Wetland and Water Resources Delineation Report

Chicago Department of Transportation

Jackson Park

6401 S. Stony Island Avenue

Chicago, Illinois 60637

FINAL

August 2017

GSG Project No.: 17-3003

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Submitted to:

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Prepared By: _____ Date: August 18, 2017

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Acronyms and Abbreviations

C	coefficient of conservatism
CFR	Code of Federal Regulations
CWA	Clean Water Act
FEMA	Federal Emergency Management Agency
FQI	floristic quality index
GIS	ArcView geographical information system
GPS	global positioning system
HQAR	high-quality aquatic resource
IDNR	Illinois Department of Natural Resources
IEPA	Illinois Environmental Protection Agency
NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory
OHWM	ordinary high water mark
RPP	Regional Permit program
SWANCC	Solid Waste Authority of Northern Cook County
TNW	traditionally navigable waters
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WOUS	water of the United States
WQC	water quality certification

1 Executive Summary

GSG Consultants Inc. (GSG) was contracted to identify wetlands and water resources, including wetlands, ditches, and streams which are located within Jackson Park from approximately E 56th Street to E 67th Street and from S Dorchester Avenue to the limits of Lake Michigan.

GSG completed a wetland delineation of the ±740-acre Jackson Park study area, located in the in Sections 12, 13, 14, 23, and 24, Township 38N, Range 14E, and Section 19, Township 38N, Range 15E in Cook County, Illinois. The study area contains existing roads, road right-of-way, golf course, shoreline, and maintained and natural area parklands.

Based on a field investigation conducted by GSG on August 2nd through 4th, 2017 and our review of related resource materials, it is our professional opinion that one isolated, USACE non-jurisdictional wetland, comprising 0.43 acres, and three USACE jurisdictional wetlands below the Lake Michigan ordinary high water mark (OHWM) (581.5 ft AMSL), comprising 0.68 acres exist within the study area Additionally, Lake Michigan, it's associated north and south lagoons, and Pond 1 are also likely jurisdictional waters within the project area ***(Exhibit 1)***.

1.1 Study Area

The study area includes Jackson Park from E 56th Street to E 67th Street and from S Dorchester Avenue to the limits of Lake Michigan. The delineation was performed in August 2017. The study area is located entirely within Cook County and is located within the Lake Michigan Watershed of Illinois ***(Exhibit 2).*** The study area is located within the Northcentral and Northeast Region as designated by the USACE *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0).*

1.2 Purpose

This report presents the results of the delineation of waters within the study area. The purpose of this report is to present a quantification and description of all waters that may be impacted by the project to support pending permitting requirements under the Clean Water Act (CWA), Rivers and Harbors Act, and The Interagency Wetland Policy Act as administered by the USACE, Illinois Environmental Protection Agency (IEPA), and Illinois Department of Natural Resources (IDNR).

The jurisdictional status of the study area is based on GSG's best professional understanding and interpretation of the U.S. Army Corps of Engineers (USACE)s Wetland Delineation Manual (Environmental Laboratory, 1987) and guidance documents and regulations. Jurisdictional determinations for other water resources were made based on definitions and guidance found in 33 CFR 328.3, USACE Regulatory Guidance Letters, and the wetland delineation manual.

2 Methods

2.1 Wetlands

Wetlands are defined as those 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" [33 Code of Federal Regulations (CFR) 328.3(b)].

Wetlands within the study area were identified and delineated in accordance with the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (USACE, 2012). This methodology consisted of establishing wetland determination plots which documented the vegetation, soils, and hydrology at each plot location. Wetlands were classified according to the hierarchical system developed by the U.S. Fish and Wildlife Service (USFWS) (Cowardin et al, 1979). Wetland boundaries were delineated using global positioning system (GPS) devices which were subsequently uploaded into ArcView geographical information system (GIS). The GIS information was used to generate the report figures herein.

Potential wetland areas were considered wetlands if they met all three of the following wetland criteria:

1. Hydrophytic Vegetation – Hydrophytic vegetation is present when the prevalent vegetation consists of species that are typically adapted to prolonged inundation or soil saturation during the growing season. This criterion may not need to be met if the area has been disturbed (farmed, etc.) and the natural vegetation has been removed.
2. Hydric Soil – Hydric soils are formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.
3. Hydrology – Wetland hydrology may include inundation either permanently or periodically or soil saturation to the surface at some time during the growing season.

In order for a wetland to be considered a jurisdictional water of the United States, the 2001 Supreme Court decision in Solid Waste Agency of Northern Cook County (SWANCC) versus USACE requires that a wetland be hydrologically connected to a jurisdictional water of the United States. Further guidance has been given subsequent to the 2006 Supreme Court decision in Rapanos v. United States. In accordance with the Rapanos decision, the USACE and U.S. Environmental Protection Agency (USEPA) generally assert jurisdiction over:

- Traditionally navigable waters (TNW) and wetlands adjacent to TNWs;
- Waters that are not TNWs provided they are relatively permanent waters – i.e. waters that flow year-round, or at least "seasonally," (typically 3 months) and include wetlands adjacent to such water bodies if the wetlands "directly abut" the water body; and
- Waters that are neither TNWs nor relatively permanent waters provided that a "significant nexus" exists between the water (including adjacent wetlands) and a TNW.

Using the methodology described by Swink and Wilhelm (1994) in Plants of the Chicago Region, a Floristic Quality Assessment was performed for each potential wetland and USACE jurisdictional vegetated ditch that was delineated.

Based on this methodology, a coefficient of conservatism (C) was assigned to each native plant species identified and the site's floristic quality index (FQI) was calculated as follows:

$$FQI = \bar{C}\sqrt{n}$$

(where n equals the number of native plant species at the site)

The C value, a range from 0 to 10, is an indicator of how likely a plant species may be found on an undisturbed site in a natural plant community. Plant species with low C values are typically more common and will likely tolerate a high degree of disturbance, whereas plant species with high C values are typically less common and cannot tolerate disturbance. The FQI is a function of the C value and provides a measure of the floristic integrity or level of site disturbance.

2.2 Ditches

Based on project guidance, the USACE Chicago District will not claim jurisdiction over ditches (including roadside ditches) excavated or formed wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

2.3 Streams

The field determination of streams as jurisdictional resources is typically based upon the presence of an ordinary high water mark (OHWM), observable "bed and bank," and the presence of documented surface water connections to navigable waters of the United States.

According to 33 CFR 328.3, "the term ordinary high water mark" means "the line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas." In general, the OHWM for a stream is usually determined through an examination of the recent physical evidence of surface flow in the stream channel. Watercourses that contain an observable bed and bank, and exhibit an OHWM, are classified as waters of the United States which are regulated by the USACE under Section 404 of the Clean Water Act and potentially Section 10 of the Rivers and Harbors Act of 1899. Mapping tools used in delineating jurisdictional streams include aerial photography, topographic maps, and field delineation using GPS.

2.4 Non-Agricultural Lands

The delineation of wetlands and other water resources on the site were based on the methodology described in the Corps of Engineers Wetland Delineation Manual (Environmental Laboratory, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region Version 2.0 (Environmental Laboratory, 2010) as required by current USACE policy.

Prior to the field work, the background information was reviewed to establish the probability and potential location of wetlands on the site. Next, a general reconnaissance of the site was conducted to determine study area conditions. The study area was then walked with the specific intent of determining wetland boundaries. Data stations were established at locations within and near the wetland areas to document soil characteristics, evidence of hydrology and dominant vegetation.

Note that no attempt was made to examine a full soil profile to confirm any soil series designations. However, soils were examined to a depth of at least 16 inches to assess soil characteristics and study area hydrology. Complete descriptions of typical soil series can be found in the soil survey for this county.

2.5 Delineation Data Sheets

Where stations represent a wetland boundary point they are presented as paired data points, one each documenting the wetland and upland sides of the wetland boundary. The routine wetland delineation data sheets used in the wetland delineation process are located in ***Appendix A***. These forms are the written documentation of how representative sample stations meet or do not meet each of the wetland criteria. Plant species, which are included on the NWPL, follow the NWPL naming protocol; additional sources listed in the bibliography are used for plants that are not listed in the NWPL.

2.6 Study area Photographs

Photographs of the study area are located in ***Appendix B***. These photographs are the visual documentation of study area conditions at the time of inspection. The photographs are intended to provide representative visual samples of any wetlands or other special features found on the study area.

2.7 Survey of Wetland Boundary

The wetland delineation map ***(Exhibit 1)*** reflects the wetland boundaries marked in the field and described below. The USACE Chicago District requires a wetland boundary survey be completed by a Professional Land Surveyor or Professional Engineer in order to verify the delineation boundaries for impact and regulatory purposes.

2.8 Naturally Problematic and Significantly Disturbed Wetlands

The Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0), 2012 identifies several situations under which conventional indicators of wetland vegetation, hydrology, or hydric soils are difficult or impossible to observe as a result of natural conditions (Naturally Problematic) or recent/historic disturbance (Significantly Disturbed). The USACE outlines procedures allowed for determining wetland boundaries under these Significantly Disturbed situations.

3 Results

3.1 Background Investigation

A variety of existing data sources were reviewed as planning tools prior to field reconnaissance to support and enhance the identification of wetland and stream resources in the field. Data sources reviewed include the following:

- U.S. Geological Survey (USGS) topographic mapping
- National Wetland Inventory (NWI) maps,
- Natural Resources Conservation Service (NRCS) soil maps, and
- Federal Emergency Management Agency (FEMA) floodplain and floodway maps.

3.1.1 United States Geological Survey (USGS) Topographical Map

The Jackson Park (2015) Quadrangle ***(Exhibit 2)*** identifies generally flat terrain throughout the study area. The on-site field assessment confirmed topography and observed that the study area generally drained to the east (Lake Michigan).

The USGS map identified one open water area bounded by E 59th St, E60th St, S Stony Island Ave and S Cornell Ave. The field investigation determined that this area is not open water, rather an open upland maintained grassy lawn.

3.1.2 National Wetland Inventory

The NWI maps were prepared from high altitude photography and in most cases have not been verified with actual conditions. Because of this, wetlands are sometimes erroneously identified, missed, or misidentified. Additionally, the criteria used in identifying these wetlands were different from those currently used by the USACE. The USACE does not accept the use of NWI mapping to make wetland determinations.

The NWI map of the study area ***(Exhibit 3)*** identifies one feature associated with Lake Michigan to the East of the study area and extending into the study area associated with two separate lagoons. ***Table 3-1*** lists the symbol and description of the feature identified on the NWI map.

Table 3-1 – NWI Wetlands within the Study Area

Symbol	Description
L1UBH	Lacustrine Limnetic Unconsolidated Bottom Permanently Flooded

The presence of the L1UBH feature was verified in the field.

3.1.3 Soil Survey

The county soil maps were developed from a combination of topography, high-altitude photography, and sporadic field verification. Soil survey maps may reflect historical conditions rather than current study area conditions, and are relatively low-resolution, limiting their accuracy.

The mapping units contain inclusions of other soil types for up to 15 percent of the area of the unit. The USACE does not accept the use of NRCS soil surveys to make wetland determinations.

The NRCS Soil Survey of Cook County identified twelve soil series on the study area (***Exhibit 4)***). ***Table 3-2*** identifies the soil unit symbol, soil unit name, and whether or not the soil type contains components that meet the hydric soil criteria.

Table 3-2 – Soil Types within the Study Area

Symbol	Description	Rating
49A	Watseka loamy fine sand, 0 to 2 percent slopes	Non-hydric
54B	Plainfield loamy sand, 1 to 6 percent slopes	Non-hydric
141A	Wesley fine sandy loam, 0 to 2 percent slopes	Non-hydric
201A	Gilford fine sandy loam, 0 to 2 percent slopes	Hydric
367	Beaches	Non-hydric
392A	Urban land-Orthents loamy, complex, nearly level	Non-hydric
533	Urban Land	Non-hydric
741B	Oakville fine sand, 1 to 6 percent slopes	Non-hydric
741D	Oakville fine sand, 6 to 12 percent slopes	Non-hydric
800A	Psamments, nearly level	Non-hydric
802B	Orthents, loamy, undulating	Non-hydric
2800	Urban land-Psamments complex, gently sloping	Non-hydric

3.1.4 Floodplain Map

The FEMA FIRM identifies the location of the 100-year floodplain within the study area ***(Exhibit 5)***. The FIRM shows one area within the 100-year floodplain associated with Lake Michigan and associated lagoons with a Base Flood Elevation (BFE) of 585 feet.

3.2 On-Site Investigation

Four wetlands and one large body of water were identified within and adjacent to the study area. Wetland and waterbody resources are depicted on ***Exhibits 1, 1a, and 1b***. Wetland Determination Data Forms are provided in ***Appendix A***, Photographs are provided in ***Appendix B***, and, Floristic Quality Assessment data is provided in ***Appendix D***.

According to Swink and Wilhelm (1994), if the mean C value for a site is 3.5 or greater, or if the FQI is 35 or more, the site has sufficient floristic quality to be at least of marginal natural area quality. If the mean C value is 4.5 or greater, or if the FQI is 45 or more, then the site has almost certain natural area potential. According to the Chicago District of the USACE, high-quality aquatic resource (HQAR) sites include, among other things, sedge meadows, wet prairies dominated by native graminoid species, and wetlands with an FQI greater than or equal to 20 (≥20) or a mean C value ≥3.5.

3.2.1 Wetlands

Wetland descriptions are provided below; a summary of wetlands in the study area is provided in ***Table 3-3.***

Wetland 1

Wetland 1 is located on the west side of South Stoney Island Avenue between E 59th Street and E 60th Street. This 0.43-acre mown emergent wetland is located just outside the existing right-of-way of South Stoney Island. Yellow nutsedge (*Cyperus esculentus*), marsh yellowcress (*Porulaca oleracea*), and smartweed (*Persicaria hydropiperoides*) are dominant hydrophytes within the study area. The C value is 3.25, and FQI is 6.50, indicating low floristic quality. Wetland 1 does not appear to have a any type of hydrologic connection to jurisdictional WOUS.

Wetland 2

Wetland 2 is located on the west side of 63rd St. Beach at the northeast corner of East Hayes Drive and Lake Shore Drive. This 0.50-acre emergent wetland is located on the coastal dune shoreline. Wool grass (*Scirpus cyperinus*), chairmakers bulrush (*Scirpus americanus*), fern flatsedge (*Cyperus filicinus*), and Canadian rush (*Juncus canadensis*) are dominant hydrophytes within the study area. The C value is 5.00, and FQI is 16.58, indicating a potetial HQAR. This wetland is within the OHWM of Lake Michigan, a WOUS.

Wetland 3

Wetland 3 is located on the west bank of the south lagoon connected to Lake Michigan near the northeast corner of E Marquette Drive and South Richards Drive. This 0.14-acre emergent\shrub scrub wetland is located along the lagoon shoreline. Black willow (*Salix nigra*) and common reed (*Phragmites australis*) are dominant hydrophytes within the study area. The C value is 2.14, and FQI is 5.67, indicating low floristic quality. This wetland is directly connected to, and within the OHWM of Lake Michigan, a WOUS.

Wetland 4

Wetland 4 is located on the northeast bank of the wooded island located in the north lagoon. This 0.03-acre emergent wetland is located on the main island within north lagoon on the northeast bank. Silver maple (*Acer saccharinum*), red osier dogwood (*Cornus alba*), Virginia wild rye (*Elymus virginica*), and swamp smartweed (*Persicaria hydropipoides*) are dominant hydrophytes within the study area. The C value is 3.20, and FQI is 10.12, indicating low floristic quality. This wetland is directly connected to, and within the OHWM of Lake Michigan, a WOUS.

3.2.2 Streams

There were no jurisdictional/non-jurisdictional streams identified in the study area.

3.2.3 Other Waters

Lake Michigan and associated Lagoons

Lake Michigan, a deep water lake extends along the eastern edge of the project area. Two lagoons, north and south extend into the project area, providing recreational and commercial boat access from marinas in each lagoon to the open lake. The water elevation in the lagoons is directly tied to the water level in Lake Michigan. The shoreline of Lake Michigan is primarily armored with

stone, or seawall. Two recreational, sandy beaches exist within the project area. The shoreline of the lagoons varies from seawall, hardened stone, steep vegetated bank, to shallow bank with a narrow band of hydrophytic vegetation.

Pond 1

Pond 1 is located south of Marquette Drive, within the existing golf course. The pond is a deep water pond with steep banks that are maintained to the edge through the golf course. Pond 1 drains into a culvert on the south side of Marquette Drive that drains into the Lake Michigan South Lagoon, north of Marquette Drive

Table 3-3 – Wetlands and Water Resources in the Study Area

Wetland ID	Size (acres)	Mean C Value	FQI	Jurisdictional Status	Classification	Comments
Jurisdictional Waters						
Wetland 2	0.50	5.00	16.58	Jurisdictional	L1UB3J	Shoreline wetland; HQAR
Wetland 3	0.14	2.14	5.67	Jurisdictional	PEM5A	Wetland bay in Lake Michigan Lagoon
Wetland 4	0.03	3.20	10.12	Jurisdictional	PEM1A	Wetland bay in Lake Michigan Lagoon
Lake Michigan and associated Lagoons	N/A	N/A	N/A	Jurisdictional	L1UBH	Navigable Water Body
Pond 1	1.62	N/A	N/A	Jurisdictional	PUBH	Drains to Lake Michigan
Non-Jurisdictional Waters						
Wetland 1	0.43	3.25	6.50	Isolated	PEM1A	Mown lawn in park

4 Jurisdictional Analysis

4.1 USACE

The USACE has authority over the discharge of fill or dredged material into WOUS This includes authority over any filling, mechanical land clearing, or other construction activities that occur within the boundaries of any WOUS. A permit must be obtained from the Chicago District USACE before any of these activities occur. Permits can be divided into two general categories: Regional Permits and Individual Permits. The Regional Permits have been developed for projects that meet specific criteria and generally require 60 to 180-days for processing, depending on which regional permit is being sought after. Individual Permits are required for projects that do not fall under the Regional Permit Program (RPP) or are deemed to have potentially significant environmental impacts. These permits are much more difficult to obtain and receive a much higher level of regulatory agency and public scrutiny, and usually require more than one year for processing.

4.2 Other Agencies

The IEPA is responsible for issuing Clean Water Act Section 401 permits known as Water Quality Certification (WQC) in conjunction with the USACE 404 permits. Most Regional Permits have been pre-approved for WQC, but for all Individual and some Regional Permits a separate application for WQC must be submitted directly to the IEPA.

The IDNR is responsible for administering the Interagency Wetland Policy Act of 1989 [20 ILCS830] (effective May 6, 1996). If financial assistance is administered or provided by any agency of the State of Illinois for a project associated with this study area, and the project proposes impacts to on-site wetlands, then the project will be subject to the Interagency Wetland Policy Act of 1989.

Since the study area is within the City of Chicago, the restrictions of the Cook County Watershed Management Ordinance do not apply. City of Chicago Building/Drainage permits may be applicable.

5 Summary and Conclusion

5.1 Wetland Summary

GSG completed wetland delineation of the ±740 acre Jackson Park study area, located in the in Sections 12, 13, 14, 23, and 24, Township 38N, Range 14E, and Section 19, Township 38N, Range 15E in Cook County, Illinois. The study area contains existing roads, road right-of-way, golf course, shoreline, and maintained and natural area parklands.

Based on a field investigation conducted by GSG on August 2nd through 4th, 2017 and our review of related resource materials, it is our professional opinion that one isolated, USACE non-jurisdictional wetland, comprising 0.43 acres, and three USACE jurisdictional wetlands below the Lake Michigan ordinary high water mark (OHWM) (581.5 ft AMSL), comprising 0.68 acres exist within the study area. Additionally, Lake Michigan, it's associated north and south lagoons, and Pond 1 are also likely jurisdictional waters within the project area ***(Exhibit 1)***.

A permit may be required from the USACE prior to any filling, dredging, or mechanical land clearing that occurs within the boundaries of any jurisdictional wetland or WOUS.

While this report represents our best professional judgment based on our knowledge and experience, it is important to note that the Chicago District of the USACE has final discretionary authority over all jurisdictional determinations of WOUS including wetlands under Section 404 of the CWA in this region. It is therefore recommended that a copy of this report be furnished to the Chicago District USACE to confirm the results of our findings.

6 References

Environmental Laboratory. 1987. U.S. Army Corps of Engineers' Wetland Delineation Manual, Technical Report Y-87-1, U.S. Waterways Experiment Station, Vicksburg, MS.

Environmental Laboratory. 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (version 2.0), ERDC/EL TR-10-16, U.S. Army Engineer Research and Development Center, Vicksburg, MS.

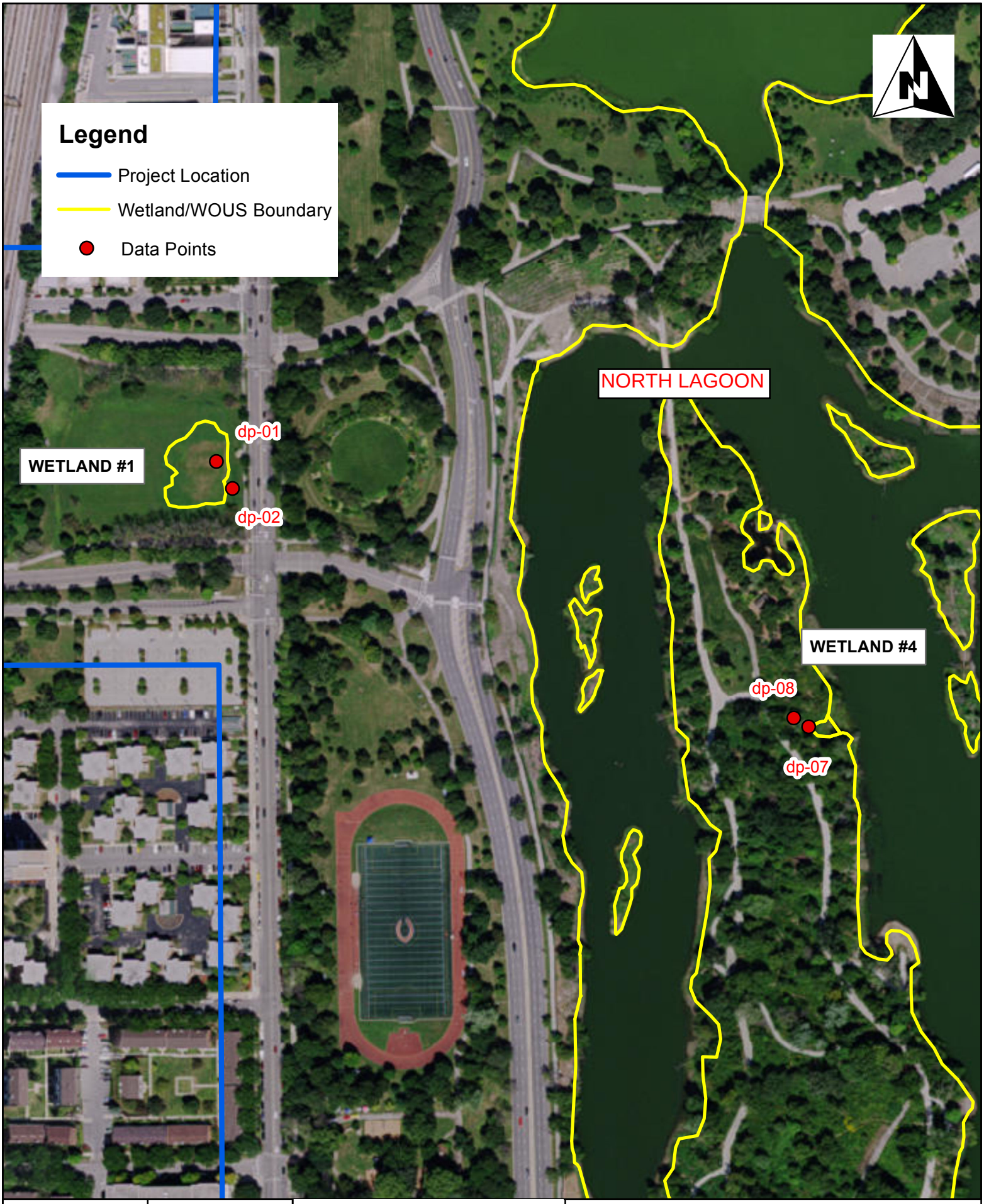
Cowardin, L. M, V. Carter, F. C. Golet, and E. T. LaRoe. 1979. Classification of Wetlands and Deep Water Habitats of the United States. U.S. Fish and Wildlife Service (USFWS).

Natural Resources Conservation Service (NRCS). 2012. Soil Survey Geographic (SSURGO) database for Cook County, Illinois. Available on line at http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Accessed 10/30/2012.

Swink, Floyd and Gerould Wilhelm. 1994. Plants of the Chicago Region. 4th ed. Indianapolis: Indiana Academy of Science.

EXHIBITS

Drawn by : RA	Date: 8-9-17	GSG CONSULTANTS, INC. 855 West Adams, Suite 200 Chicago, Illinois 60607 tel: 312.733.6262 • fax: 312.733.5612	**Exhibit 1** **Wetland Delineation Map**
Checked by : WS	Date: 8-9-17		



Drawn by : RA	Date: 8-9-17	GSG CONSULTANTS, INC. 855 West Adams, Suite 200 Chicago, Illinois 60607 tel: 312.733.6262 • fax: 312.733.5612	**Exhibit 1a** **Wetland Delineation Map**
Checked by : WS	Date: 8-9-17		

Drawn by : RA	Date: 8-9-17	GSG CONSULTANTS, INC. 855 West Adams, Suite 200 Chicago, Illinois 60607 tel: 312.733.6262 • fax: 312.733.5612	**Exhibit 1b** **Wetland Delineation Map**
Checked by : WS	Date: 8-9-17		

Image Source: USGS Topographic Map

Drawn By: NW	Date: 8-10-2017	GSG CONSULTANTS, INC. 855 West Adams, Suite 200 Chicago, Illinois 60607 tel: 312.733.6262 fax: 312.733.5612	Exhibit 2 USGS Topographic Map
Checked By: WS	Date: 8-10-2017		

Image Source: National Wetland Inventory Mapper

Drawn By: NW	Date: 8-10-2017	GSG CONSULTANTS, INC. 855 West Adams, Suite 200 Chicago, Illinois 60607 tel: 312.733.6262 fax: 312.733.5612	Exhibit 3 NWI Map
Checked By: WS	Date: 8-10-2017		

Image Source: USDA Web Soil Survey

Drawn By: NW	Date: 8-10-2017	GSG CONSULTANTS, INC. 855 West Adams, Suite 200 Chicago, Illinois 60607 tel: 312.733.6262 fax: 312.733.5612	Exhibit 4 USDA Soil Map
Checked By: WS	Date: 8-10-2017		

Image Source: Federal Emergency Management Agency

Drawn By: NW	Date: 8-10-2017	GSG CONSULTANTS, INC. 855 West Adams, Suite 200 Chicago, Illinois 60607 tel: 312.733.6262 fax: 312.733.5612	Exhibit 5 FEMA Map
Checked By: WS	Date: 8-10-2017		

APPENDIX A

Wetland Delineation Data Sheets

WETLAND DETERMINATION DATA FORM -- Northcentral and Northeast Region

Project/Site: Jackson Park | City/County: Chicago/Cook | Sampling Date: 8/3/2017

Applicant/Owner: Chicago Department of Transportation | State: IL | Sampling Point: DP-01

Investigator(s): Bill Santelik, Nicole Wahlborg | Section, Township, Range: S14, T38N, R14E

Landform (hillslope, terrace, etc.): Depression | Local relief (concave, convex, none): concave

Slope (%): 0% | Lat: 41.786915 | Long: -87.586928 | Datum: NAD83

Soil Map Unit Name: Watseka loamy fine sand | NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No ____	**within a Wetland?** Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-01

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Cyperus esculentus*	70	Yes	FACW
2. *Portulaca oleracea*	60	Yes	FACU
3. *Persicaria hydropiperoides*	50	Yes	OBL
4. *Poa pratensis*	40	No	FACU
5. *Plantago major*	10	No	FACU
6. *Securigera varia*	10	No	UPL
7. *Arctium minus*	1	No	FACU
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	241	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	70	x 2 =	140
FAC species	0	x 3 =	0
FACU species	111	x 4 =	444
UPL species	10	x 5 =	50
Column Totals:	241 (A)		684 (B)
Prevalence Index = B/A =			2.84

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes X** **No ___**

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	10YR 2/1	100					Sandy loam	
4-8"	10YR 2/1	93	10YR 5/1	5			Sandy loam	
			10YR 6/6	2				
8-16"	10YR 2/1	97	10YR 5/2	2			Sandy loam	
			10YR 5/8	1				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

WETLAND DETERMINATION DATA FORM -- Northcentral and Northeast Region

Project/Site: Jackson Park | City/County: Chicago/Cook | Sampling Date: 8/3/2017

Applicant/Owner: Chicago Department of Transportation | State: IL | Sampling Point: DP-02

Investigator(s): Bill Santelik, Nicole Wahlborg | Section, Township, Range: S14, T38N, R14E

Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): convex

Slope (%): 1% | Lat: 41.786814 | Long: -87.58682 | Datum: NAD83

Soil Map Unit Name: Watseka loamy fine sand | NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____ No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-02

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Fetuca arundinacea*	70	Yes	UPL
2. *Taraxacum officinale*	10	No	FACU
3. *Melilotus offinalis*	60	Yes	UPL
4. *Poa pratensis*	30	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	170	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	40	x 4 =	160
UPL species	130	x 5 =	650
Column Totals:	170 (A)		810 (B)
Prevalence Index = B/A =			4.76

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18"	10YR 2/1	100					Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5)
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ____ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ____ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ____ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ____ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ____ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ____ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ____ Dark Surface (S7) **(LRR K, L, M)**
- ____ Polyvalue Below Surface (S8) **(LRR K, L)**
- ____ Thin Dark Surface (S9) **(LRR K, L)**
- ____ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ____ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ____ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ____ Red Parent Material (F21)
- ____ Very Shallow Dark Surface (TF12)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ____ **No** **X**

Remarks:

WETLAND DETERMINATION DATA FORM -- Northcentral and Northeast Region

Project/Site: Jackson Park | City/County: Chicago/Cook | Sampling Date: 8/4/2017

Applicant/Owner: Chicago Department of Transportation | State: IL | Sampling Point: DP-03

Investigator(s): Bill Santelik, Nicole Wahlborg | Section, Township, Range: S13, T38N, R14E

Landform (hillslope, terrace, etc.): Depression | Local relief (concave, convex, none): concave

Slope (%): 0% | Lat: 41.782648 | Long: -87.574319 | Datum: NAD83

Soil Map Unit Name: Beaches | NWI classification: L1UBH

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No ____	**within a Wetland?** Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	2"
Water Table Present?	Yes X	No ____	Depth (inches):	N/A
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	N/A

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-03

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus cyperinus*	20	Yes	OBL
2. *Schoenoplectus pungens*	20	Yes	OBL
3. *Cyperus filicinus*	20	Yes	OBL
4. *Juncus canadensis*	20	Yes	OBL
5. *Cyperus diandrus*	10	No	OBL
6. *Equisetum hyemale*	5	No	FAC
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	90	x 1 =	90
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		105 (B)
Prevalence Index = B/A =			1.11

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes X** **No ___**

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-03

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	10YR 5/3	95	10YR 2/1	5			SAND	
3-9"	10YR 5/2	98	10YR 3/1	2			SAND	
9-16"	10YR 5/3	95	10YR 5/2	5			SAND	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

WETLAND DETERMINATION DATA FORM -- Northcentral and Northeast Region

Project/Site: Jackson Park | City/County: Chicago/Cook | Sampling Date: 8/4/2017

Applicant/Owner: Chicago Department of Transportation | State: IL | Sampling Point: DP-04

Investigator(s): Bill Santelik, Nicole Wahlborg | Section, Township, Range: S13, T38N, R14E

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): convex

Slope (%): 1% | Lat: 41.782415 | Long: -87.574384 | Datum: NAD83

Soil Map Unit Name: Beaches | NWI classification: L2USJ

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____ No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-04

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Salix interior*	5	No	FACW
2. *Equisetum arvense*	20	Yes	FAC
3. *Coreopsis verticillata*	10	No	UPL
4. *Elymus virginica*	15	Yes	UPL
5. *Rudbeckia hirta*	5	No	FACU
6. *Eragrostis cilianensis*	15	Yes	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	20	x 3 =	60
FACU species	20	x 4 =	80
UPL species	25	x 5 =	125
Column Totals:	70 (A)		275 (B)

Prevalence Index = B/A = 3.93

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? Yes _ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-04

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	10YR 5/4	100					SAND	
7-18"	10YR 5/3	100					SAND	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5)
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ____ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ____ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ____ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ____ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ____ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ____ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ____ Dark Surface (S7) **(LRR K, L, M)**
- ____ Polyvalue Below Surface (S8) **(LRR K, L)**
- ____ Thin Dark Surface (S9) **(LRR K, L)**
- ____ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ____ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ____ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ____ Red Parent Material (F21)
- ____ Very Shallow Dark Surface (TF12)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ____ **No** **X**

Remarks:

WETLAND DETERMINATION DATA FORM -- Northcentral and Northeast Region

Project/Site: Jackson Park | City/County: Chicago/Cook | Sampling Date: 8/4/2017

Applicant/Owner: Chicago Department of Transportation | State: IL | Sampling Point: DP-05

Investigator(s): Bill Santelik, Nicole Wahlborg | Section, Township, Range: S24, T38N, R14E

Landform (hillslope, terrace, etc.): Depression | Local relief (concave, convex, none): concave

Slope (%): 0% | Lat: 41.776630 | Long: -87.578087 | Datum: NAD83

Soil Map Unit Name: Watseka loamy fine sand | NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No ____	**within a Wetland?** Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 7"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 4"

Wetland Hydrology Present? **Yes X** **No ____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-05

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix nigra*	5	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Rhamnus cathartica*	2	No	FAC
2. *Phytolacca americana*	2	No	FACU
3.			
4.			
5.			
6.			
7.			
	4	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phragmites australis*	100	Yes	FACW
2. *Impatiens capensis*	20	No	FACW
3. *Solidago gigantea*	5	No	FACW
4. *Arctium minus*	2	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	127	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1. *Vitis riparia*	10	Yes	FAC
2. *Solanum dulcamara*	1	No	FAC
3.			
4.			
	11	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	125	x 2 =	250
FAC species	13	x 3 =	39
FACU species	4	x 4 =	16
UPL species	0	x 5 =	0
Column Totals:	147 (A)		310 (B)
Prevalence Index = B/A =			2.11

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? Yes X No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-05

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	10YR 2/2	100					SANDY LOAM	
5-18"	10YR 4/1	95	10YR 3/6	5			SANDY LOAM	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

WETLAND DETERMINATION DATA FORM -- Northcentral and Northeast Region

Project/Site: Jackson Park | City/County: Chicago/Cook | Sampling Date: 8/4/2017

Applicant/Owner: Chicago Department of Transportation | State: IL | Sampling Point: DP-06

Investigator(s): Bill Santelik, Nicole Wahlborg | Section, Township, Range: S24, T38N, R14E

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): convex

Slope (%): 1% | Lat: 41.776710 | Long: -87.578077 | Datum: NAD83

Soil Map Unit Name: Watseka loamy fine sand | NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____ No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-06

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Morus nigra*	5	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Plantago lanceolata*	30	Yes	FACU
2. *Melilotus americana*	10	No	UPL
3. *Taraxacum officinale*	10	No	FACU
4. *Glechoma hederacea*	30	Yes	FACU
5. *Poa pratensis*	60	Yes	FACU
6. *Viola sororia*	10	No	UPL
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	150	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	130	x 4 =	520
UPL species	25	x 5 =	125
Column Totals:	155 (A)		645 (B)
Prevalence Index = B/A =			4.16

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-06

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 2/2	100					SANDY LOAM	
6-18"	10YR 5/6	98	10YR 5/2	2			SAND	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5)
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ____ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ____ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ____ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ____ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ____ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ____ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ____ Dark Surface (S7) **(LRR K, L, M)**
- ____ Polyvalue Below Surface (S8) **(LRR K, L)**
- ____ Thin Dark Surface (S9) **(LRR K, L)**
- ____ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ____ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ____ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ____ Red Parent Material (F21)
- ____ Very Shallow Dark Surface (TF12)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ____ **No** **X**

Remarks:

WETLAND DETERMINATION DATA FORM -- Northcentral and Northeast Region

Project/Site: Jackson Park | City/County: Chicago/Cook | Sampling Date: 8/4/2017

Applicant/Owner: Chicago Department of Transportation | State: IL | Sampling Point: DP-07

Investigator(s): Bill Santelik, Nicole Wahlborg | Section, Township, Range: S13, T38N, R14E

Landform (hillslope, terrace, etc.): Depression | Local relief (concave, convex, none): concave

Slope (%): 0% | Lat: 41.785448 | Long: -87.582298 | Datum: NAD83

Soil Map Unit Name: Gilford fine sandy laom | NWI classification: L1UBHx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No ____	**within a Wetland?** Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

____ Surface Water (A1)	____ Water-Stained Leaves (B9)	____ Surface Soil Cracks (B6)
____ High Water Table (A2)	____ Aquatic Fauna (B13)	____ Drainage Patterns (B10)
____ Saturation (A3)	____ Marl Deposits (B15)	____ Moss Trim Lines (B16)
____ Water Marks (B1)	____ Hydrogen Sulfide Odor (C1)	____ Dry-Season Water Table (C2)
____ Sediment Deposits (B2)	X Oxidized Rhizospheres on Living Roots (C3)	____ Crayfish Burrows (C8)
____ Drift Deposits (B3)	____ Presence of Reduced Iron (C4)	____ Saturation Visible on Aerial Imagery (C9)
____ Algal Mat or Crust (B4)	____ Recent Iron Reduction in Tilled Soils (C6)	____ Stunted or Stressed Plants (D1)
____ Iron Deposits (B5)	____ Thin Muck Surface (C7)	X Geomorphic Position (D2)
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	____ Shallow Aquitard (D3)
____ Sparsely Vegetated Concave Surface (B8)		____ Microtopograpic Relief (D4)
		____ FAC-Neutral Test (D5)

Secondary Indicators (minimum of two required)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes X** **No ____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-07

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharinum*	20	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	20	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Cornus alba*	10	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Elymus virginicus*	60	Yes	FACW
2. *Persicaria hydropiperoides*	20	Yes	OBL
3. *Impatiens capensis*	15	No	FACW
4. *Cyperus esculentus*	10	No	FACW
5. *Phytolacca americana*	10	No	FACU
6. *Solidago altissima*	10	No	FACU
7. *Epilobium ciliatum*	5	No	FACW
8. *Scirpus atrovirens*	5	No	OBL
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	135	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	120	x 2 =	240
FAC species	0	x 3 =	0
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	165 (A)		345 (B)
Prevalence Index = B/A =			2.09

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? Yes X No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-07

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	10YR 2/1	100					LOAM	
10-18"	10YR 2/1	98	7.5YR 4/6	2			LOAM	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

WETLAND DETERMINATION DATA FORM -- Northcentral and Northeast Region

Project/Site: Jackson Park | City/County: Chicago/Cook | Sampling Date: 8/4/2017

Applicant/Owner: Chicago Department of Transportation | State: IL | Sampling Point: DP-08

Investigator(s): Bill Santelik, Nicole Wahlborg | Section, Township, Range: S13, T38N, R14E

Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): convex

Slope (%): 1% | Lat: 41.785498 | Long: -87.582484 | Datum: NAD83

Soil Map Unit Name: Gilford fine sandy loam | NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-08

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Morus alba*	30	Yes	FACU
2. *Acer rubrum*	1	No	FAC
3. *Celtis occidentalis*	20	Yes	FAC
4.			
5.			
6.			
7.			
	51	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Elymus hystrix*	30	Yes	FACU
2. *Verbena officinalis*	5	No	FACU
3. *Melilotus officinalis*	1	No	FACU
4. *Zizea aurea*	40	Yes	UPL
5. *Elymus virginicus*	65	Yes	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	141	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	65	x 2 =	130
FAC species	21	x 3 =	63
FACU species	66	x 4 =	264
UPL species	40	x 5 =	200
Column Totals:	192 (A)		657 (B)
Prevalence Index = B/A =			3.42

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-08

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16"	10YR 2/1	100					loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5)
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ____ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ____ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ____ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ____ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ____ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ____ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ____ Dark Surface (S7) **(LRR K, L, M)**
- ____ Polyvalue Below Surface (S8) **(LRR K, L)**
- ____ Thin Dark Surface (S9) **(LRR K, L)**
- ____ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ____ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ____ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ____ Red Parent Material (F21)
- ____ Very Shallow Dark Surface (TF12)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ____ **No** **X**

Remarks:

APPENDIX B

Study Area Photographs

GSG CONSULTANTS, INC.
855 West Adams, Suite 200, Chicago, IL 60607; Phone: (312) 733-6262

Project Number: 17-3003
Project Site: 6401 S Stony Island Ave, Chicago, IL

Date: 08/02/2014
Photograph taken by: WS
View of datapoint 1, wetland plot for wetland 1 facing northwest.

Date: 06/03/2016
Photograph taken by: WS
View of datapoint 2, upland plot for wetland 1 facing east.

Date: 08/04/2017
Photograph taken by: WS
View of datapoint 3, wetland plot for wetland 2, facing west.

Date: 08/04/2017
Photograph taken by: WS
View of datapoint 4, upland plot for wetland 2, facing north.

Date: 08/04/2017
Photograph taken by: WS
View of datapoint 5, wetland plot for wetland 3, facing south.

Date: 08/04/2017
Photograph taken by: WS
View of datapoint 6, upland plot for wetland 3, facing south.

Date: 08/04/2017
Photograph taken by: WS
View of datapoint 7, wetland plot for wetland 4, facing east.

Date: 08/04/2017
Photograph taken by: WS
View of datapoint 8, upland plot for wetland 4, facing west.

Date: 08/04/2017
Photograph taken by: WS
View of Lake Michigan shoreline at the northern point of the study area, facing north.

Date: 08/04/2017
Photograph taken by: WS
View of landscaped area on wooded island, facing north.

GSG CONSULTANTS, INC.
855 West Adams, Suite 200, Chicago, IL 60607; Phone: (312) 733-6262

Project Number: 17-3003
Project Site: 6401 S Stony Island Ave, Chicago, IL

Date: 08/04/2017
Photograph taken by: WS
View of north lagoon and adjacent golf course within study area, facing north.

APPENDIX C

Floristic Quality Assessment

SITE: Wetland 1
LOCALE: Jackson Park
B. Santelik/N.
BY: Walborg
NOTES:

CONSERVATISM-BASED METRICS		ADDITIONAL METRICS	
MEAN C (NATIVE SPECIES)	3.25	SPECIES RICHNESS (ALL)	9
MEAN C (ALL SPECIES)	1.44	SPECIES RICHNESS (NATIVE)	4
MEAN C (NATIVE TREES)	2.00	% NON-NATIVE	0.56
MEAN C (NATIVE SHRUBS)	n/a	WET INDICATOR (ALL)	-0.11
MEAN C (NATIVE HERBACEOUS)	3.67	WET INDICATOR (NATIVE)	-1.25
FQAI (NATIVE SPECIES)	6.50	% HYDROPHYTE (MIDWEST)	0.67
FQAI (ALL SPECIES)	4.33	% NATIVE PERENNIAL	0.44
ADJUSTED FQAI	21.67	% NATIVE ANNUAL	0.00
% C VALUE 0	0.67	% ANNUAL	0.11
% C VALUE 1-3	0.11	% PERENNIAL	0.78
% C VALUE 4-6	0.11		
% C VALUE 7-10	0.11		

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM)	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	HABIT	DURATION	NATIVITY
ARCMIN	Arctium minus	ARCTIUM MINUS	Lesser Burrdock	0	FACU	FACU	1	Forb	Biennial	Adventive
cypesc	Cyperus esculentus	Cyperus esculentus	Chufa	0	FACW	FACW	-1	Sedge	Perennial	Native
PERHYO	Persicaria hydropiperoides	Polygonum opelousanum adenocalyx	Swamp Smartweed	7	OBL	OBL	-2	Forb	Perennial	Native
PLAMAJ	Plantago major	PLANTAGO MAJOR	Great Plantain	0	FAC	FACU	0	Forb	Perennial	Adventive
POAPRA	Poa pratensis	POA PRATENSIS	Kentucky Blue Grass	0	FAC	FACU	0	Grass	Perennial	Adventive
POPDEL	Populus deltoides	Populus deltoides	Eastern Cottonwood	2	FAC	FAC	0	Tree	Perennial	Native
POROLE	Portulaca oleracea	PORTULACA OLERACEA	Little-Hogweed	0	FACU	FACU	1	Forb	Annual	Adventive
RORPAL	Rorippa palustris	0	Bog Yellowcress	4	OBL	OBL	-2	Forb	Perennial	Native
SECVAR	Securigera varia	CORONILLA VARIA	Crown Vetch	0	UPL	UPL	2	Forb	Perennial	Adventive

SITE: Wetland 2
LOCALE: Jackson Park
B. Santelik, N.
BY: Wahlborg
NOTES:

CONSERVATISM-BASED METRICS		ADDITIONAL METRICS	
MEAN C (NATIVE SPECIES)	5.00	SPECIES RICHNESS (ALL)	11
MEAN C (ALL SPECIES)	5.00	SPECIES RICHNESS (NATIVE)	11
MEAN C (NATIVE TREES)	2.00	% NON-NATIVE	0.00
MEAN C (NATIVE SHRUBS)	1.00	WET INDICATOR (ALL)	-1.27
MEAN C (NATIVE HERBACEOUS)	5.78	WET INDICATOR (NATIVE)	-1.27
FQAI (NATIVE SPECIES)	16.58	% HYDROPHYTE (MIDWEST)	0.91
FQAI (ALL SPECIES)	16.58	% NATIVE PERENNIAL	0.91
ADJUSTED FQAI	50.00	% NATIVE ANNUAL	0.09
% C VALUE 0	0.00	% ANNUAL	0.09
% C VALUE 1-3	0.27	% PERENNIAL	0.91
% C VALUE 4-6	0.45		
% C VALUE 7-10	0.27		

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM)	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	HABIT	DURATION	NATIVITY
CYPDIA	Cyperus diandrus	Cyperus diandrus	Umbrella Flat Sedge	10	FACW	OBL	-1	Sedge	Annual	Native
CYPFIL	Cyperus lupulinus	Cyperus filiculmis	Great Plains Flat Sedge	5	FACU	FACU	1	Sedge	Perennial	Native
EQUHYE	Equisetum hyemale	Equisetum hyemale	Tall Scouring-Rush	3	FACW	FAC	-1	Fern	Perennial	Native
JUNCAN	Juncus canadensis	Juncus canadensis	Canadian Rush	7	OBL	OBL	-2	Forb	Perennial	Native
JUNEFF	Juncus effusus ssp. solutus	Juncus effusus	Lamp Rush	7	OBL	OBL	-2	Forb	Perennial	Native
POPDEL	Populus deltoides	Populus deltoides	Eastern Cottonwood	2	FAC	FAC	0	Tree	Perennial	Native
SAGLAT	Sagittaria latifolia	Sagittaria latifolia	Duck-Potato	4	OBL	OBL	-2	Forb	Perennial	Native
SALINT	Salix interior	Salix interior	Sandbar Willow	1	FACW	FACW	-1	Shrub	Perennial	Native
SCIPUN	Schoenoplectus pungens	Scirpus pungens	Three-Square	5	OBL	OBL	-2	Sedge	Perennial	Native
SCIVAL	Schoenoplectus tabernaemontani	Scirpus validus creber	Soft-Stem Club-Rush	5	OBL	OBL	-2	Sedge	Perennial	Native
SCICYP	Scirpus cyperinus	Scirpus cyperinus	Cottongrass Bulrush	6	OBL	OBL	-2	Sedge	Perennial	Native

SITE: Wetland 3
LOCALE: Jackson Park
B. Santelik, N.
BY: Wahlborg
NOTES:

CONSERVATISM-BASED METRICS		ADDITIONAL METRICS	
MEAN C (NATIVE SPECIES)	2.14	SPECIES RICHNESS (ALL)	13
MEAN C (ALL SPECIES)	1.15	SPECIES RICHNESS (NATIVE)	7
MEAN C (NATIVE TREES)	2.00	% NON-NATIVE	0.46
MEAN C (NATIVE SHRUBS)	0.00	WET INDICATOR (ALL)	-0.23
MEAN C (NATIVE HERBACEOUS)	2.25	WET INDICATOR (NATIVE)	-0.43
FQAI (NATIVE SPECIES)	5.67	% HYDROPHYTE (MIDWEST)	0.69
FQAI (ALL SPECIES)	4.16	% NATIVE PERENNIAL	0.46
ADJUSTED FQAI	15.72	% NATIVE ANNUAL	0.08
% C VALUE 0	0.54	% ANNUAL	0.08
% C VALUE 1-3	0.31	% PERENNIAL	0.85
% C VALUE 4-6	0.15		
% C VALUE 7-10	0.00		

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM)	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	HABIT	DURATION	NATIVITY
ACENEG	Acer negundo	Acer negundo var. violaceum	Ash-Leaf Maple		0 FAC	FAC	0	Tree	Perennial	Native
ARCMIN	Arctium minus	ARCTIUM MINUS	Lesser Burrdock		0 FACU	FACU	1	Forb	Biennial	Adventive
HIBSYR	Hibiscus syriacus	HIBISCUS SYRIACUS	Rose-of-Sharon		0 UPL	UPL	2	Shrub	Perennial	Adventive
IMPCAP	Impatiens capensis	Impatiens capensis	Spotted Touch-Me-Not		3 FACW	FACW	-1	Forb	Annual	Native
LYTSAL	Lythrum salicaria	LYTHRUM SALICARIA	Purple Loosestrife		0 OBL	OBL	-2	Forb	Perennial	Adventive
PHRAUSU	Phragmites australis ssp. australis	Phragmites australis	Common Reed		0 FACW	FACW	-1	Grass	Perennial	Adventive
PHYAME	Phytolacca americana	Phytolacca americana	American Pokeweed		1 FACU	FACU	1	Forb	Perennial	Native
RHACAT	Rhamnus cathartica	RHAMNUS CATHARTICA	European Buckthorn		0 FAC	FAC	0	Shrub	Perennial	Adventive
SALNIG	Salix nigra	Salix nigra	Black Willow		4 OBL	OBL	-2	Tree	Perennial	Native
SOLDUL	Solanum dulcamara	SOLANUM DULCAMARA	Climbing Nightshade		0 FAC	FAC	0	Vine	Perennial	Adventive
SOLALT	Solidago altissima	Solidago altissima	Tall Goldenrod		1 FACU	FACU	1	Forb	Perennial	Native
VERHAS	Verbena hastata	Verbena hastata	Simpler's-Joy		4 FACW	FACW	-1	Forb	Perennial	Native
VITRIP	Vitis riparia	Vitis riparia	River-Bank Grape		2 FACW	FAC	-1	Vine	Perennial	Native

SITE: Wetland 4
LOCALE: Jackson Park
B. Santelik, N.
BY: Wahlborg
NOTES:

CONSERVATISM-BASED METRICS		ADDITIONAL METRICS	
MEAN C (NATIVE SPECIES)	3.20	SPECIES RICHNESS (ALL)	10
MEAN C (ALL SPECIES)	3.20	SPECIES RICHNESS (NATIVE)	10
MEAN C (NATIVE TREES)	3.00	% NON-NATIVE	0.00
MEAN C (NATIVE SHRUBS)	6.00	WET INDICATOR (ALL)	-0.60
MEAN C (NATIVE HERBACEOUS)	2.88	WET INDICATOR (NATIVE)	-0.60
FQAI (NATIVE SPECIES)	10.12	% HYDROPHYTE (MIDWEST)	0.70
FQAI (ALL SPECIES)	10.12	% NATIVE PERENNIAL	0.90
ADJUSTED FQAI	32.00	% NATIVE ANNUAL	0.10
% C VALUE 0	0.10	% ANNUAL	0.10
% C VALUE 1-3	0.50	% PERENNIAL	0.90
% C VALUE 4-6	0.30		
% C VALUE 7-10	0.10		

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM)	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	HABIT	DURATION	NATIVITY
ACESAU	Acer saccharum	Acer saccharum	Sugar Maple		3 FACU	FACU	1	Tree	Perennial	Native
CORALB	Cornus alba	Cornus stolonifera	Red Osier		6 FACW	FACW	-1	Shrub	Perennial	Native
CYPESC	Cyperus esculentus	Cyperus esculentus	Chufa		0 FACW	FACW	-1	Sedge	Perennial	Native
ELYVIR	Elymus virginicus	Elymus virginicus	Virginia Wild Rye		4 FACW	FACW	-1	Grass	Perennial	Native
EPICIL	Epilobium ciliatum	Epilobium ciliatum	Fringed Willowherb		3 FACW	FACW	-1	Forb	Perennial	Native
IMPCAP	Impatiens capensis	Impatiens capensis	Spotted Touch-Me-Not		3 FACW	FACW	-1	Forb	Annual	Native
PERHYO	Persicaria hydropiperoides	Polygonum opelousanum adenocalyx	Swamp Smartweed		7 OBL	OBL	-2	Forb	Perennial	Native
PHYAME	Phytolacca americana	Phytolacca americana	American Pokeweed		1 FACU	FACU	1	Forb	Perennial	Native
SCIATV	Scirpus atrovirens	Scirpus atrovirens	Dark-Green Bulrush		4 OBL	OBL	-2	Sedge	Perennial	Native
SOLALT	Solidago altissima	Solidago altissima	Tall Goldenrod		1 FACU	FACU	1	Forb	Perennial	Native