APPENDIX A

Wetland Delineation Report and USACE Review

September 12, 2019

Des Moines Industrial, LLC
512 ½ East Grand Avenue
Des Moines, IA 50309

Attn: Mr. Paul Cownie
E: paulcownie@gmail.com

Mr. Gabe Claypool
gabeclaypool@hotmail.com

Re: Wetland Delineation Report
Des Moines Area Transloading Facility
200 SE 15th Street
Des Moines, IA 50317
Terracon Proposal No. 08197038

Dear Mr. Cownie/Claypool:

Terracon is pleased to submit the Wetland Delineation Report for the above referenced project. Based on the results of the delineation, 4.45 acres of wetlands identified on the subject site.

A cover letter addressed to the Rock Island District has been included with the enclosed report; however, a copy of this report has not been provided to the U.S. Army Corps of Engineers (USACE) by Terracon. A copy of the Wetland Delineation Report and attached letter should be submitted to the USACE for review and concurrence. The USACE can be reached at the following address:

US Army Corps of Engineers – Rock Island District – Regulatory Branch
Clock Tower Building, PO Box 2004, Rock Island, IL 61204-2004
Attention: Mr. Mathew Zehr

Terracon would be pleased to assist you in preparation of the Section 404 Permit Application and any wetland or WOUS mitigation plans that may be required by the USACE if wetland or WOUS impacts are proposed. Terracon appreciates the opportunity to have worked for you on this project. If you have any questions regarding the content of this report, please contact us at 515.244.3184.

Sincerely,
Terracon Consultants, Inc.

Adam C. Corcoran
Project Environmental Scientist

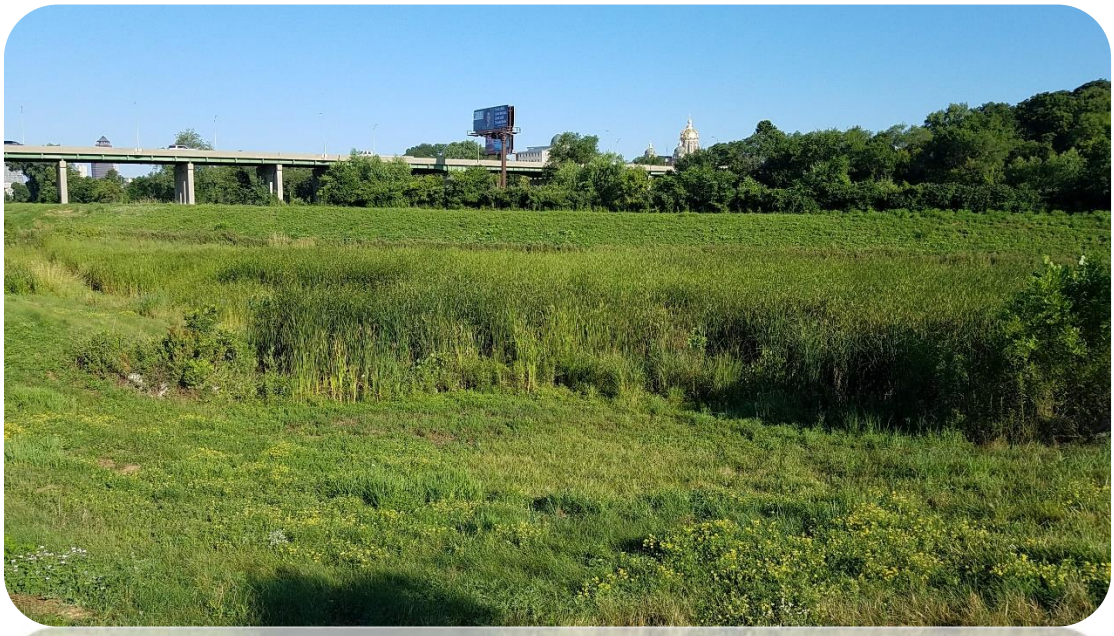
Gerald T. Hentges, P.G.
Senior Associate

Enclosures
Copies to: Addressee (2)

Wetland Delineation Report

Des Moines Area Transloading Facility
Des Moines, Iowa

September 12, 2019
Terracon Project No. 08197038



Prepared for:
Des Moines Industrial, LLC
512 ½ East Grand Avenue

Prepared by:
Terracon Consultants, Inc.
Des Moines, Iowa

September 12, 2019

Mr. Mathew Zehr
United States Army Corps of Engineers – Regulatory Branch
Rock Island District – Clock Tower Building
PO Box 2004
Rock Island, IL 61204-2004

Re: Wetland Delineation Report
Des Moines Area Transloading Facility
200 SE 15th Street
Des Moines, IA 50317
Terracon Proposal No. P08197038

Dear Mr. Zehr:

Terracon is pleased to submit the Wetland Delineation Report prepared for Des Moines Industrial, LLC. This report describes the technical criteria, field indicators, and other sources of information used to identify and delineate wetlands. Based on the results of the delineation, 4.45 acres of wetlands identified on the subject site. At this time, we are requesting that you perform an Approved Jurisdictional Determination for the project and advise our client if a permit will be required for the proposed impacts.

If you have any questions concerning this report, please contact Adam at 515.244-3184 or by e-mail at adam.corcoran@terracon.com.

Sincerely,
Terracon Consultants, Inc.

Adam C. Corcoran
Project Environmental Scientist

Gerald T. Hentges, P.G.
Senior Associate

ACC/GTH: N:\Projects\2019\08197038\Working Files\Wetland Delineation\08197038 Wetland Delineation Report.docx

Copies to: Addressee (2)

TABLE OF CONTENTS

Page

WETLAND DELINEATION REPORT
DES MOINES AREA TRANSLOADING FACILITY
200 SE 15TH STREET
DES MOINES, IOWA

Terracon Project No. 08197038
September 12, 2019

1.0 INTRODUCTION

Terracon Consultants, Inc. (Terracon) was retained by Des Moines Industrial, LLC to perform a wetland delineation for the Des Moines Area Transloading Facility project, hereafter referred to as the subject site. The subject site covers approximately 40-acres and is located in the SE ¼ of Section 3 and the SW ¼ of Section 2, Township 78 North, Range 24 West, Des Moines, Iowa as depicted on Exhibit 1 in Appendix A.

Terracon understands that Des Moines Industrial, LLC. is preparing plans to construct a multi-modal transloading facility including trackage, docks, and warehousing.

The purpose of performing the wetland delineation was to assess if wetlands or Waters of the United States (WOUS) are present and, if so, to identify the boundaries. The wetland delineation was performed in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual and the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region. According to U.S. Army Corps of Engineers (USACE) guidelines, wetlands generally have three essential characteristics: hydrophytic (wetland) vegetation, hydric soils, and wetland hydrology.

2.0 SCOPE OF SERVICES

Terracon performed the following scope of services:

- Reviewed map and aerial photograph resources to assist with identifying suspect WOUS and wetland areas at the subject site.
- Mobilized to the site to conduct the wetland delineation.
- Prepared a wetland delineation map showing WOUS and wetland areas identified during the site visit, if any.
- Completed a Wetland Delineation Report that included delineation rationale, a discussion of applicable data, and recommendations for the site.

3.0 PRELIMINARY DATA GATHERING AND ANALYSIS

Prior to performing the delineation, several map and aerial photograph resources were reviewed to assist with identifying WOUS and wetland areas at the subject site. Each source of data is described in detail below.

3.1 Topographic Map

The United States Department of the Interior Geologic Survey (USGS) 7.5-Minute Topographic Map of the subject site was reviewed to identify drainages or WOUS within the subject area. A portion of the *Des Moines SE*, Iowa Quadrangle can be seen as Exhibit 1 in Appendix A. As shown on Exhibit 1, possible wetlands or WOUS were not identified on the site. The site consists primarily of multiple railroad tracks and spurs.

3.2 National Wetland Inventory Map

The National Wetland Inventory (NWI) Map of the subject site was reviewed to identify potential wetland areas. The map for the subject site was published by the U.S. Department of the Interior's Fish and Wildlife Service and depicts probable wetland areas based on stereoscopic analysis of high altitude aerial photographs. The review of the NWI map identified several wetlands on the site. The identified wetlands are located in three stormwater retention basins constructed onsite except for a Palustrine Emergent Persistent Seasonally flooded wetland identified in a wooded area on the western portion of the site. During the delineation site visit, a wetland was not identified in this area. Wetlands were identified in the retention basins. A portion of the NWI map can be seen as Exhibit 2 in Appendix A.

3.3 Soil Survey Information

The Soil Survey of Polk County, Iowa was reviewed to identify soil types, including hydric soils, in the area of the subject site. The document was published in 2000 by the U.S. Department of Agriculture Soil Conservation Service, now known as the Natural Resource Conservation Service (NRCS). Terracon also utilized the NRCS on-line Web Soil survey (WSS)[1] to identify soil types and hydric soils. The NRCS soil survey map can be seen as Exhibit 3 in Appendix A; however, this map does not depict all of the identified soil types found in the WSS.

The following soil types were identified at subject site, based on an area of inquiry search utilizing the WSS:

[1] Posted at: http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm

Soil Types

Map Unit Symbol	Map Unit Name	National Hydric Soil List	Polk County Hydric Soil List
220	Nodaway silt loam, 0-2% slopes, occasionally flooded	No	Yes
4000	Urban Land	No	No

3.4 Aerial Photographs

Terracon reviewed aerial photographs obtained from the ISU GIS Support and Research Facility to identify suspected wetland areas on the subject site. Aerial photographs from the 1930s, 1950s, 1960s, 1970s, 1980s, 1990s, 2002, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2013, 2014, 2015, and 2017 were reviewed and have been included in Appendix B.

Historical Aerial Photographs

Year	Description
1930s-1980s	The site consists of a railyard. Possible inundation is apparent one of the stormwater basins in several of the aerials.
1990s	The railyard no longer appears active. An auto salvage yard is now located on the south-central portion of the site. Inundation is apparent in one of the stormwater basins.
2002-2011	Significant changes from the previous aerial were not observed. The inundation in the stormwater basin was not apparent in every aerial.
2013	The site appears to be being cleared in preparation for the MLK Parkway project.
2014	The MLK Parkway project is underway.
2015-2017	The MLK Parkway project appears to be completed. The now appears to be four stormwater retention basins onsite.

The site appears to have historically consisted of a railyard. A portion of the site appears to have been utilized as an auto salvage yard after the railyard was no longer in use. Circa 2013, preparation for the MLK Parkway project began with the project being completed in the area of the site in 2014 or 2015.

3.5 Hillshade Map

Terracon reviewed the Hillshade Map of the site obtained from the ISU GIS Support and Research Facility to assist in identifying potential lowland areas. The Hillshade Map uses LIDAR data to depict the approximate topography of the site. The Hillshade Map, including a transparent aerial photograph, can be seen as Exhibit 4 in Appendix A. As shown on Exhibit 4, the site consists of uneven ground with several apparent stormwater retention basins.

4.0 FIELD TECHNIQUES

An experienced Terracon wetland scientist used technical criteria, field indicators, historic aerial photographs, and other sources of information to evaluate the subject site. The evaluation methods generally followed the routine on-site determination method referenced in the 1987 USACE Manual and 2010 Midwest Supplement.

Wetlands generally have three essential characteristics: hydrophytic (wetland) vegetation, hydric soils, and wetland hydrology. Several representative observation locations were selected within the suspect wetland area. Vegetation, soils and hydrology were evaluated within the suspect area to determine if wetland characteristics were present. The techniques for evaluating the plant community, soils, and hydrology are described in the following sections.

4.1 Plant Community Assessment

Suspect areas were visually observed to assess the species and absolute percentage of ground cover for four stratum of plant community types. Herbs were generally observed within a five-foot radius, shrubs/saplings within a fifteen-foot radius, and trees and vines within a thirty-foot radius of the observation location. Several representative observation locations were selected within the suspected wetland area to generally represent the vegetation characteristics of the whole community. The vegetation for a selected area was identified using A Manual on Aquatic Plants (Fassett, 1957), Midwestern Wetland Flora, A Field Office Guide to Plant Species (Mohlenbrock and Mohlenbrock), and Wildflowers and Other Plants of Iowa Wetlands (Runkel and Roosa, 1999).

For a species of vegetation observed, their wetland indicator status was evaluated. Indicator status was assessed using the USACE North American Digital Flora: National Wetland Plant List and the National List of Plant Species that Occur in Wetlands - Region 3 (Reed, 1988). Indicator categories for vegetation are presented below:

- **Obligate Wetland (OBL)** - occur almost always (estimated probability greater than 99%) under natural conditions in wetlands.
- **Facultative Wetland (FACW)** - usually occur in wetlands (estimated probability 67% - 99%) but occasionally found in non-wetlands.
- **Facultative (FAC)** - equally likely to occur in wetlands or non-wetlands (estimated probability 34% - 66%).
- **Facultative Upland (FACU)** - usually occur in non-wetlands (estimated probability 67% - 99%) but occasionally found in wetlands.

- **Obligate Upland (UPL)** – rarely occur in wetlands, but occur almost always (estimated probability greater than 99%) under natural conditions in non-wetlands.

The percent cover of the stratum was assessed and dominance was evaluated. Dominant species were the most abundant species that accounted for more 20 percent of the absolute percent coverage of the stratum. The number of dominant species with an indicator status of OBL, FACW, and/or FAC was compared to the total number of dominant species across the strata. Typically, when more than 50 percent of the dominant species had an indicator status of OBL, FACW, and/or FAC, hydrophytic vegetation was present.

If the percentage of dominant species with an indicator status of OBL, FACW, and/or FAC was less than 50 percent, prevalence index and morphological adaptations may have been evaluated to confirm if hydrophytic vegetation was present or absent.

4.2 Hydric Soils Assessment

After Terracon evaluated wetland vegetation, subsurface soil samples were collected using a soil probe. The samples were collected to a depth of approximately 18 inches below ground surface and were visually compared to Munsell Soil Color Charts (Munsell, 1994), which aided in the evaluation of hydric soil characteristics. The soil samples were further examined for hydric soil indicators including, but not limited to, histosol, thick dark surface, sandy gleyed matrix, sandy redox, loamy gleyed matrix, redox dark surface, and/or redox depressions. If these or other hydric soil indicators were observed in the subsurface soil sample, the observation location was considered to have hydric soil.

4.3 Wetland Hydrology Assessment

Visual indicators of wetland hydrology were evaluated. Examples of primary wetland hydrology indicators include, but are not limited to, surface water, high water table, soil saturation, water marks, sediment deposits, drift deposits, iron deposits, inundation visible on aerial imagery, sparsely vegetated concave surface, and water-stained leaves. If at least one primary or two secondary indicators were observed, the observation location was considered to have wetland hydrology.

4.4 Classification of Wetlands

Upon completion of the review of the three wetland criteria at each area, a wetland determination was made. Under normal circumstances, if one or more of the wetland criteria were not identified, the area was not considered to be a wetland. If all three wetland indicators were identified, the area was classified as wetland. Additional observations were made throughout the wetland area to define the wetland/non-wetland boundary, which was mapped with GPS technology or flagged and surveyed by traditional methods. Vegetation, soil and

hydrology assessment data from at least one location within the wetland and one upland location outside of the wetland were recorded on a USACE Wetland Determination Form. The recorded data forms for the subject site can be found in Appendix C and the data point location can be seen on Exhibit 5 in Appendix A. The wetland locations plotted on the USGS topographic map can be seen as Exhibit 6 in Appendix A.

4.5 WOUS Observations

Terracon also made observations of any site features that may be considered a WOUS. If a potential WOUS was identified, observations regarding its characteristics were recorded. The following definitions were used when describing the WOUS:

- Flow Characteristics:
  - Perennial: contains water at all times except during extreme drought.
  - Intermittent: carries water a considerable portion of the time, but ceases to flow occasionally or seasonally.
  - Ephemeral: carries water only during and immediately after periods of rainfall or snowmelt.
- Ordinary High Water Mark: The limit line on the shore established by the fluctuation of the water surface. It is shown by such things as a clear line impressed on the bank, shelving, changes in soil character, destruction of terrestrial vegetation, the presence of litter and debris or other features influenced by the surrounding area.
- Bank Shape Descriptions:
  - Undercut: banks that overhang the stream channel
  - Steep: bank slope of approximately greater than 30 degrees
  - Gradual: bank slope of approximately 30 degrees or less
- Aquatic Habitat Descriptions:
  - Pool: deeper portion of a stream where water flows slower than in neighboring, shallower portions, smooth surface, and finer substrate
  - Riffle: shallow area in a stream where water flows swiftly over gravel and rock or other coarse substrate resulting in a rough flow and a turbulent surface
  - Run: section of a stream with a low or high velocity and with little or no turbulence on the surface of the water.

5.0 FIELD OBSERVATIONS RESULTS

On July 23 and 29, 2019, Terracon performed fieldwork and identified five wetland areas on the subject site. The areas are designated as Wetland Areas 1 through 5, as shown on Exhibit 5 in Appendix A. Wetland Determination Data Forms for each wetland area are provided in Appendix C. Wetland Determination Forms were also provided for the upland areas adjacent to

the identified wetlands and suspect areas observed on the site at the time of the site reconnaissance or observed during the preliminary data gathering process. Ground photographs, included in Appendix D, provide an indication of the physical characteristics observed during the site visit. The following tables provide a summary the wetlands and drainage identified during the site reconnaissance.

5.1 Wetland Area 1 (WL-1)

Wetland Description			
Wetland ID	WL-1		
Size	0.76 acres		
Sampling Point(s)	DP-1		
Photo ID	1, 2		
Association w/ WOUS	Wetland Area 1 appears to be isolated and not associated with a WOUS.		
Wetland Description	Wetland Area 1 is located in a manmade City stormwater retention basin.		
NWI Map	NWI map identifies WL-1 as a Palustrine Emergent Scrub-Shrub Broad Leaved Deciduous Seasonally Flooded Excavated (PSS1Cx)		
Cowardin Classification	Based on field observations, WL-1 is a Palustrine Emergent Temporarily Flooded Excavated (PEMAx)		
Wetland Type	Wet meadow with emergent areas		
Vegetative Cover	Dense		
Dominant Wetland Vegetation *at data point locations*	Common Name Dark Green Bulrush Fox Sedge Softstem Bulrush Cattail	Scientific Name *Scirpus atrovirens* *Carex vulpinoidea* *Schoenoplectus tabernaemontani* *Typha latifolia*	WL Indicator OBL FACW OBL OBL
Hydrogeomorphic Class	Depression		
Soil Type (soil survey)	Urban Land		
Soil Type (field obs.)	Sandy lean clay		
Soil Characteristics *at data point locations*	Depleted Matrix/Redox Dark Surface		
Hydrology Characteristics *at data point locations*	High Water Table, Saturation		
Hydrology Source	Surface water runoff, City stormwater		
Other Information			
Non-Wetland (Upland) Description			
Data Point(s)	DP-2		
Habitat Type	Grassland/Scrub-Shrub		
Was there a marked difference between the wetland and upland	No		
Was there a gradual change in vegetation between the wetland and upland creating a “transition zone”	No		
Was there an abrupt topographic change between the wetland and upland	Yes		

Wetland Area 1 appeared to be isolated and not associated with a WOUS.

5.2 Wetland Area 2 (WL-2)

Wetland Description			
Wetland ID	WL-2		
Size	2.45 acres		
Sampling Point(s)	DP-3		
Photo ID	3, 4		
Association w/ WOUS	Wetland Area 2 appears to be isolated and not associated with a WOUS.		
Wetland Description	Wetland Area 2 is located in a manmade City stormwater retention basin.		
NWI Map	NWI map identifies WL-2 as consisting of three wetland zones: A Palustrine Emergent Scrub-Shrub Broad Leaved Deciduous Seasonally Flooded Excavated (PSS1Cx), a Palustrine Emergent Persistent Semipermanently Flooded Excavated (PEM1Fx) and a Palustrine Emergent Persistent Seasonally Flooded Excavated (PEM1Cx)		
Cowardin Classification	Based on field observations, WL-2 is a Palustrine Emergent Temporarily Flooded Excavated (PEMAx)		
Wetland Type	Wet meadow with emergent areas		
Vegetative Cover	Dense		
Dominant Wetland Vegetation	Common Name Dark Green Bulrush Softstem Bulrush Yellow Nut Sedge	Scientific Name *Scirpus atrovirens* *Schoenoplectus tabernaemontani* *Cyperus esculentus*	WL Indicator OBL OBL OBL
Hydrogeomorphic Class	Depression		
Soil Type (soil survey)	Urban Land		
Soil Type (field obs.)	Sandy Lean Clay		
Soil Characteristics	Depleted Matrix/Thick Dark Surface		
Hydrology Characteristics	High Water Table, Saturation		
Hydrology Source	Surface water runoff, City stormwater		
Other Information			
Non-Wetland (Upland) Description			
Data Point(s)	DP-4		
Habitat Type	Grassland, Scrub-Shrub		
Was there a marked difference between the wetland and upland	No		
Was there a gradual change in vegetation between the wetland and upland creating a “transition zone”	No		
Was there an abrupt topographic change between the wetland and upland	Yes		

Wetland Area 2 appears to be isolated and not associated with a WOUS.

5.3 Wetland Area 3 (WL-3)

Wetland Description			
Wetland ID	WL-3		
Size	0.44 acres		
Sampling Point(s)	DP-5, DP-6		
Photo ID	5-7		
Association w/ WOUS	Wetland Area 3 does not appear to be associated with a WOUS		
Wetland Description	Wetland Area 3 is located in a somewhat poorly drained area within the former railyard. The subsurface appeared to be fill material but did meet the redox dark surface hydric soil criteria. An ephemeral drainage that appeared to be a portion of the railroad ditch runs from just north of the wetland, through the wetland and discharges to the City stormwater retention basin.		
NWI Map	Not identified		
Cowardin Classification	Palustrine Emergent Temporarily Flooded (PEMA)		
Wetland Type	Wet Meadow with a scrub-shrub portion of the northeast portion		
Vegetative Cover	Dense		
Dominant Wetland Vegetation	Common Name Reed Canary Grass Dark Green Bulrush	Scientific Name *Phalaris arundinacea* *Scirpus atrovirens*	WL Indicator FACW OBL
Hydrogeomorphic Class	Fringe		
Soil Type (soil survey)	Urban Land		
Soil Type (field obs.)	Sandy clay that appeared to be fill		
Soil Characteristics	Redox dark surface		
Hydrology Characteristics	High Water Table, Saturation		
Hydrology Source	Surface water runoff		
Other Information			
Non-Wetland (Upland) Description			
Data Point(s)	DP-7, DP-8		
Habitat Type	Grassland to the south and woodlands to the north.		
Was there a marked difference between the wetland and upland	No		
Was there a gradual change in vegetation between the wetland and upland creating a “transition zone”	No		
Was there an abrupt topographic change between the wetland and upland	No		

Wetland Area 3 appears to be isolated and not associated with a WOUS.

5.4 Wetland Area 4 (WL-4)

Wetland Description			
Wetland ID	WL-4		
Size	0.25 acres		
Sampling Point(s)	DP-10		
Photo ID	8		
Association w/ WOUS	Wetland Area 4 appears to be isolated and not associated with a WOUS.		
Wetland Description	Wetland Area 4 is located in a manmade City stormwater retention basin.		
NWI Map	Not identified		
Cowardin Classification	Palustrine Emergent Persistent Seasonally Flooded Excavated (PEM1Cx)		
Wetland Type	Emergent and wet meadow		
Vegetative Cover	Dense		
Dominant Wetland Vegetation	Common Name Cattail Softstem Bulrush	Scientific Name *Typha latifolia* *Schoenoplectus tabernaemontani*	WL Indicator OBL OBL
Hydrogeomorphic Class	Depression		
Soil Type (soil survey)	Urban		
Soil Type (field obs.)	Muck followed by a layer of sand and then silty clay		
Soil Characteristics	2 cm Muck and Depleted Matrix		
Hydrology Characteristics	High Water Table, Saturation, Aquatic Fauna, Hydrogen Sulfide Odor		
Hydrology Source	Surface water runoff and City stormwater		
Other Information			
Non-Wetland (Upland) Description			
Data Point(s)	DP-11		
Habitat Type	Grassland		
Was there a marked difference between the wetland and upland		No	
Was there a gradual change in vegetation between the wetland and upland creating a “transition zone”		No	
Was there an abrupt topographic change between the wetland and upland		Yes	

Wetland Area 4 appears to be isolated and not associated with a WOUS.

5.5 Wetland Area 5 (WL-5)

6.0 Wetland Description			
Wetland ID	WL-5		
Size	0.55 acres		
Sampling Point(s)	DP-12, DP-14		
Photo ID	9-10		
Association w/ WOUS	Wetland Area 5 appears to be isolated and not associated with a WOUS.		
Wetland Description	Wetland Area 5 is located in a manmade City stormwater retention basin.		
NWI Map	Not identified		
Cowardin Classification	Palustrine Emergent Persistent Seasonally Flooded Excavated (PEM1Cx)		
Wetland Type	Emergent and wet meadow		
Vegetative Cover	Moderate to dense		
Dominant Wetland Vegetation	Common Name Reed Canary Grass	Scientific Name *Phalaris arundinacea*	WL Indicator FACW
Hydrogeomorphic Class	Depression		
Soil Type (soil survey)	Urban		
Soil Type (field obs.)	Silty clay		
Soil Characteristics	Depleted Matrix		
Hydrology Characteristics	Water Stained Leaves		
Hydrology Source	Surface water runoff, City Stormwater, railroad ditch		
Other Information			
Non-Wetland (Upland) Description			
Data Point(s)	DP-13		
Habitat Type	Grassland, woodlands		
Was there a marked difference between the wetland and upland	No		
Was there a gradual change in vegetation between the wetland and upland creating a “transition zone”	No		
Was there an abrupt topographic change between the wetland and upland	Yes		

Wetland Area 5 appears to be isolated and not associated with a WOUS.

7.0 WETLAND AND WATERS OF THE UNITES STATES SUMMARY

This report details the procedures used to identify wetlands on the subject site. In accordance with the field procedures described in this report, wetlands were identified at the subject site. The following table summarizes the sizes of the delineated wetlands within the subject site.

Wetland Name	Approximate Wetland Area On-site (acres)
WL-1	0.76
WL-2	2.45
WL-3	0.44
WL-4	0.25
WL-5	0.55
Total Wetland Area	**4.45**

8.0 RECOMMENDATIONS

According to survey results, 4.45 acres of wetlands were identified on the subject site. Only the USACE can make the final determination on the jurisdictional status of wetlands or drainage feature, and on the need for permit processing and compensatory mitigation.

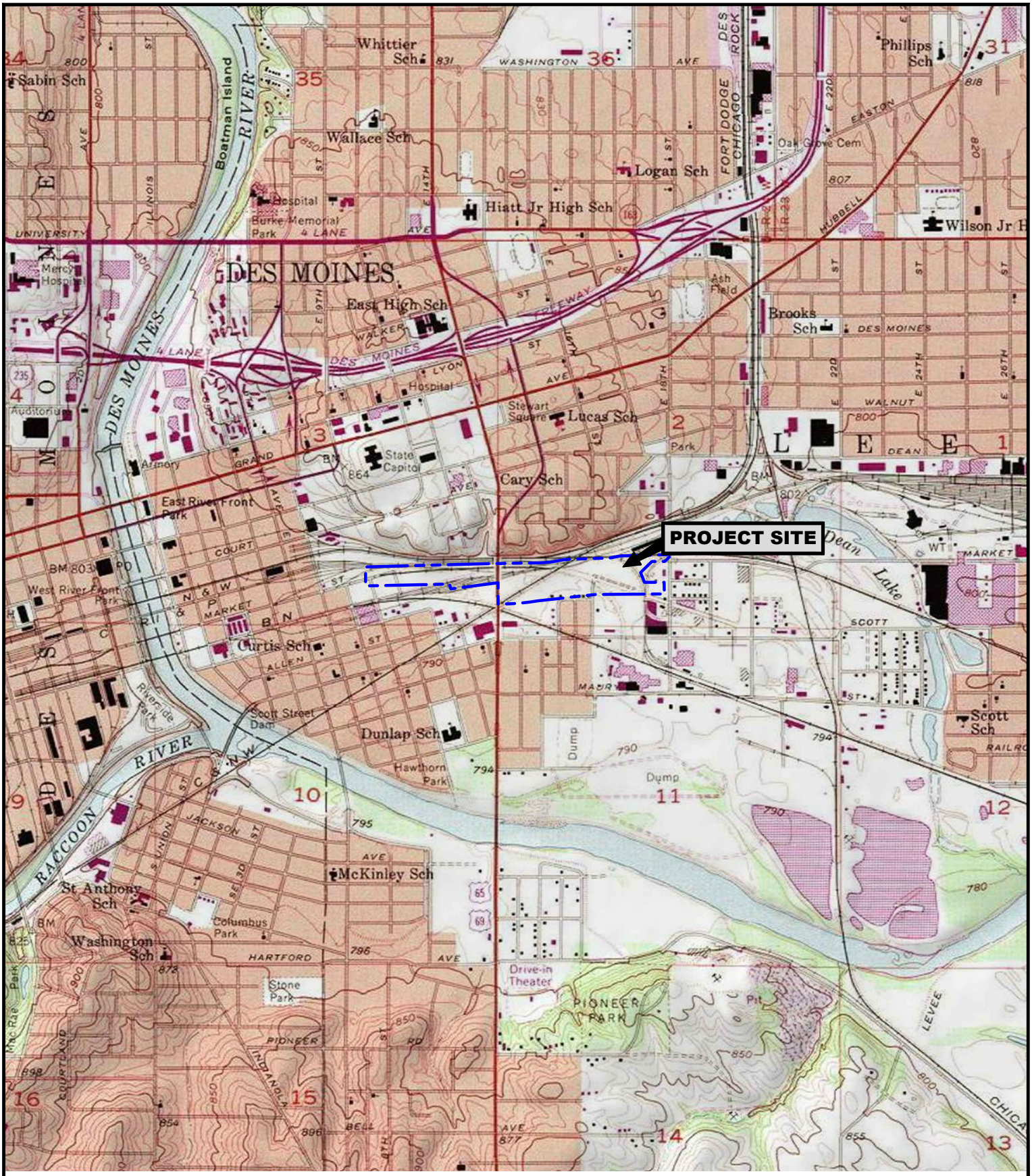
A color copy of this report along with the proposed site development plan should be submitted to the USACE for confirmation of findings and an approved USACE Jurisdictional Determination to evaluate whether a Section 404 Permit will be required. As part of the Section 404 Permit, if required, a Section 401 Water Quality Certification from the Iowa Department of Natural Resources may be required.

9.0 GENERAL COMMENTS

The wetland delineation was performed using the USACE Manual and Midwest Supplement. The manual provides assistance for delineating wetlands based on the three criteria discussed. However, the manual alone may not have provided enough information to document whether or not the three criteria were met. Various physical properties or other visual signs used to evaluate whether the three wetland identification criteria areas were satisfied may not be straightforward, especially in disturbed or problem areas. The manual also allows the user to visually estimate certain indicators such as the percentage of area covered by dominant species for the entire community. Terracon did not attempt to identify every possible plant species and did not classify soil type by laboratory methods. Due to seasonal changes, Terracon cannot guarantee the area to exhibit or not to exhibit wetland characteristics at all times of the year. The limitations of this wetland delineation should be recognized.

This report has been prepared in accordance with generally accepted scientific and engineering evaluation practices. This report is for the exclusive use of the client for the project being discussed. No warranties, either express or implied, are intended or made.

APPENDIX A
Exhibits



TOPOGRAPHIC IMAGE FROM IOWA GEOGRAPHIC MAP SERVER MAINTAINED BY IOWA STATE UNIVERSITY AND MIT - http://cairo.gis.iastate.edu/map.html

LEGEND

- BOUNDARY OF ASSESSED AREA

NORTH

0 2000

APPROXIMATE DRAWING SCALE

Project No.	Date:
08197038	9/10/2019
Project Mngr:	Drawn By:
ACC	JAL
File Name:	
08197038-T2.dwg	
Layout Name:	
E1	

Terracon
Consulting Engineers and Scientists
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

TOPOGRAPHIC SITE MAP

WETLAND DELINEATION
DES MOINES INDUSTRIAL
200 SE 15TH STREET
DES MOINES, IOWA

EXHIBIT

1

July 18, 2019

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

LEGEND

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

- BOUNDARY OF ASSESSED AREA

GIS INFO FROM NATURAL RESOURCES GEOGRAPHIC INFORMATION SYSTEMS LIBRARY http://www.igsb.uiowa.edu/./nrgislibx/

NORTH

0 1000'

APPROXIMATE DRAWING SCALE

Project No.	08197038
Date:	9/10/2019
Project Mngr:	ACC
Drawn By:	JAL
File Name:	08197038-T2.dwg
Layout Name:	E2

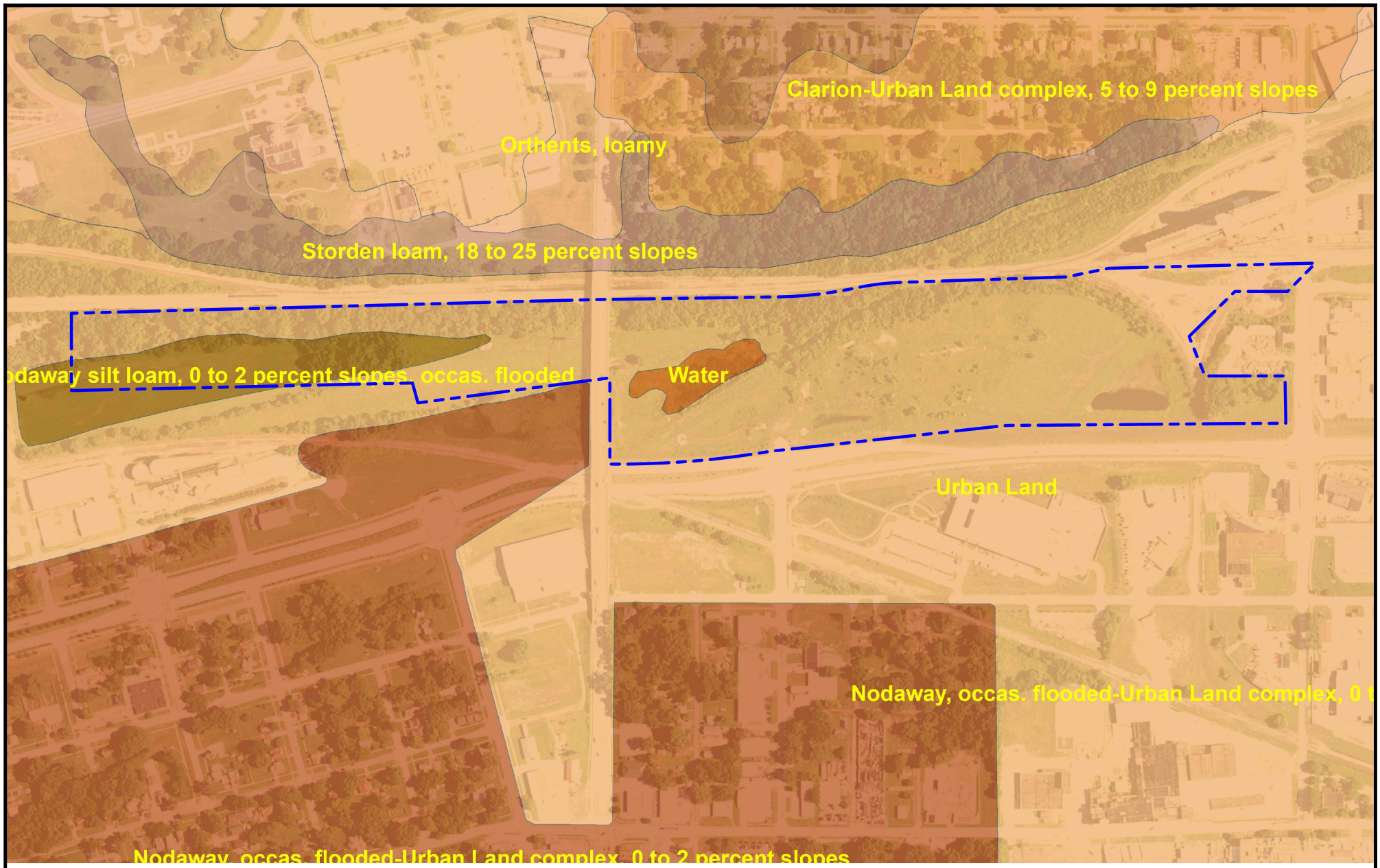
Terracon
Consulting Engineers and Scientists
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

NATIONAL WETLAND INVENTORY MAP

WETLAND DELINEATION
DES MOINES INDUSTRIAL
200 SE 15TH STREET
DES MOINES, IOWA

EXHIBIT

2



GIS INFO FROM NATURAL RESOURCES GEOGRAPHIC INFORMATION SYSTEMS LIBRARY http://www.igsb.uiowa.edu/./nrgislibx/

LEGEND

- BOUNDARY OF ASSESSED AREA

NORTH

0 500'

APPROXIMATE DRAWING SCALE

Project No.	08197038
Date:	9/10/2019
Project Mngr:	ACC
Drawn By:	JAL
File Name:	08197038-T2.dwg
Layout Name:	E3

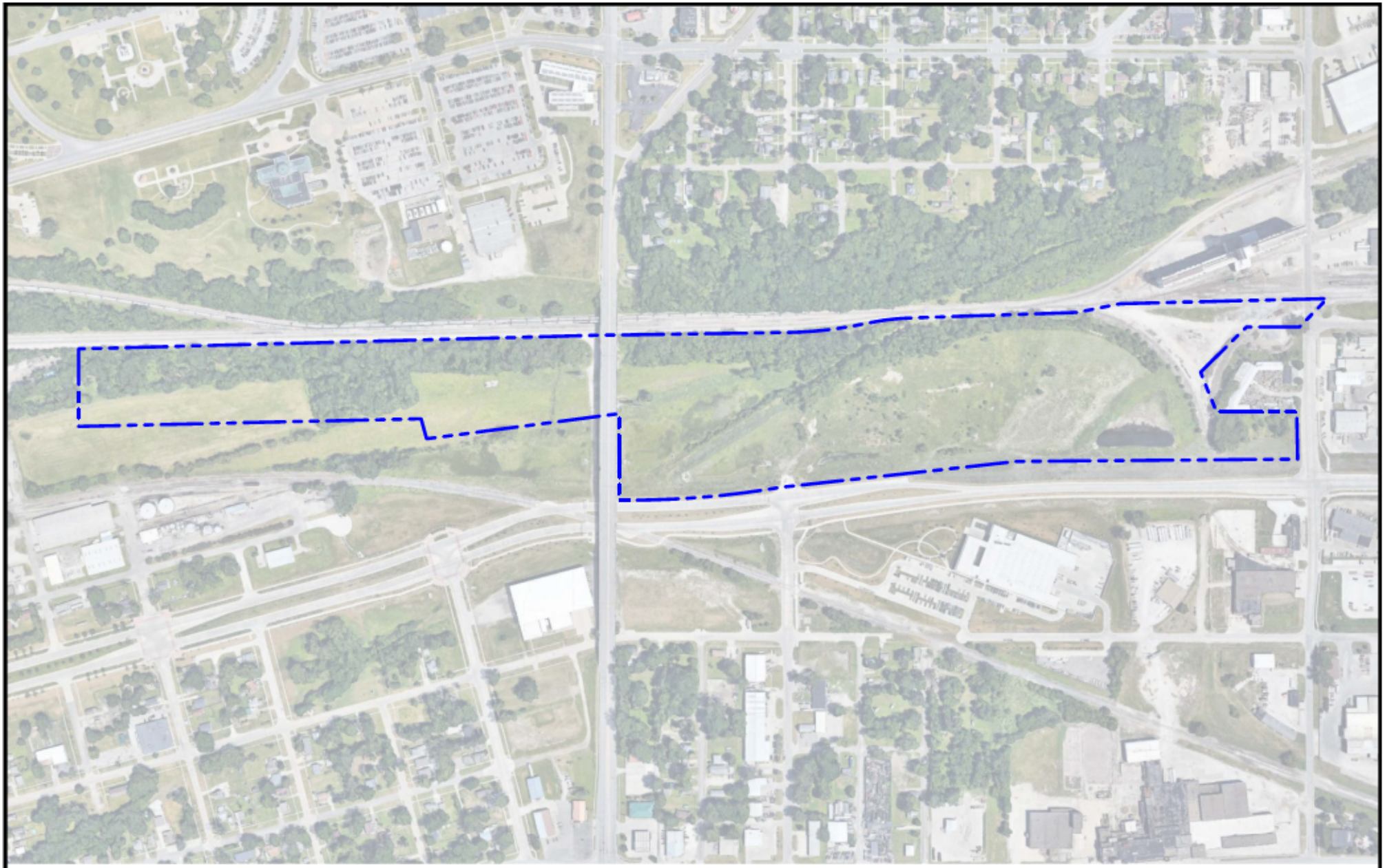
Terracon
Consulting Engineers and Scientists
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

SOIL SURVEY MAP

WETLAND DELINEATION
DES MOINES INDUSTRIAL
200 SE 15TH STREET
DES MOINES, IOWA

EXHIBIT

3



AERIAL PHOTO FROM IOWA GEOGRAPHIC MAP SERVER MAINTAINED BY IOWA STATE UNIVERSITY AND MIT - http://cairo.gis.iastate.edu/map.html

LEGEND

- BOUNDARY OF ASSESSED AREA

NORTH

0 500'

APPROXIMATE DRAWING SCALE

Project No.	08197038
Date:	9/10/2019
Project Mngr:	ACC
Drawn By:	JAL
File Name:	08197038-T2.dwg
Layout Name:	E4

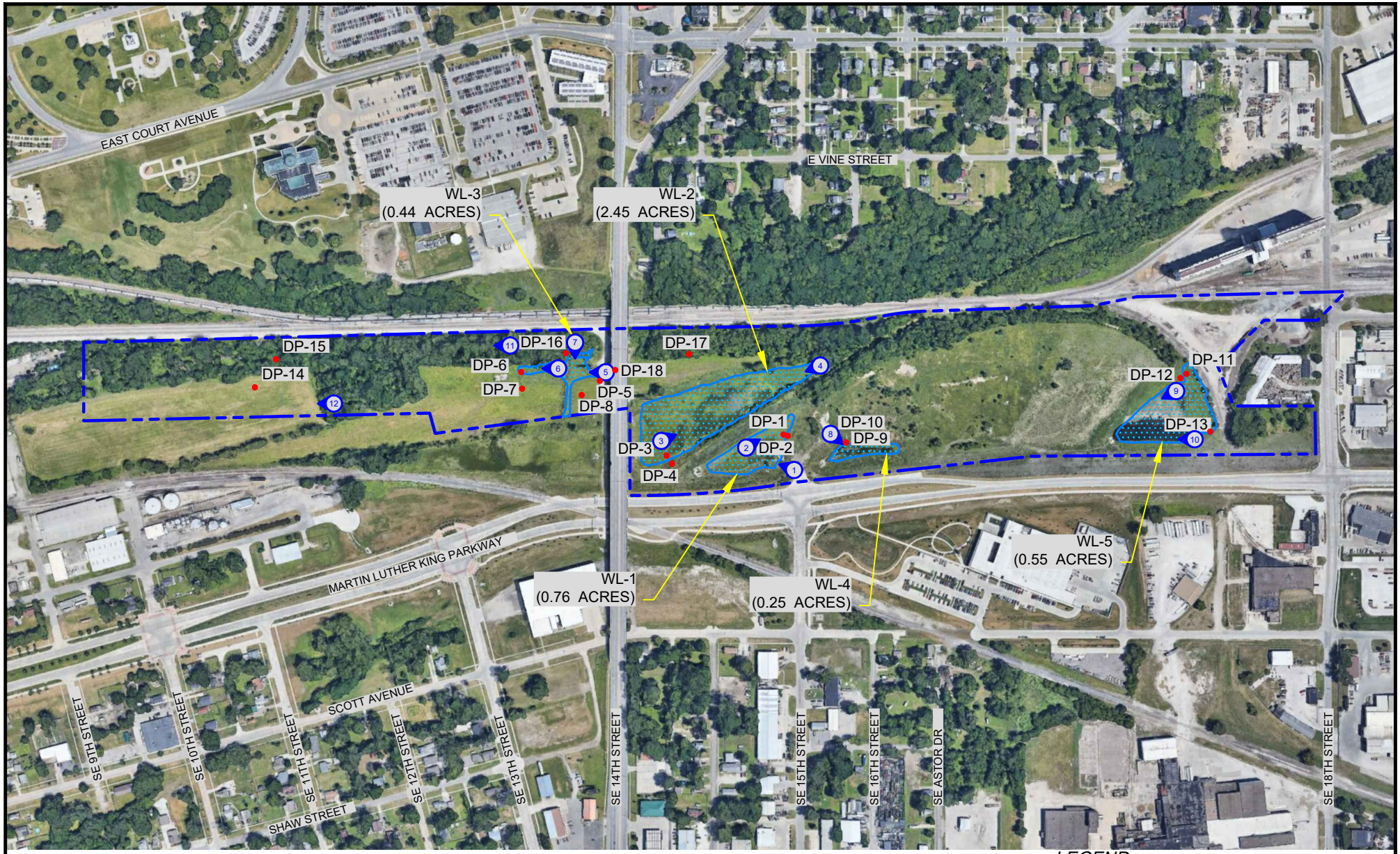
Terracon
Consulting Engineers and Scientists
800 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

HILLSHADE FROM LIDAR

WETLAND DELINEATION
DES MOINES INDUSTRIAL
200 SE 15TH STREET
DES MOINES, IOWA

EXHIBIT

4



LEGEND

- BOUNDARY OF ASSESSED AREA
- WETLAND AREA
- DATA POINT 200 SE 15TH STREET
- PHOTO 200 SE 15TH STREET & DIRECTION

AERIAL PHOTO FROM IOWA GEOGRAPHIC MAP SERVER MAINTAINED BY IOWA STATE UNIVERSITY AND MIT - http://cairo.gis.iastate.edu/map.html

NORTH

0 500'

APPROXIMATE SCALING

Project No.	08197038
Date:	9/10/2019
Project Mngr:	ACC
Drawn By:	JAL
File Name:	08197038-T2.dwg
Layout Name:	E5

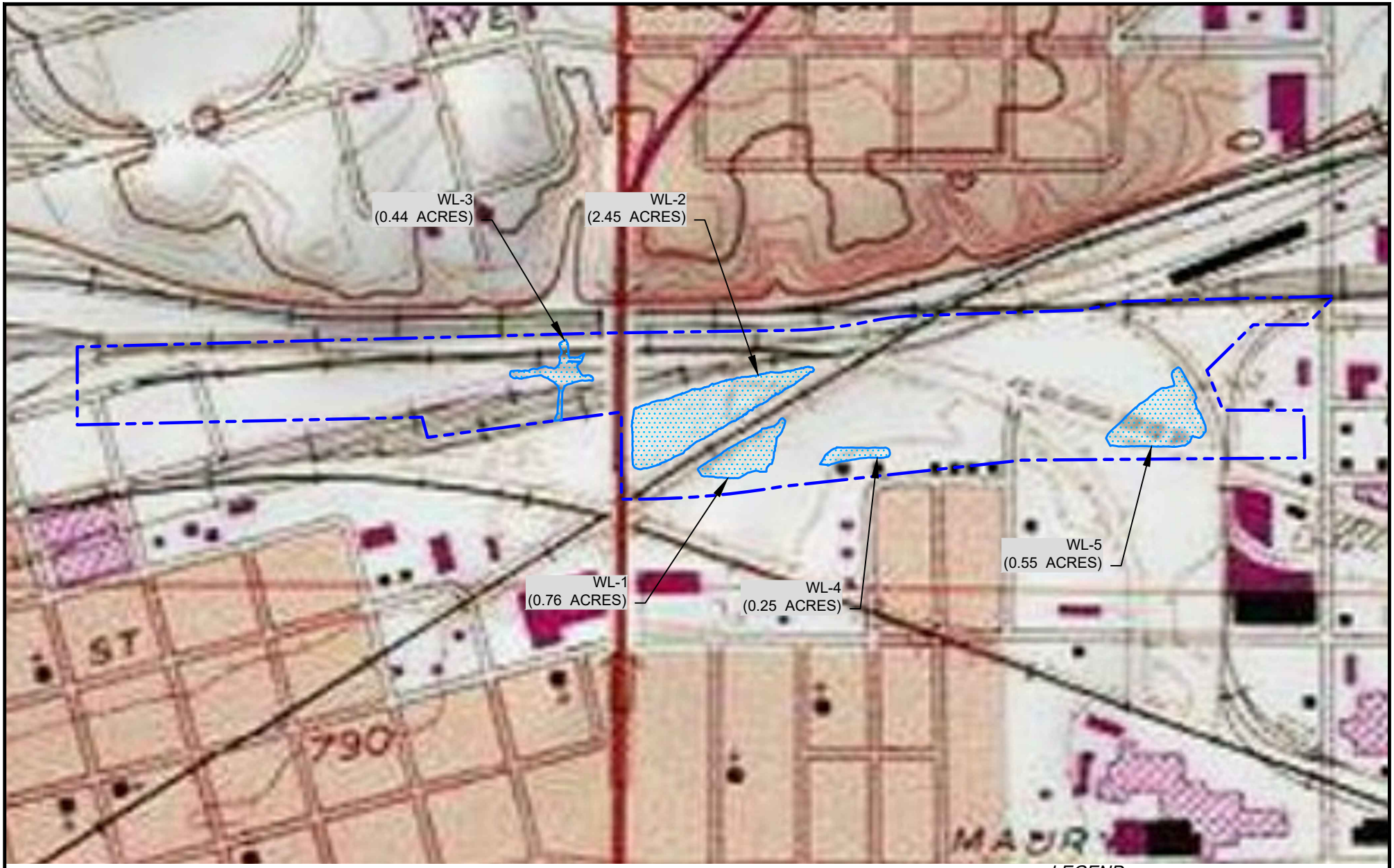
Terracon
Consulting Engineers and Scientists
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

WETLAND DELINEATION MAP

WETLAND DELINEATION
DES MOINES INDUSTRIAL
200 SE 15TH STREET
DES MOINES, IOWA

EXHIBIT

5



LEGEND

- BOUNDARY OF ASSESSED AREA
- WATERS OF THE U.S. (WUS)
- WETLAND AREA

TOPOGRAPHIC IMAGE FROM IOWA GEOGRAPHIC MAP SERVER MAINTAINED BY IOWA STATE UNIVERSITY AND MIT - http://cairo.gis.iastate.edu/map.html

NORTH

0 500'

APPROXIMATE SCALING SCALE

Project No.	08197038
Date:	9/10/2019
Project Mngr:	ACC
Drawn By:	JAL
File Name:	08197038-T2.dwg
Layout Name:	E6

Terracon
Consulting Engineers and Scientists
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

TOPOGRAPHIC SITE MAP WITH WETLAND/WUS 200 SE 15TH STREET

WETLAND DELINEATION
DES MOINES INDUSTRIAL
200 SE 15TH STREET
DES MOINES, IOWA

EXHIBIT

6

APPENDIX B
Aerial Photographs

AERIAL PHOTO FROM IOWA GEOGRAPHIC MAP SERVER MAINTAINED BY
IOWA STATE UNIVERSITY AND MIT - http://cairo.gis.iastate.edu/map.html

LEGEND

- BOUNDARY OF ASSESSED AREA

NORTH

0 500'

APPROXIMATE DRAWING SCALE

Project No.	08187___
Date:	7/24/2019
Project Mngr:	ACC
Drawn By:	JAL
File Name:	08197038-T2.dwg
Layout Name:	2017IR

Terracon
Consulting Engineers and Scientists
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

2017 AERIAL PHOTO (INFRARED)

WETLAND DELINEATION
DES MOINES INDUSTRIAL
200 SE 15TH STREET
DES MOINES, IOWA

EXHIBIT

-

AERIAL PHOTO FROM IOWA GEOGRAPHIC MAP SERVER MAINTAINED BY IOWA STATE UNIVERSITY AND MIT - http://cairo.gis.iastate.edu/map.html

LEGEND

- BOUNDARY OF ASSESSED AREA

NORTH

0 500'

APPROXIMATE DRAWING SCALE

Project No.	Date:
08197038	7/24/2019
Project Mngr:	Drawn By:
ACC	JAL
File Name:	
08197038-T2.dwg	
Layout Name:	
2015IR	

Terracon
Consulting Engineers and Scientists
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

2015 AERIAL PHOTO (INFRARED)

WETLAND DELINEATION
DES MOINES INDUSTRIAL
200 SE 15TH STREET
DES MOINES, IOWA

EXHIBIT

-

AERIAL PHOTO FROM IOWA GEOGRAPHIC MAP SERVER MAINTAINED BY
IOWA STATE UNIVERSITY AND MIT - http://cairo.gis.iastate.edu/map.html

LEGEND

- BOUNDARY OF ASSESSED AREA

NORTH

0 500'

APPROXIMATE DRAWING SCALE

Project No.	08197038
Date:	7/24/2019
Project Mngr:	ACC
Drawn By:	JAL
File Name:	08197038-T2.dwg
Layout Name:	2014IR

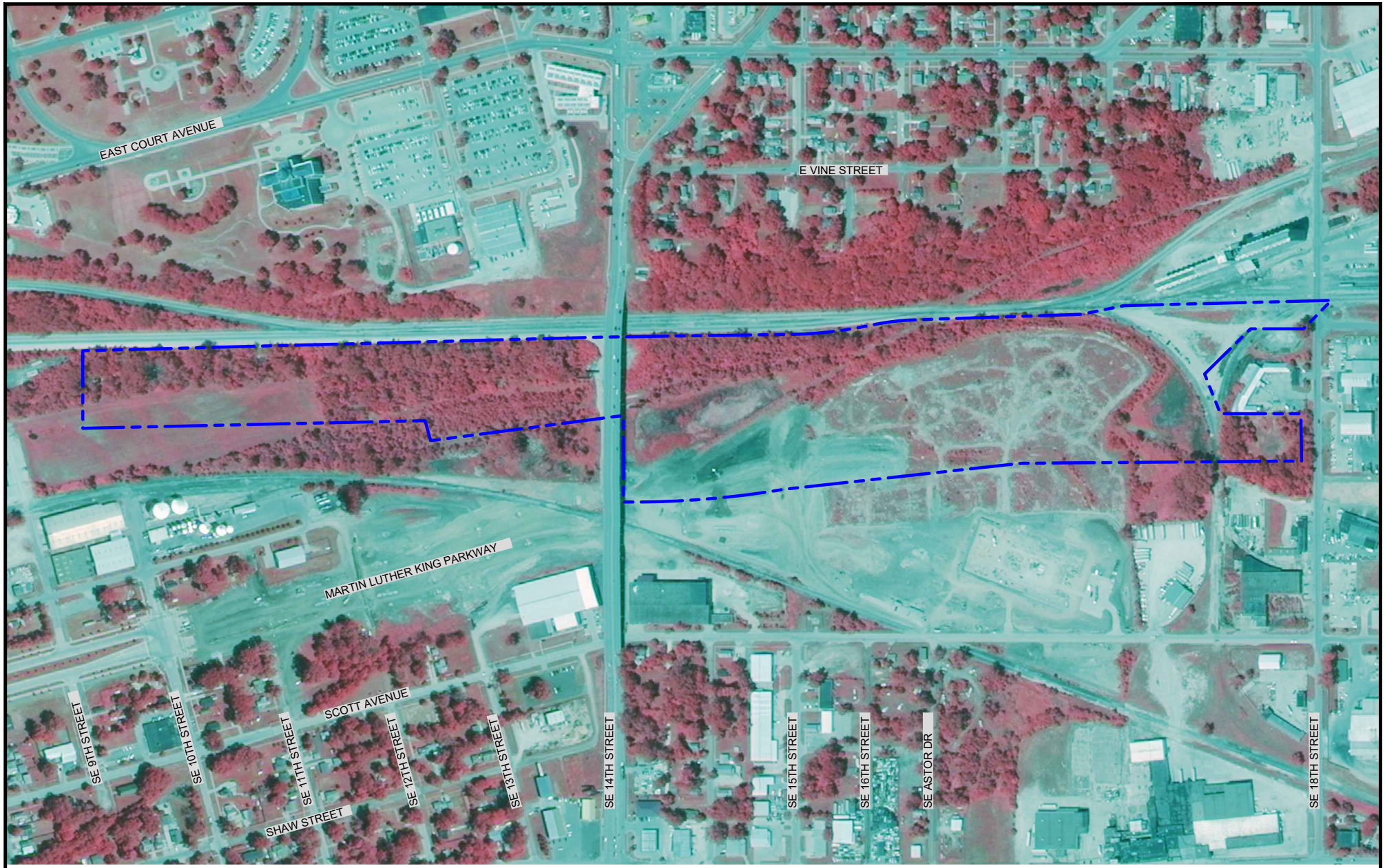
Terracon
Consulting Engineers and Scientists
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

2014 AERIAL PHOTO (INFRARED)

WETLAND DELINEATION
DES MOINES INDUSTRIAL
200 SE 15TH STREET
DES MOINES, IOWA

EXHIBIT

-



AERIAL PHOTO FROM IOWA GEOGRAPHIC MAP SERVER MAINTAINED BY IOWA STATE UNIVERSITY AND MIT - http://cairo.gis.iastate.edu/map.html

LEGEND

- BOUNDARY OF ASSESSED AREA

NORTH

0 500'

APPROXIMATE DRAWING SCALE

Project No.	Date:
08197038	7/24/2019
Project Mngr:	Drawn By:
ACC	JAL
File Name:	
08197038-T2.dwg	
Layout Name:	
2013IR	

Terracon
Consulting Engineers and Scientists
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

2013 AERIAL PHOTO (INFRARED)

WETLAND DELINEATION
DES MOINES INDUSTRIAL
200 SE 15TH STREET
DES MOINES, IOWA

EXHIBIT

-

AERIAL PHOTO FROM IOWA GEOGRAPHIC MAP SERVER MAINTAINED BY IOWA STATE UNIVERSITY AND MIT - http://cairo.gis.iastate.edu/map.html

LEGEND

- BOUNDARY OF ASSESSED AREA

NORTH

0 500'

APPROXIMATE DRAWING SCALE

Project No.	08197038
Date:	7/24/2019
Project Mngr:	ACC
Drawn By:	JAL
File Name:	08197038-T2.dwg
Layout Name:	2011IR

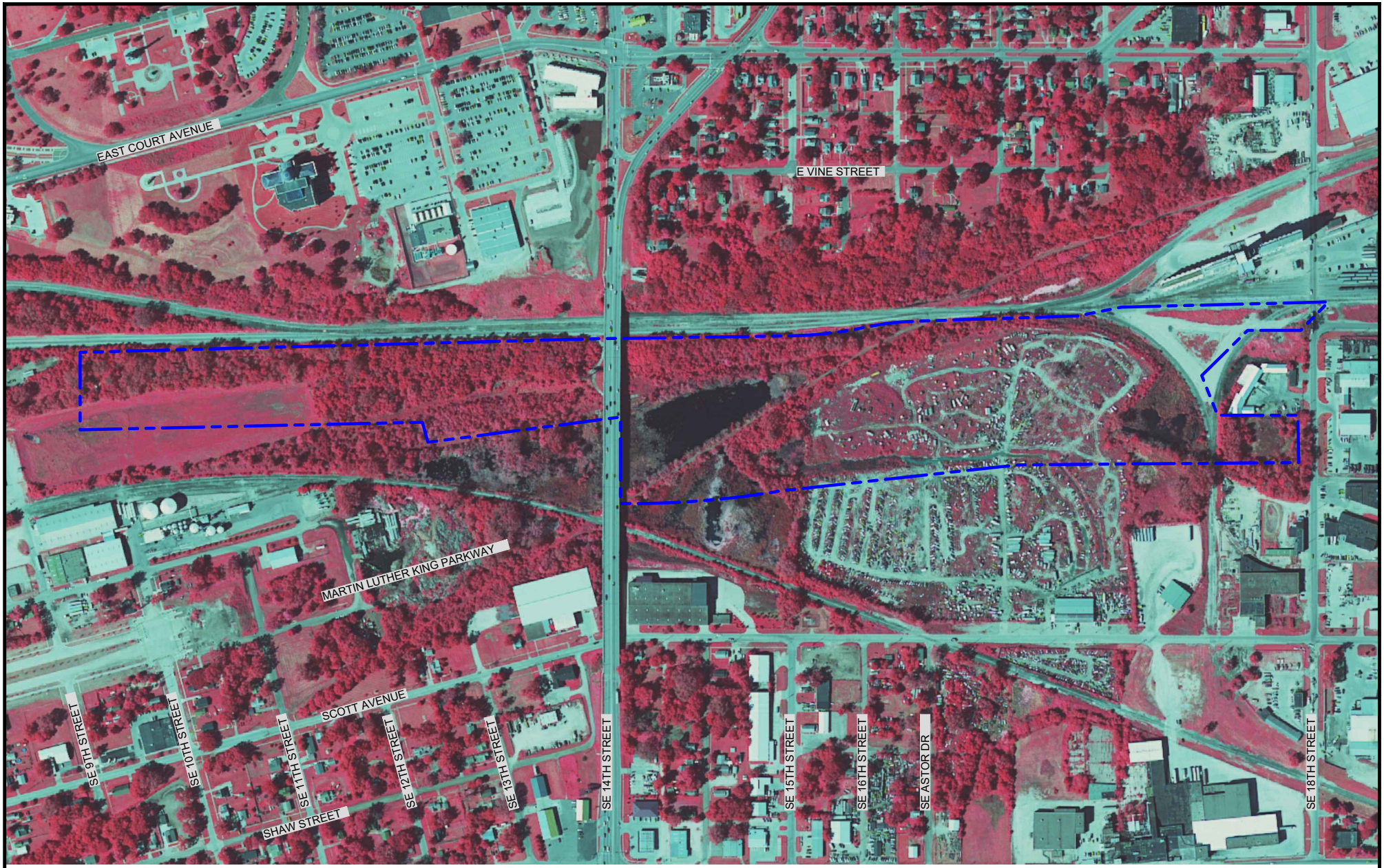
Terracon
Consulting Engineers and Scientists
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

2011 AERIAL PHOTO (INFRARED)

WETLAND DELINEATION
DES MOINES INDUSTRIAL
200 SE 15TH STREET
DES MOINES, IOWA

EXHIBIT

-



AERIAL PHOTO FROM IOWA GEOGRAPHIC MAP SERVER MAINTAINED BY IOWA STATE UNIVERSITY AND MIT - http://cairo.gis.iastate.edu/map.html

LEGEND

- BOUNDARY OF ASSESSED AREA

NORTH

0 500'

APPROXIMATE DRAWING SCALE

Project No.	08197038
Date:	7/24/2019
Project Mngr:	ACC
Drawn By:	JAL
File Name:	08197038-T2.dwg
Layout Name:	2010IR

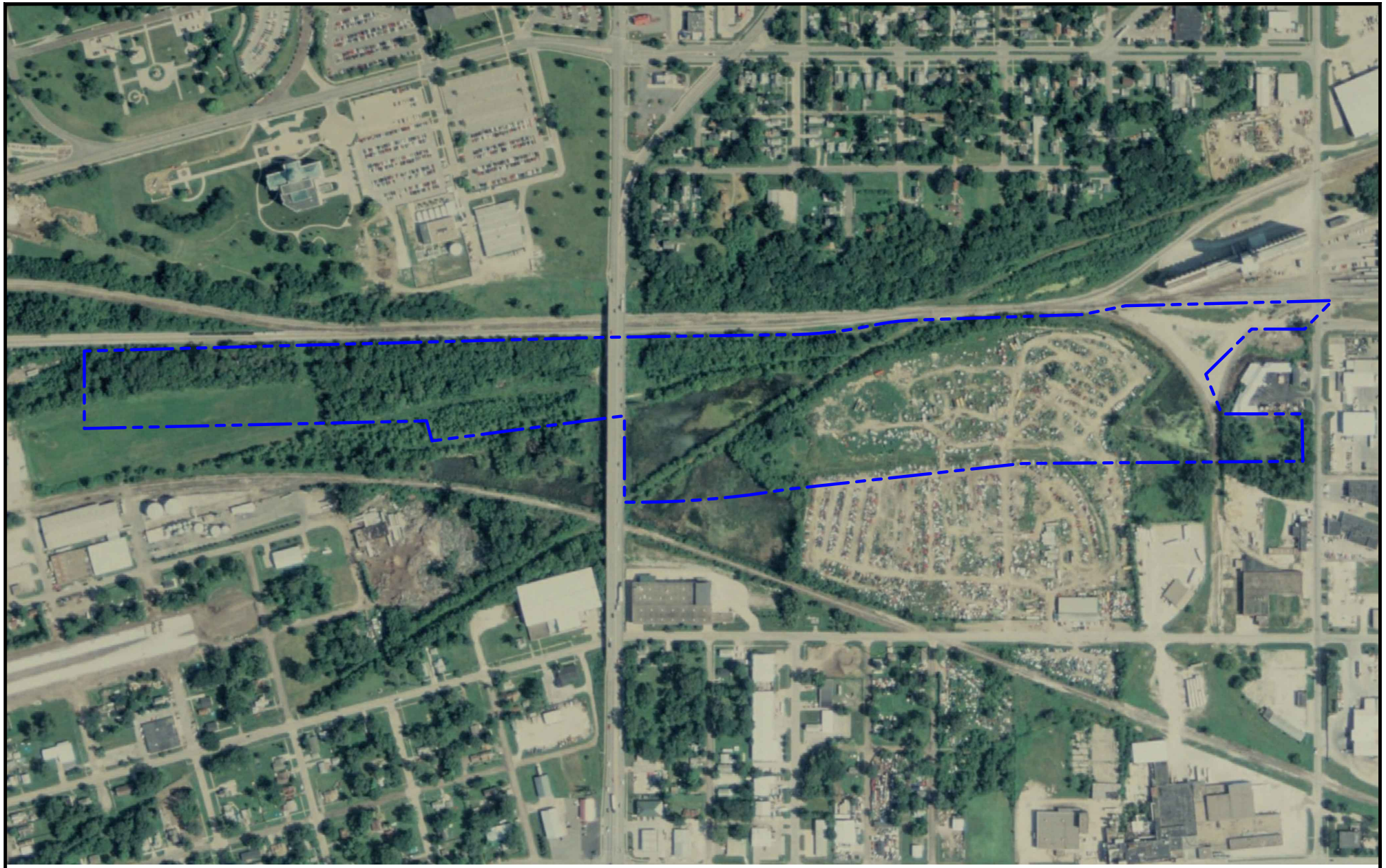
Terracon
Consulting Engineers and Scientists
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

2010 AERIAL PHOTO (INFRARED)

WETLAND DELINEATION
DES MOINES INDUSTRIAL
200 SE 15TH STREET
DES MOINES, IOWA

EXHIBIT

-



AERIAL PHOTO FROM IOWA GEOGRAPHIC MAP SERVER MAINTAINED BY
IOWA STATE UNIVERSITY AND MIT - http://cairo.gis.iastate.edu/map.html

LEGEND

- BOUNDARY OF ASSESSED AREA

NORTH

0 500'

APPROXIMATE DRAWING SCALE

Project No.	Date:
08197038	7/24/2019
Project Mngr:	Drawn By:
ACC	JAL
File Name:	
08197038-T2.dwg	
Layout Name:	
2009	

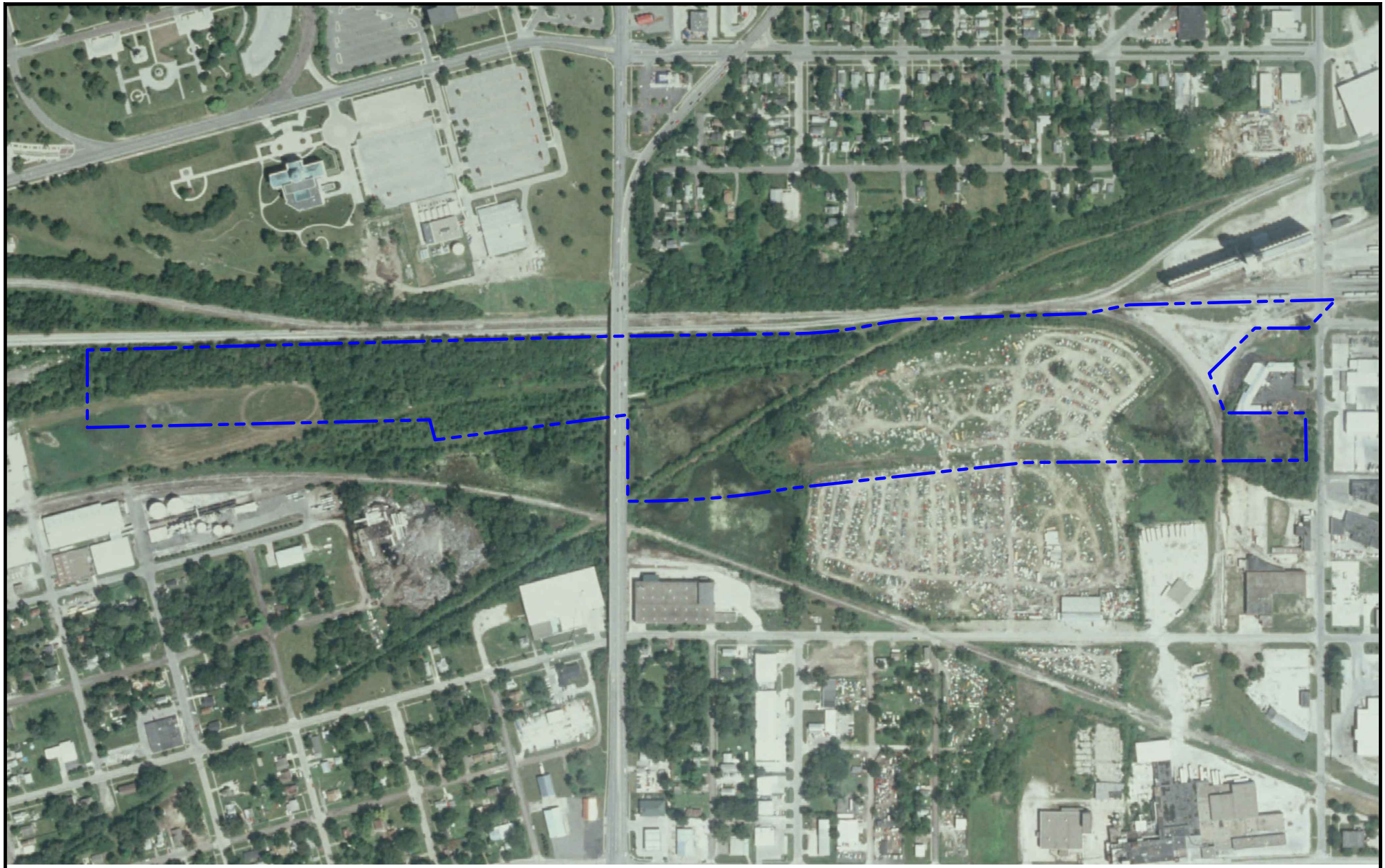
Terracon
Consulting Engineers and Scientists
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

2009 AERIAL PHOTO

WETLAND DELINEATION
DES MOINES INDUSTRIAL
200 SE 15TH STREET
DES MOINES, IOWA

EXHIBIT

-



AERIAL PHOTO FROM IOWA GEOGRAPHIC MAP SERVER MAINTAINED BY
IOWA STATE UNIVERSITY AND MIT - http://cairo.gis.iastate.edu/map.html

LEGEND

- BOUNDARY OF ASSESSED AREA

NORTH

0 500'

APPROXIMATE DRAWING SCALE

Project No.	08197038
Date:	7/24/2019
Project Mngr:	ACC
Drawn By:	JAL
File Name:	08197038-T2.dwg
Layout Name:	2008

Terracon
Consulting Engineers and Scientists
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

2008 AERIAL PHOTO

WETLAND DELINEATION
DES MOINES INDUSTRIAL
200 SE 15TH STREET
DES MOINES, IOWA

EXHIBIT

-

AERIAL PHOTO FROM IOWA GEOGRAPHIC MAP SERVER MAINTAINED BY
IOWA STATE UNIVERSITY AND MIT - http://cairo.gis.iastate.edu/map.html

LEGEND

- BOUNDARY OF ASSESSED AREA

NORTH

0 500'

APPROXIMATE DRAWING SCALE

Project No.	08197038
Date:	7/24/2019
Project Mngr:	ACC
Drawn By:	JAL
File Name:	08197038-T2.dwg
Layout Name:	2007

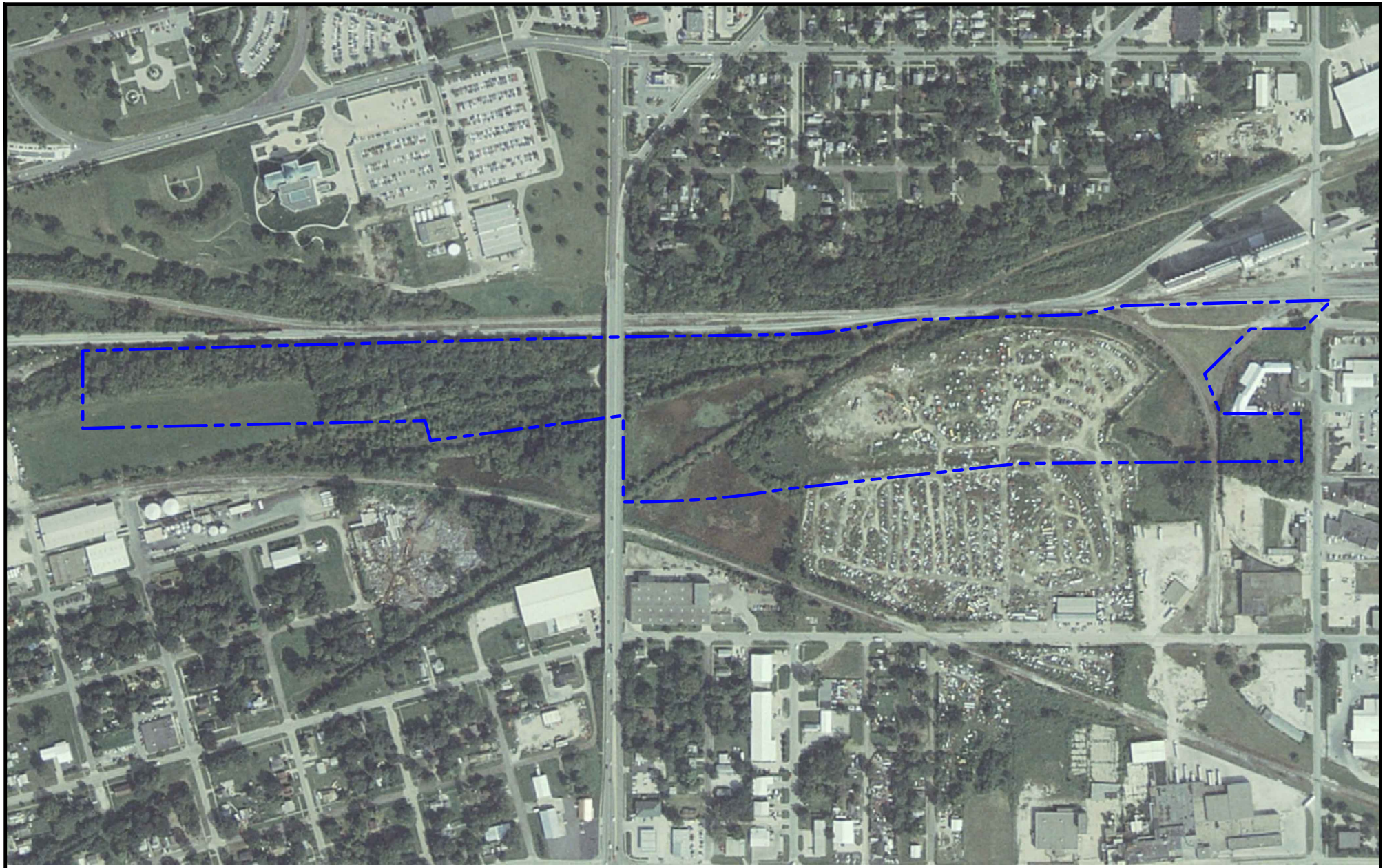
Terracon
Consulting Engineers and Scientists
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

2007 AERIAL PHOTO

WETLAND DELINEATION
DES MOINES INDUSTRIAL
200 SE 15TH STREET
DES MOINES, IOWA

EXHIBIT

-



AERIAL PHOTO FROM IOWA GEOGRAPHIC MAP SERVER MAINTAINED BY
IOWA STATE UNIVERSITY AND MIT - http://cairo.gis.iastate.edu/map.html

LEGEND

- BOUNDARY OF ASSESSED AREA

NORTH

0 500'

APPROXIMATE DRAWING SCALE

Project No.	Date:
08197038	7/24/2019
Project Mngr:	Drawn By:
ACC	JAL
File Name:	
08197038-T2.dwg	
Layout Name:	
2006	

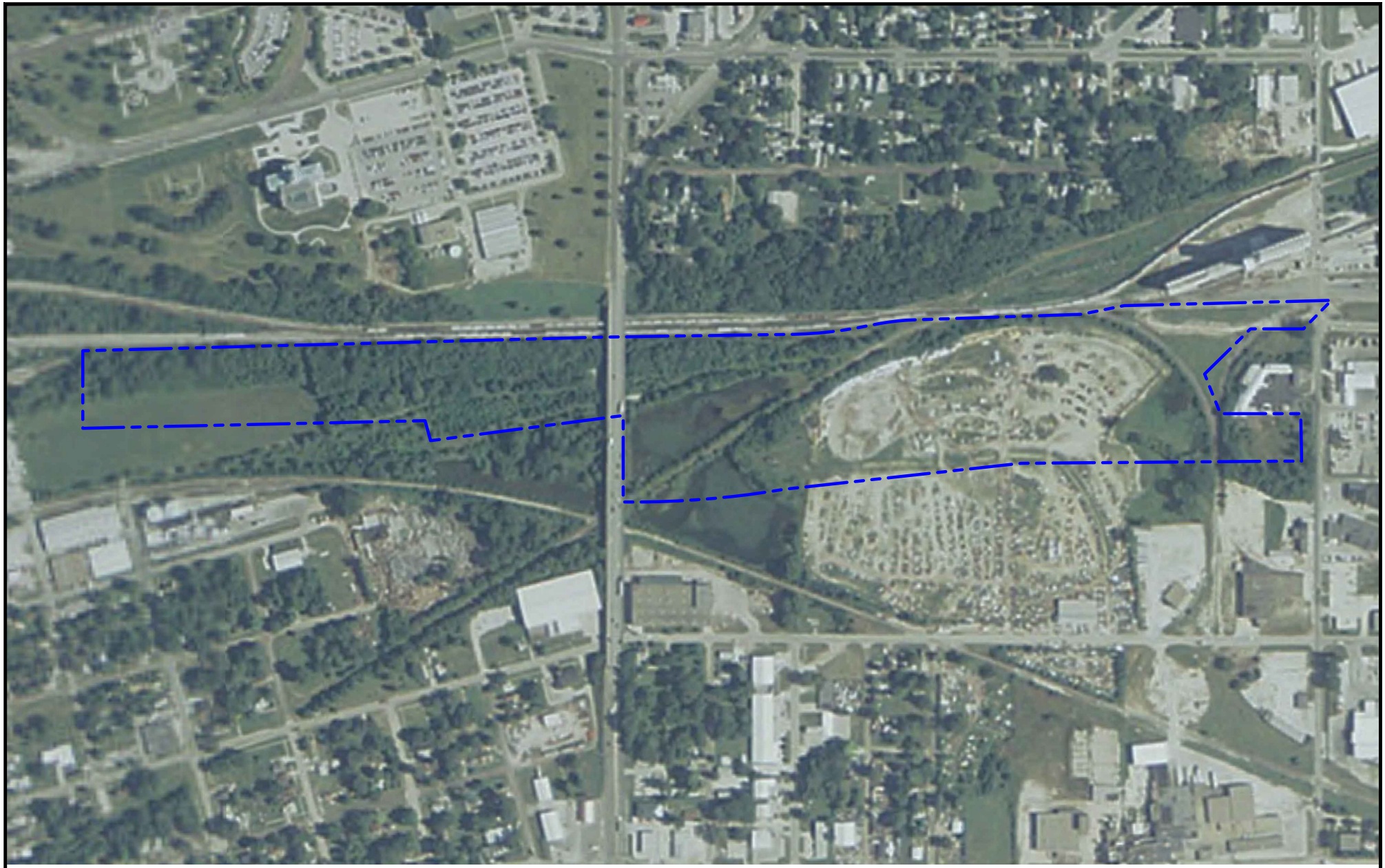
Terracon
Consulting Engineers and Scientists
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

2006 AERIAL PHOTO

WETLAND DELINEATION
DES MOINES INDUSTRIAL
200 SE 15TH STREET
DES MOINES, IOWA

EXHIBIT

-



AERIAL PHOTO FROM IOWA GEOGRAPHIC MAP SERVER MAINTAINED BY
IOWA STATE UNIVERSITY AND MIT - http://cairo.gis.iastate.edu/map.html

LEGEND

- BOUNDARY OF ASSESSED AREA

NORTH

0 500'

APPROXIMATE DRAWING SCALE

Project No.	08197038
Date:	7/24/2019
Project Mngr:	ACC
Drawn By:	JAL
File Name:	08197038-T2.dwg
Layout Name:	2005

Terracon
Consulting Engineers and Scientists
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

2005 AERIAL PHOTO

WETLAND DELINEATION
DES MOINES INDUSTRIAL
200 SE 15TH STREET
DES MOINES, IOWA

EXHIBIT

-

AERIAL PHOTO FROM IOWA GEOGRAPHIC MAP SERVER MAINTAINED BY
IOWA STATE UNIVERSITY AND MIT - http://cairo.gis.iastate.edu/map.html

LEGEND

- BOUNDARY OF ASSESSED AREA

NORTH

0 500'

APPROXIMATE DRAWING SCALE

Project No.	08197038
Date:	7/24/2019
Project Mngr:	ACC
Drawn By:	JAL
File Name:	08197038-T2.dwg
Layout Name:	2004

Terracon
Consulting Engineers and Scientists
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

2004 AERIAL PHOTO

WETLAND DELINEATION
DES MOINES INDUSTRIAL
200 SE 15TH STREET
DES MOINES, IOWA

EXHIBIT

-

AERIAL PHOTO FROM IOWA GEOGRAPHIC MAP SERVER MAINTAINED BY
IOWA STATE UNIVERSITY AND MIT - http://cairo.gis.iastate.edu/map.html

LEGEND

- BOUNDARY OF ASSESSED AREA

NORTH

0 500'

APPROXIMATE DRAWING SCALE

Project No.	08197038
Date:	7/24/2019
Project Mngr:	ACC
Drawn By:	JAL
File Name:	08197038-T2.dwg
Layout Name:	2002IR

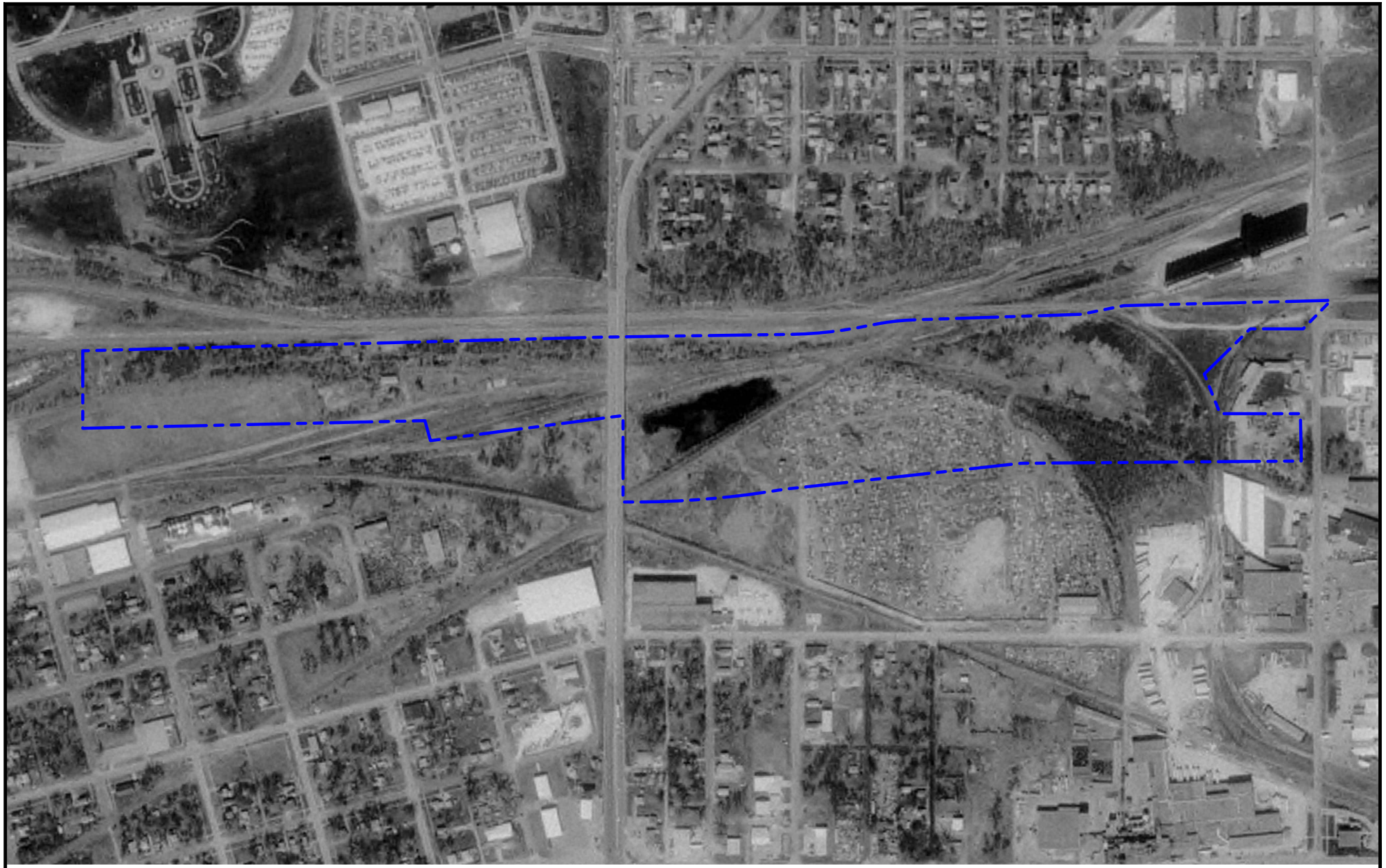
Terracon
Consulting Engineers and Scientists
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

2002 AERIAL PHOTO (INFRARED)

WETLAND DELINEATION
DES MOINES INDUSTRIAL
200 SE 15TH STREET
DES MOINES, IOWA

EXHIBIT

-



AERIAL PHOTO FROM IOWA GEOGRAPHIC MAP SERVER MAINTAINED BY
IOWA STATE UNIVERSITY AND MIT - http://cairo.gis.iastate.edu/map.html

LEGEND

- BOUNDARY OF ASSESSED AREA

NORTH

0 500'

APPROXIMATE DRAWING SCALE

Project No.	08197038
Date:	7/24/2019
Project Mngr:	ACC
Drawn By:	JAL
File Name:	08197038-T2.dwg
Layout Name:	1990S

Terracon
Consulting Engineers and Scientists
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

1990s AERIAL PHOTO

WETLAND DELINEATION
DES MOINES INDUSTRIAL
200 SE 15TH STREET
DES MOINES, IOWA

EXHIBIT

-

AERIAL PHOTO FROM IOWA GEOGRAPHIC MAP SERVER MAINTAINED BY
IOWA STATE UNIVERSITY AND MIT - http://cairo.gis.iastate.edu/map.html

LEGEND

- BOUNDARY OF ASSESSED AREA

NORTH

0 500'

APPROXIMATE DRAWING SCALE

Project No.	08197038
Date:	7/24/2019
Project Mngr:	ACC
Drawn By:	JAL
File Name:	08197038-T2.dwg
Layout Name:	1980S

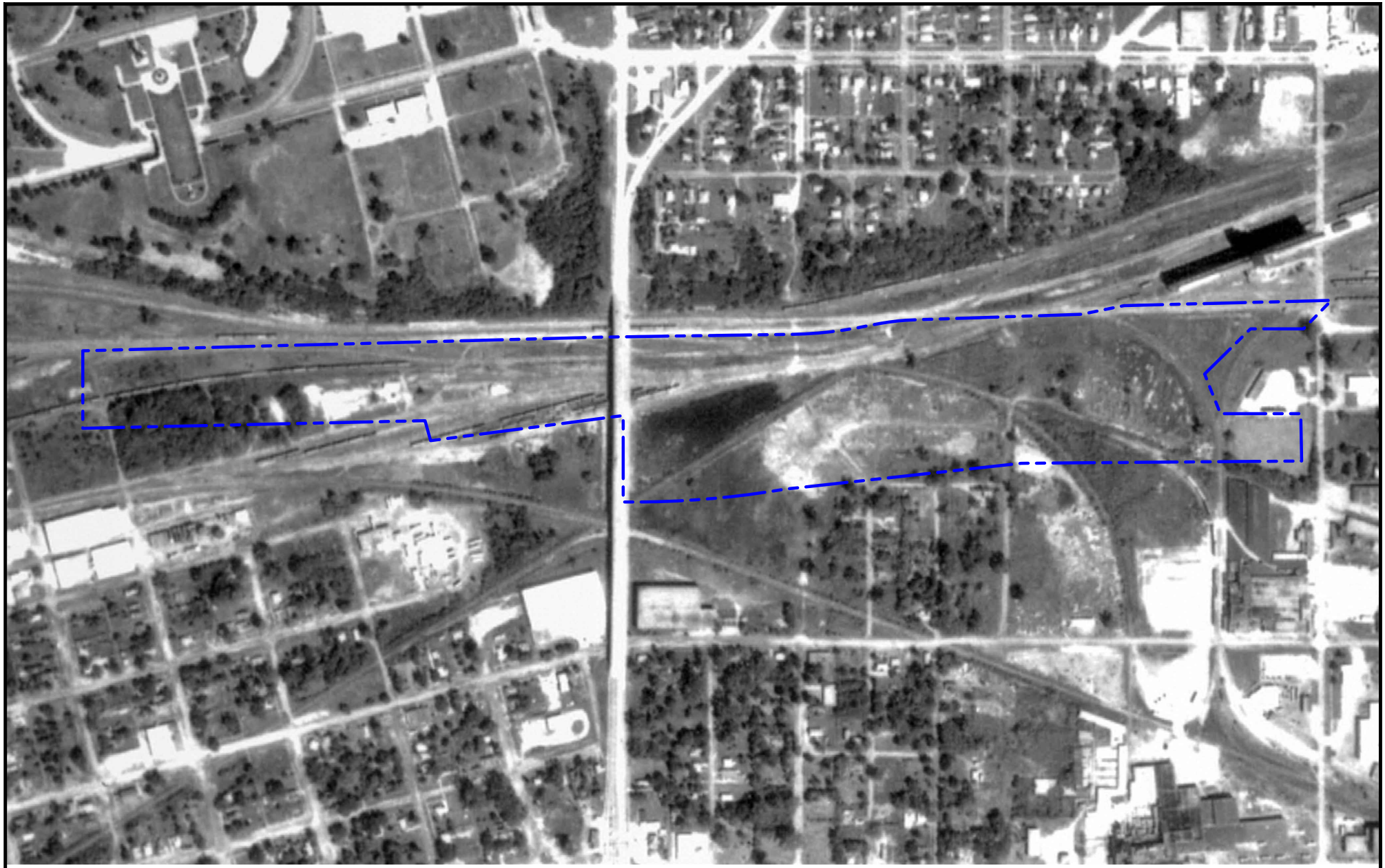
Terracon
Consulting Engineers and Scientists
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

1980s AERIAL PHOTO

WETLAND DELINEATION
DES MOINES INDUSTRIAL
200 SE 15TH STREET
DES MOINES, IOWA

EXHIBIT

-



AERIAL PHOTO FROM IOWA GEOGRAPHIC MAP SERVER MAINTAINED BY IOWA STATE UNIVERSITY AND MIT - http://cairo.gis.iastate.edu/map.html

LEGEND

- BOUNDARY OF ASSESSED AREA

NORTH

0 500'

APPROXIMATE DRAWING SCALE

Project No.	08197038
Date:	7/24/2019
Project Mngr:	ACC
Drawn By:	JAL
File Name:	08197038-T2.dwg
Layout Name:	1970S

Terracon
Consulting Engineers and Scientists
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

1970s AERIAL PHOTO

WETLAND DELINEATION
DES MOINES INDUSTRIAL
200 SE 15TH STREET
DES MOINES, IOWA

EXHIBIT

-

AERIAL PHOTO FROM IOWA GEOGRAPHIC MAP SERVER MAINTAINED BY
IOWA STATE UNIVERSITY AND MIT - http://cairo.gis.iastate.edu/map.html

LEGEND

- BOUNDARY OF ASSESSED AREA

NORTH

0 500'

APPROXIMATE DRAWING SCALE

Project No.	08197038
Date:	7/24/2019
Project Mngr:	ACC
Drawn By:	JAL
File Name:	08197038-T2.dwg
Layout Name:	1960S

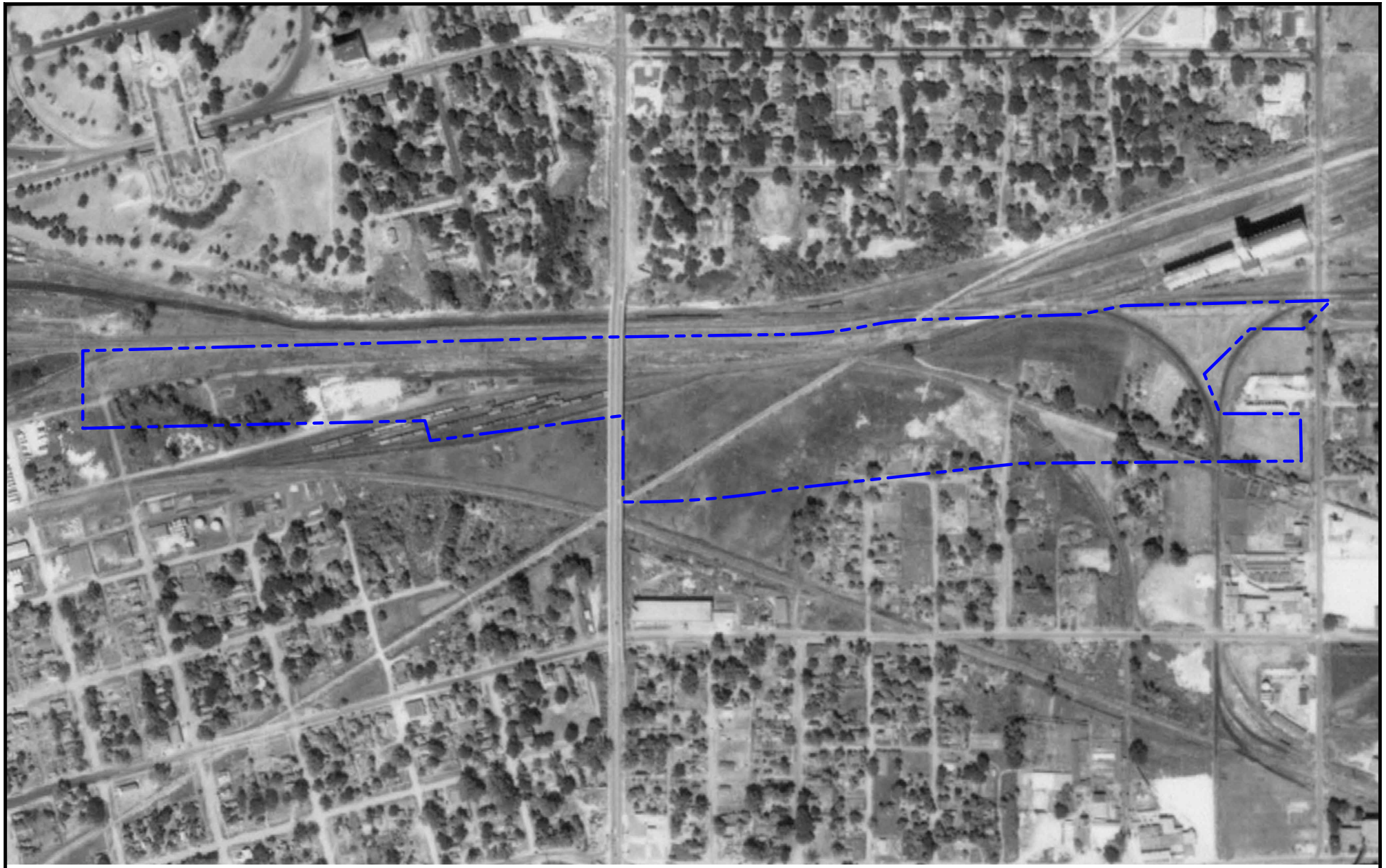
Terracon
Consulting Engineers and Scientists
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

1960s AERIAL PHOTO

WETLAND DELINEATION
DES MOINES INDUSTRIAL
200 SE 15TH STREET
DES MOINES, IOWA

EXHIBIT

-



AERIAL PHOTO FROM IOWA GEOGRAPHIC MAP SERVER MAINTAINED BY
IOWA STATE UNIVERSITY AND MIT - http://cairo.gis.iastate.edu/map.html

LEGEND

- BOUNDARY OF ASSESSED AREA

NORTH

0 500'

APPROXIMATE DRAWING SCALE

Project No.	Date:
08197038	7/24/2019
Project Mngr:	Drawn By:
ACC	JAL
File Name:	
08197038-T2.dwg	
Layout Name:	
1950S	

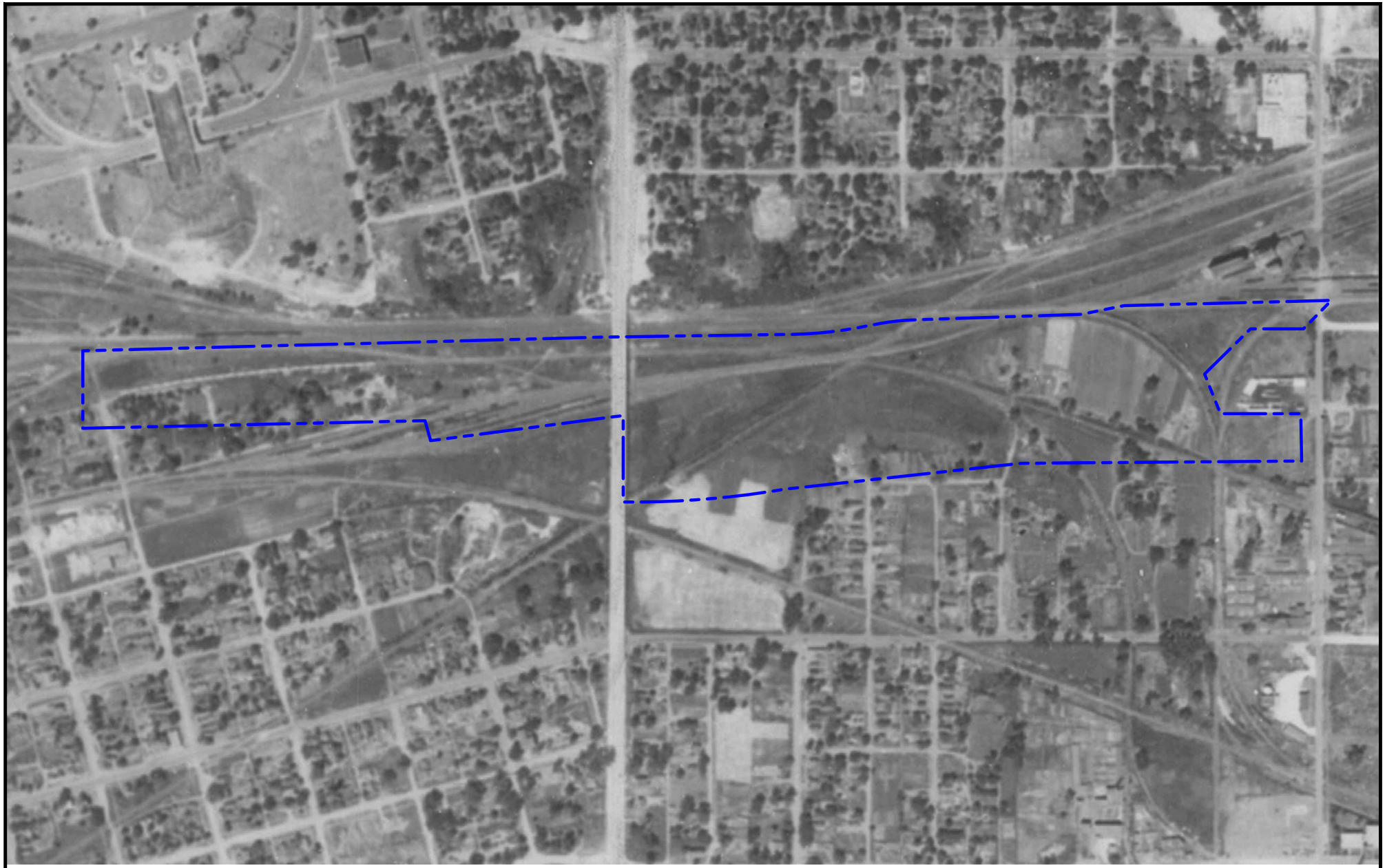
Terracon
Consulting Engineers and Scientists
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

1950s AERIAL PHOTO

WETLAND DELINEATION
DES MOINES INDUSTRIAL
200 SE 15TH STREET
DES MOINES, IOWA

EXHIBIT

-



AERIAL PHOTO FROM IOWA GEOGRAPHIC MAP SERVER MAINTAINED BY
IOWA STATE UNIVERSITY AND MIT - http://cairo.gis.iastate.edu/map.html

LEGEND

- BOUNDARY OF ASSESSED AREA

NORTH

0 500'

APPROXIMATE DRAWING SCALE

Project No.	08197038
Date:	7/24/2019
Project Mngr:	ACC
Drawn By:	JAL
File Name:	08197038-T2.dwg
Layout Name:	1930S

Terracon
Consulting Engineers and Scientists
600 SW 7TH STREET DES MOINES, IOWA 50309
PH. (515) 244-3184 FAX. (515) 244-5249

1930s AERIAL PHOTO

WETLAND DELINEATION
DES MOINES INDUSTRIAL
200 SE 15TH STREET
DES MOINES, IOWA

EXHIBIT

-

APPENDIX C
Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Des Moines Area Transloading Facility | City/County: Des Moines, Polk | Sampling Date: 7/23/19
Applicant/Owner: Des Moines Industrial | State: IA | Sampling Point: DP-1
Investigator(s): A. Corcoran/K. Johnson | Section, Township Range: Sec. 2, Twp. 78N, R 24W
Landform (hillslope, terrace, etc.): Stormwater basin | Local Relief (concave, convex, none): Concave
Slope (%): | Lat: 41°35'10.44'' | Long: 93°35'49.56'' | Datum: WL-1
Soil Map Unit Name: Urban Land | NWI Classification: Yes – PSS1Cx
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are vegetation N soil N or hydrology N significantly disturbed? Are "Normal Circumstances" present? Y X N
Are vegetation N soil N or hydrology N significantly problematic? (if needed, explain any answers in Remarks)

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

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?**	**Yes X** **No**
Hydric Soil Present?	Yes X	No		
Wetland Hydrology Present?	Yes X	No		

Remarks: Wetland Area 1 is located in a City stormwater retention basin. Wetland Area 1 does not appear to be associated with a WOUS.

VEGETATION – Use scientific names of plants.

Tree Stratum >3" DBH (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
20% Total Cover		= Total Cover	

Sapling/Shrub Stratum <3" DBH or > 1 m tall (Plot size: 15' radius)			
1			
2			
3			
4			
5			
20% Total Cover		= Total Cover	

Herb Stratum non-woody or woody < 1 m tall (Plot size: 5' radius)			
1 Scirpus atrovirens (Dark Green Bulrush)	40	Y	OBL
2 Carex vulpinoidea (Fox Sedge)	25	Y	FACW
3 Typha latifolia (Cattail)	15	N	OBL
4 Schoenoplectus tabernaemontani (Softstem Bulrush)	15	N	OBL
6			
7			
8			
9			
10			
11			
12			
50% Total Cover	20% Total Cover 19	95	= Total Cover

Woody Vine Stratum > 1 m tall (Plot size: 30' radius)			
1			
2			
1			
20% Total Cover		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (A):	2
Total Number of Dominant Species Across All Strata (B):	2
Percent of Dominant Species That are OBL, FACW, or FAC (A/B):	100

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1	
FACW species		X 2	
FAC species		X 3	
FACU species		X 4	
UPL species		X 5	
Totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- X 1-Rapid Test for Hydrophytic Veg
- 2-Dominance Test is > 50%
- 3-Prevalence Index is ≤3.0[1]
- 4-Morphological Adaptations (Provide supporting data in Remarks)
- Problematic Hydrophytic Vegetation [1] (Explain)

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

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

Remarks: Wetland vegetation was dominant and passes the FAC-Neutral test.

SOIL Sampling Point: DP-1

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

Depth	Matrix		Redox Features					Remarks
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	
0-3	10YR 2/1	100					Silty clay	
3-18	10YR 2/1		5Y 4/1	90	D	M	SA-Silty Clay	Depletion with redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 2 Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicator for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks: Soil displayed a depleted matrix.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery(B7)
- ___ Sparse Vegetated Concave Surface(B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction on Tilled Soil (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth: NA in

Water Table Present? Yes X No ___ Depth: 3 in

Saturation Present? (includes capillary fringe) Yes X No ___ Depth: 0 in

Wetland Hydrology Present **Yes** X **No** _____

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

Remarks: Wetland appears to be receiving hydrology from surface water runoff and City stormwater.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Des Moines Area Transloading Facility | City/County: Des Moines, Polk | Sampling Date: 7/23/19
Applicant/Owner: Des Moines Industrial | State: IA | Sampling Point: DP-2
Investigator(s): A. Corcoran/K. Johnson | Section, Township Range: Sec. 2, Twp. 78N, R 24W
Landform (hillslope, terrace, etc.): Basin slope | Local Relief (concave, convex, none): None
Slope (%): | Lat: 41°35'10.44'' | Long: 93°35'49.56'' | Datum: Upland
Soil Map Unit Name: Urban Land | NWI Classification: Not identified
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are vegetation N soil N or hydrology N significantly disturbed? Are "Normal Circumstances" present? Y X N
Are vegetation N soil N or hydrology N significantly problematic? (if needed, explain any answers in Remarks)

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

Hydrophytic Vegetation Present?	Yes		No	X
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

Is the Sampled Area within a Wetland? Yes No X

Remarks: Data point was taken on the basin slope.

VEGETATION – Use scientific names of plants.

Tree Stratum >3" DBH (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
20% Total Cover		= Total Cover	

Sapling/Shrub Stratum <3" DBH or > 1 m tall (Plot size: 15' radius)			
1			
2			
3			
4			
5			
20% Total Cover		= Total Cover	

Herb Stratum non-woody or woody < 1 m tall (Plot size: 5' radius)			
1 Lotus corniculatus (Birdsfoot Trefoil)	60	Y	FACU
2 Solidago canadensis (Canada Goldenrod)	10	N	FACU
3 Panicum virgatum (Indian Grass)	10	N	FAC
4 Phalaris arundinacea (Reed Canary Grass)	5	N	FACW
6 Erigeron annuus (Daisy Fleabane)	5	N	FACU
7			
8			
9			
10			
11			
12			
50% Total Cover	20% Total Cover 18	90	= Total Cover

Woody Vine Stratum > 1 m tall (Plot size: 30' radius)			
1			
2			
1			
20% Total Cover		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (A):	0
Total Number of Dominant Species Across All Strata (B):	1
Percent of Dominant Species That are OBL, FACW, or FAC (A/B):	0

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:
OBL species		X 1
FACW species		X 2
FAC species		X 3
FACU species		X 4
UPL species		X 5
Totals	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1-Rapid Test for Hydrophytic Veg
- ___ 2-Dominance Test is > 50%
- ___ 3-Prevalence Index is ≤3.0[1]
- ___ 4-Morphological Adaptations (Provide supporting data in Remarks)
- ___ Problematic Hydrophytic Vegetation [1] (Explain)

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

Hydrophytic Vegetation Present? Yes No X

Remarks: Wetland vegetation was not dominant.

SOIL

Sampling Point: DP-2

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

Depth (inches)	Matrix		Redox Features					Remarks
	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	
0-10	10YR 3/2	100					Lean clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 2 Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicator for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Rock?

Depth (inches): 10

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

Remarks: Hydric indicators were not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery(B7)
- ___ Sparse Vegetated Concave Surface(B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction on Tilled Soil (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth: ___ in

Water Table Present? Yes ___ No X Depth: ___ in

Saturation Present? (includes capillary fringe) Yes ___ No X Depth: ___ in

Wetland Hydrology Present **Yes** ___ **No** **X**

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

Remarks: Wetland hydrology was not observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Des Moines Area Transloading Facility | City/County: Des Moines, Polk | Sampling Date: 7/23/19
Applicant/Owner: Des Moines Industrial | State: IA | Sampling Point: DP-3
Investigator(s): A. Corcoran/K. Johnson | Section, Township Range: Sec. 2, Twp. 78N, R 24W
Landform (hillslope, terrace, etc.): Stormwater Basin | Local Relief (concave, convex, none): Concave
Slope (%): | Lat: 41°35'10.44'' | Long: 93°35'49.56'' | Datum: WL-2
Soil Map Unit Name: Urban Land | NWI Classification: Yes-PSS1Cx/PEM1Fx
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are vegetation N soil N or hydrology N significantly disturbed? Are "Normal Circumstances" present? Y X N
Are vegetation N soil N or hydrology N significantly problematic? (if needed, explain any answers in Remarks)

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

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?**	**Yes X** **No**
Hydric Soil Present?	Yes X	No		
Wetland Hydrology Present?	Yes X	No		

Remarks: Wetland Area 2 is located in a City stormwater retention basin. Wetland Area 2 does not appear to be associated with a WOUS.

VEGETATION – Use scientific names of plants.

Tree Stratum >3" DBH (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
20% Total Cover		= Total Cover	

Sapling/Shrub Stratum <3" DBH or > 1 m tall (Plot size: 15' radius)			
1			
2			
3			
4			
5			
20% Total Cover		= Total Cover	

Herb Stratum non-woody or woody < 1 m tall (Plot size: 5' radius)			
1 Schoenoplectus tabernaemontani (Softstem Bulrush)	40	Y	OBL
2 Scirpus atrovirens (Dark Green Bulrush)	35	Y	OBL
3 Cyperus esculentus (Yellow Nut Sedge)	10	N	FACW
4			
6			
7			
8			
9			
10			
11			
12			
50% Total Cover	20% Total Cover 17	85	= Total Cover

Woody Vine Stratum > 1 m tall (Plot size: 30' radius)			
1			
2			
1			
20% Total Cover		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (A):	2
Total Number of Dominant Species Across All Strata (B):	2
Percent of Dominant Species That are OBL, FACW, or FAC (A/B):	100

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1	
FACW species		X 2	
FAC species		X 3	
FACU species		X 4	
UPL species		X 5	
Totals	(A)	(B)	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- X 1-Rapid Test for Hydrophytic Veg
- 2-Dominance Test is > 50%
- 3-Prevalence Index is ≤3.0[1]
- 4-Morphological Adaptations (Provide supporting data in Remarks)
- Problematic Hydrophytic Vegetation [1] (Explain)

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

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

Remarks: Wetland vegetation was dominant and passes the FAC-Neutral test.

SOIL

Sampling Point: DP-3

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

Depth	Matrix		Redox Features					Remarks
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	
0-8	10YR 3/1	90	2.5YR 4/6	10	C	M	Lean clay	Redox and lots of organics
8-18			10YR 5/1	80	D	M	Lean Clay	Depletion with redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 2 Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicator for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks: Soil displayed redox dark surface and depleted matrix.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery(B7)
- ___ Sparse Vegetated Concave Surface(B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction on Tilled Soil (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth: _____ in

Water Table Present? Yes X No ___ Depth: 0 in

Saturation Present? (includes capillary fringe) Yes X No ___ Depth: 0 in

Wetland Hydrology Present **Yes** X **No** _____

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

Remarks: Wetland appears to be receiving hydrology from surface water runoff and City stormwater.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Des Moines Area Transloading Facility | City/County: Des Moines, Polk | Sampling Date: 7/23/19
Applicant/Owner: Des Moines Industrial | State: IA | Sampling Point: DP-4
Investigator(s): A. Corcoran/K. Johnson | Section, Township Range: Sec. 2, Twp. 78N, R 24W
Landform (hillslope, terrace, etc.): Basin Slope | Local Relief (concave, convex, none): None
Slope (%): | Lat: 41°35'10.44'' | Long: 93°35'49.56'' | Datum: Upland
Soil Map Unit Name: Urban Land | NWI Classification: Not identified
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are vegetation N soil N or hydrology N significantly disturbed? Are "Normal Circumstances" present? Y X N
Are vegetation N soil N or hydrology N significantly problematic? (if needed, explain any answers in Remarks)

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

Hydrophytic Vegetation Present?	Yes		No	X
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

Is the Sampled Area within a Wetland? Yes No X

Remarks: Data point was taken on the basin slope upland of WL-2.

VEGETATION – Use scientific names of plants.

Tree Stratum >3" DBH (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
20% Total Cover		= Total Cover	

Sapling/Shrub Stratum <3" DBH or > 1 m tall (Plot size: 15' radius)			
1			
2			
3			
4			
5			
20% Total Cover		= Total Cover	

Herb Stratum non-woody or woody < 1 m tall (Plot size: 5' radius)			
1 Lotus corniculatus (Birdsfoot Trefoil)	40	Y	FACU
2 Schedonorus arundinacea (Tall Fescue)	20	Y	FACU
3 Solidago canadensis (Canada Goldenrod)	10	N	FACU
4 Melilotus officinalis (Yellow Sweetclover)	10	N	FACU
6			
7			
8			
9			
10			
11			
12			
50% Total Cover	20% Total Cover 16	80	= Total Cover

Woody Vine Stratum > 1 m tall (Plot size: 30' radius)			
1			
2			
1			
20% Total Cover		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (A):	0
Total Number of Dominant Species Across All Strata (B):	2
Percent of Dominant Species That are OBL, FACW, or FAC (A/B):	0

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	X 1
FACW species	X 2
FAC species	X 3
FACU species	X 4
UPL species	X 5
Totals (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1-Rapid Test for Hydrophytic Veg
- ___ 2-Dominance Test is > 50%
- ___ 3-Prevalence Index is ≤3.0[1]
- ___ 4-Morphological Adaptations (Provide supporting data in Remarks)
- ___ Problematic Hydrophytic Vegetation [1] (Explain)

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

Hydrophytic Vegetation Present? Yes No X

Remarks: Wetland hydrology was not observed.

SOIL

Sampling Point: DP-4

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

Depth	Matrix		Redox Features					Remarks
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	
0-18	10YR 5/4	100					Lean clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 2 Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicator for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks: Hydric indicators were not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery(B7)
- ___ Sparse Vegetated Concave Surface(B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction on Tilled Soil (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth: _____ in

Water Table Present? Yes ___ No X Depth: _____ in

Saturation Present? (includes capillary fringe) Yes ___ No X Depth: _____ in

Wetland Hydrology Present **Yes** _____ **No** X

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

Remarks: Wetland hydrology was not observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Des Moines Area Transloading Facility | City/County: Des Moines, Polk | Sampling Date: 7/23/19
Applicant/Owner: Des Moines Industrial | State: IA | Sampling Point: DP-5
Investigator(s): A. Corcoran/K. Johnson | Section, Township Range: Sec. 2, Twp. 78N, R 24W
Landform (hillslope, terrace, etc.): Grassland | Local Relief (concave, convex, none): Slightly Concave
Slope (%): | Lat: 41°35'10.44'' | Long: 93°35'49.56'' | Datum: WL-3
Soil Map Unit Name: Urban land | NWI Classification: Not identified
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are vegetation N soil N or hydrology N significantly disturbed? Are "Normal Circumstances" present? Y X N
Are vegetation N soil N or hydrology N significantly problematic? (if needed, explain any answers in Remarks)

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

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes	X	No	
Wetland Hydrology Present?	Yes	X	No	

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks: Wetland Area 3 is located in a somewhat poorly drained area within the former railyard. The subsurface appeared to be fill. The northeast portion of the wetland appears to be a stormwater drainage ditch for the adjacent north railroad. The ditch cuts down through the east-central portion of the wetland and runs to the City stormwater retention basin. Data point was taken on the eastern portion of the wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum >3" DBH (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
20% Total Cover		= Total Cover	

Sapling/Shrub Stratum <3" DBH or > 1 m tall (Plot size: 15' radius)			
1			
2			
3			
4			
5			
20% Total Cover		= Total Cover	

Herb Stratum non-woody or woody < 1 m tall (Plot size: 5' radius)			
1 Phalaris arundinacea (Reed Canary Grass)	80	Y	FACW
2 Scirpus atrovirens (Dark Green Bulrush)	20	Y	OBL
3			
4			
6			
7			
8			
9			
10			
50% Total Cover	20% Total Cover 20	100	= Total Cover

Woody Vine Stratum > 1 m tall (Plot size: 30' radius)			
1			
2			
1			
20% Total Cover		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (A):	2
Total Number of Dominant Species Across All Strata (B):	2
Percent of Dominant Species That are OBL, FACW, or FAC (A/B):	100

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1	
FACW species		X 2	
FAC species		X 3	
FACU species		X 4	
UPL species		X 5	
Totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- X 1-Rapid Test for Hydrophytic Veg
- 2-Dominance Test is > 50%
- 3-Prevalence Index is ≤3.0[1]
- 4-Morphological Adaptations (Provide supporting data in Remarks)
- Problematic Hydrophytic Vegetation [1] (Explain)

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

Remarks: Wetland vegetation was dominant and passes the FAC-Neutral est.

SOIL

Sampling Point: DP-5

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/1	90	2.5YR 4/6	10	C	M	Sandy clay	Redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 2 Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicator for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Sand?

Depth (inches): 8

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

Remarks: Soil displayed redox dark surface.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery(B7)
- ___ Sparse Vegetated Concave Surface(B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction on Tilled Soil (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth: ___ in

Water Table Present? Yes X No ___ Depth: 2 in

Saturation Present? (includes capillary fringe) Yes X No ___ Depth: 0 in

Wetland Hydrology Present **Yes** X **No** ___

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

Remarks: Wetland appears to be receiving hydrology from surface water runoff and the railroad ditch.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Des Moines Area Transloading Facility | City/County: Des Moines, Polk | Sampling Date: 7/23/19
Applicant/Owner: Des Moines Industrial | State: IA | Sampling Point: DP-6
Investigator(s): A. Corcoran/K. Johnson | Section, Township Range: Sec. 2, Twp. 78N, R 24W
Landform (hillslope, terrace, etc.): Grassland | Local Relief (concave, convex, none): Slightly Concave
Slope (%): | Lat: 41°35'10.44'' | Long: 93°35'49.56'' | Datum: WL-3
Soil Map Unit Name: Urban Land | NWI Classification: Not identified
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are vegetation N soil N or hydrology N significantly disturbed? Are "Normal Circumstances" present? Y X N
Are vegetation N soil N or hydrology N significantly problematic? (if needed, explain any answers in Remarks)

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

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes	X	No	
Wetland Hydrology Present?	Yes	X	No	

Is the Sampled Area within a Wetland? Yes X No

Remarks: Data point was taken on the western portion of WL-3.

VEGETATION – Use scientific names of plants.

Tree Stratum >3" DBH (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
20% Total Cover		= Total Cover	

Sapling/Shrub Stratum <3" DBH or > 1 m tall (Plot size: 15' radius)			
1			
2			
3			
4			
5			
20% Total Cover		= Total Cover	

Herb Stratum non-woody or woody < 1 m tall (Plot size: 5' radius)			
1 Phalaris arundinacea (Reed Canary Grass)	100	Y	FACW
2			
3			
4			
6			
7			
8			
9			
10			
11			
12			
50% Total Cover	20% Total Cover 20	100	= Total Cover

Woody Vine Stratum > 1 m tall (Plot size: 30' radius)			
1			
2			
1			
20% Total Cover		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (A):	1
Total Number of Dominant Species Across All Strata (B):	1
Percent of Dominant Species That are OBL, FACW, or FAC (A/B):	100

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:
OBL species		X 1
FACW species		X 2
FAC species		X 3
FACU species		X 4
UPL species		X 5
Totals	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- X 1-Rapid Test for Hydrophytic Veg
- 2-Dominance Test is > 50%
- 3-Prevalence Index is ≤3.0[1]
- 4-Morphological Adaptations (Provide supporting data in Remarks)
- Problematic Hydrophytic Vegetation [1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No

Remarks: Wetland vegetation was dominant and passes the FAC-Neutral test.

SOIL

Sampling Point: DP-6

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

Depth (inches)	Matrix		Redox Features					Remarks
	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	
0-10	10YR 2/1	90-95	2.5YR 4/6	5-10	C	M	Sand Clay	Redox-Material appeared to be fill
10-18	10YR 3/3	Material was fill and had light brown, white mottles with coal inclusions as well						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 2 Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicator for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks: Soil displayed Redox Dark Surface.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery(B7)
- ___ Sparse Vegetated Concave Surface(B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction on Tilled Soil (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth: _____ in

Water Table Present? Yes ___ No X Depth: _____ in

Saturation Present? (includes capillary fringe) Yes ___ No X Depth: _____ in

Wetland Hydrology Present **Yes** X **No** _____

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

Remarks: Wetland appears to be receiving hydrology from surface water runoff.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Des Moines Area Transloading Facility | City/County: Des Moines, Polk | Sampling Date: 7/23/19
Applicant/Owner: Des Moines Industrial | State: IA | Sampling Point: DP-7
Investigator(s): A. Corcoran/K. Johnson | Section, Township Range: Sec. 2, Twp. 78N, R 24W
Landform (hillslope, terrace, etc.): Grassland | Local Relief (concave, convex, none): None
Slope (%): | Lat: 41°35'10.44'' | Long: 93°35'49.56'' | Datum: Upland
Soil Map Unit Name: Urban Land | NWI Classification: NA
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are vegetation N soil N or hydrology N significantly disturbed? Are "Normal Circumstances" present? Y X N
Are vegetation N soil N or hydrology N significantly problematic? (if needed, explain any answers in Remarks)

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

Hydrophytic Vegetation Present?	Yes		No	X
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks: Data point was taken in a better drained area southwest of WL-3.

VEGETATION – Use scientific names of plants.

Tree Stratum >3" DBH (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
20% Total Cover ____		= Total Cover	

Sapling/Shrub Stratum <3" DBH or > 1 m tall (Plot size: 15' radius)			
1			
2			
3			
4			
5			
20% Total Cover ____		= Total Cover	

Herb Stratum non-woody or woody < 1 m tall (Plot size: 5' radius)			
1 Solidago canadensis (Canada Goldenrod)	25	Y	FACU
2 Daucus carota (Queen Anne's Lace)	15	Y	FACU
3 Melilotus officinalis (Yellow Sweet Clover)	15	Y	FACU
4 Unidentified Grass Species	10	N	Unknown
6 Plantago rugelii (Buckhorn Plantain)	10	N	FAC
7 Carex species (Sedge Species)	5	N	FACW
8 Solanun carolinense (Ground Cherry)	5	N	FACU
9			
10			
11			
12			
50% Total Cover 42.5 20% Total Cover 17	85	= Total Cover	

Woody Vine Stratum > 1 m tall (Plot size: 30' radius)			
1			
2			
1			
20% Total Cover ____		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (A):	0
Total Number of Dominant Species Across All Strata (B):	3
Percent of Dominant Species That are OBL, FACW, or FAC (A/B):	0

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1	
FACW species		X 2	
FAC species		X 3	
FACU species		X 4	
UPL species		X 5	
Totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1-Rapid Test for Hydrophytic Veg
- ____ 2-Dominance Test is > 50%
- ____ 3-Prevalence Index is ≤3.0[1]
- ____ 4-Morphological Adaptations (Provide supporting data in Remarks)
- ____ Problematic Hydrophytic Vegetation [1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: Wetland vegetation was not dominant.

SOIL

Sampling Point: DP-7

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

Depth	Matrix		Redox Features					Remarks
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	
0-18	10YR 3/2						Sandy Clay	Trace gravel and coal

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 2 Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicator for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks: Hydric indicators were not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery(B7)
- ___ Sparse Vegetated Concave Surface(B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction on Tilled Soil (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth: _____ in

Water Table Present? Yes ___ No X Depth: _____ in

Saturation Present? (includes capillary fringe) Yes ___ No X Depth: _____ in

Wetland Hydrology Present **Yes** _____ **No** **X**

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

Remarks: Wetland hydrology was not observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Des Moines Area Transloading Facility | City/County: Des Moines, Polk | Sampling Date: 7/23/19
Applicant/Owner: Des Moines Industrial | State: IA | Sampling Point: DP-8
Investigator(s): A. Corcoran/K. Johnson | Section, Township Range: Sec. 2, Twp. 78N, R 24W
Landform (hillslope, terrace, etc.): Grassland | Local Relief (concave, convex, none): None
Slope (%): | Lat: 41°35'10.44'' | Long: 93°35'49.56'' | Datum: Upland
Soil Map Unit Name: Urban Land | NWI Classification: Not identified
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are vegetation N soil N or hydrology N significantly disturbed? Are "Normal Circumstances" present? Y X N
Are vegetation N soil N or hydrology N significantly problematic? (if needed, explain any answers in Remarks)

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

Hydrophytic Vegetation Present?	Yes		No	X
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks: Data point was taken in a better drained area south of the eastern portion of WL-3.

VEGETATION – Use scientific names of plants.

Tree Stratum >3" DBH (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
20% Total Cover ____		= Total Cover	

Sapling/Shrub Stratum <3" DBH or > 1 m tall (Plot size: 15' radius)			
1			
2			
3			
4			
5			
20% Total Cover ____		= Total Cover	

Herb Stratum non-woody or woody < 1 m tall (Plot size: 5' radius)			
1 Schedonous arundiancea (Tall Tescue)	20	Y	FACU
2 Phalaris arundinacea (Reed Canary Grass)	20	Y	FACW
3 Ambrosia artemisifolia (Annual Ragweed)	15	Y	FACU
4 Bromus inermis (Smooth Brome)	10	N	FACU
6 Solidago canadensis (Canada Goldenrod)	10	N	FACU
7 Asclepias syriaca (Common Milkweed)	10	N	FACU
8 Toxicodendron radicans (Poison Ivy)	5	N	FAC
9 Cichorium intybus (Chickory)	5	N	FACU
10			
11			
12			
50% Total Cover 47.5 20% Total Cover 19	95	= Total Cover	

Woody Vine Stratum > 1 m tall (Plot size: 30' radius)			
1			
2			
1			
20% Total Cover ____		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (A):	1
Total Number of Dominant Species Across All Strata (B):	3
Percent of Dominant Species That are OBL, FACW, or FAC (A/B):	33

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:
OBL species		X 1
FACW species		X 2
FAC species		X 3
FACU species		X 4
UPL species		X 5
Totals	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1-Rapid Test for Hydrophytic Veg
- ____ 2-Dominance Test is > 50%
- ____ 3-Prevalence Index is ≤3.0[1]
- ____ 4-Morphological Adaptations (Provide supporting data in Remarks)
- ____ Problematic Hydrophytic Vegetation [1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: Wetland vegetation was not dominant.

SOIL Sampling Point: DP-8

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

Depth	Matrix		Redox Features					Remarks
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	
0-18	10YR 3/2	100					Sandy clay	Fill-trace gravel, brick, coal

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 2 Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicator for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): NA

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

Remarks: Hydric indicators were not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery(B7)
- ___ Sparse Vegetated Concave Surface(B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction on Tilled Soil (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth: _____ in

Water Table Present? Yes ___ No X Depth: _____ in

Saturation Present? (includes capillary fringe) Yes ___ No X Depth: _____ in

Wetland Hydrology Present **Yes** _____ **No** **X**

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

Remarks: Wetland hydrology was not observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Des Moines Area Transloading Facility | City/County: Des Moines, Polk | Sampling Date: 7/23/19
Applicant/Owner: Des Moines Industrial | State: IA | Sampling Point: DP-9
Investigator(s): A. Corcoran/K. Johnson | Section, Township Range: Sec. 2, Twp. 78N, R 24W
Landform (hillslope, terrace, etc.): Stormwater basin | Local Relief (concave, convex, none): Concave
Slope (%): | Lat: 41°35'10.44'' | Long: 93°35'49.56'' | Datum: WL-4
Soil Map Unit Name: Urban Land | NWI Classification: Not identified
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are vegetation N soil N or hydrology N significantly disturbed? Are "Normal Circumstances" present? Y X N
Are vegetation N soil N or hydrology N significantly problematic? (if needed, explain any answers in Remarks)

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

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?**	**Yes X** **No**
Hydric Soil Present?	Yes X	No		
Wetland Hydrology Present?	Yes X	No		

Remarks: Wetland Area 4 is located in a City stormwater retention basin. Wetland Area 4 does into appear to be associated with a WOUS.

VEGETATION – Use scientific names of plants.

Tree Stratum >3" DBH (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
20% Total Cover		= Total Cover	

Sapling/Shrub Stratum <3" DBH or > 1 m tall (Plot size: 15' radius)			
1 Salix exigua (Sandbar Willow)	5	Y	OBL
2			
3			
4			
5			
20% Total Cover 1	5	= Total Cover	

Herb Stratum non-woody or woody < 1 m tall (Plot size: 5' radius)			
1 Typha latifolia (Cattail)	35	Y	OBL
2 Schoenoplectus tabernaemontani (Softstem Bulrush)	25	Y	OBL
3 Polygonum pennsylvanica (Pinkweed)	10	N	FACW
4			
6			
7			
8			
9			
10			
11			
12			
50% Total Cover	20% Total Cover 14	70	= Total Cover

Woody Vine Stratum > 1 m tall (Plot size: 30' radius)			
1			
2			
1			
20% Total Cover		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (A):	3
Total Number of Dominant Species Across All Strata (B):	3
Percent of Dominant Species That are OBL, FACW, or FAC (A/B):	100

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1	
FACW species		X 2	
FAC species		X 3	
FACU species		X 4	
UPL species		X 5	
Totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- X 1-Rapid Test for Hydrophytic Veg
- 2-Dominance Test is > 50%
- 3-Prevalence Index is ≤3.0[1]
- 4-Morphological Adaptations (Provide supporting data in Remarks)
- Problematic Hydrophytic Vegetation [1] (Explain)

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

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

Remarks: Wetland vegetation was dominant and passes the FAC-Neutral test.

SOIL

Sampling Point: DP-9

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

Depth	Matrix		Redox Features					Remarks
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	
0-4	10YR 2/1	95					Muck	Muck with some redox
4-8							Sand	Fine to medium
8-18			10YR 5/1	85	D	M	Silty clay	Depletion with redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 2 Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicator for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks: Soil displayed a muck surface and depleted matrix.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery(B7)
- ___ Sparse Vegetated Concave Surface(B8)
- ___ Water-Stained Leaves (B9)
- X Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction on Tilled Soil (C6)
- X Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth: _____ in

Water Table Present? Yes X No ___ Depth: 0 in

Saturation Present? (includes capillary fringe) Yes X No ___ Depth: 0 in

Wetland Hydrology Present **Yes** X **No** _____

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

Remarks: Wetland appears to be receiving hydrology from surface water runoff and City stormwater.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Des Moines Area Transloading Facility | City/County: Des Moines, Polk | Sampling Date: 7/23/19
Applicant/Owner: Des Moines Industrial | State: IA | Sampling Point: DP-10
Investigator(s): A. Corcoran/K. Johnson | Section, Township Range: Sec. 2, Twp. 78N, R 24W
Landform (hillslope, terrace, etc.): Basin Slope | Local Relief (concave, convex, none): None
Slope (%): | Lat: 41°35'10.44'' | Long: 93°35'49.56'' | Datum: upland
Soil Map Unit Name: Urban Land | NWI Classification: Not identified
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are vegetation N soil N or hydrology N significantly disturbed? Are "Normal Circumstances" present? Y X N
Are vegetation N soil N or hydrology N significantly problematic? (if needed, explain any answers in Remarks)

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

Hydrophytic Vegetation Present?	Yes		No	X
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks: Data point was taken on the basin slope upland from WL-4.

VEGETATION – Use scientific names of plants.

Tree Stratum >3" DBH (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
20% Total Cover ____		= Total Cover	

Sapling/Shrub Stratum <3" DBH or > 1 m tall (Plot size: 15' radius)			
1			
2			
3			
4			
5			
20% Total Cover ____		= Total Cover	

Herb Stratum non-woody or woody < 1 m tall (Plot size: 5' radius)			
1 Lotus corniculatus (Birdsfoot Trefoil)	30	Y	FACU
2 Schedonorus arundinaceus (Tall Fescue)	25	Y	FACU
3 Bromus inermis (Smooth Brome)	20	Y	FACU
4 Solidago canadensis (Canada Goldenrod)	10	N	FACU
6			
7			
8			
9			
10			
11			
12			
50% Total Cover ____ 20% Total Cover 17	85	= Total Cover	

Woody Vine Stratum > 1 m tall (Plot size: 30' radius)			
1			
2			
1			
20% Total Cover ____		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (A):	0
Total Number of Dominant Species Across All Strata (B):	3
Percent of Dominant Species That are OBL, FACW, or FAC (A/B):	0

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1	
FACW species		X 2	
FAC species		X 3	
FACU species		X 4	
UPL species		X 5	
Totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1-Rapid Test for Hydrophytic Veg
- ____ 2-Dominance Test is > 50%
- ____ 3-Prevalence Index is ≤3.0[1]
- ____ 4-Morphological Adaptations (Provide supporting data in Remarks)
- ____ Problematic Hydrophytic Vegetation [1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: Wetland vegetation was not dominant.

SOIL

Sampling Point: DP-10

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

Depth (inches)	Matrix		Redox Features					Remarks
	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	
0-4	10YR 3/2						Sandy lean clay	
4-18							Sandy Fill	Trace gravel, brick, coal

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 2 Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicator for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks: Hydric indicators were not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery(B7)
- ___ Sparse Vegetated Concave Surface(B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction on Tilled Soil (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth: _____ in

Water Table Present? Yes ___ No X Depth: _____ in

Saturation Present? (includes capillary fringe) Yes ___ No X Depth: _____ in

Wetland Hydrology Present **Yes** _____ **No** **X**

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

Remarks: Wetland hydrology was not observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Des Moines Area Transloading Facility | City/County: Des Moines, Polk | Sampling Date: 7/23/19
Applicant/Owner: Des Moines Industrial | State: IA | Sampling Point: DP-11
Investigator(s): A. Corcoran/K. Johnson | Section, Township Range: Sec. 2, Twp. 78N, R 24W
Landform (hillslope, terrace, etc.): Stormwater basin | Local Relief (concave, convex, none): Concave
Slope (%): | Lat: 41°35'10.44'' | Long: 93°35'49.56'' | Datum: WL-5
Soil Map Unit Name: Urban Land | NWI Classification: Not identified
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are vegetation N soil N or hydrology N significantly disturbed? Are "Normal Circumstances" present? Y X N
Are vegetation N soil N or hydrology N significantly problematic? (if needed, explain any answers in Remarks)

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

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes	X	No	
Wetland Hydrology Present?	Yes	X	No	

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks: Wetland Area 5 is located in a City stormwater retention basin. Wetland Area 5 does not appear to be associated with a WOUS. Data point was taken on the northeast portion of the wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum >3" DBH (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
20% Total Cover		= Total Cover	

Sapling/Shrub Stratum <3" DBH or > 1 m tall (Plot size: 15' radius)			
1			
2			
3			
4			
5			
20% Total Cover		= Total Cover	

Herb Stratum non-woody or woody < 1 m tall (Plot size: 5' radius)			
1 Phalaris arundinacea (Reed Canary Grass)	75	Y	FACW
2			
3			
4			
6			
7			
8			
9			
10			
11			
12			
50% Total Cover	20% Total Cover 15	75	= Total Cover

Woody Vine Stratum > 1 m tall (Plot size: 30' radius)			
1			
2			
1			
20% Total Cover		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (A):	1
Total Number of Dominant Species Across All Strata (B):	1
Percent of Dominant Species That are OBL, FACW, or FAC (A/B):	100

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		X 1	
FACW species		X 2	
FAC species		X 3	
FACU species		X 4	
UPL species		X 5	
Totals	(A)	(B)	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- X 1-Rapid Test for Hydrophytic Veg
- ___ 2-Dominance Test is > 50%
- ___ 3-Prevalence Index is ≤3.0[1]
- ___ 4-Morphological Adaptations (Provide supporting data in Remarks)
- ___ Problematic Hydrophytic Vegetation [1] (Explain)

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

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

Remarks: Wetland vegetation was dominant and passes the FAC-Neural test.

SOIL

Sampling Point: DP-11

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

Depth	Matrix		Redox Features					Remarks
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	
0-4	10YR 3/1	90	2.5YR 4/6	10	C	M	Lean clay	Redox
4-12			10YR 4/1	85	D	M	Lean clay	Depletion with redox
12-18			10YR 4/1	75	D	M	Lean clay	Depletion with redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 2 Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicator for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks: Soil displayed redox dark surface and depleted matrix.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery(B7)
- ___ Sparse Vegetated Concave Surface(B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction on Tilled Soil (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth: _____ in

Water Table Present? Yes ___ No X Depth: _____ in

Saturation Present? (includes capillary fringe) Yes ___ No X Depth: _____ in

Wetland Hydrology Present **Yes** **X** **No** _____

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

Remarks: Wetland appears to be receiving hydrology from surface water runoff, City stormwater, and the railroad ditch.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Des Moines Area Transloading Facility | City/County: Des Moines, Polk | Sampling Date: 7/23/19
Applicant/Owner: Des Moines Industrial | State: IA | Sampling Point: DP-12
Investigator(s): A. Corcoran/K. Johnson | Section, Township Range: Sec. 2, Twp. 78N, R 24W
Landform (hillslope, terrace, etc.): Slope | Local Relief (concave, convex, none): Upland
Slope (%): | Lat: 41°35'10.44'' | Long: 93°35'49.56'' | Datum: Upland
Soil Map Unit Name: Urban land | NWI Classification: Not identified
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are vegetation N soil N or hydrology N significantly disturbed? Are "Normal Circumstances" present? Y X N
Are vegetation N soil N or hydrology N significantly problematic? (if needed, explain any answers in Remarks)

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

Hydrophytic Vegetation Present?	Yes		No	X
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks: Data point was taken on the basin slope upland to the northwest of DP-11 in WL-5.

VEGETATION – Use scientific names of plants.

Tree Stratum >3" DBH (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
20% Total Cover ____		= Total Cover	

Sapling/Shrub Stratum <3" DBH or > 1 m tall (Plot size: 15' radius)			
1			
2			
3			
4			
5			
20% Total Cover ____		= Total Cover	

Herb Stratum non-woody or woody < 1 m tall (Plot size: 5' radius)			
1 Bromus inermis (Smooth Brome)	10	Y	FACU
2 Solidago canadensis (Canada Goldenrod)	10	Y	FACU
3 Lotus corniculatus (Birdsfoot Trefoil)	10	Y	FACU
4 Cirsium arvense (Canada Thistle)	5	N	FACU
6 Asclepias syriaca (Common Milkweed)	5	N	FACU
7 Ambrosia artemisiifolia (Annual Ragweed)	5	N	FACU
8			
9			
10			
11			
12			
50% Total Cover ____ 20% Total Cover 9	45	= Total Cover	

Woody Vine Stratum > 1 m tall (Plot size: 30' radius)			
1			
2			
1			
20% Total Cover ____		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (A):	0
Total Number of Dominant Species Across All Strata (B):	3
Percent of Dominant Species That are OBL, FACW, or FAC (A/B):	0

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:
OBL species		X 1
FACW species		X 2
FAC species		X 3
FACU species		X 4
UPL species		X 5
Totals	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ 1-Rapid Test for Hydrophytic Veg
- ____ 2-Dominance Test is > 50%
- ____ 3-Prevalence Index is ≤3.0[1]
- ____ 4-Morphological Adaptations (Provide supporting data in Remarks)
- ____ Problematic Hydrophytic Vegetation [1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: Wetland vegetation was not dominant.

SOIL Sampling Point: DP-12

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

Depth	Matrix		Redox Features					Remarks
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	
0-6	10YR 3/1	100					Lean Clay	Trace sand, gravel, - Fill
6-8	10YR 2/1	100					Lean Clay	Trace sand, gravel, - Fill
8-18	10YR 5/6/ 2.5Y 5/1	50/5 0					Lean Clay	Trace sand, gravel, - Fill

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 2 Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicator for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks: Hydric indicators were not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery(B7)
- ___ Sparse Vegetated Concave Surface(B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction on Tilled Soil (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth: _____ in

Water Table Present? Yes ___ No X Depth: _____ in

Saturation Present? (includes capillary fringe) Yes ___ No X Depth: _____ in

Wetland Hydrology Present **Yes** _____ **No** **X**

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

Remarks: Wetland hydrology was not observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Des Moines Area Transloading Facility | City/County: Des Moines, Polk | Sampling Date: 7/23/19
Applicant/Owner: Des Moines Industrial | State: IA | Sampling Point: DP-13
Investigator(s): A. Corcoran/K. Johnson | Section, Township Range: Sec. 2, Twp. 78N, R 24W
Landform (hillslope, terrace, etc.): Stormwater basin | Local Relief (concave, convex, none): Concave
Slope (%): | Lat: 41°35'10.44'' | Long: 93°35'49.56'' | Datum: WL-5
Soil Map Unit Name: Urban Land | NWI Classification: Not identified
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are vegetation N soil N or hydrology N significantly disturbed? Are "Normal Circumstances" present? Y X N
Are vegetation N soil N or hydrology N significantly problematic? (if needed, explain any answers in Remarks)

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

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes	X	No	
Wetland Hydrology Present?	Yes	X	No	

Is the Sampled Area within a Wetland? **Yes X** **No**

Remarks: Data point was taken on the southeast portion of the wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum >3" DBH (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
20% Total Cover		= Total Cover	

Sapling/Shrub Stratum <3" DBH or > 1 m tall (Plot size: 15' radius)			
1			
2			
3			
4			
5			
20% Total Cover		= Total Cover	

Herb Stratum non-woody or woody < 1 m tall (Plot size: 5' radius)			
1 Phalaris arundinacea (Reed Canary Grass)	25	Y	FACW
2 Polygonum pensylvanica (Pinkweed)	10	Y	FACW
3 Lotus corniculatus (Birdsfoot Trefoil)	10	Y	FACU
4 Polygonum hydropiper (Milk Water Pepper)	5	N	FACW
6			
7			
8			
9			
10			
11			
12			
50% Total Cover	20% Total Cover 10	50	= Total Cover

Woody Vine Stratum > 1 m tall (Plot size: 30' radius)			
1			
2			
1			
20% Total Cover		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (A):	2
Total Number of Dominant Species Across All Strata (B):	3
Percent of Dominant Species That are OBL, FACW, or FAC (A/B):	66

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	X 1
FACW species	X 2
FAC species	X 3
FACU species	X 4
UPL species	X 5
Totals (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1-Rapid Test for Hydrophytic Veg
- X 2-Dominance Test is > 50%
- ___ 3-Prevalence Index is ≤3.0[1]
- ___ 4-Morphological Adaptations (Provide supporting data in Remarks)
- ___ Problematic Hydrophytic Vegetation [1] (Explain)

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

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

Remarks: Wetland vegetation was dominant and passes the FAC-Neutral test.

SOIL

Sampling Point: DP-13

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

Depth	Matrix		Redox Features					Remarks
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	
0-3			5Y 5/1	95	D	M	Sandy lean clay	Depletion with redox
3-5	10YR 2/1	95	2.5YR 4/6	5	C	M	Sandy lean clay	Redox
5-8	10YR 5/3	100					Clayey Sand	
8-18	10YR 2/1	90	2.5YR 4/6	10	C	M	Sandy lean clay	Redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 2 Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicator for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks: Soil displayed depletion and redox dark surface.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery(B7)
- ___ Sparse Vegetated Concave Surface(B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction on Tilled Soil (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth: _____ in

Water Table Present? Yes ___ No X Depth: _____ in

Saturation Present? (includes capillary fringe) Yes ___ No X Depth: _____ in

Wetland Hydrology Present **Yes** X **No** _____

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

Remarks: Wetland appears to be receiving hydrology from surface water runoff, City stormwater, and the railroad ditch.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Des Moines Area Transloading Facility | City/County: Des Moines, Polk | Sampling Date: 7/23/19
Applicant/Owner: Des Moines Industrial | State: IA | Sampling Point: DP-14
Investigator(s): A. Corcoran/K. Johnson | Section, Township Range: Sec. 2, Twp. 78N, R 24W
Landform (hillslope, terrace, etc.): Lowland area | Local Relief (concave, convex, none): None
Slope (%): | Lat: 41°35'10.44'' | Long: 93°35'49.56'' | Datum: Upland
Soil Map Unit Name: Nodaway silt loam | NWI Classification: Not identified
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are vegetation N soil N or hydrology N significantly disturbed? Are "Normal Circumstances" present? Y X N
Are vegetation N soil N or hydrology N significantly problematic? (if needed, explain any answers in Remarks)

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

Hydrophytic Vegetation Present?	Yes		No	X
Hydric Soil Present?	Yes	X	No	
Wetland Hydrology Present?	Yes		No	X

Is the Sampled Area within a Wetland? Yes No X

Remarks: Data point was taken in a basin like area on the western portion of the site.

VEGETATION – Use scientific names of plants.

Tree Stratum >3" DBH (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
20% Total Cover		= Total Cover	

Sapling/Shrub Stratum <3" DBH or > 1 m tall (Plot size: 15' radius)			
1			
2			
3			
4			
5			
20% Total Cover		= Total Cover	

Herb Stratum non-woody or woody < 1 m tall (Plot size: 5' radius)			
1 Trifolium pretense (Red Clover)	20	Y	FACU
2 Dactylis glomerate (Orchard Grass)	20	Y	FACU
3 Bromus inermis (Smooth Brome)	15	Y	FACU
4 Cichorium intybus (Chickory)	15	Y	FACU
6 Plantago rugelii (Blackseed Plantain)	15	Y	FAC
7 Taraxacum officinale (Dandelion)	5	N	FACU
8			
9			
10			
11			
12			
50% Total Cover 45 20% Total Cover 18	90	= Total Cover	

Woody Vine Stratum > 1 m tall (Plot size: 30' radius)			
1			
2			
1			
20% Total Cover		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (A):	1
Total Number of Dominant Species Across All Strata (B):	5
Percent of Dominant Species That are OBL, FACW, or FAC (A/B):	20

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:
OBL species		X 1
FACW species		X 2
FAC species		X 3
FACU species		X 4
UPL species		X 5
Totals	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1-Rapid Test for Hydrophytic Veg
- ___ 2-Dominance Test is > 50%
- ___ 3-Prevalence Index is ≤3.0[1]
- ___ 4-Morphological Adaptations (Provide supporting data in Remarks)
- ___ Problematic Hydrophytic Vegetation [1] (Explain)

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

Hydrophytic Vegetation Present? Yes No X

Remarks: Wetland vegetation was not dominant.

SOIL

Sampling Point: DP-14

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

Depth (inches)	Matrix		Redox Features					Remarks
	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	
0-18			10YR 4/1	95	D	M	Sandy lean clay	Depletion with redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 2 Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicator for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks: Soil displayed Depleted Matrix.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery(B7)
- ___ Sparse Vegetated Concave Surface(B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction on Tilled Soil (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth: _____ in

Water Table Present? Yes ___ No X Depth: _____ in

Saturation Present? (includes capillary fringe) Yes ___ No X Depth: _____ in

Wetland Hydrology Present **Yes** _____ **No** **X**

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

Remarks: Wetland hydrology was not observed. The area appeared to be designed to drain to the west where a stormwater culvert was observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Des Moines Area Transloading Facility | City/County: Des Moines, Polk | Sampling Date: 7/23/19
Applicant/Owner: Des Moines Industrial | State: IA | Sampling Point: DP-15
Investigator(s): A. Corcoran/K. Johnson | Section, Township Range: Sec. 2, Twp. 78N, R 24W
Landform (hillslope, terrace, etc.): Woodland | Local Relief (concave, convex, none): None
Slope (%): | Lat: 41°35'10.44'' | Long: 93°35'49.56'' | Datum: Upland
Soil Map Unit Name: Urban land | NWI Classification: Not identified
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are vegetation N soil N or hydrology N significantly disturbed? Are "Normal Circumstances" present? Y X N
Are vegetation N soil N or hydrology N significantly problematic? (if needed, explain any answers in Remarks)

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

Hydrophytic Vegetation Present?	Yes		No	X	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes		No	X	
Wetland Hydrology Present?	Yes		No	X	

Remarks: Data point was taken in a wooded area just south of the railroad on the western portion of the site.

VEGETATION – Use scientific names of plants.

Tree Stratum >3" DBH (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 Morus rubra (Red Mulberry)	30	Y	FACU
2			
3			
4			
5			
20% Total Cover 6	30	= Total Cover	

Sapling/Shrub Stratum <3" DBH or > 1 m tall (Plot size: 15' radius)			
1 Lonicera tatarica (Honey Suckle)	5	Y	FACU
2 Ribes missouriense (Gooseberry)	5	Y	FAC
3			
4			
5			
20% Total Cover 2	10	= Total Cover	

Herb Stratum non-woody or woody < 1 m tall (Plot size: 5' radius)			
1 Glechoma hederacea (Ground Ivy)	20	Y	FACU
2 Viola septentrionalis (Northern Woodland Violet)	15	Y	FACU
3 Urtica dioica (Stinging Nettles)	5	N	FACW
4			
6			
7			
8			
9			
10			
11			
12			
50% Total Cover 20% Total Cover 8	40	= Total Cover	

Woody Vine Stratum > 1 m tall (Plot size: 30' radius)			
1			
2			
1			
20% Total Cover		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (A):	1
Total Number of Dominant Species Across All Strata (B):	5
Percent of Dominant Species That are OBL, FACW, or FAC (A/B):	20

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	X 1
FACW species	X 2
FAC species	X 3
FACU species	X 4
UPL species	X 5
Totals (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1-Rapid Test for Hydrophytic Veg
- ___ 2-Dominance Test is > 50%
- ___ 3-Prevalence Index is ≤3.0[1]
- ___ 4-Morphological Adaptations (Provide supporting data in Remarks)
- ___ Problematic Hydrophytic Vegetation [1] (Explain)

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

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

Remarks: Wetland vegetation was not dominant.

SOIL Sampling Point: DP-15

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

Depth	Matrix		Redox Features					Remarks
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	
0-10	10YR 3/1	100					Sandy clay	Traces gravel, coal, glass - Fill

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 2 Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicator for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Unknown

Depth (inches): 10

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

Remarks: Hydric indicators were not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery(B7)
- ___ Sparse Vegetated Concave Surface(B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction on Tilled Soil (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth: ___ in

Water Table Present? Yes ___ No X Depth: ___ in

Saturation Present? (includes capillary fringe) Yes ___ No X Depth: ___ in

Wetland Hydrology Present **Yes** ___ **No** **X**

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

Remarks: Wetland hydrology was not observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Des Moines Area Transloading Facility | City/County: Des Moines, Polk | Sampling Date: 7/23/19
Applicant/Owner: Des Moines Industrial | State: IA | Sampling Point: DP-16
Investigator(s): A. Corcoran/K. Johnson | Section, Township Range: Sec. 2, Twp. 78N, R 24W
Landform (hillslope, terrace, etc.): Woodland | Local Relief (concave, convex, none): None
Slope (%): | Lat: 41°35'10.44'' | Long: 93°35'49.56'' | Datum: Upland
Soil Map Unit Name: Urban land | NWI Classification: Not identified
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are vegetation N soil N or hydrology N significantly disturbed? Are "Normal Circumstances" present? Y X N
Are vegetation N soil N or hydrology N significantly problematic? (if needed, explain any answers in Remarks)

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

Hydrophytic Vegetation Present?	Yes		No	X	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes		No	X	
Wetland Hydrology Present?	Yes		No	X	

Remarks: Data point was taken in a woodland area south of the railroad and west of the northern portion of WL-3.

VEGETATION – Use scientific names of plants.

Tree Stratum >3" DBH (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 Morus rubra (Red Mulberry)	40	Y	FACU
2 Lonicera tatarica (Honeysuckle)	5	N	FACU
3 Catalpa speciose (Catalpa Tree)	5	N	FACU
4			
5			
20% Total Cover 10	50	= Total Cover	

Sapling/Shrub Stratum <3" DBH or > 1 m tall (Plot size: 15' radius)			
1 Lonicera tatarica (Honeysuckle)	15	Y	FACU
2			
3			
4			
5			
20% Total Cover 3	15	= Total Cover	

Herb Stratum non-woody or woody < 1 m tall (Plot size: 5' radius)			
1 Glechoma hederacea (Ground Ivy)	30	Y	FACU
2 Parthenocissus quinquefolia (Virginia Creeper)	20	Y	FACU
3 Viola septentrionalis (Northern Woodland Violet)	10	N	FACU
4			
6			
7			
8			
9			
10			
11			
12			
50% Total Cover 20% Total Cover 12	60	= Total Cover	

Woody Vine Stratum > 1 m tall (Plot size: 30' radius)			
1 Vitis riparia (Riverbank Grape)	5	Y	FACW
2			
1			
20% Total Cover 1	5	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (A):	1
Total Number of Dominant Species Across All Strata (B):	5
Percent of Dominant Species That are OBL, FACW, or FAC (A/B):	20

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	X 1
FACW species	X 2
FAC species	X 3
FACU species	X 4
UPL species	X 5
Totals (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1-Rapid Test for Hydrophytic Veg
- ___ 2-Dominance Test is > 50%
- ___ 3-Prevalence Index is ≤3.0[1]
- ___ 4-Morphological Adaptations (Provide supporting data in Remarks)
- ___ Problematic Hydrophytic Vegetation [1] (Explain)

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

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

Remarks: Wetland vegetation was not dominant.

SOIL

Sampling Point: DP-16

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

Depth	Matrix		Redox Features					Remarks
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	
0-14	10YR 5/4	100					Sandy clay	Trace gravel, coal - Fill

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 2 Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicator for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Unknown

Depth (inches): 14

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

Remarks: Hydric indicators were not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery(B7)
- ___ Sparse Vegetated Concave Surface(B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction on Tilled Soil (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth: ___ in

Water Table Present? Yes ___ No X Depth: ___ in

Saturation Present? (includes capillary fringe) Yes ___ No X Depth: ___ in

Wetland Hydrology Present **Yes** ___ **No** **X**

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

Remarks: Wetland hydrology was not observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Des Moines Area Transloading Facility | City/County: Des Moines, Polk | Sampling Date: 7/23/19
Applicant/Owner: Des Moines Industrial | State: IA | Sampling Point: DP-17
Investigator(s): A. Corcoran/K. Johnson | Section, Township Range: Sec. 2, Twp. 78N, R 24W
Landform (hillslope, terrace, etc.): Old railroad ditch | Local Relief (concave, convex, none): Concave
Slope (%): | Lat: 41°35'10.44'' | Long: 93°35'49.56'' | Datum: Upland
Soil Map Unit Name: Urban land | NWI Classification: Not identified
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are vegetation N soil N or hydrology N significantly disturbed? Are "Normal Circumstances" present? Y X N
Are vegetation N soil N or hydrology N significantly problematic? (if needed, explain any answers in Remarks)

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

Hydrophytic Vegetation Present?	Yes		No	X
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks: Data point was taken in an old railroad ditch.

VEGETATION – Use scientific names of plants.

Tree Stratum >3" DBH (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1 Ulmus Americana (American Elm)	35	Y	FACW
2 Acer negundo (Boxelder)	15	Y	FAC
3 Celtis occidentalis (Hackberry)	10	N	FAC
4			
5			
20% Total Cover 12	60	= Total Cover	

Sapling/Shrub Stratum <3" DBH or > 1 m tall (Plot size: 15' radius)			
1 Cornus drummondii (Rough Leaf Dogwood)	5	Y	FAC
2 Lonicera tatarica (Honeysuckle)	5	Y	FACU
3			
4			
5			
20% Total Cover 2	10	= Total Cover	

Herb Stratum non-woody or woody < 1 m tall (Plot size: 5' radius)			
1 Dactylis glomerate (Orchard Grass)	20	Y	FACU
2 Solidago canadensis (Canada Goldenrod)	10	Y	FACU
3 Arctium minus (Common Burdock)	10	Y	FACU
4 Ambrosia artemisiifolia (Annual Ragweed)	10	Y	FACU
6 Lonicera tatarica (Honeysuckl) **<1m**	5	N	FACU
7 Viola septentrionalis (Northern Woodland Violet)	5	N	FACU
8 Cyperus esculentus (Yellow Nutgrass)	5	N	FACW
9			
10			
11			
12			
50% Total Cover 32.5 20% Total Cover 13	65	= Total Cover	

Woody Vine Stratum > 1 m tall (Plot size: 30' radius)			
1 Vitis riparia (Riverbank Grape)	5	Y	FACW
2 Smilax rotundifolia (Greenbrier)	3	Y	FAC
1			
20% Total Cover 1.6	8	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (A):	5
Total Number of Dominant Species Across All Strata (B):	10
Percent of Dominant Species That are OBL, FACW, or FAC (A/B):	50

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species	X 1
FACW species	X 2
FAC species	X 3
FACU species	X 4
UPL species	X 5
Totals (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1-Rapid Test for Hydrophytic Veg
- ___ 2-Dominance Test is > 50%
- ___ 3-Prevalence Index is ≤3.0[1]
- ___ 4-Morphological Adaptations (Provide supporting data in Remarks)
- ___ Problematic Hydrophytic Vegetation [1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: Wetland vegetation was not dominant.

SOIL Sampling Point: DP-17

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

Depth	Matrix		Redox Features					Remarks
(inches)	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	
0-4	10YR 3/2	100					Sandy clay	Trace gravel, wood, brick
4/10	10YR 5/4	100					Sandy clay	Trace gravel, coal, brick

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 2 Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicator for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Unknown

Depth (inches): 10

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

Remarks: Hydric indicators were not observed.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery(B7)
- ___ Sparse Vegetated Concave Surface(B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction on Tilled Soil (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth: ___ in

Water Table Present? Yes ___ No X Depth: ___ in

Saturation Present? (includes capillary fringe) Yes ___ No X Depth: ___ in

Wetland Hydrology Present **Yes** ___ **No** **X**

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

Remarks: Wetland hydrology was not observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Des Moines Area Transloading Facility | City/County: Des Moines, Polk | Sampling Date: 7/23/19
Applicant/Owner: Des Moines Industrial | State: IA | Sampling Point: DP-18
Investigator(s): A. Corcoran/K. Johnson | Section, Township Range: Sec. 2, Twp. 78N, R 24W
Landform (hillslope, terrace, etc.): Disturbed area | Local Relief (concave, convex, none): None
Slope (%): | Lat: 41°35'10.44'' | Long: 93°35'49.56'' | Datum: Upland
Soil Map Unit Name: Urban land | NWI Classification: Not identified
Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
Are vegetation N soil N or hydrology N significantly disturbed? Are "Normal Circumstances" present? Y X N
Are vegetation N soil N or hydrology N significantly problematic? (if needed, explain any answers in Remarks)

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

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?**	**Yes** **No X**
Hydric Soil Present?	Yes	No X		
Wetland Hydrology Present?	Yes	No X		

Remarks: Data point was taken near the overpass. Wetland vegetation was dominant in several area under the bridge; however, the subsurface was mostly a clay, gravel, sand mixture.

VEGETATION – Use scientific names of plants.

Tree Stratum >3" DBH (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1			
2			
3			
4			
5			
20% Total Cover		= Total Cover	

Sapling/Shrub Stratum <3" DBH or > 1 m tall (Plot size: 15' radius)			
1			
2			
3			
4			
5			
20% Total Cover		= Total Cover	

Herb Stratum non-woody or woody < 1 m tall (Plot size: 5' radius)			
1 Phalaris arundinacea (Reed Canary Grass)	80	Y	FACW
2			
3			
4			
6			
7			
8			
9			
10			
11			
12			
50% Total Cover	20% Total Cover 20	80	= Total Cover

Woody Vine Stratum > 1 m tall (Plot size: 30' radius)			
1			
2			
1			
20% Total Cover		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (A):	1
Total Number of Dominant Species Across All Strata (B):	1
Percent of Dominant Species That are OBL, FACW, or FAC (A/B):	100

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:
OBL species		X 1
FACW species		X 2
FAC species		X 3
FACU species		X 4
UPL species		X 5
Totals	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- X 1-Rapid Test for Hydrophytic Veg
- 2-Dominance Test is > 50%
- 3-Prevalence Index is ≤3.0[1]
- 4-Morphological Adaptations (Provide supporting data in Remarks)
- Problematic Hydrophytic Vegetation [1] (Explain)

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

Hydrophytic Vegetation Present? **Yes X No**

Remarks: Wetland vegetation was dominant and passes the FAC-Neutral test.

SOIL

Sampling Point: DP-18

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

Depth (inches)	Matrix		Redox Features					Remarks
	Color (moist)	%	Color (Moist)	%	Type[1]	Loc[2]	Texture	
0-2	10YR 2/1	100					Sandy Clay	Fill
2-14	10YR 4/36	100					Clayey sand/gravel/coal/brick	Fill

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 2 Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicator for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Unknown

Depth (inches): 14

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

Remarks: Area under the bridge or the immediate vicinity was a sandy/gravely fill material with cobble.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery(B7)
- ___ Sparse Vegetated Concave Surface(B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction on Tilled Soil (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth: ___ in

Water Table Present? Yes ___ No X Depth: ___ in

Saturation Present? (includes capillary fringe) Yes ___ No X Depth: ___ in

Wetland Hydrology Present **Yes** ___ **No** **X**

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

Remarks: Wetland hydrology was not observed at the time of the site visit although, the area does look like a stormwater route during rain events (Water staining and sediment deposit on a nearby concrete access road).

APPENDIX D
Ground Photographs

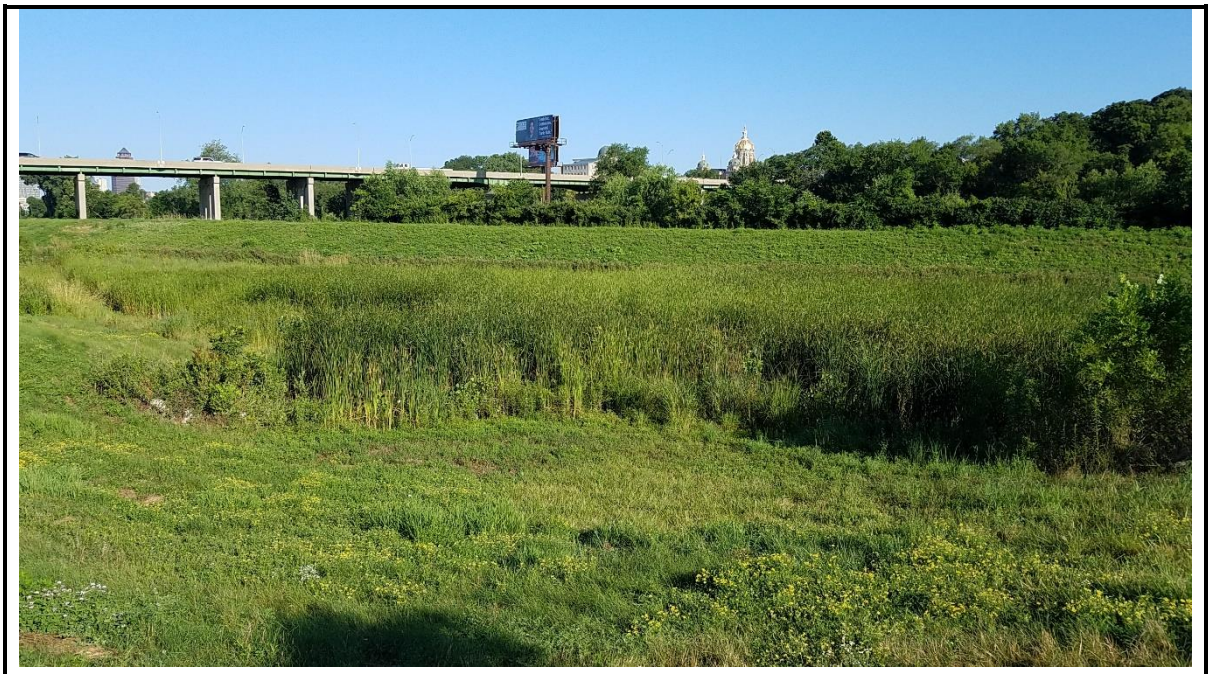


Photo 1: View of WL-1, looking west-northwest.

Photo 2: View of the easternmost portion of WL-1, looking northeast.

Photo 3: View of the western portion of WL-2, looking northeast.

Photo 4: View of the eastern portion of WL-2, looking southwest.

Photo 5: View of WL-3, looking west from the eastern portion of the wetland.

Photo 6: View of WL-3, looking west from the central portion of the wetland.

Photo 7: View of ephemeral drainage features that runs through WL-3 before discharging to a City stormwater basin.

Photo 8: View of WL-4, looking southeast.

Photo 9: View of WL-5, looking southwest.

Photo 10: View of WL-5, looking west.

Photo 11: View of the wooded area south of the railroad on the west-central portion of the site.

Photo 12: View of the westernmost portion of the site, looking west.

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, ROCK ISLAND DISTRICT
PO BOX 2004 CLOCK TOWER BUILDING
ROCK ISLAND, ILLINOIS 61204-2004

REPLY TO
ATTENTION OF

December 4, 2019

Operations Division

SUBJECT: CEMVR-OD-P-2019-1195

Mr. Gabe Claypool
President & COO
Des Moines Industrial
512 ½ E. Grand Avenue
Des Moines, IA 50309

Dear Mr. Claypool:

Our office reviewed your AJD request, which was received on September 27, 2019, concerning the future Des Moines Area Transloading facility site located in Section 2, Township 78 North, Range 24 West, Polk County, Iowa.

We have determined that the five wetlands, totaling 4.45 acres, that are located within the project area are isolated and have no significant nexus to downstream traditionally navigable waterways. The discharge of dredged or fill material into these identified isolated wetlands will not require Department of the Army authorization.

If you object to this approved jurisdictional determination, you may request an administrative appeal under Corps regulations found at 33 CFR Part 331. Enclosed is a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this approved jurisdictional determination, you must submit a completed RFA form to the Mississippi Valley Division Office at the following address:

Should you have any questions, please contact our Regulatory Branch by letter, or telephone Abby Steele at 309/794-5377.

Sincerely,

Matthew A. Zehr
Chief, Iowa Permit Section
Regulatory Branch

Copies Furnished (w/enclosures):

Mr. Adam Corcoran
Terracon Consultants, Inc.
600 Southwest 7th Street, Suite M
Des Moines, Iowa 50309

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): November 21, 2018

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: MVR; Des Moines Industrial; 2019-1195

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Iowa County/parish/borough: Polk City: Des Moines

Center coordinates of site (lat/long in degree decimal format): Lat. 41.586 ° **N**. Long. –93.599 ° **W**.

Universal Transverse Mercator: 15

Name of nearest water body: Des Moines River

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

Name of watershed or Hydrologic Unit Code (HUC): 07100004

☒ 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: 11/21/2019

☐ Field Determination. Date(s):

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*]

☐ Waters subject to the ebb and flow of the tide.

☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

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*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters:
      Wetlands:

   c. **Limits (boundaries) of jurisdiction** based on: **1987 Delineation Manual**
      Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: **Wetlands 1, 2, 3, 4 & 5 (totaling 4.45 acres) shows no connection to any other WUS. The wetlands likely receives surface runoff from the adjacent areas and overhead precipitation. It appears that these wetlands have no connection to any RPW's on both aerial maps, USGS topo maps and lidar. Defined in Section 3C below.**

---

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.

[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

[3] Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**
   Identify TNW: .

   Summarize rationale supporting determination: .

2. **Wetland adjacent to TNW**
   Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

   (i) General Area Conditions:
   Watershed size: **Pick List**
   Drainage area: **Pick List**
   Average annual rainfall:
   Average annual snowfall:

   (ii) Physical Characteristics:
   (a) Relationship with TNW:
   ☐ Tributary flows directly into TNW.
   ☐ Tributary flows through tributaries before entering TNW.

   Project waters are **Pick List** river miles from TNW.
   Project waters are **Pick List** river miles from RPW.
   Project waters are **Pick List** aerial (straight) miles from TNW.
   Project waters are **Pick List** aerial (straight) miles from RPW.
   Project waters cross or serve as state boundaries. Explain: .

   Identify flow route to TNW[5]:
   Tributary stream order, if known: .

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain:.
☐ Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):
Average width:
Average depth:
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):

☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:
Presence of run/riffle/pool complexes. Explain:
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime:
Other information on duration and volume: .

Surface flow is: **Pick List.** Characteristics: channelized and visible.

Subsurface flow: **Pick List**. Explain findings:

☐ Dye (or other) test performed: .

Tributary has (check all that apply):

☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):

☐ clear, natural line impressed on the bank
☐ changes in the character of soil
☐ shelving
☐ vegetation matted down, bent, or absent
☐ leaf litter disturbed or washed away
☐ sediment deposition
☐ water staining
☐ other (list):
☐ the presence of litter and debris
☐ destruction of terrestrial vegetation
☐ the presence of wrack line
☐ sediment sorting
☐ scour
☐ multiple observed or predicted flow events
☐ abrupt change in plant community

☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by:
☐ oil or scum line along shore objects
☐ fine shell or debris deposits (foreshore)
☐ physical markings/characteristics
☐ tidal gauges
☐ other (list):

☐ Mean High Water Mark indicated by:
☐ survey to available datum;
☐ physical markings;
☐ vegetation lines/changes in vegetation types.

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain:
Identify specific pollutants, if known:

(iv) Biological Characteristics. Channel supports (check all that apply):

---

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

☐ Riparian corridor. Characteristics (type, average width):
☐ Wetland fringe. Characteristics:
☐ Habitat for:
  ☐ Federally Listed species. Explain findings:
  ☐ Fish/spawn areas. Explain findings:
  ☐ Other environmentally-sensitive species. Explain findings:
  ☐ Aquatic/wildlife diversity. Explain findings:

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:
Properties:
Wetland size:
Wetland type. Explain:
Wetland quality. Explain:
Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:
Flow is: **Pick List**. Explain:

Surface flow is:

Characteristics:

Subsurface flow: **Pick List**. Explain findings:
☐ Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:
☐ Directly abutting
☐ Not directly abutting
  ☐ Discrete wetland hydrologic connection.
  ☐ Ecological connection. Explain:
  ☐ Separated by berm/barrier/man-made structures. Explain

(d) Proximity (Relationship) to TNW
Project wetlands are **Pick List** river miles from TNW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Flow is from: **Pick List.**
Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:
Identify specific pollutants, if known:

(iii) Biological Characteristics. Wetland supports (check all that apply):

☐ Riparian buffer. Characteristics (type, average width):
☐ Vegetation type/percent cover. Explain:
☐ Habitat for:
  ☐ Federally Listed species. Explain findings: None observed.
  ☐ Fish/spawn areas. Explain findings: No standing water observed.
  ☐ Other environmentally-sensitive species. Explain findings: No environmentally sensitive species observed.
  ☐ Aquatic/wildlife diversity. Explain findings: Aquatic wildlife not observed.

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis:

List and describe (Emergent, scrub/shrub, forested) the wetlands:

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

   The wetland identified as Wetland 1 does not exhibit a significant nexus to downstream TNW's. No discrete connections could be observed when looking at historical aerial photographs nor on lidar maps.

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

     Provide estimates for jurisdictional waters in the review area (check all that apply):
     - ☐ Tributary waters:
     - ☐ Other non-wetland waters: acres.
       Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
   - ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

[8]See Footnote # 3.

Provide estimates for jurisdictional waters within the review area (check all that apply):
- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
   - ☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
   - ☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:.
   - ☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
   - ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

   Provide acreage estimates for jurisdictional wetlands in the review area:

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
   - ☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional wetlands in the review area:

7. **Impoundments of jurisdictional waters.**[9]
   As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
   - ☐ Demonstrate that impoundment was created from "waters of the U.S.," or
   - ☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
   - ☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

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):[10]
- ☐ 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.

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.
- ☒ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.

---

[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

[10] **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.***

☒ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).

☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: See (3.) (C.) above.

☐ Other: (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole 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):.

☐ Lakes/ponds: acres.

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

☐ Wetlands:

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):

☐ Lakes/ponds:

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

☒ Wetlands: Wetlands 1, 2, 3, 4 & 5 (4.45 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: Materials submitted with application by Terracon. in a wetland delineation 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: .

☐ USGS NHD data.

☐ USGS 8 and 12 digit HUC maps.

☒ U.S. Geological Survey map(s). Cite scale & quad name:1:24,000; Polk, IA (Exhibit 1, delineation report).

☒ USDA Natural Resources Conservation Service Soil Survey. Citation: Polk, Iowa; (Exhibit 3, delineation report).

☒ National wetlands inventory map(s). Cite name: Citation: Polk, Iowa; (Exhibit 2, delineation report).

☐ State/Local wetland inventory map(s): .

☐ FEMA/FIRM maps: .

☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)

☒ Photographs: ☒ Aerial (Name & Date): (Aerials are found in delineation report)
or ☐ Other (Name & Date): .

☐ Previous determination(s). File no. and date of response letter: .

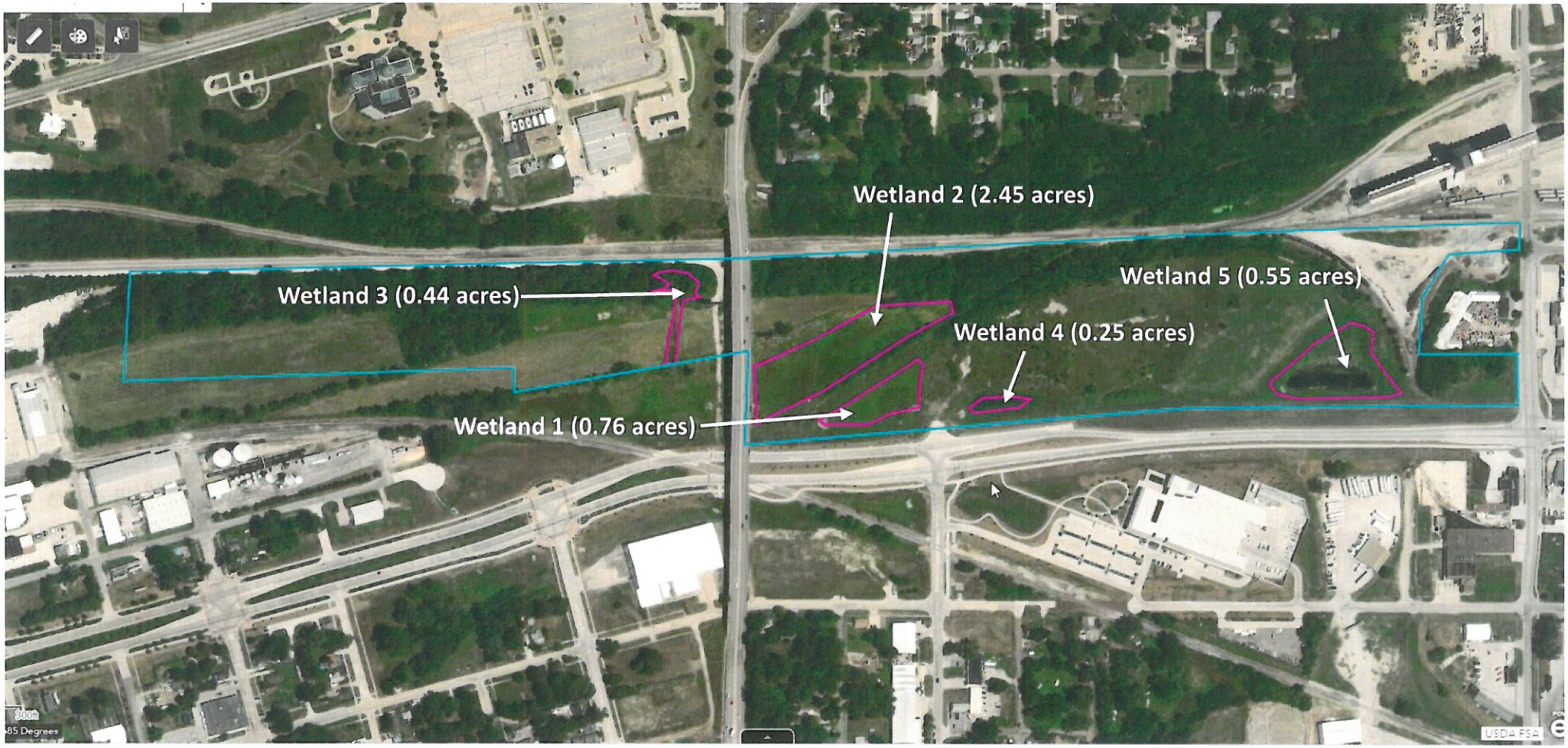
☐ Applicable/supporting case law: .

☐ Applicable/supporting scientific literature: .

☒ Other information (please specify): Attachment 1: Project area; Attachment 2: Lidar project area; Attachment 3: Lidar (large profile)

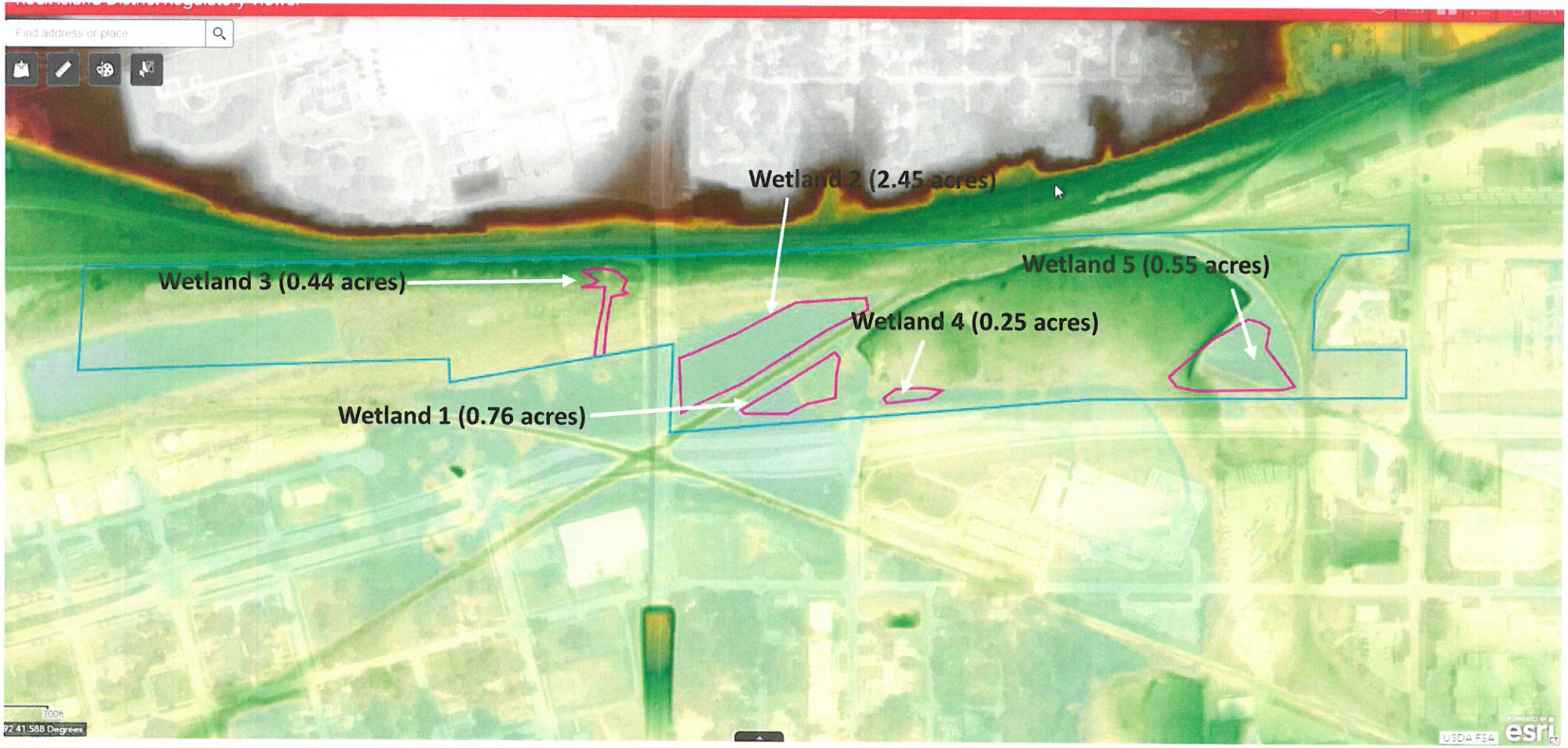
B. ADDITIONAL COMMENTS TO SUPPORT JD:

2019-1195
Des Moines Industrial, LLC



CEMVR-OD-2019-1195
Attachment 1 of 3
Aerial Project Map

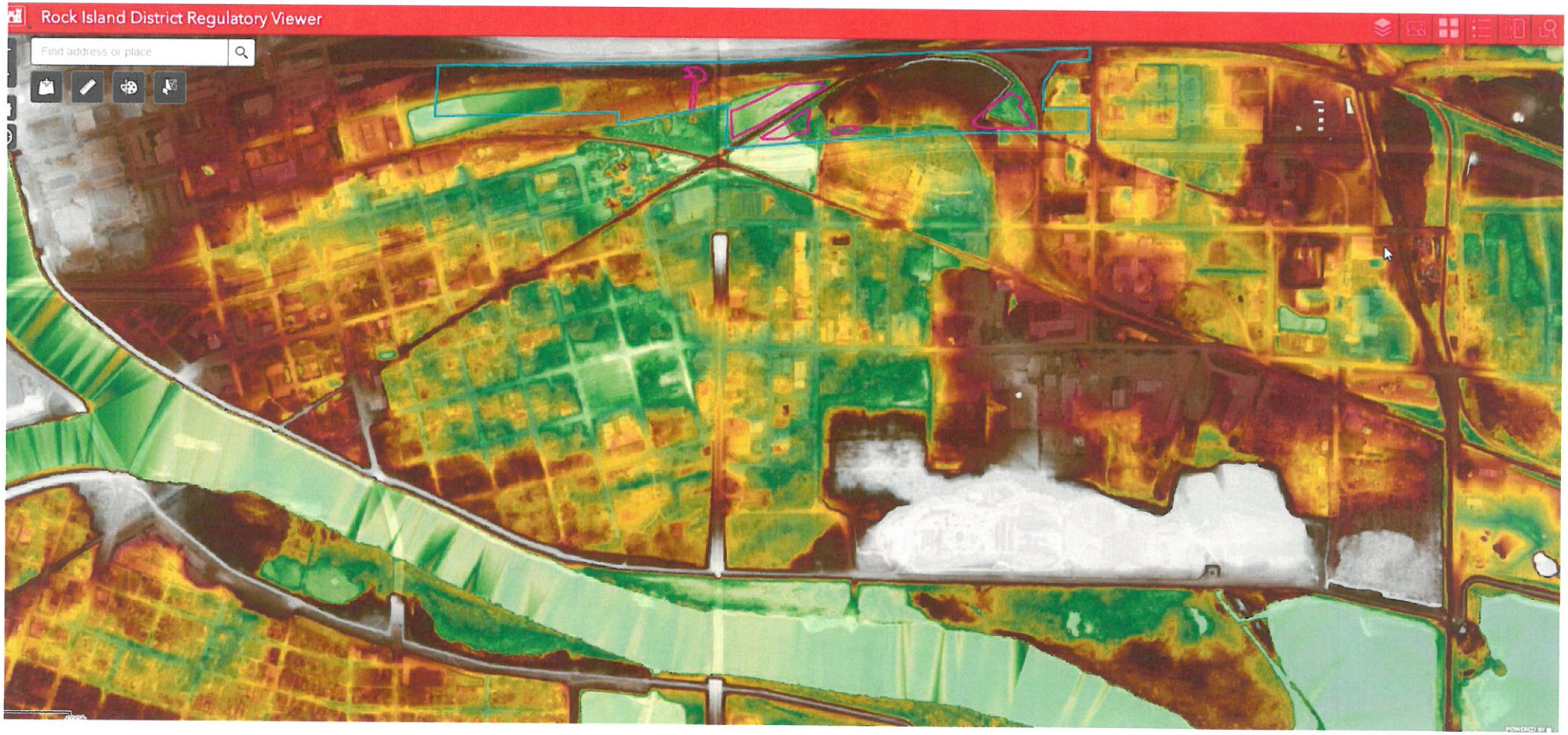
2019-1195
Des Moines Industrial, LLC



CEMVR-OD-2019-1195
Attachment 2 of 3
Lidar Project Map

2019-1195
Des Moines Industrial, LLC

No connection found



CEMVR-OD-2019-1195
Attachment 3 of 3
LiDAR (Large Profile)