

Attachment F - USACE and Illinois Coastal Management Program Supporting Information





Approved Jurisdictional Determination Request and Kensington Marsh Coordination

September 15, 2021



CHICAGO TRANSIT AUTHORITY



567 West Lake Street Chicago, Illinois 60661-1498 TEL 312 664-7200 www.transitchicago.com

September 10, 2021

Mr. Colin Smalley Section 408 Coordinator and Regulatory Project Manager US Army Corps of Engineers Chicago District 231 South La Salle Street, Suite 1500 Chicago, IL 60604

Re: Approved Jurisdictional Determination Request and Kensington Marsh Coordination CTA Red Line Extension Project Chicago, Cook County, Illinois

Dear Mr. Smalley:

The Chicago Transit Authority (CTA) is preparing a Final Environmental Impact Statement (EIS) for the Red Line Extension (RLE) Project and this package is intended to serve as a request for an Approved Jurisdictional Determination (AJD). The AJD would be utilized for permitting commitments to be documented in the Final EIS. Additionally, CTA would like to request a Letter of No Objection for placement of a stormwater drainage outlet into Kensington Marsh. The Metropolitan Water Reclamation District of Greater Chicago (MWRD) has ownership of Kensington Marsh, and requires this statement of no objection for further coordination and approval of placement of a stormwater drainage outlet into Kensington Marsh.

Project Description

CTA, as project sponsor to the Federal Transit Administration (FTA), proposes to extend the Red Line from the existing 95th/Dan Ryan terminal to 130th Street. The proposed 5.6-mile extension would include four new stations near 103rd Street, 111th Street, Michigan Avenue, and 130th Street. Each new station would include bus and parking facilities. The Preferred Alignment would run south along I-94 from the 95th/Dan Ryan terminal, then curve west along the north side of I-57 (within the I-57 right-of-way) on an elevated structure for nearly ½ mile until reaching and crossing over to the west side of the Union Pacific Railroad (UPRR) corridor in the vicinity of Eggleston Avenue. The alignment would turn south to follow the UPRR corridor on the elevated structure along the west side of the UPRR to 108th Place. At 108th Place the elevated structure would cross over to the east side of the UPRR corridor. The Preferred Alignment would continue along the east side of the UPRR corridor south and southeast to near

119th Street, where it would cross over the Canadian National/Metra Electric District tracks. South of this point, the Preferred Alignment would descend to grade while continuing southeast parallel to the Northern Indiana Commuter Transportation District/Chicago South Shore & South Bend Railroad corridor, using a portion of the Norfolk Southern Railway right-of-way. The alignment would continue south, going under 130th Street through a new opening in the 130th Street embankment to the terminus (end) of the RLE Project south of 130th Street. The project also includes a new yard and shop. The 120th Street yard and shop would provide a larger, modern railcar storage and repair facility for CTA at the south end of the RLE Project and would replace the function of the existing 98th Street Yard and Shop as a maintenance facility. This project is one part of the Red Ahead Program to extend and enhance the entire Red Line.

Approved Jurisdictional Determination Request

CTA requests an AJD for wetland and water resources and potential resources located in the RLE Project potential action area. **Enclosure A** includes the standard "Request for a Jurisdictional Determination" form. CTA is submitting this request subsequent to a pre-application meeting held on March 4, 2021, with representatives of USACE, MWRD, and CTA. A site meeting to review resources discussed in this document occurred on May 11, 2021, with representatives of the USACE and CTA.

This AJD request includes 20 resource locations, including Kensington Marsh (wetland 20). Locations are identified on **Figures 1** to **3**, provided in **Enclosure B**. These figures include the area for the AJD request. **Figures 4** to **6** identify the property ownership in the AJD area. The RLE Project previously received an AJD under the USACE Project Number LRC-2016-00408. A copy of this AJD is provided as **Enclosure C**. Wetlands 1 to 15 were identified in the previous AJD as being either isolated waters or exempt from regulation. Documentation of these wetlands was previously provided in a 2015 wetland delineation report by Hey & Associates. This wetland report is provided in **Enclosure D**.

USACE and CTA noted four (4) other potential wetland areas during the May 2021 project site review. These potential wetland areas have been noted on the submitted AJD request figures as wetlands 16 to 19, plus Kensington Marsh (wetland 20). These potential wetlands have been mapped utilizing aerial imagery. No additional delineation has been completed because these potential wetland areas are not expected to be considered waters of the U.S. The areas noted are low drainage areas exhibiting some surface ponding at the time of the visit (potential wetlands 16 - 18) or areas that appeared to be dominated by hydrophytic vegetation (potential wetland 19). The potential wetland areas are described as follows:

- Potential wetlands 16 and 17 are located in a drainage swale between a Beaubien Woods Forest Preserve access road and existing railroad track north of 132nd Street. No overland connectivity was observed for drainage from this area.
- Potential wetland 18 is located in a low area west of a Beaubien Woods Forest Preserve access road, north of 132nd Street. No overland connectivity was observed for drainage from this area.
- Potential wetland 19 consists of a strip of land observed to contain common reed (*Phragmites australis*) located to the south of the American Recycling facility to the

north/east of the facility access road. This potential wetland area is similar in location and connectivity to wetlands 6, 7, and 15.

Kensington Marsh (Wetland 20) is also included in this request. Kensington Marsh consists of constructed wetlands surrounding constructed open water. The dominant wetland vegetation is common reed. The wetland drains into a MWRD inlet at the southeast corner of the property. Kensington Marsh is discussed further below.

CTA requests an AJD of the resources described above and depicted in Enclosure B.

Kensington Marsh Letter of No Objection

MWRD constructed Kensington Marsh as part of a mitigation project for wetland impacts from development of their facilities located to the south of the marsh. The permit is associated with Application Number 5108502, effective June 10, 1985. MWRD supplied a copy of this permit to CTA, provided in **Enclosure E**. USACE and CTA observed that the constructed wetland area appears to be operating as designed, despite the dominance of a common reed monoculture.

After reviewing a variety of drainage options for the 120th Street yard and shop required to support the RLE operation, CTA has determined that the only reasonable and feasible drainage option for this location is to outlet a storm drainage pipe to Kensington Marsh. During the preliminary engineering phases, neither MWRD nor USACE has objected to stormwater drainage to Kensington Marsh from the 120th Street yard and shop area. MWRD requires a letter of no objection from the USACE to move forward with further coordination on this item.

The conceptual placement for the stormwater drainage outlet is in the northern third of Kensington Marsh. A preliminary drainage map is provided in **Enclosure F**. The drainage map also identifies detention ponds that will be utilized for the retention and treatment of stormwater runoff. Any stormwater from the 120th Street yard and shop area will be filtered through the detention ponds prior to entering Kensington Marsh. In order to maintain allowable flow rates into Kensington Marsh, nine (9) proposed detention ponds are included (eight above ground and one underground) in the proposed railroad yard project limits. The marsh is considered "open water," which allows for a higher allowable release rate in comparison to discharging to an underground drainage pipe system. Prior to entering each respective detention pond, runoff would be collected by underdrains wrapped in a permeable filter fabric and located between selected railroad tracks. The underdrains are located in the sub-ballast section. These underdrains connect into pipes that outlet into respective detention ponds. The combination of the ballast, sub-ballast, and underdrains with filter fabric comprise the Volume Control Best Management Practices (VCBMP's) by minimizing suspended solids entry into the detention ponds. The VCBMP receives credit for the required water quality pre-treatment. Pre-treatment devices such as BaySaver units will be used to filter the parking lot and roof drainage before it enters a detention pond. To mitigate flow rates, the ponds utilize an outlet control structure, which includes orifices, a gate, and discharge pipe. Ultimately, the runoff exits a pond via the discharge pipe and enters the marsh. The access road to the railyard includes catch basins with a deep sump. The deep sump is used to collect sediment. The pipe leaving the catch basins connects into the pipe network that enters the marsh (i.e., the road drainage does not enter the detention

ponds). Volumes and peak flows have been calculated for a variety storm year events and durations, provided in **Enclosure G**.

Placement of the drainage outlet will disturb a small area of the Kensington Marsh wetland. CTA has not finalized grading limits during this preliminary analysis phase, but will not permanently fill more than 0.1 acre of wetland in the marsh. The area of fill is likely to be lower than this maximum quantity. Additionally, CTA will document the site conditions prior to construction and restore any area disturbed for construction to pre-construction conditions. No construction staging area will be placed in Kensington Marsh. All construction and restoration efforts will be coordinated with MWRD.

CTA requests USACE to provide a letter stating no objection to the use of Kensington Marsh for stormwater drainage.

We appreciate your review of these materials at your earliest convenience to complete an AJD and provide a letter stating no objection to use of Kensington Marsh for stormwater drainage. If you have any questions or require further information, please contact me at mfratinardo@transitchicago.com or Mr. Kelsey Kropp at krkropp@transystems.com or 816-490-1319. If preferred, we can set up a virtual meeting to discuss any clarifications or questions you have regarding this request.

Regards,

Marlise Fratinardo Senior Project Manager, Planning Chicago Transit Authority

Enclosures:

- **Enclosure A** Request for a Jurisdictional Determination Form
- **Enclosure B** AJD Resource Figures
- Enclosure C Project AJD for LRC-2016-00408
- Enclosure D Hey & Associates 2015 Wetland Delineation Report
- Enclosure E Kensington Marsh Permit 5108502
- **Enclosure F** Preliminary Drainage Plan
- Enclosure G Kensington Marsh Storm Event Volume and Peak Flow Data

U.S. ARMY CORPS OF ENGINEERS, CHICAGO DISTRICT REQUEST FOR A JURISDICTIONAL DETERMINATION

For use of this form, see ER 405-1-12; the proponent agency is CELRC-TS-R.

PRIVACY ACT STATEMENT

AUTHORITIES: The Department of the Army permit program is authorized by Section 10 of the Rivers and Harbors Act (RHA) of 1899, 33 CFR Section 404 of the Clean Water Act, and Section 103 of the Marine Protection, Research, and Sanctuaries Act.

PRINCIPAL PURPOSE: These laws require permits authorizing activities in or affecting navigable waters of the United States, the discharge of dredged or fill material into water of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters.

ROUTINE USE(s): Information provided on this form will be used in determining Department of the Army jurisdictional boundaries. Information in this application is made a matter of public record.

DISCLOSURE OF THE INFORMATION REQUESTED IS VOLUNTARY: however, the data requested are necessary in order to establish Federal regulatory jurisdiction. If the necessary information is not provided, the jurisdictional determination cannot be completed.

This form can be used when you want to determine if areas on your property fall under regulatory requirements of the U.S. Army Corps of Engineers (USACE). Please supply the following information and supporting documents described below. This form can be filled out online and then printed. It must be SIGNED BY THE PROPERTY OWNER to be considered a formal request. Submitting this request authorizes the US Army Corps of Engineers to field inspect the property site, if necessary, to help in the determination process. The printed form and supporting documents should be mailed to:

U.S. ARMY CORPS OF ENGINEERS, CHICAGO DISTRICT REGULATORY BRANCH 231 SOUTH LASALLE STREET, SUITE 1500 CHICAGO, ILLINOIS 60604 FAX NUMBER: 312.353.4110 E-MAIL: ChicagoRequests@usace.army.mil

Additionally, you may either call our branch telephone at 312.846.5530 or view our website at http://www.lrc.usace.army.mil/Portals/36/docs/Regulatory/ newapps.pdf to determine which number and project manager has been assigned to your request. Project Manager contact information can be found here: http://www.lrc.usace.army.mil/Missions/Regulatory/ContactInfo.aspx . Please contact us if you need any assistance with filling out this form.

SECTION I - LOCATION AND INFORMATION ABOUT PROPERTY TO BE SUBJECT TO A JURISDICTIONAL DETERMINATION

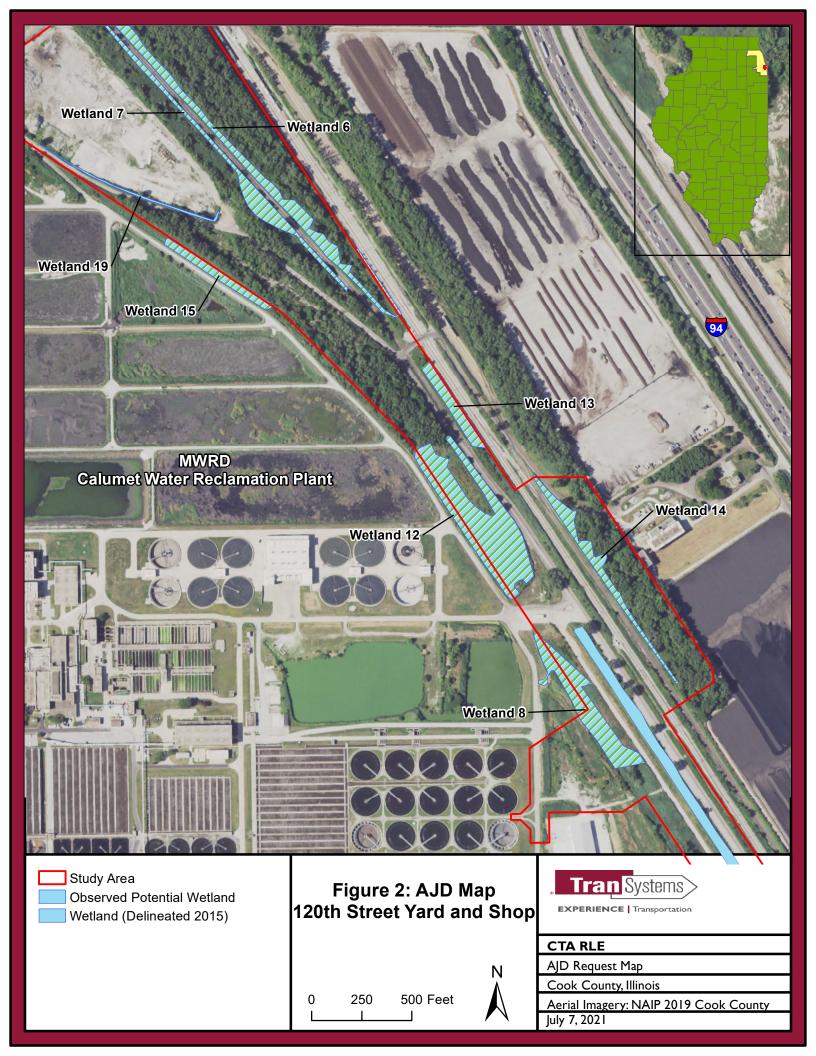
1. PROPERTY ADDRESS / LOCATION

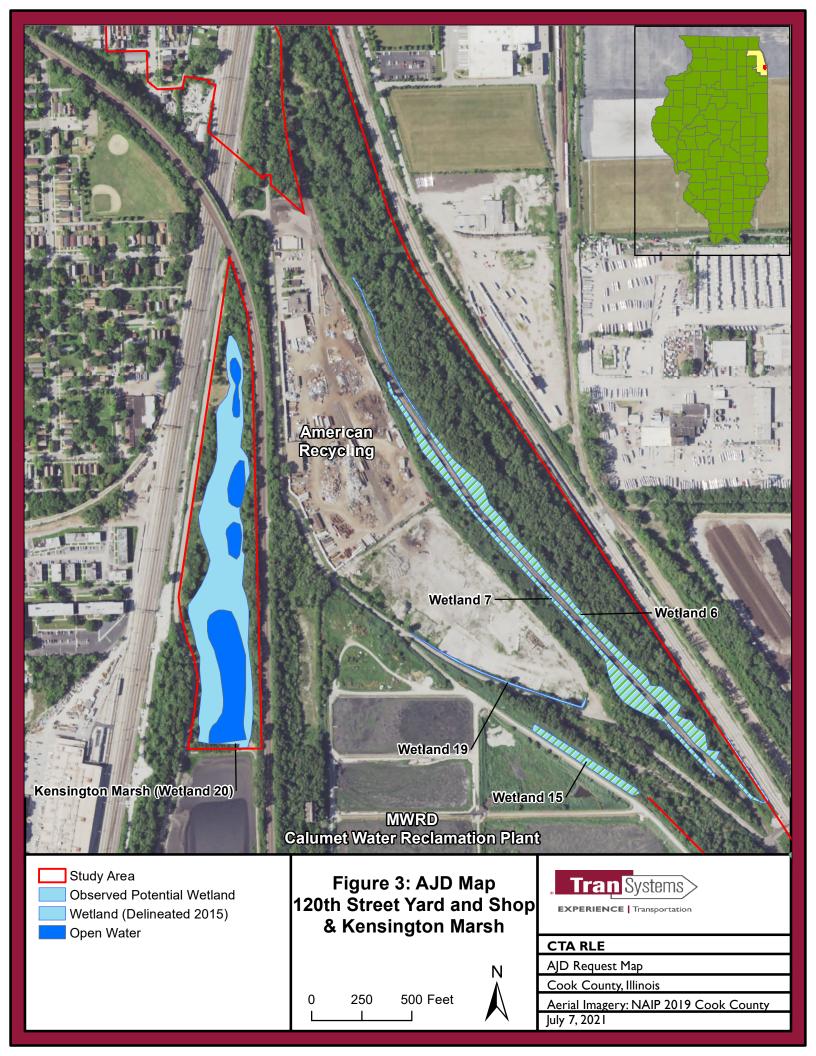
CTA RLE Extension

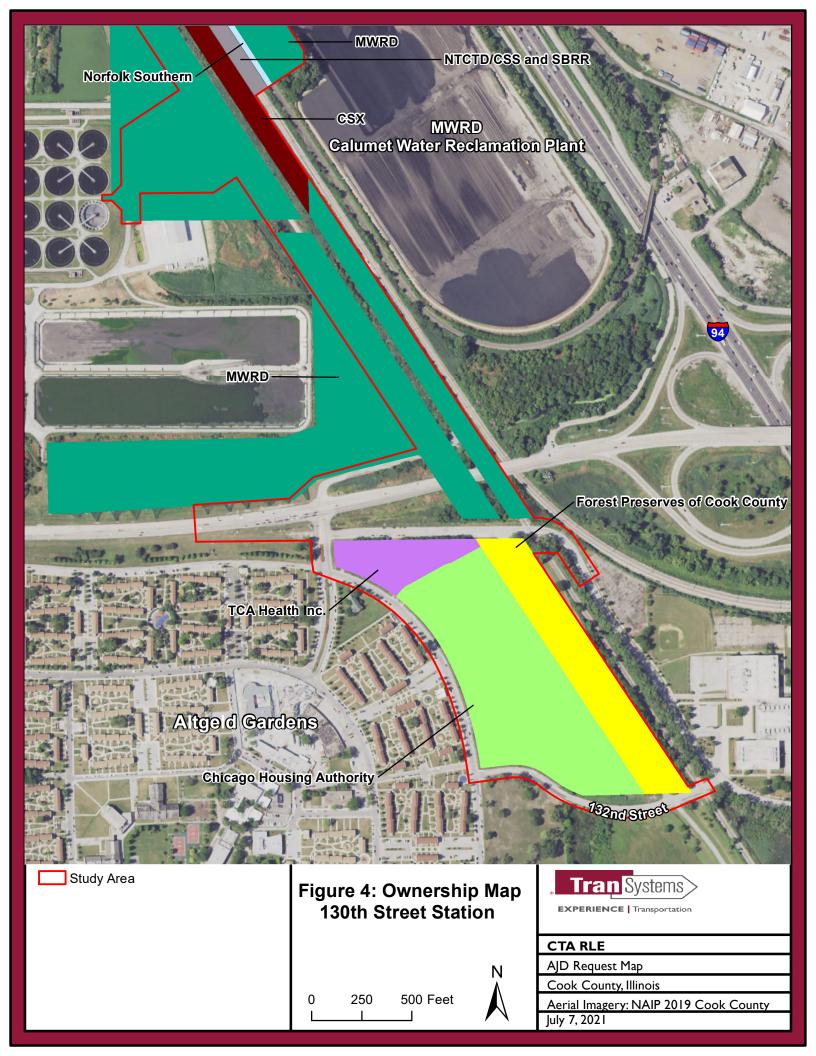
| 2. CITY (Name) OR UNINCORP | | 3. STATE | | 4. ZIP CODE | | | |
|--|---|-------------|--------------|----------------------|-----------------------------|--|--|
| Chicago | | Illinois | | 60627/60628 | | | |
| 5. COUNTY | | | 6. TOWNSHIP | NAME | L | | |
| Cook | | | Lake Calumo | et | | | |
| 7. QUARTER | 8. SECTION | 9. TOWNSHIP | | 10. RANGE | 11. PRINCIPAL MERIDIAN (PM) | | |
| | 22, 26, 27, &35 | 37N | | 14E | | | |
| 12a. LATITUDE IN DECIMAL DE | EGREES *NORTH | • | b. LONGITUDE | E IN DECIMAL DEGREE | S WEST | | |
| 41.667993 | | | -87.602630 | | | | |
| 13. SIZE OF PROPERTY IN AC | RES | | 14. TAX PERS | ONAL IDENTIFICATION | NUMBER (PIN) | | |
| 175 Acres | | | | | | | |
| 15. PRIOR OR RELATED USAC | E PROJECT NUMBER | | • | | | | |
| LRC-2016-00408 | | | | | | | |
| 16. IS THE PROPERTY SUBJECT TO A CONSERVATION EASEMENT OR DEED RESTRICTION ? YES X NO IF YES, PLEASE EXPLAIN AND SUBMIT DETAILS OF THE PROJECT AREA. | | | | | | | |
| See attached discussion | | | | | | | |
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| | TE FOR MITIGATION PURSUAN BMIT DETAILS OF THE PROJEC | | ECT PREVIOUS | SLY PERMITTED BY USA | ACE? X YES NO IF YES, | | |
| See attached discussion | | | | | | | |
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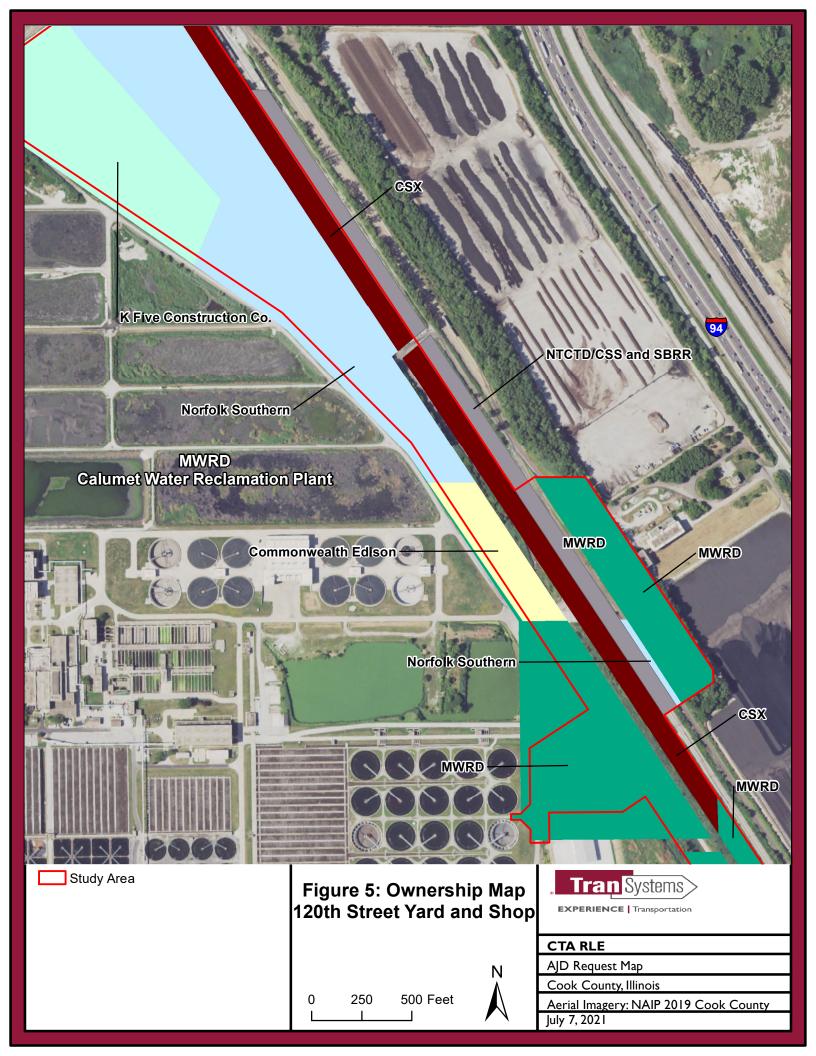
| | | | DJECT PREVIOUSLY PERMITTED BY USACE? X YES NO HE PERMITTEE'S NAME AND / OR ADDRESS, AND CORPS PERMIT |
|---|--------------------|------------------------------|---|
| See attached discussion | | | |
| | | | |
| | SECT | ION II - PROPERTY OWN | IER CONTACT INFORMATION |
| 1. PROPERTY OWNER NAME (Last, F | | • | |
| | - | e)/ Ellen Avery (Ms.)(F | Property Owner Representative) - See Enclosure B |
| 2. PROPERTY OWNER COMPANY (If | •• • | | |
| | - | | strict of Greater Chicago (MWRD) - See Enclosure B |
| 3. MAILING ADDRESS (Post Office Bo | x, Street, City, S | tate and Zip Code) | |
| 567 West Lake Street Chicago, Illinois 60661-1489 | | | |
| Chicago, minors 00001-1409 | | | |
| | | | |
| 4. DAYTIME TELEPHONE NUMBER | 5. FAX NUMB | ER | 6. E-MAIL ADDRESS |
| 312-681-4124 | | | mfratinardo@transitchicago.com |
| s | ECTION III - RE | EQUESTOR NON-PROPE | ERTY OWNER CONTACT INFORMATION |
| IF THE PERSON REQUESTING THE CONTACT INFORMATION HERE. | IURISDICTION | AL DETERMINATION IS N | NOT THE PROPERTY OWNER, PLEASE ALSO SUPPLY THE REQUESTOR'S |
| 1. REQUESTOR'S NAME (Last, First M | (1) | | |
| Fratinardo, Marlise (Ms.) | | | |
| 2. REQUESTOR'S COMPANY (if applic | cable) | | |
| Chicago Transit Authority (CTA) | | | |
| 3. MAILING ADDRESS (Post Office Bo. | x, Street, City, S | tate and Zip Code) | |
| 567 West Lake Street | | | |
| Chicago, Illinois 60661-1489 | | | |
| | | | |
| 4. DAYTIME TELEPHONE NUMBER | 5. FAX NUMB | =R | 6. E-MAIL ADDRESS |
| 312-681-4124 | | | mfratinardo@transitchicago.com |
| | SECTIC | | |
| | | | D SIGNATURE CERTIFICATION |
| 1. OTHER DATA / INFORMATION THA | | | |
| Enclosure B – AJD Resource Figu | | form is listed as Enclo | osure A. Enclosures additional to this document include: |
| Enclosure $C - Project AJD$ for LR | | } | |
| Enclosure D – Hey & Associates 2 | | | |
| Enclosure E – Kensington Marsh I | | 2 | |
| Enclosure F – Preliminary Drainag | | Johnma and Daals Elam | Dete |
| Enclosure G – Kensington Marsh | Storm Event | olume and reak rlow | Data |
| | | | 83 |
| Please provide a map and / or copy of t | he plat of surve | v identifying the physical b | |
| Additionally, if you have any of the follow survey, and site photographs. | wing information | , please include it with yo | ur request: wetland delineation, relevant maps, drain tile survey, topographic |
| | | | site map, plat of survey, or in a separate drawing: the footprint, location, and inecessary delays of processing subsequent permits, if required. |
| I hereby certify that the information conf | tained in the Re | quest for a Jurisdictional [| Determination is accurate and complete: |
| 2a. PROPERTY OWNER (Last, First M | 1) | b. DATE (YYYYMMDD) | c. PROPERTY OWNER'S SIGNATURE |

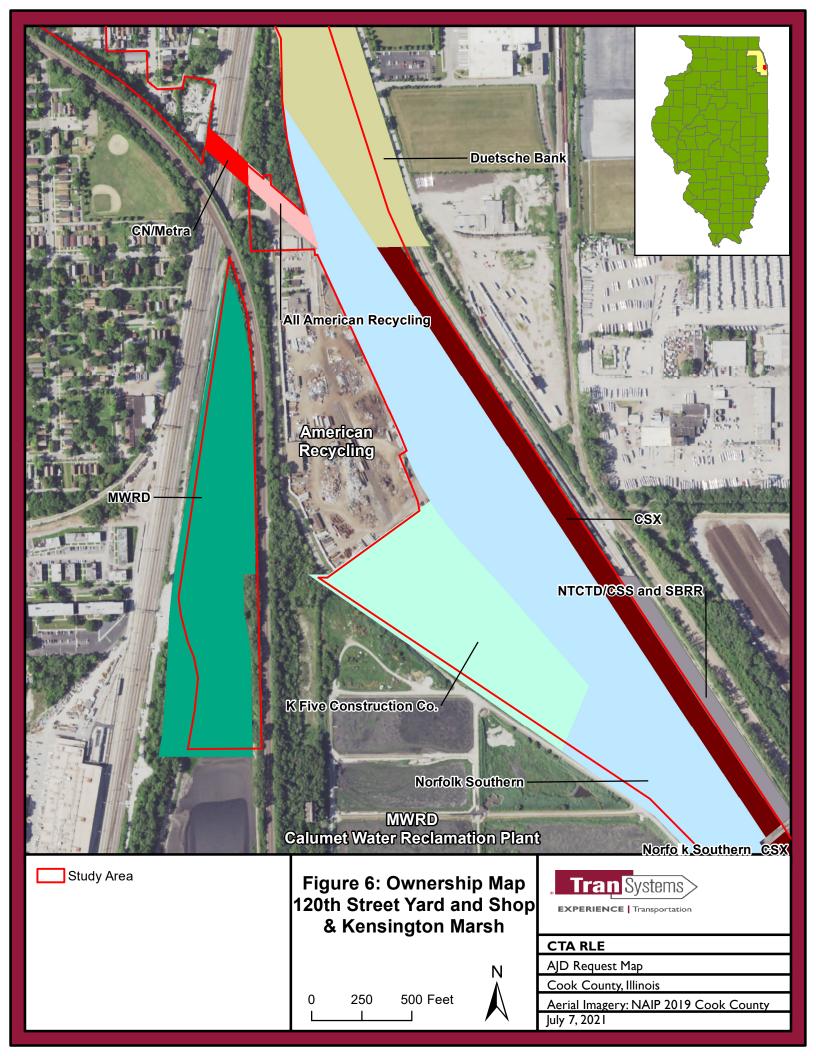














DEPARTMENT OF THE ARMY

CHICAGO DISTRICT, CORPS OF ENGINEERS 231 SOUTH LA SALLE STREET CHICAGO, ILLINOIS 60604-1437

REPLY TO ATTENTION OF:

October 3, 2016

Technical Services Division Regulatory Branch LRC-2016-408

SUBJECT: Request for a Jurisdictional Determination for the CTA Red Line Extension Project Along and East of Cottage Grove Avenue between 119th Street and 130th Street in the Lake Michigan Watershed of the City of Chicago, Cook County, Illinois (41.66428, -87.59925)

Tandon Sanoli Chicago Transit Authority 567 West Lake Street Chicago, Illinois 60661

Dear Mr. Sanoli:

This is in response to your request that the U.S. Army Corps of Engineers complete a jurisdictional determination for the above-referenced site submitted on your behalf by Hey and Associates, Inc. The subject project has been assigned number LRC-2016-408. Please reference this number in all future correspondence concerning this project.

Following a review of the information you submitted, this office has determined that there are no waterways, wetlands or other areas considered "waters of the United States" under Corps of Engineers jurisdiction on the site. This site was subject to a previous jurisdictional determination under Chicago District project number LRC-2016-330 which found all of the wetlands and waters identified in your submittal to be either isolated waters or exempt from regulation. A copy of that approved jurisdictional determination is included for your records and is considered by the Chicago District to be valid until five years from the date of its original issuance on June 29, 2016 (see attached letter and basis forms).

It is your responsibility to obtain any required state, county, or local approvals for impacts to wetland areas not under the Department of the Army jurisdiction. For projects located in unincorporated and unauthorized municipalities in Cook County, please contact the Metropolitan Water Reclamation District of Greater Chicago at (312) 751-3247. For projects in incorporated areas of Cook County, contact the authorized municipality for information related to the Watershed Management Ordinance.

Pursuant to Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers regulates the discharge of dredged or fill material into waters of the United States, including wetlands. A Department of the Army permit is required for any proposed work involving the discharge of dredged or fill material within the jurisdiction of this office. To initiate the permit process, please submit a joint permit application form along with detailed plans of the proposed

work. Information concerning our program, including the application form and an application checklist, can be found at and downloaded from our website: http://www.lrc.usace.army.mil/Missions/Regulatory.aspx

If you have any questions, please contact Michael Murphy of my staff by telephone at 312-846-5538 or email at Michael.J.Murphy@usace.army.mil.

Sincerely, CHERNICH.KATHLEEN.G. 1230365616 2016.11.16 16:40:51 -06'00' Kathleen G. Chernich Chief, East Section Regulatory Branch

Enclosures

Copy Furnished w/out Enclosures

Illinois Department of Natural Resources/OWR (Gary Jereb) Illinois Environmental Protection Agency (Thad Faught) Metropolitan Water Reclamation District of Greater Chicago (Dan Feltes) City of Chicago, Department of Transportation (Oswaldo Chaves) Hay and Associates, Inc. (Jeff Mengler)



DEPARTMENT OF THE ARMY

CHICAGO DISTRICT, CORPS OF ENGINEERS 231 SOUTH LA SALLE STREET CHICAGO, ILLINOIS 60604-1437

REPLY TO ATTENTION OF:

June 29, 2016

Technical Services Division Regulatory Branch LRC-2016-00330

SUBJECT: Request for a Jurisdictional Determination on the ComEd GRID Z4333 Property North of 130th Street along Cottage Grove Avenue in Chicago, Cook County, Illinois (ComEd ESD #2016-100) (CBBEL Project No. 040532.00804)

Sara Race Commonwealth Edison Three Lincoln Center, 3rd Floor Oakbrook Terrace, Illinois 60181-4260

Dear Ms. Race:

This is in response to your request that the U.S. Army Corps of Engineers complete a jurisdictional determination for the above-referenced site submitted on your behalf by Christopher B. Burke Engineering, Ltd. (CBBEL). The subject project has been assigned number LRC-2016-00330. Please reference this number in all future correspondence concerning this project.

Following a review of the information you submitted, this office has determined that there are no waterways, wetlands or other areas considered "waters of the United States" under Corps of Engineers jurisdiction at the site.

Wetlands #1 & #2 have been determined to be isolated and therefore not subject to Federal regulation. Ditches #1 and #2 are water features Exempt from Federal regulation. Please be informed that this office does not concur with the boundaries of waters not under the jurisdiction of this office.

For a detailed description of our determination please refer to the enclosed decision document. This determination covers only your project as depicted in Request for Jurisdictional Determination Report dated May 10, 2016, prepared by CBBEL.

This determination is valid for a period of five (5) years from the date of the letter, unless new information warrants revision of the determination before the expiration date or a District Commander has identified, after public notice and comment, that specific geographic areas with rapidly changing environmental conditions merit re-verification on a more frequent basis. This letter is considered an approved jurisdictional determination for your subject site. If you object to this determination, you may appeal, according to 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and a Request for Appeal (RFA) form. If you request to appeal the above determination, you must submit a completed RFA form to the Great Lakes/Ohio River Division Office at the following address:

Jacob Siegrist Appeal Review Officer Great Lakes and Ohio River Division CELRD-PD-REG 550 Main Street, Room 10032 Cincinnati, Ohio 45202-3222 Phone: (513) 684-2699 Fax: (513) 684-2460

In order to be accepted, your RFA must be complete, meet the criteria for appeal and be received by the Division Office within sixty (60) days of the date of the NAP. If you concur with the determination in this letter, submittal of the RFA form to the Division office is not necessary.

This determination has been conducted to identify the limits of the Corps Clean Water Act jurisdiction for the particular site identified in this request. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

It is your responsibility to obtain any required state, county, or local approvals for impacts to wetland areas not under the Department of the Army jurisdiction. For projects located in unincorporated and unauthorized municipalities in Cook County, please contact the Metropolitan Water Reclamation District of Greater Chicago at (312) 751-3247. For projects in incorporated areas of Cook County, contact the authorized municipality for information related to the Watershed Management Ordinance.

Pursuant to Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers regulates the discharge of dredged or fill material into waters of the United States, including wetlands. A Department of the Army permit is required for any proposed work involving the discharge of dredged or fill material within the jurisdiction of this office. To initiate the permit process, please submit a joint permit application form along with detailed plans of the proposed work. Information concerning our program, including the application form and an application checklist, can be found at and downloaded from our website: http://www.lrc.usace.army.mil/Missions/Regulatory.aspx

If you have any questions, please contact Mr. Mike Machalek of my staff by telephone at 312-846-5534 or email at Mike.J.Machalek@usace.army.mil.

Sincerely,

CHERNICH.KATHLEEN.G.12 30365616 2016.07.05 16:25:47 -05'00' Kathleen G. Chernich Chief, East Section Regulatory Branch

Enclosures

Copy Furnished w/out Enclosures

Cook County Building and Zoning (Donald Wlodarski) Metropolitan Water Reclamation District of Greater Chicago (Dan Feltes) CBBEL (Julie Gangloff)

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

| Applic | cant: Sara Race, Commonwealth Edison | File Number: LRC-2016-00330 | Date: June 29, 2016 | |
|---|--------------------------------------|-----------------------------|---------------------|--|
| Attach | See Section below | | | |
| | А | | | |
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| | С | | | |
| Х | D | | | |
| | PRELIMINARY JURISDICTIONAL DETERMIN | Е | | |
| SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional | | | | |

information may be found at http://www.usace.army.mil/CECW/Pages/reg_materials.aspx or Corps regulations at 33 CFR Part 331.

- A. INITIAL PROFFERED PERMIT: You may accept or object to the permit.
- ACCEPT: If you received a Standard Permit or a Letter of Permission (LOP), you may sign the permit document and return it to the district commander for final authorization. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district commander. Your objections must be received by the district commander within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district commander will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district commander will send you a proffered permit for your reconsideration, as indicated in Section B below.
- B. PROFFERED PERMIT: You may accept or appeal the permit
- ACCEPT: If you received a Standard Permit or a Letter of Permission (LOP), you may sign the permit document and return it to the district commander for final authorization. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division commander. This form must be received by the division commander within 60 days of the date of this notice.
- C. PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division commander. This form must be received by the division commander within 60 days of the date of this notice.
- D. APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.
- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division commander. This form must be received by the division commander within 60 days of the date of this notice.
- E. PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

| CECTION II | DEOLIEGT FOD | ADDEAL | OBJECTIONS TO | ANT INTTUAT | DDOFFEDED | DEDMIT |
|--------------|---------------|-----------|----------------------|------------------|------------|-----------|
| SECTION II - | REQUENT FOR | APPEAL or | URIECTIONS TO | AN INFEAL | PRUFFERED | PERMIT |
| DECTION | THE QUEDT TOR | | ODJECTIONS TO | THE HEAT THE THE | I ROLLERED | I DIGUILI |

| REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an | initial |
|---|---------|
| proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reas | sons or |
| objections are addressed in the administrative record.) | |

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

| If you have questions regarding this decision and/or the appeal | If you only have questions regarding the appeal process you may | | | | |
|--|---|--|--|--|--|
| process you may contact: | also contact: | | | | |
| | | | | | |
| Regulatory Branch | Jacob Siegrist | | | | |
| Chicago District Corps of Engineers | Appeal Review Officer | | | | |
| 231 South LaSalle Street, Suite 1500 | Great Lakes and Ohio River Division | | | | |
| Chicago, IL 60604-1437 | CELRD-PD-REG | | | | |
| Phone: (312) 846-5530 | 550 Main Street, Room 10032 | | | | |
| Fax: (312) 353-4110 | Cincinnati, Ohio 45202-3222 | | | | |
| | Phone: (513) 684-2699 Fax: (513) 684-2460 | | | | |
| PIGUT OF ENTRY. Your signature below grants the right of entry to Corps of Commanders personnal and any government | | | | | |

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Commanders personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15-day notice of any site investigation, and will have the opportunity to participate in all site investigations.

| | Date: | Telephone number: |
|----------------------------------|-------|-------------------|
| | | |
| | | |
| | | |
| Signature of appellant or agent. | | |

APPROVED JURISDICTIONAL DETERMINATION FORM U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

- A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): June 29, 2016
- B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Chicago District, ComEd, LRC-2016-330
- C. PROJECT LOCATION AND BACKGROUND INFORMATION: NW of I-94 and 130th Street

State: Illinois County/parish/borough: Cook City: Chicago

Center coordinates of site (lat/long in degree decimal format): Lat. 41.667957°N, Long. -87.601762° W. Universal Transverse Mercator: Zone 16

Name of nearest waterbody: Calumet River

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Calumet River

- Name of watershed or Hydrologic Unit Code (HUC): Little Calumet-Galien (04040001)
 - Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
- Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

- Office (Desk) Determination. Date: June 6, 2016
- Field Determination. Date(s): May 27, 2016

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There Are no "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There Are no "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

- 2. Non-regulated waters/wetlands (check if applicable):¹
 - Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: Wetlands 1 & 2 are shallow Phragmites dominated wetland in a flat landscape, connected to roadside ditches that don't drain anywhere.

SECTION III: CWA ANALYSIS

- E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):²
 - which are or could be used by interstate or foreign travelers for recreational or other purposes.
 - from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
 - which are or could be used for industrial purposes by industries in interstate commerce.
 - Interstate isolated waters. Explain:
 - Other factors. Explain:

Identify water body and summarize rationale supporting determination:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.
- Identify type(s) of waters:
- Wetlands: acres.

² Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos*.

¹ Supporting documentation is presented in Section III.F.

F. <u>NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):</u>

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers
 Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
 - Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based <u>solely</u> on the "Migratory Bird Rule" (MBR).



Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:

Other: (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the <u>sole</u> potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

Non-wetland waters (i.e., rivers, streams): linear feet width (ft).

Lakes/ponds: acres.

- Other non-wetland waters: acres. List type of aquatic resource:
- Wetlands: 1.6 acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- Lakes/ponds: acres. Other non-wetland waters:
 - Other non-wetland waters: acres. List type of aquatic resource:
- Wetlands: acres.

SECTION IV: DATA SOURCES.

- A. SUPPORTING DATA. Data reviewed for JD (check all that apply checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
 - Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: CBBEL May 10, 2016 Request for Jurisdictional Determination Report.
 - Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report.
 - Data sheets prepared by the Corps:
 - Corps navigable waters' study:
 - U.S. Geological Survey Hydrologic Atlas:Lake Calumet HA 205, 1966,
 - USGS NHD data.
 - \boxtimes USGS 8 and 12 digit HUC maps.
 - U.S. Geological Survey map(s). Cite scale & quad name: Lake Calumet 7.5", 1991, Pick List, Pick List, Pick List,
 - USDA Natural Resources Conservation Service Soil Survey. Citation: Soil Survey of DuPage and Part of Cook (1979).
 - National wetlands inventory map(s). Cite name: Lake Calumet,
 - State/Local wetland inventory map(s): Pick List,
 - FEMA/FIRM maps:
 - 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
 - Photographs: 🛛 Aerial (Name & Date):
 - or \boxtimes Other (Name & Date):
 - Previous determination(s). File no. and date of response letter:
 - Applicable/supporting case law:
 - Applicable/supporting scientific literature:
 - Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD: Site visit on May 27, 2016 to walk ditches and trace to end.

- Area(s) are geographically isolated. Wetlands are shallow isolated depressions in the lake plain region of Lake Michigan.
- Area(s) do not have a hydrologic nexus. Water does not drain off-site into any flowing water of the U.S.
- \square Area(s) do not have an ecological nexus.
- Area(s) do not have evidence of a subsurface flow connection to a jurisdictional water. \Box
- Area(s) do not have evidence of surface overland sheet flow. \Box
- Area(s) are not located within the flood plain. \square

APPROVED JURISDICTIONAL DETERMINATION FORM U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

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State: Illinois County/parish/borough: Cook City: Chicago

Center coordinates of site (lat/long in degree decimal format): Lat. 41.66796°N, Long. -87.60176°W.

Universal Transverse Mercator: Zone 16

Name of nearest waterbody: Calumet River

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Calumet River Name of watershed or Hydrologic Unit Code (HUC): Little Calumet-Galien (04040001)

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

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B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There Are no "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

- 2. Non-regulated waters/wetlands (check if applicable):¹
 - Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: Two shallow roadside ditches are exempt.

SECTION III: CWA ANALYSIS

- F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
 - If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
 - Other: (explain, if not covered above):

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: CBBEL May 10, 2016 Request for Jurisdictional Determination Report.

Data sheets prepared/submitted by or on behalf of the applicant/consultant.

- Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas:Lake Calumet HA 205, 1966,

¹ Supporting documentation is presented in Section III.F.

| | USGS NHD data. |
|-------------|---|
| | ⊠ USGS 8 and 12 digit HUC maps. |
| \boxtimes | U.S. Geological Survey map(s). Cite scale & quad name: Lake Calumet 7.5", 1991, Pick List, Pick List, Pick List, |
| \boxtimes | USDA Natural Resources Conservation Service Soil Survey. Citation: Soil Survey of DuPage and Part of Cook (1979). |
| \boxtimes | National wetlands inventory map(s). Cite name: Lake Calumet, |
| | State/Local wetland inventory map(s): Pick List, . |
| | FEMA/FIRM maps: . |
| | 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929) |
| \boxtimes | Photographs: 🛛 Aerial (Name & Date): |
| | or \square Other (Name & Date): |
| | Previous determination(s). File no. and date of response letter: |
| | Applicable/supporting case law: . |
| | Applicable/supporting scientific literature: |
| | Other information (please specify): |
| | |

B. ADDITIONAL COMMENTS TO SUPPORT JD: Site visit on May 27, 2016 to walk ditches.

Areas are ditches (check all that apply):

Non-tidal drainage and irrigation ditches excavated on dry land (51 FR 41217, Nov. 13, 1986).

Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water (USACE JD Form Instructional Guidebook 5/30/2007).

Ditches that do not have a relatively permanent flow into waters of the U.S. or between two (or more) waters of the U.S. (USACE JD Form Instructional Guidebook 5/30/2007).

Area(s) are artificial waters created in upland or dry land:

Artificially irrigated areas which would revert to upland if the irrigation ceased (51 FR 41217, Nov. 13, 1986).

Artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and which are used

exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing (51 FR 41217, Nov. 13, 1986).

Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons (51 FR 41217, Nov. 13, 1986).

Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States (51 FR 41217, Nov. 13, 1986).

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet criteria of this definition) (33 CFR 328.3 (a)).

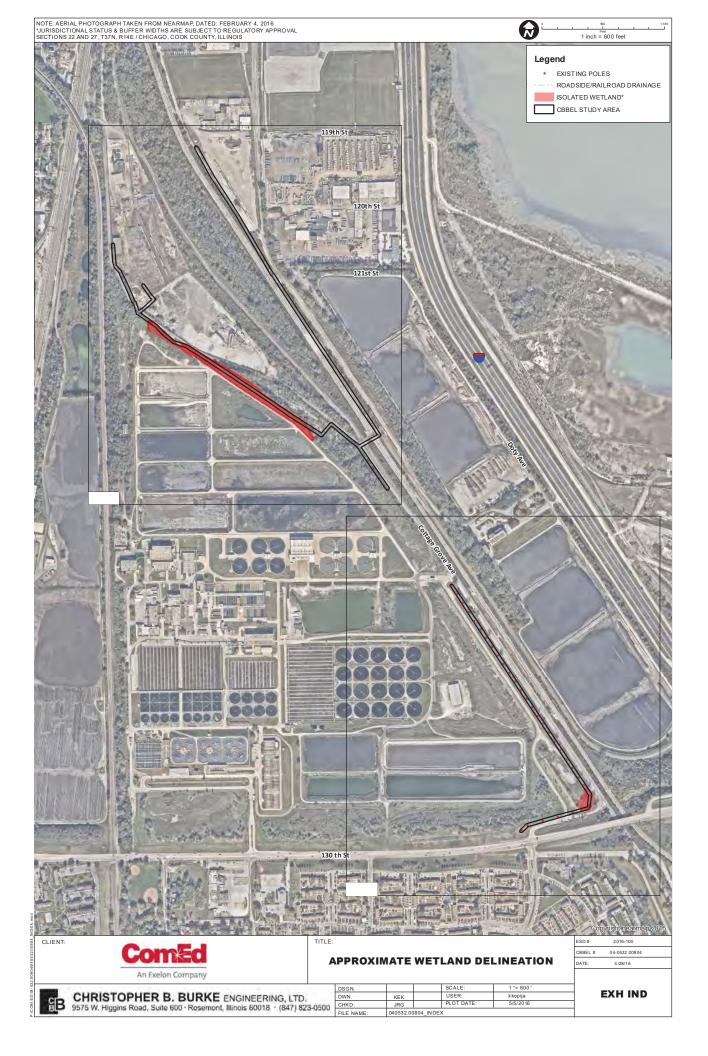
Area(s) are swales (USACE JD Form Instructional Guidebook 5/30/2007).

Area(s) are erosional features (including gullies) (USACE JD Form Instructional Guidebook 5/30/2007).

Area(s) are prior converted cropland (33 CFR 328.3(a)(8)).

Area(s) are uplands.

Other: .



15-0218

WETLAND DELINEATION REPORT

CTA RED LINE EXTENSION – LAKE CALUMET CHICAGO, COOK COUNTY, ILLINOIS

PREPARED FOR:

CDM Smith 14432 SE Eastgate Way, Suite 100 Bellevue, WA 98007

SEPTEMBER 16, 2015

Revised October 1, 2015

26575 W. Commerce Drive, Suite 601, Volo, Illinois 60073 Office (847) 740-0888 Fax (847) 740-2888

INTRODUCTION

A wetland delineation of the 78.9-acre permanent project envelope for the southern portion of the Chicago Transit Authority's Red Line Extension, near Lake Calumet was conducted on August 13 and 19, 2015. The site is located west of Interstate 94 (Bishop Ford Expressway), north of 130th Street, along the east side of the Metropolitan Water Reclamation District of Greater Chicago's (MWRD) Calumet Waste Water Treatment plant within the City of Chicago, Cook County, Illinois (Exhibit 1). The site is further located in Sections 22, 26, and 27, Township 37 North, Range 14 East. The project permanent envelope includes Cottage Grove Avenue, parts of the MWRD property, railroad lines, and other disturbed urban-industrial landscapes. The property has been disturbed by various grading, dumping, and filling activities over the past decades.

EXISTING DATA

The United States Geological Survey (USGS) topographic map indicates open water at the locations of the MWRD sewage lagoons and sludge drying beds (Exhibit 2), but does not indicate any wetlands or blue line streams within the defined project permanent envelope. The National Wetland Inventory (NWI) map similarly depicts the sewage lagoons and sludge drying beds, but also indicates the presence of wetlands within the project permanent envelope (Exhibit 3) that are designated PF01/EMCd (palustrine, forested, broad-leaved deciduous/emergent seasonally flooded, partially drained/ditched). The Flood Insurance Rate Map indicates no mapped floodplain or floodway within the project permanent envelope (Exhibit 4). The USGS Hydrologic Atlas indicates no flood of record waters within the project permanent envelope (Exhibit 5). The Cook County Soil Survey (Exhibit 6) shows six (6) different soil series of orthents, or urban land within the project permanent envelope.

WETLAND DELINEATION

Wetlands within the project permanent envelope were delineated by Vincent Mosca and Jeffrey Mengler, PWS of Hey and Associates, Inc. using procedures outlined in the 1987 Corps of Engineers' (Corps) Wetland Delineation Manual and the 2010 Regional Supplement: Midwest Region. The entire property was inspected, with areas supporting wetland plant species prioritized for investigation. If inspection revealed that wetland plant species comprised more than 50 percent of the plant cover, the suspected wetland was further examined for field indicators of hydric soil and hydrology. The Corps-accepted field indicators of hydric soil include: gleyed and low chroma matrix and mottle colors, and iron and manganese concretions. Necessary hydric soil indicators were field verified in the wetland area if possible. In most cases in this

Hey and Associates, Inc.

project permanent envelope, the gravel and fill precluded investigation with hand tools, and the disturbed profiles would not have been illuminating. The Corps-approved field indicators of hydrology include: visual observation or photographic evidence of soil inundation or saturation during the growing season, oxidized channels associated with living roots and rhizomes, water marks, drift lines, waterborne sediment deposits, waterstained leaves, surface scoured areas and drainage patterns. Wetland hydrologic criteria were met in the areas delineated as wetland.

Lists of observed plant species in the wetland areas were compiled and data were gathered to complete Corps jurisdictional dataforms. A native vegetative quality rating was calculated for each wetland using the Floristic Quality Assessment (FQA) of Swink and Wilhelm as published in *Plants of the Chicago Region*, 1994. The FQA method assigns to plant species a rating that reflects the fundamental conservatism that the species exhibits for natural habitats. A native species that exhibits specific adaptations to a narrow spectrum of the environment is given a high rating. Conversely, a ubiquitous species that exhibits adaptations to a broad spectrum of environmental variables is given a low rating. Utilizing this method, a Floristic Quality Index (FQI) is derived for a given area. The FQI is an indication of native vegetative quality for an area: generally 1-19 indicates low vegetative quality, 20-35 indicates high vegetative quality and above 35 indicates "Natural Area" quality.

RESULTS

Fifteen (15) wetlands totaling 15.34 acres within the project permanent envelope were delineated on the property (Exhibit 7). The wetland boundaries shown on an aerial photograph in Exhibit 7 were recorded with sub-meter accuracy GPS unit in the field on August 13 and 19, 2015. Lists of the observed plant species for the wetland areas are given in Exhibit 8. The Corps' jurisdictional dataforms for upland and wetland areas are included as Exhibit 9. Georeferenced representative color photographs of the upland and wetland areas are provided in Exhibit 10.

Following is a table that summarizes the delineated wetlands. Wetland acreages were calculated based upon the sub-meter accuracy GPS data imported into a Geographical Information System (GIS).

| Wetland | Area within Project Limits (acres) | Total Wetland Area (acres) | FQI ¹ | Native Mean C ² | HQAR ³ | Wetland Type | Dominant Vegetation |
|-----------------------|--|--|--|---|---|--|---|
| 1&2 | 0.19 | 0.38 | 3.89 | 1.38 | No | Drainage swale | Common reed (Phragmites australis) |
| 3 | 0.83 | 0.83 | 6.36 | 4.5 | No ⁴ | Marsh | Common reed and purple loosestrife (Lythrum salicaria) |
| 4 | 0.07 | 1.85 | 6.43 | 2.43 | No | Drainage swale | Common reed |
| 5 | 2.73 | 2.73 | 4.95 | 1.75 | No | Drainage swale | Common reed |
| 6 | 2.26 | 2.26 | 11.13 | 2.43 | No | Drainage swale & degraded wet prairie | Common reed |
| 7 | 1.63 | 1.63 | 13.68 | 2.79 | No | Drainage swale & degraded wet prairie | Common reed |
| 8 | 1.61 | 1.77 | 6.43 | 2.43 | No | Degraded marsh | Common reed |
| 9 | 1.09 | 1.09 | 2.04 | 0.83 | No | Drainage swale/marsh | Common reed |
| 10 | 0.07 | 0.07 | 6.43 | 2.43 | No | Drainage ditch | Common reed |
| 11 | 0.05 | n/a | 3.00 | 1.50 | No | Drainage ditch | Common reed |
| 12 | 3.56 | 3.56 | 3.00 | 1.50 | No | Degraded marsh | Common reed |
| 13 | 0.53 | 0.66 | 2.86 | 1.17 | No | Wooded | Box Elder (Acer negundo), Common reed (<i>Phragmites australis</i>) |
| 14 | 0.20 | 0.88 | 4.00 | 1.33 | No | Drainage swale | Common reed |
| 15 | 0.52 | n/a | 2.00 | 1.00 | No | Drainage swale | Common reed |
| TOTAL | 15.34 | 17.71 | | | | | |
| v 2 3 6 4 | regetative quality a 2 The Native Mear 3 The Chicago Dis designation is base 4 While this area | nd above 35 ind 1 C is an indicat strict U.S. Arm 2d on the defin has a Native M | dicates "Nat ion of nativ ny Corps of itions found Mean C of g | tural Area" qual e vegetative qua Engineers has l within the Re greater than 3. | lity. ality for an are designated vi gional Permit 5, it was base | a. Areas with value of 3.5 or greater arious Waters of the United States t Program that became effective Apr | o be high-quality aquatic resources (HQARs). This |

Table 1. Summary of Wetlands within Project Limits.

Wetlands 1 and 2 are both part of the same drainage swale along the east-west portion of South Cottage Grove Avenue, just north of 135th Street. It is dominated by common reed and defined on the south by the 135th Street embankment, on the north and west by the Cottage Grove Avenue entrance off 135th Street, and on the east by a railroad access road. It is of very low floristic quality and wetland function, and has debris and trash scattered throughout it.

Wetland 3 is on the north side of the east-west portion of South Cottage Grove Avenue, and is connected to Wetland areas 5 and 9. It is dominated by common reed. It is defined by a gravel road and fill on all sides. This was one of the few areas that had standing water during the August 2015 assessment. It is of

low quality and function. It should be noted that the mean C value is 4.5, which suggests a high quality area, but this mean C value is based on the only 2 native species observed – the other 4 species were all invasive non-native species.

Wetland 4 is another drainage swale that runs from the entrance to the MWRD Calumet Wastewater Treatment Plant (WWTP) west along 135th Street. It is entirely dominated by common reed. The north boundary is defined by a mowed embankment up to the WWTP facility fence, and the southern boundary is defined by 135th Street and shoulder. The mowed area was composed of typical upland turf and weed species and not hydrophytic species, indicating that the edge of mowing corresponded with the edge of wetland. Wetland 4 appears to receive drainage from 135th Street via several stormsewers that create the undulating southern boundary.

Wetland 5 is a drainage swale that runs along the west side of South Cottage Grove Avenue from Wetland 3 north to the entrance and gatehouse for the Calumet WWTP. It is dominated by common reed, with patches of sandbar willow (*Salix interior*) and cottonwood trees (*Populus deltoides*). The eastern boundary is defined by Cottage Grove Avenue and the western boundary is a chain-link fence and mowed turf grass within the MRWDGC property.

Wetland 6 is a wet prairie drainage swale along a Indiana Harbor Belt Railroad line that does not appear to have frequent use. It is generally bounded by the railroad ballast on the west side and higher ground dominated by common buckthorn (*Rhamnus cathartica*) on the east side. Dominant vegetation was common reed, though pockets of native plant species were observed.

Similarly, Wetland 7 is a drainage swale on the west side of the same Indiana Harbor Belt Railroad line through the site. It is also bounded by the railroad ballast and higher ground covered in common buckthorn. It is of moderate floristic quality when calculated to include the scattered native wet prairie species observed, but is largely dominated by the invasive common reed.

Wetland 8 is an area of degraded marsh inside the MWRD Calumet WWTP perimeter fence, located just southeast of the gatehouse and entrance. It is surrounded by areas of fill/gravel that are much higher in elevation than the ground in the wetland area. The embankments around this wetland pocket are very steep and eroded, often at a 1:1 slope or steeper. The vegetation was dominated by common reed. It is an area of very low quality.

Wetland 9 is connected to Wetland 3 and ultimately Wetland 5. At the southern end of Wetland 5, these 3 wetland areas form a u-shaped marsh swale around a gravel fill pad that is 3-4 feet higher in elevation. This

area is bounded by the MWRD Calumet WWTP entrance road and Cottage Grove Avenue. The vegetation was dominated by common reed, and it is of low quality.

Wetland 10 is a small drainage ditch that runs from the 135th Street bridge over the Indiana Harbor Belt Railroad/Metra South Shore rail lines, to Cottage Grove Avenue. It is generally lined by cottonwoods and dead green ash (*Fraxinus pennsylvanica*) with common reed dominant in the ditch. The ditch was also littered with old tires and other refuse.

Wetland 11 is a small part of a wet area between the gravel railroad access road, and the Metra South Shore rail line. Most of the wetland is outside of the project limits and is dominated by common reed.

Wetland 12 is a marsh area located just north of the MWRD Calumet WWTP gatehouse. It is bounded by gravel access roads on the east and west sides, and the entrance road on the south. On the north side the wetland gives way to higher ground dominated by common buckthorn and a variety of upland weeds. The marsh is dominated by common reed.

Wetland 13 is a small wetland drainage swale located between the Metra South Shore Electric railroad line and the Indiana Harbor Belt Railroad freight line. It is dominated by common reed and is bounded by railroad ballast.

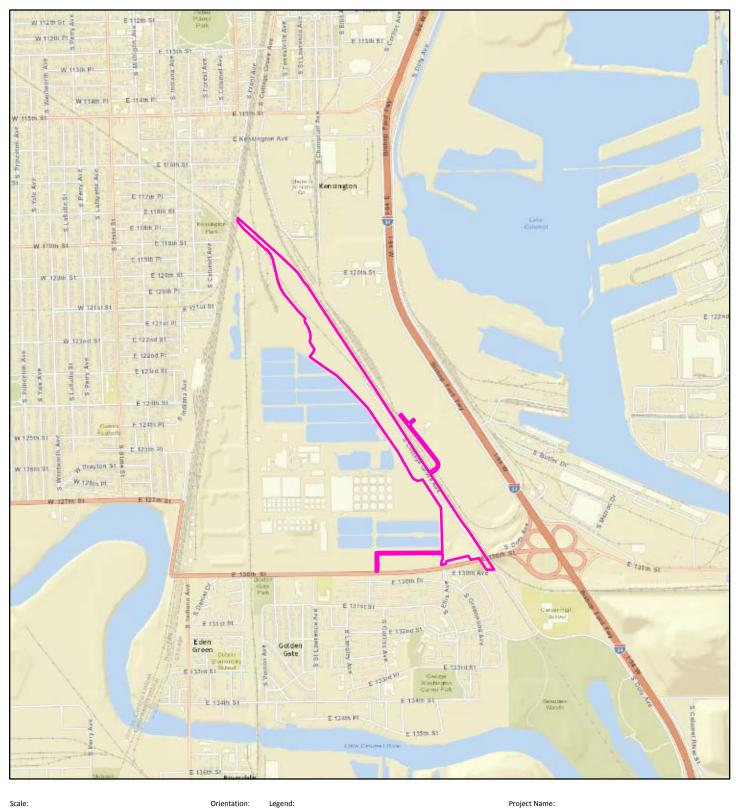
Wetland 14 is a swale located on the east side of the Indiana Harbor Belt Railroad/Metra South Shore line, but west of the MWRD fence around some sludge drying beds and other facilities. It is partially wooded by box elder and cottonwood but in open areas remains dominated by common reed.

Wetland 15 refers to a narrow drainage swale dominated by common reed located along a MWRD gravel access road in the northwest part of the project permanent envelope. It is of very low quality.

There are no High Quality Aquatic Resources on the subject property or mapped on adjacent properties. All wetlands observed were dominated by the invasive common reed, often in dense monotypic stands. The surrounding land is primarily developed urban or industrial landscapes.

SUMMARY AND CONCLUSIONS

The wetland delineation revealed 15 wetland areas totaling 15.34 acres within the project permanent envelope as depicted on Exhibit 7. All wetlands were of low quality and dominated by the invasive common reed. Most of the wetland boundaries are defined by fill and other manmade features. A jurisdictional determination will need to be requested from the U.S. Army Corps of Engineers to determine if the wetlands are under their Clean Water Act jurisdiction or if they are isolated wetlands of Cook County.



0



Prepared by:

Feet





Project Permanent Envelope

Project Name: **CTA Red Line Extension**

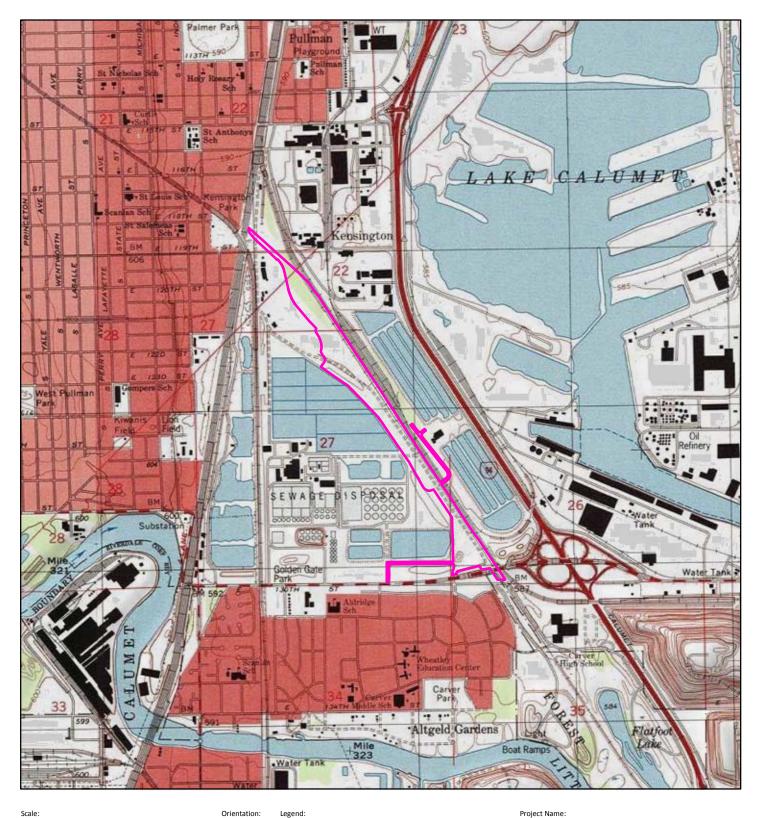
Prepared for: **CDM Smith**

Location Information: T.37N.-R.14E., Sections 22, 26 & 27

Exhibit Title: **Project Location**

Hey and Associates, Inc. Engineering, Ecology and Landscape Architecture

2,000



0

2,000





Latest Revision: 10/1/2015



Project Permanent Envelope

Project Name: CTA Red Line Extension

Prepared for: **CDM Smith**

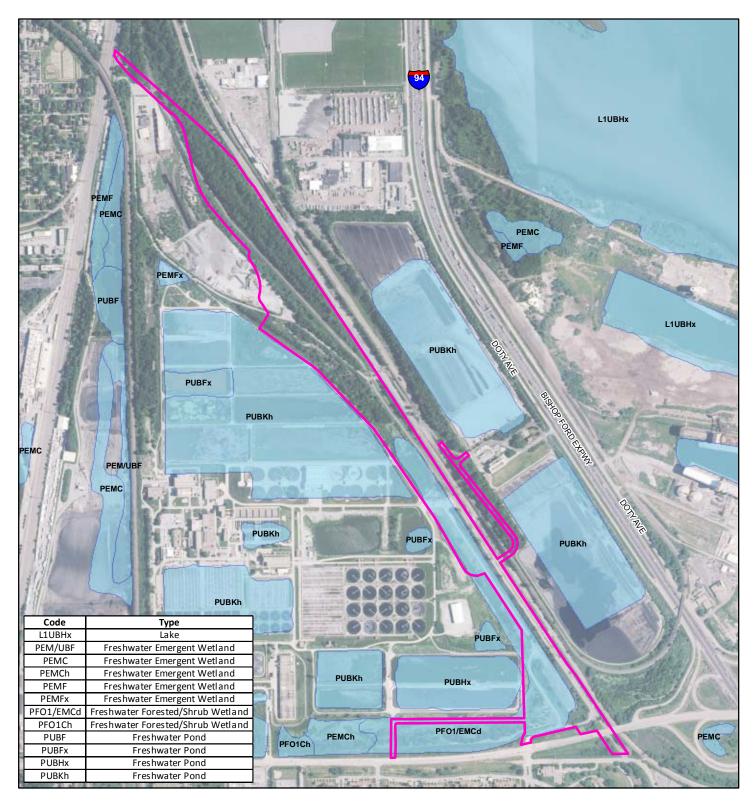
Location Information: Lake Calumet Quadrangle

Prepared by:

Project Number: 15-0218



Exhibit Title: U.S.G.S. Topographic Map



0

Prepared by:

Project Number: 15-0218



Feet



Latest Revision: 10/1/2015

Legend:

National Wetland Inventory Project Permanent Envelope Project Name: **CTA Red Line Extension**

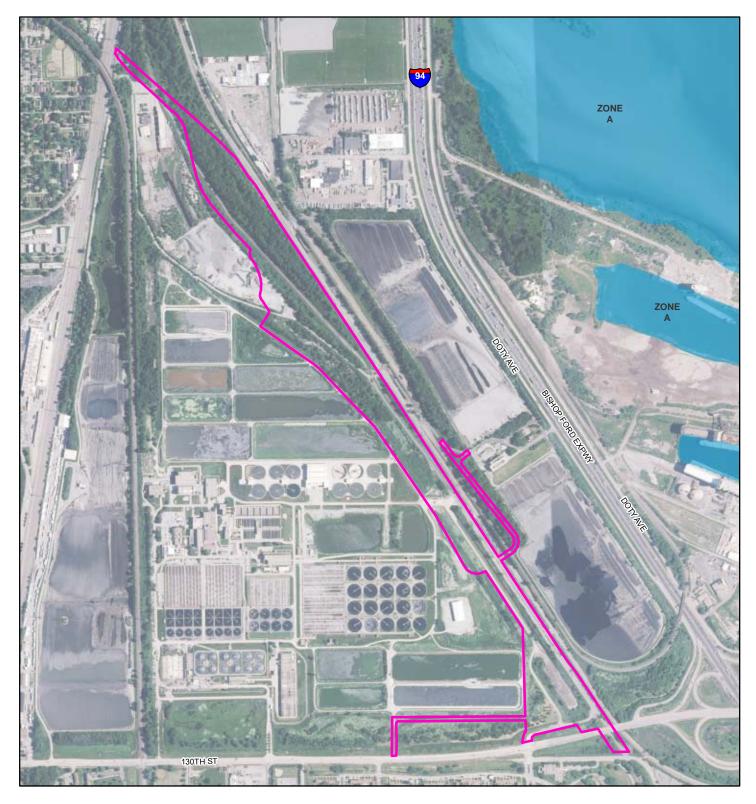
Prepared for: **CDM Smith**

NWI Date: 1981

Hey and Associates, Inc.

Engineering, Ecology and Landscape Architecture

3









Legend:

Project Number: 15-0218

Latest Revi



100 Year Flood Zone Project Permanent Envelope Project Name: CTA Red Line Extension

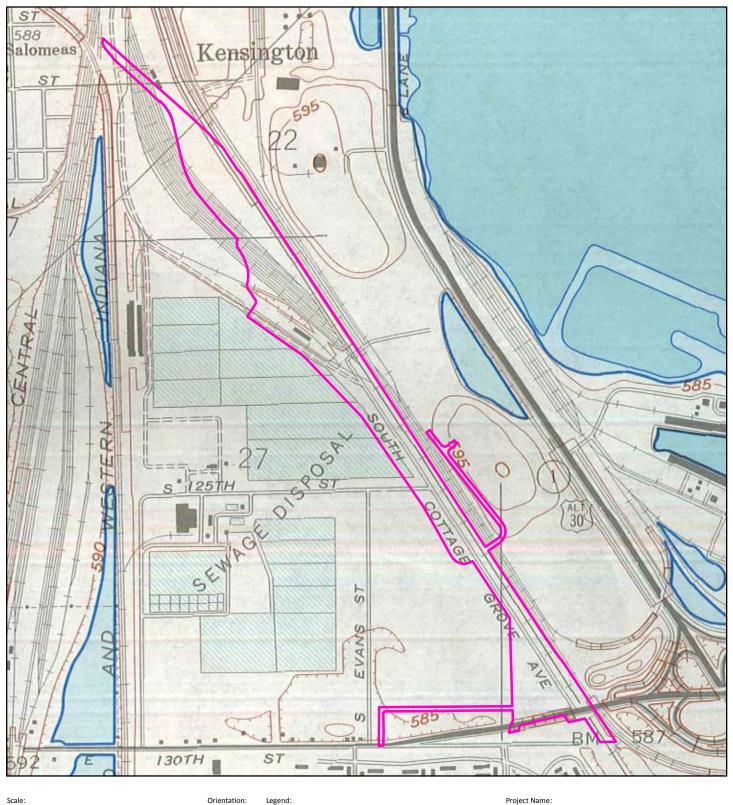
Prepared for: CDM Smith

Panel #: 17031C0661J

Prepared by:



Exhibit Title: Flood Insurance Rate Map



Scale:

0

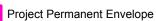
Prepared by:

Project Number: 15-0218



Latest Revision: 10/1/2015





Project Name: CTA Red Line Extension

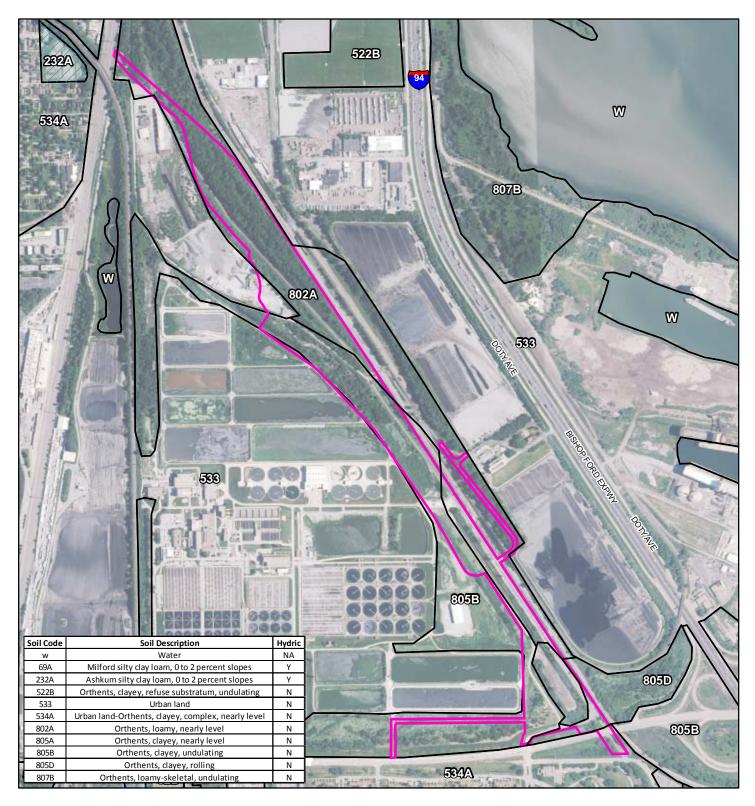
Prepared for: **CDM Smith**

Hydro Atlas Date: 1966



1,000 Feet

Exhibit Title: **U.S.G.S Hydrologic Atlas**



Scale:

0

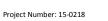




1,000











Legend:

Hydric Soils
 Soil Units
 Project Permanent Envelope

Project Name: CTA Red Line Extension

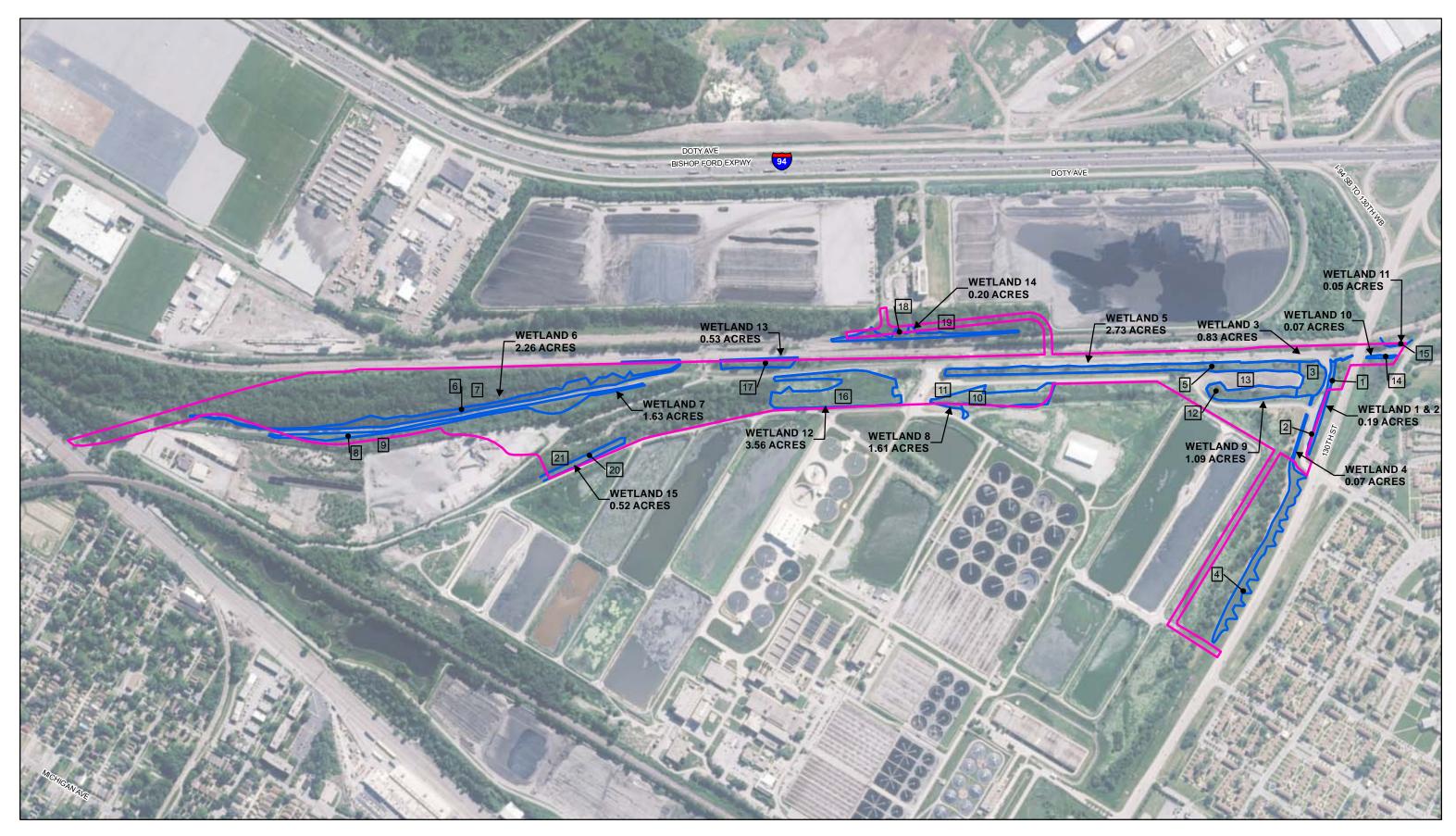
Prepared for: CDM Smith

Soil Survey Date: 2012

Prepared by:

Hey and Associates, Inc. Engineering, Ecology and Landscape Architecture

Exhibit Title: NRCS Soil Survey





Scale:

Hey and Associates, Inc. Engineering, Ecology and Landscape Architecture

0 600 Feet Project Number: 15-0218 Latest Revision: 10/1/2015

Orientation:

Legend: X Data Point

Surveyed Wetland Boundary (Labled wetland acreages for area within Project Permanent Envelope only)

Project Permanent Envelope

Project Name: CTA Red Lin

Prepared For: CDM Smith

CTA Red Line Extension

Aerial Date: 2014

Exhibit Title: Wetland Boundary

The following floristic inventories, prepared by Hey and Associates, Inc., follow the nomenclature given in the National Wetland Plant List: (Lichvar, R. W., M. Butterwick, N.C. Melvin, and W. N. Kirchner 2014); The National Wetland Plant List 2014 Update of Wetland Ratings. (Phytoneuron 2014-41:1-42); and bio data/nomenclature follows Kartesz, J. T., 2013 Floristic Synthesis of North America. Version 1.0 Biota of North American Program. It also provides local synonymies based on Swink and Wilhelm's 1994 Plants of the Chicago Region.

Each species is listed with its database acronym and coefficient of conservatism (0 = weedy, 10 = conservative), and followed by its corresponding National Wetland Category (OBL = obligate wetland species, FACW = facultative wetland, FAC - facultative species, FACU = facultative upland, UPL = upland species), habit, duration, and nativity. Native taxa are those species believed to have been present in the Chicago region prior to European settlement.

The conservatism metric information above the species list provides analysis of the vegetative quality of the site. It shows the total number of species present (species richness), the mean coefficient of conservatism (Mean C), the floristic quality index (FQAI), and mean wetness; calculated separately for native species only and then including the adventive species (W/Adventives). The Mean C datum indicates the average coefficient of conservatism. The FQAI is derived by multiplying the Mean C by the square root of the number of species. If the FQAI of an area registers in the middle 30's or higher, one can be relatively certain that there is sufficient native character to be of rather profound environmental importance in terms of a regional natural area perspective. The wet indicator value indicates the mean or average wet indicator category for all species present, natives only and then with adventives - numbers less than 0 indicate hydrophytic vegetation, while numbers greater than 0 correspond to the upland vegetation categories. The table also provides the number of species in each physiognomic or habit class, native versus adventive along with their percentage of the total inventory.

Source: Herman, B., Sliwinski, R. and S. Whitaker. 2013. Chicago Region FQA (Floristic Quality Assessment) Calculator. U.S. Army Corps of Engineers, Chicago, IL. Version September 29, 2014

Project Number: 15-0218

Hey and Associates, Inc. Engineering, Ecology and Landscape Architecture

Project Name: CTA Red Line Extension

Exhibit Title: Exhibit: **Observed Wetland Species**

CONSERVATISM-BASED METRICS

MEAN C 1.38 (NATIVE SPECIES) MEAN C (ALL SPECIES) 0.85 MEAN C (NATIVE TREES) 1.50 MEAN C (NATIVE SHRUBS) 1.00 MEAN C (NATIVE HERBACEOUS) 1.00 FQAI (NATIVE SPECIES) 3.89 FQAI (ALL SPECIES) 3.05 ADJUSTED FQAI 10.79 % C VALUE 0 0.46 % C VALUE 1-3 0.54 % C VALUE 4-6 0.00 % C VALUE 7-10 0.00

| METRICS | |
|------------------------------|-------|
| SPECIES RICHNESS (ALL) | 13 |
| SPECIES RICHNESS (NATIVE) | 8 |
| % NON-NATIVE | 0.38 |
| WET INDICATOR (ALL) | -0.23 |
| WET INDICATOR (NATIVE) | -0.50 |
| % HYDROPHYTE (MIDWEST) | 0.77 |
| % NATIVE PERENNIAL | 0.62 |
| % NATIVE ANNUAL | 0.00 |
| % ANNUAL | 0.00 |
| % PERENNIAL | 0.92 |

| | SPECIES NAME | | | | | | | |
|---------|---------------------------|------------------------|--------------------|---------|-------------|-------|-----------|-----------|
| SPECIES | (NWPL/ | SPECIES | COMMON | | MIDWEST WET | | | |
| ACRONYM | MOHLENBROCK) | (SYNONYM) | NAME | C VALUE | INDICATOR | HABIT | DURATION | NATIVITY |
| acesai | Acer saccharinum | Acer saccharinum | Silver Maple | 0 | FACW | Tree | Perennial | Native |
| artvul | Artemisia vulgaris | ARTEMISIA VULGARIS | Common Mugwort | 0 | UPL | Forb | Perennial | Adventive |
| | | | Hedge False | | | | | |
| consep | Calystegia sepium | Convolvulus sepium | Bindweed | 1 | FAC | Forb | Perennial | Native |
| diplac | Dipsacus laciniatus | DIPSACUS LACINIATUS | Cut-Leaf Teasel | 0 | UPL | Forb | Biennial | Adventive |
| | | Fraxinus pennsylvanica | | | | | | |
| frapen | Fraxinus pennsylvanica | subintegerrima | Green Ash | 1 | FACW | Tree | Perennial | Native |
| lytsal | Lythrum salicaria | LYTHRUM SALICARIA | Purple Loosestrife | 0 | OBL | Forb | Perennial | Adventive |
| | Phragmites australis ssp. | | | | | | | |
| phrausu | australis | Phragmites australis | Common Reed | 0 | FACW | Grass | Perennial | Adventive |
| popdel | Populus deltoides | Populus deltoides | Eastern Cottonwood | 2 | FAC | Tree | Perennial | Native |
| P - P | | | | | | | | |
| rhacat | Rhamnus cathartica | RHAMNUS CATHARTICA | European Buckthorn | 0 | FAC | Shrub | Perennial | Adventive |
| salint | Salix interior | Salix interior | Sandbar Willow | 1 | FACW | Shrub | Perennial | Native |
| solalt | Solidago altissima | Solidago altissima | Tall Goldenrod | 1 | FACU | Forb | Perennial | Native |
| ulmame | Ulmus americana | Ulmus americana | American Elm | 3 | FACW | Tree | Perennial | Native |
| vitrip | Vitis riparia | Vitis riparia | River-Bank Grape | 2 | FACW | Vine | Perennial | Native |

CONSERVATISM-BASED

METRICS

| MEAN C | |
|------------------|-------|
| (NATIVE SPECIES) | 4.50 |
| | |
| MEAN C | |
| (ALL SPECIES) | 1.50 |
| MEAN C | |
| (NATIVE TREES) | 2.00 |
| MEAN C | |
| (NATIVE SHRUBS) | 7.00 |
| MEAN C | |
| (NATIVE | |
| HERBACEOUS) | n/a |
| FQAI | |
| (NATIVE SPECIES) | 6.36 |
| FQAI | |
| (ALL SPECIES) | 3.67 |
| ADJUSTED FQAI | 25.98 |
| % C VALUE 0 | 0.67 |
| % C VALUE 1-3 | 0.17 |
| % C VALUE 4-6 | 0.00 |
| % C VALUE 7-10 | 0.17 |

| METRICS | |
|------------------------------|-------|
| SPECIES RICHNESS (ALL) | 6 |
| SPECIES RICHNESS (NATIVE) | 2 |
| % NON-NATIVE | 0.67 |
| WET INDICATOR (ALL) | -0.67 |
| WET INDICATOR (NATIVE) | -0.50 |
| % HYDROPHYTE (MIDWEST) | 0.83 |
| % NATIVE PERENNIAL | 0.33 |
| % NATIVE ANNUAL % ANNUAL | 0.00 |
| % PERENNIAL | 0.83 |

| | SPECIES NAME | | | | MIDWEST | | | |
|---------|--|----------------------|--------------------------|---------|-----------|-------|-----------|-----------|
| SPECIES | (NWPL/ | SPECIES | COMMON | | WET | | | |
| ACRONYM | MOHLENBROCK) | (SYNONYM) | NAME | C VALUE | INDICATOR | HABIT | DURATION | NATIVITY |
| diplac | Dipsacus laciniatus | DIPSACUS LACINIATUS | Cut-Leaf Teasel | 0 | UPL | Forb | Biennial | Adventive |
| lytsal | Lythrum salicaria | LYTHRUM SALICARIA | Purple Loosestrife | 0 | OBL | Forb | Perennial | Adventive |
| phrausu | Phragmites australis ssp. australis | Phragmites australis | Common Reed | 0 | FACW | Grass | Perennial | Adventive |
| popdel | Populus deltoides | Populus deltoides | Eastern Cottonwood | 2 | FAC | Tree | Perennial | Native |
| ribame | Ribes americanum | Ribes americanum | Wild Black Currant | 7 | FACW | Shrub | Perennial | Native |
| typang | Typha angustifolia | Typha angustifolia | Narrow-Leaf Cat- Tail | 0 | OBL | Forb | Perennial | Adventive |

| SITE: | Wetland 4 - CTA Red Line Extension |
|---------|------------------------------------|
| LOCALE: | Lake Calumet |
| BY: | J Mengler, V Mosca |
| DATE: | 8/13/2015 |

BASED

| METRICS | |
|------------------------------|-------|
| SPECIES RICHNESS (ALL) | 17 |
| SPECIES RICHNESS (NATIVE) | 7 |
| % NON-NATIVE | 0.59 |
| WET INDICATOR (ALL) | -0.18 |
| WET INDICATOR (NATIVE) | -0.43 |
| % HYDROPHYTE (MIDWEST) | 0.59 |
| % NATIVE PERENNIAL | 0.41 |
| % NATIVE ANNUAL % ANNUAL | 0.00 |
| % PERENNIAL | 0.82 |

| | SPECIES NAME | | | | MIDWEST | | | |
|---------|--|------------------------------------|-------------------------------|---------|-----------|-------|-----------|-----------|
| SPECIES | (NWPL/ | SPECIES | COMMON | | WET | | | |
| ACRONYM | MOHLENBROCK) | (SYNONYM) | NAME | C VALUE | INDICATOR | HABIT | DURATION | NATIVITY |
| arcmin | Arctium minus | ARCTIUM MINUS | Lesser Burrdock | 0 | FACU | Forb | Biennial | Adventive |
| ascinc | Asclepias incarnata | Asclepias incarnata | Swamp Milkweed | 4 | OBL | Forb | Perennial | Native |
| consep | Calystegia sepium | Convolvulus sepium | Hedge False Bindweed | 1 | FAC | Forb | Perennial | Native |
| carnut | Carduus nutans | CARDUUS NUTANS | Nodding Plumeless- Thistle | 0 | FACU | Forb | Biennial | Adventive |
| cirarv | Cirsium arvense | CIRSIUM ARVENSE | Canadian Thistle | 0 | FACU | Forb | Perennial | Adventive |
| diplac | Dipsacus laciniatus | DIPSACUS LACINIATUS | Cut-Leaf Teasel | 0 | UPL | Forb | Biennial | Adventive |
| solgra | Euthamia graminifolia | Solidago graminifolia nuttallii | Flat-Top Goldentop | 4 | FACW | Forb | Perennial | Native |
| polsca | Fallopia scandens | Polygonum scandens | Climbing Black- Bindweed | 1 | FAC | Vine | Perennial | Native |
| lytsal | Lythrum salicaria | LYTHRUM SALICARIA | Purple Loosestrife | 0 | OBL | Forb | Perennial | Adventive |
| phrausu | Phragmites australis ssp. australis | Phragmites australis | Common Reed | 0 | FACW | Grass | Perennial | Adventive |
| phyame | Phytolacca americana | Phytolacca americana | American Pokeweed | 1 | FACU | Forb | Perennial | Native |
| scipun | Schoenoplectus pungens | Scirpus pungens | Three-Square | 5 | OBL | Sedge | Perennial | Native |
| soldul | Solanum dulcamara | SOLANUM DULCAMARA | Climbing Nightshade | 0 | FAC | Vine | Perennial | Adventive |
| solalt | Solidago altissima | Solidago altissima | Tall Goldenrod | 1 | FACU | Forb | Perennial | Native |
| solsem | Solidago sempervirens | SOLIDAGO SEMPERVIRENS | Seaside Goldenrod | 0 | FACW | Forb | Perennial | Adventive |
| sonuli | Sonchus arvensis ssp. uliginosus | SONCHUS ULIGINOSUS | Field Sow-Thistle | 0 | FACU | Forb | Perennial | Adventive |
| typang | Typha angustifolia | Typha angustifolia | Narrow-Leaf Cat-Tail | 0 | OBL | Forb | Perennial | Adventive |

BASED

| METRICS | |
|------------------|-------|
| MEAN C | |
| (NATIVE SPECIES) | 1.75 |
| MEAN C | |
| (ALL SPECIES) | 1.08 |
| | |
| MEAN C | |
| (NATIVE TREES) | 2.00 |
| MEAN C | |
| (NATIVE SHRUBS) | 4.00 |
| (NATIVE | |
| HERBACEOUS) | 0.00 |
| FQAI | |
| (NATIVE SPECIES) | 4.95 |
| FQAI | |
| (ALL SPECIES) | 3.88 |
| ADJUSTED FQAI | 13.73 |
| % C VALUE 0 | 0.62 |
| % C VALUE 1-3 | 0.31 |
| % C VALUE 4-6 | 0.00 |
| % C VALUE 7-10 | 0.08 |

| METRICS | |
|------------------|-------|
| SPECIES RICHNESS | |
| (ALL) | 13 |
| SPECIES RICHNESS | |
| (NATIVE) | 8 |
| | |
| | |
| % NON-NATIVE | 0.38 |
| WET INDICATOR | |
| (ALL) | -0.23 |
| WET INDICATOR | |
| (NATIVE) | 0.00 |
| % HYDROPHYTE | |
| (MIDWEST) | 0.69 |
| % NATIVE | |
| PERENNIAL | 0.38 |
| % NATIVE ANNUAL | 0.15 |
| % ANNUAL | 0.23 |
| % PERENNIAL | 0.69 |

| | SPECIES NAME | | | | MIDWEST | | | |
|---------|-------------------------|-------------------------|----------------------|---------|-----------|-------|-----------|-----------|
| SPECIES | (NWPL/ | SPECIES | COMMON | | WET | | | |
| ACRONYM | MOHLENBROCK) | (SYNONYM) | NAME | C VALUE | INDICATOR | HABIT | DURATION | NATIVITY |
| | | Ambrosia artemisiifolia | | | | | | |
| ambart | Ambrosia artemisiifolia | elatior | Annual Ragweed | 0 | FACU | Forb | Annual | Native |
| ambtri | Ambrosia trifida | Ambrosia trifida | Great Ragweed | 0 | FAC | Forb | Annual | Native |
| branig | Brassica nigra | BRASSICA NIGRA | Black Mustard | 0 | UPL | Forb | Annual | Adventive |
| lytsal | Lythrum salicaria | LYTHRUM SALICARIA | Purple Loosestrife | 0 | OBL | Forb | Perennial | Adventive |
| oenbie | Oenothera biennis | Oenothera biennis | Evening Primrose | 0 | FACU | Forb | Biennial | Native |
| | Parthenocissus | Parthenocissus | | | | | | |
| parqui | quinquefolia | quinquefolia | Virginia-Creeper | 2 | FACU | Vine | Perennial | Native |
| | Phragmites australis | | | | | | | |
| phrausu | ssp. australis | Phragmites australis | Common Reed | 0 | FACW | Grass | Perennial | Adventive |
| popdel | Populus deltoides | Populus deltoides | Eastern Cottonwood | 2 | FAC | Tree | Perennial | Native |
| rhacat | Rhamnus cathartica | RHAMNUS CATHARTICA | European Buckthorn | 0 | FAC | Shrub | Perennial | Adventive |
| ribame | Ribes americanum | Ribes americanum | Wild Black Currant | 7 | FACW | Shrub | Perennial | Native |
| salint | Salix interior | Salix interior | Sandbar Willow | 1 | FACW | Shrub | Perennial | Native |
| typang | Typha angustifolia | Typha angustifolia | Narrow-Leaf Cat-Tail | 0 | OBL | Forb | Perennial | Adventive |
| vitrip | Vitis riparia | Vitis riparia | River-Bank Grape | 2 | FACW | Vine | Perennial | Native |

| SITE: | Wetland 6 - CTA Red Line Extension |
|---------|------------------------------------|
| LOCALE: | Lake Calumet |
| BY: | J Mengler, V Mosca |
| DATE: | 8/13/2015 |

| BASED | |
|------------------|-------|
| METRICS | |
| MEAN C | |
| (NATIVE SPECIES) | 2.43 |
| MEAN C | |
| - | 1.50 |
| (ALL SPECIES) | 1.59 |
| MEAN C | |
| (NATIVE TREES) | 1.00 |
| MEAN C | |
| (NATIVE SHRUBS) | 1.00 |
| MEAN C | |
| (NATIVE | |
| HERBACEOUS) | 2.76 |
| FQAI | |
| (NATIVE SPECIES) | 11.13 |
| FQAI | |
| (ALL SPECIES) | 9.02 |
| ADJUSTED FQAI | 19.67 |
| % C VALUE 0 | 0.50 |
| % C VALUE 1-3 | 0.25 |
| % C VALUE 4-6 | 0.22 |
| % C VALUE 7-10 | 0.03 |

| METRICS | |
|------------------------------|-------|
| SPECIES RICHNESS (ALL) | 32 |
| SPECIES RICHNESS (NATIVE) | 21 |
| % NON-NATIVE | 0.34 |
| WET INDICATOR (ALL) | -0.06 |
| WET INDICATOR (NATIVE) | -0.14 |
| % HYDROPHYTE (MIDWEST) | 0.66 |
| % NATIVE PERENNIAL | 0.53 |
| % NATIVE ANNUAL % ANNUAL | 0.06 |
| % PERENNIAL | 0.78 |

| | SPECIES NAME | | | | MIDWEST | | | |
|---------|---------------------------|------------------------------------|--|---------|-----------|-------|-----------|-----------|
| SPECIES | (NWPL/ | SPECIES | COMMON | | WET | | | |
| ACRONYM | MOHLENBROCK) | (SYNONYM) | NAME | C VALUE | INDICATOR | HABIT | DURATION | NATIVITY |
| | | Acer negundo var. | | | | | | |
| aceneg | Acer negundo | violaceum | Box Elder | 0 | FAC | Tree | Perennial | Native |
| agralb | Agrostis gigantea | AGROSTIS ALBA | Red Top | 0 | FACW | Grass | Perennial | Adventive |
| acnalt | Amaranthus tuberculatus | Acnida altissima | Rough-Fruit Amaranth | 0 | OBL | Forb | Annual | Native |
| ambtri | Ambrosia trifida | Ambrosia trifida | Great Ragweed | 0 | FAC | Forb | Annual | Native |
| andger | Andropogon gerardii | Andropogon gerardii | Big Bluestem | 5 | FAC | Grass | Perennial | Native |
| arcmin | Arctium minus | ARCTIUM MINUS | Lesser Burrdock | 0 | FACU | Forb | Biennial | Adventive |
| artvul | Artemisia vulgaris | ARTEMISIA VULGARIS | Common Mugwort | 0 | UPL | Forb | Perennial | Adventive |
| ascinc | Asclepias incarnata | Asclepias incarnata | Swamp Milkweed | 4 | OBL | Forb | Perennial | Native |
| cirdis | Cirsium discolor | Cirsium discolor | Field Thistle | 2 | FACU | Forb | Biennial | Native |
| comcom | Commelina communis | COMMELINA COMMUNIS | Asiatic Dayflower | 0 | FACU | Forb | Annual | Adventive |
| cypstr | Cyperus strigosus | Cyperus strigosus | Straw-Color Flat Sedge | 1 | FACW | Sedge | Perennial | Native |
| daucar | Daucus carota | DAUCUS CAROTA | Queen Anne's Lace | 0 | UPL | Forb | Biennial | Adventive |
| eupalt | Eupatorium altissimum | Eupatorium altissimum | Tall Boneset | 0 | UPL | Forb | Perennial | Native |
| solgra | Euthamia graminifolia | Solidago graminifolia nuttallii | Flat-Top Goldentop | 4 | FACW | Forb | Perennial | Native |
| polsca | Fallopia scandens | Polygonum scandens | Climbing Black- Bindweed | 1 | FAC | Vine | Perennial | Native |
| gaubie | Gaura biennis | Gaura biennis | Biennial Beeblossom | 2 | FACU | Forb | Biennial | Native |
| helgro | Helianthus grosseserratus | Helianthus grosseserratus | Saw-Tooth Sunflower Spotted St. John's- | 2 | FACW | Forb | Perennial | Native |
| hyppun | Hypericum punctatum | Hypericum punctatum | Wort | 4 | FAC | Forb | Perennial | Native |
| liapyc | Liatris pycnostachya | Liatris pycnostachya | Priarie Blazing Star | 8 | FAC | Forb | Perennial | Native |
| lycame | Lycopus americanus | Lycopus americanus | Cut-Leaf Water- Horehound | 5 | OBL | Forb | Perennial | Native |
| lytsal | Lythrum salicaria | LYTHRUM SALICARIA | Purple Loosestrife | 0 | OBL | Forb | Perennial | Adventive |
| | Phragmites australis ssp. | | | | | | | |
| phrausu | australis | Phragmites australis | Common Reed | 0 | FACW | Grass | Perennial | Adventive |
| | | | Smooth Ground | | | | | |
| physub | Physalis subglabrata | Physalis subglabrata | Cherry | 0 | UPL | Forb | Perennial | Native |
| popdel | Populus deltoides | Populus deltoides | Eastern Cottonwood | 2 | FAC | Tree | Perennial | Native |
| rhacat | Rhamnus cathartica | RHAMNUS CATHARTICA | European Buckthorn | 0 | FAC | Shrub | Perennial | Adventive |

| 0050150 | SPECIES NAME | | | | MIDWEST | | | |
|---------|-----------------------------------|-----------------------|----------------------|---------|------------------|-------|-----------|-----------|
| SPECIES | (NWPL/ | SPECIES | COMMON | C VALUE | WET INDICATOR | HABIT | DUDATION | NATIVITY |
| ACRONYM | MOHLENBROCK) | (SYNONYM) | NAME | C VALUE | INDICATOR | HABII | DURATION | NATIVITY |
| samcan | Sambucus nigra ssp. canadensis | Sambucus canadensis | Elderberry | 1 | FACW | Shrub | Perennial | Native |
| sapoff | Saponaria officinalis | SAPONARIA OFFICINALIS | Bouncing-Bett | 0 | FACU | Forb | Perennial | Adventive |
| andsco | Schizachyrium scoparium | Andropogon scoparius | Little Bluestem | 5 | FACU | Grass | Perennial | Native |
| soldul | Solanum dulcamara | SOLANUM DULCAMARA | Climbing Nightshade | 0 | FAC | Vine | Perennial | Adventive |
| solalt | Solidago altissima | Solidago altissima | Tall Goldenrod | 1 | FACU | Forb | Perennial | Native |
| typang | Typha angustifolia | Typha angustifolia | Narrow-Leaf Cat-Tail | 0 | OBL | Forb | Perennial | Adventive |
| verhas | Verbena hastata | Verbena hastata | Blue Vervain | 4 | FACW | Forb | Perennial | Native |

| SITE: | Wetland 7 - CTA Red Line Extension |
|---------|------------------------------------|
| LOCALE: | Lake Calumet |
| BY: | J Mengler, V Mosca |
| DATE: | 8/13/2015 |

CONSERVATISM-BASED METRICS MEAN C (NATIVE SPECIES) 2.79 MEAN C (ALL SPECIES) 2.03 MEAN C (NATIVE TREES) n/a MEAN C (NATIVE SHRUBS) 0.00 MEAN C (NATIVE HERBACEOUS) 2.79 FQAI (NATIVE SPECIES) 13.68 FQAI (ALL SPECIES) ADJUSTED FQAI % C VALUE 0 % C VALUE 1-3 11.66 23.81 0.45 0.18 % C VALUE 4-6 % C VALUE 7-10 0.33 0.03

| METRICS | |
|------------------|-------|
| SPECIES RICHNESS | |
| (ALL) | 33 |
| SPECIES RICHNESS | |
| (NATIVE) | 24 |
| % NON-NATIVE | 0.27 |
| WET INDICATOR | |
| (ALL) | -0.18 |
| | |
| WET INDICATOR | |
| (NATIVE) | -0.21 |
| % HYDROPHYTE | |
| (MIDWEST) | 0.67 |
| % NATIVE | |
| PERENNIAL | 0.52 |
| % NATIVE ANNUAL | 0.09 |
| % ANNUAL | 0.09 |
| % PERENNIAL | 0.76 |

| SPECIES ACRONYM | SPECIES NAME (NWPL/ MOHLENBROCK) | SPECIES (SYNONYM) | COMMON NAME | C VALUE | MIDWEST WET INDICATOR | HABIT | DURATION | NATIVITY |
|--------------------|--|------------------------------------|------------------------------|---------|-----------------------------|-------|-----------|-----------|
| achmil | Achillea millefolium | ACHILLEA MILLEFOLIUM | Common Yarrow | 0 | FACU | Forb | Perennial | Adventive |
| agralb | Agrostis gigantea | AGROSTIS ALBA | Red Top | 0 | FACW | Grass | Perennial | Adventive |
| andger | Andropogon gerardii | Andropogon gerardii | Big Bluestem | 5 | FAC | Grass | Perennial | Native |
| artvul | Artemisia vulgaris | ARTEMISIA VULGARIS | Common Mugwort | 0 | UPL | Forb | Perennial | Adventive |
| ascsyr | Asclepias syriaca | Asclepias syriaca | Common Milkweed | 0 | FACU | Forb | Perennial | Native |
| cirdis | Cirsium discolor | Cirsium discolor | Field Thistle | 2 | FACU | Forb | Biennial | Native |
| cypstr | Cyperus strigosus | Cyperus strigosus | Straw-Color Flat Sedge | 1 | FACW | Sedge | Perennial | Native |
| daucar | Daucus carota | DAUCUS CAROTA | Queen Anne's Lace | 0 | UPL | Forb | Biennial | Adventive |
| eriann | Erigeron annuus | Erigeron annuus | Eastern Daisy Fleabane | 0 | FACU | Forb | Biennial | Native |
| erican | Erigeron canadensis | Erigeron canadensis | Canadian Horseweed | 0 | FACU | Forb | Annual | Native |
| eupalt | Eupatorium altissimum | Eupatorium altissimum | Tall Boneset | 0 | UPL | Forb | Perennial | Native |
| eupper | Eupatorium perfoliatum | Eupatorium perfoliatum | Common Boneset | 4 | OBL | Forb | Perennial | Native |
| solgra | Euthamia graminifolia | Solidago graminifolia nuttallii | Flat-Top Goldentop | 4 | FACW | Forb | Perennial | Native |
| rhafra | Frangula alnus | RHAMNUS FRANGULA | Glossy Buckthorn | 0 | FACW | Shrub | Perennial | Adventive |
| helgro | Helianthus grosseserratus | Helianthus grosseserratus | Saw-Tooth Sunflower | 2 | FACW | Forb | Perennial | Native |
| hyppun | Hypericum punctatum | Hypericum punctatum | Spotted St. John's- Wort | 4 | FAC | Forb | Perennial | Native |
| jundud | Juncus dudleyi | Juncus dudleyi | Dudley's Rush | 4 | FACW | Forb | Perennial | Native |
| juntor | Juncus torreyi | Juncus torreyi | Torrey's Rush | 4 | FACW | Forb | Perennial | Native |
| laccan | Lactuca canadensis | Lactuca canadensis | Canadian Blue Lettuce | 2 | FACU | Forb | Biennial | Native |
| lycame | Lycopus americanus | Lycopus americanus | Cut-Leaf Water- Horehound | 5 | OBL | Forb | Perennial | Native |
| lytsal | Lythrum salicaria | LYTHRUM SALICARIA | Purple Loosestrife | 0 | OBL | Forb | Perennial | Adventive |
| muhglo | Muhlenbergia glomerata | Muhlenbergia glomerata | Spiked Muhly | 10 | FACW | Grass | Perennial | Native |
| oenbie | Oenothera biennis | Oenothera biennis | Evening Primrose | 0 | FACU | Forb | Biennial | Native |
| pancap | Panicum capillare | Panicum capillare | Common Panic Grass | 1 | FAC | Grass | Annual | Native |

| SPECIES ACRONYM | SPECIES NAME (NWPL/ MOHLENBROCK) | SPECIES (SYNONYM) | COMMON NAME | C VALUE | MIDWEST WET INDICATOR | HABIT | DURATION | NATIVITY |
|--------------------|--|-------------------------|----------------------|---------|-----------------------------|-------|-----------|-----------|
| pandic | Panicum dichotomiflorum | Panicum dichotomiflorum | Fall Panic Grass | 0 | FACW | Grass | Annual | Native |
| panvir | Panicum virgatum | Panicum virgatum | Switch Grass | 5 | FAC | Grass | Perennial | Native |
| pendig | Penstemon digitalis | Penstemon digitalis | Foxglove Beardtongue | 4 | FAC | Forb | Perennial | Native |
| phrausu | Phragmites australis ssp. australis | Phragmites australis | Common Reed | 0 | FACW | Grass | Perennial | Adventive |
| scipen | Scirpus pendulus | Scirpus pendulus | Rufous Bulrush | 4 | OBL | Sedge | Perennial | Native |
| soldul | Solanum dulcamara | SOLANUM DULCAMARA | Climbing Nightshade | 0 | FAC | Vine | Perennial | Adventive |
| solsem | Solidago sempervirens | SOLIDAGO SEMPERVIRENS | Seaside Goldenrod | 0 | FACW | Forb | Perennial | Adventive |
| traohi | Tradescantia ohiensis | Tradescantia ohiensis | Spiderwort | 2 | FACU | Forb | Perennial | Native |
| verhas | Verbena hastata | Verbena hastata | Blue Vervain | 4 | FACW | Forb | Perennial | Native |

| BASED | |
|------------------|-------|
| METRICS | |
| MEAN C | |
| (NATIVE SPECIES) | 2.43 |
| MEAN C | |
| (ALL SPECIES) | 1.21 |
| MEAN C | |
| (NATIVE TREES) | 2.00 |
| MEAN C | |
| (NATIVE SHRUBS) | 1.00 |
| MEAN C | |
| (NATIVE | |
| HERBACEOUS) | 2.67 |
| FQAI | |
| (NATIVE SPECIES) | 6.43 |
| FQAI | |
| (ALL SPECIES) | 4.54 |
| ADJUSTED FQAI | 17.17 |
| % C VALUE 0 | 0.57 |
| % C VALUE 1-3 | 0.21 |
| % C VALUE 4-6 | 0.21 |
| % C VALUE 7-10 | 0.00 |

| 14 |
|-------|
| |
| 7 |
| |
| 0.50 |
| |
| -0.21 |
| |
| |
| -0.57 |
| |
| 0.79 |
| |
| 0.36 |
| 0.14 |
| 0.14 |
| 0.79 |
| |

| | SPECIES NAME | | | | MIDWEST | | | |
|---------|---------------------------|-----------------------|---------------------|---------|-----------|-------|-----------|-----------|
| SPECIES | (NWPL/ | SPECIES | COMMON | | WET | | | |
| ACRONYM | MOHLENBROCK) | (SYNONYM) | NAME | C VALUE | INDICATOR | HABIT | DURATION | NATIVITY |
| ambtri | Ambrosia trifida | Ambrosia trifida | Great Ragweed | 0 | FAC | Forb | Annual | Native |
| cirarv | Cirsium arvense | CIRSIUM ARVENSE | Canadian Thistle | 0 | FACU | Forb | Perennial | Adventive |
| diplac | Dipsacus laciniatus | DIPSACUS LACINIATUS | Cut-Leaf Teasel | 0 | UPL | Forb | Biennial | Adventive |
| echlob | Echinocystis lobata | Echinocystis lobata | Wild Cucumber | 5 | FACW | Vine | Annual | Native |
| | | | Climbing Black- | | | | | |
| polsca | Fallopia scandens | Polygonum scandens | Bindweed | 1 | FAC | Vine | Perennial | Native |
| jundud | Juncus dudleyi | Juncus dudleyi | Dudley's Rush | 4 | FACW | Forb | Perennial | Native |
| juntor | Juncus torreyi | Juncus torreyi | Torrey's Rush | 4 | FACW | Forb | Perennial | Native |
| lytsal | Lythrum salicaria | LYTHRUM SALICARIA | Purple Loosestrife | 0 | OBL | Forb | Perennial | Adventive |
| | Phragmites australis ssp. | | | | | | | |
| phrausu | australis | Phragmites australis | Common Reed | 0 | FACW | Grass | Perennial | Adventive |
| popdel | Populus deltoides | Populus deltoides | Eastern Cottonwood | 2 | FAC | Tree | Perennial | Native |
| salfra | Salix fragilis | SALIX FRAGILIS | Crack Willow | 0 | UPL | Tree | Perennial | Adventive |
| salint | Salix interior | Salix interior | Sandbar Willow | 1 | FACW | Shrub | Perennial | Native |
| soldul | Solanum dulcamara | SOLANUM DULCAMARA | Climbing Nightshade | 0 | FAC | Vine | Perennial | Adventive |
| solsem | Solidago sempervirens | SOLIDAGO SEMPERVIRENS | Seaside Goldenrod | 0 | FACW | Forb | Perennial | Adventive |

| BASED | |
|------------------|------|
| METRICS | |
| MEAN C | |
| (NATIVE SPECIES) | 0.83 |
| MEAN C | |
| (ALL SPECIES) | 0.45 |
| MEAN C | |
| (NATIVE TREES) | 1.00 |
| MEAN C | |
| (NATIVE SHRUBS) | n/a |
| MEAN C | |
| (NATIVE | |
| HERBACEOUS) | 0.33 |
| FQAI | |
| (NATIVE SPECIES) | 2.04 |
| FQAI | |
| (ALL SPECIES) | 1.51 |
| ADJUSTED FQAI | 6.15 |
| % C VALUE 0 | 0.73 |
| % C VALUE 1-3 | 0.27 |
| % C VALUE 4-6 | 0.00 |
| % C VALUE 7-10 | 0.00 |

| METRICS | |
|------------------|-------|
| SPECIES RICHNESS | |
| (ALL) | 11 |
| SPECIES RICHNESS | |
| (NATIVE) | 6 |
| | |
| % NON-NATIVE | 0.45 |
| WET INDICATOR | |
| (ALL) | -0.18 |
| | |
| WET INDICATOR | |
| (NATIVE) | 0.00 |
| % HYDROPHYTE | |
| (MIDWEST) | 0.82 |
| % NATIVE | |
| PERENNIAL | 0.36 |
| % NATIVE ANNUAL | 0.18 |
| % ANNUAL | 0.18 |
| % PERENNIAL | 0.82 |
| | |

| | SPECIES NAME | | | | MIDWEST | | | |
|---------|---------------------------|----------------------|----------------------|---------|-----------|-------|-----------|-----------|
| SPECIES | (NWPL/ | SPECIES | COMMON | | WET | | | |
| ACRONYM | MOHLENBROCK) | (SYNONYM) | NAME | C VALUE | INDICATOR | HABIT | DURATION | NATIVITY |
| | | Acer negundo var. | | | | | | |
| aceneg | Acer negundo | violaceum | Box Elder | 0 | FAC | Tree | Perennial | Native |
| ambtri | Ambrosia trifida | Ambrosia trifida | Great Ragweed | 0 | FAC | Forb | Annual | Native |
| consep | Calystegia sepium | Convolvulus sepium | Hedge False Bindweed | 1 | FAC | Forb | Perennial | Native |
| erican | Erigeron canadensis | Erigeron canadensis | Canadian Horseweed | 0 | FACU | Forb | Annual | Native |
| lytsal | Lythrum salicaria | LYTHRUM SALICARIA | Purple Loosestrife | 0 | OBL | Forb | Perennial | Adventive |
| moralb | Morus alba | MORUS ALBA | White Mulberry | 0 | FAC | Tree | Perennial | Adventive |
| phaaru | Phalaris arundinacea | PHALARIS ARUNDINACEA | Reed Canary Grass | 0 | FACW | Grass | Perennial | Adventive |
| | Phragmites australis ssp. | | | | | | | |
| phrausu | australis | Phragmites australis | Common Reed | 0 | FACW | Grass | Perennial | Adventive |
| popdel | Populus deltoides | Populus deltoides | Eastern Cottonwood | 2 | FAC | Tree | Perennial | Native |
| salfra | Salix fragilis | SALIX FRAGILIS | Crack Willow | 0 | UPL | Tree | Perennial | Adventive |
| vitrip | Vitis riparia | Vitis riparia | River-Bank Grape | 2 | FACW | Vine | Perennial | Native |

| SITE: | Wetland 10 - CTA Red Line Extension |
|---------|-------------------------------------|
| LOCALE: | Lake Calumet |
| BY: | J Mengler |
| DATE: | 8/13/2015 |

BASED METRICS MEAN C (NATIVE SPECIES) 1.50 MEAN C (ALL SPECIES) 0.75 MEAN C (NATIVE TREES) 1.50 MEAN C (NATIVE SHRUBS) n/a MEAN C (NATIVE , HERBACEOUS) 1.00 FQAI (NATIVE SPECIES) 3.00 FQAI ALL SPECIES) ADJUSTED FQAI & C VALUE 0 2.12 10.61 0.50 % C VALUE 1-3 % C VALUE 4-6 0.50 0.00 % C VALUE 7-10 0.00

| METRICS | |
|------------------|-------|
| SPECIES RICHNESS | |
| (ALL) | 8 |
| SPECIES RICHNESS | |
| (NATIVE) | 4 |
| | |
| % NON-NATIVE | 0.50 |
| WET INDICATOR | |
| (ALL) | -0.13 |
| | |
| WET INDICATOR | |
| (NATIVE) | -0.25 |
| % HYDROPHYTE | |
| (MIDWEST) | 0.63 |
| % NATIVE | |
| PERENNIAL | 0.50 |
| % NATIVE ANNUAL | 0.00 |
| % ANNUAL | 0.00 |
| % PERENNIAL | 0.88 |

| | SPECIES NAME | | | | MIDWEST | | | |
|---------|---------------------------|------------------------|--------------------|---------|-----------|-------|-----------|-----------|
| SPECIES | (NWPL/ | SPECIES | COMMON | | WET | | | |
| ACRONYM | MOHLENBROCK) | (SYNONYM) | NAME | C VALUE | INDICATOR | HABIT | DURATION | NATIVITY |
| arcmin | Arctium minus | ARCTIUM MINUS | Lesser Burrdock | 0 | FACU | Forb | Biennial | Adventive |
| artvul | Artemisia vulgaris | ARTEMISIA VULGARIS | Common Mugwort | 0 | UPL | Forb | Perennial | Adventive |
| | | Fraxinus pennsylvanica | | | | | | |
| frapen | Fraxinus pennsylvanica | subintegerrima | Green Ash | 1 | FACW | Tree | Perennial | Native |
| lytsal | Lythrum salicaria | LYTHRUM SALICARIA | Purple Loosestrife | 0 | OBL | Forb | Perennial | Adventive |
| | Phragmites australis ssp. | | | | | | | |
| phrausu | australis | Phragmites australis | Common Reed | 0 | FACW | Grass | Perennial | Adventive |
| popdel | Populus deltoides | Populus deltoides | Eastern Cottonwood | 2 | FAC | Tree | Perennial | Native |
| solalt | Solidago altissima | Solidago altissima | Tall Goldenrod | 1 | FACU | Forb | Perennial | Native |
| vitrip | Vitis riparia | Vitis riparia | River-Bank Grape | 2 | FACW | Vine | Perennial | Native |

CONSERVATISM-BASED

METRICS

| MEAN C | |
|------------------|-------|
| (NATIVE SPECIES) | 2.00 |
| | |
| MEAN C | |
| (ALL SPECIES) | 1.00 |
| MEAN C | |
| (NATIVE TREES) | 2.00 |
| MEAN C | |
| (NATIVE SHRUBS) | n/a |
| MEAN C | |
| (NATIVE | |
| HERBACEOUS) | n/a |
| FQAI | |
| (NATIVE SPECIES) | 2.83 |
| FQAI | |
| (ALL SPECIES) | 2.00 |
| ADJUSTED FQAI | 14.14 |
| % C VALUE 0 | 0.50 |
| % C VALUE 1-3 | 0.50 |
| % C VALUE 4-6 | 0.00 |
| % C VALUE 7-10 | 0.00 |

| METRICS | |
|------------------------------|-------|
| SPECIES RICHNESS (ALL) | 4 |
| SPECIES RICHNESS (NATIVE) | 2 |
| % NON-NATIVE | 0.50 |
| WET INDICATOR (ALL) | -1.00 |
| WET INDICATOR (NATIVE) | -0.50 |
| % HYDROPHYTE (MIDWEST) | 1.00 |
| % NATIVE PERENNIAL | 0.50 |
| % NATIVE ANNUAL % ANNUAL | 0.00 |
| % PERENNIAL | 1.00 |

| SPECIES | SPECIES NAME | SPECIES | COMMON | | MIDWEST WET | | | |
|---------|---------------------------|----------------------|--------------------|---------|-------------|-------|-----------|-----------|
| ACRONYM | (NWPL/ | (SYNONYM) | NAME | C VALUE | INDICATOR | HABIT | DURATION | NATIVITY |
| lytsal | Lythrum salicaria | LYTHRUM SALICARIA | Purple Loosestrife | 0 | OBL | Forb | Perennial | Adventive |
| | Phragmites australis ssp. | | | | | | | |
| phrausu | australis | Phragmites australis | Common Reed | 0 | FACW | Grass | Perennial | Adventive |
| | | | | | | | | |
| popdel | Populus deltoides | Populus deltoides | Eastern Cottonwood | 2 | FAC | Tree | Perennial | Native |
| vitrip | Vitis riparia | Vitis riparia | River-Bank Grape | 2 | FACW | Vine | Perennial | Native |

CONSERVATISM-BASED

METRICS

| MEAN C (NATIVE SPECIES) | 1.50 |
|----------------------------|-------|
| , , | |
| MEAN C | |
| (ALL SPECIES) | 0.67 |
| MEAN C | |
| (NATIVE TREES) | 1.50 |
| MEAN C | |
| (NATIVE SHRUBS) | 0.00 |
| MEAN C | |
| (NATIVE | |
| HERBACEOUS) | 1.00 |
| FQAI | |
| (NATIVE SPECIES) | 3.00 |
| FQAI | |
| (ALL SPECIES) | 2.00 |
| ADJUSTED FQAI | 10.00 |
| % C VALUE 0 | 0.56 |
| % C VALUE 1-3 | 0.44 |
| % C VALUE 4-6 | 0.00 |
| % C VALUE 7-10 | 0.00 |

| METRICS | |
|---------------------------|-------|
| SPECIES RICHNESS (ALL) | 9 |
| | |
| SPECIES RICHNESS | |
| (NATIVE) | 4 |
| % NON-NATIVE | 0.56 |
| WET INDICATOR (ALL) | -0.11 |
| WET INDICATOR (NATIVE) | -0.25 |
| % HYDROPHYTE (MIDWEST) | 0.67 |
| % NATIVE | |
| PERENNIAL | 0.44 |
| % NATIVE ANNUAL | 0.00 |
| % ANNUAL | 0.00 |
| % PERENNIAL | 0.89 |

| | SPECIES NAME | | | | | | | |
|---------|--|--|--------------------|---------|-------------|-------|-----------|-----------|
| SPECIES | (NWPL/ | SPECIES | COMMON | | MIDWEST WET | | | |
| ACRONYM | MOHLENBROCK) | (SYNONYM) | NAME | C VALUE | INDICATOR | HABIT | DURATION | NATIVITY |
| arcmin | Arctium minus | ARCTIUM MINUS | Lesser Burrdock | 0 | FACU | Forb | Biennial | Adventive |
| artvul | Artemisia vulgaris | ARTEMISIA VULGARIS | Common Mugwort | 0 | UPL | Forb | Perennial | Adventive |
| Frapen | Fraxinus pennsylvanica | Fraxinus pennsylvanica subintegerrima | Green Ash | 1 | FACW | Tree | Perennial | Native |
| lytsal | Lythrum salicaria | LYTHRUM SALICARIA | Purple Loosestrife | 0 | OBL | Forb | Perennial | Adventive |
| phrausu | Phragmites australis ssp. australis | Phragmites australis | Common Reed | 0 | FACW | Grass | Perennial | Adventive |
| popdel | Populus deltoides | Populus deltoides | Eastern Cottonwood | 2 | FAC | Tree | Perennial | Native |
| rhacat | Rhamnus cathartica | RHAMNUS CATHARTICA | European Buckthorn | 0 | FAC | Shrub | Perennial | Adventive |
| solalt | Solidago altissima | Solidago altissima | Tall Goldenrod | 1 | FACU | Forb | Perennial | Native |
| vitrip | Vitis riparia | Vitis riparia | River-Bank Grape | 2 | FACW | Vine | Perennial | Native |

CONSERVATISM-BASED METRICS

MEAN C (NATIVE SPECIES) 1.17 MEAN C (ALL SPECIES) 0.78 MEAN C (NATIVE TREES) 1.00 MEAN C (NATIVE SHRUBS) 1.00 MEAN C (NATIVE HERBACEOUS) 1.00 FQAI (NATIVE SPECIES) 2.86 FQAI (ALL SPECIES) 2.33 ADJUSTED FQAI 9.53 % C VALUE 0 0.44 % C VALUE 1-3 0.56 % C VALUE 4-6 % C VALUE 7-10 0.00 0.00

| METRICS | |
|------------------------------|-------|
| SPECIES RICHNESS (ALL) | 9 |
| SPECIES RICHNESS (NATIVE) | 6 |
| % NON-NATIVE | 0.33 |
| WET INDICATOR (ALL) | -0.67 |
| WET INDICATOR (NATIVE) | -0.17 |
| % HYDROPHYTE (MIDWEST) | 0.89 |
| % NATIVE PERENNIAL | 0.67 |
| % NATIVE ANNUAL | 0.00 |
| % ANNUAL % PERENNIAL | 0.00 |

| | SPECIES NAME | | | | | | | | |
|---------|-----------------------------------|----------------------|----------------------|---------|-------------|-------|-----------|-----------|--|
| SPECIES | (NWPL/ | SPECIES | COMMON | | MIDWEST WET | | | | |
| ACRONYM | MOHLENBROCK) | (SYNONYM) | NAME | C VALUE | INDICATOR | HABIT | DURATION | NATIVITY | |
| | | Acer negundo var. | | | | | | | |
| aceneg | Acer negundo | violaceum | Box Elder | 0 | FAC | Tree | Perennial | Native | |
| | | | Hedge False | | | | | | |
| consep | Calystegia sepium | Convolvulus sepium | Bindweed | 1 | FAC | Forb | Perennial | Native | |
| lytsal | Lythrum salicaria | LYTHRUM SALICARIA | Purple Loosestrife | 0 | OBL | Forb | Perennial | Adventive | |
| | Phragmites australis ssp. | | | | | | | | |
| phrausu | australis | Phragmites australis | Common Reed | 0 | FACW | Grass | Perennial | Adventive | |
| popdel | Populus deltoides | Populus deltoides | Eastern Cottonwood | 2 | FAC | Tree | Perennial | Native | |
| samcan | Sambucus nigra ssp. canadensis | Sambucus canadensis | Black Elderberry | 1 | FACW | Shrub | Perennial | Native | |
| solalt | Solidago altissima | Solidago altissima | Tall Goldenrod | 1 | FACU | Forb | Perennial | Native | |
| typang | Typha angustifolia | Typha angustifolia | Narrow-Leaf Cat-Tail | 0 | OBL | Forb | Perennial | Adventive | |
| vitrip | Vitis riparia | Vitis riparia | River-Bank Grape | 2 | FACW | Vine | Perennial | Native | |

CONSERVATISM-BASED

METRICS

| MEAN C | |
|------------------|-------|
| (NATIVE SPECIES) | 1.33 |
| | |
| MEAN C | |
| (ALL SPECIES) | 0.86 |
| MEAN C | |
| (NATIVE TREES) | 1.67 |
| MEAN C | |
| (NATIVE SHRUBS) | 0.00 |
| MEAN C | |
| (NATIVE | |
| HERBACEOUS) | 1.00 |
| FQAI | |
| (NATIVE SPECIES) | 4.00 |
| FQAI | |
| (ALL SPECIES) | 3.21 |
| ADJUSTED FQAI | 10.69 |
| % C VALUE 0 | 0.50 |
| % C VALUE 1-3 | 0.50 |
| % C VALUE 4-6 | 0.00 |
| % C VALUE 7-10 | 0.00 |

| METRICS | |
|------------------------------|-------|
| SPECIES RICHNESS (ALL) | 14 |
| SPECIES RICHNESS (NATIVE) | 9 |
| % NON-NATIVE | 0.36 |
| WET INDICATOR (ALL) | -0.29 |
| WET INDICATOR (NATIVE) | -0.44 |
| % HYDROPHYTE (MIDWEST) | 0.79 |
| % NATIVE PERENNIAL | 0.57 |
| % NATIVE ANNUAL % ANNUAL | 0.07 |
| % PERENNIAL | 0.86 |

| SPECIES ACRONYM | SPECIES NAME (NWPL/ MOHLENBROCK) | SPECIES (SYNONYM) | COMMON NAME | C VALUE | MIDWEST WET INDICATOR | HABIT | DURATION | NATIVITY | |
|--------------------|--|--------------------------------|---------------------|---------|--------------------------|-------|-----------|-----------|--|
| aceneg | Acer negundo | Acer negundo var. violaceum | Box Elder | 0 | FAC | Tree | Perennial | Native | |
| aceneg | Acer negunuo | violaceum | DOX LIGEI | 0 | TAC | nee | Ferennia | INALIVE | |
| ambtri | Ambrosia trifida | Ambrosia trifida | Great Ragweed | 0 | FAC | Forb | Annual | Native | |
| arcmin | Arctium minus | ARCTIUM MINUS | Lesser Burrdock | 0 | FACU | Forb | Biennial | Adventive | |
| | | | Hedge False | | | | | | |
| consep | Calystegia sepium | Convolvulus sepium | Bindweed | 1 | FAC | Forb | Perennial | Native | |
| phaaru | aaru Phalaris arundinacea PHALARIS ARUNDINACE. | | Reed Canary Grass | 0 | FACW | Grass | Perennial | Adventive | |
| phrausu | Phragmites australis ssp. australis | Phragmites australis | Common Reed | 0 | FACW | Grass | Perennial | Adventive | |
| popdel | Populus deltoides | Populus deltoides | Eastern Cottonwood | 2 | FAC | Tree | Perennial | Native | |
| rhacat | Rhamnus cathartica | RHAMNUS CATHARTICA | European Buckthorn | 0 | FAC | Shrub | Perennial | Adventive | |
| solalt | Solidago altissima | Solidago altissima | Tall Goldenrod | 1 | FACU | Forb | Perennial | Native | |
| sonuli | Sonchus arvensis ssp. uliginosus | SONCHUS ULIGINOSUS | Field Sow-Thistle | 0 | FACU | Forb | Perennial | Adventive | |
| typlat | Typha latifolia | Typha latifolia | Broad-Leaf Cat-Tail | 1 | OBL | Forb | Perennial | Native | |
| ulmame | Ulmus americana | Ulmus americana | American Elm | 3 | FACW | Tree | Perennial | Native | |
| urtpro | Urtica dioica ssp. gracilis | Urtica procera | Tall Nettle | 2 | FACW | Forb | Perennial | Native | |
| vitrip | Vitis riparia | Vitis riparia | River-Bank Grape | 2 | FACW | Vine | Perennial | Native | |

CONSERVATISM-BASED

METRICS

| MEAN C (NATIVE SPECIES) | 1.00 |
|----------------------------|------|
| | |
| MEAN C | |
| (ALL SPECIES) | 0.50 |
| MEAN C | |
| (NATIVE TREES) | 0.00 |
| MEAN C | |
| (NATIVE SHRUBS) | 0.00 |
| MEAN C | |
| (NATIVE | |
| HERBACEOUS) | 1.00 |
| FQAI | |
| (NATIVE SPECIES) | 2.00 |
| FQAI | 2.00 |
| (ALL SPECIES) | 1.41 |
| ADJUSTED FQAI | 7.07 |
| % C VALUE 0 | 0.63 |
| % C VALUE 1-3 | 0.38 |
| % C VALUE 4-6 | 0.00 |
| % C VALUE 7-10 | 0.00 |

| METRICS | |
|------------------------------|-------|
| SPECIES RICHNESS (ALL) | 8 |
| SPECIES RICHNESS | |
| (NATIVE) | 4 |
| % NON-NATIVE | 0.50 |
| WET INDICATOR (ALL) | -0.63 |
| WET INDICATOR (NATIVE) | 0.00 |
| % HYDROPHYTE (MIDWEST) | 0.88 |
| % NATIVE | 0.50 |
| PERENNIAL % NATIVE ANNUAL | 0.50 |
| % ANNUAL | 0.00 |
| % PERENNIAL | 1.00 |

| SPECIES ACRONYM | SPECIES NAME (NWPL/ MOHLENBROCK) | SPECIES (SYNONYM) | COMMON NAME | C VALUE | MIDWEST WET | HABIT | DURATION | NATIVITY |
|--------------------|--|----------------------|----------------------|---------|-------------|-------|-----------|-----------|
| | | Acer negundo var. | | | | | | |
| aceneg | Acer negundo | violaceum | Box Elder | 0 | FAC | Tree | Perennial | Native |
| | | | Hedge False | | | | | |
| consep | Calystegia sepium | Convolvulus sepium | Bindweed | 1 | FAC | Forb | Perennial | Native |
| lytsal | Lythrum salicaria | LYTHRUM SALICARIA | Purple Loosestrife | 0 | OBL | Forb | Perennial | Adventive |
| phrausu | Phragmites australis ssp. australis | Phragmites australis | Common Reed | 0 | FACW | Grass | Perennial | Adventive |
| rhacat | Rhamnus cathartica | RHAMNUS CATHARTICA | European Buckthorn | 0 | FAC | Shrub | Perennial | Adventive |
| solalt | Solidago altissima | Solidago altissima | Tall Goldenrod | 1 | FACU | Forb | Perennial | Native |
| typang | Typha angustifolia | Typha angustifolia | Narrow-Leaf Cat-Tail | 0 | OBL | Forb | Perennial | Adventive |
| vitrip | Vitis riparia | Vitis riparia | River-Bank Grape | 2 | FACW | Vine | Perennial | Native |

Project Number: 15-0218



Project Name: CTA Red Line Extension

Exhibit Title: Exhibit: Urisdictional Data Forms #9

15-0218 CDM-Smith -- CTA Red Line Extension

| Project/Site Lake Calumet CTA Red Line Extension | City/ | County: | Cook | Sampling | Date: | 8/13/2015 | |
|--|---------------------|---------------------|---------------------|--|-------------------|-------------------|--|
| Applicant/Owner: CTA/MWRD | | State: | Illin | ois Sampling | Point: | 1 | |
| Investigator(s): J Mengler, V Mosca | | Se | ction, Towns | ship, Range: | T34N R14E | ₹14E S26 | |
| Landform (hillslope, terrace, etc.): di | tch | Loc | cal relief (cor | ncave, convex, none): | c | litch | |
| Slope (%): Lat: 41.66001 | 9 | Long: | -87.5954 | - I29 Datum: | | | |
| Soil Map Unit Name: urban land-orthents clayey com | plex, nearly | | | /I Classification: | non | e | |
| Are climatic/hydrologic conditions of the site typical for | | | Y (| If no, explain in remarks | | | |
| Are vegetation , soil Y , or hydro | oloav | significantly | | Y Are "normal circun | | | |
| Are vegetation , soil , or hydro | | | | N present? | istances | Y | |
| SUMMARY OF FINDINGS | | indication of pro- | | (If needed, explain | anv answer | | |
| Hydrophytic vegetation present? Y | | | | (| | , , | |
| Hydric soil present? | | Is the sa | mpled area | within a wetland? | Y | | |
| Wetland hydrology present? Y | | | • | — | etland 1 | _ | |
| | | - | | | | _ | |
| Remarks: (Explain alternative procedures here or in a | a separate r | eport.) | | | | | |
| Relied primarily upon vegetation and landsca | ape positio | on due to dry | time of se | ason, and mostly ur | banland/fill | for substrate. | |
| | - | | | | | | |
| VEGETATION Use scientific names of plan | | | | Deminence Test | Alexies best | | |
| <u>Tree Stratum</u> (Plot size: 9 m) | Absolute % Cover | Dominant Species | Indicator Status | Dominance Test | | | |
| 1 Populus deltoides | % Cover | Y | FAC | Number of Dominant Sp are OBL, FACW, or | | 5 (A) | |
| 2 Acer saccharinum | 20 | Y | FACW | | | <u> </u> | |
| 3 Ulmus americana | 5 | N | FACW | Total Number of Do Species Across all | | 5 (B) | |
| 4 | | | | Percent of Dominant Sp | | (2) | |
| 5 | | | | are OBL, FACW, or | | 00.00% (A/B) | |
| | 45 | = Total Cover | | | | | |
| Sapling/Shrub stratum (Plot size: 4.6 m |) | | | Prevalence Index | Worksheet | | |
| 1 Salix interior | 15 | Y | FACW | Total % Cover of: | | | |
| 2 Populus deltoides | 10 | Y | FAC | OBL species | 0 x 1 = | 0 | |
| 3 Fraxinus pennsylvanica | 5 | Ν | FACW | FACW species | 140 x 2 = | 280 | |
| 4 | | | | FAC species | 30 x 3 = | 90 | |
| 5 | | | | FACU species | 0 x 4 = | 0 | |
| | 30 | = Total Cover | | UPL species | 0 x 5 = | 0 | |
| Herb stratum (Plot size: 1 m sq |) | | 54014 | Column totals | 170 (A) | 370 (B) | |
| 1 Phragmites australis | 95 | Y | FACW | Prevalence Index : | = B/A = | 2.18 | |
| 23 | · | · | | Hydrophytic Vege | tation India | toro | |
| 3 4 | | · | | Rapid test for | | | |
| +5 | | · | | X Dominance tes | | Seculor | |
| 6 | | | | X Prevalence inc | | | |
| 7 | · | | | — | | <i>,</i> | |
| 8 | | | | Morphological supporting dat | | | |
| 9 | · | | | separate shee | | | |
| 10 | · | | | Problematic hy | /drophytic ve | getation* | |
| | 95 | = Total Cover | | (explain) | , , | - | |
| Woody vine stratum (Plot size: 1 m sq |) | | | *Indicators of hydric s | soil and wetland | hydrology must be | |
| 1 | · . <u></u> | | | | ss disturbed or p | | |
| 2 | | | | Hydrophytic | | | |
| | 0 | = Total Cover | | vegetation present? | Y | | |
| Domarka: (Includo aboto numboro baro or on a corre | rato abaat | | | prosenti | | | |
| Remarks: (Include photo numbers here or on a sepa | ale sileel) | | | | | | |
| | | | | | | | |

| SOIL | |
|------|--|
|------|--|

| Profile Des | cription: (Descr | ibe to th | ne depth needed | to docu | ument th | e indica | tor or confirm the abse | ence of indicators.) | |
|--|--|-----------|--------------------|-----------|---------------|-------------|----------------------------|--|--|
| Depth | <u>Matrix</u> | | | dox Feat | ures | | | | |
| (Inches) | Color (moist) | % | Color (moist) | % | Type* | Loc** | Texture | Remarks | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
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| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| *Type: C = 0 | Concentration, D | = Deplet | tion, RM = Reduc | ed Matri | ix, MS = | Masked | Sand Grains. **Loca | ation: PL = Pore Lining, M = Matrix | |
| Hydric So | il Indicators: | | | | | | Indicators for Prol | plematic Hydric Soils: | |
| Hist | isol (A1) | | Sar | ndy Gley | ed Matrix | (S4) | Coast Prairie R | edox (A16) (LRR K, L, R) | |
| | ic Epipedon (A2) | 1 | | ndy Redo | | · / | Dark Surface (| | |
| | ck Histic (A3) | | | - | atrix (S6) | | | at or Peat (S3) (LRR K, L, R) | |
| | lrogen Sulfide (A | 4) | | ••• | ky Miner | al (F1) | | e Masses (F12) (LRR K, L, R) | |
| | tified Layers (A5 | | | | ed Matri | . , | | ark Surface (TF12) | |
| | n Muck (A10) |) | | | atrix (F3) | . , | Other (explain i | | |
| | bleted Below Dark | k Surfac | | | Surface | | | in remainsy | |
| | | | · · · · | | | | | | |
| Thick Dark Surface (A12) Depleted Dark Surface (F7) Indicators of hydrophytic vegetation and v Sandy Mucky Mineral (S1) Redox Depressions (F8) hydrology must be present unless disturt | | | | | | | | | |
| | | | | | 63310113 | (10) | hydrology must | be present, unless disturbed or problematic | |
| | n Mucky Peat or | | <i>)</i>) | | | | | problematic | |
| | Layer (if observe | ed): | | | | | | -42 | |
| Type: gr Depth (inche | avel, ballast, fill es): not determ | nined | | | - | | Hydric soil prese | nt ? | |
| | | lineu | | | - | | | | |
| Remarks: | | | | | | | | | |
| Area ma | pped as urban | land, a | and located alo | ng road | d at bas | e of an | other road embankm | ent. Probe refusal within 2- | |
| | due to gravel | | | 5 | | | | | |
| | | | | | | | | | |
| HYDROLO | | | | | | | | | |
| - | drology Indicato | | a raquiradi abaak | all that | o o o o la vi | | Casandan da | | |
| - | cators (minimum | or one is | s required, check | | | | | dicators (minimum of two required) | |
| X Surface | | | | • | Fauna (B | | | e Soil Cracks (B6) | |
| | ter Table (A2) | | | | uatic Plar | . , | | ge Patterns (B10) | |
| Saturatio | | | | Hydroge | en Sulfide | Odor (C | | ason Water Table (C2) | |
| | arks (B1) | | | | d Rhizosp | heres on | | h Burrows (C8) | |
| X Sedimer | t Deposits (B2) | | | (C3) | | | | ion Visible on Aerial Imagery (C9) | |
| Drift Dep | oosits (B3) | | | Presenc | e of Redu | uced Iron | (C4) Stunted | l or Stressed Plants (D1) | |
| Algal Ma | t or Crust (B4) | | | Recent I | ron Redu | iction in T | illed Soils Geomo | rphic Position (D2) | |
| Iron Dep | osits (B5) | | | (C6) | | | FAC-N | eutral Test (D5) | |
| Inundatio | on Visible on Aeria | I Imager | y (B7) | Thin Mu | ck Surfac | e (C7) | | | |
| X Sparsely | Vegetated Conca | ve Surfa | ce (B8) | Gauge c | or Well Da | ata (D9) | | | |
| Water-S | tained Leaves (B9 |) | | Other (E | xplain in | Remarks |) | | |
| Field Obser | vations: | | | - | | | | | |
| Surface wat | • | Yes | No | Х | Depth (| , | | etland | |
| Water table | • | Yes | No No | Х | Depth (i | , | | drology | |
| Saturation p | pillary fringe) | Yes | X No | | Depth (i | ncnes). | <u> </u> | esent? Y | |
| | | am dauc | e monitoring we | ll aerial | photos | previous | inspections), if available | | |
| Becchiberet | | an gaag | jo, monitoring tro | ii, aonai | priotoo, | proviouo | nioposiono), n'avaliable | | |
| | | | | | | | | | |
| Remarks: | | | | | | | | | |
| | | | | | | | | | |
| Saturatio | on within ditch | channe | I lined by hydro | ophytes | 6. | | | | |

| Project/Site Lake Calumet CTA Red Line Extension | City/ | County: | Cook | sampling | Date: | 8/13/2015 | |
|--|--------------|--------------------|---------------------------------------|---------------------------------|--------------------------|---------------------|--|
| Applicant/Owner: CTA/MWRD | | State | e: Illir | nois Sampling | Point: | 2 | |
| Investigator(s): J Mengler, V Mosca | | | Section, Township, Range: T37N, R14 | | | 4E, S26 | |
| Landform (hillslope, terrace, etc.): dit | ch | I | Local relief (concave, convex, none): | | | ditch | |
| Slope (%): Lat: 41.690632 | 3 | Long: | | | | | |
| Soil Map Unit Name: urban land-orthents clayey comp | olex, nearly | | | VI Classification: | no | ne | |
| Are climatic/hydrologic conditions of the site typical for | - | | Y (| If no, explain in remarks | ;) | | |
| Are vegetation, soilY, or hydro | | | | Y Are "normal circum | | | |
| Are vegetation , soil , or hydro | | | | N present? | ISIGNCES | Y | |
| SUMMARY OF FINDINGS | | | | (If needed, explain | any answe | rs in remarks.) | |
| Hydrophytic vegetation present? Y | | | | · · · | | , | |
| Hydric soil present? | | Is the | sampled area | within a wetland? | Y | | |
| Wetland hydrology present? Y | | | - | tland site ID: We | | — | |
| | o oporato r | | | | | | |
| Remarks: (Explain alternative procedures here or in a | a separate r | eport.) | | | | | |
| Relied primarily upon vegetation and landsca | ipe positio | n due to d | dry time of se | eason, and mostly ur | banland/fi | I for substrate. | |
| VEGETATION Use scientific names of plar | nte | | | | | | |
| | Absolute | Dominon | t Indiactor | Dominance Test | Norksheet |] | |
| Tree Stratum (Plot size: 9 m) | % Cover | Dominan Species | | Number of Dominant Sp | | | |
| 1 | | · | | are OBL, FACW, or | | 1 (A) | |
| 2 | | | | Total Number of Do | minant – | | |
| 3 | | | | Species Across all | | 1 (B) | |
| 4 | | | | Percent of Dominant Sp | ecies that | | |
| 5 | | | | are OBL, FACW, or | FAC: | 100.00% (A/B) | |
| | 0 | = Total Cov | rer | | | | |
| Sapling/Shrub stratum (Plot size: 4.6 m |) | | | Prevalence Index | Worksheet | • | |
| 1 | | | | Total % Cover of: | 0 | 0 | |
| 2 | | | | OBL species FACW species | 0 x 1 = 95 x 2 = | | |
| 3 | | | | FAC species | $\frac{95}{0}$ x 2 = | | |
| 5 | | | | FACU species | $\frac{0}{0} \times 4 =$ | | |
| | 0 | = Total Cov | ver | UPL species | 0 x 5 = | | |
| Herb stratum (Plot size: 1 m sq |) | | | Column totals | 95 (A) | 190 (B) | |
| 1 Phragmites australis | 95 | Y | FACW | Prevalence Index : | = B/A = | 2.00 | |
| 2 | | | | | | | |
| 3 | | | | Hydrophytic Vege | etation Indic | ators: | |
| 4 | | | | Rapid test for I | | vegetation | |
| 5 | | | | X Dominance tes | | | |
| 6 | | | | X Prevalence inc | iex is ≤3.0* | | |
| / | | | | Morphological | • | | |
| 8 | | | | supporting dat separate shee | | s or on a | |
| 9 10 | | | | | | actation* | |
| | 95 | = Total Cov | ver | Problematic hy (explain) | | gelalion | |
| Woody vine stratum (Plot size: 1 m sq |) | | | *Indicators of hydric s | oil and water | d hydrology must be | |
| 1 | | | | | soil and wetlan | | |
| 2 | | | | Hydrophytic | | | |
| | 0 | = Total Cov | rer | vegetation present? | V | | |
| Demonstrati (Include altrata acceste an | ala chi O | | | present? | <u> </u> | | |
| Remarks: (Include photo numbers here or on a separ | ate sneet) | | | | | | |
| | | | | | | | |
| | | | | | | | |

| SOIL | |
|------|--|
|------|--|

| Profile Des | cription: (Descr | ibe to th | ne depth needed | to docu | iment th | e indica | tor or confirm the | absence of indicators.) | |
|--------------|---------------------|-----------|-------------------|------------------------|------------|------------|-----------------------|---|------|
| Depth | Matrix | | Rec | dox Feati | ures | | | | |
| (Inches) | Color (moist) | % | Color (moist) | % | Type* | Loc** | Texture | Remarks | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
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| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| *Type: C = C | Concentration, D | = Deplet | tion, RM = Reduc | ed Matri | x, MS = | Masked | Sand Grains. ** | Location: PL = Pore Lining, M = Ma | trix |
| | il Indicators: | | , | | , | | | Problematic Hydric Soils: | |
| • | tisol (A1) | | Sar | ndv Gleve | ed Matrix | (S4) | | rie Redox (A16) (LRR K, L, R) | |
| | tic Epipedon (A2) | | | ndy Redo | | (-) | | ce (S7) (LRR K, L) | |
| | ck Histic (A3) | | | pped Ma | | | | v Peat or Peat (S3) (LRR K, L, R) | |
| | Irogen Sulfide (A | 4) | | | ky Minera | al (E1) | | anese Masses (F12) (LRR K, L, R) | |
| | atified Layers (A5 | | | | ed Matrix | . , | | bw Dark Surface (TF12) | |
| | m Muck (A10) |) | | | | . , | | . , | |
| | | Curfoo | | | atrix (F3) | | | lain in remarks) | |
| | bleted Below Dark | | | | Surface | | | | |
| | ck Dark Surface (| | | | ark Surfa | | | f hydrophytic vegetation and wetlan | |
| | ndy Mucky Minera | • • | | lox Depr | essions | (F8) | hydrology m | nust be present, unless disturbed or | |
| | n Mucky Peat or | | 3) | | | | | problematic | |
| | Layer (if observ | ed): | | | | | | | |
| | avel, ballast, fill | in a d | | | | | Hydric soil p | resent? | |
| Depth (inche | es): not determ | linea | | | • | | | | |
| Remarks: | | | | | | | | | |
| Area ma | oped as urban | land, a | and located alo | na road | d at bas | e of an | other road embai | nkment. Probe refusal within | 2- |
| | due to gravel | | | 0 | | | | | |
| | | | | | | | | | |
| HYDROLO | | | | | | | | | |
| - | drology Indicato | | a required: abook | all that a | | | Casanda | n Indiantora (minimum of two roquir | e d' |
| - | cators (minimum | or one is | s required, check | | | | | ry Indicators (minimum of two requir | ea) |
| X Surface | | | | | Fauna (B | - | | Irface Soil Cracks (B6) | |
| | ter Table (A2) | | | | uatic Plar | | | ainage Patterns (B10) | |
| Saturatio | on (A3) | | | Hydroge | n Sulfide | Odor (C1 | l)Dr | y-Season Water Table (C2) | |
| Water M | larks (B1) | | | Oxidized | l Rhizosp | heres on | | ayfish Burrows (C8) | |
| X Sedimer | nt Deposits (B2) | | | (C3) | | | Sa | turation Visible on Aerial Imagery (C9) |) |
| Drift Dep | oosits (B3) | | | Presenc | e of Redu | iced Iron | (C4) Stu | unted or Stressed Plants (D1) | |
| Algal Ma | t or Crust (B4) | | | Recent I | ron Redu | ction in T | illed SoilsGe | eomorphic Position (D2) | |
| Iron Dep | osits (B5) | | | (C6) | | | FA | C-Neutral Test (D5) | |
| Inundatio | on Visible on Aeria | I Imager | y (B7) | Thin Mu | ck Surfac | e (C7) | | | |
| X Sparsely | Vegetated Conca | ve Surfa | ce (B8) | Gauge o | r Well Da | ata (D9) | | | |
| Water-S | tained Leaves (B9 |) | | Other (E | xplain in | Remarks |) | | |
| Field Obser | vations: | | | | | | | | |
| Surface wat | er present? | Yes | No | Х | Depth (i | nches): | 0-Jan | Wetland | |
| Water table | • | Yes | No | Х | Depth (i | | | hydrology | |
| Saturation p | | Yes | X No | | Depth (i | nches): | 0 | present? Y | |
| | pillary fringe) | am david | | ll aorial | nhotos - | arevieue | inspections), if avai | lable. | |
| Describe rec | | ann yaug | je, monitoring we | n, a c rial | μποιοs, | | mapecuona), il aval | | |
| | | | | | | | | | |
| Remarks: | | | | | | | | | |
| | | | | | | | | | |
| Saturatio | on within ditch | channe | I lined by hydro | ophytes | s. | | | | |

| Project/Site Lake Calumet CTA Red Line Extension | City/C | County: | Cook | i i i i i i i i i i i i i i i i i i i | Sampling Date: | 8/13/2015 | |
|---|---------------|----------------|------------------|---------------------------------------|--|------------------------|--|
| Applicant/Owner: CTA/MWRD | | Sta | te: Illir | ois | Sampling Point: 3 | | |
| Investigator(s): J Mengler, V Mosca | | | Section, Towns | ship, Range: | T37N, R14E, S26 | | |
| Landform (hillslope, terrace, etc.): dite | ch | | Local relief (co | ncave, conve | k, none): | ditch | |
| Slope (%): Lat: 41.660463 | 3 | Long: | -87.595 | 76 | Datum: | | |
| Soil Map Unit Name: urban land-orthents clayey comp | | | | VI Classificatio | on: | none | |
| Are climatic/hydrologic conditions of the site typical fo | | | | If no, explain | in remarks) | | |
| Are vegetation, soil Y, or hydrol | ogy | significa | ntly disturbed? | Y Are "nor | mal circumstances" | | |
| Are vegetation , soil , or hydrol | | | | N present? | | Y | |
| SUMMARY OF FINDINGS | ·· | - | | (If neede | ed, explain any ans | wers in remarks.) | |
| Hydrophytic vegetation present? Y | | | | | | | |
| Hydric soil present? | | Is the | e sampled area | within a wet | land? Y | | |
| Wetland hydrology present? Y | | | - | | Wetland 3 | | |
| Remarks: (Explain alternative procedures here or in a | senarate re | | | | | | |
| | i separate re | pon.) | | | | | |
| Relied primarily upon vegetation and landsca | pe positior | n due to | dry time of se | eason, and r | mostly urbanland | l/fill for substrate. | |
| VEGETATION Use scientific names of plan | its. | | | | | | |
| | Absolute | Domina | nt Indicator | Domina | nce Test Workshe | et | |
| Tree Stratum (Plot size: 9 m) | % Cover | Specie | | Number of D | ominant Species tha | t | |
| 1 | | | | | , FACW, or FAC: | 1 (A) | |
| 2 | | | | Total Nur | mber of Dominant | | |
| 3 | | | | Species | Across all Strata: | <u>1</u> (B) | |
| 4 | | | | | ominant Species tha | | |
| 5 | | | | are OBL | , FACW, or FAC: | <u>100.00%</u> (A/B) | |
| Copling/Chrub stratum (Plat size) 4.6 m | = | Total Co | ver | Dreveley | naa Inday Warkab | | |
| Sapling/Shrub stratum (Plot size: 4.6 m |) | | | | nce Index Worksh Cover of: | eet | |
| 2 | | | | OBL spe | | 1 = 10 | |
| 3 | | | | | pecies 95 x 2 | | |
| 4 | ······ | | | FAC spe | | 3 = 0 | |
| 5 | | | | FACU s | | 4 = 0 | |
| | 0 = | Total Co | ver | UPL spe | cies 0 x | 5 = 0 | |
| Herb stratum (Plot size: 1 m sq |) | | | Column | ` |) <u>200</u> (B) | |
| 1 Phragmites australis | 95 | Y | FACW | Prevaler | nce Index = B/A = | 1.90 | |
| 2 Lythrum salicaria | 10 | N | OBL | | | | |
| 3 | | | | | nytic Vegetation In | | |
| 4 | | | | | id test for hydrophy | • | |
| 5 6 | | | | | ninance test is >50% valence index is ≤3. | | |
| 7 | · | | | | | | |
| 8 | | | | | phological adaptation porting data in Rem | | |
| 9 | | | | | arate sheet) | | |
| 10 | | | | Prob | enatic hydrophytic | vegetation* | |
| | 105 = | Total Co | ver | (exp | | č | |
| Woody vine stratum (Plot size: 1 m sq |) | | | *Indicato | rs of hydric soil and we | land hydrology must be | |
| 1 | | | | | present, unless disturbed | d or problematic | |
| 2 | | - · · - | | - | rophytic etation | | |
| | 0 = | Total Co | ver | - | sent? Y | | |
| Remarks: (Include photo numbers here or on a separ | ate sheet) | | | 1 | | | |
| | , | | | | | | |
| | | | | | | | |

| SOIL | |
|------|--|
|------|--|

| Profile Des | cription: (Descr | ibe to th | ne depth needed | to docu | ument th | e indica | tor or confirm the abso | ence of indicators.) |
|----------------|---------------------|-------------------|-------------------|------------|------------|-------------|----------------------------|---|
| Depth | Matrix | | Rec | lox Feat | ures | | | |
| (Inches) | Color (moist) | % | Color (moist) | % | Type* | Loc** | Texture | Remarks |
| | | | | | | | | |
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| + T 0 0 | | | | | | | | |
| | | = Deplet | ion, RM = Reduc | ed Matri | x, MS = | Masked | | ation: PL = Pore Lining, M = Matrix |
| • | il Indicators: | | | | | | | plematic Hydric Soils: |
| | isol (A1) | | | | ed Matrix | (S4) | | edox (A16) (LRR K, L, R) |
| | ic Epipedon (A2) | | Sar | dy Redo | ox (S5) | | Dark Surface (| |
| Blac | ck Histic (A3) | | Stri | oped Ma | trix (S6) | | 5 cm Mucky Pe | at or Peat (S3) (LRR K, L, R) |
| Hyd | rogen Sulfide (A | 4) | Loa | my Mucł | ky Minera | al (F1) | Iron-Manganes | e Masses (F12) (LRR K, L, R) |
| Stra | atified Layers (A5 |) | Loa | my Gley | ed Matriz | x (F2) | Very Shallow D | ark Surface (TF12) |
| 2 cr | n Muck (A10) | | Dep | leted Ma | atrix (F3) |) | Other (explain | n remarks) |
| Dep | leted Below Darl | <pre>surfac</pre> | e (A11) Rec | lox Dark | Surface | (F6) | | |
| Thio | ck Dark Surface (| A12) | Dep | leted Da | ark Surfa | ce (F7) | *ledicaters of bur | |
| Sar | dy Mucky Minera | ul (S1) | Rec | lox Depr | essions | (F8) | | Irophytic vegetation and wetland be present, unless disturbed or |
| | n Mucky Peat or | | | • | | () | nyarology mast | problematic |
| | Layer (if observ | | / | | | | | |
| | avel, ballast, fill | eu). | | | | | Hydric soil prese | nt? |
| Depth (inche | | nined | | | | | Hydric son prese | |
| | | | | | | | | |
| Remarks: | | | | | | | | |
| Area ma | pped as urban | land, a | and located bet | ween g | ravel p | arking I | ot and gravel road. | Probe refusal within 2-4 |
| | ue to gravel ar | | | | | Ũ | 0 | |
| | - | | | | | | | |
| HYDROL | | | | | | | | |
| - | drology Indicato | | | | | | O a secondaria da | |
| | | of one is | s required; check | | | | | dicators (minimum of two required) |
| | Water (A1) | | | | Fauna (B | | | e Soil Cracks (B6) |
| · | ter Table (A2) | | | | uatic Plar | . , | | ge Patterns (B10) |
| Saturatio | on (A3) | | | Hydroge | n Sulfide | Odor (C1 | I) Dry-Se | ason Water Table (C2) |
| Water M | arks (B1) | | | Oxidized | l Rhizosp | heres on | Living Roots Crayfis | h Burrows (C8) |
| X Sedimer | t Deposits (B2) | | | (C3) | | | Saturat | ion Visible on Aerial Imagery (C9) |
| Drift Dep | oosits (B3) | | | Presenc | e of Redu | uced Iron | (C4) Stunted | or Stressed Plants (D1) |
| Algal Ma | t or Crust (B4) | | | Recent I | ron Redu | iction in T | illed Soils Geomo | rphic Position (D2) |
| Iron Dep | osits (B5) | | | (C6) | | | | eutral Test (D5) |
| | on Visible on Aeria | I Imager | / (B7) | Thin Mu | ck Surfac | e (C7) | | |
| | Vegetated Conca | | | | r Well Da | | | |
| | tained Leaves (B9 | | | | | Remarks |) | |
| Field Obser | • |) | | | | I CITIAI KS |) | |
| Surface wat | | Yes | No | Х | Depth (i | inches). | w | etland |
| Water table | • | Yes | No | X | Depth (i | , | | drology |
| Saturation p | • | Yes | X No | | Depth (i | , | | esent? Y |
| (includes ca | pillary fringe) | | | | - | | | |
| Describe red | corded data (strea | am gaug | e, monitoring we | ll, aerial | photos, | previous | inspections), if available | 2 |
| | | | | | | | | |
| Pomorkov | | | | | | | | |
| Remarks: | | | | | | | | |
| Contract. | المعاد مالاد ا | oI - | honneletter | | ا مرا اه | al le a -l | | |
| Saturatio | m within altch/ | swale | hannel at lowe | si poin | L III 10Ca | ai ianos | cape. | |

| Project/Site Lake Calumet CTA Red Line Extension | City/ | County: Cook | | | Sampling Date: 8/13/2015 | | |
|--|----------------|--------------|------------------|------------------|---|-----------------------|--|
| Applicant/Owner: CTA/MWRD | | Stat | e: Illir | nois | Sampling Point: | 4 | |
| Investigator(s): J Mengler, V Mosca | | | Section, Town | ship, Range: | e: T37N, R14E, S27 | | |
| Landform (hillslope, terrace, etc.): swale at t | oe of slope | _ | Local relief (co | ncave, conve | k, none): | swale | |
| Slope (%): Lat: 41.65964 | 1 | Long: | -87.599 | 965 | Datum: | | |
| Soil Map Unit Name: orthents, clayey undulating | | | | VI Classificatio | on: PFC |)1/EMCd | |
| Are climatic/hydrologic conditions of the site typical f | or this time c | of the year | | If no, explain | | | |
| Are vegetation , soil Y , or hydro | ology | significar | ntly disturbed? | Y Are "nor | mal circumstances" | | |
| Are vegetation , soil , or hydro | | | | N present? | | Y | |
| SUMMARY OF FINDINGS | | | | (If neede | ed, explain any ans | wers in remarks.) | |
| Hydrophytic vegetation present? Y | | | | | | | |
| Hydric soil present? | | Is the | sampled area | within a wet | land? Y | | |
| Wetland hydrology present? Y | | lf y | es, optional we | tland site ID: | Wetland 4 | | |
| Remarks: (Explain alternative procedures here or in | a senarate r | | | | | | |
| | | | | | | | |
| Relied primarily upon vegetation and landsc | ape positio | on due to | dry time of se | eason, and r | mostly urbanland | l/fill for substrate. | |
| VEGETATION Use scientific names of pla | nts. | | | | | | |
| | Absolute | Domina | nt Indicator | Domina | nce Test Workshe | et | |
| Tree Stratum (Plot size: 9 m) | % Cover | Species | | Number of D | ominant Species that | t | |
| 1 | . <u> </u> | | | are OBL | , FACW, or FAC: | 1 (A) | |
| 2 | | | | Total Nur | mber of Dominant | | |
| 3 | | | | Species | Across all Strata: | <u> </u> | |
| 4 | · | | | | ominant Species that | | |
| 5 | 0 | - Total Ca | | are OBL, | , FACW, or FAC: | <u>100.00%</u> (A/B) | |
| Sapling/Shrub stratum (Plot size: 4.6 m |) | = Total Co | vei | Provalo | nce Index Worksho | pot | |
| 1 | _) | | | | Cover of: | 561 | |
| 2 | | | | OBL spe | | 1 = 20 | |
| 3 | · | | | FACW s | | | |
| 4 | · | | | FAC spe | ecies 0 x 3 | 3 = 0 | |
| 5 | | | | FACU sp | pecies 0 x 4 | 4 = 0 | |
| | 0 | = Total Co | ver | UPL spe | ecies 0 x s | 5 = 0 | |
| Herb stratum (Plot size: 1 m sq |) | | | Column | | , ` , | |
| 1 Phragmites australis | 100 | Y | FACW | Prevaler | nce Index = B/A = | 1.83 | |
| 2 Lythrum salicaria | 20 | N | OBL | <u> </u> | | | |
| 3 | | | | | hytic Vegetation In | | |
| 45 | · | | | | id test for hydrophyt hinance test is >50% | - | |
| 6 | · | | | | alence index is ≤3.0 | | |
| 7 | | | | | | | |
| 8 | · | | | | phological adaptatic porting data in Rem | | |
| 9 | | | | | arate sheet) | | |
| 10 | | | | Prob | enatic hydrophytic | vegetation* | |
| | 120 | = Total Co | ver | (exp | lain) | | |
| Woody vine stratum (Plot size: 1 m sq 1 |) | | | | ors of hydric soil and wet present, unless disturbed | | |
| 2 | · | | | | rophytic | | |
| | 0 | = Total Co | ver | - | etation | | |
| | | | | pres | sent? Y | | |
| Remarks: (Include photo numbers here or on a sepa | rate sheet) | | | | | | |
| | | | | | | | |
| | | | | | | | |

| SOIL | |
|------|--|
|------|--|

| Profile Des | cription: (Descr | ibe to th | ne depth needed | to docu | ument th | e indica | tor or confir | m the abser | nce of indicators.) |
|---|--|---|-------------------|---|---|---|--|---|---|
| Depth | Matrix | Rec | lox Feat | ures | | | | - | |
| (Inches) | Color (moist) | % | Color (moist) | % | Type* | Loc** | Tex | ture | Remarks |
| | | | | | | | | | |
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| | | | | | | | | | |
| *Type: C = (| Concentration, D | = Deplet | ion RM = Reduc | ed Matri | x MS = | Masked | Sand Grains | **Locat | ion: PL = Pore Lining, M = Matrix |
| | bil Indicators: | Dopiot | | | х, шо | maonou | | | ematic Hydric Soils: |
| - | tisol (A1) | | Sar | dy Gleve | ed Matrix | (\$4) | | | dox (A16) (LRR K, L, R) |
| | tic Epipedon (A2) | | | idy Redo | | (04) | | | 7) (LRR K, L) |
| | | | | - | | | | | t or Peat (S3) (LRR K, L, R) |
| | ck Histic (A3) | 4) | | | itrix (S6) | | | • | |
| | Irogen Sulfide (A | | | - | ky Minera | | | - | Masses (F12) (LRR K, L, R) |
| | atified Layers (A5 |) | | | ed Matrix | | | - | rk Surface (TF12) |
| | m Muck (A10) | | | | atrix (F3) | | Oth | er (explain in | remarks) |
| | pleted Below Dark | | | | Surface | | | | |
| | ck Dark Surface (| | | | ark Surfa | | *Indic | ators of hydro | ophytic vegetation and wetland |
| Sar | ndy Mucky Minera | ıl (S1) | Rec | lox Depr | ressions | (F8) | hydr | ology must be | e present, unless disturbed or |
| 5 cr | m Mucky Peat or | Peat (S3 | 3) | | | | | | problematic |
| Restrictive | Layer (if observe | ed): | | | | | | | |
| | ravel, ballast, fill | | | | | | Hydric | : soil presen | t? |
| Depth (inche | es): not determ | nined | | | | | | | |
| Remarks: Area mapped as urban land, and located road and berm around sewage lagoons. | | | | | | | | | |
| Remarks: Area ma | pped as urban | land, a | and located roa | id and I | oerm ar | round se | ewage lago | oons. | |
| | | land, a | and located roa | id and I | oerm ar | ound se | ewage lago | oons. | |
| Area ma | | | and located roa | id and I | oerm ar | round se | ewage lago | oons. | |
| Area ma HYDROLO Wetland Hy | OGY | ors: | | | | ound se | | | cators (minimum of two required) |
| Area ma HYDROL(Wetland Hy Primary Indi | DGY drology Indicato | ors: | | all that a | | | | econdary Indi | <u>cators (minimum of two required)</u> Soil Cracks (B6) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface | DGY drology Indicato cators (minimum | ors: | | all that a | apply) | 13) | | econdary Indi | |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa | DGY rdrology Indicato cators (minimum Water (A1) ater Table (A2) | ors: | | all that a Aquatic True Aqu | <u>apply)</u> Fauna (B uatic Plar | 13) | <u>Se</u> | econdary Indi Surface S X Drainage | Soil Cracks (B6) Patterns (B10) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio | DGY rdrology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) | ors: | | all that a Aquatic True Aqu Hydroge | <u>apply)</u> Fauna (B uatic Plar n Sulfide | 13) nts (B14) Odor (C1 |) | econdary Indi Surface S X Drainage Dry-Seas | Soil Cracks (B6) Patterns (B10) son Water Table (C2) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio Water M | DGY rdrology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) | ors: | | all that a Aquatic True Aqu Hydroge Oxidized | <u>apply)</u> Fauna (B uatic Plar n Sulfide | 13) nts (B14) Odor (C1 | <u>Se</u> | econdary Indi Surface S X Drainage Dry-Seas Crayfish | Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio Water M X Sedimer | DGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) | ors: | | all that a Aquatic True Aqu Hydroge Oxidizec (C3) | apply) Fauna (B uatic Plar n Sulfide I Rhizosp | 13) hts (B14) Odor (C1 heres on |) Living Roots | econdary Indi Surface S X Drainage Dry-Seas Crayfish Saturatio | Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) in Visible on Aerial Imagery (C9) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio Water M X Sedimer Drift Dep | DGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) ht Deposits (B2) posits (B3) | ors: | | all that a Aquatic True Aqu Hydroge Oxidizec (C3) Presenc | apply) Fauna (B uatic Plar In Sulfide I Rhizosp e of Redu | 13) hts (B14) Odor (C1 heres on uced Iron |) Living Roots (C4) | econdary Indi Surface S X Drainage Dry-Seas Crayfish Saturatio | Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) or Stressed Plants (D1) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio Water M X Sedimer Drift Dep Algal Ma | DGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) | ors: | | all that a Aquatic True Aqu Hydroge Oxidizec (C3) Presenc Recent I | apply) Fauna (B uatic Plar In Sulfide I Rhizosp e of Redu | 13) hts (B14) Odor (C1 heres on uced Iron |) Living Roots | econdary Indi Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted o Geomorp | Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep | DGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) | ors: of one is | s required; check | all that a Aquatic True Aqu Hydroge Oxidizec (C3) Presenc Recent I (C6) | apply) Fauna (B uatic Plar In Sulfide I Rhizosp I Rhizosp e of Redu ron Redu | 13) Odor (C1 heres on uced Iron iction in T |) Living Roots (C4) | econdary Indi Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted o Geomorp | Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) or Stressed Plants (D1) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep Inundatio | DGY drology Indicato <u>cators (minimum</u> Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria | ors: of one is | s required; check | all that a Aquatic True Aqu Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu | apply) Fauna (B uatic Plar In Sulfide I Rhizosp e of Redu ron Redu ck Surfac | 13) Odor (C1 heres on uced Iron iction in T |) Living Roots (C4) | econdary Indi Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted o Geomorp | Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely | DGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca | ors: of one is I Imagery ve Surfa | s required; check | all that a Aquatic True Aqu Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu Gauge c | apply) Fauna (B uatic Plar in Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da | 13) Odor (C1 heres on uced Iron uction in T ee (C7) ata (D9) |) Living Roots (C4) illed Soils | econdary Indi Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted o Geomorp | Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely X Water-S | DGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 | ors: of one is I Imagery ve Surfa | s required; check | all that a Aquatic True Aqu Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu Gauge c | apply) Fauna (B uatic Plar in Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da | 13) Odor (C1 heres on uced Iron iction in T |) Living Roots (C4) illed Soils | econdary Indi Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted o Geomorp | Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely X Water-S Field Obser | DGY rdrology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 rvations: | ors: of one is I Imagery ve Surfac) | s required; check | all that a Aquatic True Aqu Hydroge Oxidizec (C3) Presenc (C3) Presenc (C6) Thin Mu Gauge c Other (E | apply) Fauna (B uatic Plar In Sulfide I Rhizosp e of Redu ron Redu ron Redu ck Surfac or Well Da ixplain in | 13) Odor (C1 heres on uced Iron uction in T ee (C7) ata (D9) Remarks |) Living Roots (C4) illed Soils | econdary Indi Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted o Geomorp FAC-Neu | Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely X Water-S Field Obser Surface wat | DGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 rvations: er present? | ors: of one is I Imagery ve Surfac) Yes | s required; check | all that a Aquatic True Aqu Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu Gauge c | apply) Fauna (B uatic Plar in Sulfide I Rhizosp e of Redu ron Redu ron Redu ck Surfac or Well Da ixplain in | 13) Odor (C1 heres on uced Iron uction in T ee (C7) ata (D9) Remarks |) Living Roots (C4) illed Soils | econdary Indi Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted o Geomorp FAC-Neu | Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) in Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2) utral Test (D5) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely X Water-S Field Obser | DGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 rvations: er present? present? | ors: of one is I Imagery ve Surfac) | s required; check | all that a Aquatic True Aqu Hydroge Oxidizec (C3) Presenc (C3) Presenc (C3) Presenc (C6) Thin Mu Gauge o Other (E | apply) Fauna (B uatic Plar In Sulfide I Rhizosp e of Redu ron Redu ron Redu ck Surfac or Well Da ixplain in | 13) Odor (C1 heres on uced Iron ction in T ee (C7) ata (D9) Remarks nches): nches): |) Living Roots (C4) illed Soils | econdary Indi Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted o Geomorp FAC-Neu FAC-Neu | Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2) utral Test (D5) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely X Water-S Field Obser Surface wat Water table Saturation p (includes ca | DGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 rvations: er present? present? present? present? present? pillary fringe) | I Imagery ve Surfac) Yes Yes Yes | s required; check | all that a Aquatic True Aqu Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E X X | apply) Fauna (B uatic Plar in Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da cxplain in Depth (i Depth (i | 13) Odor (C1 heres on uced Iron ction in T ee (C7) ata (D9) Remarks nches): nches): nches): |) Living Roots (C4) illed Soils | econdary Indi Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted o Geomorp FAC-Neu FAC-Neu | Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) in Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2) utral Test (D5) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely X Water-S Field Obser Surface wat Water table Saturation p (includes ca | DGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 rvations: er present? present? present? | I Imagery ve Surfac) Yes Yes Yes | s required; check | all that a Aquatic True Aqu Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E X X | apply) Fauna (B uatic Plar in Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da cxplain in Depth (i Depth (i | 13) Odor (C1 heres on uced Iron ction in T ee (C7) ata (D9) Remarks nches): nches): nches): |) Living Roots (C4) illed Soils | econdary Indi Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted o Geomorp FAC-Neu FAC-Neu | Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) in Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2) utral Test (D5) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely X Water-S Field Obser Surface wat Water table Saturation p (includes ca | DGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 rvations: er present? present? present? present? present? pillary fringe) | I Imagery ve Surfac) Yes Yes Yes | s required; check | all that a Aquatic True Aqu Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E X X | apply) Fauna (B uatic Plar in Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da cxplain in Depth (i Depth (i | 13) Odor (C1 heres on uced Iron ction in T ee (C7) ata (D9) Remarks nches): nches): nches): |) Living Roots (C4) illed Soils | econdary Indi Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted o Geomorp FAC-Neu FAC-Neu | Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) in Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2) utral Test (D5) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely X Water-S Field Obsen Surface wat Water table Saturation p (includes ca Describe red | DGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 rvations: er present? present? present? present? present? pillary fringe) | I Imagery ve Surfac) Yes Yes Yes | s required; check | all that a Aquatic True Aqu Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E X X | apply) Fauna (B uatic Plar in Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da cxplain in Depth (i Depth (i | 13) Odor (C1 heres on uced Iron ction in T ee (C7) ata (D9) Remarks nches): nches): nches): |) Living Roots (C4) illed Soils | econdary Indi Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted o Geomorp FAC-Neu FAC-Neu | Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) in Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2) utral Test (D5) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio Water M X Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely X Water-S Field Obser Surface wat Water table Saturation p (includes ca | DGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 rvations: er present? present? present? present? present? pillary fringe) | I Imagery ve Surfac) Yes Yes Yes | s required; check | all that a Aquatic True Aqu Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E X X | apply) Fauna (B uatic Plar in Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da cxplain in Depth (i Depth (i | 13) Odor (C1 heres on uced Iron ction in T ee (C7) ata (D9) Remarks nches): nches): nches): |) Living Roots (C4) illed Soils | econdary Indi Surface S X Drainage Dry-Seas Crayfish Saturatio Stunted o Geomorp FAC-Neu FAC-Neu | Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) in Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2) utral Test (D5) |

| Project/Site Lake Calumet CTA Red Line Extension | City/Co | ounty: | Cook | | Sampling Date: | 8/13/2015 |
|---|-------------------|---------------|-----------------|------------------|--|-------------------------|
| Applicant/Owner: CTA/MWRD | | State: | Illin | ois | Sampling Point: 5 | |
| Investigator(s): J Mengler, V Mosca | | Se | ection, Towns | ship, Range: | T37N, R14 | E, S26 & 27 |
| Landform (hillslope, terrace, etc.): swa | ale | Lo | cal relief (cor | ncave, convex | , none): | swale |
| Slope (%): Lat: 41.663596 | 3 I | Long: | -87.5980 |)43 | Datum: | |
| Soil Map Unit Name: orthents, loamy, nearly level | | | NM | /I Classificatio | on: | none |
| Are climatic/hydrologic conditions of the site typical fo | or this time of t | the year? | Y (| lf no, explain i | in remarks) | |
| Are vegetation , soil Y , or hydro | logy s | significantly | disturbed? | Y Are "per | mal circumstances' | , |
| Are vegetation , soil , or hydro | | | | N present? | | Y |
| SUMMARY OF FINDINGS | ··· | | | (If neede | d, explain any ans | wers in remarks.) |
| Hydrophytic vegetation present? Y | | | | | | |
| Hydric soil present? | | Is the sa | ampled area | within a wet | land? Y | |
| Wetland hydrology present? Y | | | - | | Wetland 5 | |
| Remarks: (Explain alternative procedures here or in a | senarate ren | | | | | |
| | a separate rep | 011.) | | | | |
| Relied primarily upon vegetation and landsca | pe position | due to dry | y time of se | eason, and r | nostly urbanland | d/fill for substrate. |
| VEGETATION Use scientific names of plan | nts. | | | | | |
| | | Dominant | Indicator | Domina | nce Test Workshe | et |
| Tree Stratum (Plot size: 9 m) | % Cover | Species | Status | Number of D | ominant Species tha | t |
| 1 | | | | | FACW, or FAC: | 1 (A) |
| 2 | | | | Total Nur | nber of Dominant | |
| 3 | | | | Species | Across all Strata: | <u>1</u> (B) |
| 4 | | | | | ominant Species tha | |
| 5 | | | | are OBL, | FACW, or FAC: | 100.00% (A/B) |
| Copling/Chrub stratum (Dist size) 4.6 m | = T | Total Cover | | Dreveley | | |
| Sapling/Shrub stratum (Plot size: 4.6 m |) | | | | nce Index Worksh Cover of: | eet |
| 2 | | | | OBL spe | | 1 = 0 |
| 3 | | | | | pecies 100 x | |
| 4 | | | | FAC spe | · | 3 = 0 |
| 5 | | | | FACU sp | | 4 = 0 |
| | 0 = 7 | Total Cover | | UPL spe | cies 0 x | 5 = 0 |
| Herb stratum (Plot size: 1 m sq |) | | | Column | totals 100 (A | A) 200 (B) |
| 1 Phragmites australis | 100 | Y | FACW | Prevaler | ice Index = B/A = | 2.00 |
| 2 | | | | | | |
| 3 | | | | | nytic Vegetation In | |
| 4 | | | | | d test for hydrophy | - |
| 5 6 | ············ | | | | inance test is >50% alence index is ≤3. | |
| 7 | ······ | | | | | |
| 8 | | | | | phological adaptation porting data in Rem | |
| 9 | · | | | | irate sheet) | |
| 10 | | | | | lematic hydrophytic | c vegetation* |
| | 100 = 1 | Total Cover | | (exp | | J |
| Woody vine stratum (Plot size: 1 m sq |) | | | *Indicato | rs of hydric soil and we | tland hydrology must be |
| 1 | | | | · · · · | resent, unless disturbe | d or problematic |
| 2 | | | | - | rophytic etation | |
| | 0 = 7 | Total Cover | | - | ent? Y | |
| Remarks: (Include photo numbers here or on a separ | ate sheet) | | | | | |
| | -7 | | | | | |
| | | | | | | |

| SOIL | |
|------|--|
|------|--|

| Profile Des | cription: (Descr | ibe to th | ne depth needed | to docu | ument th | ne indica | tor or confirm t | he absend | ce of indicators.) |
|--------------|---------------------|-----------|-------------------|-----------|------------|-------------|--------------------|--------------|-------------------------------------|
| Depth | Matrix | | | lox Feat | | | | | |
| (Inches) | Color (moist) | % | Color (moist) | % | Type* | Loc** | Texture | ; | Remarks |
| | | | | | | | | | |
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| | | | | | | | | | |
| *Type: C = 0 | Concentration, D | = Deple | tion, RM = Reduc | ed Matri | x, MS = | Masked | Sand Grains. | **Locatio | on: PL = Pore Lining, M = Matrix |
| Hydric Sc | il Indicators: | | | | | | Indicators | for Proble | matic Hydric Soils: |
| Hist | tisol (A1) | | Sar | dy Gleye | ed Matrix | (S4) | Coast F | Prairie Red | ox (A16) (LRR K, L, R) |
| His | tic Epipedon (A2) | | Sar | dy Redo | ox (S5) | | Dark S | urface (S7) |) (LRR K, L) |
| | ck Histic (A3) | | | - | trix (S6) | | | | or Peat (S3) (LRR K, L, R) |
| | Irogen Sulfide (A | 4) | | • | ky Miner | | | • | Masses (F12) (LRR K, L, R) |
| | - | | | - | | . , | | • | |
| | atified Layers (A5 |) | | | ed Matri | | | | k Surface (TF12) |
| | m Muck (A10) | | | | atrix (F3) | | Other (| explain in r | emarks) |
| | pleted Below Darl | | | | Surface | • • | | | |
| Thie | ck Dark Surface (| A12) | | | ark Surfa | | *Indicator | rs of hydro | phytic vegetation and wetland |
| Sar | ndy Mucky Minera | al (S1) | Rec | lox Depr | essions | (F8) | | - | present, unless disturbed or |
| 5 cr | m Mucky Peat or | Peat (S3 | 3) | | | | | p | problematic |
| Restrictive | Layer (if observ | ed): | | | | | | | |
| | avel, ballast, fill | , | | | | | Hydric so | il present | ? |
| Depth (inch | | nined | | | | | | • | |
| Remarks: | | | | | | | | | |
| Remarks. | | | | | | | | | |
| Area ma | nnad ag urban | land a | and located hat | woonr | oodo | | | | |
| Alea Illa | ppeu as urban | ianu, a | and located bet | weenn | uaus | | | | |
| | | | | | | | | | |
| HYDROL(| | | | | | | | | |
| - | drology Indicato | | | | | | | | |
| Primary Indi | cators (minimum | of one is | s required; check | | | | Secor | ndary Indic | ators (minimum of two required) |
| Surface | Water (A1) | | | Aquatic I | Fauna (B | 13) | | Surface S | oil Cracks (B6) |
| High Wa | ter Table (A2) | | | True Aqu | uatic Plar | nts (B14) | X | Drainage | Patterns (B10) |
| Saturatio | on (A3) | | | Hydroge | n Sulfide | Odor (C | 1) | Dry-Seaso | on Water Table (C2) |
| Water M | larks (B1) | | | Oxidized | l Rhizosn | heres on | Living Roots | Crayfish E | Burrows (C8) |
| X Sedimer | nt Deposits (B2) | | | (C3) | 1112000 | | | Saturation | Visible on Aerial Imagery (C9) |
| | oosits (B3) | | | | e of Redi | uced Iron | (C4) | - | Stressed Plants (D1) |
| | it or Crust (B4) | | | | | | · · · _ | - | nic Position (D2) |
| | | | | | ron Redu | iction in T | illed Soils | - | |
| | osits (B5) | | | (C6) | | (07) | | - FAC-Neul | ral Test (D5) |
| | on Visible on Aeria | • | | | ck Surfac | | | | |
| Sparsely | Vegetated Conca | ve Surfa | ce (B8) | Gauge o | r Well Da | ata (D9) | | | |
| X Water-S | tained Leaves (B9 |) | | Other (E | xplain in | Remarks |) | | |
| Field Obser | | | | | | | | | |
| Surface wat | • | Yes | No | Х | Depth (| , | | Wetla | |
| Water table | • | Yes | No No | Х | Depth (i | , | | - | ology |
| Saturation p | | Yes | X No | | Depth (i | inches): | 0 | pres | ent? Y |
| | pillary fringe) | om ac::: | o monitoria | l oori-i | nhoto - | nroviewa | inonactions) if | | |
| Describe ree | Lorueu data (stře | am gaug | je, monitoring we | n, aerial | priotos, | previous | inspections), if a | available: | |
| | | | | | | | | | |
| Remarks: | | | | | | | | | |
| - | | | | | | | | | |
| Saturatio | n within drains | | ale along road. | | | | | | |
| Saturatio | | -90 000 | als along rodu. | | | | | | |

| Project/Site Lake Calumet CTA Red Line Extension | City/0 | County: | ty: Cook Sampling Date: | | | 8/13/2015 | |
|--|----------------|--------------------------|---------------------------------------|------------------|---|---|--|
| Applicant/Owner: CTA/MWRD | | State | :Illin | 6 | | | |
| Investigator(s): J Mengler, V Mosca | | s | Section, Township, Range: T37N, R14E, | | | | |
| Landform (hillslope, terrace, etc.): swa | ale | L | ocal relief (cor | ncave, convex | , none): | swale | |
| Slope (%): Lat: 41.66907 | 7 | Long: | -87.6015 | 542 | Datum: | | |
| Soil Map Unit Name: orthents, loamy, nearly level | | NWI Classification: none | | | | | |
| Are climatic/hydrologic conditions of the site typical for | or this time o | f the year? | | If no, explain i | | | |
| Are vegetation , soil Y , or hydro | | - | | | mal circumstances' | | |
| Are vegetation , soil , or hydro | | | | N present? | | Y | |
| SUMMARY OF FINDINGS | | | | <u> </u> | d, explain any ans | wers in remarks) | |
| Hydrophytic vegetation present? Y | | | | (| | | |
| Hydric soil present? | | ls the s | sampled area | within a wet | land? Y | | |
| Wetland hydrology present? Y | | | - | | Wetland 6 | | |
| | | | | | weiland o | | |
| Remarks: (Explain alternative procedures here or in a | a separate re | eport.) | | | | | |
| Relied primarily upon vegetation and landsca | pe positio | n due to d | ry time of se | eason, and r | nostly urbanland | d/fill for substrate. | |
| | | | - | | - | | |
| VEGETATION Use scientific names of plan | its. | | | <u> </u> | | | |
| Tree Stratum (Plot size: 9 m) | Absolute | Dominant | | | nce Test Workshe | | |
| <u>Tree Stratum</u> (Plot size: 9 m) | % Cover | Species | Status | | ominant Species tha FACW, or FAC: | | |
| 2 | | | | | | <u> </u> | |
| 3 | | | | | nber of Dominant Across all Strata: | 1 (B) | |
| 4 | | | | | | 、 , | |
| 5 | | | | | ominant Species tha FACW, or FAC: | 100.00% (A/B) | |
| | 0 | = Total Cove | er | | | 、 , | |
| Sapling/Shrub stratum (Plot size: 4.6 m |) | | | Prevaler | nce Index Worksh | eet | |
| 1 | | | | Total % (| Cover of: | | |
| 2 | | | | OBL spe | cies <u>20</u> x | 1 = 20 | |
| 3 | | | | FACW s | pecies <u>84</u> x 2 | 2 = 168 | |
| 4 | | | | FAC spe | cies <u>0</u> x | 3 = 0 | |
| 5 | | | | FACU sp | | 4 = 0 | |
| | 0 | = Total Cove | er | UPL spe | | 5 = 0 | |
| Herb stratum (Plot size: 1 m sq |) | | 54014 | Column f | ` | , (, | |
| 1 Phragmites australis | 80 | Y | FACW | Prevalen | ce Index = B/A = | 1.81 | |
| 2 Lythrum salicaria | 10 | <u>N</u> | | Liversek | , tie Vegetetien In | diaatara | |
| 3 Typha angustifolia 4 Helianthus grosseserratus | <u>10</u> 2 | <u>N</u> | OBL FACW | | ytic Vegetation In d test for hydrophy | | |
| 5 Verbena hastata | 2 | N | FACW | · · · | inance test is >50% | Ũ | |
| 6 | | | | | alence index is ≤3. | | |
| 7 | | | | | | | |
| 8 | | | | | phological adaptation orting data in Rem | | |
| 9 | | | _ | | rate sheet) | | |
| 10 | | | | Prob | lematic hydrophytic | c vegetation* | |
| | 104 | = Total Cove | er | (expl | | 0 | |
| <u>Woody vine stratum</u> (Plot size: 1 m sq 1 |) | | | | rs of hydric soil and we resent, unless disturbe | tland hydrology must be d or problematic | |
| 2 | | | | | ophytic | | |
| | 0 | = Total Cove | er | vege pres | ent? Y | | |
| Remarks: (Include photo numbers here or on a separ | ate sheet) | | | | | | |

| SOIL |
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| Profile Des | cription: (Descr | ibe to th | ne depth needed | to docu | iment th | e indica | tor or confirm | m the abser | nce of indicators.) | | | |
|--|---------------------|-----------|-------------------|------------|------------|-------------|----------------|----------------|--|--|--|--|
| Depth <u>Matrix</u> Redox Features | | | | | | | | | - | | | |
| (Inches) Color (moist) % Color (| | | | % | Type* | Loc** | Text | ure | Remarks | | | |
| | | | | | | | | | | | | |
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| | | | | | | | | | | | | |
| *Type: C = 0 | Concentration, D | = Deplet | tion, RM = Reduc | ed Matri | x, MS = | Masked | Sand Grains. | **Locat | ion: PL = Pore Lining, M = Matrix | | | |
| Hydric So | il Indicators: | | | | | | Indicato | rs for Probl | ematic Hydric Soils: | | | |
| Hist | tisol (A1) | | Sar | dy Gleye | ed Matrix | - | | | | | | |
| | tic Epipedon (A2) | | | dy Redo | | . , | | | 7) (LRR K, L) | | | |
| | ck Histic (A3) | | | - | trix (S6) | | | | it or Peat (S3) (LRR K, L, R) | | | |
| | Irogen Sulfide (A | 4) | | • | ky Minera | al (E1) | | • | Masses (F12) (LRR K, L, R) | | | |
| | • | | | - | - | | | - | | | | |
| | atified Layers (A5 |) | | | ed Matrix | | | | rk Surface (TF12) | | | |
| | m Muck (A10) | | | | atrix (F3) | | Othe | er (explain in | remarks) | | | |
| | pleted Below Darl | | | | Surface | | | | | | | |
| Thio | ck Dark Surface (| A12) | Dep | leted Da | ark Surfa | ce (F7) | *Indica | ators of hvdr | ophytic vegetation and wetland | | | |
| Sar | ndy Mucky Minera | al (S1) | Rec | lox Depr | ressions | (F8) | | | e present, unless disturbed or | | | |
| 5 cr | m Mucky Peat or | Peat (S3 | 3) | | | | - | | problematic | | | |
| Restrictive | Layer (if observ | ed): | | | | | | | | | | |
| | avel, ballast, fill | ,- | | | | | Hydric | soil presen | it? | | | |
| Depth (inche | | nined | | | | | | | | | | |
| | | | | | | | | | | | | |
| Remarks: | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Area mapped as urban land, and located between road and railroad. | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| HYDROLO | | | | | | | | | | | | |
| - | drology Indicato | | | | | | _ | | | | | |
| Primary Indi | cators (minimum | of one is | s required; check | all that a | apply) | | Sec | condary Indi | cators (minimum of two required) | | | |
| Surface | Water (A1) | | | Aquatic I | Fauna (B | 13) | - | Surface | Soil Cracks (B6) | | | |
| | | | | | | nts (B14) | _ | X Drainage | e Patterns (B10) | | | |
| Saturation (A3) Hydrogen Sulfie | | | | | | | 1) | Dry-Seas | son Water Table (C2) | | | |
| X Water M | larks (B1) | | | Ovidized | Rhizoen | heres on | Living Roots | Crayfish | Burrows (C8) | | | |
| X Sedimer | nt Deposits (B2) | | | (C3) | r ttil203p | | | Saturatio | on Visible on Aerial Imagery (C9) | | | |
| | posits (B3) | | | | e of Redu | uced Iron | (C4) | | or Stressed Plants (D1) | | | |
| | | | | | | | - | | | | | |
| ~ | t or Crust (B4) | | | | ron Redu | iction in T | illed Soils | | phic Position (D2) | | | |
| | osits (B5) | | (D=) | (C6) | | | - | FAC-Net | utral Test (D5) | | | |
| | on Visible on Aeria | • | | Thin Mu | ck Surfac | e (C7) | | | | | | |
| Sparsely | Vegetated Conca | ve Surfa | ce (B8) | Gauge o | r Well Da | ata (D9) | | | | | | |
| X Water-Stained Leaves (B9) Other (Explain in Remarks) | | | | | | | | | | | | |
| Field Obser | vations: | | | | | | | | | | | |
| Surface wat | • | Yes | No | Х | Depth (i | | | | lland | | | |
| Water table | • | Yes | No | Х | Depth (i | , | | - | rology | | | |
| Saturation p | | Yes | X No | | Depth (i | ncnes): | 0 | pre | sent? Y | | | |
| (includes capillary fringe) | | | | | | | | | | | | |
| Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Remarks: | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Saturatio | on within drains | | ale along railro | ad | | | | | | | | |

| Project/Site Lake Calumet CTA Red Line Extension | City/ | County: | Cook | | Sampling Date: | 8/13/2015 |
|--|----------------|--------------|--------------------------------|---------------------|------------------------------------|------------------------|
| Applicant/Owner: CTA/MWRD | | State | e: Illir | iois | Sampling Point: | 7 |
| Investigator(s): J Mengler, V Mosca | | | Section, Township, Range: T37N | | | 14E, S27 |
| Landform (hillslope, terrace, etc.): sw | ale | | Local relief (co | ncave, convex | , none): | swale |
| Slope (%): Lat: 41.66907 | 7 | Long: | -87.601 | 542 | Datum: | |
| Soil Map Unit Name: orthents, loamy, nearly level | | | | VI Classificatio | n: | none |
| Are climatic/hydrologic conditions of the site typical for | or this time o | of the year? | Y (| If no, explain i | n remarks) | |
| Are vegetation , soil Y , or hydro | ology | significan | tly disturbed? | Y Are "norm | nal circumstances" | |
| | ology | | problematic? | N present? | | Y |
| SUMMARY OF FINDINGS | | - | | (If neede | d, explain any ansv | wers in remarks.) |
| Hydrophytic vegetation present? Y | | | | | · · · | · |
| Hydric soil present? | | Is the | sampled area | within a wetl | and? N | |
| Wetland hydrology present? N | | | es, optional we | | | |
| Remarks: (Explain alternative procedures here or in | a senarate r | | ., | | | |
| | a separate n | eport.) | | | | |
| Relied primarily upon vegetation and landsca | ape positio | n due to o | dry time of se | eason, and n | nostly urbanland | /fill for substrate. |
| L VEGETATION Use scientific names of play | nts | | | | | |
| | Absolute | Dominar | t Indicator | Dominar | nce Test Workshe | et |
| <u>Tree Stratum</u> (Plot size: 9 m) | % Cover | Species | | Number of Do | ominant Species that | • |
| 1 | | | | | FACW, or FAC: | 1 (A) |
| 2 | | | | Total Num | ber of Dominant | |
| 3 | | | | Species A | Across all Strata: | <u>2</u> (B) |
| 4 | | | | | minant Species that | |
| 5 | | | | are OBL, | FACW, or FAC: | 50.00% (A/B) |
| | 0 | = Total Cov | ver | | | |
| Sapling/Shrub stratum (Plot size: 4.6 m |) | Ň | 540 | | ice Index Worksho | eet |
| 1 Rhamnus cathartica | 100 | Y | FAC | Total % C | | 1 - 0 |
| 2 | | | | OBL spec FACW sp | | |
| 4 | | | | FAC spec | | |
| 5 | | | | FACU sp | | 4 = 0 |
| | 100 | = Total Cov | ver | UPL spec | | 5 = 0 |
| Herb stratum (Plot size: 1 m sq |) | | | Column t | otals 100 (A |) <u>300</u> (B) |
| 1 | 80 | Y | | Prevalen | ce Index = B/A = | 3.00 |
| 2 | 10 | Ν | | | | |
| 3 | 10 | N | | Hydroph | ytic Vegetation In | dicators: |
| 4 | 2 | N | | | d test for hydrophyt | - |
| 5 | 2 | N | | | inance test is >50% | |
| 6 | | | | X Preva | alence index is ≤3.0 | J |
| 8 | · | | | | hological adaptatio | |
| 89 | | | | | orting data in Rema rate sheet) | arks of on a |
| 10 | | | | | lematic hydrophytic | vegetation* |
| | 104 | = Total Cov | ver | (expl | | |
| Woody vine stratum (Plot size: 1 m sq |) | | | ` · | , | land hydrology must be |
| 1 | · | | | | esent, unless disturbed | |
| 2 | | | _ | - | ophytic | |
| | 0 | = Total Cov | ver | vege | tation ent? Y | |
| Pomorko: (Includo aboto aumboro baro a se s | roto obcati | | | pies | <u> </u> | _ |
| Remarks: (Include photo numbers here or on a sepa | ale sileel) | | | | | |
| | | | | | | |
| | | | | | | |

| SOIL | |
|------|--|
|------|--|

| Profile Des | cription: (Descr | ibe to th | ne depth neede | d to docu | ument th | e indica | tor or confirn | n the abser | nce of indicators.) | | |
|---|---|-----------|---|----------------------------|-------------|--------------|---|---|---------------------------------------|--|--|
| Depth | Matrix | Re | dox Feat | ures | | | | | | | |
| (Inches) | (Inches) Color (moist) % Color (| | | noist) % Type* Loc** | | | Textu | ire | Remarks | | |
| | | | | | | | | | | | |
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| | | | | | | | | | | | |
| | | | | | | | | | | | |
| *Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix | | | | | | | | | | | |
| | bil Indicators: | - Depier | | | x, wo - | Maskeu | | | ematic Hydric Soils: | | |
| - | tisol (A1) | | Sa | ndy Gley | ad Matrix | (\$4) | | | dox (A16) (LRR K, L, R) | | |
| | . , | | | | | ((34) | | | | | |
| | tic Epipedon (A2) | | | ndy Redo | | | | | 7) (LRR K, L) | | |
| | ck Histic (A3) | | | ipped Ma | | | | • | t or Peat (S3) (LRR K, L, R) | | |
| | Irogen Sulfide (A | | | amy Muc | • | • • | | - | Masses (F12) (LRR K, L, R) | | |
| | atified Layers (A5 |) | | amy Gley | | | | | rk Surface (TF12) | | |
| | m Muck (A10) | | | pleted Ma | | | Other | er (explain in remarks) | | | |
| | pleted Below Dark | | | dox Dark | | | | | | | |
| Thio | ck Dark Surface (| A12) | De | pleted Da | ark Surfa | ce (F7) | *Indica | ators of hydrophytic vegetation and wetland blogy must be present, unless disturbed or | | | |
| San | ndy Mucky Minera | l (S1) | Re | dox Depr | ressions | (F8) | | | | | |
| 5 cr | m Mucky Peat or | Peat (S3 | 3) | | | | | | problematic | | |
| Restrictive | Layer (if observe | ed): | | | | | | | | | |
| | avel, ballast, fill | | | | | | Hydric s | soil presen | | | |
| Depth (inche | es): not determ | nined | | | - | | | | | | |
| Remarks: | | | | | | | | | | | |
| | | | | | | | | | | | |
| Area mapped as urban land, and 2-3 feet higher in elevation than adjacent wetland swales. | | | | | | | | | | | |
| | | | | | | | | | | | |
| HYDROLO | | | | | | | | | | | |
| Wetland Hy | drology Indicato | ors: | | | | | | | | | |
| Primary Indi | cators (minimum | of one is | s required; chec | k all that a | apply) | | Sec | ondary Indi | cators (minimum of two required) | | |
| Surface | Water (A1) | | Aquatic | Fauna (B | 13) | | Surface Soil Cracks (B6) | | | | |
| High Wa | iter Table (A2) | | True Aq | uatic Plar | nts (B14) | | Drainage Patterns (B10) | | | | |
| Saturatio | on (A3) | | | Hydroge | n Sulfide | Odor (C1 | 1) | Dry-Season Water Table (C2) | | | |
| Water M | larks (B1) | | – Oxidized | Rhizosn | heres on | Living Roots | Roots Crayfish Burrows (C8) | | | | |
| Sedimer | nt Deposits (B2) | | (C3) | | | g | Saturation Visible on Aerial Imagery (C9) | | | | |
| Drift Dep | oosits (B3) | | - Presenc | e of Redu | uced Iron | (C4) | Stunted or Stressed Plants (D1) | | | | |
| · | it or Crust (B4) | | - Bocont I | ron Rodu | uction in T | | Geomorphic Position (D2) | | | | |
| | osits (B5) | | Recent Iron Reduction in Tilled Soils (C6) | | | | | FAC-Neutral Test (D5) | | | |
| · | on Visible on Aeria | (B7) | | ck Surfac | e (C7) | — | | | | | |
| | Vegetated Conca | | | Gauge or Well Data (D9) | | | | | | | |
| · _ · | tained Leaves (B9 | | | Other (Explain in Remarks) | | | | | | | |
| Field Obser | • |) | | | xpiairi iri | Remains |) | | | | |
| | | Yes | No | х | Depth (i | inches). | | Wet | land | | |
| | urface water present? Yes No X Depth (incl /ater table present? Yes No X Depth (incl | | | | | | | | rology | | |
| Saturation p | resent? | Yes | No | Х | Depth (i | | 0 | pres | sent? N | | |
| (includes capillary fringe) | | | | | | | | | | | |
| Describe red | corded data (strea | am gaug | je, monitoring w | ell, aerial | photos, | previous | inspections), i | f available: | | | |
| | | | | | | | | | | | |
| Remarks [.] | | | | | | | | | | | |
| Remarks: | | | | | | | | | | | |

| Project/Site Lake Calumet CTA Red Line Extension | City/C | County: | Cook | | Sampling Date: | 8/13/2015 | | |
|--|----------------|--------------|------------------|---|---|--|--|--|
| Applicant/Owner: CTA/MWRD | | State | : Illin | iois | Sampling Point: | 8 | | |
| Investigator(s): J Mengler, V Mosca | | | Section, Towns | E, S22 & 27 | | | | |
| Landform (hillslope, terrace, etc.): swa | ale | L | ocal relief (cor | ncave, convex | , none): | swale | | |
| Slope (%): Lat: 41.672876 | 6 | Long: | -87.6070 |)44 | Datum: | | | |
| Soil Map Unit Name: orthents, loamy, nearly level | | | N۷ | VI Classificatio | n: | none | | |
| Are climatic/hydrologic conditions of the site typical for | or this time o | f the year? | | If no, explain i | | | | |
| Are vegetation , soil Y , or hydro | | | | | nal circumstances" | | | |
| Are vegetation , soil , or hydro | | | | N present? | | Y | | |
| SUMMARY OF FINDINGS | | | | <u> </u> | d, explain any ans | wers in remarks.) | | |
| Hydrophytic vegetation present? Y | | | | (| | | | |
| Hydric soil present? | | ls the | sampled area | within a wetl | and? Y | | | |
| Wetland hydrology present? Y | | | • | | Wetland 7 | | | |
| | | | | | Wetland 7 | | | |
| Remarks: (Explain alternative procedures here or in a | a separate re | eport.) | | | | | | |
| Relied primarily upon vegetation and landsca | pe positio | n due to d | ry time of se | eason, and n | nostly urbanland | l/fill for substrate. | | |
| | | | - | | - | | | |
| VEGETATION Use scientific names of plan | its. | | | | | | | |
| Tree Stratum (Plot size: 9 m) | Absolute | Dominant | | | nce Test Workshe | | | |
| <u>Tree Stratum</u> (Plot size: 9 m) | % Cover | Species | Status | | ominant Species that FACW, or FAC: | | | |
| 2 | | | | | | (A) | | |
| 3 | | | | | ber of Dominant Across all Strata: | 1 (B) | | |
| 4 | | | | - | | | | |
| 5 | | | | | minant Species that FACW, or FAC: | 100.00% (A/B) | | |
| | 0 : | = Total Cove | er | | | 、 , | | |
| Sapling/Shrub stratum (Plot size: 4.6 m |) | | | Prevalen | ce Index Worksh | eet | | |
| 1 | | | | Total % C | Cover of: | | | |
| 2 | | | | OBL spe | cies <u>10</u> x [·] | 1 = 10 | | |
| 3 | | | | FACW sp | pecies <u>94</u> x 2 | 2 = 188 | | |
| 4 | | | | FAC spe | cies <u>0</u> x3 | 3 = 0 | | |
| 5 | | | | FACU sp | | 4 = 0 | | |
| | | = Total Cove | er | UPL spec | | 5 = 0 | | |
| Herb stratum (Plot size: 1 m sq |) | | 54.014 | Column t | | , , , | | |
| 1 Phragmites australis | 80 | Y | FACW | Prevalen | ce Index = B/A = | 1.90 | | |
| 2 Lythrum salicaria | 10 | <u>N</u> | OBL | I hada a hadis Manada ti sa hadisa da na | | | | |
| 3 Solidago graminifolia 4 Helianthus grosseserratus | <u>10</u> 2 | <u>N</u> | FACW FACW | Hydrophytic Vegetation Indicators: | | | | |
| 5 Verbena hastata | 2 | N | FACW | Rapid test for hydrophytic vegetation X Dominance test is >50% | | | | |
| 6 | | | 171011 | X Dominance test is >50% X Prevalence index is ≤3.0* | | | | |
| 7 | | | | | | | | |
| 8 | | | | | hological adaptatic orting data in Remain | | | |
| 9 | | | | | rate sheet) | | | |
| 10 | | | | Probl | lematic hydrophytic | vegetation* | | |
| | 104 : | = Total Cove | er | (expl | | J | | |
| Woody vine stratum (Plot size: 1 m sq 1 |) | | | | s of hydric soil and wel esent, unless disturbed | land hydrology must be d or problematic | | |
| 2 | | | | | ophytic | | | |
| | 0 : | = Total Cove | er | vege | tation ent? Y | _ | | |
| Remarks: (Include photo numbers here or on a separ | ate sheet) | | | | | | | |

| SOIL |
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| Profile Des | cription: (Descr | ibe to th | ne depth needeo | l to docu | iment th | ne indica | tor or confirm | n the absen | ce of indicators.) |
|---|---|---|-------------------|---|--|--|---|---|---|
| Depth | Matrix | | | dox Feat | | | | | - |
| (Inches) | Color (moist) | % | Color (moist) | % | Type* | Loc** | Textu | ıre | Remarks |
| | | | | | | | | | |
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| | | | | | | | | | |
| | | | | | | | | | |
| *Type: C = (| Concentration, D | = Deplet | tion RM = Redu | ced Matri | x MS = | Masked | Sand Grains | **Locati | on: PL = Pore Lining, M = Matrix |
| | oil Indicators: | Dopier | | | ,, e | maonou | | | ematic Hydric Soils: |
| - | tisol (A1) | | Sa | ndy Gleye | ad Matrix | (\$4) | | | dox (A16) (LRR K, L, R) |
| | tic Epipedon (A2) | | | ndy Redo | | (04) | | | (LRR K, L) |
| | | | | - | | | | | t or Peat (S3) (LRR K, L, R) |
| | ck Histic (A3) | 4) | | pped Ma | | | | • | |
| | Irogen Sulfide (A | , | | amy Mucl | - | | | - | Masses (F12) (LRR K, L, R) |
| | atified Layers (A5 |) | | amy Gley | | | | | rk Surface (TF12) |
| | m Muck (A10) | | | pleted Ma | • • • | | Othe | r (explain in | remarks) |
| | pleted Below Dark | | | dox Dark | | | | | |
| | ck Dark Surface (| | | pleted Da | | | *Indica | tors of hydro | ophytic vegetation and wetland |
| Sar | ndy Mucky Minera | ıl (S1) | Re | dox Depr | ressions | (F8) | hydro | logy must be | e present, unless disturbed or |
| 5 cr | m Mucky Peat or | Peat (S3 | 3) | | | | | | problematic |
| Restrictive | Layer (if observe | ed): | | | | | | | |
| <u> </u> | ravel, ballast, fill | | | | | | Hydric | soil presen | t? |
| Depth (inche | es): not determ | nined | | | | | | | |
| | | | | | | | | | |
| Remarks: | | | | | | | | | |
| Remarks: | | | | | | | | | |
| | pped as urban | land, a | and located be | tween r | ailroad | and gra | avel contract | or yard. | |
| Area ma | | land, a | and located be | tween r | ailroad | and gra | avel contract | or yard. | |
| Area ma | DGY | | and located be | tween r | ailroad | and gra | avel contract | or yard. | |
| Area ma HYDROLO Wetland Hy | DGY drology Indicato | ors: | | | | and gra | | | |
| Area ma HYDROLO Wetland Hy | DGY | ors: | | | | and gra | | | cators (minimum of two required) |
| Area ma HYDROLO Wetland Hy Primary Indi | DGY drology Indicato | ors: | | all that a | | | | condary India | cators (minimum of two required) Soil Cracks (B6) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface | DGY drology Indicato cators (minimum | ors: | | all that a | apply) | :13) | <u>Sec</u> | condary India | |
| Area ma HYDROLO Wetland Hy Primary Indi Surface | DGY rdrology Indicato cators (minimum Water (A1) ater Table (A2) | ors: | | all that a Aquatic | <u>apply)</u> Fauna (B uatic Plar | :13) | <u>Sec</u> - | condary India Surface S X Drainage | Soil Cracks (B6) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa | DGY rdrology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) | ors: | | all that a Aquatic True Aqu Hydroge | <u>apply)</u> Fauna (B uatic Plar n Sulfide | 13) nts (B14) Odor (C ² | <u>Sec</u> - 1) _ | condary India Surface S X Drainage Dry-Seas | Soil Cracks (B6) Patterns (B10) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio X Water M | DGY rdrology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) | ors: | | all that a Aquatic True Aqu Hydroge | <u>apply)</u> Fauna (B uatic Plar n Sulfide | 13) nts (B14) Odor (C ² | <u>Sec</u> - | Surface S Surface S Drainage Dry-Seas Crayfish | Soil Cracks (B6) Patterns (B10) son Water Table (C2) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio X Water M X Sedimer | DGY rdrology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) | ors: | | all that a Aquatic True Aqu Hydroge Oxidized (C3) | apply) Fauna (B uatic Plar n Sulfide I Rhizosp | 13) nts (B14) Odor (C ² | Sec - - - Living Roots - - | Surface S Surface S Drainage Dry-Seas Crayfish Saturatio | Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio X Water M X Sedimer Drift Dep | DGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) | ors: | | all that a Aquatic True Aqu Hydroge Oxidizec (C3) Presenc | apply) Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu | 113) hts (B14) Odor (C ² heres on uced Iron | <u>Sec</u> - - - - - - - - - - - - - - - - - - - | Surface S Surface S Drainage Dry-Seas Crayfish Saturatio Stunted c | Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio X Water M X Sedimer Drift Dep X Algal Ma | DGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) | ors: | | all that a Aquatic True Aqu Hydroge Oxidizec (C3) Presenc Recent I | apply) Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu | 113) hts (B14) Odor (C ² heres on uced Iron | Sec - - - Living Roots - - | Surface S Surface S Drainage Dry-Seas Crayfish Saturatio Stunted c Geomorp | Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) whic Position (D2) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio X Water M X Sedimer Drift Dep X Algal Ma Iron Dep | DGY drology Indicato <u>cators (minimum</u> Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) | ors: of one is | s required; check | <u>all that a</u> Aquatic I True Aqu Hydroge Oxidizec (C3) Presenc Recent I (C6) | apply) Fauna (B Jatic Plar n Sulfide I Rhizosp e of Redu ron Redu | 13) nts (B14) Odor (C ² wheres on uced Iron uction in T | <u>Sec</u> - - - - - - - - - - - - - - - - - - - | Surface S Surface S Drainage Dry-Seas Crayfish Saturatio Stunted c Geomorp | Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio X Water M X Sedimer Drift Dep X Algal Ma Iron Dep Inundatio | DGY drology Indicato <u>cators (minimum</u> Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria | ors: of one is | s required; check | all that a Aquatic True Aqu Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu | apply) Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac | 13) nts (B14) Odor (C ⁴ wheres on uced Iron uction in T ce (C7) | <u>Sec</u> - - - - - - - - - - - - - - - - - - - | Surface S Surface S Drainage Dry-Seas Crayfish Saturatio Stunted c Geomorp | Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) whic Position (D2) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio X Water M X Sedimer Drift Dep X Algal Ma Iron Dep Inundatio Sparsely | DGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca | ors: of one is I Imagery ve Surfa | s required; check | all that a Aquatic True Aqu Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu Gauge c | apply) Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da | 13) Odor (C ² heres on uced Iron uction in T ce (C7) ata (D9) | Sec - - - - - - - - - - - - - | Surface S Surface S Drainage Dry-Seas Crayfish Saturatio Stunted c Geomorp | Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) whic Position (D2) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio X Water M X Sedimer Drift Dep X Algal Ma Iron Dep Inundatio Sparsely X Water-S | DGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9) | ors: of one is I Imagery ve Surfa | s required; check | all that a Aquatic True Aqu Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu Gauge c | apply) Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da | 13) nts (B14) Odor (C ⁴ wheres on uced Iron uction in T ce (C7) | Sec - - - - - - - - - - - - - | Surface S Surface S Drainage Dry-Seas Crayfish Saturatio Stunted c Geomorp | Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) whic Position (D2) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio X Water M X Sedimer Drift Dep X Algal Ma Iron Dep Inundatio Sparsely X Water-S Field Obser | DGY rdrology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 rvations: | ors: of one is I Imagery ve Surfac) | s required; check | all that a Aquatic True Aqu Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E | apply) Fauna (B Jatic Plar n Sulfide I Rhizosp e of Redu ron Redu ron Redu ck Surfac r Well Da xplain in | 113) nts (B14) Odor (C ² wheres on uced Iron uced Iron iction in T ce (C7) ata (D9) Remarks | Sec - - - - - - - - - - - - - | Surface S Surface S Drainage Dry-Seas Crayfish Saturatio Stunted c Geomorp | Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) or Stressed Plants (D1) whic Position (D2) ttral Test (D5) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio X Water M X Sedimer Drift Dep X Algal Ma Iron Dep Inundatio Sparsely X Water-S | DGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 rvations: er present? | ors: of one is I Imagery ve Surfa | s required; check | all that a Aquatic True Aqu Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu Gauge c | apply) Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da | 113) nts (B14) Odor (C ² wheres on uced Iron uced Iron inction in T ce (C7) ata (D9) Remarks inches): | Sec - - - - - - - - - - - - - | Crayfish Saturatio Stunted of Geomorp FAC-Neu | Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) or Stressed Plants (D1) whic Position (D2) ttral Test (D5) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio X Water M X Sedimer Drift Dep X Algal Ma Iron Dep Inundatio Sparsely X Water-S Field Obser Surface wat | DGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 rvations: er present? present? | ors: of one is I Imagery ve Surfac) Yes | s required; check | all that a Aquatic I True Aqu Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E | apply) Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu ron Redu ck Surfac r Well Da xplain in | 13) Odor (C ² heres on uced Iron uction in T ce (C7) ata (D9) Remarks inches): inches): | Sec - - - - - - - - - - - - - | Crayfish Saturatio Stunted of Geomorp FAC-Neu Wet hydr | Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) or Stressed Plants (D1) whic Position (D2) thral Test (D5) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio X Water M X Sedimer Drift Dep X Algal Ma Iron Dep Inundatio Sparsely X Water-S Field Obser Surface wat Water table Saturation p (includes ca | DGY rdrology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 rvations: er present? present? present? present? present? pillary fringe) | I Imagery ve Surfac) Yes Yes Yes | s required; check | all that a Aquatic True Aqu Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E X X | apply) Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in Depth (i Depth (i | 13) Odor (C ² heres on uced Iron uction in T ce (C7) ata (D9) Remarks inches): inches): inches): | Sec - - - - - - - - - - - - - | Crayfish Saturatio Stunted of Geomorp FAC-Neu Wet hyde pres | Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) or Stressed Plants (D1) shic Position (D2) ttral Test (D5) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio X Water M X Sedimer Drift Dep X Algal Ma Iron Dep Inundatio Sparsely X Water-S Field Obser Surface wat Water table Saturation p (includes ca | DGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 rvations: er present? present? present? | I Imagery ve Surfac) Yes Yes Yes | s required; check | all that a Aquatic True Aqu Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E X X | apply) Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in Depth (i Depth (i | 13) Odor (C ² heres on uced Iron uction in T ce (C7) ata (D9) Remarks inches): inches): inches): | Sec - - - - - - - - - - - - - | Crayfish Saturatio Stunted of Geomorp FAC-Neu Wet hyde pres | Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) or Stressed Plants (D1) shic Position (D2) ttral Test (D5) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio X Water M X Sedimer Drift Dep X Algal Ma Iron Dep Inundatio Sparsely X Water-S Field Obser Surface wat Water table Saturation p (includes ca | DGY rdrology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 rvations: er present? present? present? present? present? pillary fringe) | I Imagery ve Surfac) Yes Yes Yes | s required; check | all that a Aquatic True Aqu Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E X X | apply) Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in Depth (i Depth (i | 13) Odor (C ² heres on uced Iron uction in T ce (C7) ata (D9) Remarks inches): inches): inches): | Sec - - - - - - - - - - - - - | Crayfish Saturatio Stunted of Geomorp FAC-Neu Wet hyde pres | Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) or Stressed Plants (D1) shic Position (D2) ttral Test (D5) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio X Water M X Sedimer Drift Dep X Algal Ma Iron Dep Inundatio Sparsely X Water-S Field Obsen Surface wat Water table Saturation p (includes ca Describe red | DGY rdrology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 rvations: er present? present? present? present? present? pillary fringe) | I Imagery ve Surfac) Yes Yes Yes | s required; check | all that a Aquatic True Aqu Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E X X | apply) Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in Depth (i Depth (i | 13) Odor (C ² heres on uced Iron uction in T ce (C7) ata (D9) Remarks inches): inches): inches): | Sec - - - - - - - - - - - - - | Crayfish Saturatio Stunted of Geomorp FAC-Neu Wet hyde pres | Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) or Stressed Plants (D1) shic Position (D2) ttral Test (D5) |
| Area ma HYDROLO Wetland Hy Primary Indi Surface High Wa Saturatio X Water M X Sedimer Drift Dep X Algal Ma Iron Dep Inundatio Sparsely X Water-S Field Obser Surface wat Water table Saturation p (includes ca | DGY rdrology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 rvations: er present? present? present? present? present? pillary fringe) | I Imagery ve Surfac) Yes Yes Yes | s required; check | all that a Aquatic True Aqu Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E X X | apply) Fauna (B uatic Plar n Sulfide I Rhizosp e of Redu ron Redu ck Surfac r Well Da xplain in Depth (i Depth (i | 13) Odor (C ² heres on uced Iron uction in T ce (C7) ata (D9) Remarks inches): inches): inches): | Sec - - - - - - - - - - - - - | Crayfish Saturatio Stunted of Geomorp FAC-Neu Wet hyde pres | Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) or Stressed Plants (D1) shic Position (D2) ttral Test (D5) |

| Project/Site Lake Calumet CTA Red Line Extension | City/0 | County: | Cook | | Sampling Date: | 8/13/2015 | |
|---|----------------|--------------|--------------------------------------|------------------|---|---|--|
| Applicant/Owner: CTA/MWRD | | State | e: Illin | ois | Sampling Point: | 9 | |
| Investigator(s): J Mengler, V Mosca | | | Section, Township, Range: T37N, R14E | | | | |
| Landform (hillslope, terrace, etc.): sw | ale | I | _ocal relief (co | ncave, convex | , none): | swale | |
| Slope (%): Lat: 41.66907 | 7 | Long: | -87.601 | 542 | Datum: | | |
| Soil Map Unit Name: orthents, loamy, nearly level | | | NV | VI Classificatio | on: | none | |
| Are climatic/hydrologic conditions of the site typical for | or this time o | of the year? | Y (| lf no, explain i | in remarks) | | |
| Are vegetation , soil Y , or hydro | logy | significan | tly disturbed? | Y Are "norr | mal circumstances" | | |
| | logy | | problematic? | N present? | | Y | |
| SUMMARY OF FINDINGS | | | | (If neede | d, explain any ans | wers in remarks.) | |
| Hydrophytic vegetation present? Y | | | | | | | |
| Hydric soil present? | | Is the | sampled area | within a wet | land? N | | |
| Wetland hydrology present? N | | | s, optional we | | | | |
| Remarks: (Explain alternative procedures here or in a | separate r | | ., | _ | | | |
| | a separate re | epon.) | | | | | |
| Relied primarily upon vegetation and landsca | ipe positio | n due to c | dry time of se | eason, and r | nostly urbanland | I/fill for substrate. | |
| VEGETATION Use scientific names of plar | nts | | | | | | |
| | Absolute | Dominan | t Indicator | Domina | nce Test Workshe | et | |
| <u>Tree Stratum</u> (Plot size: 9 m) | % Cover | Species | | Number of Do | ominant Species tha | t | |
| 1 | | | | | FACW, or FAC: | 1 (A) | |
| 2 | | | | Total Nun | nber of Dominant | | |
| 3 | | | | Species / | Across all Strata: | <u>2</u> (B) | |
| 4 | | | | | ominant Species that | | |
| 5 | | | | are OBL, | FACW, or FAC: | 50.00% (A/B) | |
| | <u> </u> | = Total Cov | er | <u> </u> | | | |
| Sapling/Shrub stratum (Plot size: 4.6 m 1 Rhamnus cathartica |) | Y | FAC | Total % (| nce Index Worksh | eet | |
| 2 | 100 | I | FAC | OBL spe | | 1 = 0 | |
| 3 | | | | FACW s | | 2 = 0 | |
| 4 | | | | FAC spe | · | | |
| 5 | | | | FACU sp | | 4 = 0 | |
| | 100 | = Total Cov | er | UPL spe | | 5 = 0 | |
| Herb stratum (Plot size: 1 m sq |) | | | Column f | totals 100 (A | .) <u>300</u> (B) | |
| 1 | 80 | Y | | Prevalen | ice Index = B/A = | 3.00 | |
| 2 | 10 | N | | | | | |
| 3 | 10 | N | | | nytic Vegetation In | | |
| 4 | 2 | <u> </u> | | | d test for hydrophy | • | |
| 5 | 2 | N | | | inance test is >50% | - | |
| 6 7 | | | | | alence index is ≤3. | U | |
| 8 | | | | | phological adaptation | | |
| 9 | | | | | oorting data in Rem irate sheet) | | |
| 10 | | | | | lematic hydrophytic | vegetation* | |
| | 104 | = Total Cov | er | (expl | | - egotatori | |
| <u>Woody vine stratum</u> (Plot size: 1 m sq 1 |) | | | | rs of hydric soil and we resent, unless disturbe | tland hydrology must be d or problematic | |
| 2 | | | | · · · · · | rophytic | | |
| | 0 | = Total Cov | er | vege pres | ent? Y | _ | |
| Remarks: (Include photo numbers here or on a separ | rate sheet) | | | | | | |

| SOIL |
|------|
|------|

| Profile Des | cription: (Descr | ibe to th | ne depth neede | d to doci | ument th | e indica | tor or confirm | the absen | ce of indicators.) |
|--------------|---|-----------|------------------|--------------|------------|-------------|-----------------------|-------------|--|
| Depth | Matrix | | | edox Feat | | | | | |
| (Inches) | Color (moist) | % | Color (moist) | % | Type* | Loc** | Textur | e | Remarks |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | _ | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| *Type: C = 0 | Concentration, D | = Deplet | ion, RM = Redu | iced Matr | ix, MS = | Masked | Sand Grains. | **Locati | ion: PL = Pore Lining, M = Matrix |
| Hydric So | il Indicators: | | | | | | Indicators | for Proble | ematic Hydric Soils: |
| Hist | isol (A1) | | Sa | indy Gley | ed Matrix | (S4) | Coast | Prairie Re | dox (A16) (LRR K, L, R) |
| | ic Epipedon (A2) | | Sa | indy Redo | ox (S5) | | Dark S | urface (S7 | 7) (LRR K, L) |
| Bla | ck Histic (A3) | | | ripped Ma | | | | | t or Peat (S3) (LRR K, L, R) |
| | rogen Sulfide (A | 4) | | amy Muc | | | | • | Masses (F12) (LRR K, L, R) |
| | atified Layers (A5 | | | amy Gley | | . , | | - | rk Surface (TF12) |
| | n Muck (A10) | , | | pleted M | | | | explain in | |
| | leted Below Darl | k Surface | | dox Dark | . , | | | | |
| | ck Dark Surface (| | | pleted Da | | • • | | | |
| | idy Mucky Minera | | | dox Depi | | | | | ophytic vegetation and wetland e present, unless disturbed or |
| | n Mucky Peat or | | | | 00010110 | (10) | nyuroio | | problematic |
| | - | | , | | | 1 | | | |
| | Layer (if observer avel, ballast, fill | eu). | | | | | Hydric s | oil presen | +2 |
| Depth (inche | | nined | | | - | | Tryanci se | n presen | |
| Remarks: | · | | | | - | | | | |
| rtemarks. | | | | | | | | | |
| Area ma | pped as urban | land, a | and 2-3 feet h | iaher in | elevatio | n than | adiacent wetl | and swal | es |
| | | , . | | J | | | | | |
| HYDROLO | DGY | | | | | | | | |
| Wetland Hy | drology Indicate | ors: | | | | | | | |
| Primary Indi | cators (minimum | of one is | s required; chec | k all that | apply) | | <u>Seco</u> | ndary Indie | cators (minimum of two required) |
| Surface | Water (A1) | | | Aquatic | Fauna (B | 13) | | Surface S | Soil Cracks (B6) |
| High Wa | ter Table (A2) | | | True Aq | uatic Plar | nts (B14) | | Drainage | Patterns (B10) |
| Saturatio | on (A3) | | | Hydroge | en Sulfide | Odor (C1 | 1) | Dry-Seas | son Water Table (C2) |
| Water M | arks (B1) | | | Oxidized | Rhizoso | heres on | Living Roots | Crayfish | Burrows (C8) |
| Sedimer | t Deposits (B2) | | | (C3) | | | | Saturatio | n Visible on Aerial Imagery (C9) |
| Drift Dep | oosits (B3) | | | Presenc | e of Redu | uced Iron | (C4) | Stunted of | or Stressed Plants (D1) |
| Algal Ma | t or Crust (B4) | | | Recent | Iron Redu | uction in T | Tilled Soils | Geomorp | phic Position (D2) |
| - | osits (B5) | | | (C6) | Inon recut | | | FAC-Neu | Itral Test (D5) |
| | on Visible on Aeria | I Imagery | / (B7) | Thin Mu | ck Surfac | e (C7) | | _ | |
| | Vegetated Conca | | · · · · | | or Well Da | | | | |
| | tained Leaves (B9 | | · · · · | - ° | xplain in | . , | .) | | |
| Field Obser | | / | | 01.01 (2 | | | ·) | | |
| Surface wat | | Yes | No | х | Depth (i | inches): | | Wet | land |
| Water table | present? | Yes | No | Х | Depth (| , | | hyd | rology |
| Saturation p | | Yes | No | Х | Depth (i | inches): | 0 | pres | sent? N |
| • | pillary fringe) | | | all a | un hat | | in an anti- in a life | | |
| Describe red | corded data (stre | am gaug | e, monitoring w | eii, aerial | priotos, | previous | inspections), if | avaliable: | |
| Remarks: | | | | | | | | | |
| | | | | | | | | | |
| 2-3 feet | higher in eleva | tion tha | n adjacent w | etland s | wales w | ith no e | evidence of hy | /drology | |

| Project/Site Lake Calumet CTA Red Line Extension | City/0 | County: Cook | | | Sampling Date: | 8/19/2015 | |
|---|---------------|--------------|------------------|--------------------|--|-------------------------|--|
| Applicant/Owner: CTA/MWRD | | Sta | ite: Illir | nois | Sampling Point: | 10 | |
| Investigator(s): J Mengler, V Mosca | | | Section, Town | ship, Range: | T37N, F | 14E, S27 | |
| Landform (hillslope, terrace, etc.): swa | ale | | Local relief (co | ncave, conve | k, none): | swale | |
| Slope (%): Lat: 41.65712 | | Long: | -87.600 | 738 | Datum: | | |
| Soil Map Unit Name: orthents, loamy, nearly level | | | | VI Classificatio | on: | none | |
| Are climatic/hydrologic conditions of the site typical fo | r this time o | f the year | ?Y (| (If no, explain | in remarks) | | |
| Are vegetation, soilY, or hydrol | ogy | significa | ntly disturbed? | Y Are "nor | mal circumstances | | |
| Are vegetation, soil, or hydrol | ogy | naturally | / problematic? | N present? | > | Y | |
| SUMMARY OF FINDINGS | | | | (If neede | ed, explain any ans | wers in remarks.) | |
| Hydrophytic vegetation present? Y | | | | | | | |
| Hydric soil present? | | Is th | e sampled area | a within a wet | land? Y | | |
| Wetland hydrology present? Y | | lfy | yes, optional we | tland site ID: | Wetland 8 | | |
| Remarks: (Explain alternative procedures here or in a | separate re | eport.) | | | | | |
| | | | du sting of o | | | | |
| Relied primarily upon vegetation and landsca | pe positio | n due lo | ary time of se | eason, and r | nostiy urbaniano | mini for substrate. | |
| VEGETATION Use scientific names of plan | ts. | | | | | | |
| | Absolute | Domina | int Indicator | Domina | nce Test Workshe | et | |
| Tree Stratum (Plot size: 9 m) | % Cover | Specie | s Status | | ominant Species that | t | |
| 1 | | | | are OBL | , FACW, or FAC: | (A) | |
| 2 | | | | | nber of Dominant | 1 (P) | |
| 3 | | | | | Across all Strata: | <u> </u> | |
| 5 | | | | | ominant Species tha , FACW, or FAC: | t 100.00% (A/B) | |
| | 0 | = Total Co | over | | , - , | (==) | |
| Sapling/Shrub stratum (Plot size: 4.6 m | , | | | Prevale | nce Index Worksh | eet | |
| 1 | | | | Total % | Cover of: | | |
| 2 | | | | OBL spe | ecies <u>0</u> x | 1 = 0 | |
| 3 | | | | FACW s | · | | |
| 4 | | | | FAC spe | | 3 = 0 | |
| 5 | 0 | = Total Co | wer | FACU sp UPL spe | | 4 = 0 5 = 0 | |
| Herb stratum (Plot size: 1 m sq | | | 7001 | Column | | | |
| 1 Phragmites australis | 100 | Y | FACW | | nce Index = $B/A =$ | 2.00 | |
| 2 | | | | | | | |
| 3 | | | | Hydroph | nytic Vegetation Ir | dicators: | |
| 4 | | | | Rapi | id test for hydrophy | tic vegetation | |
| 5 | | | | | ninance test is >50% | | |
| 6 | | | | X Prev | alence index is ≤3. | 0* | |
| 7 | | | | | phological adaptation | | |
| 8 | | | | | porting data in Rem arate sheet) | arks or on a | |
| 9 10 | | | | · | , | | |
| `` <u></u> | 100 | = Total Co | over | Prob (exp | olematic hydrophytio Iain) | vegetation* | |
| Woody vine stratum (Plot size: 1 m sq | | | | `· | , | tland hydrology must be | |
| 1 | | | | | present, unless disturbe | | |
| 2 | | | | - | rophytic | | |
| | 0 | = Total Co | over | - | etation sent? Y | | |
| Pomarka: (Includo photo numboro horo or on a | ato choot) | | | pres | <u> </u> | | |
| Remarks: (Include photo numbers here or on a separ | ale Sheel) | | | | | | |
| | | | | | | | |

| SOIL | |
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| Profile Des | cription: (Descr | ibe to th | ne depth needed | to docu | ument th | e indica | tor or confirm t | he absence of indic | ators.) |
|----------------------------|-------------------------|-----------|---------------------|---------------|----------------------|-------------|--------------------|------------------------------------|---|
| Depth (Inches) | Matrix Color (moist) | % | Re Color (moist) | dox Feat % | <u>ures</u> Type* | Loc** | Texture | | Remarks |
| , , | | | , | | 51 | | | | |
| | | | | | | | | | |
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| | | | | | | | | | |
| | | | | | | | | | |
| *Tvne: C = (| Concentration, D | = Deplet | tion RM = Reduc | ed Matri | x MS = | Masked | Sand Grains | **Location: PL = P | ore Lining, M = Matrix |
| | oil Indicators: | 20010 | | | ,, e | maenea | | or Problematic Hyd | - |
| • | tisol (A1) | | Sa | ndy Gleye | ed Matrix | (S4) | | Prairie Redox (A16) (| |
| | tic Epipedon (A2) | | | ndy Redo | | (0.) | | urface (S7) (LRR K, | |
| | ck Histic (A3) | | | pped Ma | | | | ucky Peat or Peat (S | |
| | Irogen Sulfide (A | 4) | | amy Mucl | . , | | | nganese Masses (F | , , , , |
| | atified Layers (A5 | | | amy Gley | | . , | | allow Dark Surface | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |
| | m Muck (A10) |) | | pleted Ma | | . , | | explain in remarks) | (11 12) |
| | pleted Below Darl | Surfac | | dox Dark | . , | | | | |
| | ck Dark Surface (| | · · · · | pleted Da | | . , | | | |
| | ndy Mucky Minera | | | dox Depr | | | | s of hydrophytic veg | |
| | n Mucky Peat or | | | | 00010110 | (10) | nyarolog | y must be present, u problemati | |
| | Layer (if observ | , | -) | | | | | P | - |
| | ravel, ballast, fill | cuj. | | | | | Hvdric soi | il present? | |
| Depth (inche | | nined | | | • | | | · · · · · · | - |
| | pped as urban | land, a | and located be | tween g | gravel ro | oads. | | | |
| HYDROLO | | | | | | | | | |
| - | drology Indicato | | | | | | _ | | |
| | cators (minimum | of one is | s required; check | | | | Secon | · · · · · | imum of two required) |
| | Water (A1) | | | | Fauna (B | - | | Surface Soil Cracks | |
| | ater Table (A2) | | | - | uatic Plar | | | Drainage Patterns (E | |
| Saturatio | | | | Hydroge | n Sulfide | Odor (C | 1) | Dry-Season Water T | |
| | larks (B1) | | | | l Rhizosp | heres on | Living Roots | Crayfish Burrows (Ca | |
| | nt Deposits (B2) | | | (C3) | | | <u> </u> | Saturation Visible on | |
| | posits (B3) | | | Presenc | e of Redi | uced Iron | (C4) | Stunted or Stressed | |
| - č | at or Crust (B4) | | | | ron Redu | iction in T | illed Soils | Geomorphic Position | |
| | oosits (B5) | | | (C6) | | (07) | | FAC-Neutral Test (D | 5) |
| | on Visible on Aeria | | | - | ck Surfac | | | | |
| | Vegetated Conca | | се (ва) | - | or Well Da | | 、 | | |
| | tained Leaves (B9 |) | | Other (E | xplain in | Remarks |) | | |
| Field Obser Surface wat | | Yes | No | х | Depth (i | inches). | | Wetland | |
| Water table | | Yes | No | X | Depth (i | , | | hydrology | |
| Saturation p | | Yes | X No | | Depth (| inches): | 0 | present? | Y |
| | pillary fringe) | | _ | | | | | | |
| Describe red | corded data (strea | am gaug | ge, monitoring we | ell, aerial | photos, | previous | inspections), if a | vailable: | |
| | | | | | | | | | |
| Remarks: | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

| Project/Site Lake Calumet CTA Red Line Extension | City/ | County: Cook | | | Sampling Date: | 8/19/2015 |
|--|----------------|---------------|----------------|-------------------|--|---|
| Applicant/Owner: CTA/MWRD | | State: | Illin | iois S | Sampling Point: | 11 |
| Investigator(s): J Mengler, V Mosca | | Se | ction, Towns | ship, Range: | T37N, R ⁻ | 14E, S27 |
| Landform (hillslope, terrace, etc.): sw | ale | Lo | cal relief (co | ncave, convex, | , none): | swale |
| Slope (%): Lat: 41.665712 | 2 | Long: | -87.6007 | 738 | Datum: | |
| Soil Map Unit Name: orthents, loamy, nearly level | | | NV | VI Classificatio | n: r | none |
| Are climatic/hydrologic conditions of the site typical for | or this time o | of the year? | Y (| If no, explain ir | n remarks) | |
| Are vegetation , soil Y , or hydro | logy | significantly | disturbed? | Y Are "norm | nal circumstances" | |
| | logy | | | N present? | | Y |
| SUMMARY OF FINDINGS | | | | (If needed | d, explain any answ | vers in remarks.) |
| Hydrophytic vegetation present? Y | | | | | | |
| Hydric soil present? | | Is the sa | mpled area | within a wetla | and? N | |
| Wetland hydrology present? N | | | • | tland site ID: | | |
| Remarks: (Explain alternative procedures here or in a | senarate r | | • | | | |
| | a separate r | epon.) | | | | |
| Relied primarily upon vegetation and landsca | ipe positio | n due to dry | / time of se | eason, and m | nostly urbanland | /fill for substrate. |
| VEGETATION Use scientific names of plar | nts. | | | | | |
| | Absolute | Dominant | Indicator | Dominan | ice Test Workshee | ət |
| Tree Stratum (Plot size: 9 m) | % Cover | Species | Status | Number of Do | ominant Species that | |
| 1 | | | | | FACW, or FAC: | 0 (A) |
| 2 | | | | Total Num | ber of Dominant | |
| 3 | | | | Species A | Across all Strata: | 0 (B) |
| 4 | | | | | minant Species that | |
| 5 | | | | are OBL, | FACW, or FAC: | 0.00% (A/B) |
| Conling/Chrub stratum (Dist size) 4.6 m | <u> </u> | = Total Cover | | Drevelan | oo Indox Morkoba | |
| Sapling/Shrub stratum (Plot size: 4.6 m |) | | | Total % C | ce Index Workshe | et |
| 2 | | | | OBL spec | | = 0 |
| 3 | | | | FACW sp | | |
| 4 | | | | FAC spec | | |
| 5 | | | | FACU sp | | = 0 |
| | 0 | = Total Cover | | UPL spec | cies 0 x 5 | i = 0 |
| Herb stratum (Plot size: 1 m sq |) | | | Column te | ` |) <u> </u> |
| 1 Ambrosia trifida | | | FAC | Prevalence | ce Index = B/A = | |
| 2 Artemisia vulgaris | | | UPL | | | |
| 3 Melilotus albus | | | FACU | | ytic Vegetation Ind | |
| 4 Arctium minus | | | FACU | | d test for hydrophyti | - |
| 5 <u>Lotus corniculata</u> 6 | | | FACU | | nance test is >50% alence index is ≤3.0 | |
| 7 | | | | | | |
| 8 | | | | | hological adaptatio orting data in Rema | |
| 9 | | | | | rate sheet) | |
| 10 | | | | Probl | ematic hydrophytic | vegetation* |
| | 0 | = Total Cover | | (expla | | č |
| Woody vine stratum (Plot size: 1 m sq 1 |) | | | | s of hydric soil and wetl esent, unless disturbed | and hydrology must be or problematic |
| 2 | | | | Hydr | ophytic | |
| | 0 | = Total Cover | | vege prese | tation ent? <u>N</u> | _ |
| Remarks: (Include photo numbers here or on a separ | rate sheet) | | | | | |

| SOIL |
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| Profile Des | cription: (Descr | ibe to th | ne depth needed | to docu | iment th | ne indica | tor or confirm | the absence | of indicators.) | |
|----------------------------|---|-----------|-------------------|---------------|------------|-------------|------------------|-----------------|---------------------------------------|--------|
| Depth | Matrix | | | dox Feati | | | | | - | |
| (Inches) | Color (moist) | % | Color (moist) | % | Type* | Loc** | Textu | e | Remarks | |
| | | | | | | | | | | |
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| | | | | | | | | | | |
| | Concentration, D | = Deplet | ion, RM = Reduc | ed Matri | x, MS = | Masked | | | PL = Pore Lining, M = N | latrix |
| Hydric So | oil Indicators: | | | | | | | | tic Hydric Soils: | |
| Hist | tisol (A1) | | Sar | ndy Gleye | ed Matrix | (S4) | Coast | Prairie Redox | (A16) (LRR K, L, R) | |
| Hist | tic Epipedon (A2) | | Sar | ndy Redo | ox (S5) | | Dark S | Surface (S7) (L | .RR K, L) | |
| Bla | ck Histic (A3) | | Stri | pped Ma | trix (S6) | | 5 cm I | Nucky Peat or | Peat (S3) (LRR K, L, R) | |
| Hyd | drogen Sulfide (A | 4) | Loa | my Mucł | ky Minera | al (F1) | Iron-N | langanese Mas | sses (F12) (LRR K, L, R | .) |
| Stra | atified Layers (A5 |) | Loa | my Gley | ed Matri | x (F2) | Very S | Shallow Dark S | urface (TF12) | |
| 2 cr | m Muck (A10) | | Dep | pleted Ma | atrix (F3) |) | Other | (explain in rem | narks) | |
| | pleted Below Darl | < Surface | | dox Dark | • • | | | | | |
| | ck Dark Surface (| | · · · · | pleted Da | | | | | | |
| | ndy Mucky Minera | | | lox Depr | | | | | /tic vegetation and wetla | |
| | m Mucky Peat or | • • | | юх Вері | 00010110 | (10) | nyaroic | | esent, unless disturbed o plematic | or |
| | - | |) | | | • | | pior | | |
| | Layer (if observe | ed): | | | | | Li velui e e | - 11 | | |
| Type: gr Depth (inche | ravel, ballast, fill es): not determ | nined | | | | | Hydric s | oil present? | | |
| | es). <u>Hot detern</u> | inteu | | | | | | | | |
| Remarks: | | | | | | | | | | |
| | | | | | | | | | | |
| Area ma | pped as urban | land, a | and 2-4 feet hig | gher in e | elevatio | on than | adjacent wet | land swales. | | |
| | | | | | | | | | | |
| HYDROLO | | | | | | | | | | |
| - | drology Indicato | | | | | | | | | |
| Primary Indi | cators (minimum | of one is | s required; check | all that a | apply) | | Seco | ondary Indicato | rs (minimum of two requ | uired) |
| Surface | Water (A1) | | | Aquatic I | Fauna (B | 13) | | Surface Soil | Cracks (B6) | |
| High Wa | ater Table (A2) | | | True Aqu | uatic Plar | nts (B14) | | Drainage Pat | terns (B10) | |
| Saturatio | on (A3) | | | Hydroge | n Sulfide | Odor (C1 | 1) | Dry-Season V | Water Table (C2) | |
| Water M | larks (B1) | | | Oxidized | l Rhizosp | heres on | Living Roots | Crayfish Burr | ows (C8) | |
| Sedimer | nt Deposits (B2) | | | (C3) | | | ge.e. | Saturation Vis | sible on Aerial Imagery (C | 9) |
| Drift Dep | oosits (B3) | | | Presenc | e of Redu | uced Iron | (C4) | Stunted or St | ressed Plants (D1) | |
| Algal Ma | at or Crust (B4) | | | - Pocont I | ron Podu | uction in T | illed Soils | Geomorphic | Position (D2) | |
| | oosits (B5) | | | (C6) | Ion Redu | | | FAC-Neutral | | |
| | on Visible on Aeria | Imager | / (B7) | • • | ck Surfac | e (C7) | | | | |
| | Vegetated Conca | • • | | • | | | | | | |
| , | | | | | r Well Da | . , | ` | | | |
| | tained Leaves (B9 |) | | Other (E | xpiain in | Remarks |) | _ | | |
| Field Obser Surface wat | | Yes | No | х | Depth (i | inchee). | | Wetland | ł | |
| Water table | • | Yes | No | <u>X</u> | Depth (i | | | hydrolo | | |
| Saturation p | • | Yes | No | | Depth (i | , | 0 | present | | |
| | pillary fringe) | | | | | , | | | | |
| Describe red | corded data (strea | am gaug | e, monitoring we | ll, aerial | photos, | previous | inspections), if | available: | | |
| | | | - | | | | | | | |
| | | | | | | | | | | |
| Demonst | | | | | | | | | | |
| Remarks: | | | | | | | | | | |
| | higher in eleva | | | | | | | | | |

| Project/Site Lake Calumet CTA Red Line Extension | City/0 | County: Cook | | | Sampling Date: 8/19/2015 | | |
|---|---------------|---------------|---------------|------------------|---|------------------------|--|
| Applicant/Owner: CTA/MWRD | | State: | ate: Illinois | | Sampling Point: | 12 | |
| Investigator(s): J Mengler, V Mosca | | Se | ction, Towns | 14E, S26 | | | |
| Landform (hillslope, terrace, etc.): swa | ale | Loc | al relief (co | ncave, convex | , none): | swale | |
| Slope (%): Lat: 41.661704 | 1 | Long: | -87.5973 | 341 | Datum: | | |
| Soil Map Unit Name: orthents, clayey, undulating | | | | VI Classificatio | on: PFC | 1/EMCd | |
| Are climatic/hydrologic conditions of the site typical fo | r this time c | of the year? | Y (| If no, explain i | in remarks) | | |
| Are vegetation, soilY, or hydrol | ogy | significantly | disturbed? | Y Are "norr | mal circumstances" | | |
| Are vegetation, soil, or hydrol | | | | N present? | | Y | |
| SUMMARY OF FINDINGS | | | | | d, explain any ans | wers in remarks.) | |
| Hydrophytic vegetation present? Y | | | | | | | |
| Hydric soil present? | | Is the sa | mpled area | within a wet | land? Y | | |
| Wetland hydrology present? Y | | | - | | Wetland 9 | | |
| Remarks: (Explain alternative procedures here or in a | separate r | | • | - | | | |
| | i separate n | epon.) | | | | | |
| Relied primarily upon vegetation and landsca | pe positio | n due to dry | time of se | eason, and r | nostly urbanland | /fill for substrate. | |
| VEGETATION Use scientific names of plan | its | | | | | | |
| | Absolute | Dominant | Indicator | Domina | nce Test Workshe | et | |
| <u>Tree Stratum</u> (Plot size: 9 m) | % Cover | Species | Status | Number of D | ominant Species tha | • | |
| 1 | | | | | FACW, or FAC: | 1 (A) | |
| 2 | | | | Total Nur | nber of Dominant | | |
| 3 | | | | Species / | Across all Strata: | <u> </u> | |
| 4 | | | | | ominant Species that | | |
| 5 | | | | are OBL, | FACW, or FAC: | 100.00% (A/B) | |
| Openities (Ohmethis teachangel (Distributions) 4.0 mm | | = Total Cover | | Durali | | - 4 | |
| Sapling/Shrub stratum (Plot size: 4.6 m |) | | | | nce Index Worksho Cover of: | eet | |
| 2 | | | | OBL spe | | 1 = 0 | |
| 3 | | | | | pecies 100 x 2 | | |
| 4 | | | | FAC spe | · | 3 = 0 | |
| 5 | | | | FACU sp | | 4 = 0 | |
| | 0 | = Total Cover | | UPL spe | cies 0 x s | 5 = 0 | |
| Herb stratum (Plot size: 1 m sq |) | | | Column | totals 100 (A |) 200 (B) | |
| 1 Phragmites australis | 100 | Y | FACW | Prevalen | ice Index = B/A = | 2.00 | |
| 2 | | | | | | | |
| 3 | | | | | nytic Vegetation In | | |
| 4 | | | | | d test for hydrophyl | • | |
| 5 6 | | | | | inance test is >50% alence index is ≤3.0 | | |
| 6 7 | | | | | | 5 | |
| 8 | | | | | phological adaptation | | |
| 9 | | | | | irate sheet) | | |
| 10 | | | | | lematic hydrophytic | vegetation* | |
| | 100 | = Total Cover | | (expl | | J | |
| Woody vine stratum (Plot size: 1 m sq |) | | | *Indicator | rs of hydric soil and wet | land hydrology must be | |
| 1 | | | | р | resent, unless disturbed | | |
| 2 | | | | - | rophytic | | |
| | 0 | = Total Cover | | - | etation ent? Y | | |
| Remarks: (Include photo numbers here or on a separ | ate sheet) | | | 1 | | - | |
| | | | | | | | |
| | | | | | | | |

| SOIL |
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| Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) | | | | | | | | | | |
|--|--|--|---|--|---|--|--|--|--|--|
| Depth | Matrix | | | dox Featu | | | | | | |
| (Inches) | Color (moist) | % | Color (moist) | % | Type* | Loc** | Texture | Remarks | | |
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| | L | I | | | | | | | | |
| *Type: C = 0 | Concentration, D : | = Deplet | ion, RM = Reduc | ed Matri | x, MS = | Masked | Sand Grains. **Lo | cation: PL = Pore Lining, M = Matrix | | |
| Hydric Sc | oil Indicators: | | | | | | Indicators for Pro | oblematic Hydric Soils: | | |
| Hist | tisol (A1) | | Sar | ndy Gleye | ed Matrix | x (S4) | Coast Prairie | Redox (A16) (LRR K, L, R) | | |
| Hist | tic Epipedon (A2) | | Sar | ndy Redo | ox (S5) | | Dark Surface | (S7) (LRR K, L) | | |
| Blac | ck Histic (A3) | | Stri | ipped Ma | trix (S6) | | 5 cm Mucky F | eat or Peat (S3) (LRR K, L, R) | | |
| Hyd | drogen Sulfide (A4 | 4) | Loa | amy Muck | ky Miner | al (F1) | Iron-Mangane | se Masses (F12) (LRR K, L, R) | | |
| | atified Layers (A5) | | Loa | amy Gleye | ed Matrix | x (F2) | | Dark Surface (TF12) | | |
| | m Muck (A10) | | | pleted Ma | | . , | Other (explain | | | |
| | pleted Below Dark | k Surfac | | dox Dark | . , | , | 、 . | - , | | |
| | ck Dark Surface (A | | · · <u> </u> | pleted Da | | . , | the second by | · · · · · · · · · · · · · · · · · · · | | |
| | ndy Mucky Minera | | | dox Depr | | | | drophytic vegetation and wetland t be present, unless disturbed or | | |
| | m Mucky Peat or I | | | | | (• -) | nyurology mus | problematic | | |
| | Layer (if observe | | ') | | | 1 | | P | | |
| | ravel, ballast, fill | auj. | | | | | Hydric soil pres | ent? | | |
| Depth (inche | | nined | | | | | iljuite con p.c. | | | |
| Remarks: | | | | | | | | | | |
| Nemarka. | | | | | | | | | | |
| Area ma | apped as urban | land a | and located be | tween c | iravel n | arking r | had and road | | | |
| / 104 114 | pped de di sall | iuna, c | | Ween g | nuvoi r | anning i | | | | |
| HYDROLO | OGY | | | | | | | | | |
| | /drology Indicato | ors: | | | | | | | | |
| - | icators (minimum | | s required; check | all th <u>at a</u> | (ylqqe | | Secondary | | | |
| | Water (A1) | | | | | | | ndicators (minimum of two required) | | |
| | ater Table (A2) | | | | ⊏auna (B | 13) | - | | | |
| X Saturatio | | | | | Fauna (B uatic Plar | - | Surfac | ce Soil Cracks (B6) | | |
| | JII (AJ) | | _ | True Aqu | uatic Plar | nts (B14) | Surfac X Draina | ce Soil Cracks (B6) age Patterns (B10) | | |
| | | | _ | True Aqu Hydroge | uatic Plar n Sulfide | nts (B14) Odor (C1 | Surfac X Draina I) Dry-S | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) | | |
| | larks (B1) | | | True Aqu Hydroge Oxidized | uatic Plar n Sulfide | nts (B14) Odor (C1 | Surfac X Draina I) Dry-S Living Roots Crayfi | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) | | |
| Sedimer | larks (B1) nt Deposits (B2) | | | True Aqu Hydroger Oxidized (C3) | uatic Plar n Sulfide I Rhizosp | nts (B14) Odor (C1 oheres on | I) Crayfi Living Roots Satura | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9) | | |
| Sedimer Drift Dep | larks (B1) nt Deposits (B2) posits (B3) | | - | True Aqu Hydroger Oxidized (C3) | uatic Plar n Sulfide I Rhizosp | nts (B14) Odor (C1 | I) Surface X Drains Dry-S Living Roots Crayfi Satura (C4) Sturte | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) | | |
| Sedimer Drift Dep Algal Ma | larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) | | | True Aqu Hydrogen Oxidized (C3) Presence Recent In | uatic Plar n Sulfide I Rhizosp e of Redu | nts (B14) Odor (C1 oheres on uced Iron | I) Surface X Draina Dry-S Living Roots Crayfi Satura (C4) Stunte iilled Soils Geom | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) orphic Position (D2) | | |
| Sedimer Drift Dep Algal Ma Iron Dep | Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) | | | True Aqu Hydroger Oxidized (C3) Presence Recent In (C6) | uatic Plar In Sulfide I Rhizosp e of Redu ron Redu | nts (B14) Odor (C1 oheres on uced Iron uction in T | I) Surface X Draina Dry-S Living Roots Crayfi Satura (C4) Stunte iilled Soils Geom | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) | | |
| Sedimer Drift Dep Algal Ma Iron Dep Inundatio | farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria | | | True Aqu Hydroger Oxidized (C3) Presence Recent In (C6) Thin Mud | uatic Plar In Sulfide I Rhizosp e of Redu ron Redu ck Surfac | nts (B14) Odor (C1 oheres on uced Iron uction in T | I) Surface X Draina Dry-S Living Roots Crayfi Satura (C4) Stunte iilled Soils Geom | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) orphic Position (D2) | | |
| Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely | Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca | ive Surfac | | True Aqu Hydrogel Oxidized (C3) Presence Recent In (C6) Thin Muc Gauge o | uatic Plar in Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da | nts (B14) Odor (C1 oheres on uced Iron uction in T ce (C7) ata (D9) | I) Surface X Draina Dry-S Living Roots Crayfi (C4) Stunte iilled Soils FAC-I | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) orphic Position (D2) | | |
| Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely X Water-S | Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca Stained Leaves (B9) | ive Surfac | | True Aqu Hydrogel Oxidized (C3) Presence Recent In (C6) Thin Muc Gauge o | uatic Plar in Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da | nts (B14) Odor (C1 oheres on uced Iron uction in T | I) Surface X Draina Dry-S Living Roots Crayfi (C4) Stunte iilled Soils FAC-I | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) orphic Position (D2) | | |
| Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely X Water-S Field Obser | Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca Stained Leaves (B9) rvations: | ive Surfac | ce (B8) | True Aqu Hydrogel Oxidized (C3) Presence Recent In (C6) Thin Muc Gauge o Other (E | uatic Plar in Sulfide I Rhizosp e of Redu ron Redu ron Redu ck Surfaco or Well Da xplain in | nts (B14) Odor (C1 oheres on uced Iron uction in T ce (C7) ata (D9) Remarks | Surface X Drains Dry-S Living Roots Crayfi (C4) Stunte (C4) Geom FAC-1) | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) iorphic Position (D2) Neutral Test (D5) | | |
| Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely X Water-S Field Obser Surface wate | Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca Stained Leaves (B9) rvations: ter present? | ve Surfac | ce (B8) | True Aqu Hydrogel Oxidized (C3) Presence Recent In (C6) Thin Muc Gauge o Other (E | uatic Plar in Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da xplain in Depth (i | nts (B14) Odor (C1 oheres on uced Iron uction in T ce (C7) ata (D9) Remarks inches): | Surface X Draina Dry-S Living Roots Crayfi (C4) Sturte iilled Soils Geom FAC-I | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) orphic Position (D2) Neutral Test (D5) | | |
| Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely X Water-S Field Obser Surface wate Water table | Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca stained Leaves (B9) rvations: ter present? | ve Surfac) Yes Yes | Ce (B8) | True Aqu Hydrogel Oxidized (C3) Presence Recent In (C6) Thin Muc Gauge o Other (E) X | uatic Plar in Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da xplain in Depth (i Depth (i | nts (B14) Odor (C1 oheres on uced Iron uction in T ce (C7) ata (D9) Remarks inches): inches): | Surface X Draina Dry-S Living Roots Crayfi (C4) Sturte iilled Soils Geom FAC-I | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) orphic Position (D2) Neutral Test (D5) | | |
| Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely X Water-S Field Obser Surface wate Water table Saturation p | Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Conca stained Leaves (B9) rvations: ter present? | ve Surfac | ce (B8) | True Aqu Hydrogel Oxidized (C3) Presence Recent In (C6) Thin Muc Gauge o Other (E) X | uatic Plar in Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da xplain in Depth (i | nts (B14) Odor (C1 oheres on uced Iron uction in T ce (C7) ata (D9) Remarks inches): inches): | Surface X Draina Dry-S Living Roots Crayfi (C4) Sturte iilled Soils Geom FAC-I | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) orphic Position (D2) Neutral Test (D5) | | |
| Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely X Water-S Field Obser Surface wate Water table Saturation p (includes ca | Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Concar by Vegetated Concar concar present Concar present? present? present? present? present? present? present? present? present? present? present? present? | Yes Yes Yes Yes | Ce (B8) | True Aqu Hydrogel Oxidized (C3) Presence Recent II (C6) Thin Muc Gauge o Other (E X X | uatic Plar in Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da xplain in Depth (i Depth (i | nts (B14) Odor (C1 oheres on uced Iron uction in T ce (C7) ata (D9) Remarks inches): inches): | Surface X Draina Dry-S Living Roots Crayfi (C4) Sturte iilled Soils Geom FAC-I | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) orphic Position (D2) Neutral Test (D5) | | |
| Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely X Water-S Field Obser Surface wate Water table Saturation p (includes ca | Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Concar by Vegetated Concar concar present Concar present? present? present? present? present? present? present? present? present? present? present? present? | Yes Yes Yes Yes | Ce (B8) | True Aqu Hydrogel Oxidized (C3) Presence Recent II (C6) Thin Muc Gauge o Other (E X X | uatic Plar in Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da xplain in Depth (i Depth (i | nts (B14) Odor (C1 oheres on uced Iron uction in T ce (C7) ata (D9) Remarks inches): inches): | | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) orphic Position (D2) Neutral Test (D5) | | |
| Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely X Water-S Field Obser Surface wate Water table Saturation p (includes ca Describe rec | Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Concar by Vegetated Concar concar present Concar present? present? present? present? present? present? present? present? present? present? present? present? | Yes Yes Yes Yes | Ce (B8) | True Aqu Hydrogel Oxidized (C3) Presence Recent II (C6) Thin Muc Gauge o Other (E X X | uatic Plar in Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da xplain in Depth (i Depth (i | nts (B14) Odor (C1 oheres on uced Iron uction in T ce (C7) ata (D9) Remarks inches): inches): | | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) orphic Position (D2) Neutral Test (D5) | | |
| Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely X Water-S Field Obser Surface wate Water table Saturation p (includes ca | Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Concar by Vegetated Concar concar present Concar present? present? present? present? present? present? present? present? present? present? present? present? | Yes Yes Yes Yes | Ce (B8) | True Aqu Hydrogel Oxidized (C3) Presence Recent II (C6) Thin Muc Gauge o Other (E X X | uatic Plar in Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da xplain in Depth (i Depth (i | nts (B14) Odor (C1 oheres on uced Iron uction in T ce (C7) ata (D9) Remarks inches): inches): | | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) orphic Position (D2) Neutral Test (D5) | | |
| Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely X Water-S Field Obser Surface wat Water table Saturation p (includes ca Describe rec Remarks: | Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria y Vegetated Concar by Vegetated Concar concar present Concar present? present? present? present? present? present? present? present? present? present? present? present? | ve Surfac) Yes Yes Yes am gaug | ce (B8) No X No ge, monitoring we | True Aqu Hydrogel Oxidized (C3) Presence Recent II (C6) Thin Muc Gauge o Other (E X X | uatic Plar in Sulfide I Rhizosp e of Redu ron Redu ck Surfac or Well Da ixplain in Depth (i Depth (i Depth (i | nts (B14) Odor (C1 oheres on uced Iron uction in T ce (C7) ata (D9) Remarks inches): inches): | | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) orphic Position (D2) Neutral Test (D5) | | |

| Project/Site Lake Calumet CTA Red Line Extension | City/0 | County: | Cook | <u> </u> | Sampling Date: | 8/19/2015 |
|--|----------------|--------------|-----------------|---------------------|-----------------------------------|--|
| Applicant/Owner: CTA/MWRD | | State: | Illir | nois S | Sampling Point: | 13 |
| Investigator(s): J Mengler, V Mosca | | s | ection, Towns | ship, Range: | T37N, R | 14E, S26 |
| Landform (hillslope, terrace, etc.): sw | ale | Lo | ocal relief (co | ncave, convex, | none): | swale |
| Slope (%): Lat: 41.661704 | 4 | Long: | -87.5973 | 341 I | Datum: | |
| Soil Map Unit Name: orthents, loamy, nearly level | | | NV | VI Classification | n: I | none |
| Are climatic/hydrologic conditions of the site typical for | or this time o | of the year? | Y (| If no, explain ir | remarks) | |
| Are vegetation , soil Y , or hydro | logy | significantl | y disturbed? | Y Aro "norm | nal circumstances" | |
| | logy | | roblematic? | N present? | al circumstances | Y |
| SUMMARY OF FINDINGS | | | | (If needed | d, explain any ansv | vers in remarks.) |
| Hydrophytic vegetation present? Y | | | | | · · · | · |
| Hydric soil present? | | Is the s | ampled area | within a wetla | and? N | |
| Wetland hydrology present? N | | | - | tland site ID: | | |
| Remarks: (Explain alternative procedures here or in a | a senarate r | | ., | | | |
| | a separate re | epon.) | | | | |
| Relied primarily upon vegetation and landsca | ape positio | n due to di | ry time of se | eason, and m | ostly urbanland | /fill for substrate. |
| L VEGETATION Use scientific names of plar | nts | | | | | |
| | Absolute | Dominant | Indicator | Dominan | ce Test Workshe | et |
| <u>Tree Stratum</u> (Plot size: 9 m) | % Cover | Species | Status | Number of Do | minant Species that | |
| 1 | | | | | FACW, or FAC: | 2 (A) |
| 2 | | | | Total Num | ber of Dominant | |
| 3 | | | | Species A | cross all Strata: | <u> </u> |
| 4 | | | | Percent of Do | minant Species that | |
| 5 | | | | are OBL, | FACW, or FAC: | 33.33% (A/B) |
| | 0 | = Total Cove | r | | | |
| Sapling/Shrub stratum (Plot size: 4.6 m |) | | | | ce Index Workshe | eet |
| 1 | | | | Total % C | | 1- 10 |
| 3 | | | | OBL spec FACW sp | | |
| 4 | | | · | FAC spec | | |
| 5 | | | | FACU spe | | |
| | 0 | = Total Cove | r | UPL spec | | |
| Herb stratum (Plot size: 1 m sq |) | | | Column to | otals 60 (A |) 190 (B) |
| 1 Polygonum lapathifolium | 10 | Y | FACW | Prevalence | ce Index = B/A = | 3.17 |
| 2 Carduus nutans | 10 | Y | FACU | | | |
| 3 Medicago lupulina | 10 | Y | FACU | Hydrophy | vtic Vegetation In | dicators: |
| 4 Helianthus annuus | 10 | Y | FACU | | I test for hydrophyt | • |
| 5 Acnida altissima | 10 | Y | OBL | | nance test is >50% | |
| 6 Lotus corniculata | 10 | Y | FACU | Preva | llence index is ≤3.0 |)* |
| / | | | | | nological adaptatio | |
| 8 | | | | | orting data in Rema ate sheet) | arks or on a |
| 9 10 | | | | | , | wagatatian* |
| | 60 | = Total Cove | er | (expla | ematic hydrophytic ain) | vegetation |
| Woody vine stratum (Plot size: 1 m sq |) | | | <u> </u> | , | land hydrology syst h |
| 1 | | | | | esent, unless disturbed | land hydrology must be I or problematic |
| 2 | | | | - | ophytic | |
| | 0 | = Total Cove | r | veget | | |
| | | | | prese | ent? N | _ |
| Remarks: (Include photo numbers here or on a separ | rate sneet) | | | | | |
| | | | | | | |
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| SOIL |
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| Depth | Matrix | | | | dox Feat | | | | | |
|--|--|---|----------------------------------|----------------|--|---|--|--|--|--|
| (Inches) | Color (moist) | % | Color (n | noist) | % | Type* | Loc** | Text | ure | Remarks |
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| | Concentration, D | = Deplet | tion, RM = | Reduc | ced Matri | ix, MS = | Masked | | | tion: $PL = Pore Lining, M = N$ |
| Hydric So | oil Indicators: | | | | | | | | | lematic Hydric Soils: |
| Hist | tisol (A1) | | _ | Sar | ndy Gley | ed Matrix | x (S4) | Coas | st Prairie Re | edox (A16) (LRR K, L, R) |
| Hist | tic Epipedon (A2) |) | | Sar | ndy Redo | ox (S5) | | Dark | Surface (S | 7) (LRR K, L) |
| Bla | ck Histic (A3) | | _ | Stri | ipped Ma | atrix (S6) | | 5 cm | Mucky Pea | at or Peat (S3) (LRR K, L, R) |
| | drogen Sulfide (A | 4) | | | amy Muc | . , | | | • | Masses (F12) (LRR K, L, R |
| | atified Layers (A5 | | _ | | amy Gley | - | | | - | ark Surface (TF12) |
| | m Muck (A10) |) | - | | | | | | | |
| | · · · · | . Cumfa a | - (444) - | | pleted Ma | | , | | r (explain ir | rienarks) |
| | pleted Below Darl | | e (ATT) _ | | dox Dark | | . , | | | |
| | ck Dark Surface (| . , | - | | pleted Da | | . , | *Indica | tors of hydi | ophytic vegetation and wetla |
| Sar | ndy Mucky Minera | ıl (S1) | - | Re | dox Depr | ressions | (F8) | hydro | logy must b | e present, unless disturbed |
| 5 cr | m Mucky Peat or | Peat (S3 | 3) | | | | | | | problematic |
| | | | | | | | T | | | |
| | Layer (if observ | ed): | | | | | | | | |
| estrictive | Layer (if observer ravel, ballast, fill | ed): | | | | | | Hydric | soil presei | nt? |
| estrictive /pe: gr epth (inche | ravel, ballast, fill | | | | | - | | Hydric | soil presei | nt? |
| estrictive /pe: gi epth (inche emarks: | ravel, ballast, fill | nined | and a gra | | arking p | | feet hig | | - | |
| estrictive /pe: gi epth (inche emarks: Area ma | ravel, ballast, fill es): <u>not determ</u> pped as urban | nined | and a gra | avel pa | arking p | - bad 2-4 | feet hig | | - | |
| estrictive ype: guepth (inche emarks: Area ma | ravel, ballast, fill es): <u>not determ</u> pped as urban | land, a | and a gra | avel pa | arking p | - | feet hig | | - | |
| estrictive /pe: _gr epth (inche emarks: Area ma YDROL(etland Hy | ravel, ballast, fill es): <u>not determ</u> pped as urban DGY | land, a | | | | | feet hig | her than su | rrounding | |
| estrictive (pe:gi epth (inche emarks: Area ma YDROL(fetland Hy rimary Indi | ravel, ballast, fill es): <u>not determ</u> pped as urban DGY rdrology Indicato | land, a | | | call that a | apply) | | her than su | rrounding | wetland. icators (minimum of two requ |
| estrictive (pe: gr epth (inche emarks: Area ma YDROL(etland Hy imary Indi Surface | ravel, ballast, fill es): not determ pped as urban OGY rdrology Indicato icators (minimum Water (A1) | land, a | | | <u>all that a</u> Aquatic | <u>apply)</u> Fauna (B | 313) | her than su | condary Ind | wetland. icators (minimum of two requ Soil Cracks (B6) |
| estrictive ype: gi epth (inche emarks: Area ma YDROLO /etland Hy rimary Indi Surface High Wa | ravel, ballast, fill es): not determ pped as urban OGY rdrology Indicato icators (minimum Water (A1) ater Table (A2) | land, a | | | <u>all that a</u> Aquatic True Aq | <u>apply)</u> Fauna (B uatic Plar | 313) nts (B14) | her than sur Sec | condary Ind Surface | wetland. icators (minimum of two requ Soil Cracks (B6) e Patterns (B10) |
| estrictive ype: _gi epth (inche emarks: Area ma Area ma (YDROL(/etland Hy rimary Indi Surface High Wa Saturatio | ravel, ballast, fill es): not determ pped as urban DGY rdrology Indicato icators (minimum Water (A1) ater Table (A2) on (A3) | land, a | | | <u>all that a</u> Aquatic True Aq | <u>apply)</u> Fauna (B uatic Plar | 313) | her than sur Sec | condary Ind Surface Drainag Dry-Sea | wetland. icators (minimum of two requ Soil Cracks (B6) e Patterns (B10) son Water Table (C2) |
| estrictive ype: _gi epth (inche emarks: Area ma YDROL(YDROL(YDROL(YDROL(YDROL(Usurface High Wa Saturatic Water M | ravel, ballast, fill es): not determ pped as urban OGY rdrology Indicato icators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) | land, a | | | <u>all that a</u> Aquatic True Aq Hydroge | <u>apply)</u> Fauna (B uatic Plar en Sulfide | 313) nts (B14) : Odor (C1 | her than sur Sec | condary Ind Surface Drainag Dry-Sea Crayfish | wetland. icators (minimum of two requ Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) |
| estrictive ype: _gi epth (inche emarks: Area ma YDROL(YDROL(YDROL(YDROL(YDROL(Usurface High Wa Saturatic Water M | ravel, ballast, fill es): not determ pped as urban DGY rdrology Indicato icators (minimum Water (A1) ater Table (A2) on (A3) | land, a | | | all that a Aquatic True Aq Hydroge | <u>apply)</u> Fauna (B uatic Plar en Sulfide | 313) nts (B14) : Odor (C1 | her than sur <u>Sec</u>) | condary Ind Surface Drainag Dry-Sea Crayfish | wetland. icators (minimum of two requ Soil Cracks (B6) e Patterns (B10) son Water Table (C2) |
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| estrictive ype: gr epth (inche emarks: Area ma YDROLO Yetland Hy rimary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep | ravel, ballast, fill es): not determ pped as urban OGY rdrology Indicato rdrology In | land, a | | | <u>a all that a</u> Aquatic True Aq Hydroge Oxidizec (C3) Presenc | apply) Fauna (B uatic Plar en Sulfide d Rhizosp ce of Redu | B13) nts (B14) e Odor (C1 oheres on uced Iron | her than sur Sec) Living Roots _ (C4) _ | condary Ind Surface Drainag Dry-Sea Crayfish Saturatio Stunted | wetland. icators (minimum of two requ Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C |
| estrictive ype: gi epth (inche emarks: Area ma YDROL(/etland Hy rimary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma | ravel, ballast, fill es): not determ pped as urban OGY drology Indicato icators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) | land, a | | | <u>a all that a</u> Aquatic True Aq Hydroge Oxidizec (C3) Presenc | apply) Fauna (B uatic Plar en Sulfide d Rhizosp ce of Redu | 313) nts (B14) 9 Odor (C1 9 oheres on | her than sur Sec) Living Roots _ (C4) _ | condary Ind Surface Drainag Dry-Sea Crayfish Saturatio Stunted Geomor | wetland. <u>icators (minimum of two requ</u> Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C or Stressed Plants (D1) |
| estrictive ype:gi epth (inche emarks: Area ma YDROL(YDROL(/etland Hy rimary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep | ravel, ballast, fill es): not determ pped as urban OGY rdrology Indicato icators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) | nined land, a | s required: | | <u>a all that a</u> Aquatic True Aq Hydroge Oxidizec (C3) Presenc Recent I (C6) | apply) Fauna (B uatic Plar en Sulfide d Rhizosp d Rhizosp ce of Redu Iron Redu | 13) nts (B14) Odor (C1 oheres on uced Iron uced Iron | her than sur Sec) Living Roots _ (C4) _ | condary Ind Surface Drainag Dry-Sea Crayfish Saturatio Stunted Geomor | wetland. icators (minimum of two requ Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C or Stressed Plants (D1) phic Position (D2) |
| estrictive ppe:gi epth (inche emarks: Area ma YDROL(YDROL(Ydtand Hy rimary Indi | ravel, ballast, fill es): not determ pped as urban OGY rdrology Indicato icators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria | nined land, a ors: of one is | s required: | | c all that a Aquatic True Aq Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu | apply) Fauna (B uatic Plar en Sulfide d Rhizosp d Rhizosp ce of Redu Iron Redu | B13) nts (B14) e Odor (C1 oheres on uced Iron uction in T | her than sur Sec) Living Roots _ (C4) _ | condary Ind Surface Drainag Dry-Sea Crayfish Saturatio Stunted Geomor | wetland. icators (minimum of two requ Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C or Stressed Plants (D1) phic Position (D2) |
| estrictive ype:gi epth (inche emarks: Area ma Area ma (YDROL(Vetland Hy rimary Indi Surface High Wa Saturatio Saturatio Drift Dep Algal Ma Iron Dep Inundatio Sparsely | ravel, ballast, fill es): not determ pped as urban OGY rdrology Indicato rdrology In | nined land, a ors: of one is of one is | s required: | | c all that a Aquatic True Aq Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu Gauge c | apply) Fauna (B uatic Plar en Sulfide d Rhizosp d Rhizosp e of Redu Iron Redu Iron Redu ck Surfac | B13) Ints (B14) Odor (C1 Oheres on uced Iron uction in T ce (C7) ata (D9) | her than sur Sec) Living Roots _ (C4) _ illed Soils _ | condary Ind Surface Drainag Dry-Sea Crayfish Saturatio Stunted Geomor | wetland. icators (minimum of two requ Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C or Stressed Plants (D1) phic Position (D2) |
| estrictive ype: gi epth (inche emarks: Area ma YDROLO /etland Hy rimary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-S | ravel, ballast, fill es): not determ pped as urban OGY rdrology Indicato icators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca itained Leaves (B9) | nined land, a ors: of one is of one is | s required: | | c all that a Aquatic True Aq Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu Gauge c | apply) Fauna (B uatic Plar en Sulfide d Rhizosp d Rhizosp e of Redu Iron Redu Iron Redu ck Surfac | B13) nts (B14) e Odor (C1 oheres on uced Iron uction in T | her than sur Sec) Living Roots _ (C4) _ illed Soils _ | condary Ind Surface Drainag Dry-Sea Crayfish Saturatio Stunted Geomor | wetland. icators (minimum of two requ Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C or Stressed Plants (D1) phic Position (D2) |
| estrictive ype: gi epth (inche emarks: Area ma YDROLO /etland Hy rimary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-S | ravel, ballast, fill es): not determ pped as urban OGY rdrology Indicato icators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria / Vegetated Conca itained Leaves (B9 rvations: | nined land, a ors: of one is of one is nive Surfa | s required: | ; check | c all that a Aquatic True Aq Hydroge Oxidizec (C3) Presenc (C6) Thin Mu Gauge c Other (E | apply) Fauna (B uatic Plar en Sulfide d Rhizosp d Rhizosp ce of Redu lron Redu lron Redu ck Surfac or Well Da Explain in | B13) Ints (B14) Odor (C1 oheres on uced Iron uction in T ce (C7) ata (D9) Remarks | her than sur Sec) Living Roots _ (C4) _ illed Soils _ | condary Ind Surface Drainag Dry-Sea Crayfish Saturatio Stunted Geomor FAC-Ne | wetland. icators (minimum of two requ Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C or Stressed Plants (D1) phic Position (D2) utral Test (D5) |
| estrictive ype: gi epth (inche emarks: Area ma YDROLO /etland Hy rimary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-S ield Obser urface wat | ravel, ballast, fill es): not determ pped as urban OGY drology Indicato icators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria / Vegetated Conca itained Leaves (B9 rvations: er present? | al Imager Ne Surfa Yes | s required: | ; check | c all that a Aquatic True Aq Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E | apply) Fauna (B uatic Plar en Sulfide d Rhizosp d Rhizosp e of Redu iron Redu ick Surfac or Well Da Explain in | a13) ints (B14) odor (C1 oheres on uced Iron uction in T ce (C7) ata (D9) Remarks inches): | her than sur Sec) Living Roots _ (C4) _ illed Soils _ | condary Ind Surface Drainag Dry-Sea Crayfish Saturati Stunted Geomor FAC-Ne | wetland. icators (minimum of two requ Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C or Stressed Plants (D1) phic Position (D2) utral Test (D5) tland |
| estrictive ype: gi epth (inche emarks: Area ma YDROLO /etland Hy rimary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Inundatio Sparsely Water-S ield Obser urface wat /ater table | ravel, ballast, fill es): not determ pped as urban OGY rdrology Indicato (cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 rvations: er present? present? | al Imager Nors: of one is of other of one is of other of othe | s required: | <u>; check</u> | c all that a Aquatic True Aq Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E X X | apply) Fauna (B uatic Plar en Sulfide d Rhizosp d Rhizosp e of Redu lron Redu ck Surfac or Well Da Explain in Depth (| a13) nts (B14) Odor (C1 oheres on uced Iron uction in T ce (C7) ata (D9) Remarks inches): inches): | her than sur Sec) Living Roots _ (C4) _ illed Soils _ | condary Ind Surface Drainag Dry-Sea Crayfish Saturatio Stunted Geomor FAC-Ne | wetland. icators (minimum of two requ Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C or Stressed Plants (D1) phic Position (D2) utral Test (D5) tland irology |
| estrictive ype:gi epth (inche emarks: Area ma YDROL(YDROL(YDROL(YDROL(YDROL(Area ma YDROL(| ravel, ballast, fill es): not determ pped as urban OGY rdrology Indicato (cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria (Vegetated Conca tained Leaves (B9 rvations: present? present? | al Imager Ne Surfa Yes | s required: | ; check | c all that a Aquatic True Aq Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E | apply) Fauna (B uatic Plar en Sulfide d Rhizosp d Rhizosp e of Redu lron Redu ck Surfac or Well Da Explain in Depth (| a13) ints (B14) odor (C1 oheres on uced Iron uction in T ce (C7) ata (D9) Remarks inches): | her than sur Sec) Living Roots _ (C4) _ iilled Soils _) | condary Ind Surface Drainag Dry-Sea Crayfish Saturatio Stunted Geomor FAC-Ne | wetland. icators (minimum of two requ Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C or Stressed Plants (D1) phic Position (D2) utral Test (D5) tland |
| estrictive ype: gi epth (inche emarks: Area ma YDROLO /etland Hy rimary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Inundatio Sparsely Water-S Field Obser urface wat /ater table aturation p ncludes ca | ravel, ballast, fill es): not determ pped as urban OGY drology Indicato icators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria / Vegetated Conca itained Leaves (B9 rvations: er present? present? present? present? present? | al Imager of one is of other of one is of other of other of other | s required: y (B7) ce (B8) | Check | Aquatic True Aq Hydroge Oxidizec (C3) Presenc (C6) Thin Mu Gauge c Other (E X X X | apply) Fauna (B uatic Plar en Sulfide d Rhizosp d Rhizosp te of Redu lron Redu lron Redu ck Surfac or Well Da Explain in Depth (Depth (| a13) hts (B14) odor (C1 oheres on uced Iron uced Iron uced Iron ata (D9) Remarks inches): inches): inches): | her than sur Sec) Living Roots _ (C4) _ iilled Soils _) 0 | condary Ind Surface Drainag Dry-Sea Crayfish Saturatio Stuned Geomor FAC-Ne | wetland. icators (minimum of two requ Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C or Stressed Plants (D1) phic Position (D2) utral Test (D5) tland irology sent? N |
| estrictive ype: gi epth (inche emarks: Area ma YDROLO /etland Hy rimary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Inundatio Sparsely Water-S Field Obser urface wat /ater table aturation p ncludes ca | ravel, ballast, fill es): not determ pped as urban OGY rdrology Indicato (cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria (Vegetated Conca tained Leaves (B9 rvations: present? present? | al Imager of one is of other of one is of other of other of other oth | s required: y (B7) ce (B8) | Check | Aquatic True Aq Hydroge Oxidizec (C3) Presenc (C6) Thin Mu Gauge c Other (E X X X | apply) Fauna (B uatic Plar en Sulfide d Rhizosp d Rhizosp te of Redu lron Redu lron Redu ck Surfac or Well Da Explain in Depth (Depth (| a13) hts (B14) odor (C1 oheres on uced Iron uced Iron uced Iron ata (D9) Remarks inches): inches): inches): | her than sur Sec) Living Roots _ (C4) _ iilled Soils _) 0 | condary Ind Surface Drainag Dry-Sea Crayfish Saturatio Stuned Geomor FAC-Ne | wetland. icators (minimum of two requ Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C or Stressed Plants (D1) phic Position (D2) utral Test (D5) tland irology sent? N |
| estrictive ype: gi epth (inche emarks: Area ma YDROLO /etland Hy rimary Indi Surface High Wa Saturatio Water M Sedimer Drift Dep Inundatio Sparsely Water-S Field Obser urface wat /ater table aturation p ncludes ca | ravel, ballast, fill es): not determ pped as urban OGY drology Indicato icators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria / Vegetated Conca itained Leaves (B9 rvations: er present? present? present? present? present? | al Imager of one is of other of one is of other of other of other oth | s required: y (B7) ce (B8) | Check | Aquatic True Aq Hydroge Oxidizec (C3) Presenc (C6) Thin Mu Gauge c Other (E X X X | apply) Fauna (B uatic Plar en Sulfide d Rhizosp d Rhizosp te of Redu lron Redu lron Redu ck Surfac or Well Da Explain in Depth (Depth (| a13) hts (B14) odor (C1 oheres on uced Iron uced Iron uced Iron ata (D9) Remarks inches): inches): inches): | her than sur Sec) Living Roots _ (C4) _ iilled Soils _) 0 | condary Ind Surface Drainag Dry-Sea Crayfish Saturatio Stuned Geomor FAC-Ne | wetland. icators (minimum of two requ Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C or Stressed Plants (D1) phic Position (D2) utral Test (D5) tland irology sent? N |

| Project/Site Lake Calumet CTA Red Line Extension | City/C | County: | Cook | Sampling | Date: | 8/13/2015 |
|--|--------------|------------|-----------------|---------------------------------|------------------------------------|---------------------------------------|
| Applicant/Owner: CTA/MWRD | | State | : Illin | ois Sampling | Point: | 14 |
| Investigator(s): J Mengler, V Mosca | | | Section, Towns | ship, Range: | T37N, R14 | E, S26 |
| Landform (hillslope, terrace, etc.): swa | le | L | ocal relief (co | ncave, convex, none): | | swale |
| Slope (%): Lat: 41.659598 | | - | -87.5944 | | | |
| Soil Map Unit Name: urban land- orthents, clayey, com | plex, nearly | | | VI Classification: | no | ne |
| Are climatic/hydrologic conditions of the site typical for | | | | If no, explain in remarks | 3) | |
| Are vegetation, soilY, or hydrold | | - | | Y Are "normal circun | | |
| Are vegetation , soil , or hydrolo | | | | N present? | Islances | Y |
| SUMMARY OF FINDINGS | | ,, | | (If needed, explain | any answe | rs in remarks.) |
| Hydrophytic vegetation present? Y | | | | · · | | |
| Hydric soil present? | | Is the | sampled area | within a wetland? | Y | |
| Wetland hydrology present? Y | | | - | tland site ID: We | | _ |
| | concrete re | - | -, | | | |
| Remarks: (Explain alternative procedures here or in a | separate re | eport.) | | | | |
| Relied primarily upon vegetation and landscap | pe positior | n due to d | Iry time of se | eason, and mostly ur | banland/fi | Il for substrate. |
| VEGETATION Use scientific names of plant | te | | | | | |
| | Absolute | Dominant | Indicator | Dominance Test | Worksheet | |
| Tree Stratum (Plot size: 9 m) | % Cover | Species | Status | Number of Dominant Si | | |
| 1 | | | | are OBL, FACW, or | | 1 (A) |
| 2 | | | | Total Number of Do | minant – | |
| 3 | | | _ | Species Across all | Strata: | 1 (B) |
| 4 | | | | Percent of Dominant Sp | pecies that | |
| 5 | | | | are OBL, FACW, or | r FAC: | 100.00% (A/B) |
| | = | Total Cove | er | | | |
| Sapling/Shrub stratum (Plot size: 4.6 m) | | | | Prevalence Index | Workshee | t |
| 1 | | | | Total % Cover of: | 0 v 1 - | 0 |
| 2 | | | | OBL species FACW species | 0 x 1 = 100 x 2 = | |
| 4 | | | | FAC species | $\frac{100}{0}$ x 3 = | |
| 5 | | | | FACU species | 0 x 4 = | |
| | 0 = | Total Cove | er | UPL species | 0 x 5 = | |
| Herb stratum (Plot size: 1 m sq) | | | | Column totals | 100 (A) | 200 (B) |
| 1 Phragmites australis | 100 | Y | FACW | Prevalence Index | = B/A = | 2.00 |
| 2 | | | | | | |
| 3 | | | | Hydrophytic Vege | etation Indi | cators: |
| 4 | | | | Rapid test for | | vegetation |
| 5 | | | | X Dominance tes | | |
| 6 | | | | X Prevalence inc | 2ex is ≤3.0* | |
| / | | | | Morphological | | |
| 8 | | | | supporting dat separate shee | | ks or on a |
| 10 | | | | · | , | a actation* |
| ··· | 100 = | Total Cove | er | Problematic hy (explain) | | egetation |
| Woody vine stratum (Plot size: 1 m sq) | | | | | cil and watton | d bydrology myst bo |
| 1 | | | | - | soil and wetlar ss disturbed of | nd hydrology must be r problematic |
| 2 | | | | Hydrophytic | | |
| | 0 = | Total Cove | er | vegetation present? | V | |
| Demonster (Include of the second second | 4a al 0 | | | present? | ř | |
| Remarks: (Include photo numbers here or on a separa | ate sneet) | | | | | |
| | | | | | | |
| | | | | | | |

| SOIL | |
|------|--|
|------|--|

| Depth | Matrix | | | dox Feat | | | itor or confirm the abse | |
|--------------|----------------------|-----------|-------------------|-------------|------------|-------------|----------------------------|--|
| (Inches) | Color (moist) | % | Color (moist) | <u>w</u> | Type* | Loc** | Texture | Remarks |
| (/ | | | | | | | | |
| | | | + | - | | | | |
| | | | | | + | | | |
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| | | | | 1 | | | | |
| | | | <u> </u> | | | 1 | | |
| | | L | | L | <u> </u> | <u> </u> | | |
| 21 | | = Deplet | tion, RM = Reduc | ed Matr | ix, MS = | Masked | | ation: PL = Pore Lining, M = Matrix |
| - | oil Indicators: | | _ | | | | | blematic Hydric Soils: |
| | tisol (A1) | | | | ed Matrix | x (S4) | | edox (A16) (LRR K, L, R) |
| | tic Epipedon (A2) |) | Sar | ndy Redo | эх (S5) | | Dark Surface (S | |
| | ck Histic (A3) | | | •• | atrix (S6) | | | at or Peat (S3) (LRR K, L, R) |
| Hyc | Irogen Sulfide (A | 4) | Loa | amy Muc | ky Miner | al (F1) | Iron-Manganes | e Masses (F12) (LRR K, L, R) |
| Stra | atified Layers (A5 |) | Loa | amy Gley | ed Matri | x (F2) | Very Shallow D | ark Surface (TF12) |
| 2 cr | m Muck (A10) | | Der | pleted M | atrix (F3 |) | Other (explain i | n remarks) |
| Dep | pleted Below Dark | k Surfac | e (A11) Rec | dox Dark | Surface |) (F6) | | |
| Thie | ck Dark Surface (| A12) | Der | pleted Da | ark Surfa | ace (F7) | *Indicators of hvo | rophytic vegetation and wetland |
| Sar | ndy Mucky Minera | al (S1) | Rec | dox Depi | ressions | (F8) | | be present, unless disturbed or |
| 5 cr | m Mucky Peat or | Peat (S3 | 3) | | | | , ,, | problematic |
| Restrictive | Layer (if observ | ed): | | | | T | | |
| | ravel, ballast, fill | , | | | | | Hydric soil prese | nt? |
| Depth (inch | | nined | | | - | | - | |
| | | land, a | and located at I | base of | i roadw | ay emba | ankment and along ra | ailroad |
| HYDROL | | | | | | | | |
| - | drology Indicato | | | | | | | |
| - | - | of one is | s required; check | all that | apply) | | Secondary Inc | dicators (minimum of two required |
| | Water (A1) | | _ | | Fauna (B | , | | e Soil Cracks (B6) |
| High Wa | ater Table (A2) | | | True Aq | uatic Plai | nts (B14) | X Drainaç | e Patterns (B10) |
| X Saturatio | on (A3) | | | Hydroge | en Sulfide | e Odor (C1 | 1) Dry-Sea | ason Water Table (C2) |
| Water N | larks (B1) | | _ | Oxidized | d Rhizosp | oheres on | Living Roots Crayfisl | n Burrows (C8) |
| Sedimer | nt Deposits (B2) | | | (C3) | | | u | ion Visible on Aerial Imagery (C9) |
| Drift Dep | oosits (B3) | | | Presenc | e of Red | uced Iron | (C4) Stunted | or Stressed Plants (D1) |
| Algal Ma | at or Crust (B4) | | | - Pecent | Iron Redu | uction in T | Tilled Soils Geomo | rphic Position (D2) |
| - | oosits (B5) | | | (C6) | IION NGG | | | eutral Test (D5) |
| | on Visible on Aeria | al Imager | v (B7) | - | ick Surfac | ce (C7) | | |
| | Vegetated Conca | | | - | or Well Da | | | |
| | tained Leaves (B9 | | | - ~ | | Remarks | •1 | |
| Field Obser | |) | | | | Kennanke |) | |
| Surface wat | | Yes | No | Х | Depth (| (inches): | We | etland |
| Water table | • | Yes | No | X | | (inches): | | drology |
| Saturation p | | Yes | X No | | Depth (| inches): | 0 pr | esent? Y |
| | pillary fringe) | | | | | | | |
| Describe re | corded data (strea | am gaug | je, monitoring we | II, aerial | photos, | previous | inspections), if available | : |
| _ _ | | | | | | | | |
| Remarks: | | | | | | | | |
| | | | | | | | | |
| Saturatio | on within draina | age swa | ale along highe | er grour | nd, wet | mud an | nong old tires. | |

| Project/Site Lake Calumet CTA Red Line Extension | City/C | County: | Cool | (| Sampling Date: | 8/19/2015 |
|---|----------------|------------|-----------------------|------------------|---|---------------------------------------|
| Applicant/Owner: CTA/MWRD | | Sta | ite: Illir | nois | Sampling Point: | 15 |
| Investigator(s): J Mengler, V Mosca | | | Section, Town | ship, Range: | T37N R | 14E S26 |
| Landform (hillslope, terrace, etc.): dite | ch | | Local relief (co | ncave, conve | x, none): | ditch |
| Slope (%): Lat: 41.660019 |) | Long: | -87.595 | 429 | Datum: | |
| Soil Map Unit Name: urban land-orthents clayey comp | | | | VI Classificatio | on: | none |
| Are climatic/hydrologic conditions of the site typical fo | r this time of | f the year | ·? Y | (If no, explain | in remarks) | |
| Are vegetation, soil Y, or hydrol | ogy | significa | intly disturbed? | Y Aro "por | mal circumstancos" | |
| | | | problematic? | N present? | | Y |
| SUMMARY OF FINDINGS | ·· | - | | (If neede | ed, explain any ansv | vers in remarks.) |
| Hydrophytic vegetation present? Y | | | | | · · · | , , , , , , , , , , , , , , , , , , , |
| Hydric soil present? | | ls th | e sampled area | a within a wet | land? Y | |
| Wetland hydrology present? Y | | | - | | Wetland 11 | |
| Remarks: (Explain alternative procedures here or in a | senarate re | | , , . , | | | |
| | i separate re | pon.) | | | | |
| Relied primarily upon vegetation and landsca | pe positior | n due to | dry time of se | eason, and i | mostly urbanland | /fill for substrate. |
| VEGETATION Use scientific names of plan | its | | | | | |
| | Absolute | Domina | ant Indicator | Domina | nce Test Workshe | et |
| <u>Tree Stratum</u> (Plot size: 9 m) | % Cover | Specie | | Number of D | ominant Species that | |
| 1 | | | | | , FACW, or FAC: | 1 (A) |
| 2 | | | | Total Nur | mber of Dominant | |
| 3 | | | | Species | Across all Strata: | 1 (B) |
| 4 | | | | Percent of D | ominant Species that | |
| 5 | | | | are OBL | , FACW, or FAC: | 100.00% (A/B) |
| | = | Total Co | over | <u> </u> | | |
| Sapling/Shrub stratum (Plot size: 4.6 m 1 Salix interior |) | | FACW | | nce Index Workshe Cover of: | et |
| 2 | | | FACVV | OBL spe | | = 0 |
| 3 | · | | | FACW s | | |
| 4 | | | | FAC spe | | |
| 5 | | | | FACU s | | |
| | 0 = | Total Co | over | UPL spe | | 5 = 0 |
| Herb stratum (Plot size: 1 m sq |) | | | Column | totals 100 (A |) <u>200</u> (B) |
| 1 Phragmites australis | 100 | Y | FACW | Prevaler | nce Index = B/A = | 2.00 |
| 2 | | | | | | |
| 3 | | | | | hytic Vegetation In | |
| 4 | | | | | id test for hydrophyt | • |
| 5 | | | | | ninance test is >50% valence index is ≤3.0 | |
| 6 7 | | | | | | |
| 8 | | | | | phological adaptatio porting data in Rema | |
| 9 | ······· | | | | arate sheet) | anto or on a |
| 10 | | | | | plematic hydrophytic | vegetation* |
| | 100 = | Total Co | over | | lain) | J |
| Woody vine stratum (Plot size: 1 m sq |) | | | *Indicato | ors of hydric soil and wet | and hydrology must be |
| 1 | | | | F | present, unless disturbed | |
| 2 | | | | - | rophytic | |
| | 0 = | Total Co | over | - | etation sent? Y | |
| Remarks: (Include photo numbers here or on a separ | ate sheet) | | | | | |
| | | | | | | |
| | | | | | | |

| SOIL | |
|------|--|
|------|--|

| Depth | Matrix | | | | dox Feat | | | | |
|--|--|--|--|-----------|--|--|--|------------------------------------|--|
| (Inches) | Color (moist) | % | Color | (moist) | % | Type* | Loc** | Texture | Remarks |
| | | | | | | | | | |
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| | | | | | | | | | |
| $\Gamma_{\text{MDO}} = 0$ | Concentration, D | - Doploi | tion DM | - Dodu | and Matr | iv MS - | Maakad | Sand Crains | **Location: PL = Pore Lining, M = |
| | | - Depie | | - Redu | ceu mau | IX, IVIS – | IVIASKEU - | | - |
| • | bil Indicators: | | | 0 | | | (0.1) | | or Problematic Hydric Soils: |
| | tisol (A1) | | | | | ed Matrix | (54) | | rairie Redox (A16) (LRR K, L, R) |
| | tic Epipedon (A2) | | | | ndy Rede | . , | | | irface (S7) (LRR K, L) |
| | ck Histic (A3) | | | | •• | atrix (S6) | | | ucky Peat or Peat (S3) (LRR K, L, |
| Hyd | Irogen Sulfide (A | 4) | | Loa | amy Muc | ky Miner | al (F1) | Iron-Ma | nganese Masses (F12) (LRR K, L |
| Stra | atified Layers (A5 |) | | Loa | amy Gley | ed Matri | x (F2) | Very Sh | allow Dark Surface (TF12) |
| 2 cr | m Muck (A10) | | | De | pleted M | atrix (F3) |) | Other (e | explain in remarks) |
| Dep | pleted Below Darl | Surfac | e (A11) | Re | dox Dark | Surface | (F6) | | |
| Thio | ck Dark Surface (| A12) | | De | pleted D | ark Surfa | ice (F7) | *Indicator | s of hydrophytic vegetation and we |
| Sar | ndy Mucky Minera | l (S1) | | Re | dox Dep | ressions | (F8) | | y must be present, unless disturbe |
| 5 cr | m Mucky Peat or | Peat (S3 | 3) | | | | | | problematic |
| | - | | , | | | | 1 | | |
| estrictive | I aver (It observ | eq). | | | | | | | |
| | Layer (if observ ravel ballast fill | ed): | | | | | | Hydric so | il present? |
| vpe: gi epth (inche emarks: Area ma inches d | ravel, ballast, fill es): not determ pped as urban ue to gravel ar | land, a | and loca | ated ald | ong roa | - - d at bas | se of a r | - | I present? kment. Probe refusal within |
| ype: epth (incho emarks: Area ma inches d YDROL(YDR | pped as urban ue to gravel ar DGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) | land, a d fill. | | | <u>all that</u> Aquatic True Aq Hydroge | <u>apply)</u> Fauna (B juatic Plar en Sulfide | 13) hts (B14) Odor (C1 | ailroad emban | |
| ype: emarks: Area ma inches d YDROLO /etland Hy rimary Indi < Saturatio Water M | ravel, ballast, fill es): not determ pped as urban ue to gravel ar OGY drology Indicato cators (minimum Water (A1) ater Table (A2) | land, a d fill. | | | <u>all that</u> Aquatic True Aq Hydroge | <u>apply)</u> Fauna (B juatic Plar en Sulfide | 13) hts (B14) Odor (C1 | ailroad emban <u>Secon</u> X | kment. Probe refusal within dary Indicators (minimum of two re Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) |
| ype: epth (inche emarks: Area ma inches d YDROLO /etland Hy rimary Indi XSurface High Wa Saturatio Water M Sedimer | pped as urban ue to gravel ar OGY vdrology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) | land, a d fill. | | | Aquatic Aquatic True Aq Hydroge Oxidized (C3) | <u>apply)</u> Fauna (B juatic Plar en Sulfide d Rhizosp | 13) hts (B14) Odor (C1 | ailroad emban | kment. Probe refusal within dary Indicators (minimum of two re Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) |
| ype: epth (inche emarks: Area ma inches d YDROL(/etland Hy rimary Indi & Surface High Wa Saturatio Water M Sedimer Drift Dep | pped as urban ue to gravel ar OGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) | land, a d fill. | | | <u>c all that</u> Aquatic True Aq Hydroge Oxidized (C3) Presenc | apply) Fauna (B uatic Plar en Sulfide d Rhizosp ce of Redu | 13) hts (B14) Odor (C1 heres on uced Iron | ailroad emban | kment. Probe refusal within dary Indicators (minimum of two re Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Stunted or Stressed Plants (D1) |
| ype: gr epth (incho emarks: Area ma inches d IYDROL(/etland Hy rimary Indi X Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma | pped as urban ue to gravel ar OGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) | land, a d fill. | | | c all that Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent | apply) Fauna (B uatic Plar en Sulfide d Rhizosp ce of Redu | 13) hts (B14) Odor (C1 heres on | ailroad emban | kment. Probe refusal within dary Indicators (minimum of two re Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Stunted or Stressed Plants (D1) Geomorphic Position (D2) |
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| ype: emarks: Area ma inches d IYDROLO /etland Hy rimary Indi X Surface High Wa Saturatio Water M Saturatio Urift Dep Algal Ma Iron Dep Inundatio | pped as urban ue to gravel ar OGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria v Vegetated Conca | land, a d fill. ors: of one is | <u>s require</u> y (B7) | | c all that Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent (C6) Thin Mu Gauge o | apply) Fauna (B uatic Plar en Sulfide d Rhizosp d Rhizosp ce of Redu Iron Redu Iron Redu ck Surfac | 13) nts (B14) Odor (C1 heres on uced Iron uction in T ac (C7) ata (D9) | ailroad emban | kment. Probe refusal within dary Indicators (minimum of two re Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Stunted or Stressed Plants (D1) Geomorphic Position (D2) |
| ype: emarks: Area ma inches d IYDROL(/etland Hy rimary Indi K Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Water-S | ravel, ballast, fill es): not determ pped as urban ue to gravel ar DGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aeria / Vegetated Conca tained Leaves (B9 | land, a d fill. ors: of one is | <u>s require</u> y (B7) | | c all that Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent (C6) Thin Mu Gauge o | apply) Fauna (B uatic Plar en Sulfide d Rhizosp d Rhizosp ce of Redu Iron Redu Iron Redu ck Surfac | 13) nts (B14) Odor (C1 heres on uced Iron uction in T ce (C7) | ailroad emban | kment. Probe refusal within dary Indicators (minimum of two re Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Stunted or Stressed Plants (D1) Geomorphic Position (D2) |
| ype: emarks: Area ma inches d YDROLO /etland Hy rimary Indi X Surface High Wa Saturatio Water M Saturatio Urift Dep Algal Ma Iron Dep Inundatio Sparsely Water-S ield Obser urface wat /ater table aturation p | pped as urban ue to gravel ar DGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) at or Crust (B4) oosits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 rvations: er present? | land, a d fill. ors: of one is | <u>s require</u> y (B7) | | c all that Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent (C6) Thin Mu Gauge o | apply) Fauna (B uatic Plar en Sulfide d Rhizosp d Rhizosp ce of Redu lron Redu lron Redu ck Surfac or Well Da Explain in Depth (| 13) Odor (C1 heres on uced Iron uction in T ce (C7) ata (D9) Remarks; inches): | ailroad emban | kment. Probe refusal within dary Indicators (minimum of two re Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Stunted or Stressed Plants (D1) Geomorphic Position (D2) |
| ype: gi pepth (inche emarks: Area ma inches d IYDROL(Vetland Hy rimary Indi X Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatid Sparsely Water-S ield Obser Surface wat Vater table iaturation p ncludes ca | pped as urban ue to gravel ar DGY drology Indicato cators (minimum Water (A1) ater Table (A2) on (A3) larks (B1) at or Crust (B4) oosits (B5) on Visible on Aeria v Vegetated Conca tained Leaves (B9 rvations: er present? present? | land, a d fill. of one i of one i l Imager ve Surfa) Yes Yes Yes | <u>s require</u> y (B7) ce (B8) <u></u> X | ed; check | Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent (C6) Thin Mu Gauge C Other (E | apply) Fauna (B uatic Plar en Sulfide d Rhizosp te of Redu lron Redu lron Redu ck Surfac or Well Da Explain in Depth (Depth (| 13) Odor (C1 wheres on uced Iron uction in T ce (C7) ata (D9) Remarks inches): inches): | ailroad emban | kment. Probe refusal within dary Indicators (minimum of two refunction of two refunctions (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5) Wetland hydrology present? Y |

| Project/Site Lake Calumet CTA Red Line Extension | City/C | County: | Cook | Sampling | Date: | 8/19/2015 |
|--|----------------|---------------------|---------------------|---------------------------------|--------------------------|---------------------|
| Applicant/Owner: CTA/MWRD | | State | : Illir | nois Sampling | Point: | 16 |
| Investigator(s): J Mengler, V Mosca | | s | Section, Towns | ship, Range: | T37N R14 | E S27 |
| Landform (hillslope, terrace, etc.): dito | ch | L | ocal relief (co | ncave, convex, none): | | ditch |
| Slope (%): Lat: 41.667542 | | - | -87.6020 | | | |
| Soil Map Unit Name: urban land-orthents clayey comp | lex, nearly le | | | VI Classification: | no | ne |
| Are climatic/hydrologic conditions of the site typical for | - | | Y (| If no, explain in remarks | 3) | |
| Are vegetation, soilY, or hydrol | | | | Y Are "normal circun | | |
| Are vegetation , soil , or hydrol | | | | N present? | Islances | Y |
| SUMMARY OF FINDINGS | | 51 | | (If needed, explain | any answe | rs in remarks.) |
| Hydrophytic vegetation present? Y | | | | · · · | | , |
| Hydric soil present? | | Is the s | sampled area | within a wetland? | Y | |
| Wetland hydrology present? Y | | | - | tland site ID: Wet | | - |
| | aoparata ra | - | -, | | | |
| Remarks: (Explain alternative procedures here or in a | separate re | eport.) | | | | |
| Relied primarily upon vegetation and landsca | pe positior | n due to d | ry time of se | eason, and mostly ur | banland/fi | ll for substrate. |
| VEGETATION Use scientific names of plan | te | | | | | |
| | Absolute | Dominant | Indicator | Dominance Test | Worksheet |] |
| Tree Stratum (Plot size: 9 m) | % Cover | Dominant Species | Indicator Status | Number of Dominant Sp | | |
| 1 | | · | | are OBL, FACW, or | | 1 (A) |
| 2 | | | | Total Number of Do | minant – | |
| 3 | | | | Species Across all | | 1 (B) |
| 4 | | | | Percent of Dominant Sp | becies that | |
| 5 | | | | are OBL, FACW, or | r FAC: | 100.00% (A/B) |
| | 0 = | Total Cove | er | | | |
| Sapling/Shrub stratum (Plot size: 4.6 m) | | | | Prevalence Index | Worksheet | ſ |
| 1 | | | | Total % Cover of: | 0 | 0 |
| 2 | | | | OBL species FACW species | 0 x 1 = 100 x 2 = | |
| 3 | | | | FAC species | $\frac{100}{0}$ x 2 = | |
| 5 | | | | FACU species | $\frac{0}{0} \times 4 =$ | |
| | 0 = | Total Cove | er | UPL species | 0 x 5 = | |
| Herb stratum (Plot size: 1 m sq) | | | | Column totals | 100 (A) | 200 (B) |
| 1 Phragmites australis | 100 | Y | FACW | Prevalence Index | = B/A = | 2.00 |
| 2 | | | | | | |
| 3 | | | | Hydrophytic Vege | etation Indic | ators: |
| 4 | | | | Rapid test for | | vegetation |
| 5 | | | | X Dominance tes | | |
| 6 | | | | X Prevalence inc | 2ex is ≤3.0* | |
| / | | | | Morphological | | |
| 8 | | | | supporting dat separate shee | | s or on a |
| 10 | | | | · | , | a actation* |
| | 100 = | Total Cove | er | Problematic hy (explain) | γατορτιγτίς να | syelalion |
| Woody vine stratum (Plot size: 1 m sq) | | | | *Indicators of hydric s | | d bydrology myst bo |
| 1 | | | | - | ss disturbed or | |
| 2 | | | | Hydrophytic | | |
| | 0 = | Total Cove | er | vegetation present? | v | |
| Demonstrative de state service a | | | | present? | Ť | |
| Remarks: (Include photo numbers here or on a separa | ate sneet) | | | | | |
| | | | | | | |
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| SOIL | |
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16

| (Inches) | <u>Matrix</u> | | | Re | dox Feat | ures | | | | |
|--|---|--|---|----------|--|---|--|--|--|---|
| | Color (moist) | % | Color | moist) | % | Type* | Loc** | Тех | ture | Remarks |
| | | | | | | | | | | |
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| | – | | <u> </u> | | L | | | | | |
| | ncentration, D | = Deple | tion, RM | = Redu | ced Matri | ix, MS = | Masked | | | ion: PL = Pore Lining, M = Ma |
| Hydric Soil | Indicators: | | | | | | | | | ematic Hydric Soils: |
| Histiso | ol (A1) | | | Sa | ndy Gley | ed Matrix | x (S4) | Co | ast Prairie Re | dox (A16) (LRR K, L, R) |
| Histic | Epipedon (A2) |) | | Sa | ndy Redo | ox (S5) | | Da | k Surface (S | 7) (LRR K, L) |
| Black | Histic (A3) | | | Str | ipped Ma | atrix (S6) | | 5 c | m Mucky Pea | t or Peat (S3) (LRR K, L, R) |
| Hydro | gen Sulfide (A | 4) | | Loa | amy Muc | ky Miner | al (F1) | Iror | n-Manganese | Masses (F12) (LRR K, L, R) |
| Stratif | ied Layers (A5 |) | | Loa | amy Gley | ed Matri | x (F2) | Ver | y Shallow Da | rk Surface (TF12) |
| 2 cm l | Muck (A10) | | | De | pleted M | atrix (F3) |) | Oth | er (explain in | remarks) |
| | ted Below Darl | k Surfac | e (A11) | | dox Dark | | | | · · | , |
| | Dark Surface (| | | | pleted Da | | . , | | | |
| | / Mucky Minera | , | | | dox Depr | | | | | ophytic vegetation and wetlan |
| | Mucky Peat or | | 3) | | | 00010110 | (10) | nyai | ology must b | e present, unless disturbed of problematic |
| | - | | 5) | | | | r | | | problematio |
| | ayer (if observ | ed): | | | | | | المراجع ال | !! | 40 |
| pe: grav epth (inches) | vel, ballast, fill): not detern | nined | | | | - | | пуал | c soil presen | |
| emarks: | | lineu | | | | - | | | | |
| | oed as urban | | | | | 1 1 1 | ~ | | | |
| | e to gravel ar | | and loca | ted ald | ong road | d at bas | se of a r | oad emba | nkment. P | robe refusal within 2-4 |
| inches due | e to gravel ar | | and loca | ited alo | ong road | d at bas | se of a r | oad emba | nkment. P | robe refusal within 2-4 |
| inches due | e to gravel ar | nd fill. | and loca | ited alo | ong road | d at bas | se of a r | oad emba | nkment. P | robe refusal within 2-4 |
| inches due | e to gravel ar | nd fill. | | | | | se of a r | | | robe refusal within 2-4 |
| inches due YDROLOC etland Hydr | e to gravel ar GY ology Indicato tors (minimum | nd fill. | | | c all that a | | | | econdary Indi | |
| inches due YDROLOC etland Hydr imary Indica | e to gravel ar GY ology Indicato tors (minimum ater (A1) | nd fill. | | | all that | <u>apply)</u> Fauna (B | :13) | | econdary Indi | cators (minimum of two requines Soil Cracks (B6) |
| inches due YDROLOC /etland Hydr rimary Indica (Surface Wa High Water | e to gravel ar GY ology Indicato tors (minimum ater (A1) r Table (A2) | nd fill. | | | all that a call th | <u>apply)</u> Fauna (B uatic Plar | 13) hts (B14) | <u>S</u> | econdary Indi Surface | <u>cators (minimum of two requi</u> Soil Cracks (B6) 9 Patterns (B10) |
| inches due YDROLOC retland Hydr rimary Indica (Surface Wa High Water Saturation | e to gravel ar GY ology Indicato tors (minimum ater (A1) r Table (A2) (A3) | nd fill. | | | all that a Aquatic True Aq | <u>apply)</u> Fauna (B uatic Plar en Sulfide | 113) hts (B14) : Odor (C1 |) | econdary Indi Surface X Drainage Dry-Seas | <u>cators (minimum of two requin</u> Soil Cracks (B6) Patterns (B10) son Water Table (C2) |
| inches due YDROLOG Yetland Hydr rimary Indica Surface Wa High Water Saturation Water Marl | e to gravel ar GY ology Indicato tors (minimum ater (A1) r Table (A2) (A3) ks (B1) | nd fill. | | | all that a Aquatic True Aq Hydroge | <u>apply)</u> Fauna (B uatic Plar en Sulfide | 113) hts (B14) : Odor (C1 | <u>S</u> | econdary Indi Surface Drainage Dry-Seas Crayfish | cators (minimum of two requi Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) |
| inches due YDROLOG retland Hydr rimary Indica (Surface Wa High Water Saturation Water Marl Sediment D | e to gravel ar GY ology Indicato tors (minimum ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) | nd fill. | | | all that a Aquatic True Aq Hydroge Oxidized (C3) | apply) Fauna (B uatic Plar en Sulfide d Rhizosp | 113) hts (B14) Odor (C1 oheres on |) Living Roots | econdary Indi Surface X Drainage Dry-Seas Crayfish Saturatic | cators (minimum of two requin Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) |
| inches due YDROLOG Tetland Hydr rimary Indica C Surface Wa High Water Saturation Water Marl Sediment D Drift Depos | e to gravel ar SY ology Indicato tors (minimum ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) | nd fill. | | | a all that a Aquatic True Aq Hydroge Oxidized (C3) Presenc | apply) Fauna (B uatic Plar en Sulfide d Rhizosp te of Redu | 113) nts (B14) Odor (C1 oheres on uced Iron |) Living Roots (C4) | econdary Indi Surface X Drainage Dry-Seas Crayfish Saturatic | cators (minimum of two requin Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1) |
| inches due YDROLOG Yetland Hydr rimary Indica C Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o | e to gravel ar GY ology Indicato tors (minimum ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) | nd fill. | | | a all that a Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent | apply) Fauna (B uatic Plar en Sulfide d Rhizosp te of Redu | 113) hts (B14) Odor (C1 oheres on |) Living Roots (C4) | econdary Indi Surface X Drainage Dry-Seas Crayfish Saturatic Stunted Geomor | cators (minimum of two requin Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1) ohic Position (D2) |
| inches due YDROLOG retland Hydr rimary Indica Surface Wa High Water Saturation Water Marl Sediment D Drift Depos Algal Mat o Iron Depos | e to gravel ar GY ology Indicato tors (minimum ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) | nd fill. | <u>s require</u> | | a all that a Aquatic True Aq Hydroge Oxidizec (C3) Presenc Recent I (C6) | apply) Fauna (B uatic Plar en Sulfide d Rhizosp d Rhizosp re of Redu Iron Redu | 13) nts (B14) Odor (C1 oheres on uced Iron uction in T |) Living Roots (C4) | econdary Indi Surface X Drainage Dry-Seas Crayfish Saturatic Stunted Geomor | cators (minimum of two requin Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1) |
| inches due YDROLOG Yetland Hydr rimary Indica C Surface Wa High Water Saturation Water Marl Sediment E Drift Depos Algal Mat o Iron Depos Inundation | e to gravel ar ology Indicato tors (minimum ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) Visible on Aeria | nd fill. ors: of one i | <u>s require</u> y (B7) | | a all that a Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu | apply) Fauna (B uatic Plar en Sulfide d Rhizosp d Rhizosp e of Redu Iron Redu ck Surfac | 113) nts (B14) Odor (C1 oheres on uced Iron uction in T |) Living Roots (C4) | econdary Indi Surface X Drainage Dry-Seas Crayfish Saturatic Stunted Geomor | cators (minimum of two requin Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1) ohic Position (D2) |
| inches due YDROLOG Yetland Hydr rimary Indica C Surface Wa High Water Saturation Water Marl Sediment D Drift Depos Algal Mat o Iron Depos Inundation Sparsely V | e to gravel ar SY ology Indicato tors (minimum ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) Visible on Aeria egetated Conca | nd fill. ors: of one i of one i ve Surfa | <u>s require</u> y (B7) | | a all that a Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge o | apply) Fauna (B uatic Plar en Sulfide d Rhizosp d Rhizosp de of Redu lron Redu ck Surfac or Well Da | 113) ts (B14) Odor (C1 oheres on uced Iron uction in T ce (C7) ata (D9) |) Living Roots (C4) illed Soils | econdary Indi Surface X Drainage Dry-Seas Crayfish Saturatic Stunted Geomor | cators (minimum of two requin Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1) ohic Position (D2) |
| inches due inches due inches due inches due indexter indexter Vater Mari Sediment D Drift Depos Algal Mat o Iron Depos Inundation Sparsely V Water-Stai | e to gravel ar SY ology Indicato tors (minimum ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) Visible on Aeria egetated Conca ned Leaves (B9) | nd fill. ors: of one i of one i ve Surfa | <u>s require</u> y (B7) | | a all that a Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge o | apply) Fauna (B uatic Plar en Sulfide d Rhizosp d Rhizosp de of Redu lron Redu ck Surfac or Well Da | 113) nts (B14) Odor (C1 oheres on uced Iron uction in T |) Living Roots (C4) illed Soils | econdary Indi Surface X Drainage Dry-Seas Crayfish Saturatic Stunted Geomor | cators (minimum of two requin Soil Cracks (B6) e Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1) ohic Position (D2) |
| inches due YDROLOG Yetland Hydr rimary Indica C Surface Wa High Water Saturation Water Marl Sediment D Drift Depos Algal Mat o Iron Depos Inundation Sparsely W Water-Stail Seld Observa | e to gravel ar Gravel ar Gology Indicator tors (minimum ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) Visible on Aeria egetated Conca ned Leaves (B9 ations: | al Imager vve Surfa | <u>s require</u> y (B7) ce (B8) | | a all that a Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge c | apply) Fauna (B uatic Plar en Sulfide d Rhizosp d Rhizosp re of Redu lron Redu ck Surfac or Well Da Explain in | 113) hts (B14) Odor (C1 oheres on uced Iron uction in T ce (C7) ata (D9) Remarks |) Living Roots (C4) illed Soils | econdary Indi Surface X Drainage Dry-Seas Crayfish Saturatic Stunted Geomorg FAC-Net | cators (minimum of two requin Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1) ohic Position (D2) utral Test (D5) |
| inches due YDROLOG Yetland Hydr rimary Indica C Surface Wa High Water Saturation Water Marl Sediment I Drift Depos Algal Mat o Iron Depos Inundation Sparsely Water-Stail ield Observa urface water | e to gravel ar SY ology Indicato tors (minimum ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) Visible on Aeria egetated Conca ned Leaves (B9 ations: present? | al Imager il Imager ive Surfa) Yes | <u>s require</u> y (B7) | d; check | a all that a Aquatic True Aq Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E | apply) Fauna (B uatic Plar en Sulfide d Rhizosp d Rhizosp te of Redu fron Redu ck Surfac or Well Da Explain in | 113) hts (B14) Odor (C1 oheres on uced Iron uction in T ce (C7) ata (D9) Remarks inches): |) Living Roots (C4) illed Soils | econdary Indi Surface X Drainage Dry-Seas Crayfish Saturatic Stunted Geomorp FAC-Net | cators (minimum of two requin Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1) ohic Position (D2) utral Test (D5) |
| inches due YDROLOG Yetland Hydr imary Indica C Surface Wa High Water Saturation Water Marl Sediment D Drift Depos Algal Mat o Iron Depos Inundation Sparsely Wa Water-Stair eld Observa Vater table pr | e to gravel ar SY ology Indicato tors (minimum ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) Visible on Aeria egetated Conca ned Leaves (B9 ations: present? esent? | Il Imager Ne Surfa Yes Yes | <u>s require</u> y (B7) ce (B8) <u>X</u> | d; check | a all that a Aquatic True Aq Hydroge Oxidized (C3) Presenc Recent I (C6) Thin Mu Gauge c | apply) Fauna (B uatic Plar en Sulfide d Rhizosp d Rhizosp te of Redu lron Redu ck Surfac or Well Da cxplain in Depth (| 113) hts (B14) Odor (C1 oheres on uced Iron uction in T ce (C7) ata (D9) Remarks inches): inches): |) Living Roots (C4) illed Soils) 0-2 | econdary Indi Surface X Drainage Dry-Seas Crayfish Saturatic Stunted Geomorg FAC-Net | cators (minimum of two requin Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1) ohic Position (D2) utral Test (D5) |
| inches due IYDROLOG Vetland Hydr rimary Indica X Surface Wa High Water Saturation Water Marl Sediment D Drift Depos Algal Mat o Iron Depos Inundation Sparsely Ve | e to gravel ar SY ology Indicato tors (minimum ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) Visible on Aeria egetated Conca ned Leaves (B9 ations: present? esent? | al Imager il Imager ive Surfa) Yes | <u>s require</u> y (B7) ce (B8) | d; check | a all that a Aquatic True Aq Hydroge Oxidizec (C3) Presenc Recent I (C6) Thin Mu Gauge c Other (E | apply) Fauna (B uatic Plar en Sulfide d Rhizosp d Rhizosp te of Redu lron Redu ck Surfac or Well Da cxplain in Depth (| 113) hts (B14) Odor (C1 oheres on uced Iron uction in T ce (C7) ata (D9) Remarks inches): |) Living Roots (C4) illed Soils | econdary Indi Surface X Drainage Dry-Seas Crayfish Saturatic Stunted Geomorg FAC-Net | cators (minimum of two requi Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9 or Stressed Plants (D1) ohic Position (D2) utral Test (D5) |

| Project/Site Lake Calumet CTA Red Line Extension | City/ | County: | nty: Cook Sampling Date: | | | 8/19/2015 | |
|--|--------------|------------|--------------------------|---------------------------------|-----------------------|---------------------|--|
| Applicant/Owner: CTA/MWRD | | Stat | te: Illir | nois Sampling | Sampling Point: | | |
| Investigator(s): J Mengler, V Mosca | | | Section, Town | ship, Range: | T37N R14E S27 | | |
| Landform (hillslope, terrace, etc.): | itch | | Local relief (co | ncave, convex, none): | | ditch | |
| Slope (%): Lat: 41.6690 | 78 | | -87.602 | | | | |
| Soil Map Unit Name: urban land-orthents clayey con | plex, nearly | | | VI Classification: | no | ne | |
| Are climatic/hydrologic conditions of the site typical | | | ? Y | (If no, explain in remarks | S) | | |
| Are vegetation, soilY, or hydr | ology | significa | | Y Are "normal circun | | | |
| Are vegetation , soil , or hydr | | - | | N present? | IIslances | Y | |
| SUMMARY OF FINDINGS | | <u> </u> | | (If needed, explain | any answei | s in remarks.) | |
| Hydrophytic vegetation present? Y | | | | · · · | | , | |
| Hydric soil present? | | Is the | e sampled area | within a wetland? | Y | | |
| Wetland hydrology present? Y | | | - | tland site ID: We | | | |
| | a concreto r | | , | | | | |
| Remarks: (Explain alternative procedures here or in | a separate r | eport.) | | | | | |
| Relied primarily upon vegetation and landsc | ape positio | on due to | dry time of se | eason, and mostly ur | banland/fi | I for substrate. | |
| VEGETATION Use scientific names of pla | nts | | | | | | |
| | Absolute | Domina | nt Indicator | Dominance Test | Worksheet | 1 | |
| <u>Tree Stratum</u> (Plot size: 9 m) | % Cover | | | Number of Dominant Sp | | | |
| 1 | | · | | are OBL, FACW, or | | 1 (A) | |
| 2 | | | | Total Number of Do | minant | | |
| 3 | | | | Species Across all | | 1 (B) | |
| 4 | | | | Percent of Dominant Sp | pecies that | | |
| 5 | | | | are OBL, FACW, or | r FAC: | 100.00% (A/B) | |
| | 0 | = Total Co | ver | | | | |
| Sapling/Shrub stratum (Plot size: 4.6 m | _) | | | Prevalence Index | Worksheet | | |
| 1 | | | | Total % Cover of: | 0 v 1 - | 0 | |
| 2 | | | | OBL species FACW species | 0 x 1 = 100 x 2 = | | |
| 4 | | • • | | FAC species | $\frac{100}{0}$ x 3 = | | |
| 5 | | | | FACU species | 0 x 4 = | | |
| | 0 | = Total Co | ver | UPL species | 0 x 5 = | | |
| Herb stratum (Plot size: 1 m sq |) | • | | Column totals | 100 (A) | 200 (B) | |
| 1 Phragmites australis | 100 | Y | FACW | Prevalence Index | = B/A = | 2.00 | |
| 2 | | | _ | | | | |
| 3 | | | | Hydrophytic Vege | etation India | ators: | |
| 4 | | | | Rapid test for | | vegetation | |
| 5 | | | | X Dominance tes | | | |
| 6 | <u> </u> | | | X Prevalence inc | 2ex is ≤3.0* | | |
| 8 | | | | Morphological | | N. | |
| 9 | | | | supporting dat separate shee | | s or on a | |
| 10 | | | | Problematic hy | , | actation* | |
| | 100 | = Total Co | ver | (explain) | | gotation | |
| Woody vine stratum (Plot size: 1 m sq |) | - | | *Indicators of hydric s | soil and wetlen | d hydrology must be | |
| 1 | - | | | | ss disturbed or | | |
| 2 | | | _ | Hydrophytic | | | |
| | 0 | = Total Co | ver | vegetation present? | V | | |
| Pomorko: (Includo abote aumbora bare er er | voto obsisti | | | present: | <u> </u> | | |
| Remarks: (Include photo numbers here or on a sepa | a ale sneet) | | | | | | |
| | | | | | | | |
| | | | | | | | |

| SOIL | |
|------|--|
|------|--|

| Profile Des | Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) | | | | | | | | | | |
|---|---|-----------|-------------|--------|------------|------------|-------------|--------------|-----------------|--|--|
| Depth | Matrix | | | | dox Feat | | | | | | |
| (Inches) | Color (moist) | % | Color (n | noist) | % | Type* | Loc** | Tex | ture | Remarks | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
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| | | | | | | | | | | | |
| | | | | | | | | | | | |
| *Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix | | | | | | | | | | | |
| Hydric So | oil Indicators: | | | | | | | Indicate | ors for Probl | lematic Hydric Soils: | |
| Hist | tisol (A1) | | | Sar | ndy Gleye | ed Matrix | (S4) | Coa | ast Prairie Re | edox (A16) (LRR K, L, R) | |
| | tic Epipedon (A2) | | - | | ndy Redo | | 、 , | | | 7) (LRR K, L) | |
| | ck Histic (A3) | | _ | | pped Ma | | | | | it or Peat (S3) (LRR K, L, R) | |
| | · · · | 4) | | | | . , | | | - | | |
| | Irogen Sulfide (A | | _ | | my Mucl | • | | | - | Masses (F12) (LRR K, L, R) | |
| | atified Layers (A5 |) | _ | | my Gley | | . , | | - | ark Surface (TF12) | |
| | m Muck (A10) | | | | pleted Ma | . , | | Oth | er (explain in | i remarks) | |
| Dep | pleted Below Dark | k Surfac | e (A11) | Rec | lox Dark | Surface | (F6) | | | | |
| Thie | ck Dark Surface (| A12) | _ | Dep | pleted Da | ark Surfa | ice (F7) | *Indic | ators of hydr | ophytic vegetation and wetland | |
| Sar | ndy Mucky Minera | al (S1) | | Red | dox Depr | essions | (F8) | | | e present, unless disturbed or | |
| 5 cr | m Mucky Peat or | Peat (S3 | 3) | | | | | , | 0, | problematic | |
| Restrictive | Layer (if observ | ed). | | | | | | | | | |
| | ravel, ballast, fill | cu). | | | | | | Hydric | soil presen | 11? | |
| Depth (inche | | nined | | | | | | inguine | | | |
| Remarks: | · | | | | | | | | | | |
| Remarks. | | | | | | | | | | | |
| Area ma | pped as urban | land, a | and locat | ed alo | ng railr | oad em | bankm | ent. Probe | e refusal wi | ithin 2-4 inches due to | |
| gravel a | | | | | 0 | | | | | | |
| Ŭ | | | | | | | | | | | |
| HYDROL | | | | | | | | | | | |
| - | drology Indicato | | | | | | | | | | |
| Primary Indi | cators (minimum | of one is | s required | check | all that a | apply) | | <u>Se</u> | econdary Indi | icators (minimum of two required) | |
| X Surface | Water (A1) | | | | Aquatic | Fauna (B | 13) | | Surface | Soil Cracks (B6) | |
| High Wa | ater Table (A2) | | | | True Aq | uatic Plar | nts (B14) | | X Drainage | e Patterns (B10) | |
| Saturatio | on (A3) | | | | Hydroge | n Sulfide | Odor (C | 1) | Dry-Sea | son Water Table (C2) | |
| | larks (B1) | | | | | | | Living Roots | | Burrows (C8) | |
| | nt Deposits (B2) | | | | (C3) | 11112050 | | | | on Visible on Aerial Imagery (C9) | |
| | posits (B3) | | | | • | e of Redu | uced Iron | (C4) | | or Stressed Plants (D1) | |
| · · | | | | | • | | | · · · | | | |
| - Č | at or Crust (B4) | | | | | ron Redu | iction in T | illed Soils | | phic Position (D2) | |
| · · | osits (B5) | | | | (C6) | | | | FAC-Ne | utral Test (D5) | |
| Inundatio | on Visible on Aeria | I Imager | y (B7) | | Thin Mu | ck Surfac | ce (C7) | | | | |
| Sparsely | Vegetated Conca | ve Surfa | ce (B8) | | Gauge o | r Well Da | ata (D9) | | | | |
| Water-S | tained Leaves (B9 |) | | | Other (E | xplain in | Remarks |) | | | |
| Field Obser | rvations: | | | | | | | | | | |
| Surface wat | • | Yes | Х | No | | | inches): | 0-2 | | tland | |
| Water table | • | Yes | | No | Х | Depth (| | | - | rology | |
| Saturation p | | Yes | X | No | | Depth (i | inches): | 0 | pre | sent? Y | |
| | pillary fringe) | | | | | 1 . | <u> </u> | | | | |
| Describe re | corded data (strea | am gaug | ge, monitor | ing we | II, aerial | photos, | previous | inspections) | , if available: | | |
| | | | | | | | | | | | |
| Remarks: | | | | | | | | | | | |
| i terriarito. | | | | | | | | | | | |
| | | | | | | | | | | | |
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| Project/Site Lake Calumet CTA Red Line Extension | City/0 | County: | Cook Sampling Date: | | | 8/19/2015 |
|--|---------------|------------------------------------|---------------------------------------|------------------|--|--|
| Applicant/Owner: CTA/MWRD | | State: | Illir | ois | Sampling Point: 18 | |
| Investigator(s): J Mengler, V Mosca | | Section, Township, Range: T37N R14 | | | | R14E S27 |
| Landform (hillslope, terrace, etc.): dite | ch | Lo | Local relief (concave, convex, none): | | | ditch |
| Slope (%): Lat: 41.667289 |) | Long: | -87.600 | 100 | Datum: | |
| Soil Map Unit Name: urban land-orthents clayey comp | lex, nearly | level | NV | VI Classificatio | on: | none |
| Are climatic/hydrologic conditions of the site typical for | r this time o | f the year? | Y (| lf no, explain | in remarks) | |
| Are vegetation, soil Y, or hydrol | ogy | significantly | disturbed? | Y Are "nor | mal circumstances | " |
| Are vegetation, soil, or hydrol | | | | N present? | | Y |
| SUMMARY OF FINDINGS | | | | (If neede | ed, explain any ans | wers in remarks.) |
| Hydrophytic vegetation present? Y | | | | | | |
| Hydric soil present? | | Is the s | ampled area | within a wet | land? Y | |
| Wetland hydrology present? Y | | | • | | Wetland 14 | |
| Remarks: (Explain alternative procedures here or in a | senarate re | | | - | | |
| | | | | | | |
| Relied primarily upon vegetation and landsca | pe positio | n due to dr | y time of se | eason, and r | mostly urbanlan | d/fill for substrate. |
| VEGETATION Use scientific names of plan | ts. | | | | | |
| | Absolute | Dominant | Indicator | Domina | nce Test Workshe | eet |
| Tree Stratum (Plot size: 9 m) | % Cover | Species | Status | Number of D | ominant Species that | at |
| 1 | | | | | , FACW, or FAC: | 3 (A) |
| 2 | | | | Total Nur | nber of Dominant | |
| 3 | | | | Species | Across all Strata: | <u> </u> |
| 4 | | | | | ominant Species that | |
| 5 | | | | are OBL | , FACW, or FAC: | 100.00% (A/B) |
| Sopling/Shrub stratum (Dist size: 4.6 m) | 0 | = Total Cover | | Brovalo | nce Index Worksh | a a t |
| Sapling/Shrub stratum (Plot size: 4.6 m) | | | | | Cover of: | leet |
| 2 | | | | OBL spe | | 1 = 0 |
| 3 | | | | | pecies 100 x | |
| 4 | | | | FAC spe | · | 3 = 0 |
| 5 | | | | FACU sp | | 4 = 0 |
| | 0 | = Total Cover | | UPL spe | cies 0 x | 5 = 0 |
| Herb stratum (Plot size: 1 m sq) |) | | | Column | totals 100 (A | A) 200 (B) |
| 1 Phragmites australis | 100 | Y | FACW | Prevaler | nce Index = B/A = | 2.00 |
| 2 | | | | | | |
| 3 | | | | | nytic Vegetation I | |
| 4 | | | | | id test for hydrophy | • |
| 5 6 | | | | | iinance test is >50⁰ alence index is ≤3 | |
| 7 | | | | | | |
| 8 | | | | | phological adaptati porting data in Rem | N. N |
| 9 | | | | | arate sheet) | |
| 10 | | | | Prob | lematic hydrophyti | c vegetation* |
| | 100 | = Total Cover | | (exp | | č |
| Woody vine stratum (Plot size: 1 m sq) |) | | | *Indicato | rs of hydric soil and we | etland hydrology must be |
| 1 Vitis riparia | 20 | Y | FACW | | present, unless disturbe | ed or problematic |
| 2 Convolvulus sepium | 15 | Y | FAC | - | rophytic etation | |
| | 35 | = Total Cover | - | - | sent? Y | |
| Remarks: (Include photo numbers here or on a separa | ate sheet) | | | 1 | | _ |
| | , | | | | | |
| | | | | | | |

| SOIL | |
|------|--|
|------|--|

| SOIL | | | | | | | | | Sa | mpling Point: | 18 |
|---|---|-----------|---------------|----------|------------------|------------|-------------|----------------|-------------|-------------------|--------------------|
| Profile Des | cription: (Descr | ibe to th | ne depth i | needeo | l to docı | ument th | ne indica | tor or confirm | he abser | ice of indicato | rs.) |
| Depth | Matrix | | _ | Re | dox Feat | ures | | | | | |
| (Inches) | Color (moist) | % | Color (r | noist) | % | Type* | Loc** | Texture | • | Re | marks |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
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| | | | | | | | | | | | |
| | | | | | | | | | | | |
| *Type: C = (| Concentration, D | = Denlet | tion RM = | : Redu | L Ded Matri | iv MS = | Masked | Sand Grains | **Locat | ion: Pl = Pore | Lining, M = Matrix |
| | oil Indicators: | - Depict | 1011, T (W) = | Reduc | | ix, ino – | Maskeu | | | ematic Hydric | - |
| • | tisol (A1) | | | Sai | ndy Gleye | ed Matrix | (S4) | | | dox (A16) (LRF | |
| | tic Epipedon (A2) | | - | | ndy Redo | | (01) | | | 7) (LRR K, L) | , _,, |
| | ck Histic (A3) | | - | | pped Ma | | | | | t or Peat (S3) (| LRR K, L, R) |
| | Irogen Sulfide (A | 4) | - | | amy Mucl | • • | | Iron-Ma | anganese | Masses (F12) | (LRR K, L, R) |
| Stra | atified Layers (A5 |) | - | Loa | amy Gley | ed Matrix | x (F2) | Very S | hallow Da | rk Surface (TF | 12) |
| 2 cr | n Muck (A10) | | _ | De | pleted Ma | atrix (F3) |) | Other (| explain in | remarks) | |
| Dep | leted Below Dark | c Surface | e (A11) | Re | dox Dark | Surface | (F6) | | | | |
| Thic | ck Dark Surface (| A12) | _ | De | pleted Da | ark Surfa | ice (F7) | *Indicato | rs of hydro | ophytic vegetat | ion and wetland |
| San | ndy Mucky Minera | l (S1) | _ | Re | dox Depr | ressions | (F8) | | | e present, unle | |
| 5 cr | n Mucky Peat or | Peat (S3 | 3) | | | | | | | problematic | |
| | Layer (if observ | ed): | | | | | | | | | |
| Type: gr Depth (inche | ravel, ballast, fill es): not determ | nined | | | | - | | Hydric so | oil presen | t? | |
| Remarks: | | intea | | | | - | | | | | |
| | | | | | | | | | | | |
| | pped as urban | land, a | ind locat | ed be | tween g | gravel ro | oads. | Probe refusal | within 2 | -4 inches due | e to gravel and |
| fill. | | | | | | | | | | | |
| HYDROLO | | | | | | | | | | | |
| - | drology Indicato | | | | | | | | | | |
| | cators (minimum | of one is | s required | ; check | | | | Seco | - | | m of two required) |
| X Surface | () | | | | | Fauna (B | | | - | Soil Cracks (B6) | |
| | iter Table (A2) | | | | - | uatic Plar | | | - | Patterns (B10) | (22) |
| Saturatio | . , | | | | -Hydroge | en Sulfide | Odor (C | 1) | - 1 | son Water Table | (C2) |
| | larks (B1) | | | | | l Rhizosp | heres on | Living Roots | - ' | Burrows (C8) | ial Imagony (CO) |
| | nt Deposits (B2) posits (B3) | | | | (C3) | | uced Iron | (C4) | - | or Stressed Plan | ial Imagery (C9) |
| | it or Crust (B4) | | | | - | | | | - | ohic Position (D2 | |
| - č | . , | | | | Recent I (C6) | Iron Redu | iction in T | illed Soils | - ' | utral Test (D5) | .) |
| Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) | | | | | | ck Surfac | e (C7) | | - | | |
| | Vegetated Conca | | | | - | or Well Da | | | | | |
| | tained Leaves (B9 | | () | | | | Remarks |) | | | |
| Field Obser | , |) | | | | | | , | T | | |
| Surface wate | er present? | Yes | Х | No | | Depth (i | , | 0-2 | | land | |
| Water table | • | Yes | | No No | Х | Depth (i | , | | - | rology | \mathbf{v} |
| Saturation p (includes ca | pillary fringe) | Yes | <u> </u> | No | | Depth (i | nunes). | 0 | pres | sent? | Y |

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

| Project/Site Lake Calumet CTA Red Line Extension | City/C | County: | Cook | | Sampling Date: | 8/19/2015 | | |
|--|----------------|------------|----------------------------------|------------------|--|------------------------|--|--|
| Applicant/Owner: CTA/MWRD | | Stat | te: Illin | iois | Sampling Point: | 19 | | |
| Investigator(s): J Mengler, V Mosca | | | Section, Township, Range: T37N R | | | R14E S27 | | |
| Landform (hillslope, terrace, etc.): dite | ch | | Local relief (cor | ncave, convex | (, none): | ditch | | |
| Slope (%): Lat: 41.667289 |) | Long: | -87.600 | 100 | Datum: | | | |
| Soil Map Unit Name: urban land-orthents clayey comp | lex, nearly l | | | VI Classificatio | on: | none | | |
| Are climatic/hydrologic conditions of the site typical fo | r this time of | f the year | ?Y (| lf no, explain i | in remarks) | | | |
| Are vegetation , soil Y , or hydrol | ogy | significar | ntly disturbed? | Y Are "per | mal circumstances" | | | |
| | | | problematic? | N present? | | Y | | |
| SUMMARY OF FINDINGS | | | | (If neede | ed, explain any ans | wers in remarks.) | | |
| Hydrophytic vegetation present? N | | | | | · · | | | |
| Hydric soil present? | | Is the | e sampled area | within a wet | land? N | | | |
| Wetland hydrology present? N | | | es, optional we | | | | | |
| Remarks: (Explain alternative procedures here or in a | separate re | | <i>*</i> 1 | - | | | | |
| | | | | | | | | |
| Relied primarily upon vegetation and landsca | pe positior | n due to | dry time of se | eason, and r | nostly urbanland | /fill for substrate. | | |
| VEGETATION Use scientific names of plan | ts. | | | | | | | |
| | Absolute | Domina | nt Indicator | Domina | nce Test Workshe | et | | |
| Tree Stratum (Plot size: 9 m) | % Cover | Species | | Number of D | ominant Species tha | ł | | |
| 1 Morus alba | 40 | Y | FAC | | , FACW, or FAC: | 3 (A) | | |
| 2 Acer negundo | 20 | Y | FAC | Total Nun | nber of Dominant | | | |
| 3 | | | | Species / | Across all Strata: | <u> </u> | | |
| 4 | | | | Percent of De | ominant Species that | | | |
| 5 | | | | are OBL, | , FACW, or FAC: | <u>50.00%</u> (A/B) | | |
| | 60 = | = Total Co | ver | <u> </u> | | | | |
| Sapling/Shrub stratum (Plot size: 4.6 m) 1 Prunus serotina | 15 | V | FACU | Total % (| nce Index Worksho | eet | | |
| 2 | 15 | Y | FACU | OBL spe | | 1 = 0 | | |
| 3 | | | | FACW s | | | | |
| 4 | | | | FAC spe | | | | |
| 5 | | | | FACU sp | | | | |
| | 15 = | Total Co | ver | UPL spe | | 5 = 0 | | |
| Herb stratum (Plot size: 1 m sq) |) | | | Column | totals 100 (A |) <u>330</u> (B) | | |
| 1 Eupatorium rugosum | 10 | Y | FACU | Prevalen | nce Index = B/A = | 3.30 | | |
| 2 Arctium minus | 10 | Y | FACU | | | | | |
| 3 Geum laciniatum | 5 | Y | FACW | | nytic Vegetation In | | | |
| 4 | | | | · · · | d test for hydrophy | • | | |
| 5 6 | | | | | iinance test is >50% alence index is ≤3.0 | | | |
| 6 7 | | | | | | | | |
| 8 | | | | | phological adaptation | | | |
| 9 | | | | | arate sheet) | | | |
| 10 | | | | | lematic hydrophytic | vegetation* | | |
| | 25 = | Total Co | ver | (expl | | | | |
| Woody vine stratum (Plot size: 1 m sq) | | | | *Indicator | rs of hydric soil and wet | land hydrology must be | | |
| 1 | | | | р | resent, unless disturbed | | | |
| 2 | | | | - | rophytic | | | |
| | 0 = | = Total Co | ver | - | etation ent? N | | | |
| Remarks: (Include photo numbers here or on a separa | ate sheet) | | | 1 | | - | | |
| | | | | | | | | |
| | | | | | | | | |

| SOIL | |
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| Profile Des | cription: (Descr | ibe to th | ne depth neede | d to docu | ument th | e indica | tor or confirm | n the abser | nce of indic | ators.) | |
|----------------------------|---------------------------------|-----------|-------------------|-----------------------|------------|-------------|--------------------|---|---------------|----------------------------|--|
| Depth | Matrix | | Re | dox Feat | ures | | | | | | |
| (Inches) | Color (moist) | % | Color (moist) | (moist) % Type* Loc** | | | | ire | Remarks | | |
| | | | | | | | | | | | |
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| | | | | | | | | | | | |
| *Type: C = (| Concentration, D | = Denlei | tion RM = Redu | red Matri | v MS = | Masked | Sand Grains | **Locat | ion: PL = P | ore Lining, M = Matrix | |
| | bil Indicators: | - Depier | | | x, 1010 - | Maskeu | | | | - | |
| • | | | 6.0 | | ad Matrix | (04) | | | ematic Hyd | | |
| | tisol (A1) tic Epipedon (A2) | | | ndy Gleye | | (54) | | | . , . | LRR K, L, R) | |
| | | ndy Redo | | | | | 7) (LRR K, | • | | | |
| | ck Histic (A3) | | | ipped Ma | . , | | | | • | 3) (LRR K, L, R) | |
| | Irogen Sulfide (A | | | amy Mucl | • | . , | | • | • | 12) (LRR K, L, R) | |
| | atified Layers (A5 |) | Loa | amy Gley | ed Matri | x (F2) | | | irk Surface | (TF12) | |
| 2 cr | n Muck (A10) | | De | pleted Ma | atrix (F3) | | Other | (explain in | remarks) | | |
| Dep | pleted Below Darl | k Surfac | · · · | dox Dark | | | | | | | |
| Thio | ck Dark Surface (| (A12) | De | pleted Da | ark Surfa | ce (F7) | *Indicat | *Indicators of hydrophytic vegetation and wetland | | | |
| San | ndy Mucky Minera | al (S1) | Re | dox Depr | ressions | (F8) | | hydrology must be present, unless disturbed or | | | |
| 5 cr | m Mucky Peat or | Peat (S3 | 3) | | | | | | problemati | C | |
| Restrictive | Layer (if observ | ed): | | | | | | | | | |
| Type: gr | avel, ballast, fill | | | | _ | | Hydric s | soil presen | it? | | |
| Depth (inche | es): not determ | nined | | | | | | | | _ | |
| Remarks: | | | | | | | | | | | |
| Aree me | nnad an urban | lond o | and located be | • | | ada | Droha rafuar | d within 0 | 1 inches | due te arevel end | |
| | pped as urban | land, a | and located be | tween g | graverno | Jaus. | Prope relusa | ai within ∠ | -4 inches | due to gravel and | |
| fill. | | | | | | | | | | | |
| HYDROLO | DGY | | | | | | | | | | |
| Wetland Hy | drology Indicate | ors: | | | | | | | | | |
| Primary Indi | cators (minimum | of one is | s required; checl | all that a | apply) | | <u>Sec</u> | ondary Indi | cators (min | imum of two required | |
| Surface | Water (A1) | | | Aquatic | Fauna (B | 13) | | Surface | Soil Cracks | (B6) | |
| High Wa | ter Table (A2) | | | True Aq | uatic Plar | nts (B14) | _ | Drainage Patterns (B10) | | | |
| Saturatio | on (A3) | | | - Hydroge | n Sulfide | Odor (C1 | 1) — | Dry-Season Water Table (C2) | | | |
| | larks (B1) | | | - | | | Living Roots | | Burrows (C8 | | |
| | nt Deposits (B2) | | | (C3) | i Kilizosp | neres on | | | • | Aerial Imagery (C9) | |
| | posits (B3) | | | - | e of Redu | uced Iron | (C4) | | or Stressed | •••• | |
| | it or Crust (B4) | | | - | | | | | phic Position | | |
| | osits (B5) | | | (C6) | ron Reau | iction in 1 | illed Soils | | utral Test (D | | |
| ' | on Visible on Aeria | Imagen | | | ck Surfac | e (C7) | | | | 5) | |
| | Vegetated Conca | | | - | | . , | | | | | |
| | - | | | - ~ | or Well Da | ``` | | | | | |
| | tained Leaves (B9 |) | | Other (E | xplain in | Remarks |) | | | | |
| Field Obser Surface wat | | Yes | No | х | Depth (i | nchee). | | Wei | tland | | |
| Water table | • | Yes | No | <u>X</u> | Depth (i | , | | | rology | | |
| Saturation p | • | Yes | No | | Depth (i | , | | - | sent? | Ν | |
| (includes ca | pillary fringe) | | | | <u> </u> | - | | | | | |
| Describe red | corded data (stre | am gaug | ge, monitoring we | ell, aerial | photos, | previous | inspections), i | f available: | | | |
| | | | | | | | | | | | |
| Remarks: | | | | | | | | | | | |
| | | | | | | | | | | | |

No evidence of hydrology observed, Ground cover mostly dry undisturbed leaf litter.

| Project/Site Lake Calumet CTA Red Line Extension | City/C | County: | Cook | Sampling | Date: | 8/19/2015 | |
|--|----------------|---------------------|---------------------|---------------------------------|--------------------------|---------------------|--|
| Applicant/Owner: CTA/MWRD | | State | : Illir | nois Sampling | Sampling Point: 20 | | |
| Investigator(s): J Mengler, V Mosca | | | Section, Towns | ship, Range: | T37N R14E S27 | | |
| Landform (hillslope, terrace, etc.): dite | ch | L | ocal relief (co | ncave, convex, none): | | ditch | |
| Slope (%): Lat: 41.671562 | | - | -87.607 | | | | |
| Soil Map Unit Name: urban land-orthents clayey comp | lex, nearly le | | | VI Classification: | no | ne | |
| Are climatic/hydrologic conditions of the site typical for | - | | Y (| If no, explain in remarks | 5) | | |
| Are vegetation, soilY, or hydrol | | | | Y Are "normal circun | | | |
| Are vegetation , soil , or hydrol | | | | N present? | Islances | Y | |
| SUMMARY OF FINDINGS | | ,, | | (If needed, explain | any answe | rs in remarks.) | |
| Hydrophytic vegetation present? Y | | | | , · · · | | , | |
| Hydric soil present? | | Is the | sampled area | within a wetland? | Y | | |
| Wetland hydrology present? Y | | | - | tland site ID: We | | - | |
| | aoparata ra | - | -, | | | | |
| Remarks: (Explain alternative procedures here or in a | separate re | eport.) | | | | | |
| Relied primarily upon vegetation and landsca | pe positior | n due to d | ry time of se | eason, and mostly u | banland/fi | ll for substrate. | |
| VEGETATION Use scientific names of plan | te | | | | | | |
| | Absolute | Dominant | Indicator | Dominance Test | Worksheet |] | |
| Tree Stratum (Plot size: 9 m) | % Cover | Dominant Species | Indicator Status | Number of Dominant S | | | |
| 1 | | · | | are OBL, FACW, o | | 1 (A) | |
| 2 | | | | Total Number of Do | - minant | | |
| 3 | | | | Species Across all | | 1 (B) | |
| 4 | | | | Percent of Dominant S | becies that | | |
| 5 | | | | are OBL, FACW, o | r FAC: | 100.00% (A/B) | |
| | 0 = | Total Cove | er | | | | |
| Sapling/Shrub stratum (Plot size: 4.6 m) | | | | Prevalence Index | Workshee | ſ | |
| 1 | | | | Total % Cover of: | 0 | 0 | |
| 2 | | | | OBL species FACW species | 0 x 1 = 100 x 2 = | | |
| 3 | | | | FACW species | $\frac{100}{0}$ x 2 = | | |
| 5 | | | | FACU species | $\frac{0}{0} \times 4 =$ | | |
| | 0 = | Total Cove | er | UPL species | 0 x 5 = | | |
| Herb stratum (Plot size: 1 m sq) | | | | Column totals | 100 (A) | 200 (B) | |
| 1 Phragmites australis | 100 | Y | FACW | Prevalence Index | = B/A = | 2.00 | |
| 2 | | | | | | | |
| 3 | | | | Hydrophytic Vege | etation Indi | ators: | |
| 4 | | | | Rapid test for | | vegetation | |
| 5 | | | | X Dominance te | | | |
| 6 | | | | X Prevalence inc | dex is ≤3.0* | | |
| / | | | | Morphological | | | |
| 8 | | | | supporting dat separate shee | | s or on a | |
| 10 | | | | · | , | a actation* | |
| | 100 = | Total Cove | er | Problematic hy (explain) | yaropriytic V | syelalion | |
| Woody vine stratum (Plot size: 1 m sq) | | | | *Indicators of hydric | acil and watlan | d bydrology myst bo | |
| 1 | | | | | ss disturbed or | | |
| 2 | | | | Hydrophytic | | | |
| | 0 = | Total Cove | er | vegetation present? | V | | |
| Demonstra (Include of states and the set | | | | present? | Ť | | |
| Remarks: (Include photo numbers here or on a separa | ate sneet) | | | | | | |
| | | | | | | | |
| | | | | | | | |

| SOIL | |
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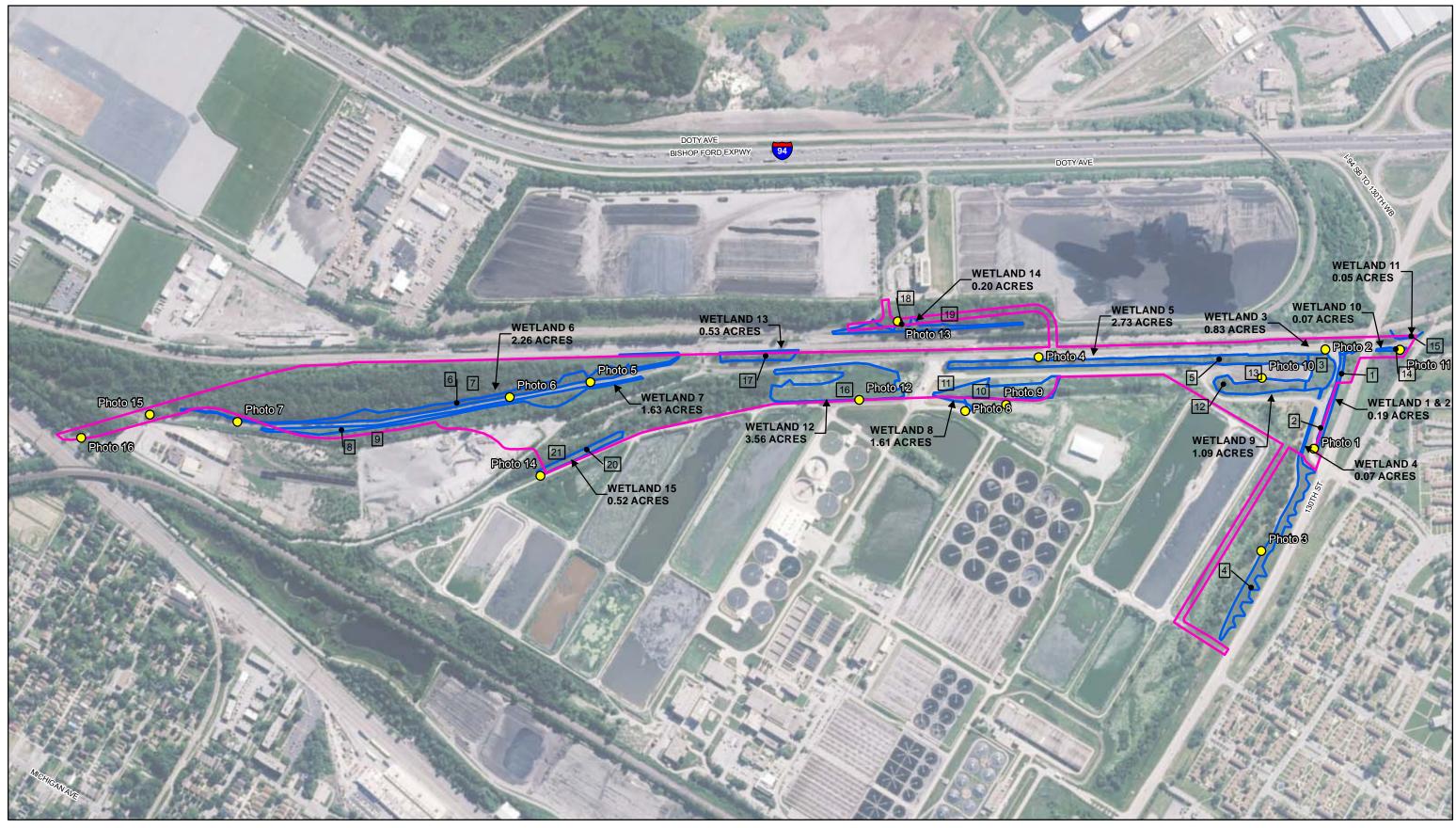
| Profile Des | cription: (Descr | ibe to th | ne depth neede | to docu | ument th | e indica | tor or confirm | the abser | nce of indicators.) | | |
|--------------|---------------------|-----------|-------------------|---------------|------------|-------------|------------------|---|-----------------------------------|--|--|
| Depth | Depth <u>Matrix</u> | | Re | dox Feat | ures | | | | | | |
| (Inches) | Color (moist) | % | Color (moist) | % | Type* | Loc** | Textu | re | Remarks | | |
| | | | | | | | | | | | |
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| | | | | | | | | | | | |
| *Tvpe: C = 0 | Concentration, D | = Deplet | tion. RM = Redu | ced Matri | ix. MS = | Masked | Sand Grains. | **Locat | ion: PL = Pore Lining, M = Matrix | | |
| | oil Indicators: | | | | | | | | ematic Hydric Soils: | | |
| - | tisol (A1) | | Sa | ndy Gley | ed Matrix | (S4) | | | - | | |
| | tic Epipedon (A2) | | | ndy Redo | | ((01) | | Coast Prairie Redox (A16) (LRR K, L, R) Dark Surface (S7) (LRR K, L) | | | |
| | ck Histic (A3) | | | ipped Ma | . , | | | 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) | | | |
| | . , | 4) | | ••• | . , | | | • | | | |
| | Irogen Sulfide (A | | | amy Muc | • | • • | | Ū | Masses (F12) (LRR K, L, R) | | |
| | atified Layers (A5 |) | | amy Gley | | . , | | Very Shallow Dark Surface (TF12) | | | |
| | m Muck (A10) | | | pleted Ma | . , | | Other | (explain in | remarks) | | |
| | pleted Below Darl | | | dox Dark | | | | | | | |
| | ck Dark Surface (| . , | | pleted Da | | | *Indicat | ors of hydro | ophytic vegetation and wetland | | |
| | ndy Mucky Minera | | | dox Depr | ressions | (F8) | hydrolo | | e present, unless disturbed or | | |
| 5 cr | m Mucky Peat or | Peat (S3 | 3) | | | | | | problematic | | |
| | Layer (if observ | ed): | | | | | | | | | |
| | avel, ballast, fill | | | | - | | Hydric s | oil presen | t? | | |
| Depth (inche | es): not detern | nined | | | - | | | | | | |
| Remarks: | | | | | | | | | | | |
| Area ma | nned as urban | land a | and along stee | n road (| emhank | ment | Probe refus | al within 3 | 2-4 inches due to gravel | | |
| and fill. | | ianu, e | and along stee | produt | cinbain | differnt. | T TODE TETUS | | | | |
| | | | | | | | | | | | |
| HYDROLO | | | | | | | | | | | |
| - | drology Indicato | | | | | | _ | | | | |
| | cators (minimum | of one is | s required; check | call that a | apply) | | Seco | ondary Indi | cators (minimum of two required | | |
| X Surface | Water (A1) | | | Aquatic | Fauna (B | 13) | _ | | Soil Cracks (B6) | | |
| High Wa | iter Table (A2) | | | - ' | uatic Plar | • • | | | e Patterns (B10) | | |
| Saturatio | on (A3) | | | Hydroge | en Sulfide | Odor (C1 | 1) | Dry-Seas | son Water Table (C2) | | |
| Water M | larks (B1) | | | Oxidized | d Rhizosp | heres on | Living Roots | Crayfish | Burrows (C8) | | |
| Sedimer | nt Deposits (B2) | | | (C3) | | | _ | Saturatio | n Visible on Aerial Imagery (C9) | | |
| Drift Dep | oosits (B3) | | | Presenc | e of Redu | uced Iron | (C4) | Stunted of | or Stressed Plants (D1) | | |
| Algal Ma | t or Crust (B4) | | | - Recent I | ron Redu | iction in T | illed Soils | Geomorp | phic Position (D2) | | |
| Iron Dep | osits (B5) | | | (C6) | | | | FAC-Neu | utral Test (D5) | | |
| Inundatio | on Visible on Aeria | I Imager | y (B7) | Thin Mu | ck Surfac | e (C7) | | _ | | | |
| Sparsely | Vegetated Conca | ve Surfa | ce (B8) | - | or Well Da | | | | | | |
| Water-S | tained Leaves (B9 |) | · · · | | | Remarks |) | | | | |
| Field Obser | · · | / | | - | | | / | | | | |
| Surface wat | | Yes | No | х | Depth (i | inches): | | Wet | land | | |
| Water table | present? | Yes | No | Х | Depth (i | inches): | | hyd | rology | | |
| Saturation p | | Yes | X No | | Depth (i | nches): | 0 | pres | sent? Y | | |
| | pillary fringe) | | | | | | | | | | |
| Describe red | corded data (stre | am gaug | ge, monitoring we | ell, aerial | photos, | previous | inspections), if | available: | | | |
| | | | | | | | | | | | |
| Remarks: | | | | | | | | | | | |
| | | | | | | | | | | | |
| I | | | | | | | | | | | |

| Project/Site Lake Calumet CTA Red Line Extension | City/ | County: | Cool | ĸ | Sampling Date: | 8/19/2015 | | | |
|--|---------------------|------------------|------------------|-------------------|-------------------------------------|--------------------------|--|--|--|
| Applicant/Owner: CTA/MWRD | | | te: Illir | nois | Sampling Point: | 21 | | | |
| Investigator(s): J Mengler, V Mosca | | | Section, Town | ship, Range: | T37N | R14E S27 | | | |
| Landform (hillslope, terrace, etc.): di | tch | | Local relief (co | ncave, convex | (, none): | ditch | | | |
| Slope (%): Lat: 41.67156 | 2 | Long: | -87.607 | 147 | Datum: | | | | |
| Soil Map Unit Name: urban land-orthents clayey complex, nearly level NWI Classification: none | | | | | | | | | |
| Are climatic/hydrologic conditions of the site typical f | or this time of | of the year | ? Y | (If no, explain i | in remarks) | | | | |
| Are vegetation , soil Y , or hydro | ology | significa | ntly disturbed? | Y Are "per | mal circumstance | ~ " | | | |
| | ology | | problematic? | N present? | | Υ | | | |
| SUMMARY OF FINDINGS (If needed, explain any answers in remarks.) | | | | | | | | | |
| Hydrophytic vegetation present? N | | | | | | | | | |
| Hydric soil present? | | Is the | e sampled area | a within a wet | land? N | | | | |
| Wetland hydrology present? N | | | /es, optional we | | | | | | |
| Remarks: (Explain alternative procedures here or in | a conarato r | | ,, -p | | | | | | |
| Remarks. (Explain alternative procedures here of in | a separate r | eport.) | | | | | | | |
| Relied primarily upon vegetation and landsc | ape positio | n due to | dry time of se | eason, and r | mostly urbanlar | d/fill for substrate. | | | |
| VEGETATION Use scientific names of pla | nts | | | | | | | | |
| | | Domino | nt Indiantar | Domina | nce Test Worksh | eet | | | |
| <u>Tree Stratum</u> (Plot size: 9 m) | Absolute % Cover | Domina Specie | | | ominant Species th | | | | |
| 1 | | · | | | , FACW, or FAC: | 2 (A) | | | |
| 2 | · | | | Total Nur | mber of Dominant | | | | |
| 3 | | | | | Across all Strata: | 4 (B) | | | |
| 4 | | | | Percent of D | ominant Species th | at | | | |
| 5 | | | | are OBL, | , FACW, or FAC: | 50.00% (A/B) | | | |
| | 0 | = Total Co | over | | | | | | |
| Sapling/Shrub stratum (Plot size: 4.6 m |) | | | | nce Index Works | heet | | | |
| 1 Rhamnus cathartica | 80 | Y | FAC | | Cover of: | | | | |
| 2 Morus alba 3 | 20 | Y | FAC | OBL spe | | | | | |
| 3 | | | | FACW s FAC spe | · | (2 = 0) (3 = 300) | | | |
| | · | | | FACU spe | | 4 = 120 | | | |
| · | 100 | = Total Co | over | UPL spe | | $x_{5} = 0$ | | | |
| Herb stratum (Plot size: 1 m sq |) | | | Column | | A) 420 (B) | | | |
| 1 Glechoma hederacea | 15 | Y | FACU | Prevaler | nce Index = $B/A =$ | 3.23 | | | |
| 2 Arctium minus | 15 | Y | FACU | | | | | | |
| 3 | | | | Hydroph | nytic Vegetation I | ndicators: | | | |
| 4 | | | | Rapi | id test for hydroph | ytic vegetation | | | |
| 5 | | | | | inance test is >50 | | | | |
| 6 | | | | Prev | alence index is ≤3 | 3.0* | | | |
| 7 | | | | | phological adaptat | | | | |
| 8 9 | · | | | | oorting data in Rer arate sheet) | narks or on a | | | |
| 9 10 | · | | | | | | | | |
| ···· | 30 | = Total Co | over | Prob (exp | elematic hydrophyl Iain) | ic vegetation* | | | |
| Woody vine stratum (Plot size: 1 m sq |) | 1000100 | | <u> </u> | , | attand built at a second | | | |
| 1 *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic | | | | | | | | | |
| 2 | | | | | rophytic | | | | |
| | 0 | - | etation | | | | | | |
| | | | | pres | sent? N | _ | | | |
| Remarks: (Include photo numbers here or on a sepa | rate sheet) | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

| SOIL | |
|------|--|
|------|--|

21

| Profile Des Depth | cription: (Descr Matrix | ibe to th | ne depth ne | | to doc | | ne indica | tor or confir | m the abser | nce of indicators.) | | |
|-------------------------|---|-----------|---------------|------------|------------|------------|-------------|---------------|---|---|--|--|
| (Inches) | Color (moist) | % | Color (mo | | % | Type* | Loc** | Text | ure | Remarks | | |
| (1101100) | | 70 | | <i>(</i>) | 70 | Type | 200 | TCA | uic | remarks | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
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| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| *Type: C = (| Concentration, D | = Deplet | ion RM = F | Reduc | ed Matr | ix MS = | Masked | Sand Grains | **I ocat | ion: PL = Pore Lining, M = Matr | | |
| | oil Indicators: | | | | | | | | | ematic Hydric Soils: | | |
| - | tisol (A1) | | | Sar | | ed Matrix | v (SA) | | | | | |
| | . , | | | - | | | x (04) | | Coast Prairie Redox (A16) (LRR K, L, R) Dark Surface (S7) (LRR K, L) | | | |
| | tic Epipedon (A2) | | | - | idy Redo | . , | | | • | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | |
| | ck Histic (A3) | | | - ' | ••• | atrix (S6) | | | • | t or Peat (S3) (LRR K, L, R) | | |
| Hyc | Irogen Sulfide (A | 4) | | Loa | my Muc | ky Miner | al (F1) | | - | Masses (F12) (LRR K, L, R) | | |
| Stra | atified Layers (A5 |) | | Loa | my Gley | ed Matri | x (F2) | Very | Very Shallow Dark Surface (TF12) | | | |
| 2 cr | m Muck (A10) | | | Dep | oleted M | atrix (F3) |) | Othe | er (explain in | remarks) | | |
| Dep | pleted Below Dark | k Surface | e (A11) | Rec | lox Dark | Surface | e (F6) | | | | | |
| Thi | ck Dark Surface (| A12) | | Dep | leted D | ark Surfa | ace (F7) | *leadia | | | | |
| | ndy Mucky Minera | | | _ ` | | ressions | • • | | *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or | | | |
| | m Mucky Peat or | • • | s) | _ | | | (-) | nyare | blogy must b | problematic | | |
| | - | | <i>'</i>) | | | | | | | problemade | | |
| | Layer (if observer | ea): | | | | | | Uudria | | *2 | | |
| Type: gi Depth (inch | ravel, ballast, fill es): not determ | nined | | | | - | | пуалс | soil presen | | | |
| | | inicu | | | | - | | | | | | |
| Remarks: | | | | | | | | | | | | |
| Area ma | oped as urban | land, a | and along | steei | o road | embanł | kment. | Probe refu | sal within | 2-4 inches due to gravel | | |
| and fill. | | | and along | 01001 | | | | | | | | |
| | | | | | | | | | | | | |
| HYDROL | | | | | | | | | | | | |
| - | drology Indicato | | | | | | | | | | | |
| Primary Indi | cators (minimum | of one is | s required; o | check | all that | apply) | | <u>Se</u> | condary Indi | cators (minimum of two required | | |
| Surface | Water (A1) | | | | Aquatic | Fauna (B | 313) | - | Surface | Soil Cracks (B6) | | |
| High Wa | ater Table (A2) | | | | True Aq | uatic Plar | nts (B14) | | Drainage | e Patterns (B10) | | |
| Saturatio | on (A3) | | | | Hydroge | en Sulfide | Odor (C1 | 1) | Dry-Sea | son Water Table (C2) | | |
| | larks (B1) | | | | Ovidized | d Dhizoen | heres on | Living Roots | Cravfish | Burrows (C8) | | |
| | nt Deposits (B2) | | | | (C3) | 11112050 | neres on | Living Roots | Saturation Visible on Aerial Imagery (C9) | | | |
| | posits (B3) | | | | • | e of Red | uced Iron | (C4) | | or Stressed Plants (D1) | | |
| · | . , | | | | • | | | - | | phic Position (D2) | | |
| | at or Crust (B4) | | | | | Iron Redu | uction in T | illed Soils | | | | |
| | oosits (B5) | | | | (C6) | | | - | FAC-Ne | utral Test (D5) | | |
| | on Visible on Aeria | | | | | ick Surfac | | | | | | |
| Sparsely | Vegetated Conca | ve Surfa | ce (B8) | | Gauge | or Well Da | ata (D9) | | | | | |
| Water-S | tained Leaves (B9 |) | | | Other (E | Explain in | Remarks |) | | | | |
| Field Obser | rvations: | | | | | | | | | | | |
| Surface wat | er present? | Yes | | No | Х | Depth (| , | | _ | tland | | |
| Water table | • | Yes | | No | X | Depth (| , | | - | rology | | |
| Saturation p | | Yes | | No | Х | Depth (| inches): | | pre | sent? N | | |
| | pillary fringe) | | | | | | | lines4 | 16 an (- 11 - 11 - 1 | | | |
| Describe ree | corded data (strea | am gaug | le, monitorir | ig we | II, aerial | pnotos, | previous | inspections), | ir available: | | | |
| | | | | | | | | | | | | |
| Remarks: | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |





Photograph Locations

Exhibit: 10

Exhibit Title:

Aerial Date: 2014



Photograph 1:

Wetland 1 looking east from west end.



Photograph 2:

Existing fly dumping piles along Cottage Grove Road and edge of Wetland 3.

Project Number: 15-0218

Hey and Associates, Inc. Engineering, Ecology and Landscape Architecture Project Name: CTA Red Line Extension





Photograph 3:

North edge of Wetland 4 looking west – mostly out of project area.

Photograph 4:

Edge of Wetland 5 along Cottage Grove Road looking south.

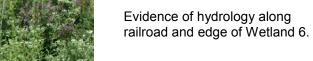
Project Number: 15-0218

Hey and Associates, Inc. Engineering, Ecology and Landscape Architecture Project Name: CTA Red Line Extension



Photograph 5:

Wetland 6 along railroad looking south.



Photograph 6:



Project Number: 15-0218

Hey and Associates, Inc. Engineering, Ecology and Landscape Architecture Project Name: CTA Red Line Extension



Photograph 7:

Remnant prairie plants in Wetland 7 along railroad.

Photograph 8:

Mowed edge of Wetland 8.

Project Number: 15-0218

Hey and Associates, Inc. Engineering, Ecology and Landscape Architecture Project Name: CTA Red Line Extension





Photograph 9:

Existing upland gravel area next to Wetland 8.

Photograph 10:

Wetland 9.

Project Number: 15-0218

Hey and Associates, Inc. Engineering, Ecology and Landscape Architecture Project Name: CTA Red Line Extension

Exhibit Title:Exhibit:Representative Photographs#10



Existing trash piles in Wetland 10.

Photograph 11:



Photograph 12:

Wetland 12.

Project Number: 15-0218

Hey and Associates, Inc. Engineering, Ecology and Landscape Architecture Project Name: CTA Red Line Extension

Exhibit Title:Exhibit:Representative Photographs#10



Photograph 13:

Wetland 14.



Photograph 14:

Wetland 15.

Project Number: 15-0218



Engineering, Ecology and Landscape Architecture

Project Name: **CTA Red Line Extension**



Photograph 15:

Upland in northwest finger of project area looking north.

Photograph 16:

Northwest extent of project area.

Project Number: 15-0218

Hey and Associates, Inc.

Engineering, Ecology and Landscape Architecture

Project Name: **CTA Red Line Extension**

THE METROPOLITAN SANITARY DISTRICT OF GREATER CHICAGO

.

CONTRACT 84-270-2P

SLUDGE DRYING AREA-WEST, CALUMET S.T.W.

APPENDIX A - TABLE OF CONTENTS

.

| Page No. | R.O.W. Document File No. | |
|----------|--------------------------------|---|
| 1-13 | 1. | Department of the Army Permit No. 5108502 Mr. Tom Slowinski (Phone: 353-6428) |
| 14-18 | 2. | City of Chicago, Department of Streets and Sanitation, Bureau of Forestry, Parkways and Beautification, Permit No. 85-62 Ms. Karen Nowacki-Forestry (Phone: 744-4391) Mr. R. E. Baker-Water Distribution (Phone: 744-5067) |
| 19-21 | 3. | Cook County Department of Highways Permit No. 85-3-155 Mr. Gabriel Ditore (443-5988) |
| 22 | 4. | Commonwealth Edison Co. Letter of Notification Mr. Orville Burandt (Phone: 294-3270) |
| 22 | | Last Page of Right-of-Way Documents |

6

5108502

Name of Applicant Metropolitan Sanitary District of Greater Chicago

Effective Date _____ 10 June 1985

Expiration Date (If applicable) 10 June 1988

DEPARTMENT OF THE ARMY PERMIT

Referring to written request dated <u>24</u> January 85 for a permit to:

() Perform work in or affecting navigable waters of the United States, upon the recommendation of the Chief of Engineers, pursuant to Section 10 of the Rivers and Harbors Act of March 3, 1899 (33 U.S.C. 403);

(x) Discharge dredged or fill material into waters of the United States upon the issuance of a permit from the Secretary of the Army acting through the Chief of Engineers pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344);

() Transport dredged material for the purpose of dumping it into ocean waters upon the issuance of a permit from the Secretary of the Army acting through the Chief of Engineers pursuant to Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (86 Stat. 1052; P.L. 92-532);

Metropolitan Sanitary District of Greater Chicago 100 East Erie Street Chicago, Illinois 60629

is hereby authorized by the Secretary of the Army: to construct a municipal sludge drying facility

in a wetland near the Little Calumet River

at W¹₂ of Section 27, T37N, R14E, near 130th and Indiana Avenue, Chicago, Cook County, Illinois

in accordance with the plans and drawings attached hereto which are incorporated in and made a part of this permit (on drawings, give file number or other definite identification marks.)

24 January 1985 permit application and plans 29 May 1985 letter and enclosures

subject to the following conditions:

I. General Conditions:

a. That all activities identified and authorized herein shall be consistent with the terms and conditions of this permit; and that any activities not specifically identified and authorized herein shall constitute a violation of the terms and conditions of this permit which may result in the modification, suspension or revocation of this permit, in whole or in part, as set forth more specifically in General Conditions j or k hereto, and in the institution of such legal proceedings as the United States Government may consider appropriate, whether or not this permit has been previously modified, suspended or revoked in whole or in part.

ENG FORM 1721, Sep 82

(ER 1145-2-303)

Ι.

BOW FILE

1

b. That all activities authorized herein shall, if they involve, during their construction or operation, any discharge of pollutants into waters of the United States or ocean waters, be at all times consistent with applicable water quality standards, effluent limitations and standards of performance, prohibitions, pretreatment standards and management practices established pursuant to the Clean Water Act (33 U.S.C. 1344), the Marine Protection, Research and Sanctuaries Act of 1972 (P.L. 92-532, 86 Stat. 1052), or pursuant to applicable State and local law.

c. That when the activity authorized herein involves a discharge during its construction or operation, or any pollutant (including dredged or fill material), into waters of the United States, the authorized activity shall, if applicable water quality standards are revised or modified during the term of this permit, be modified, if necessary, to conform with such revised or modified water quality standards within 6 months of the effective date of any revision or modification of water quality standards, or as directed by an implementation plan contained in such revised or modified standards, or within such longer period of time as the District Engineer, in consultation with the Regional Administrator of the Environmental Protection Agency, may determine to be reasonable under the circumstances.

d. That the discharge will not destroy a threatened or endangered species as identified under the Endangered Species Act, or endanger the critical habitat of such species.

e. That the permittee agrees to make every reasonable effort to prosecute the construction or operation of the work authorized herein in a manner so as to minimize any adverse impact on fish, wildlife, and natural environmental values.

f. That the permittee agrees that he will prosecute the construction or work authorized herein in a manner so as to minimize any degradation of water quality.

g. That the permittee shall allow the District Engineer or his authorized representative(s) or designee(s) to make periodic inspections at any time deemed necessary in order to assure that the activity being performed under authority of this permit is in accordance with the terms and conditions prescribed herein.

h. That the permittee shall maintain the structure or work authorized herein in good condition and in reasonable accordance with the plans and drawings attached hereto.

i. That this permit does not convey any property rights, either in real estate or material, or any exclusive privileges; and that it does not authorize any injury to property or invasion of rights or any infringement of Federal, State, or local laws or regulations.

j. That this permit does not obviate the requirement to obtain state or local assent required by law for the activity authorized herein.

k. That this permit may be either modified, suspended or revoked in whole or in part pursuant to the policies and procedures of 33 CFR 325.7.

l. That in issuing this permit, the Government has relied on the information and data which the permittee has provided in connection with his permit application. If, subsequent to the issuance of this permit, such information and data prove to be materially false, materially incomplete or inaccurate, this permit may be modified, suspended or revoked, in whole or in part, and/or the Government may, in addition, institute appropriate legal proceedings.

m. That any modification, suspension, or revocation of this permit shall not be the basis for any claim for damages against the United States.

n. That the permittee shall notify the District Engineer at what time the activity authorized herein will be commenced, as far in advance of the time of commencement as the District Engineer may specify, and of any suspension of work, if for a period of more than one week, resumption of work and its completion.

o. That if the activity authorized herein is not completed on or before ______ day of ______, 19 _____, (three years from the date of issuance of this permit unless otherwise specified) this permit, if not previously revoked or specifically extended, shall automatically expire.

p. That this permit does not authorize or approve the construction of particular structures, the authorization or approval of which may require authorization by the Congress or other agencies of the Federal Government.

q. That if and when the permittee desires to abandon the activity authorized herein, unless such abandonment is part of a transfer procedure by which the permittee is transferring his interests herein to a third party pursuant to General Condition t hereof, he must restore the area to a condition satisfactory to the District Engineer.

r. That if the recording of this permit is possible under applicable State or local law, the permittee shall take such action as may be necessary to record this permit with the Register of Deeds or other appropriate official charged with the responsibility for maintaining records of title to and interests in real property.

2.

s. That there shall be no unreasonable interference with navigation by the existence or use of the activity authorized herein.

t. That this permit may not be transferred to a third party without prior written notice to the District Engineer, either by the transferee's written agreement to comply with all terms and conditions of this permit or by the transferree subscribing to this permit in the space provided below and thereby agreeing to comply with all terms and conditions of this permit. In addition, if the permittee transfers the interests authorized herein by conveyance of realty, the deed shall reference this permit and the terms and conditions specified herein and this permit shall be recorded along with the deed with the Register of Deeds or other appropriate official.

u. That if the permittee during prosecution of the work authorized herein, encounters a previously unidentified archeological or other cultural resource within the area subject to Department of the Army jurisdiction that might be eligible for listing in the National Register of Historic Places, he shall immediately notify the district engineer.

II. Special Conditions: (Here list conditions relating specifically to the proposed structure or work authorized by this permit):

1. That the permittee notify Mr. Tom Slowinski, Chief, Regulatory Functions Branch, Chicago District Office, 219 South Dearborn Street, Chicago, Illinois 60604-1797, telephone 312/353-6428 at least five days in advance of commencement and completion of the work authorized herein.

2. That the permittee supply a copy of this permit with all attachments to his contractor or project engineer so that all terms and conditions are fully known and understood.

3. That the permittee submit any revisions of plans or location to this issuing office for approval before work is begun.

4. That the permittee comply with the Illinois Environmental Protection Agency's conditions (attached), as stated in their 22 March 1985 water quality certification for the project under Section 401 of the Clean Water Act (Public Law 95-217).

5. That the permittee develop and implement the wetland mitigation plan in accordance with their 29 May 1985 letter and enclosures.

The following Special Conditions will be applicable when appropriate:

STRUCTURES IN OR AFFECTING NAVIGABLE WATERS OF THE UNITED STATES:

a. That this permit does not authorize the interference with any existing or proposed Federal project and that the permittee shall not be entitled to compensation for damage or injury to the structures or work authorized herein which may be caused by or result from existing or future operations undertaken by the United States in the public interest.

b. That no attempt shall be made by the permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the activity authorized by this permit.

c. That if the display of lights and signals on any structure or work authorized herein is not otherwise provided for by law, such lights and signals as may be prescribed by the United States Coast Guard shall be installed and maintained by and at the expense of the permittee.

d. That the permittee, upon receipt of a notice of revocation of this permit or upon its expiration before completion of the authorized structure or work, shall, without expense to the United States and in such time and manner as the Secretary of the Army or his authorized representative may direct, restore the waterway to its former conditions. If the permittee fails to comply with the direction of the Secretary of the Army or his authorized representative, the Secretary or his designee may restore the waterway to its former condition, by contract or otherwise, and recover the cost thereof from the permittee.

e. Structures for Small Boats: That permittee hereby recognizes the possibility that the structure permitted herein may be subject to damage by wave wash from passing vessels. The issuance of this permit does not relieve the permittee from taking all proper steps to insure the integrity of the structure permitted herein and the safety of boats moored thereto from damage by wave wash and the permittee shall not hold the United States liable for any such damage.

MAINTENANCE DREDGING:

a. That when the work authorized herein includes periodic maintenance dredging, it may be performed under this permit for _______ years from the date of issuance of this permit (*ten years unless otherwise indicated*);

b. That the permittee will advise the District Engineer in writing at least two weeks before he intends to undertake any maintenance dredging.

DISCHARGES OF DREDGED OR FILL MATERIAL INTO WATERS OF THE UNITED STATES:

a. That the discharge will be carried out in conformity with the goals and objectives of the EPA Guidelines established pursuant to Section 404(b) of the Clean Water Act and published in 40 CFR 230;

b. That the discharge will consist of suitable material free from toxic pollutants in toxic amounts.

c. That the fill created by the discharge will be properly maintained to prevent erosion and other non-point sources of pollution.

DISPOSAL OF DREDGED MATERIAL INTO OCEAN WATERS:

a. That the disposal will be carried out in conformity with the goals, objectives, and requirements of the EPA criteria established pursuant to Section 102 of the Marine Protection, Research and Sanctuaries Act of 1972, published in 40 CFR 220-228.

b. That the permittee shall place a copy of this permit in a conspicuous place in the vessel to be used for the transportation and/or disposal of the dredged material as authorized herein.

This permit shall become effective on the date of the District Engineer's signature.

Permittee hereby accepts and agrees to comply with the terms and conditions of this permit.

PERMITTEE

BY AUTHO FINC Ρ R. I.TC FRANK

DISTRICT ENGINEER, U.S. ARMY, CORPS OF ENGINEERS Transferee hereby agrees to comply with the terms and conditions of this permit.

TRANSFEREE

DATE

Δ.

4



DEPARTMENT OF THE ARMY CORPS OF ENGINEERS

NOTICE OF AUTHORIZATION

10 June 19 85

A PERMIT TO construct a municipal sludge drying facility in a wetland near the Little Calumet River

 AT W2 of Section 27, T37N, R14E, near 130th Street and Indiana Avenue Chicago, Cook County, Illinois
 HAS BEEN ISSUED TO Metropolitan Sanitary District ON 10 June 19 85 of Greater Chicago
 ADDRESS OF PERMITTEE 100 East Erie Street
 Chicago, Illinois 60629

PERMIT NUMBER 5108502

District Engineer LTC FRANK R./FINCH, P.E.

ENG Form 4336 Jul 70

THIS NOTICE MUST BE CONSPICUOUSLY DISPLAYED AT THE SITE OF WORK.

| ···· | | JOINT A | PPLICAT | ION FORM | | | | |
|---|--|---------------------|------------------|------------------------|----------------------|---------------------------------------|-----------------------------------|--|
| 1. Application Number (1 | to be assigned by Agency | r) | 2. Date | | | | ency use only Received) | |
| · . | | - ' | 24 | Jan. | 85 | | | |
| 4. Name and address of a | spplicant | | Day | Month 5. Name, addı | Year ess, and tit | le of authorized | l'agent | ······································ |
| Metropolitan Sar | - | : of | | | | ÷ | | |
| Creater Chicag 100 East Erie St | treet | · . | | | J/A | - 201 | | |
| Chicago, Ill. 50 Telephone no. during |)629 g business bours | | | | | usiness hours | | |
| λ/c () | 5868 | | | A/C (|) | · · · · · · · · · · · · · · · · · · · | | |
| 6. Describe in detail th | | - ts purpose, an | d intended | | onal space is | needed, attach | additional support | rt |
| information to each a | | | | | | | | |
| | | | | | | | | |
| | | | See Af | ttachment | | | | |
| | | | | • | | . I | | |
| | | • | • | | | | | |
| | | | | | | | | |
| 7. Names, addresses, and property if different | i telephone numbers of a t from applicant. | all adjoining | and potenti | ally affected p | coperty owner | s, including th | e owner of subject | |
| | | | None | | | | | |
| | ÷ | - | | ۰. | • | | | |
| | • | | | | | | | |
| 8. Location of activity | <u> </u> | <u> </u> | | W.(S.I.J.L | Description: | | | |
| Address: 300 East 130th 1 | Streat | | £4 ∎ 4 NI _ T | N. (N. I <u>.B.L</u> | <u>}</u> 27 | | <u>14</u> Rge. | 3 |
| | er descriptive location | | ` | Tax As | See and the second | ription (if kno | | |
| Chicago | owa | | | | | | | |
| Cook | Illinois | 60628 | | Map No | | Subdiv. No. | Lot No. | |
| County | State | - | ip Code | | Wet land | | | |
| | | reh 108 | 5 | | | | . l'oveniter | 1.5 |
| 9. Date activity is pro | posed to commence | | | - Date activit | y is expected | to be complete | d | |
| 10. Is any portion of the | e activity for which au | thorization is | s sought nov | w complete? | Yes | No If answer | is "Yes" give re | asons in |
| | th and Year the activity | | | | | | the existing work | |
| List all approvals o discharges, deposits | r certifications require, or other activities de Illinois Department of | escribed in D | his applicat | tion. If this f | orm is being | used for concur | rent application | to the |
| Issuing Agency | Type Approval | | Identificati | * | | Application | | f Approva |
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| 12. Has any agency denie | d approval for the acti If "Yes", explain in rem | vity describe | d herein or | for any activit | y directly r | elated to the ac | tivity described | berein. |
| | contract 18 des | | as: SI | udge Uryir | ig Area | - West at | Calumet | • |
| | ge Treatment P | | | | | . . | | |
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| 14. Application is hereb contained in the app | lication, and that to t | the best of my | knowledge : | and belief, such | information | at I am familiar is true, comple | with the informate, and accurate. | tion |
| I further certify th | hat I possess the author | ity to undert | ake the pro | posed activities | • 2 <u>1 £</u> | | | |
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JOINT APPLICATION FORM

INFORMATION

Information in the application is made a matter of public record through issuance of a public notice. Disclosure of the information requested is voluntary; however, the data requested is necessary in order to communicate with the applicant and to evaluate the permit application. If necessary information is not provided, the permit application cannot be processed nor can a permit be issued.

18 United States Code Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up by any trick, scheme, or device a material fact or makes any false, fictitious, or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious, or fraudulent statement or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

Applicant is informed that all approvals must be obtained before work can be started.

INSTRUCTIONS

General: It is very important that you provide a complete and accurate application (form, drawings, and support information) concerning your project. If the application is incomplete or unacceptable, it will be returned. This usually results in delaying the evaluation of your application.

Submit one copy of the application (form, drawings, and support information) to each regulatory agency (Corps of Engineers, Illinois Department of Transportation, Division of Water Resources (IDOT/DWR), and the Illinois Environmental Protection Agency). For addresses see attached "Protecting Illinois Waters" and jurisdictional boundary map. (For the construction of dams, the IDOT/DWR copy of the application should always be sent to the Springfield office.)

Application: Item 6 of the application must provide a complete description of the activity and always include the purpose and intended use. For any major activity, additional support information should be provided by attached sheets to the application.

Dredging and Fill Activities - Describe the location, type, composition and quantity of material to be dredged/filled, method of dredging/filling, and method of transportation to disposal/fill site. Also describe the disposal/fill site by including location, quantity of material analysis data as required.

The application must be signed by the applicant; however: 1. It may be signed by a duly authorized agent (named in Item 5) if this form is accompanied by a statement by the applicant designating the agent and agreeing to furnish upon request supplemental information in support of the application. 2. If the applicant is a corporation, the president or other authorized officer shall sign the application form. 3. If the applicant is a county, city or other political subidivision, the application form shall be signed by an appropriate authorized

officer.

4. If the applicant is a partnership, each partner shall sign the application form. 5. If the applicant is a trust, the trust officer shall sign the name of the trustee by him (her) as trust officer. A disclosure affidavit must be filed with the application, identifying each beneficiary of the trust by name and address and defining the respective interests therein.

Environmental Assessment: Pursuant to Section 102 of the National Environmental Policy Act, Public Law 91-190, an assessment of the environmental impacts and deter-mination of need for an environmental impact statement must be made for Federally permitted activities. The environmental assessment will, in part, be based on the following written support information (attached sheets to application) which you must submit:

- 1.
- z.
- Complete description of project (Item 6 of application). Analysis of the need and purpose of the proposed project. Description of the environment in the vicinity of the project which would be directly affected by the permitted action as well as any of the secondary effects.
- a. Ecological and Natural Resource Impacts
- (permanent and temporary) (1) Fish and wildlife populations (include threatened and
- Aquatic habitat (include shellfish and benthic life)
- (3) Vegetation habitat
- Wetland area (marshes, bogs, swamps, etc.) (4) (5)
- Water resources
- (3) Water resources

 (a) Public water supply (surface, ground)
 (b) Water conservation (reuse, reduction of use)
 (c) Water quality (chemical, physical, and biological integrity of general area)
 (d) Air quality and noise
 (7) Soil erosion and siltation

- Social and Economical Imp (permanent and temporary) ь. Lapaces
- (1) Aestherics
- Cultural values
 - Cultural values
 (a) Historic and archaeological sites
 (b) Other (national rivers, vilderness areas, recreation areas, parks, monuments, vild and scenic rivers, etc.)
 Recreational areas (present and potential)
 Public facilities and services (health, safety, etc.)
 Navigation (commercial and small craft)
 Flood damage prevention and effect on local flood heights
 Shore erosion and accretion
- (3)
- (4) (5)
- (6)
- (7) (8)
 - Land use
 - (a) Conservation
 - (a) Conservation
 (b) Prime and unique farmlands
 (c) Food production
- (d) Existing and potential use (zoning and planning) (9)
 - Economic

 - (a) Energy needs
 (b) Employment (regional growth)
 (c) Tax base (property values)

4. Identification of practical alternatives (methods and locations) to the proposed action which would accomplish all the objectives desired, those which would provide only a partial solution to the objectives of the project, and the alternative of no action. This analysis is required so that the final project recommendation is made in the best overall public interest.

Dravings: Each sheet of drawings submitted should contain a <u>title block</u> in the lower right hand corner identifying the proposed activity and contain the name of the body of water, river mile (if spplicable), number of the sheet and total number of sheets in set, and date the

The first sheet of the drawings should include a vicinity map which shows:

- 1.
- 3.
- Project site Name of waterway All applicable boundary lines Name of and distance to local town, community ۸.,
- or other identifying location.

The drawings should also include a plan view of the project showing:

- 1. Existing shoreline and the normal water surface elevation (if Mean Sea Level datum is not used,
- adjustment should be indicated) Adjuscent property lines and ownership as listed in item 7 of the application form 2.
- 3.
- Principal dimensions of the structure or work and extent of encroschment into the waterway (as measured from a fixed structure or object)
- The drawings should also contain a section view of the project showing:
- Shoreline, elevations, extent of encroachment, and principal dimensions of the work as shown in plan view 1.

- Distance between proposed activity and mavigation channel, when applicable
- Floodway/Floodplain lines if established and if known
- Graphic or numerical scale A mote describing the proposed method of revegetion or stabilization of disturbed areas
- 2. Graphic or numerical scales (horizontal and vertical)
- North arrow

- Names of all roads in the vicinity of the site

 - 6. 7. Graphic or numerical scale North arrow

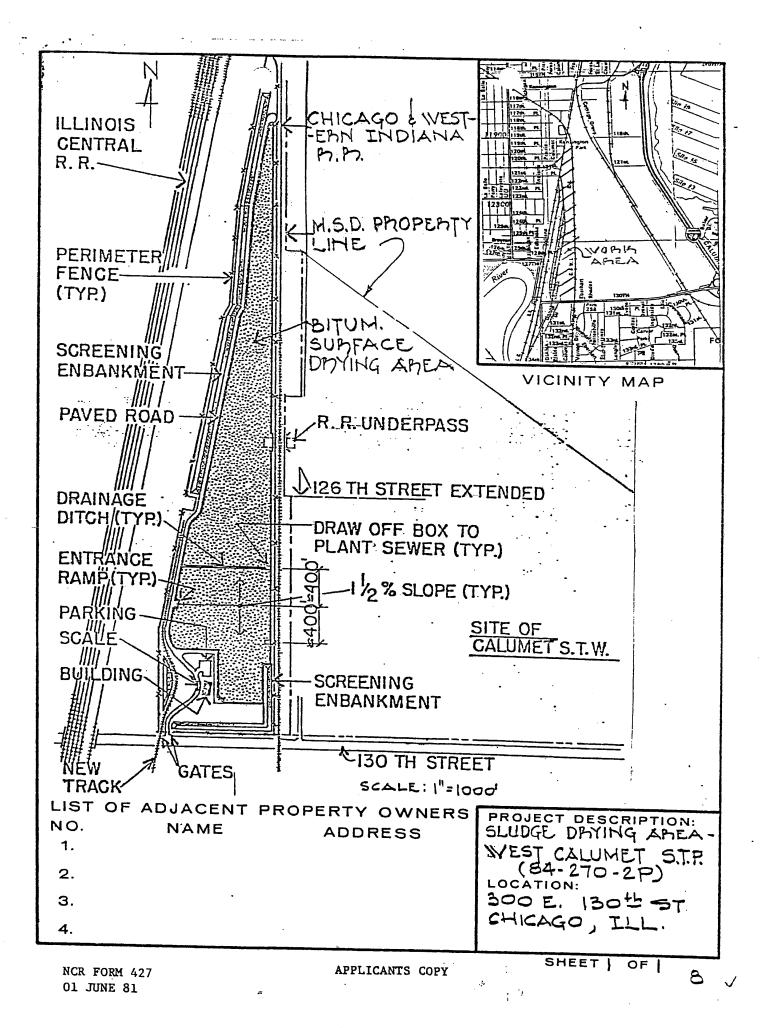
 - 4.
- 5.' 6.

ATTACHEMENT TO PERMIT APPLICATION, PARAGRAPH 6

This project will develop an area of 70 net acres in size, for use as an "agitation" drying facility. Sludge having a concentration of 15% to 30% will be delivered to the "agitation" drying facility. The latter relatively "wet" sludge will be spread in thin layers over the drying facility area and subjected to agitation and compression by operating heavy construction equipment, such as bulldozers and tractor mounted horizontal augers, over its surface. The "agitation" drying areas shall be prepared by sealing the ground over the entire area with clay, or other suitable material, to obtain an adequate impermeable surface. The use of existing onsite materials as well as excavated materials from other MSDGC construction activities shall be considered. A crushed stone base, a bituminous base course, and a bituminous wearing surface shall be laid in adequate thickness over the impervious surface. Drainage from each parcel shall be returned to the closest appropriate MSDGC sewer from a draw-off hox.

7.

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NICHOLAS J. MELAS BOARD OF COMMISSIONER JOANNE H. ALTER PRESIDENT NELLIE L. JONES JAMES C. KIRIE DIS MAR THIU T P H 1.5600 <u>enn</u> RICHARD J. TROY 11

May 29, 1985

THOMAS S. FULLER GLORIA MAJEWSKI NICHOLAS J. MELAS AURELIA PUCINSKI LOUIS S. VIVERITO

Lieutenant Colonel Frank R. Finch, P.E. District Engineer U.S. Army Corps of Engineers 219 South Dearborn Street Chicago, IL 60604

Subject: Application for Permit to Site Sludge Drying Facility in a Wetland West of Calumet Sewage Treatment Plant, Chicago, Cook County, Illinois (R.O.W. File #1, 84-270-2P) -Response to Corps' Comments

Dear Colonel Finch:

The Sanitary District is in receipt of your letter and attachments dated May 10, 1985. In reviewing your transmittal we note that you have identified three aspects of the proposed project as requiring clarification. These aspects are: a) review of alternatives; b) protection of groundwater; and c) mitigation of wetland laws.

Further detail regarding each of the three aspects is provided below in sufficient detail, we believe, to make it unnecessary for us to prepare individual responses to each of the parties who submitted comments to you relative to this project.

(1) Review of alternatives

Detail studies and cost-effective analyses have been made of solids handling alternatives by the MSDGC. At the conclusion of the studies, the analyses showed that the most feasible alternative for handling Calumet STW and WSW-STW sludges would be to dry them to 60% solids and dispose of them in a landfill. A summary of the studies is contained in the attached Facilities Planning Study, Solids Update - April 1985 (Exhibit A).

-2-

The site chosen for Project 84-270-2P is the closest available agitation drying site at the Calumet STW. It possesses abundant area, roads, and utility services which contribute to providing very efficient land use. Also, the location so near the Calumet STW will result in the minimum operational costs for sludge hauling.

(2) Protection of the groundwater

A 2' minimum impervious clay seal will be provided beneath the sludge drying area to prevent groundwater contamination. Also, water stops in the concrete retaining walls will be provided to contain liquids in the drying area. The clay seal will be a cohesive impervious material having the following properties:

| Item | Specification | | |
|---|-------------------------|--|--|
| Maximum percent retained on No. 4 sieve | 15 | | |
| Minimum percent passing No. 200 sieve | 2 5 | | |
| Maximum liquid limit | 50 [.] | | |
| Minimum plasticity index | 10 | | |
| Maximum coefficient of permeability | 10 ⁻⁷ cm/sec | | |
| | - | | |

The facility is designed so that all surface runoff from the drying cells and any passage into the granular subbase beneath the bituminous surface is transported via sewers and underdrains back to the treatment plant.

Four groundwater monitoring wells will be provided on the Calumet-West site which will be sampled on a regular basis by our R&D Department. The water quality data will be transmitted to IEPA. A copy of the groundwater monitoring data from Project 80-159-2P "LASMA Solids Drying Site-WSW STW," which was submitted to the IEPA on April 9, 1985, is attached (Exhibit B). The LASMA drying site is similar to the proposed project.

(3) Mitigation of wetland laws

Attached as Exhibit C is a proposed wetland and support area located within the Sanitary District's property line. This proposed development represents a 15¹/₂-acre site removed from project development and proposed to be set aside permanently as a quality wetland area.

The proposed development is a result of staff meetings and site review between the Sanitary District, the Corps, and the U.S. Fish and Wildlife Service. The proposed development includes a surface water lake of $7\frac{1}{2}$ acres, a wet zone of $4\frac{1}{2}$ acres and an upland support area of $3\frac{1}{2}$ acres. It has been designed in a naturalistic configuration to enhance its visual quality and provide quality wetland habitat and support. The Sanitary District is proposing that this 15¹/₂-acre development area be removed from the sludge drying area contract, and be developed into a quality wetland on the basis of the following schedule:

- completion of preliminary design - September 1985,

- completion of design contract documents - January 1986,

- and award and construction - summer 1986.

-3-

The Sanitary District agrees to consult with the Corps, the Fish and Wildlife Service, and the Illinois Department of Conservation in the development of design criteria, preliminary design, and final contract documents.

In addition to the proposed 15½-acre development, the design for the project drainage system includes approximately 6 acres of surface drainage swales. They fit into the Corps' definition of wetland area, and should be considered as part of the mitigation proposal.

It is the judgment of the Sanitary District that the above responds to the issues raised in the Corps' summary letter and attachments. Therefore, the Sanitary District requests that the Corps issue the permit which will allow the construction of this project to commence at the earliest possible time.

Sincerely yours,

METROPOLITAN SANITARY DISTRICT OF GREATER CHICAGO

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Frank E. Dalton Chief Engineer

FED:mt Enclosures GT: bcc: Barbolini DiVita Kelly File

بالمنحة النابع فدخائفهم لنابله النااعاتية واجتاعيا عاري

Illinois Environmental Protection Agency 2200 Churchill Road. Springfield. IL 62706

217/782-0610

MSDGC (Cook County) Sludge Drying Facility -- Isolated Wetland Log #C-73-85

March 22, 1985

Department of the Army Chicago District Corps of Engineers 219 South Dearborn Street Chicago, Illinois 60604

Gentlemen:

This Agency received a request on February 1, 1985, from the Metropolitan Sanitary District of Greater Chicago requesting necessary comments for environmental consideration concerning the construction of a sludge drying facility on approximately 70 acres adjacent to the Calumet Sewage Treatment Works. We offer the following comments.

Based on the information included in this submittal, it is our engineering judgment that the proposed project may be completed without causing water pollution as defined in the Illinois Environmental Protection Act, provided the project is carefully planned and supervised.

These comments are directed at the effect on water quality of the construction procedures involved in the above described project and is not an approval of any discharge resulting from the completed facility, nor an approval of the design of the facility. These comments do not supplant any permit responsibilities of the applicant towards this Agency.

This Agency hereby issues certification under Section 401 of the Clean Water Act (PL 95-217), subject to the applicant's compliance with the following conditions:

The applicant shall not cause:

- a. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulations;
- b. water pollution as defined and prohibited by the Illinois Environmental Protection Act: and
- c. interference with water use practices near public recreation areas or water supply intakes.

Illinois Environmental Protection Agency 2200 Churchill Road, Springfield, IL 62706

Page 2

- 2. The applicant shall provide adequate planning and supervision during the project construction period for implementing construction methods, processes and cleanup procedures necessary to prevent water pollution and control erosion.
- 3. Any spoil material excavated, dredged or otherwise produced must not be returned to the river or stream but must be deposited in a self-contained area in compliance with all State statutes, regulations and permit requirements with no discharge to the waters of the State unless a permit has been issued by this Agency. Any back filling must be done with clean material and placed in a manner to prevent violation of stream water quality standards.
- 4. The applicant shall comply with the Subtitle C permit issued for these facilities by the Agency.
- This certification becomes effective when the Department of the Army, Corps of Engineers, includes the above conditions #1 through 4 as conditions of the requested permit issued pursuant to Section 404 of PL 95-217.

This certification does not grant immunity from any enforcement action found necessary by this Agency to meet its responsibilities in prevention, abatement, and control of water pollution.

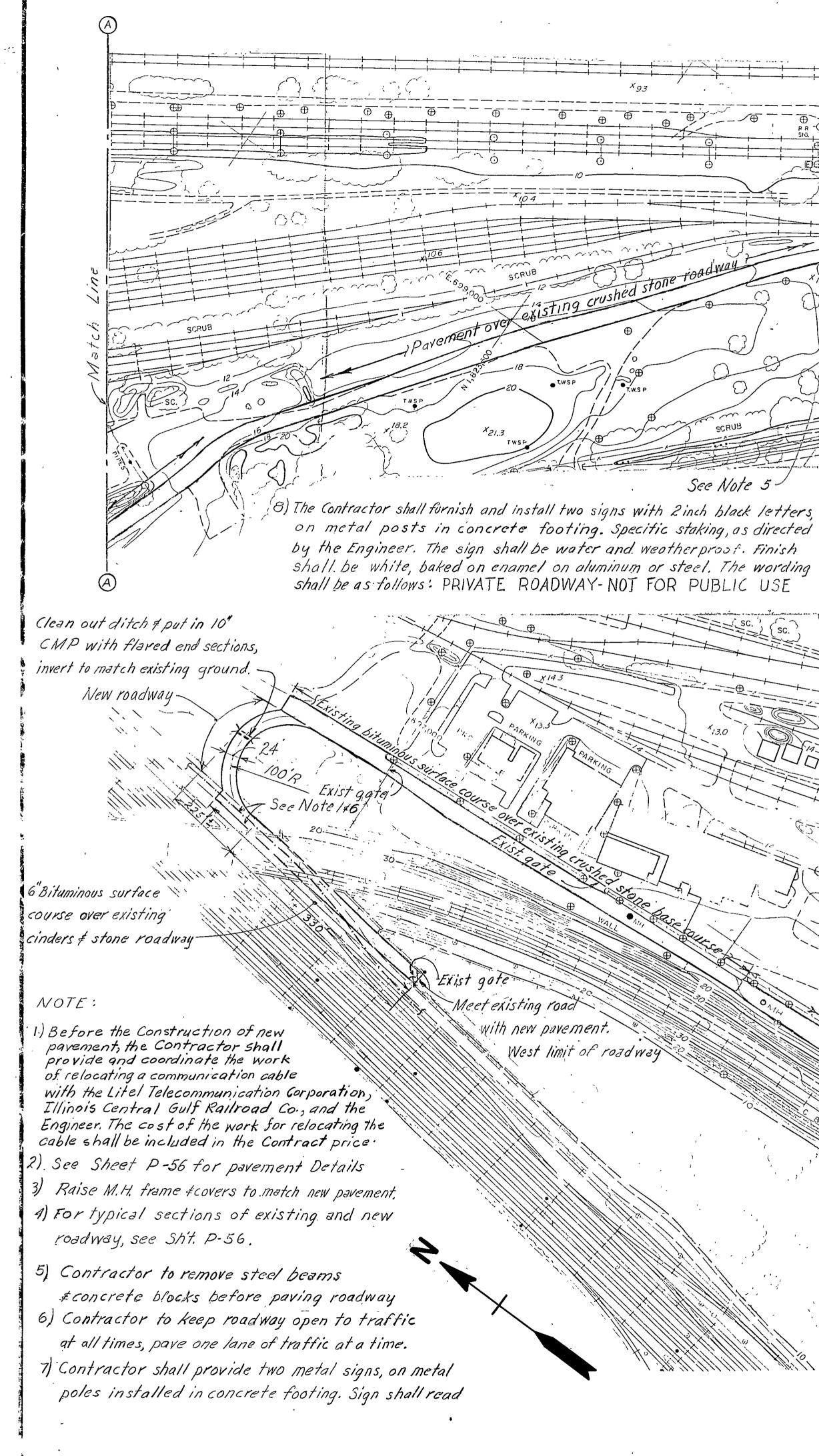
Very truly yours amo Thomas G. McSwiggin, P.E

Manager, Permit Section Division of Water Pollution Control

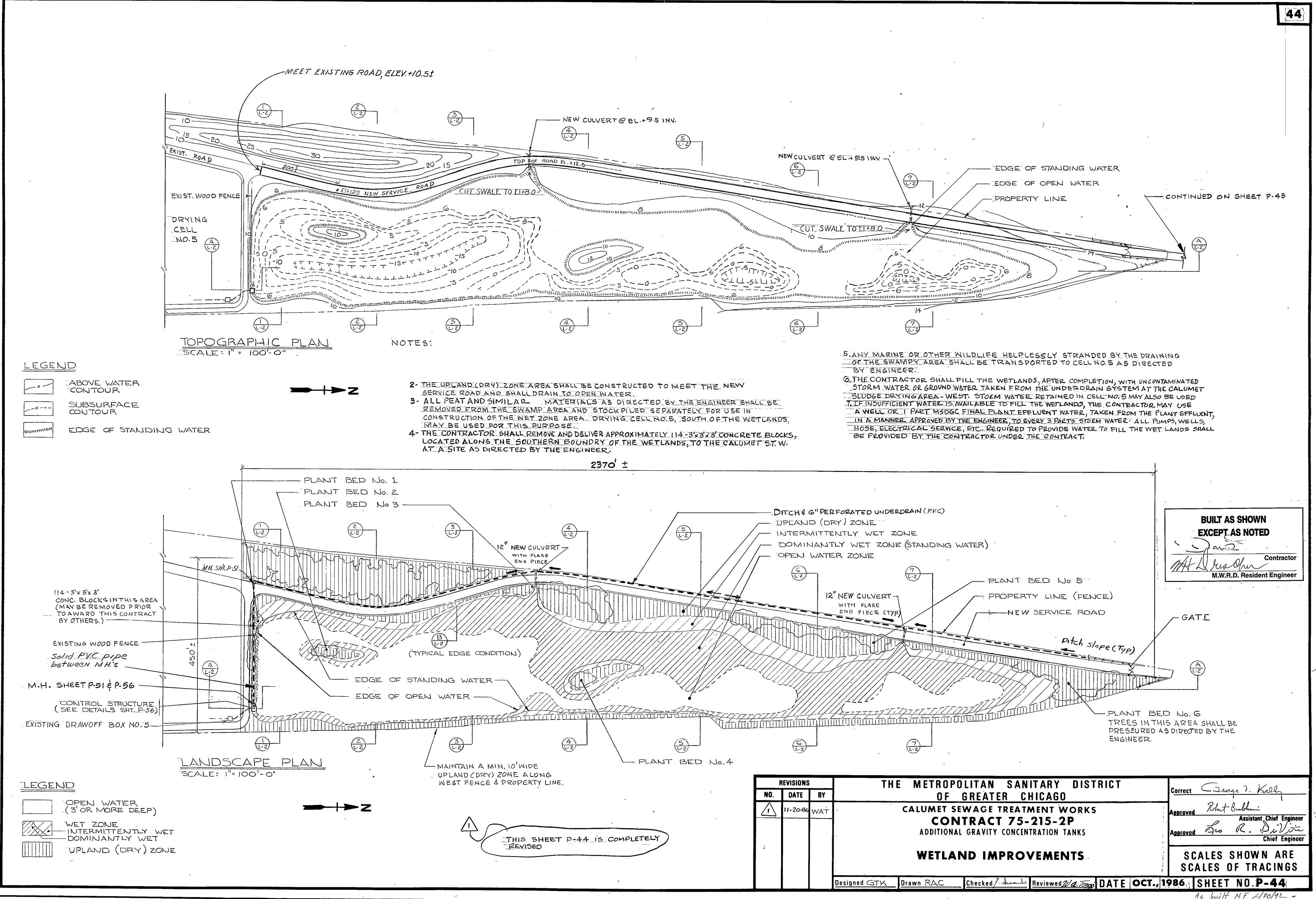
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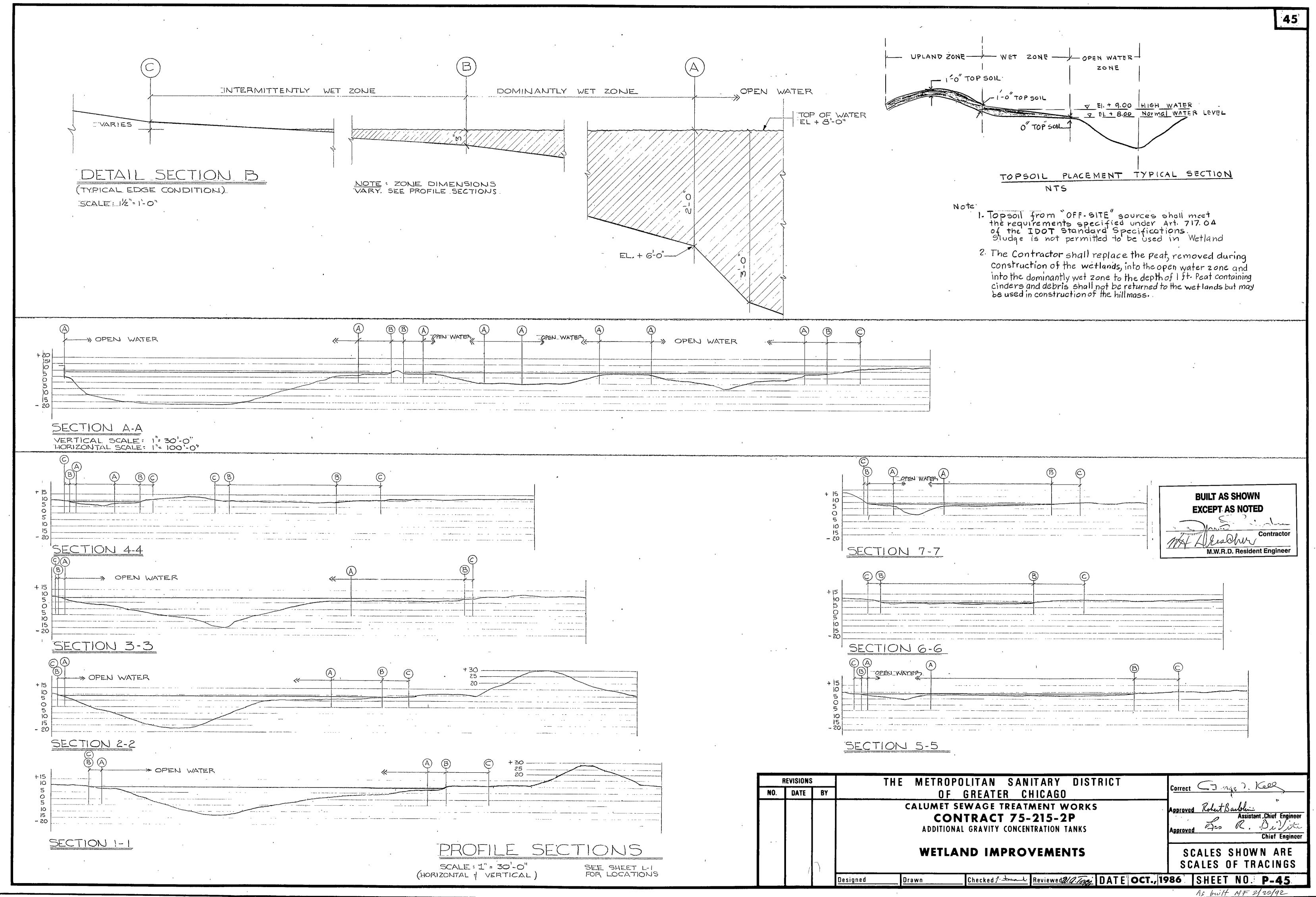
Attachment

cc: IEPA, DWPC, Records Unit DWPC, Field Operations Section, Region 2 IDOT, Division of Water Resources, Schaumburg USEPA, Region V MSDGC — Field Services Section



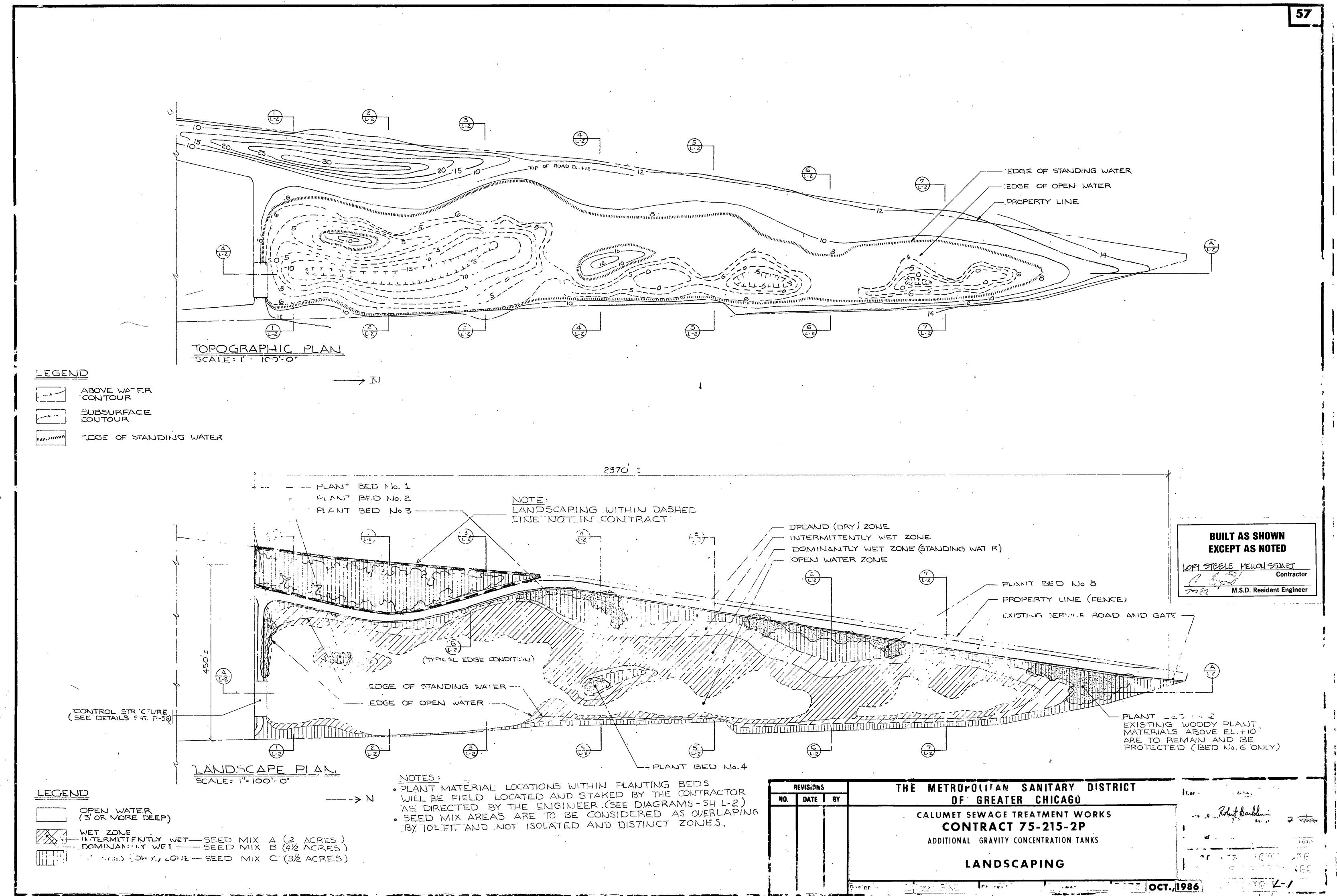
43 ISLAND CONRAIL - R - R / R -SERVICE Limit of new roadway ×14.2 Electrical duct line UNDER CONSTRUCTION SCRUB New roadway Existing roadway to be 10"CMP. culvert w/ flared East limit of new roadway end sections, invert to repaved see detail Sht. P-56 match existing ground - \cap \bigcirc 6 ELEVATOR (A) Limit of new roadway Exist. gate x 13.2 New roadway Fill in corner of Jagoon BUILT AS SHOWN -Relocate fence & provide 26 gate **EXCEPT AS NOTED** Relocate utility poles Limit of new roadway Contracto Hoscher M.W.R.D. Resident Engineer THE METROPOLITAN SANITARY DISTRICT กะบราบเจะ Correct Oblant J. McCarthy NO. DATE BY OF GREATER CHICACO Engr. of Process Design 1210ved Robert Barblini CALUMET SEWAGE TREATMENT WORKS Assistant Chief Engineers **CONTRACT 75-215-2P** norm of Ers R. Chief Engineer ADDITIONAL GRAVITY CONCENTRATION TANKS WORLES SHOWN ARE SERVICE ROAD TO CALUMET-WEST i00' (SCALE: I"= 100'-0" SCALES OF TRACINGS unless noted Reviewed W. a. Essi DATE SHEET NO P-43 Drawn RK. Checked Designed KK



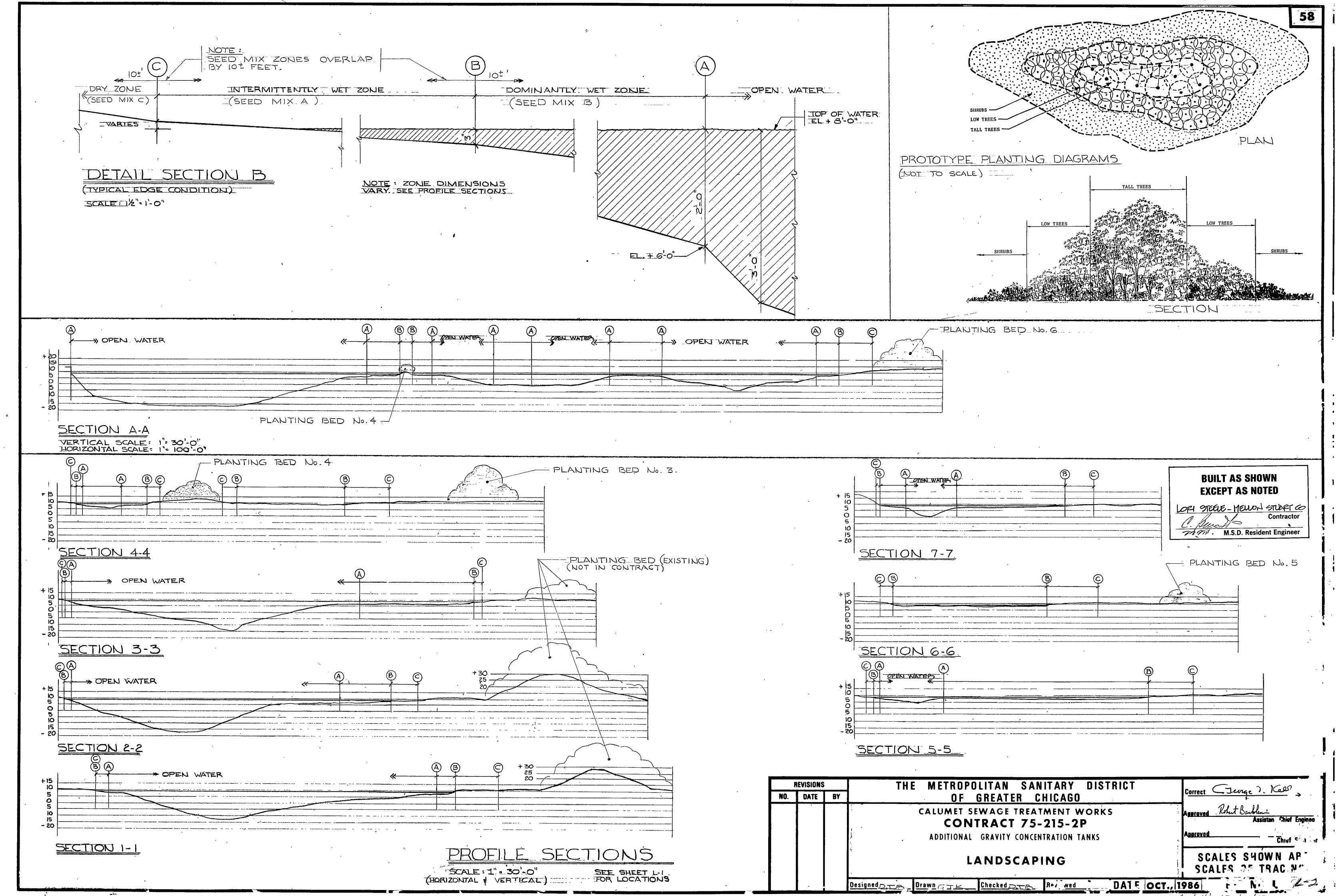


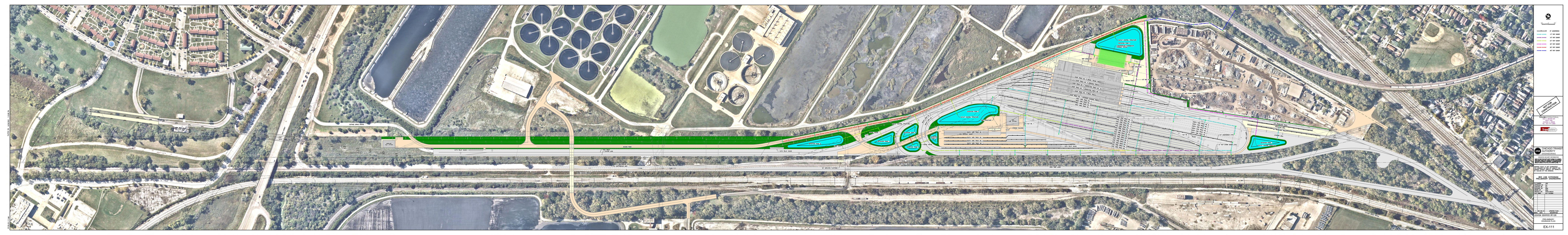
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Kensington Marsh - Drainage Runoff from Proposed Rail Yard

In order to maintain allowable flow rates into the Kensington Marsh (Marsh), nine (9) proposed detention ponds are included (8 above ground and 1 underground) in the proposed railroad yard project limits. The Marsh is considered "open water" which allows for a higher allowable release rate in comparison to discharging to an underground drainage pipe system. Prior to entering each respective detention pond, runoff would be collected by underdrains wrapped in a permeable filter fabric and located between selected railroad tracks. The underdrains are located in the sub-ballast section. These underdrains connect into pipes that outlet into respective detention ponds. The combination of the ballast, sub-ballast, and underdrains with filter fabric comprise the Volume Control Best Management Practices (VCBMP's) by minimizing suspended solids entry into the detention ponds. The VCBMP receives credit for the required water quality pre-treatment. Pre-treatment devices such as BaySaver units will be used to filter the parking lot and roof drainage before it enters a respective detention ponds. To mitigate flow rates, the ponds utilize an outlet control structure, which includes orifices, a grate, and discharge pipe. Ultimately, the runoff exits the pond via the discharge pipe and enters the Marsh. The access road to the railyard includes catch basins with a deep sump. The deep sump is used to collect sediment. The pipe leaving the catch basins connects into the pipe network that enters the Marsh (i.e. the road drainage does not enter the detention ponds). See Table A: Kensington Marsh (DP-Marsh) for volume of runoff and flow rates entering the Marsh.

| Table A: Kensington Marsh (DP-Marsh) | | | | | | | | | | | |
|---|---------|--------------|----------|------------------------|--------------|----------|-----------|----------------------|-------------------|-----------|--------------|
| 2 Year Storm Event 10 Year Storm Even | | | ent | nt 50 Year Storm Event | | | | 100 Year Storm Event | | | |
| | Volume | Peak Flow | Storm | Volume | Peak Flow | Storm | Volume | Peak Flow | Storm Duration | Volume | Peak Flow |
| Duration | CF | CFS | Duration | CF | CFS | Duration | CF | CFS | | CF | CFS |
| 1 Hour | 79,873 | 7.52 | 1 Hour | 170,197 | 13.71 | 1 Hour | 350,578 | 33.35 | 1 Hour | 455,635 | 43.13 |
| 2 Hour | 141,331 | 9.39 | 2 Hour | 269,944 | 16.64 | 2 Hour | 508,573 | 40.75 | 2 Hour | 644,144 | 50.92 |
| 3 Hour | 176,322 | 9.54 | 3 Hour | 311,745 | 16.19 | 3 Hour | 574,471 | 40.82 | 3 Hour | 723,780 | 49.41 |
| 6 Hour | 242,810 | 9.33 | 6 Hour | 406,492 | 15.39 | 6 Hour | 721,896 | 38.40 | 6 Hour | 899,008 | 46.61 |
| 12 Hour | 315,818 | 10.41 | 12 Hour | 511,681 | 17.14 | 12 Hour | 880,240 | 32.70 | 12 Hour | 1,089,392 | 41.61 |
| 18 Hour | 356,867 | 10.86 | 18 Hour | 552,672 | 16.97 | 18 Hour | 943,916 | 32.66 | 18 Hour | 1,164,225 | 41.72 |
| 24 Hour | 391,399 | 10.13 | 24 Hour | 621,435 | 15.70 | 24 Hour | 1,047,428 | 30.32 | 24 Hour | 1,290,140 | 38.29 |
| * The Peak Flow Rates are generated from critical duration analysis. The critical durations for each storm event are 1 hour, 2, hour, 3 hour, 6 hour, 12 hour, 18 hour, and 24 hour. The BOLD represents the Peak Flow Rate for each respective Storm Event. | | | | | | | | | | | |



Illinois Coastal Management Federal Consistency Review Letter

August 27, 2021







567 West Lake Street Chicago, Illinois 60661-1498 TEL 312 664-7200 www.transitchicago.com

August 27, 2021

Mr. James Casey, Chief Lake Michigan Management Section Illinois Department of Natural Resources Office of Water Resources 160 N. LaSalle Street, Suite S-703 Chicago, IL 60601

Re: Illinois Coastal Management Federal Consistency Review CTA Red Line Extension Project Chicago, Cook County, Illinois

Dear Mr. Casey:

The Chicago Transit Authority (CTA) is preparing a Final Environmental Impact Statement (EIS) for the Red Line Extension (RLE) Project and we are submitting this letter and enclosures for your review and initial determination as to whether a federal consistency review would be required for the RLE Project. This letter describes the project including detailing the portion of the RLE Project that is within the Illinois coastal zone boundaries and the federal financial assistance.

Project Description

CTA, as project sponsor to the Federal Transit Administration (FTA), proposes to extend the Red Line from the existing 95th/Dan Ryan terminal to 130th Street. The proposed 5.6-mile extension would include four new stations near 103rd Street, 111th Street, Michigan Avenue, and 130th Street. Each new station would include bus and parking facilities. This project is one part of the Red Ahead Program to extend and enhance the entire Red Line.

CTA and FTA published a Draft Environmental Impact Statement (EIS) on October 6, 2016 that evaluated the environmental impacts of constructing and operating the RLE Project. The Draft EIS proposed a terminal station, the 130th Street station, located north of 130th Street adjacent to the Metropolitan Water Reclamation District of Greater Chicago (MWRD) Calumet Water Reclamation Plant. In 2017, the Chicago Housing Authority demolished three housing blocks of the Altgeld Gardens neighborhood, creating an opportunity to relocate the station to the area of the demolished blocks. In 2019, CTA began exploring this opportunity to relocate the 130th Street station adjacent to the Altgeld Gardens neighborhood. The relocated 130th Street station would be constructed in a previously developed area within the Illinois coastal zone. As the project location map depicts (**Enclosure A**), the Illinois Coastal Management Program boundary follows 130th Street in this location. The 130th Street station in the Draft EIS was outside this boundary. However, the relocated 130th Street station (located south of 130th Street) would be within the Illinois coastal zone boundaries. The new station location is currently being evaluated as part of a Supplemental Environmental Assessment (EA).

The 130th Street station would include an at-grade station platform located south of 130th Street. A station entrance would be located at the terminus of the extension north of 132nd Street. A five-bay bus turnaround would be located to the west of the main station for direct transfers. A park & ride facility would be located northwest of the station platform, with another station entrance at the top level to bridge over the tracks to access the station platform for park & ride transfers. CTA Transportation Offices would also be located at the terminus, with a connection to the park & ride facility and nearby station entrance. The Transportation Offices would include office space and restroom facilities for station personnel.

The RLE Project would improve transit access and pedestrian connections to the Forest Preserves of Cook County Beaubien Woods Forest Preserve, located south of the project, and its amenities, including access to the Little Calumet River and the boat launch located within the forest preserve. The RLE Project would open up opportunities to create a gateway to the Beaubien Woods Forest Preserve from the rest of the city and surrounding suburbs through direct connection to the rail transit network through a new station, enhanced bus service connections at the station, and a proposed park & ride facility directly adjacent to the forest preserve.

Although there are wetlands located within the Illinois coastal zone boundaries (between 130th Street and Old 130th Street on both sides of the existing Conrail railroad tracks), these wetlands would not be impacted by the RLE Project.

Stormwater drainage from the relocated 130th Street station would be sent to the existing city stormwater system. Design features would be included to manage stormwater drainage so as not to overload the existing stormwater system.

Federal Financial Assistance

This RLE Project would be funded, in part, by the FTA Capital Investment Grants – New Starts Program, which is a listed federal financial program in the Illinois Coastal Management Program. CTA submitted a request for entry into the Project Development phase in November 2020 and received approval in December 2020. **Enclosure B** includes the letter from FTA approving the RLE Project for entry into Project Development.

We appreciate your review of these materials at your earliest convenience to determine whether a full federal consistency review would be required for the RLE Project. If you have any questions or require further information, please contact me at <u>mfratinardo@transitchicago.com</u> or Robin

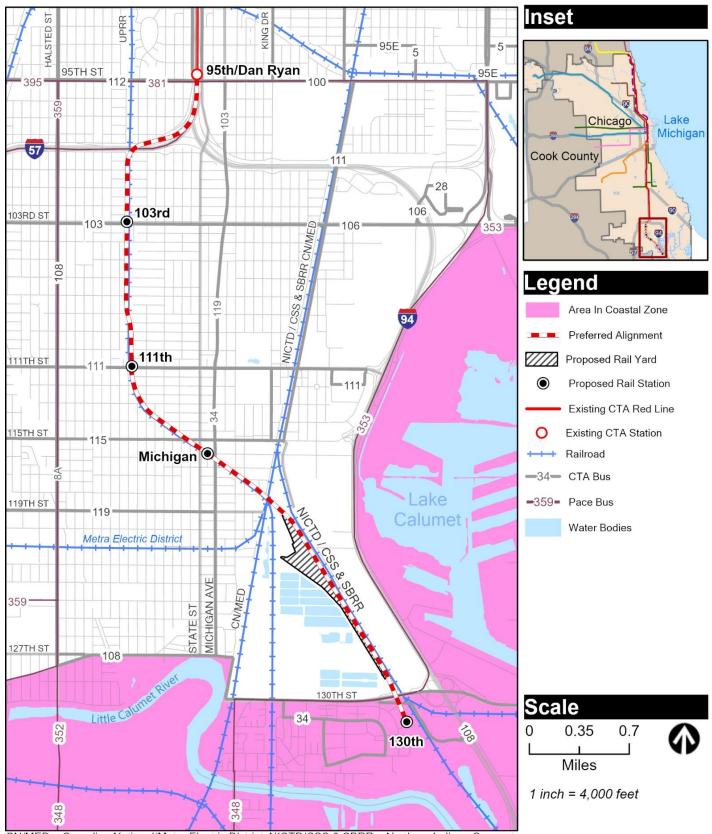
Martel at <u>rmartel@wightco.com</u> or 312.261.5730. If preferred, we can set up a virtual meeting to discuss any clarifications or questions you have regarding this request.

Regards,

Marlise Fratinardo Senior Project Manager, Planning Chicago Transit Authority

<u>Enclosures</u>: **Enclosure A** – Project Location Map with Illinois Coastal Zone Boundaries **Enclosure B** – FTA Project Development Initiation Letter

Enclosure A – Project Location Map



CN/MED = Canadian National/Metra Electric District, NICTD/CSS & SBRR = Northern Indiana Commuter Transportation District/Chicago South Shore & South Bend Railroad



U.S. Department Of Transportation Federal Transit Administration Headquarters

1200 New Jersey Avenue S.E. Washington DC 20590

Mr. Dorval R. Carter, Jr. President Chicago Transit Authority 567 W. Lake Street Chicago, IL 60661

Re: Project Development Initiation - Red Line Extension

Dear Mr. Carter:

Thank you for your letter, dated November 3, 2020, requesting entry into the Project Development (PD) phase under the Federal Transit Administration's (FTA) Capital Investment Grants (CIG) New Starts program for the Chicago Transit Authority's (CTA) Red Line Extension (RLE) project (the Project). After reviewing your initial letter, FTA requested additional information including an updated map and supporting documentation for available funding on November 17, 2020, and received response on November 27, 2020. At that time, FTA determined that the information provided was sufficient to enter the PD phase.

Please note that the CTA undertakes the PD work at its own risk, and that the Project must still progress through further steps in the CIG program to be eligible for consideration to receive CIG funding.

Per the requirements of the Fixing America's Surface Transportation (FAST) Act, the following activities must be completed during PD:

- Select a locally preferred alternative;
- Have the locally preferred alternative adopted into the fiscally constrained long range transportation plan;
- Complete the environmental review process; and
- Complete the activities required to develop sufficient information for evaluation and rating under the CIG criteria.

The FTA encourages you to familiarize yourself with the information found on the CIG program webpage at <u>https://www.transit.dot.gov/funding/grant-programs/capital-investments/about-program</u>. There you will find more details and information on the activities mentioned above including answers to frequently asked questions and the information that must be provided to FTA for eventual project evaluation and rating.

The FTA will be in contact to discuss its technical assistance and project oversight plans as the Project moves through PD. The FTA would appreciate periodic updates from CTA on the status

of completion of PD activities. CTA must contact FTA no later than six months prior to your anticipated request to enter the Engineering phase so that we can proceed with our formal project oversight process and take the steps necessary to undertake our evaluation and rating.

CTA must formally request an extension from FTA if the PD activities mentioned above and outlined more fully on our website cannot be completed within the two-year timeframe specified in the FAST Act. In determining whether to grant an extension, FTA will consider the reasons an extension is needed, the reasonableness of the proposed revised schedule, and the timeframe needed to complete PD activities. The FTA anticipates extensions will be granted only on an occasional basis rather than on a routine basis, and only for unforeseen and unusual circumstances that might arise. If an extension to the two-year timeframe is not granted by FTA, the Project will be withdrawn from PD. CTA will be asked to complete additional work before being allowed to reapply for entry into the program.

With this entry into PD, CTA has pre-award authority to incur costs for PD activities prior to grant approval and to retain eligibility of those activities for future FTA grant assistance. PD activities include the work necessary to complete the environmental review process and as much engineering and design activities as CTA believes are necessary to support the environmental review process. Upon completion of the environmental review process, FTA extends pre-award authority to project sponsors in PD to incur costs for as much engineering and design as necessary to develop a reasonable cost estimate and financial plan, utility relocation, and real property acquisition and associated relocations. This pre-award authority does not constitute a commitment that future Federal funds will be approved for PD or any other Project cost. As with all pre-award authority, relevant Federal requirements must be met prior to incurring costs in order to preserve eligibility of the costs for future FTA grant assistance.

If you have any questions or comments, please contact Faisal Chowdhury at (202) 366-9851 or faisal.chowdhury@dot.gov.

Sincerely,

X Felicia L. James December 15, 2020

Felicia L. James Associate Administrator for Planning and En... Signed by: FELICIA LANISE JAMES Felicia L. James Associate Administrator for Planning and Environment

cc: Kelley Brookins, Regional Administrator, TRO-5



IDNR Response to Illinois Coastal Management Federal Consistency Review Letter

October 8, 2021





BJ Pritzker, Governor Colleen Callahan, Illinois Department of Natural Resources Director 160 N. LaSalle St., Suite S-703 • Chicago, Illinois 60601 • 312-814-1405 • www.dnr.illinois.gov/cmp

October 8, 2021

Marlise Fratinardo Chicago Transit Authority 567 W. Lake Street Chicago, IL 60661

RE: IDNR/CMP Federal Consistency Certificate IFC2021017 by the Chicago Transit Authority for the extension of the Red Line from the existing 95th/Dan Ryan terminal to 130th Street, in Chicago, IL

Dear Ms. Fratinardo,

Thank you for the above referenced Illinois Coastal Management Program (ICMP) Federal Consistency Certificate (FCC) dated August 27, 2021. Department staff has reviewed the FCC and concur that the proposed activity complies with the enforceable policies of the ICMP and will be conducted in a manner consistent with the ICMP.

If you have any questions, feel free to contact me at 312 793-5947 or james.casey@illinois.gov.

Sincerely,

Tarro P. Carry

James P. Casey