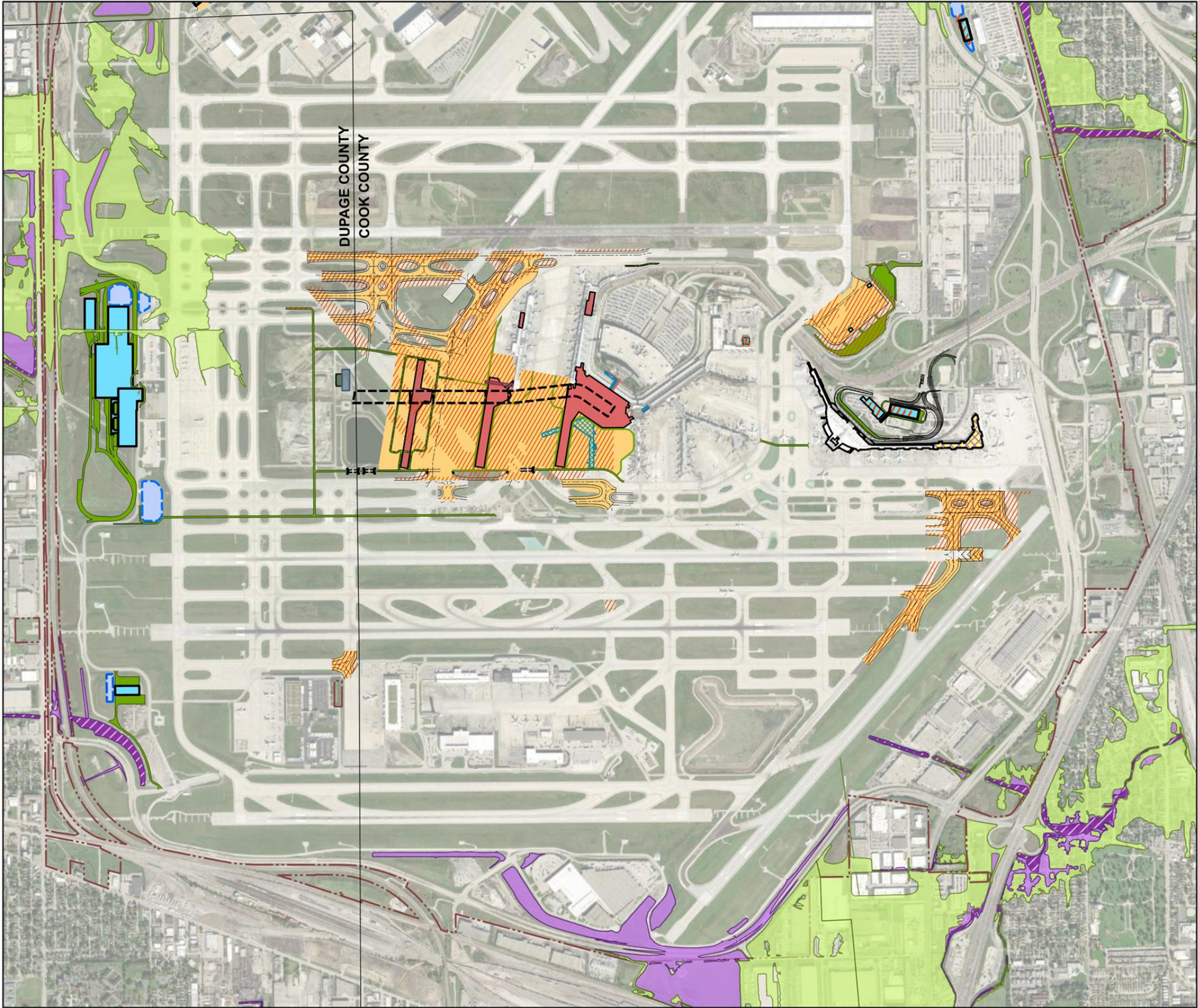
- County Boundary
- Airport Property Boundary
- FEMA Hazard Zones
 - 1% Annual Chance Flood Hazard
 - 0.2% Annual Chance Flood Hazard
 - Regulatory Floodway
- TAP Project Legend
 - Future Demolition
 - Future Road
 - Future Pavement
 - Building Relocated
 - Future Terminal Building
 - Future Building
 - Future Detention Basin

0 750 1,500 3,000
Feet



FEMA Floodplains with
Proposed Action

► Exhibit 5.13-4



Data Sources: Maxar FEMA Flood Hazard Data, www.fema.gov, O'Hare International Airport, Future Airport Layout Plan Draft, Ricondo & Associates, Inc. TAP Projects, HMMH, Inc.



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► Exhibit 5.13-5

5.13.4.3 Surface Water

Airside stormwater includes collected melting snow and deicing chemicals. The airside stormwater is collected into the airport's internal collection system operated under its NPDES permit. The CBBEL Future Airport Layout Plan Drainage Systems Engineering Report Draft (August 2019) is the basis of the methodology and analysis for the Proposed Action.

Information in CBBEL's Chicago O'Hare International Airport Future Airport Layout Plan – Landside Projects Drainage Systems Engineering Report Draft (October 2019) forms the basis of the surface water analysis for the following landside projects evaluated in this EA:

- The hotel development adjacent to the multi-modal facility on the east side of the airport south of Zemke Road (Project #22) (Independent Utility),
- Terminal 5 Hotel and Garage (Projects #25 and #26),
- The Centralized Distribution and Receiving Facility (Project #35), and
- West Side Development Area (Projects #10, 11, 12, 13, and 14).

5.13.5 Existing Conditions

The baseline condition for water resources considered the resources presented in the following sections.

5.13.5.1 Wetlands

Existing conditions considered the wetlands identified during a 2019 airport-wide field delineation as shown in **Exhibits 5.13-2** and **5.13-3**. This delineation led to an Approved Jurisdictional Determination by the USACE⁹ from which it was determined that no wetlands or waters within the Proposed Action study area are federally jurisdictional.¹⁰ The delineated wetlands and waters do not fall under state or local (DuPage or Cook County) jurisdiction. Details regarding the delineation methods and results are presented in **Appendix L**.

5.13.5.2 Floodplains

Floodplains and floodways regulated by FEMA are shown in **Exhibits 5.13-4** and **5.13-5**. These include floodplains associated with the Bensenville Ditch on the south part of the airport, Willow Creek on the northwest and west sides, Willow-Higgins Creek on the north and east sides, and Crystal Creek on the southeast side. These exhibits reflect current published FEMA mapping, which acknowledges LOMR 16-05-0956P, approved in November 2016 and LOMR 21-05-1469P, approved September 2021, and reflects the baseline floodplain condition.

5.13.5.3 Surface Water

The airport's current stormwater system, much of which was constructed as part of the OMP, is an intricate system of storm sewer piping, detention basins, flood control reservoirs, and pump stations. Key components of the existing system are the large detention basins on the airport including the North Detention Basin (NDB)/WHFCR, Central Detention Basin (CDB), and South Detention Basin (SDB).

⁹ Approved Jurisdictional Determination conducted under the 2015 Clean Water Rule (80-FR-37054, June 29, 2015).

¹⁰ Updated Approved Jurisdictional Determination Supporting the Terminal Area Plan and Air Traffic Procedures Environmental Assessment: O'Hare International Airport, City of Chicago, Cook County, Illinois, December 20, 2019

The CBBEL completed comprehensive drainage system studies to support the O'Hare Future ALP for both airside and landside projects. As stated in the CBBEL Future ALP Report (August 2019),

Many of the drainage systems that will be required for the Future ALP are currently in place and functioning Implementing the Future ALP considers relocating the Central Detention Basin (CDB), which in turn will require major modifications to the south airfield drainage systems. These modifications will be accomplished through the South Airfield Detention Consolidation (SADC) project, which will fill the CDB, expand the South Detention Basin (SDB), and construct a new stormwater tunnel for conveyance between the two locations. SADC is a near term project, currently anticipated to be constructed by 2022, and as such it is considered baseline (existing) for the evaluation of stormwater drainage requirements for the proposed Future ALP.

Therefore, the baseline for this EA's water resources assessment includes the Taxiway A-B/SADC project, for which a separate NEPA review and document was conducted¹¹ and a Finding of No Significant Impact was issued in July 2021, and non-TAP projects identified by the FAA and/or the CDA to be included in the baseline.¹²

5.13.6 Environmental Consequences

5.13.6.1 Interim No Action

The Interim (2025) No Action includes the baseline condition without the Proposed Action. For the purposes of this EA, it is assumed that all projects included in the baseline have gone or will go through required planning, environmental reviews, and design to identify any impacts and that appropriate mitigation and permitting will have occurred to offset impacts before or concurrent with project implementation.

5.13.6.2 Build Out No Action

This alternative represents all baseline independent utility projects projected for implementation by the time full build out is complete (2032). This alternative assumes the airport would continue to operate and maintain its drainage and surface water infrastructure system in accordance with its permits and adhere to regulatory requirements associated with the Interim and Build Out Conditions, all of which have been or will be reviewed separately from this EA.

5.13.6.3 Interim Proposed Action

This alternative includes the projects that will be completed in the Interim Condition of the Proposed Action. The majority of the interim projects near the terminal occur on portions of the airport that have already been disturbed and include the satellite concourses, consolidated tunnel, Terminal 5 curbside and roadway improvements, and various other airside improvements located in the City of Chicago. Several Interim Proposed Action projects include a new development on the west side of the airport referred to as the West Side Development Area, which is in DuPage County.

¹¹ "Environmental Assessment: Taxiways A&B Relocation and Rehabilitation and South Airfield Detention Consolidation: Chicago O'Hare International Airport," prepared for the U.S. Department of Transportation, Federal Aviation Administration, July 2021

¹² This information was provided by HMMH on October 28, 2021.

5.13.6.3.1 Wetlands

A total of 1.17 acres of non-jurisdictional wetlands would be impacted under the Interim Proposed Action. Table L-1 in **Appendix L** provides details of the nine wetlands that would be impacted. **Exhibit 5.13-6** shows the Interim Proposed Action in relation to potentially impacted wetlands.

5.13.6.3.2 Floodplains

Although the Parking Garage and access road for the West Side Development area fall within a small area of 500-year floodplain, no portion of the Proposed Action would fall within the 100-year floodplain or floodway. There is no requirement or need for mitigation for impacts to the 500-year floodplain. There would be no impacts to regulated floodplains associated with the Interim Proposed Action.

5.13.6.3.3 Surface Water

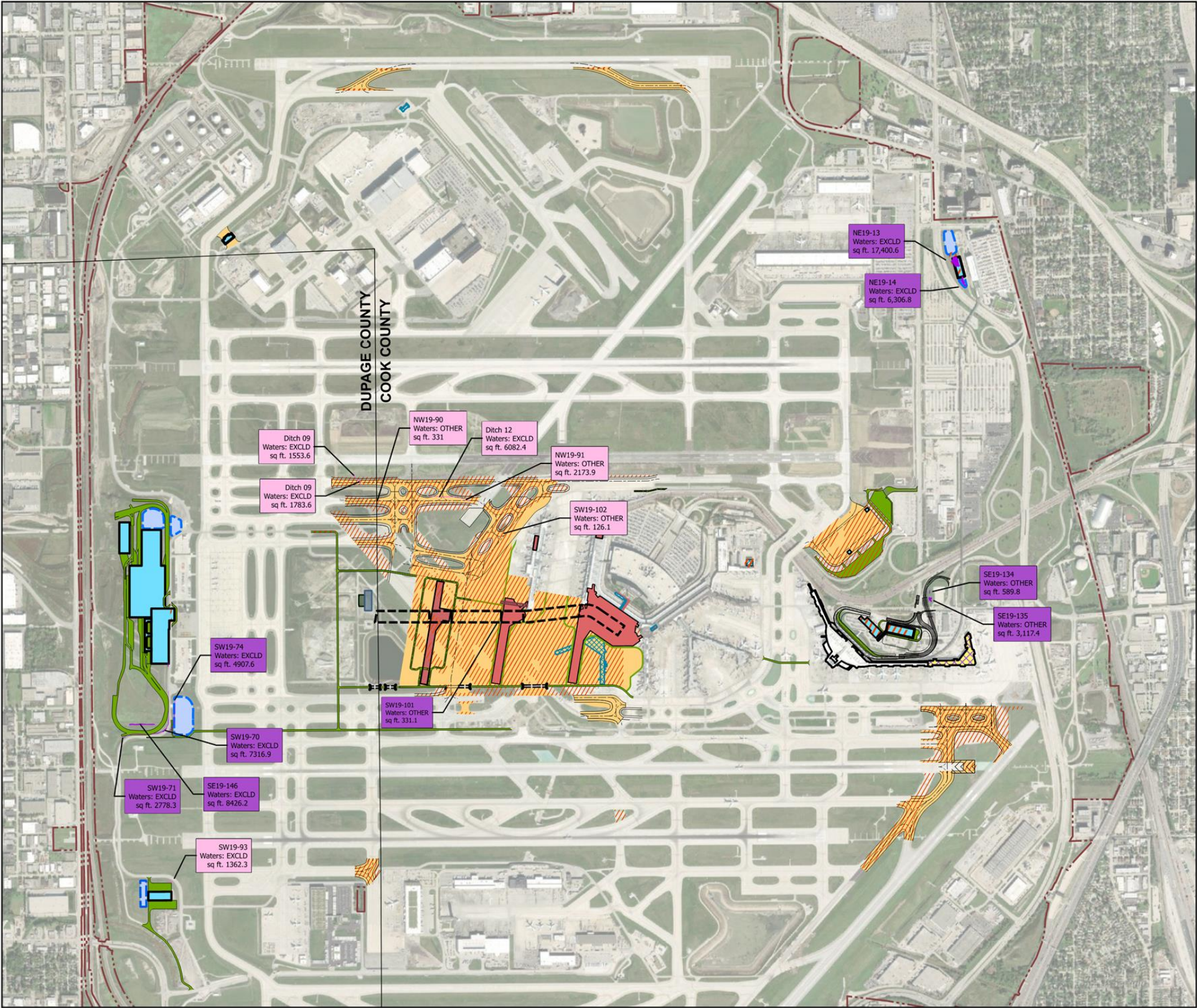
The Interim Proposed Action would result in increased impervious area and changes to drainage patterns and stormwater infrastructure. The August 2019 CBBEL *Future Airport Layout Plan Drainage Systems Engineering Report* determined that adequate storage exists to meet the regulatory release rate and storage requirement for future ALP airside projects. Most of the projects included in the Interim Proposed Action are within the airside stormwater system except the Hotel and Detention Basin Relocation at the MMF and the Centralized Distribution and Receiving Facility. These projects have site-specific drainage plans. The CBBEL Landside Projects Report provides analysis for a stormwater management system and conceptual stormwater management plan for the West Side Development Area demonstrating that it can meet requirements in the DuPage County Countywide Stormwater and Flood Plain Ordinance.

5.13.6.3.4 Construction Impacts

Construction impacts would be temporary and would consist mainly of impacts to surface water quality from erosion and siltation from site ground-disturbing activities. However, as described in the OMP EIS, the CDA established operational requirements for mitigation of construction impacts that would minimize their effect. For the OMP, these included an OMP Best Management Practices Manual and OMP Sustainability Manual, which provide procedures for construction impact mitigation. The CDA will require designers and contractors for the Proposed Action to follow a similar process to minimize construction impacts. Additionally, the permits and approvals listed in **Section 5.13.6.3.6** identify the documentation that must be prepared and approved prior to construction.

5.13.6.3.5 Operation Impacts

Stormwater infrastructure would be expanded to connect to the additional detention facilities. As a result, increased long-term maintenance would be associated with these facilities.



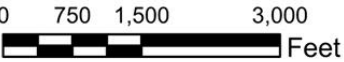
Data Sources: Earthstar Geographics Wetlands and WOTUS Delineation, Mead and Hunt, 2019. O'Hare International Airport, Future Airport Layout Plan Draft, Ricondo & Associates, Inc. TAP Projects, HMMH, Inc.



Chicago O'Hare International Airport

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- Interim Wetland Impact
- Build Out Wetland Impact
- County Boundary
- Airport Property Boundary
- TAP Project Legend
 - Future Demolition
 - Future Road
 - Future Pavement
 - Building Relocated
 - Future Terminal Building
 - Future Building
 - Future Detention Basin



Wetland Impacts with Interim Proposed Action and Build Out Proposed Action

► Exhibit 5.13-6

5.13.6.3.6 Permits and Approvals

The following permits and approvals will be required as part of the Interim Proposed Action:

- Notice of Intent for construction to comply with the NPDES permit,
- SWPPPs for construction projects,
- SPCCPs,
- Modification to SWPPP to include that the project comply with the NPDES permit, and
- City of Chicago and DuPage County permits/approvals demonstrating compliance with their respective stormwater ordinances.

5.13.6.3.7 Mitigation and Minimization

The impacted wetlands are not natural, are characterized as small, isolated areas with relatively low water quality and limited runoff storage function due to their small sizes. These wetlands are not jurisdictional under the CWA and do not provide functions that rise to a level requiring mitigation; therefore, no mitigation is proposed. Efforts, however, will be made to minimize the impact during design and construction.

The increase in impervious surface area and its associated runoff can be handled by existing and proposed stormwater detention facilities. Impacts to water quality during construction would be minimized through SWPPPs, which include erosion control plans and BMPs. The use of silt fences and/or vegetative filter strips to buffer drainages would also be included in the erosion control plans. Additionally, areas of disturbance would be re-vegetated to minimize erosion and impacts to surface waters.

Based on the analysis performed as part of this EA, it has been determined that impacts to water resources under the Interim Proposed Action are not significant.

5.13.7 Build Out Proposed Action

Most of the footprint of the Build Out Proposed Action is within the airport's airside stormwater system except for the Multimodal Facility and the Centralized Distribution and Receiving Facility.

5.13.7.1 Wetlands

A total of 0.31 acres of additional non-jurisdictional wetlands would be impacted under the Build Out Proposed Action, resulting in a total of 1.48 acres of wetland impact. Table 1 in **Appendix L** provides details of these seven wetlands. **Exhibit 5.13-6** shows the wetlands that would be impacted under the Build Out Proposed Action.

5.13.7.2 Floodplains

Only one project in the Build Out Proposed Action, the Centralized Distribution and Receiving Facility, lies close to a mapped 100-year floodplain, the relocated Bensenville Ditch. Therefore, the Build Out Proposed Action would not result in impacts to regulated floodplains.

5.13.7.3 Surface Water

The Build Out Proposed Action would result in increased impervious area and changes to drainage patterns and stormwater infrastructure. As explained above and detailed in **Appendix L**, the August 2019 CBBEL Draft Future Airport Layout Plan Drainage Systems Engineering Report determined that there is adequate storage to meet the regulatory release rate and storage requirement for future ALP airside projects. Most of the projects in the Build Out Proposed Action are located within the footprint of the ALP airside projects except the Multimodal Facility and the West Heating and Refrigeration Facility, located in the West Side Development Area.

5.13.7.4 Construction Impacts

Construction impacts are temporary and may affect surface water quality from erosion and siltation from site ground-disturbing activities. As explained in the Interim Proposed Action discussion in **Section 5.13.4.3**, the CDA has established operational requirements for mitigation of construction impacts that would minimize these impacts.

5.13.7.5 Operation Impacts

Stormwater infrastructure would be expanded to connect to the additional detention facilities. As a result, increased long-term maintenance would be associated with these facilities.

5.13.7.6 Permits and Approvals

The following permits and approvals will be required as part of the Build Out Proposed Action:

- Notice of Intent for construction to comply with the NPDES permit,
- SPCCPs,
- SWPPPs for construction projects,
- Modification to the SWPPP to include the project in order to comply with the NPDES permit; and
- City of Chicago and DuPage permits/approvals demonstrating compliance with their respective stormwater ordinances.

5.13.7.7 Mitigation and Minimization

The impacted wetlands are not natural and not jurisdictional. They are characterized as small, isolated areas with relatively low water quality and limited runoff storage function due to their small sizes and do not provide functions that rise to a level requiring mitigation; therefore, no mitigation is proposed. Efforts will be made to minimize impacts during design and construction.

Impacts to water quality during construction would be minimized through SWPPPs, which include erosion control plans and BMPs. Using silt fences and/or vegetative filter strips to buffer drainages would also be part of erosion control plans. Additionally, areas of disturbance would be revegetated to minimize erosion and impacts to surface waters.

Based on the analysis performed as part of this EA, it has been determined that impacts to water resources under the Build Out Proposed Action are not significant.¹³

¹³ Terminal 5 road improvement project is outside the O'Hare airfield stormwater system and is not included in the CBBEL studies, either landside or airside. It is assumed that further planning and design of this project would include compliance with required stormwater regulation such that there would be minimal impact.