



# Appendix F

## Supporting Technical Reports

### F.6 Wetlands Technical Report



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# Wetlands Technical Report

May 2016

Blue Line Extension Project Technical Report



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## Executive Summary

This technical report summarizes Water Resources within the proposed METRO Blue Line Light Rail (BLRT) Extension project area. The intent of this technical report is to support and augment the Final Environmental Impact Statement (Final EIS) being prepared for this project. Wetlands, floodplains and other aquatic resources within the proposed BLRT Extension project area were examined during 2015 with field work and published data sources. Impacts to wetlands and aquatic resources, described in this technical report, were established based on the limits of disturbance for the proposed BLRT Extension project. Floodplains and floodways are described in the *Floodplain Technical Memorandum* (January 2016). Some delineated basins within the proposed BLRT Extension project area are clearly natural wetlands; whereas, others have been excavated in uplands for the purpose of stormwater management.

Some wetlands are regulated by the Wetland Conservation Act (WCA) and others are not. Some wetlands are regulated by the US Army Corps of Engineers (USACE), and others, such as “non-Waters of the United States (non-WOUS)” and isolated basins are not regulated by USACE. Impacts to wetland basins requiring mitigation per WCA are 6.2815 acres. Impacts to wetland basins requiring USACE mitigation are 4.1623 acres. Required mitigation for wetland impacts will be a combination of on-site wetland mitigation and credit purchases from suitable private wetland mitigation banks. Jurisdiction of delineated basins per WCA and USACE has been established based on agency review and concurrence with conclusions in the *Technical Memorandum: Jurisdictional Issues Associated with Delineated Basins; Blue Line Extension LRT*.



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# 1 Introduction

This technical report supplements the Final Environmental Impact Statement (Final EIS) associated with the proposed METRO Blue Line Light Rail (BLRT) Extension project.

**Figure 1** on page 23 shows a general location map. **Figure 2** beginning on page 25 shows a 24-page mapbook of water resources throughout the proposed BLRT Extension project area including aerial imagery, delineated wetland boundaries, updated National Wetland Inventory (NWI), Public Waters Inventory, municipal and watershed boundaries, and floodplains and floodways. **Figure 3** beginning on page 49 shows a 24-page mapbook that focuses on water resources, mapped hydric soils and LiDAR 2-foot contours.

## 1.1 Project Limits

The proposed BLRT Extension project connects Brooklyn Park north of 101st Avenue North southward along West Broadway Avenue (County State-Aid Highway 103) to approximately 74th Avenue North, then southwest adjacent to existing BNSF Railway (BNSF) freight rail tracks to Olson Memorial Highway (Trunk Highway [TH] 55), then eastward along Olson Memorial Highway to the Target Field Station in downtown Minneapolis.

The area that lies roughly between 94th Avenue North and Candlewood Drive North is part of the separate West Broadway Avenue Reconstruction project. A description of water resources within this area is provided in the Environmental Assessment Worksheet (EAW) and associated technical memoranda for the West Broadway Avenue Reconstruction project.

## 1.2 Report Purpose

The purpose of this technical report is to summarize water resources within the proposed BLRT Extension project area and describe their regulatory context and potential impacts to them and mitigation for their impacts. Existing and proposed stormwater management within the proposed BLRT Extension project area is described in a separate *Stormwater Technical Memorandum* (January 2016). A description of floodplains and floodways and proposed impacts to and mitigation for them is described in a separate *Preliminary Floodplain Impacts and Mitigation Strategies Technical Memorandum* (January 2016), or *Floodplain Technical Memorandum*.

## 1.3 Data Collection

Various geo-referenced data were collected to inform the assessment of water resources within the proposed BLRT Extension project area. These data sources include aerial imagery, the updated NWI, the Hennepin County Soil Survey, Public Waters Inventory maps, floodplain and floodway maps, LiDAR two-foot contour maps, parcel maps, and municipal and watershed boundary maps.

Additional data were collected in the field and locations were recorded in field notes and with global positioning system (GPS) units capable of sub-foot accuracy. These data were added to geographic information systems (GIS) files and depicted in figures associated with this technical report.



## 2 Wetlands, Streams and Other Aquatic Resources

### 2.1 Regulatory Context

Wetlands and other aquatic resources in the proposed BLRT Extension project area are regulated by several agencies at the local, state, and federal levels including the US Army Corps of Engineers (USACE) and the US Environmental Protection Agency (EPA) at the federal level; the Minnesota Board of Water and Soil Resources (BWSR) and the Minnesota Pollution Control Agency (MPCA) at the state level; and the Minnesota Wetland Conservation Act (WCA) Local Governmental Unit (LGU) at the local level. Any proposed work below the ordinary high water (OHW) elevation in public waters, public waters wetlands, or unnumbered public watercourses is regulated by the Minnesota Department of Natural Resources (DNR).

#### 2.1.1 Federal Regulation

Wetlands are defined in federal Executive Order 11990 as follows:

Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

USACE regulates wetlands per the Clean Water Act. According to the USACE Wetlands Delineation Manual (USACE, 1987) and the Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Midwest Region (USACE, 2012) one positive indicator (except in certain situations) from each of three elements must be present in order to make a positive wetland determination, which are as follows:

- Greater than 50 percent dominance of hydrophytic plant species.
- Presence of hydric soil.
- The area is either permanently or periodically inundated, or soil is saturated to the surface during the growing season of the dominant vegetation.

USACE regulates those areas that meet the definition of wetlands. Those wetland basins that are isolated hydrologically on the landscape, i.e., those with no inlets or outlets, are not typically regulated by USACE. However, if a Preliminary Jurisdictional Determination is requested, then USACE will assume jurisdiction regardless of hydrologic connection.



### 2.1.2 State Regulation

BWSR is the lead state agency that administers the WCA. WCA LGUs are delegated by the WCA to issue Notices of Decision regarding concurrence on delineated wetland boundaries and types, and approvals for wetland replacement plans. The WCA LGU has jurisdiction over portions of wetlands that lie above the OHW level.

DNR has jurisdiction over public waters and public waters wetlands. The upper elevation limit of public waters and public waters wetlands is the OHW mark. In some cases, the elevation of the OHW has been calculated with hydraulic modeling. In other cases, the OHW is estimated through examination of evidence of hydrology and vegetation. Sometimes the bankfull streambank elevation serves as the demarcation of DNR jurisdiction.

Minnesota public waters and public waters wetlands are defined by Minnesota Statute 103G.005 as follows:

- **Public waters** are all waterbasins and watercourses that meet the criteria set forth in Minnesota Statutes, Section 103G.005, subd. 15 that are identified on Public Waters Inventory maps authorized by Minnesota Statutes, Section 103G.201.
- **Public waters wetlands** are all types 3, 4, and 5 wetlands as defined in US Fish and Wildlife Service (USFWS) Circular No. 39 (1971 edition), not included within the definition of public waters, that are 10 or more acres in size in unincorporated areas or 2.5 acres or more in incorporated areas.

### 2.1.3 Local Regulation

Relevant WCA LGUs in the proposed BLRT Extension project area include:

- City of Golden Valley
- Shingle Creek Watershed Management Commission
- City of Crystal
- Bassett Creek Watershed Management Commission
- City of Minneapolis

For purposes of the proposed BLRT Extension project, the WCA LGUs listed above retain their approval authority; however, in order to simplify the approval process, the WCA approvals are being processed by two representatives of the WCA LGUs. One representative will process approvals on behalf of the relevant WCA LGUs for water resources north of 36th Avenue North in the City of Robbinsdale and the other representative will process approvals on behalf of relevant WCA LGUs for water resources south of 36th Avenue North in the City of Robbinsdale and east to the Target Field Station.



## 2.2 Affected Environment

### 2.2.1 Wetlands

Forty-four basins were delineated within the proposed BLRT Extension project area. Additional basins, delineated within the West Broadway Avenue Reconstruction project limits, are not described in this document. The four 4 proposed BLRT Extension project area basins are depicted in **Figures 2 and 3**. Some of the delineated basins are natural wetlands whereas others are excavated in uplands for the purpose of stormwater management. Delineated basins are described in narrative below and summarized in **Table 1** on page 8.

#### 2.2.1.1 Wetlands Numbers 1 to 13

These hydrologically isolated basins all are located north of TH 610 and have been mapped by the updated NWI variously as PEM1A, PEM1C, and PFO1A. Wetland Numbers 4, 9, 10, and 12 were not mapped by the updated NWI. These basins are fully or partially underlain by hydric soils and have been hydrologically modified as a result of dwindling ground water over the past several decades. Most of these basins are dominated by invasive plant species such as reed canary grass.

#### 2.2.1.2 Wetland Number 51

Wetland Number 51 is located just north of Oak Grove Parkway in the City of Brooklyn Park on the Target Corporation campus. The updated NWI has mapped Wetland Number 51 as PEM1A. The majority of this basin is mapped as being underlain with hydric soil. This basin was excavated in 2004 to provide a wetland mitigation bank to compensate for wetland impacts that resulted from construction of the Target Corporation campus. Perpetual conservation easements have been recorded for Wetland Number 51. A wetland delineation conducted in W51 revealed that only the southern portion of this area meets the criteria of wetlands. Several feet of soil were removed from this basin in order to allow portions of it to function as a restored wetland.

#### 2.2.1.3 Wetland Number 52

Wetland Number 52 is located on the south side of 101st Avenue North within the area associated with the Operations and Maintenance Facility (OMF). Wetland Number 52 was not mapped by the NWI; however, it is mapped in what is predominantly hydric soil. Wetland Number 52 appears to be a natural isolated basin.

#### 2.2.1.4 Wetlands Numbers 14 to 17

These basins are located north of and south of TH 610 and have been excavated for stormwater management. Wetlands Numbers 14 and 15 were excavated in an area that is underlain by hydric soils. Wetlands Numbers 16 and 17 were excavated in non-hydric soils. The updated NWI mapped Wetland Number 14 as PEM1A though it was found based on field data to be a PUBGx, and Wetland Number 16 as PUBGx/PEM1C. The updated NWI did not map Wetlands 15 and 17 but they were both found to be PSS1A.



#### **2.2.1.5 Wetlands Numbers 18 to 25 and 43**

These wetlands are described in the Wetland Delineation Report for the West Broadway Avenue Reconstruction project and are not included in this report.

#### **2.2.1.6 Wetland Number 26**

Wetland Number 26 is a small isolated roadside ditch located approximately 500 feet north of Brooklyn Boulevard on the west side of West Broadway Avenue. This ditch was not mapped by the updated NWI and it is not underlain by mapped hydric soils. Wetland Number 26 was field verified to be a PEM1A. It was excavated in uplands for the purpose of stormwater management associated with the parking lots to the west.

#### **2.2.1.7 Wetlands Numbers 27 to 30**

Wetlands Numbers 27 to 30 are used for stormwater management and are located between Interstate 94 and Highway 100. Wetland Number 27 is mapped by the updated NWI as PEM1C and is not underlain by hydric soils. Wetland Number 28 is mapped by the NWI as PABGx/PEM1C (field verified to be PFO1A) and is underlain by hydric soils. Wetland Number 29 is mapped by the NWI as PEM1C (and field verified as such) and is underlain by hydric soils. Wetland Number 30 is mapped by the NWI as PUBG/PEM1A (and field verified as such) and is not underlain by hydric soils.

#### **2.2.1.8 Wetland Number 31 (an extension of Wetland Number 32)**

Wetland Number 31 is a long linear ditch that extends along the west side of the existing BNSF tracks in the City of Robbinsdale, roughly between Lowry Avenue North and 35th Avenue North. The updated NWI has mapped this basin as PSS1A/PABG/PEM1A (field verified as PSS1A) and it is not underlain by mapped hydric soils. This railroad ditch was created long ago and the plant communities that have developed over time have matured into a functioning mosaic of wetland types.

#### **2.2.1.9 Wetlands Numbers 32, 33, and 45**

This wetland complex is located within the City of Robbinsdale along the west side (Wetlands Numbers 32 and 45) and the east side (Wetland Number 33) of the BNSF tracks. The updated NWI has mapped this complex as PUBG/PFO1A/PSS1C/PEM1C/PEM1F/PABG. These wetlands were field verified to be PFO1A, PUBGx, and PFO1A, respectively. The southern tip of Wetlands Numbers 32 and 45 is underlain with mapped hydric soil; however, the middle and northern portion of this complex is not mapped with hydric soils. Wetland Number 33 is not underlain with mapped hydric soils. Wetland Number 32 lies partly within Walter Sochacki Park. Wetland Number 33 is also known as Grimes Pond and is in part within South Halifax Park.

#### **2.2.1.10 Wetland Number 34**

Wetland Number 34 is located approximately 350 feet west of the BNSF tracks partly within the City of Robbinsdale and partly within the City of Golden Valley. The updated NWI has mapped Wetland 34 as PABG, PEM1F, PEM1A, and PFO1A. Field data revealed that the mosaic of wetland



types present in this large complex is similar to what is mapped by the updated NWI. Most of this wetland is underlain with mapped hydric soils. Wetland Number 34, also known as South Rice Pond, lies within Walter Sochacki Park.

#### **2.2.1.11 Wetlands Numbers 35 and 36**

Wetlands Numbers 35 and 36 are located within the City of Robbinsdale, roughly between 26th Avenue North and 29th Avenue North, on the west side (Wetland 35) and east side (Wetland 36) of the BNSF tracks. Wetland Number 35 is mapped by the updated NWI as PEM1F (field verified as PFO1A) and Wetland Number 36 is mapped as PSS1A (field verified as the same). Neither wetland is mapped as being underlain by hydric soils. Wetlands Numbers 35 and 36 were excavated as ditches for stormwater management.

#### **2.2.1.12 Wetland Number 37**

Wetland Number 37 is a linear ditch along the west side of the BNSF tracks and the east side Kewanee Way in the City of Golden Valley. The updated NWI has not mapped this ditch as a wetland and the soil survey has not mapped hydric soils here. Field data verified this wetland to be a PEM1A. Wetland Number 37 was excavated in uplands for stormwater management.

#### **2.2.1.13 Wetland Numbers 38 and 39**

Wetlands Numbers 38 and 39 are located in the City of Golden Valley just north of Golden Valley Road on the west side (Wetland Number 38) and east side (Wetland Number 39) of the BNSF tracks. The updated NWI has mapped these basins as PUBG, PABG and PFO1A. Field verifications confirmed both basins to be PUBGx. The soil survey has not mapped hydric soils in these basins. Wetland 38 lies within Sochacki Park: Mary Hills Management Unit. Wetland Number 39 lies partly within Minneapolis Park and Recreation Board land.

#### **2.2.1.14 Wetlands Numbers 40 and 50**

Wetlands 40 and 50 are parts of a linear ditch along the east side of the existing BNSF tracks, near 16th Avenue North, in the City of Golden Valley. The updated NWI mapped Wetland Number 40 as PFO1A and did not map Wetland Number 50. The soil survey did not map hydric soils in this ditch. Wetlands Numbers 40 and 50 were excavated in uplands for stormwater management.

#### **2.2.1.15 Wetland Number 41**

Wetland 41 is a linear ditch located along the east side of the BNSF tracks, just north of Plymouth Avenue North, in the City of Golden Valley. Wetland 41 was not mapped as wetland by the updated NWI. This wetland was field verified to be a PEM1A. The soil survey did not map hydric soils within Wetland 41. Wetland 41 was excavated in uplands for stormwater management.

#### **2.2.1.16 Wetlands Numbers 42 and 49**

Wetlands Numbers 42 and 49 are both part of a linear ditches that are located along the east side (Wetland Number 42) and the west side (Wetland Number 49) of the existing BNSF tracks, partly within the City of Golden Valley and partly within the City of Minneapolis. These ditches are located



near the intersection of Xerxes Avenue North and Oak Park Avenue North. Wetland Number 42 was not mapped by the updated NWI though it was field verified to be PSS1A. Wetland Number 49 is mapped by the NWI as PABGx and PFO1A and field verified to be PFO1A. The soil survey did not map hydric soils within these ditches. These ditches were excavated in uplands for stormwater management.

#### **2.2.1.17 Wetland Number 44**

Wetland Number 44 is located along the east side of the BNSF tracks between 33rd Avenue North and 35th Avenue North in the City of Robbinsdale, just downslope from the Xcel Indiana substation. Wetland Number 44 is a linear railroad ditch. The updated NWI mapped Wetland Number 44 as PABG (field verified to be PUBGx) and the soil survey did not map hydric soils here.

#### **2.2.1.18 Wetlands Numbers 46 and 47**

Wetlands Numbers 46 and 47 are located along the west side of the BNSF tracks, north and south of Plymouth Avenue North, in the City of Golden Valley. This wetland complex is adjacent to Bassett Creek and associated backwaters. The updated NWI has mapped this complex as PFO1A, PEM1A, PEM1C and riverine. These basins were field verified to be mostly PFO1A. The soil survey has not mapped hydric soils within this complex.

#### **2.2.1.19 Wetland Number 48**

Wetland Number 48 is located on the east and west sides of the existing BNSF tracks, just north of Olson Memorial Highway, in the City of Minneapolis. Wetland Number 48 is an old channel of Bassett Creek. Wetland Number 48 is mapped by the updated NWI as riverine (R2UBG or R2UBGx) and field verified as such. The soil survey has mapped Wetland Number 48 as non-hydric. Wetland Number 48, now used for stormwater management, enters a large culvert which flows south under Olson Memorial Highway.

#### **2.2.1.20 Pond East of Wetland Number 30**

The Pond East of Wetland Number 30 is located in the City of Robbinsdale. This pond appears to have been constructed in uplands for the purpose of stormwater management and is not underlain by mapped hydric soils. The updated NWI has mapped this pond as PUBG.





**Table 1. Summary of Delineated Basins within and near the Proposed BLRT Extension Project**

Wetland ID	Updated NWI Mapping	Hydric Soil Mapping	Field Verified Cowardin Class.	Eggers & Reed Class. <sup>1</sup>	Circ. 39 Class. <sup>2</sup>	Sheet Number (see Figure 2)	Notes
W1	PEM1A	Yes	PEM1A	Seas. flooded basin	Type 1	1	Natural basin
W2	PEM1C	Yes	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W3	PEM1A	Yes	PEM1A	Seas. flooded basin	Type 1	1	Natural basin
W4	Not mapped	Yes	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W5	PFO1A	Yes	PFO1A	Seas. flooded basin	Type 1	2	Natural basin
W6	PFO1A	Yes	PFO1A	Seas. flooded basin	Type 1	2	Natural basin
W7	PEM1A	Yes	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W8	PFO1A	Yes	PFO1A	Seas. flooded basin	Type 1	2	Natural basin
W9	Not mapped	Yes	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W10	Not mapped	Yes	PEM1A	Seas. flooded basin	Type 1	2	Roadside ditch
W11	PEM1A	Partially	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W12	Not mapped	Yes	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W13	PEM1A	Partially	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W14	PEM1A	Yes	PUBGx	Deep marsh	Type 4	3	Excavated for stormwater management
W15	Not mapped	Yes	PSS1A	Shrub carr	Type 6	3	Excavated for stormwater management
W16	PUBGx/PEM1C	No	PUBGx	Deep marsh	Type 4	4	Excavated for stormwater management
W17	Not mapped	No	PSS1A	Shrub carr	Type 6	4	Excavated for stormwater management
W18–W25 are part of the West Broadway Avenue Reconstruction project	See Wetland Delineation Report for the West Broadway Avenue Reconstruction project						—
W26	Not mapped	No	PEM1A	Seas. flooded basin	Type 1	8	Excavated for stormwater management



**Table 1. Summary of Delineated Basins within and near the Proposed BLRT Extension Project**

Wetland ID	Updated NWI Mapping	Hydric Soil Mapping	Field Verified Cowardin Class.	Eggers & Reed Class. <sup>1</sup>	Circ. 39 Class. <sup>2</sup>	Sheet Number (see Figure 2)	Notes
W27	PEM1C	No	PEM1A	Seas. flooded basin	Type 1	10	Excavated for stormwater management
W28	PABGx/PEM1C	Yes	PFO1A	Seas. flooded basin	Type 1	11	Excavated for stormwater management
W29	PEM1C	Yes	PEM1C	Shallow marsh	Type 3	13	Natural basin, likely excavated to augment stormwater management
W30	PUBG/PEM1A	No	PUBGx	Open water	Type 5	14	Excavated for stormwater management
W31	PSS1A	No	PSS1A	Shrub carr	Type 6	16	Natural basin
W32	PFO1A	Partial	PFO1A	Seas. flooded basin	Type 1	17	Natural basin
W33	PABG	No	PUBGx	Open water	Type 5	17	Natural basin, enhanced for stormwater management
W34	PEM1F/PABG	Yes	PEM1F	Deep marsh	Type 4	17	Natural basin, perhaps excavated to augment stormwater management
W35	PEM1F	No	PFO1A	Seas. flooded basin	Type 1	17	Natural basin, enhanced for stormwater management
W36	PSS1A	No	PSS1A	Shrub carr	Type 6	17	Natural basin
W37	Not mapped	No	PEM1A	Seas. flooded basin	Type 1	17	Railroad ditch
W38	PFO1A/PABG	No	PUBGx	Open water	Type 5	18	Excavated for stormwater management
W39	PFO1A	No	PUBGx	Open water	Type 5	18	Natural basin, enhanced for stormwater management
W40	PFO1A	No	PEM1A	Seas. flooded basin	Type 1	19	Natural basin
W41	Not mapped	No	PEM1A	Seas. flooded basin	Type 1	19	Railroad ditch, stormwater management



**Table 1. Summary of Delineated Basins within and near the Proposed BLRT Extension Project**

Wetland ID	Updated NWI Mapping	Hydric Soil Mapping	Field Verified Cowardin Class.	Eggers & Reed Class. <sup>1</sup>	Circ. 39 Class. <sup>2</sup>	Sheet Number (see Figure 2)	Notes
W42	Not mapped	No	PSS1A	Shrub carr	Type 6	20	Railroad ditch, stormwater management
W43 is part of the West Broadway Avenue Reconstruction project	See Wetland Delineation Report for the West Broadway Avenue Reconstruction project						—
W44	PABG	No	PUBGx	Open water	Type 5	16	Natural basin
W45	Not mapped	Partial	PFO1A	Seas. flooded basin	Type 1	16	Natural basin
W46	PFO1A	No	PFO1A	Seas. flooded basin	Type 1	19	Partially natural basin, partially excavated for stormwater management
W46 (riverine)	R2UBG	Yes	R2UBG	Riverine	Riverine	19	Channel of Bassett Creek
W47	PEM1C	No	PFO1A	Seas. flooded basin	Type 1	19	Partially natural basin, partially excavated for stormwater management
W48	R2UBG	No	R2UBGx	Riverine	Type 4	20	Old backwater of Bassett Creek, partially excavated to augment stormwater management
W49	PFO1A	No	PFO1A	Seas. flooded basin	Type 1	20	Railroad ditch
W50	PFO1A	No	PEM1A	Seas. flooded basin	Type 1	19	Natural basin
W51	PEM1A	Yes	PEM1A	Seas. flooded basin	Type 1	3	Wetland Mitigation Bank for Target Corporation
W52	Not mapped	Partial	PEM1A	Seas. flooded basin	Type 1	1	Natural basin
Pond east of W30	PUBG	No	PUBG	Open water	Type 4	14	Excavated for stormwater management

<sup>1</sup> Wetland types based on *Wetland Plants and Plant Communities of Minnesota and Wisconsin* by Eggers and Reed (USACE St. Paul District).

<sup>2</sup> Wetland types classified based on US Fish and Wildlife Circular 39.



## 2.2.2 Streams and Other Aquatic Resources

Bassett Creek and associated backwaters flow through and near a large portion of the proposed BLRT Extension project from North Rice Pond south to Olson Memorial Highway. The headwaters of Bassett Creek is Medicine Lake in Plymouth, and its confluence with the Mississippi River is in the City of Minneapolis. Along its entire length, Bassett Creek is currently listed on the MPCA 303(d) List of Impaired Waters. Aquatic recreation is impaired as a result of high fecal coliform. Aquatic life is impaired as a result of high chloride and stressors affecting the fish community in Bassett Creek.

**Table 2** summarizes those areas within the proposed BLRT Extension project area that are designated as DNR public waters, public waters wetlands, or public watercourses.

**Table 2. Summary of DNR Public Waters, Public Waters Wetlands, and Public Watercourses within the Proposed BLRT Extension Project Area**

Public Waters ID <sup>1</sup>	Wetland Basin ID	Notes
644W	Wetlands 32 and 33	North Rice Pond and Grimes Pond
651P	Wetland 46	Backwaters of Bassett Creek near Plymouth Avenue
36P	Wetland 48	Backwaters of Bassett Creek near Olson Memorial Highway
Bassett Creek	Adjacent to Wetland 46	Channel of Bassett Creek

Source: DNR Public Waters Inventory

<sup>1</sup> “W” indicates DNR public waters wetlands; “P” indicates public waters; unnumbered waterbodies indicate public watercourses.



### 2.2.3 Notable Aquatic Habitats within the Proposed BLRT Extension Project Area

**Table 3** summarizes characteristics and locations of four notable aquatic habitats within and near the proposed BLRT Extension project; the North and South Rice Ponds Complex, Grimes Pond, Golden Valley Ponds Complex, and the Theodore Wirth Regional Park Complex (Bassett Creek and associated backwaters). In the context of this technical report, the term *notable* is used in a general sense and signifies larger wetlands with a variety of wetland habitats and functions.

**Table 3. Notable Aquatic Habitats within and near the Proposed BLRT Extension Project Area**

Aquatic Habitat	Location	Total Size (ac)	Wildlife Associations
North and South Rice Ponds	Cities of Robbinsdale and Golden Valley on west side of existing BNSF tracks	24.72	Habitat for frogs and toads, turtles, snakes, potential habitat for common rough fish species
Grimes Pond	City of Robbinsdale on the east side of existing BNSF tracks	7.41	Habitat for frogs and toads, turtles, snakes, potential habitat for common rough fish species
Golden Valley Road Ponds	North side of Golden Valley Road on both sides of the existing BNSF tracks	5.08	Habitat for frogs and toads, turtles, snakes, potential habitat for common rough fish species
Theodore Wirth Regional Park (Bassett Creek and backwater)	North and south of the Plymouth Avenue Bridge on the west side of the existing BNSF tracks	11.85	Habitat for frogs and toads, turtles, snakes, potential habitat for common rough fish species

Sources: Field data collection (Council, 2015) and the National Wetland Inventory (updated 2013)



## 2.3 Environmental Consequences

### 2.3.1 Wetland Impacts within the Proposed BLRT Extension Project Area

Wetlands were delineated along the proposed BLRT Extension project and associated facilities during the spring and summer of 2015. The wetlands inventoried along with potential impacts by wetland type are summarized in **Table 4**. **Table 4** also describes a portion of the delineated basins as being currently used as stormwater ponds and others as being natural wetland basins. The jurisdictional status of all delineated basins in the proposed BLRT Extension project area with respect to WCA and USACE has been established based on agency review and concurrence with conclusions in the *Technical Memorandum: Jurisdictional Issues Associated with Delineated Basins; Blue Line Extension LRT*. **Table 5** summarizes wetland impacts data per delineated basin. Impact areas are shown in **Figure 2** beginning on page 25.

Standard erosion control best management practices (BMPs) would be used for work within adjacent wetland and aquatic resources where necessary, minimizing impacts to the waterbodies down slope and to aquatic wildlife.

**Table 4. Disturbance or Fill in Delineated Basins for the Proposed BLRT Extension Project by Wetland Type**

Wetland Type (Circular 39) <sup>1</sup>	Wetland Type (Eggers and Reed) <sup>2</sup>	Total Impacts (acres)	Impacts Requiring Mitigation for WCA (acres)	Impacts Requiring Mitigation for USACE (acres)
Type 1	Seasonally Flooded Basin	6.5824	4.2731	2.5166
Type 4	Deep Marsh	2.4892	0.1038	1.0138
Type 5	Open Water	3.6152	1.6922	0.4195
Type 6	Shrub Carr	0.5010	0.2124	0.2124
Riverine	Riverine	450 linear feet (Bassett Creek)	450 linear feet (Bassett Creek)	450 linear feet (Bassett Creek)
<b>Total</b>		<b>13.1878</b>	<b>6.2815</b>	<b>4.1623</b>

<sup>1</sup> Wetland types classified based on US Fish and Wildlife Circular 39.

<sup>2</sup> Plant communities classified based on *Wetland Plants and Plant Communities of Minnesota and Wisconsin* by Eggers and Reed (USACE St. Paul District).



**Table 5. Wetland Disturbance or Fill for the Proposed BLRT Extension Project**

Wetland ID	Potential Wetland Impacts (acres)	Potential Stormpond Impacts	Hydric Soil Mapping	Field Verified Cowardin	Eggers and Reed Class. <sup>1</sup>	Circ. 39 Class. <sup>2</sup>	Sheet Number (See Figure 2)	Notes
W1	0.0000	—	Yes	PEM1A	Seas. flooded basin	Type 1	1	Natural basin
W2	0.0000	—	Yes	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W3	0.0000	—	Yes	PEM1A	Seas. flooded basin	Type 1	1	Natural basin
W4	0.1357	—	Yes	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W5	0.0000	—	Yes	PFO1A	Seas. flooded basin	Type 1	2	Natural basin
W6	0.0000	—	Yes	PFO1A	Seas. flooded basin	Type 1	2	Natural basin
W7	0.2869	—	Yes	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W8	0.0254	—	Yes	PFO1A	Seas. flooded basin	Type 1	2	Natural basin
W9	0.0012	—	Yes	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W10	—	0.0000	Yes	PEM1A	Seas. flooded basin	Type 1	2	Roadside ditch
W11	0.0000	—	Partially	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W12	0.0565	—	Yes	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W13	0.5333	—	Partially	PEM1A	Seas. flooded basin	Type 1	2	Natural basin
W14	—	0.6058	Yes	PUBGx	Deep marsh	Type 4	3	Excavated for stormwater management
W15	—	0.0000	Yes	PSS1A	Shrub carr	Type 6	3	Excavated for stormwater management
W16	—	0.8194	No	PUBGx	Deep marsh	Type 4	4	Excavated for stormwater management
W17	—	0.0000	No	PSS1A	Shrub carr	Type 6	4	Excavated for stormwater management



**Table 5. Wetland Disturbance or Fill for the Proposed BLRT Extension Project**

Wetland ID	Potential Wetland Impacts (acres)	Potential Stormpond Impacts	Hydric Soil Mapping	Field Verified Cowardin	Eggers and Reed Class. <sup>1</sup>	Circ. 39 Class. <sup>2</sup>	Sheet Number (See Figure 2)	Notes
W18–W25 are part of the West Broadway Avenue Reconstruction project	—	—	—	—	—	—	—	—
W26	—	0.0100	No	PEM1A	Seas. flooded basin	Type 1	8	Excavated for stormwater management
W27	—	0.0000	No	PEM1A	Seas. flooded basin	Type 1	10	Excavated for stormwater management
W28	0.4303	—	Yes	PFO1A	Seas. flooded basin	Type 1	11	Excavated for stormwater management
W29	—	0.0000	Yes	PEM1C	Shallow marsh	Type 3		Natural basin, likely excavated to augment stormwater management
W30	—	0.0000	No	PUBGx	Open water	Type 5	14	Excavated for stormwater management
W31	part of W32	—	No	PSS1A	Shrub carr	Type 6	16	Excavated for stormwater management
W32	1.2544	—	No	PFO1A	Seas. flooded basin	Type 1	17	Excavated for stormwater management





**Table 5. Wetland Disturbance or Fill for the Proposed BLRT Extension Project**

Wetland ID	Potential Wetland Impacts (acres)	Potential Stormpond Impacts	Hydric Soil Mapping	Field Verified Cowardin	Eggers and Reed Class. <sup>1</sup>	Circ. 39 Class. <sup>2</sup>	Sheet Number (See Figure 2)	Notes
W33	1.692 <sup>3</sup>	—	No	PUBGx	Open water	Type 5	17	Excavated for stormwater management many years ago.
W34	0.0000	—	Yes	PEM1F	Deep marsh	Type 4	17	Natural basin, perhaps excavated to augment stormwater management
W35	0.4033	—	No	PFO1A	Seas. flooded basin	Type 1	17	Mostly a railroad ditch excavated for ballast
W36	0.2124	—	No	PSS1A	Shrub carr	Type 6	17	Mostly a wide railroad ditch excavated for ballast
W37	—	0.0755	No	PEM1A	Seas. flooded basin	Type 1	17	Railroad ditch
W38	0.0000	—	No	PUBGx	Open water	Type 5	18	Excavated for stormwater management
W39	1.051	—	No	PUBGx	Open water	Type 5	18	Excavated for stormwater management
W40	0.3127	—	No	PEM1A	Seas. flooded basin	Type 1	19	Railroad ditch
W41	—	0.1917	No	PEM1A	Seas. flooded basin	Type 1	19	Railroad ditch
W42	—	0.2886	No	PSS1A	Shrub carr	Type 6	20	Railroad ditch



**Table 5. Wetland Disturbance or Fill for the Proposed BLRT Extension Project**

Wetland ID	Potential Wetland Impacts (acres)	Potential Stormpond Impacts	Hydric Soil Mapping	Field Verified Cowardin	Eggers and Reed Class. <sup>1</sup>	Circ. 39 Class. <sup>2</sup>	Sheet Number (See Figure 2)	Notes
W43 is part of the West Broadway Avenue Reconstruction project	—	—						
W44	0.8722	—	No	PUBGx	Open water	Type 5	16	Railroad ditch
W45	1.3465	—	No	PFO1A	Seas. flooded basin	Type 1	16	Excavated for stormwater management
W46 (riverine)	Riverine	—	Yes	Riverine	Riverine	Riverine	19	Channel of Bassett Creek
W46	1.0440	—	No	PFO1A	Seas. flooded basin	Type 1	19	Partially natural basin, partially excavated for stormwater management
W47	(included with W46)	—	No	PFO1A	Seas. flooded basin	Type 1	19	Partially natural basin, partially excavated for stormwater management
W48	0.1540	—	No	R2UBGx	Riverine	Type 4	20	Old backwater of Bassett Creek, partially excavated to augment stormwater management



**Table 5. Wetland Disturbance or Fill for the Proposed BLRT Extension Project**

Wetland ID	Potential Wetland Impacts (acres)	Potential Stormpond Impacts	Hydric Soil Mapping	Field Verified Cowardin	Eggers and Reed Class. <sup>1</sup>	Circ. 39 Class. <sup>2</sup>	Sheet Number (See Figure 2)	Notes
W49	—	0.1018	No	PFO1A	Seas. flooded basin	Type 1	20	Railroad ditch
W50	0.1176	—	No	PEM1A	Seas. flooded basin	Type 1	19	Railroad ditch
W51	0.2095	—	Yes	PEMA	Seas. flooded basin	Type 1	3	Wetland Mitigation Bank for Target Corporation
W52	0.0461	—	Yes	PEMA	Seas. flooded basin	Type 1	1	Natural basin (disturbed)
Near Wetland 30, not delineated	—	0.91	No	PEMF	Deep marsh	Type 4	14	MnDOT Stormpond

<sup>1</sup> Wetland types classified based on *Wetland Plants and Plant Communities of Minnesota and Wisconsin* by Eggers and Reed (USACE St. Paul District).

<sup>2</sup> Wetland types classified based on US Fish and Wildlife Circular 39.

<sup>3</sup> Wetland impacts of 1.692 acres are the area of the elevated platform above Grimes Pond. Actual impacts are assumed to be less than 1.692 acres and would be the cumulative footprint of the cross-sections of the support piers.



### 2.3.2 Stream and Other Aquatic Resource Impacts within the Proposed BLRT Extension Project Area

A portion of Bassett Creek, a stream reach of approximately 450 feet total length, near the Plymouth Avenue bridge would be relocated to accommodate the Blue Line Extension LRT and associated infrastructure. The upstream limit of the stream relocation would be approximately 200 feet north of the Plymouth Avenue centerline, and the downstream limit would be approximately 250 feet south of the Plymouth Avenue bridge centerline. This reach of Bassett Creek would be moved approximately 20 feet west. The final design of the creek realignment will include considerations for construction staging to ensure that flow rates are managed and to ensure safe discharge of the flows during construction. These may include diversion and pumping and scheduling the construction during winter when the flows are typically low.

**Table 6** summarizes impacts to those areas within the proposed BLRT Extension project area that are designated as DNR public waters, public waters wetlands, or public watercourses.

**Table 6. Summary of DNR Public Waters, Public Waters Wetlands, and Public Watercourses within the Proposed BLRT Extension Project Area**

Public Waters ID <sup>1</sup>	Wetland Basin ID	Potential Impacts (acres or linear feet)	Notes
644W	Wetlands 32 and 33	1.692 <sup>2</sup>	North Rice Pond and Grimes Pond
651P	Wetland 46	1.0440	Backwaters of Bassett Creek near Plymouth Avenue
36P	Wetland 48	0.1540	Backwaters of Bassett Creek near Olson Memorial Highway
Bassett Creek	Adjacent to Wetland 46	Approximately 450 linear feet of Bassett Creek	Channel of Bassett Creek

Source: DNR Public Waters Inventory

<sup>1</sup> “W” indicates DNR public waters wetlands; “P” indicates public waters; unnumbered waterbodies indicate public watercourses.

<sup>2</sup> Impacts reported here are based on the area of the elevated rail platform. Actual impacts would likely be less and would be based on the cumulative footprint of the support pillars within the public water.



## 2.4 Potential Mitigation

Throughout the planning and design phases of the proposed BLRT Extension project, wetland impacts will be avoided and minimized to the extent practicable. For those wetland impacts that cannot be avoided, suitable wetland mitigation will be required.

The current replacement ratio for wetland credits in the Twin Cities Metropolitan Area including the proposed BLRT Extension project study area is 2.5 to 1, although under certain conditions it may be reduced to 2 to 1. Such conditions include the use of mitigation that is functioning prior to wetland impacts, mitigation using the same wetland type as the impacts and mitigation geographically close to the impacts. The final amount, type, and location of wetland replacement or bank credits will be determined by the respective permitting agencies during final design and the permit review process.

Wetland mitigation for the proposed BLRT Extension project will be accomplished through a combination of on-site wetland mitigation and purchases of private wetland credits from existing mitigation banks in suitable Major Watersheds and Bank Service Areas. As presented in the Minnesota Interagency Water Resource Application (the joint Section 404/WCA wetland permit application—see [Appendix I](#) of the Final EIS) 4.1623 acres of the wetland impacts within the proposed BLRT Extension project will require mitigation under USACE requirements, and 6.2815 acres of wetland impacts will require mitigation under WCA requirements. Much of the USACE and WCA jurisdictional impacts overlap; the wetland permit application notes that about 12–14 acres of wetland mitigation will be required. The remainder of delineated basins are stormponds and would require storm volume replacement but not wetland mitigation. Given the urbanized and rapidly urbanizing nature of the proposed BLRT Extension project area, on-site wetland mitigation opportunities are somewhat limited. Some mitigation opportunities are being considered within Theodore Wirth Regional Park within the proposed floodplain mitigation area associated with Bassett Creek. Opportunities to combine wetland mitigation and floodplain mitigation are being studied.

The entire proposed BLRT Extension project alignment lies within the “<50 percent area” of Minnesota, Major Watershed #20 (Mississippi River – Twin Cities) and Bank Service Area (BSA) 7. Thus, purchases of private wetland mitigation credits will first be sought within the “<50 percent area” of Minnesota, BSA 7 and Major Watershed #20. Purchase of credits from Hennepin County banks will be prioritized. However, as a result of the scarcity of suitable credits within Hennepin County, additional suitable credits will likely be purchased from banks in Carver County. The search for suitable private wetland credits will be expanded to adjacent BSAs and Major Watersheds if needed, though a mitigation ratio higher than 2:1 would typically apply in this scenario.

The reach of Bassett Creek near the Plymouth Avenue Bridge will be moved several feet to the west. During construction, this reach of Bassett Creek will be diverted to accommodate the required in-stream work. Mitigation for these impacts to Bassett Creek will use appropriate erosion control and stream restoration methods.

Standard erosion control BMPs will be used for work within adjacent wetland and aquatic resources where necessary, minimizing impacts to the waterbodies down slope and to aquatic wildlife.



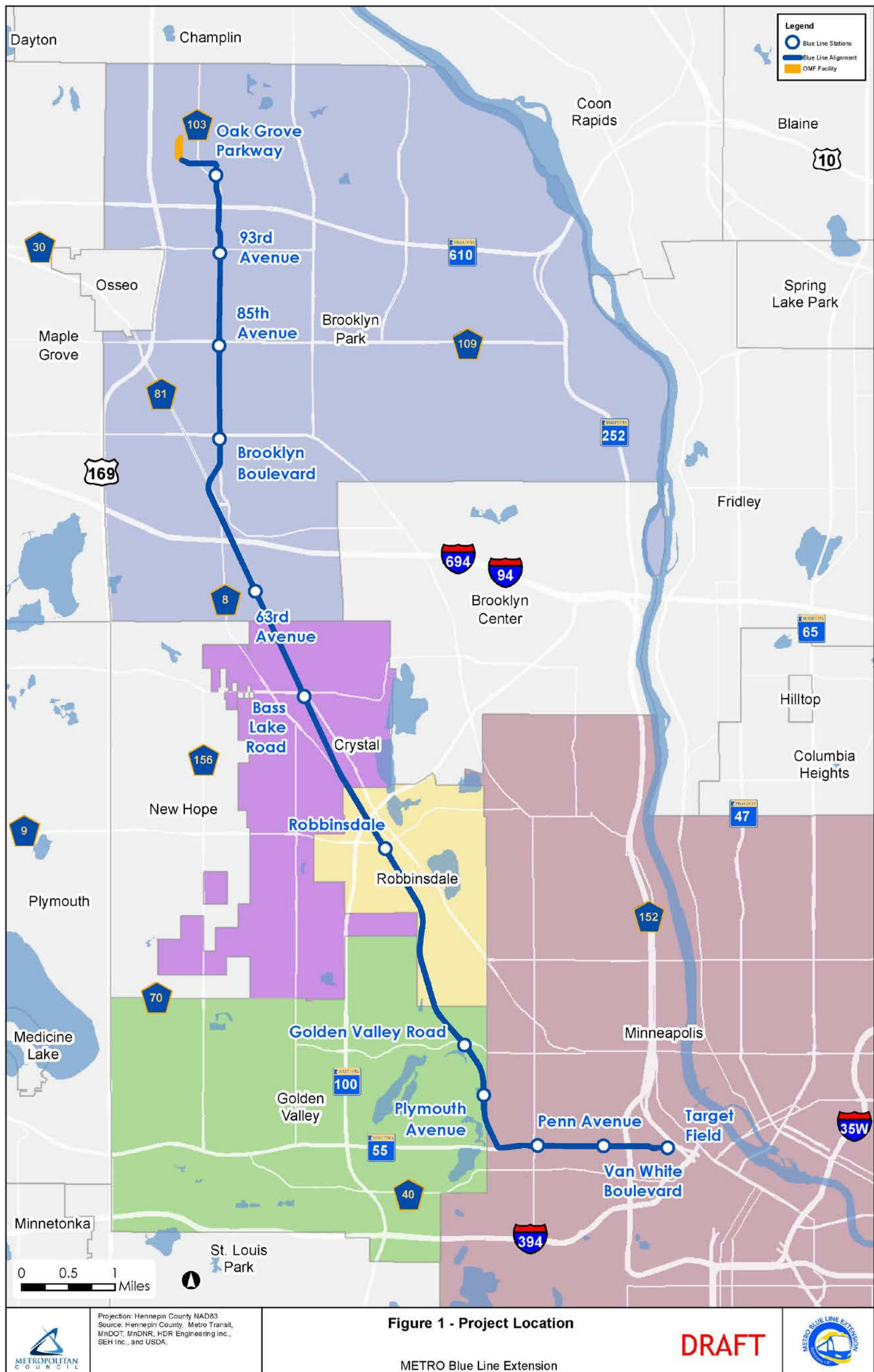
### 3 References

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Figure 1. General Location Map



1/18/2016





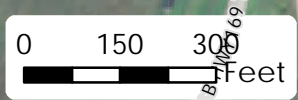
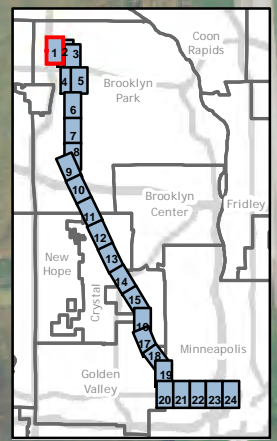
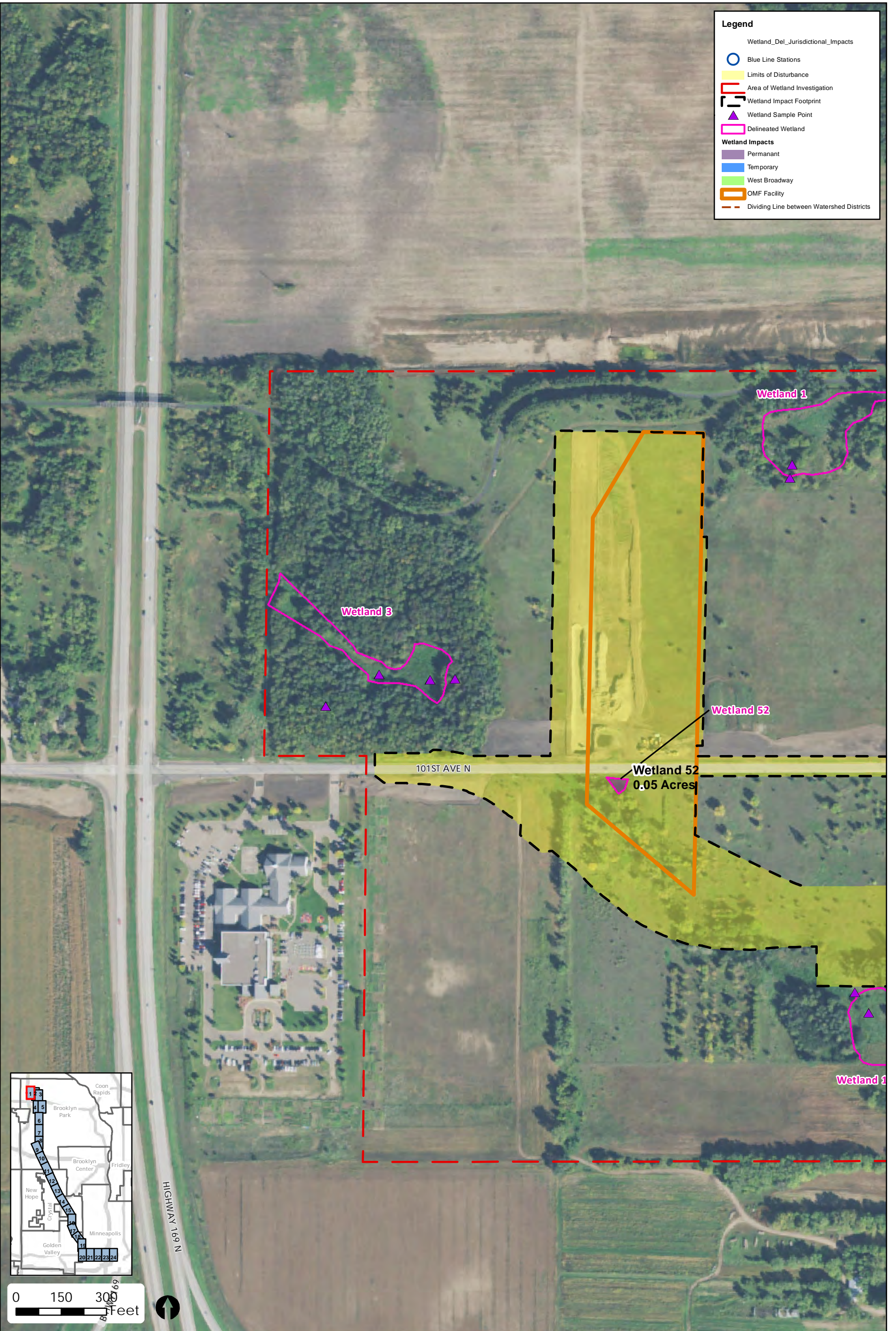
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- Blue Line Stations
- Limits of Disturbance
- Area of Wetland Investigation
- Wetland Impact Footprint
- Wetland Sample Point
- Delineated Wetland

**Wetland Impacts**

- Permanant
- Temporary
- West Broadway
- OMF Facility
- Dividing Line between Watershed Districts



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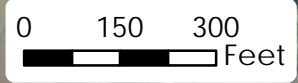
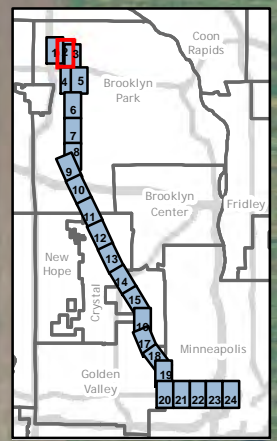
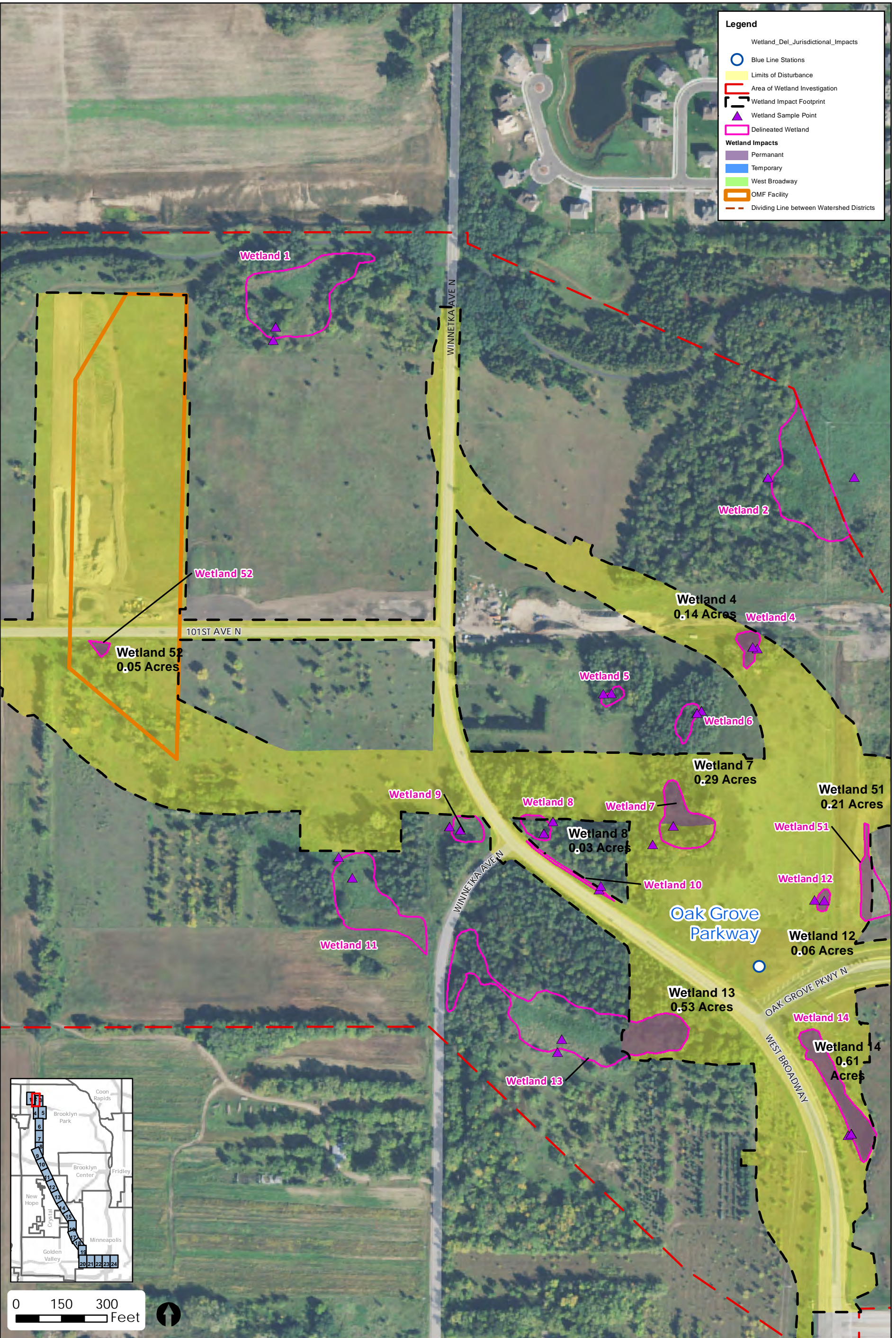
**Figure 2 - Wetlands**  
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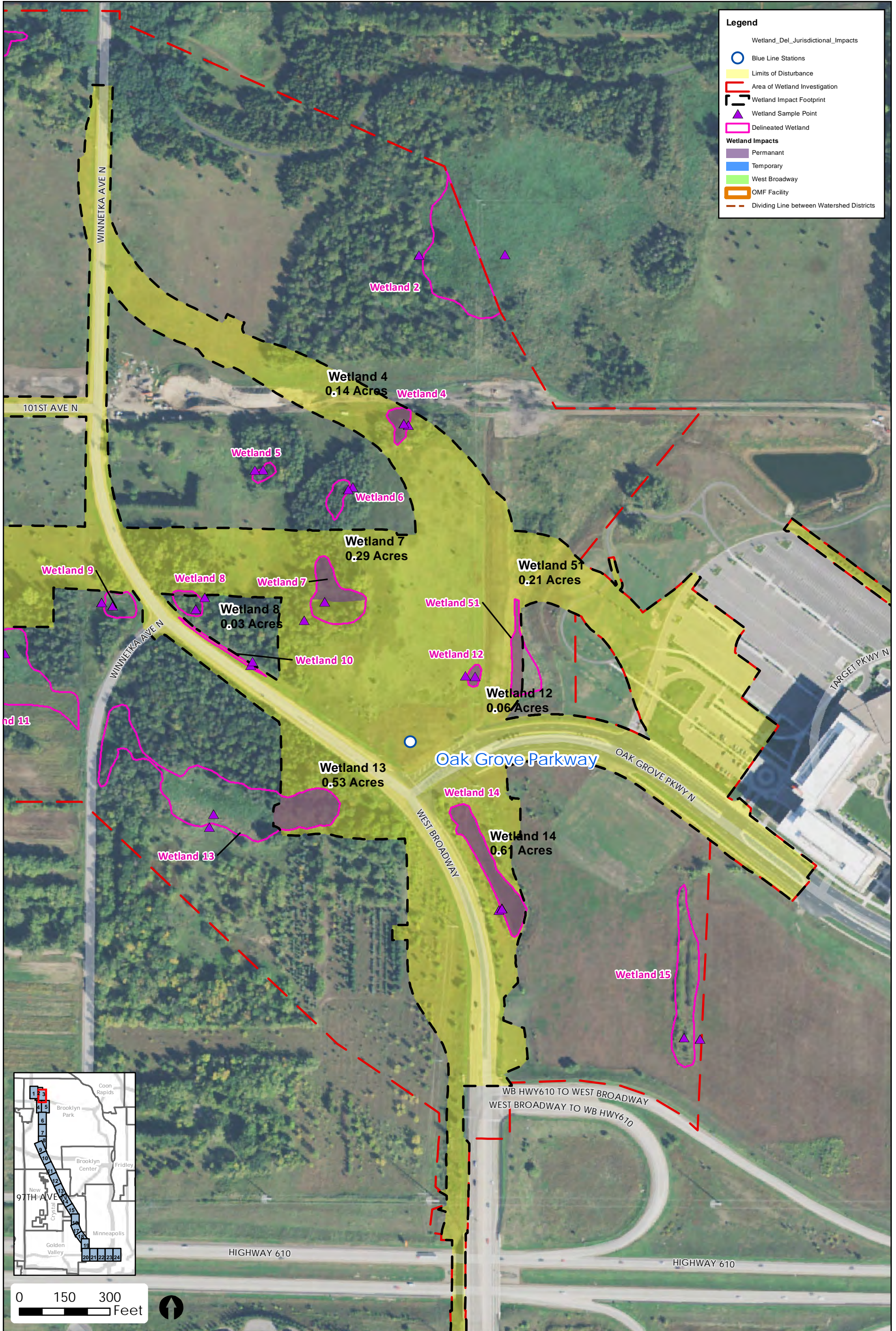
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**Figure 2 - Wetlands**  
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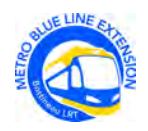
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**Figure 2 - Wetlands**  
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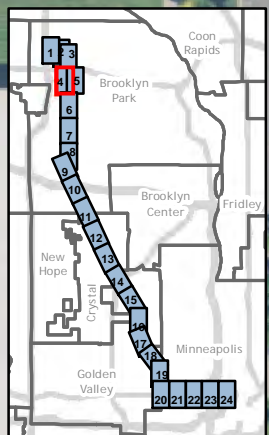
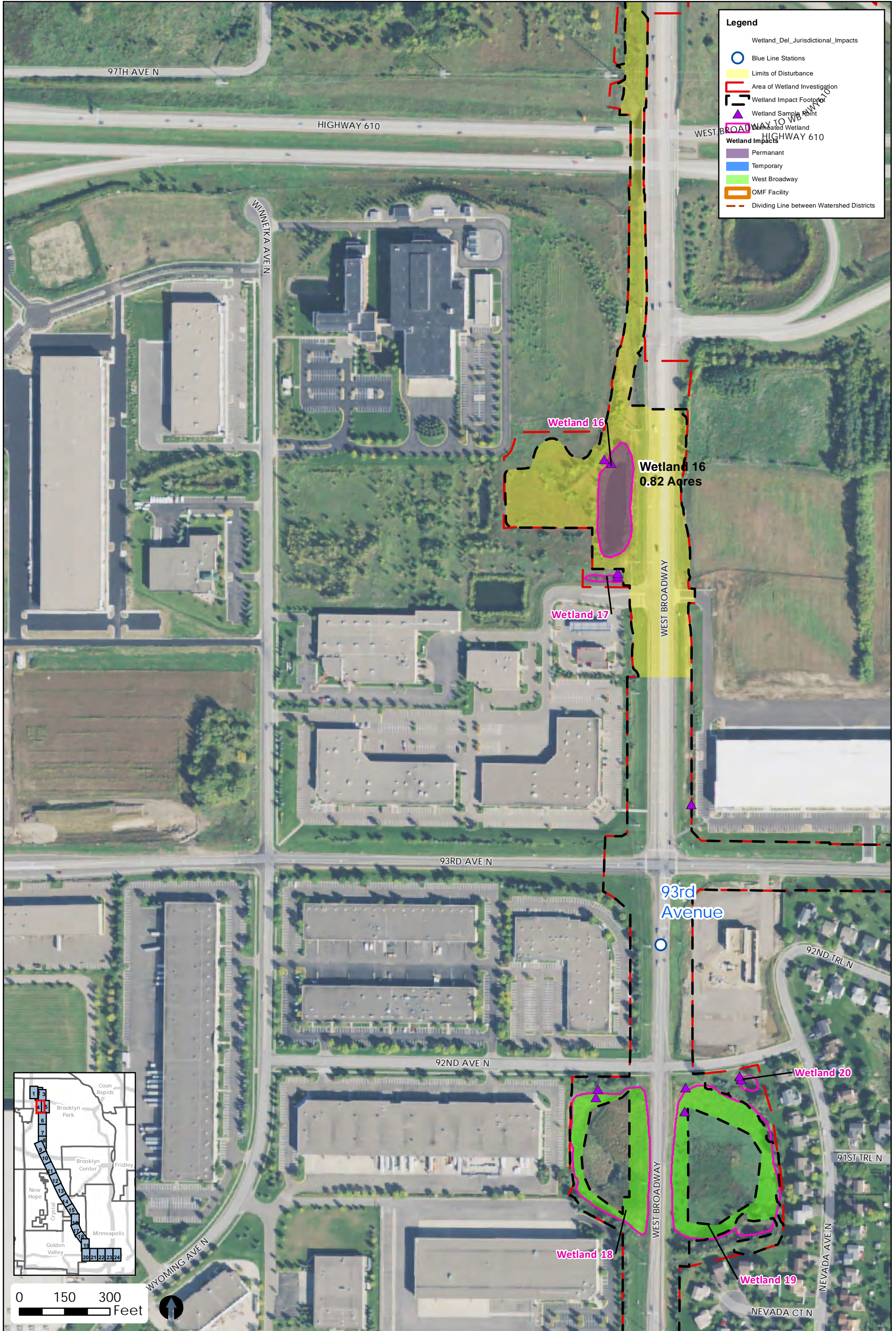
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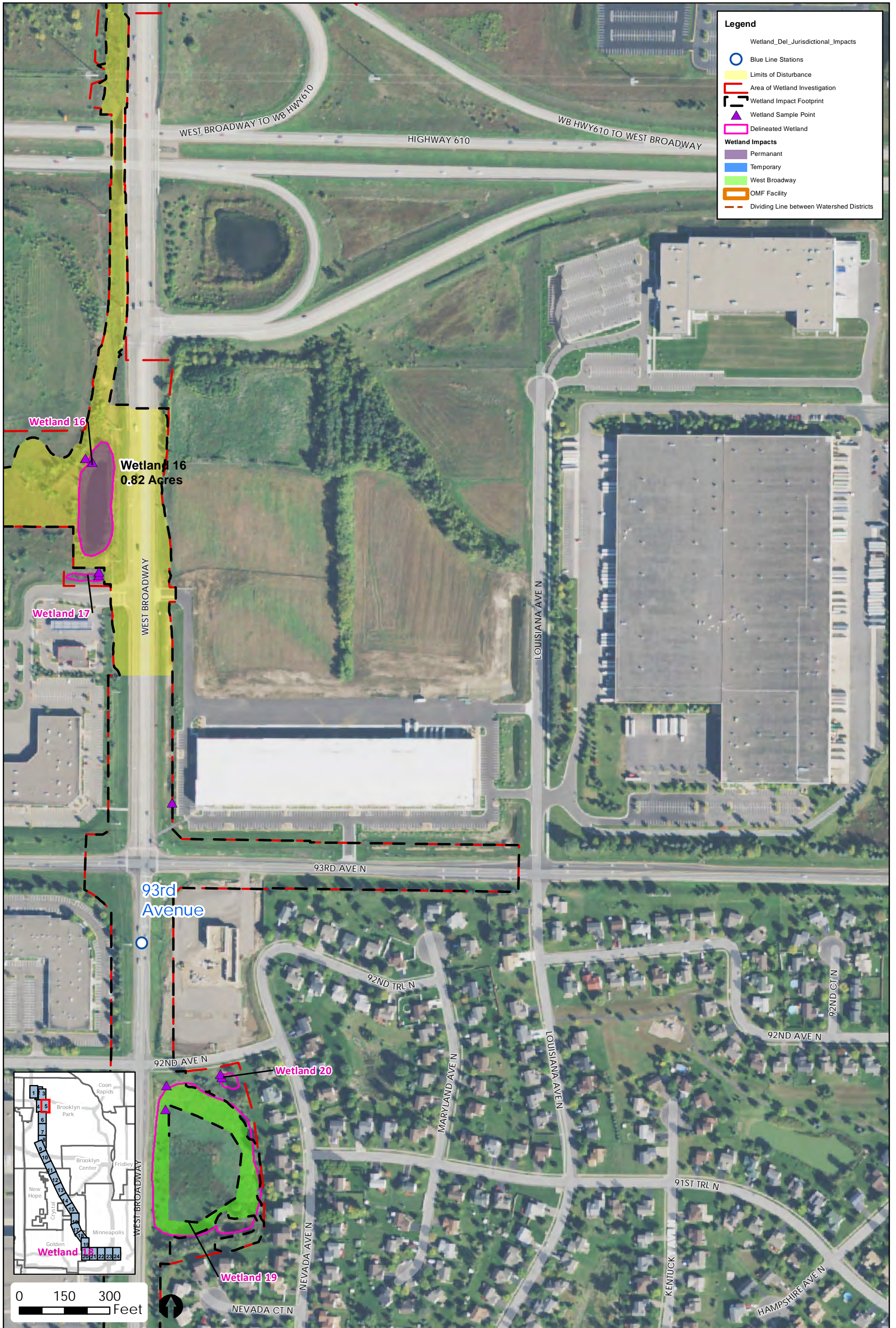
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**Figure 2 - Wetlands**  
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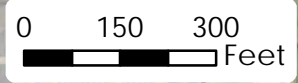
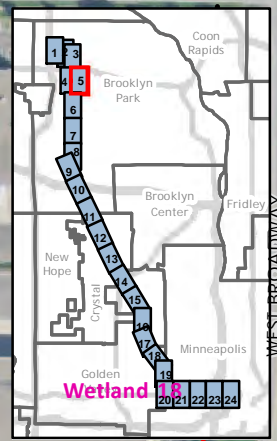
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**Wetland 16**  
0.82 Acres

**93rd Avenue**

**Wetland 20**

**Wetland 19**



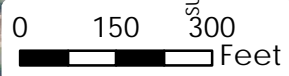
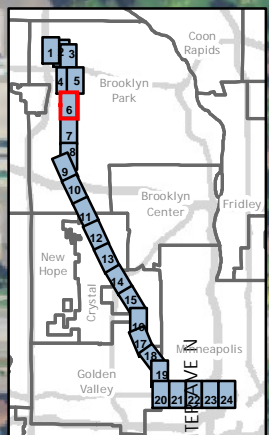
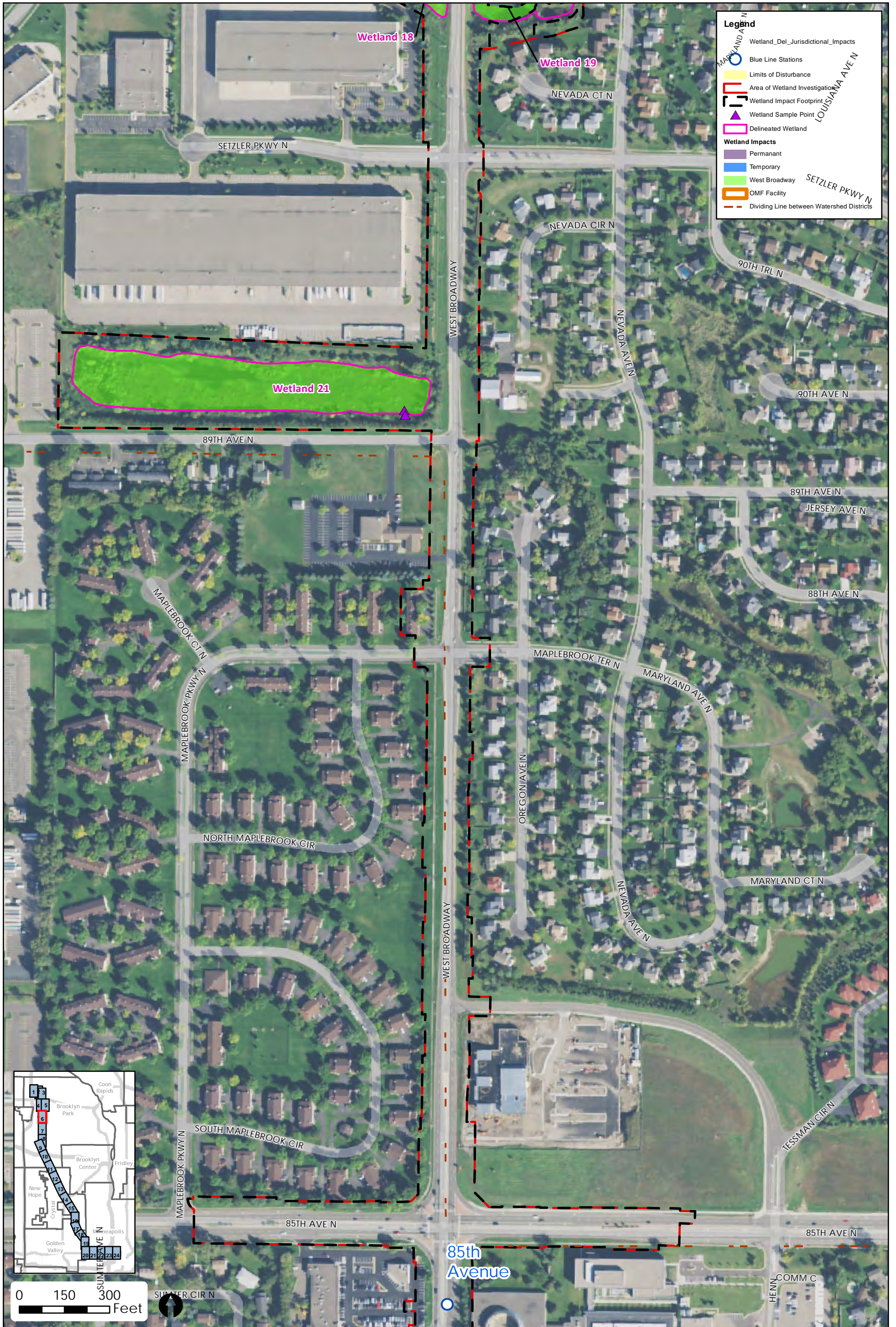
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**Figure 2 - Wetlands**  
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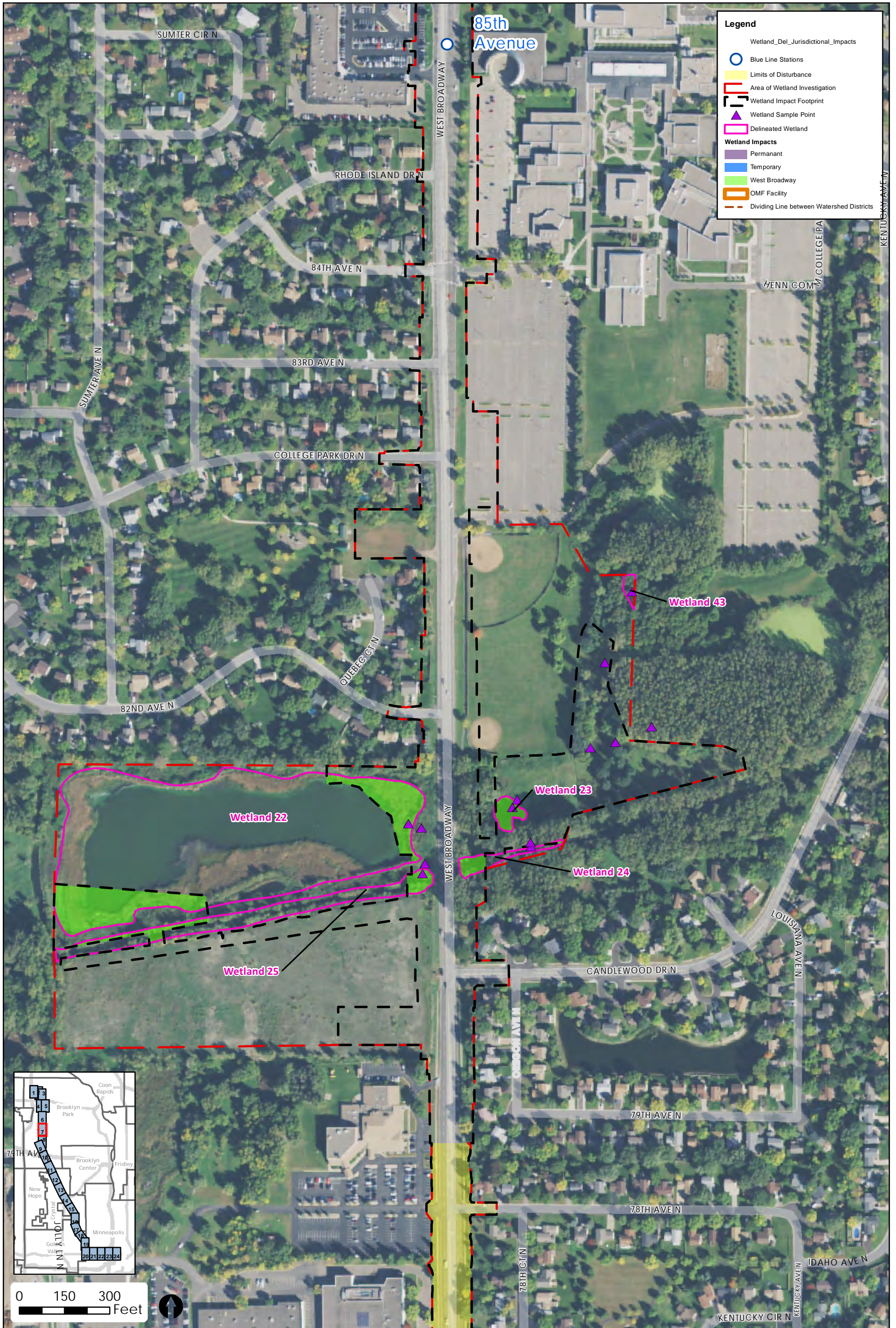
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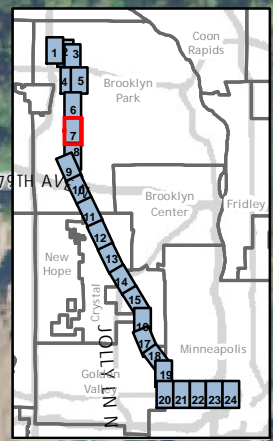
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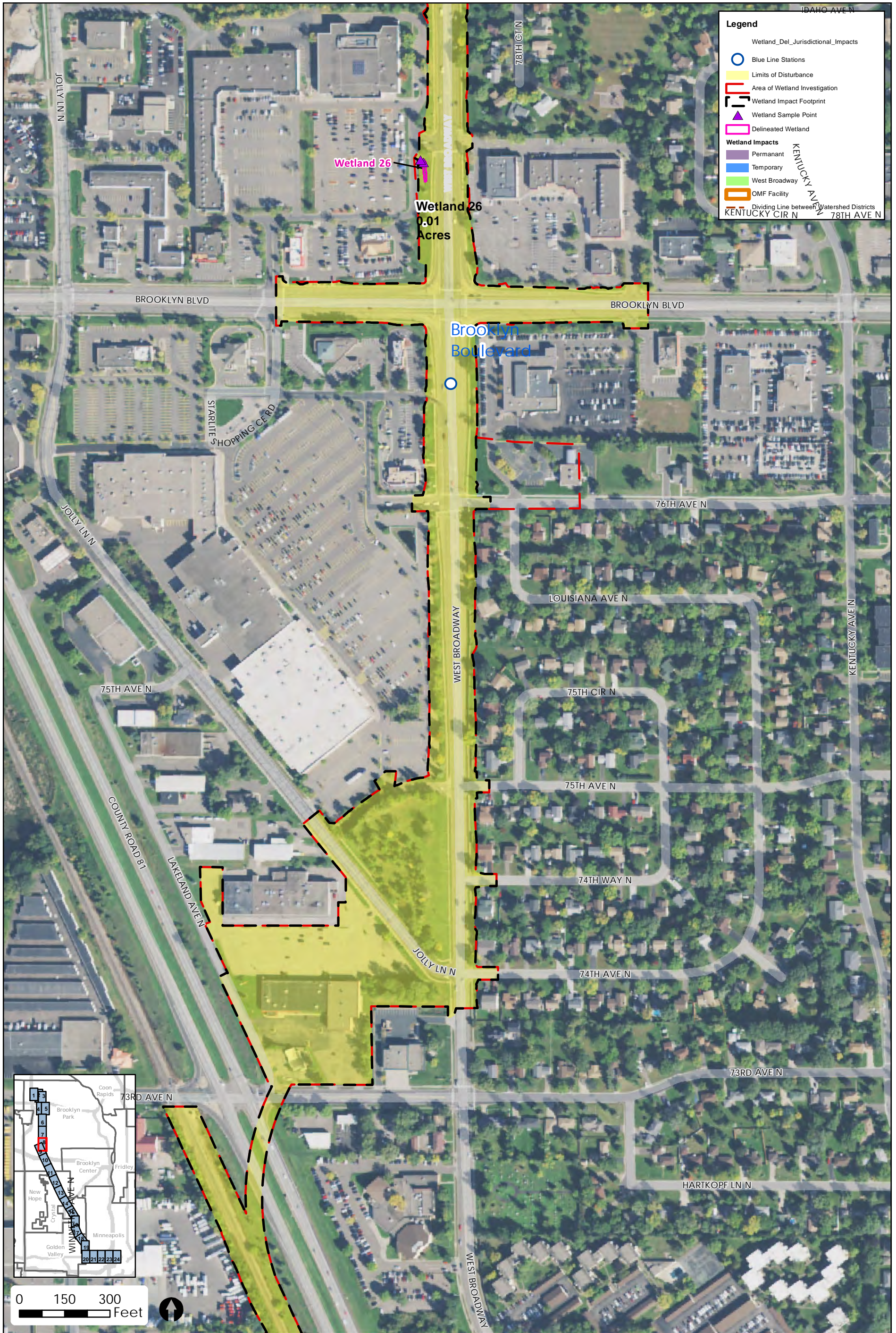
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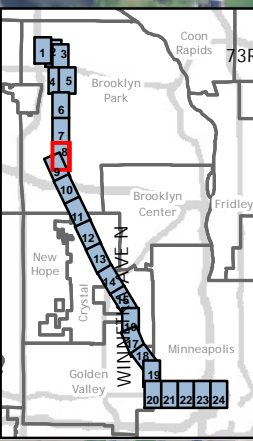






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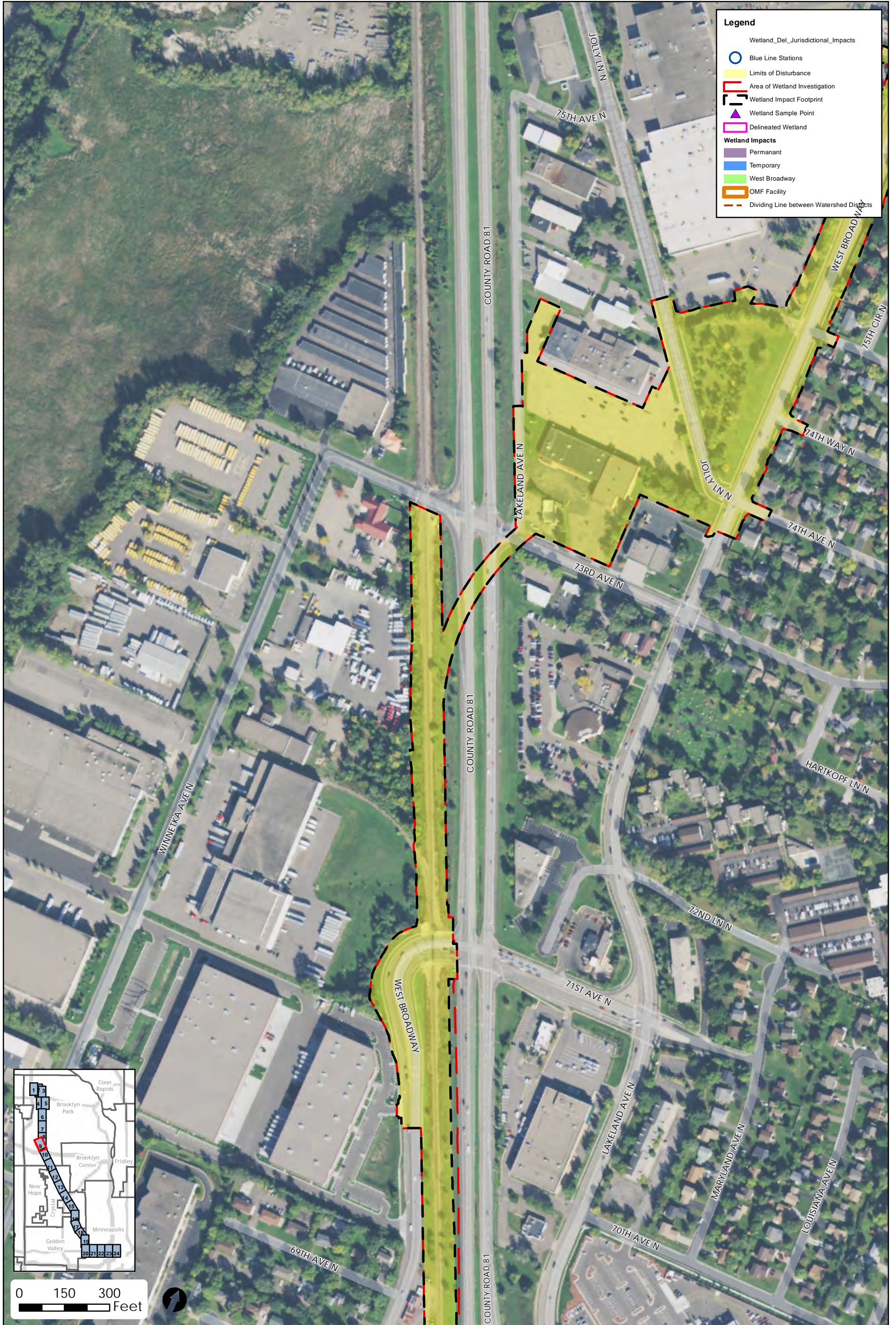
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**Figure 2 - Wetlands**  
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METRO Blue Line Extension

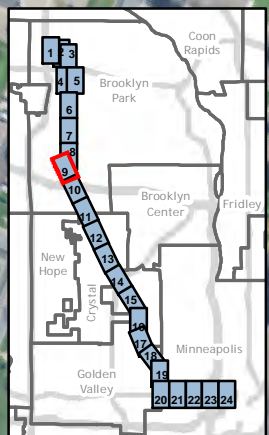
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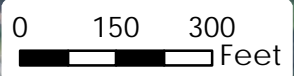
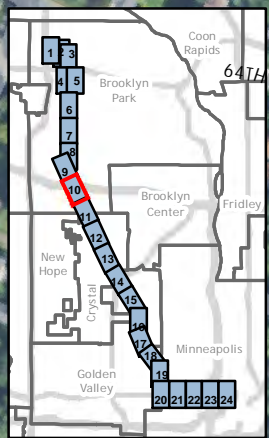
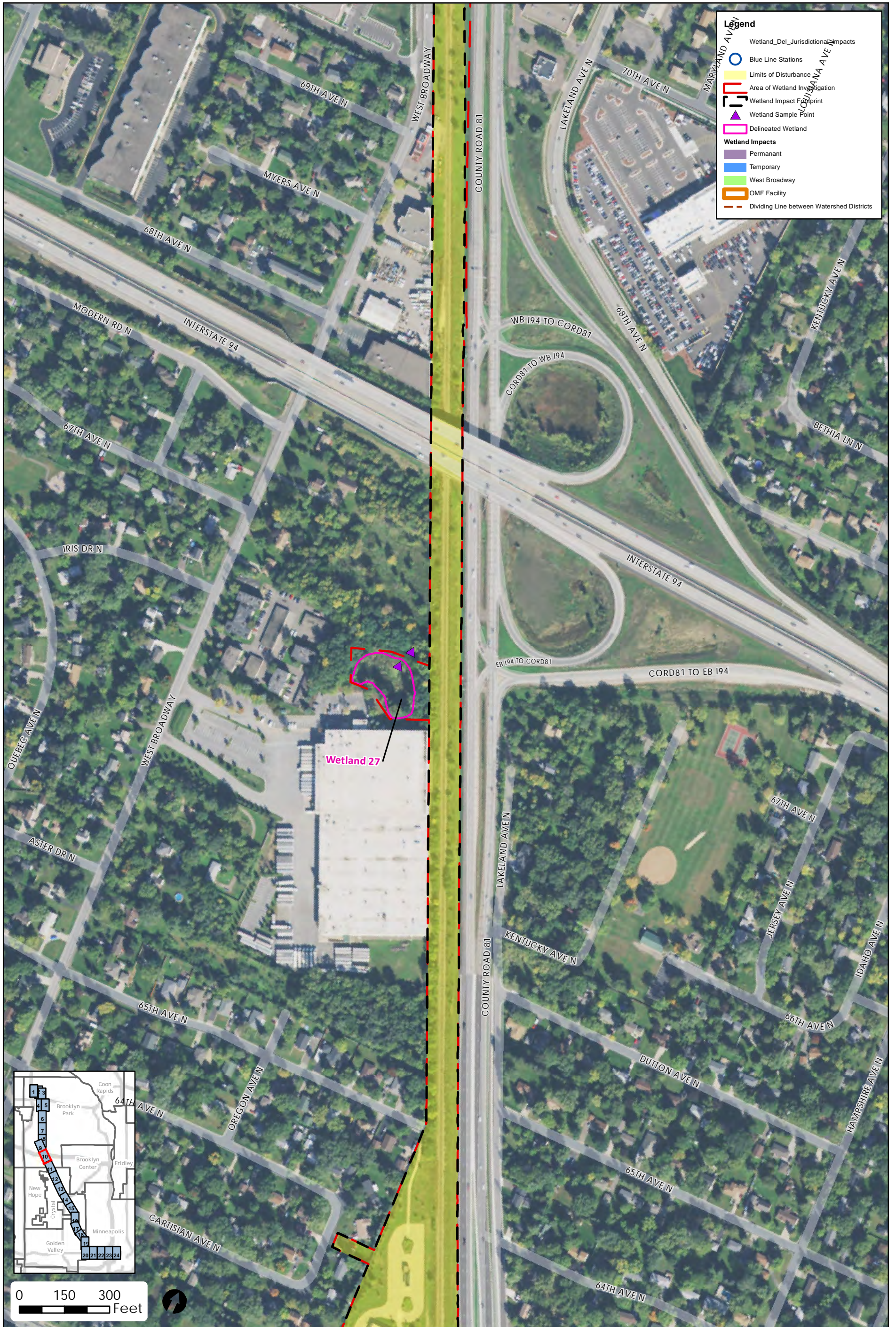
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**Figure 2 - Wetlands**  
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METRO Blue Line Extension

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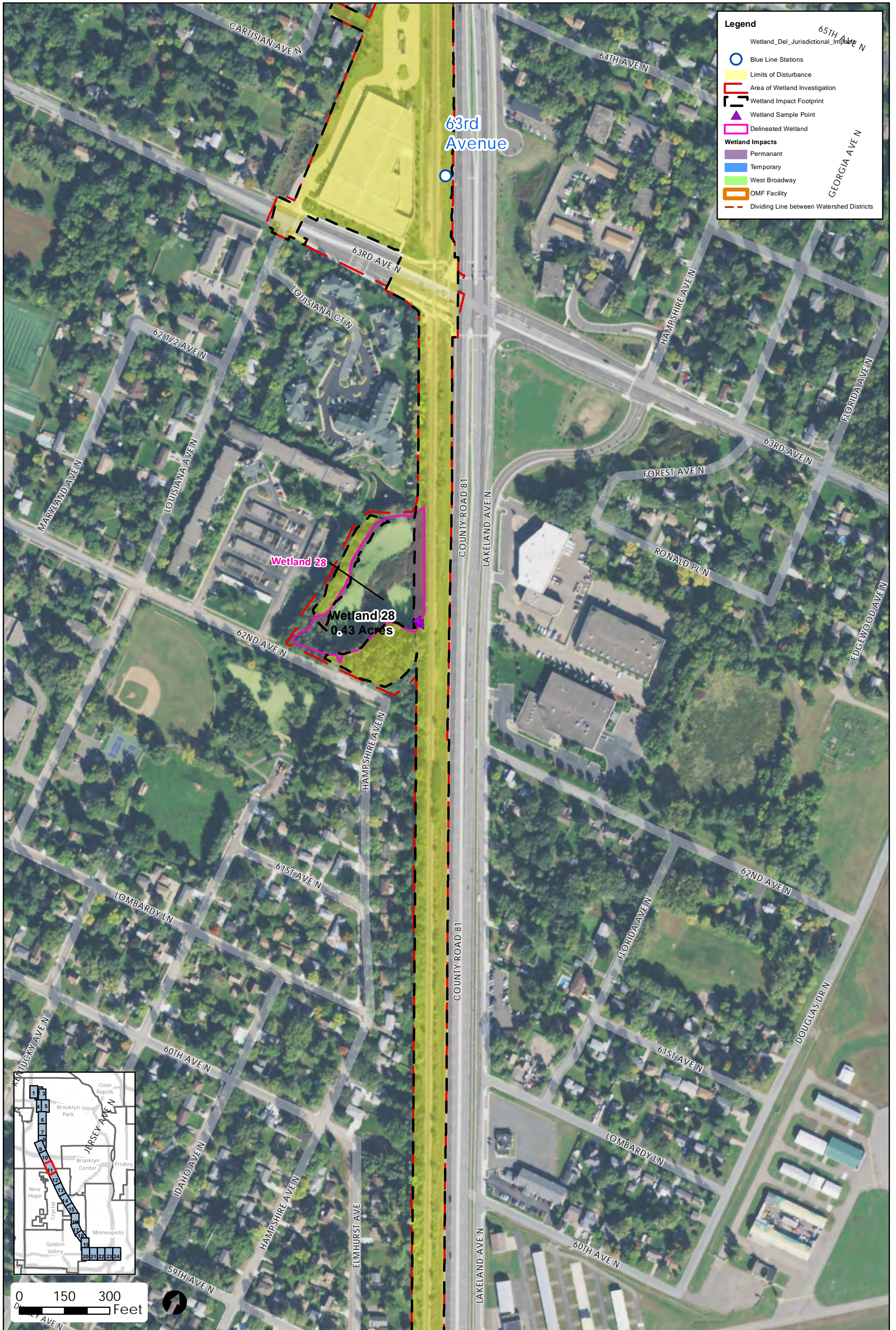
Projection: Hennepin County NAD83  
 Source: Hennepin County, Metro Transit,  
 MNDOT, MnDNR, HDR Engineering Inc.,  
 and SEH Inc.

**Figure 2 - Wetlands**  
 Page 10

METRO Blue Line Extension

**DRAFT**

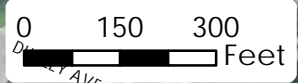
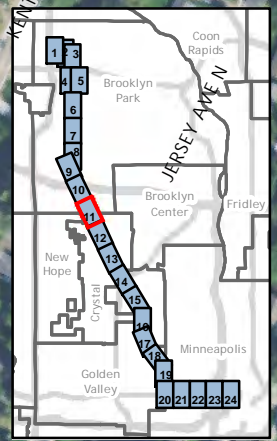




- Legend**
- Wetland\_De\_Jurisdictional\_Impact
  - Blue Line Stations
  - Limits of Disturbance
  - Area of Wetland Investigation
  - Wetland Impact Footprint
  - Wetland Sample Point
  - Delineated Wetland
  - Wetland Impacts**
  - Permanent
  - Temporary
  - West Broadway
  - OMF Facility
  - Dividing Line between Watershed Districts

Wetland 28  
 Wetland 28  
 0.43 Acres

63rd Avenue



Projection: Hennepin County NAD83  
 Source: Hennepin County, Metro Transit,  
 MnDOT, MnDNR, HDR Engineering Inc.,  
 and SEH Inc.

**Figure 2 - Wetlands**  
 Page 11

METRO Blue Line Extension

**DRAFT**





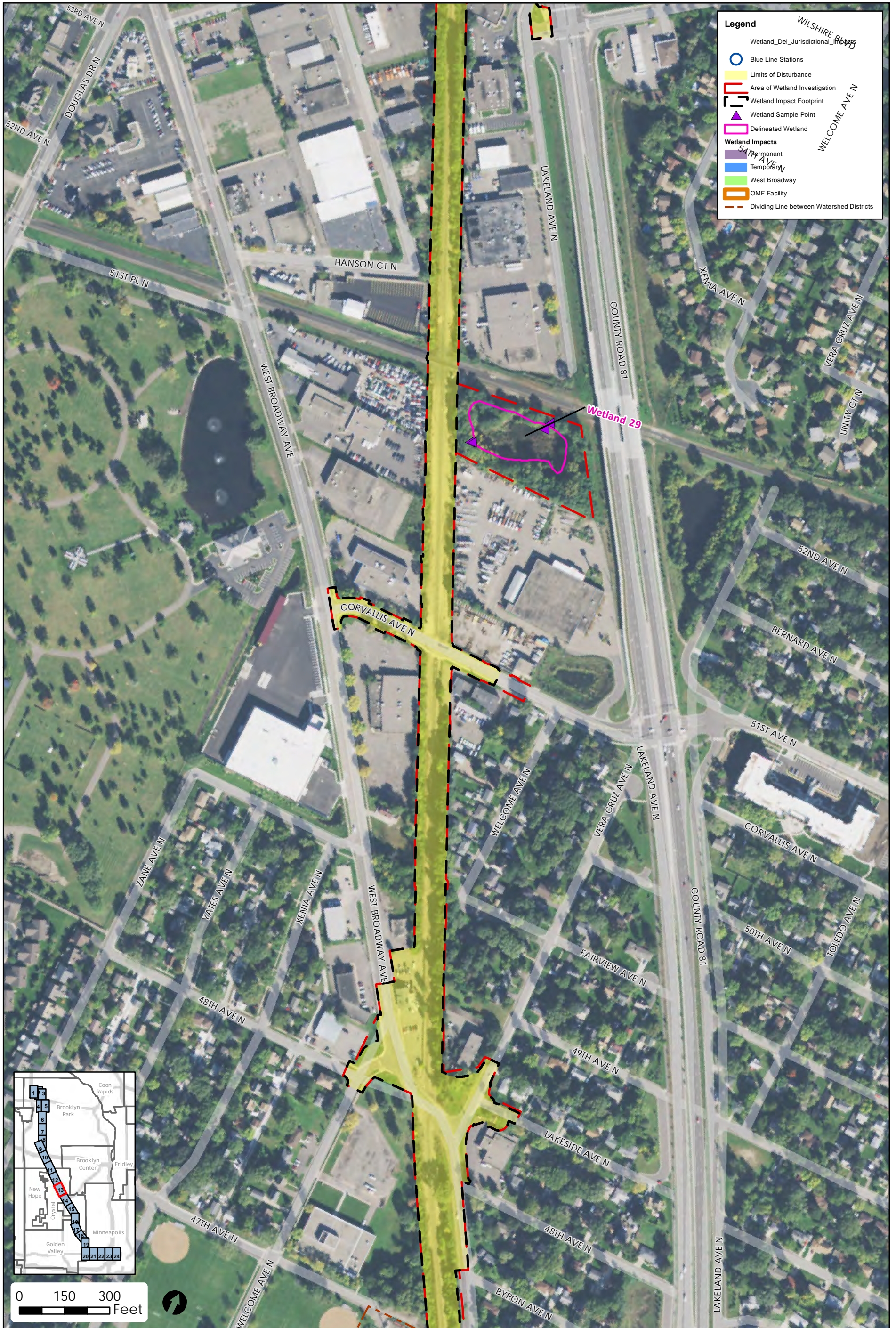
**Figure 2 - Wetlands**  
Page 12

METRO Blue Line Extension

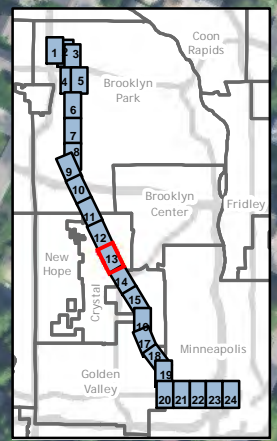
**DRAFT**



Projection: Hennepin County NAD83  
Source: Hennepin County, Metro Transit,  
MnDOT, MnDNR, HDR Engineering Inc.,  
and SEH Inc.



- Legend**
- Wetland\_De\_Jurisdictional
  - Blue Line Stations
  - Limits of Disturbance
  - Area of Wetland Investigation
  - Wetland Impact Footprint
  - Wetland Sample Point
  - Delineated Wetland
  - Wetland Impacts**
    - Permanent
    - Temporary
    - West Broadway
    - OMF Facility
  - Dividing Line between Watershed Districts



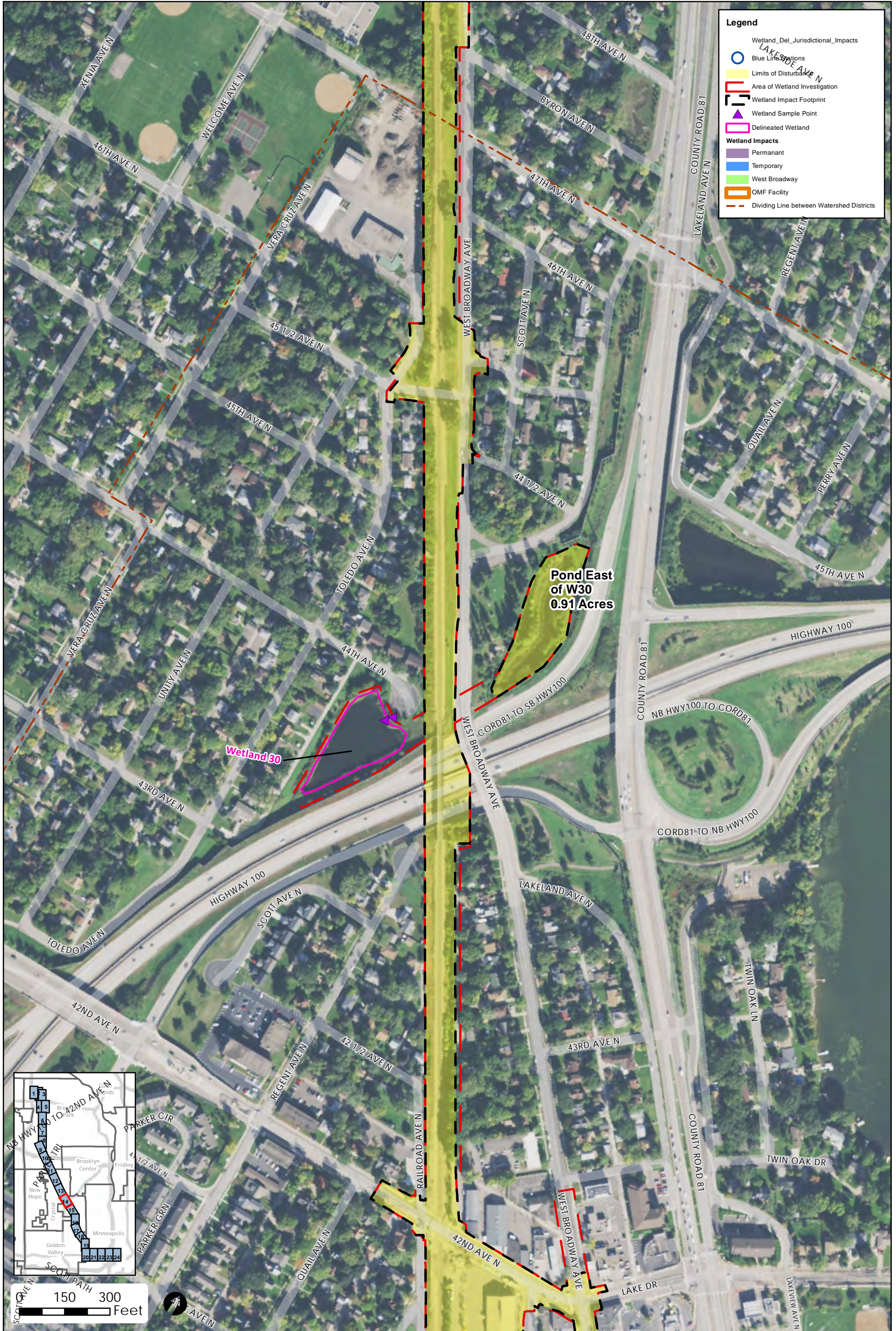
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 Source: Hennepin County, Metro Transit,  
 MNDOT, MnDNR, HDR Engineering Inc.,  
 and SEH Inc.

**Figure 2 - Wetlands**  
 Page 13

METRO Blue Line Extension

**DRAFT**

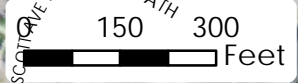
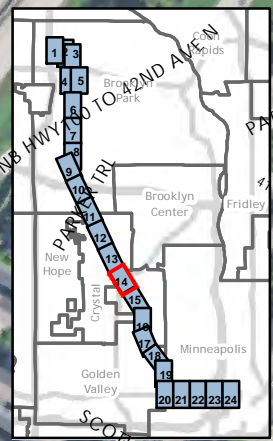




- Legend**
- Wetland\_Deel\_Jurisdictional\_Impacts
  - Blue Line Stations
  - Limits of Disturbance
  - Area of Wetland Investigation
  - Wetland Impact Footprint
  - Wetland Sample Point
  - Delineated Wetland
  - Wetland Impacts**
  - Permanent
  - Temporary
  - West Broadway
  - OMF Facility
  - Dividing Line between Watershed Districts

**Pond East of W30**  
0.91 Acres

**Wetland 30**



Projection: Hennepin County NAD83  
Source: Hennepin County, Metro Transit, MNDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

**Figure 2 - Wetlands**  
Page 14

METRO Blue Line Extension

**DRAFT**





Projection: Hennepin County NAD83  
 Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

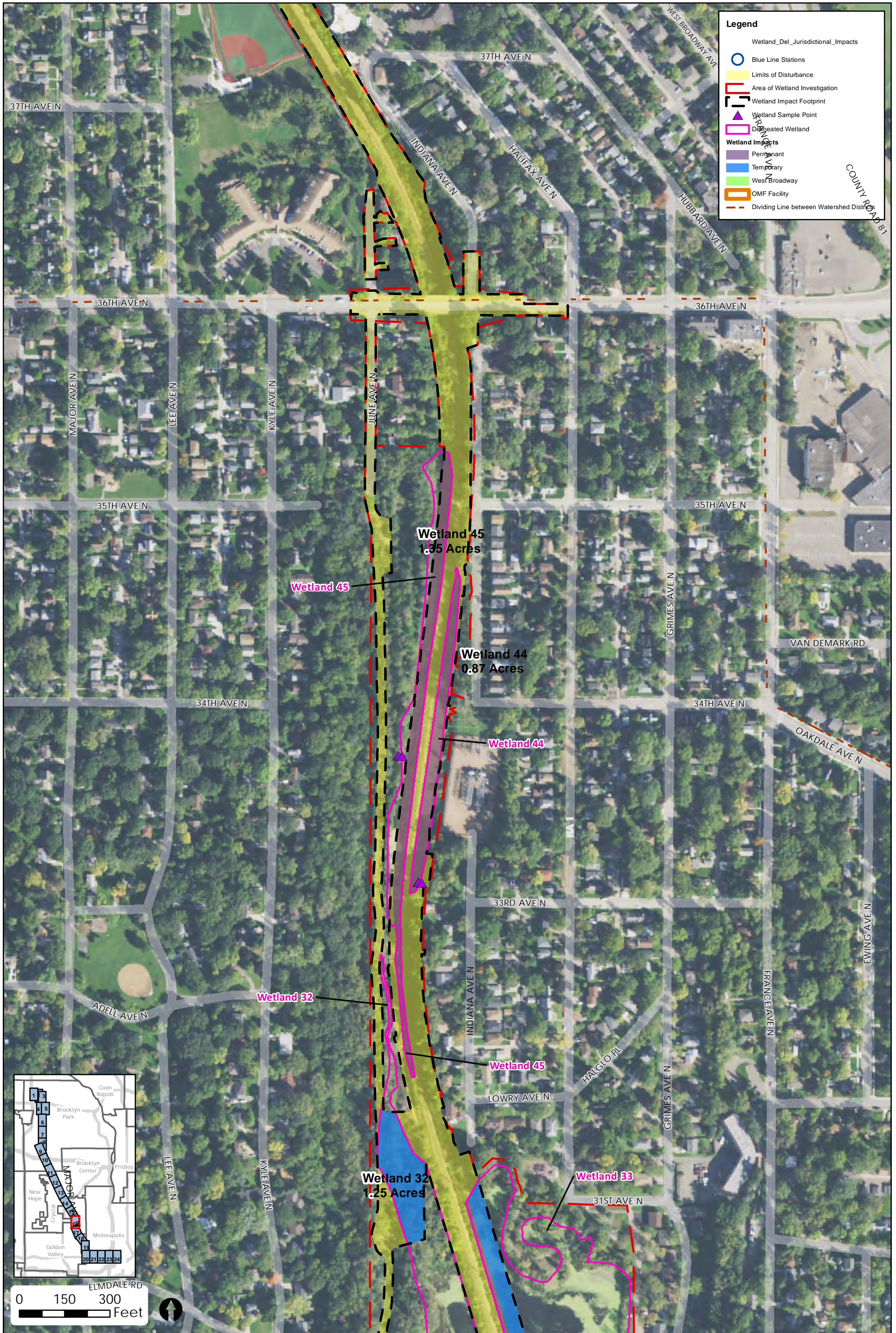
**Figure 2 - Wetlands**  
 Page 15

METRO Blue Line Extension

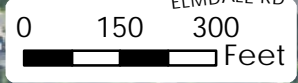
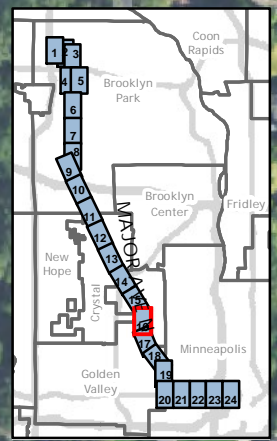
**DRAFT**







- Legend**
- Wetland\_Deel\_Jurisdictional\_Impacts
  - Blue Line Stations
  - Limits of Disturbance
  - Area of Wetland Investigation
  - Wetland Impact Footprint
  - Wetland Sample Point
  - Designated Wetland
  - Wetland Impacts**
    - Permanent
    - Temporary
    - West Broadway
    - OMF Facility
  - Dividing Line between Watershed Districts



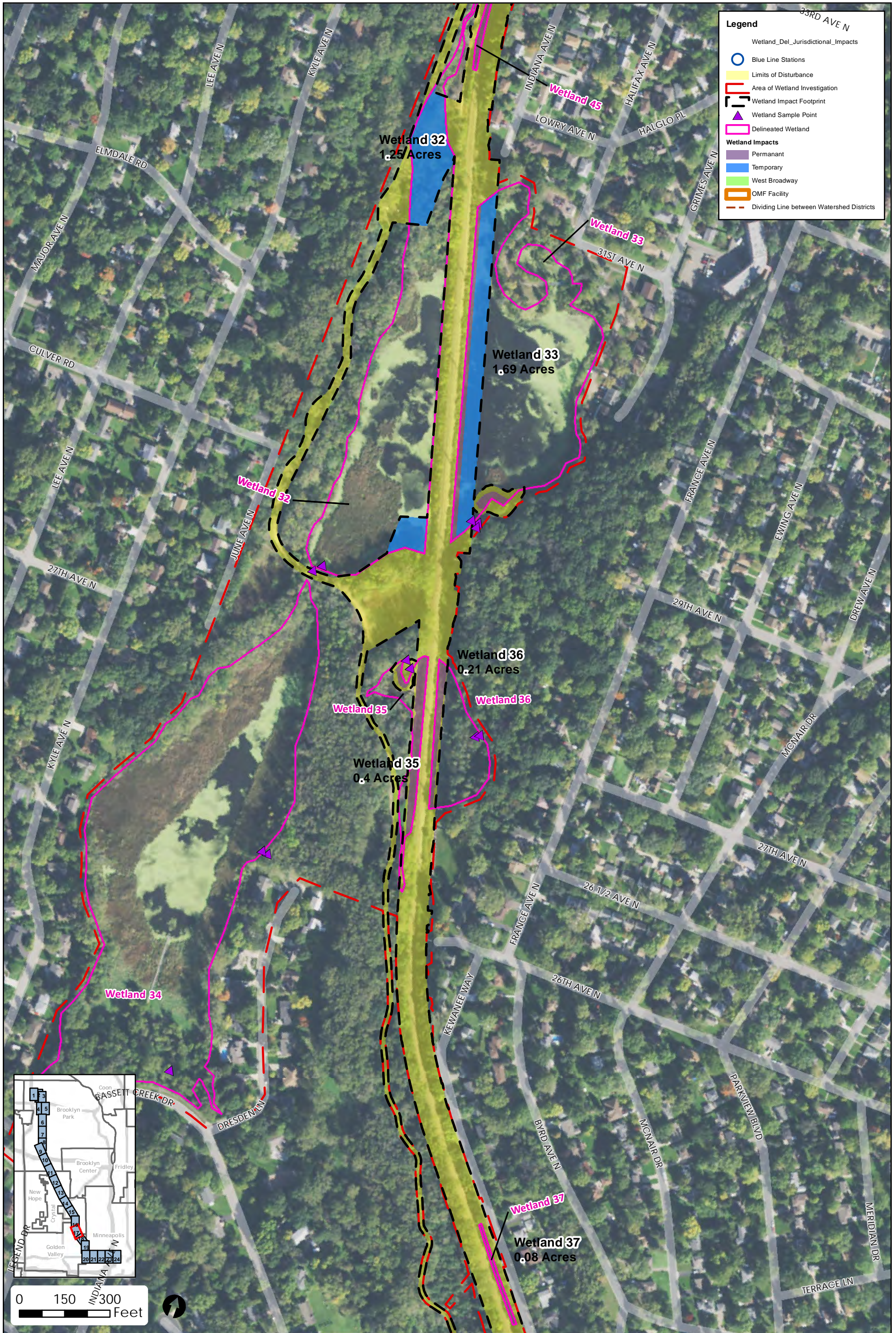
Projection: Hennepin County NAD83  
 Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

**Figure 2 - Wetlands**  
 Page 16

METRO Blue Line Extension

**DRAFT**



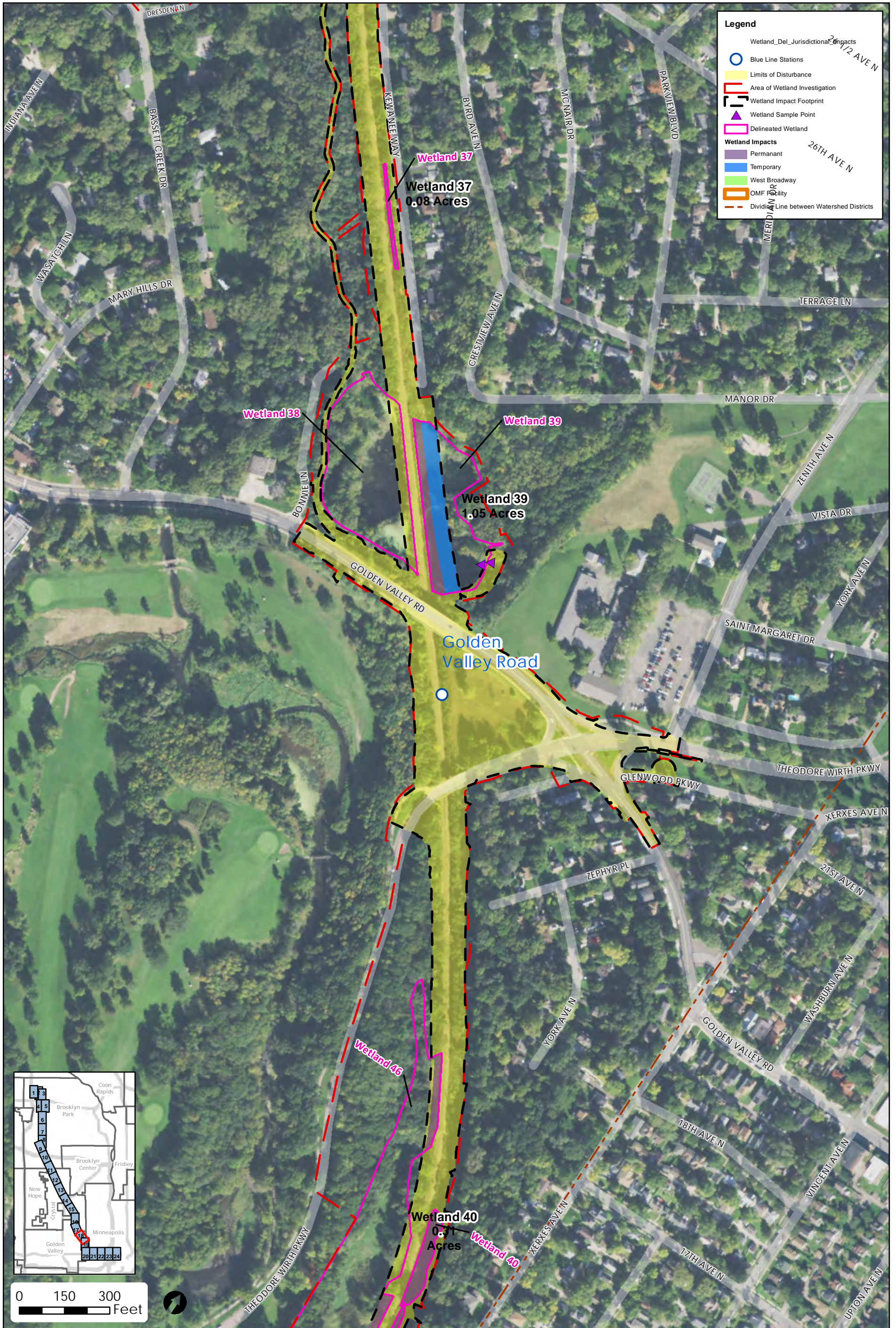


**Figure 2 - Wetlands**  
Page 17

METRO Blue Line Extension

**DRAFT**





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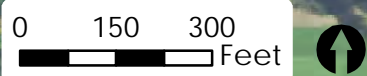
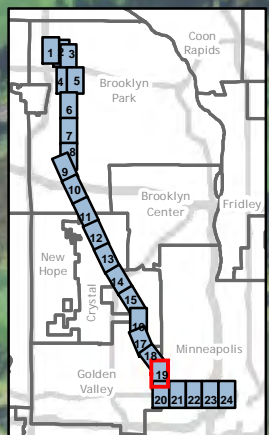
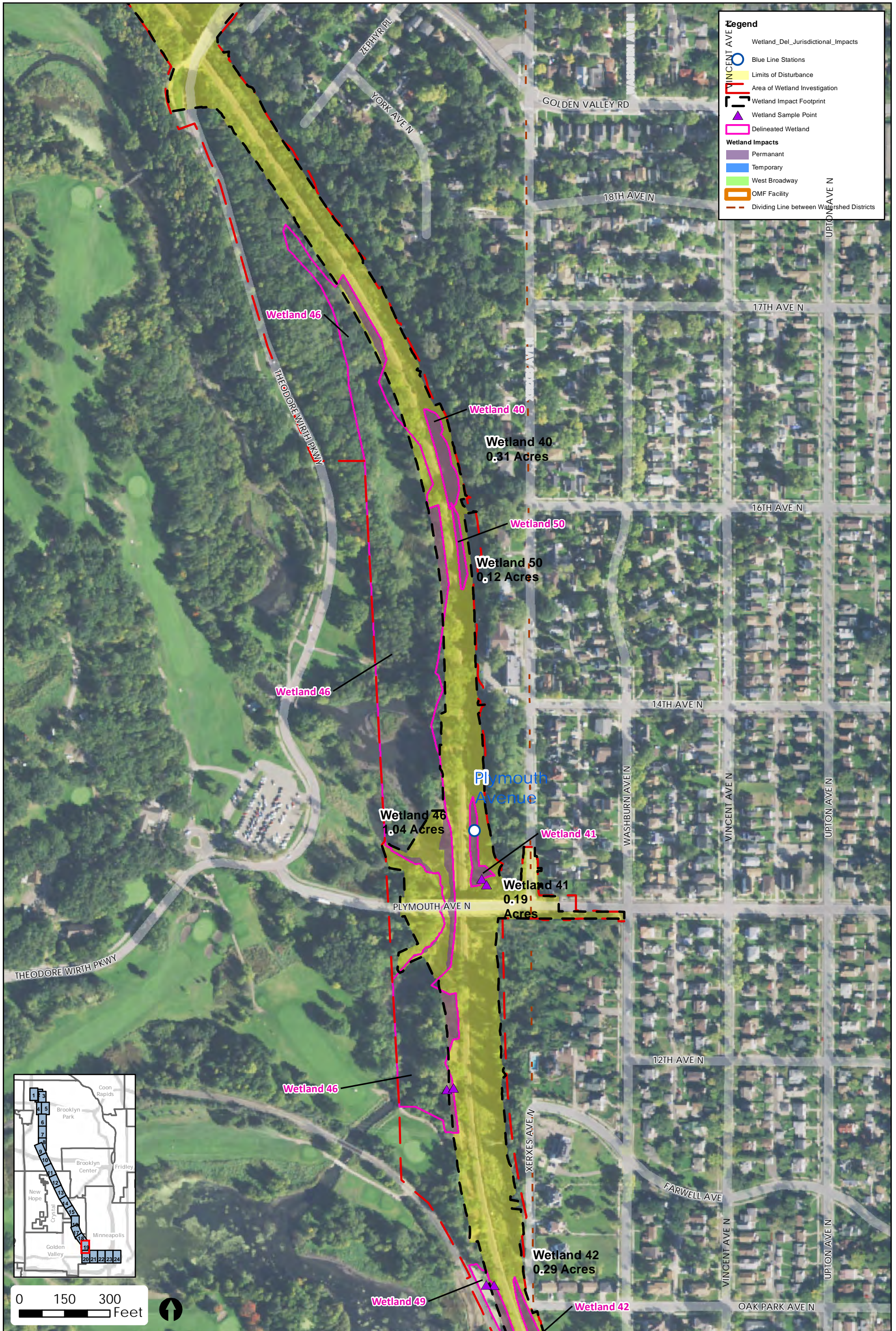
**Figure 2 - Wetlands**  
Page 18

METRO Blue Line Extension

**DRAFT**



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Projection: Hennepin County NAD83  
 Source: Hennepin County, Metro Transit,  
 MNDOT, MnDNR, HDR Engineering Inc.,  
 and SEH Inc.

**Figure 2 - Wetlands**  
 Page 19

METRO Blue Line Extension

**DRAFT**



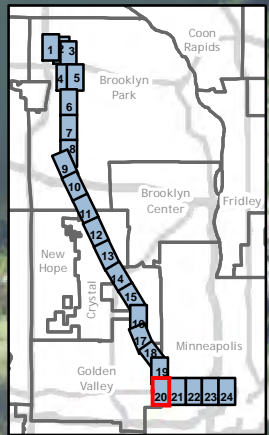
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**Legend**

12TH AVE N  
Wetland\_Del\_Jurisdictional\_Impacts

- Blue Line Stations
- Limits of Disturbance
- Area of Wetland Investigation
- Wetland Impact Footprint
- Wetland Sample Point
- Delineated Wetland
- Wetland Impacts**
  - Permanent
  - Temporary
  - West Broadway
  - OMF Facility
- Dividing Line between Watershed Districts



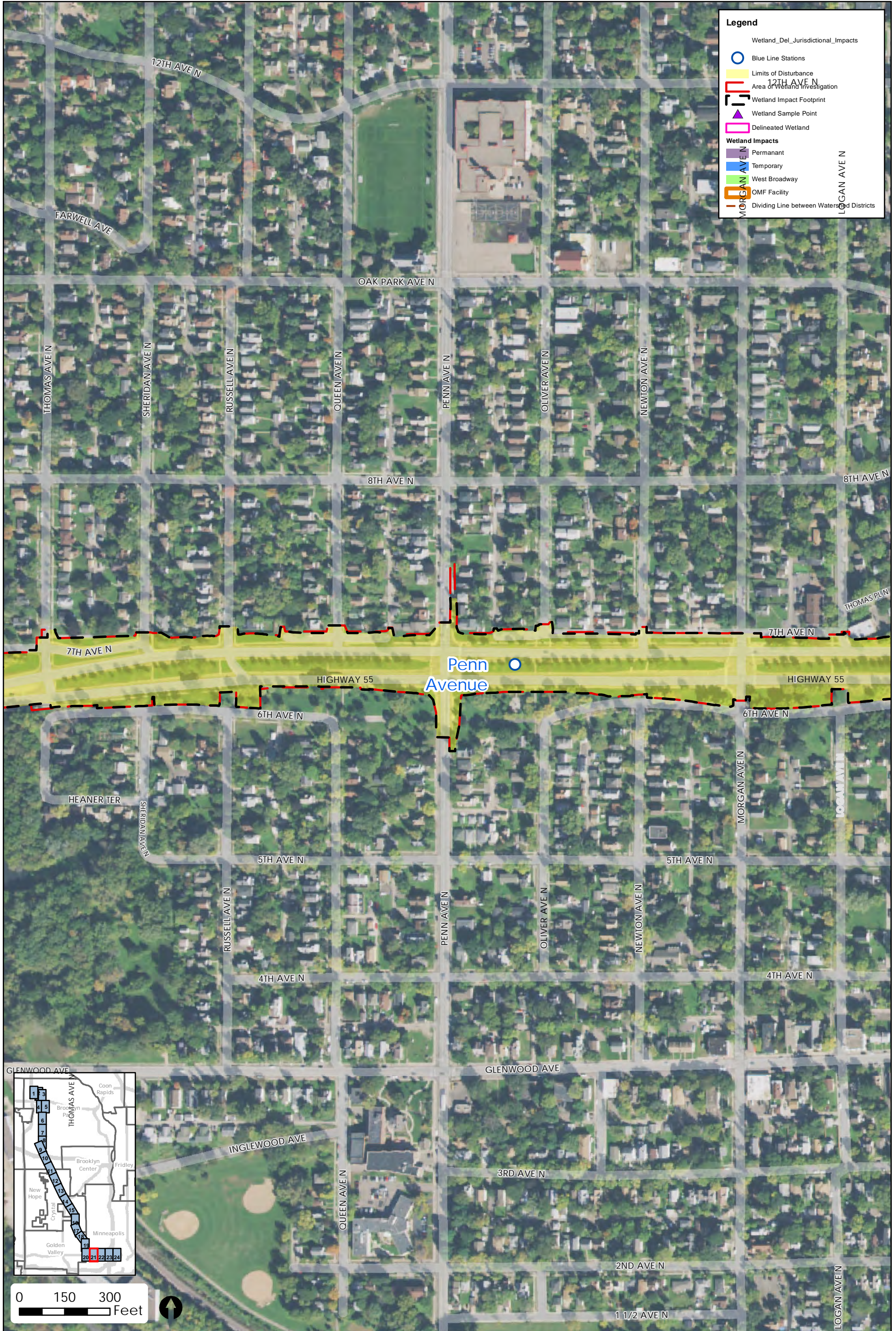
Projection: Hennepin County NAD83  
 Source: Hennepin County, Metro Transit,  
 MNDOT, MnDNR, HDR Engineering Inc.,  
 and SEH Inc.

**Figure 2 - Wetlands**  
 Page 20

METRO Blue Line Extension

**DRAFT**



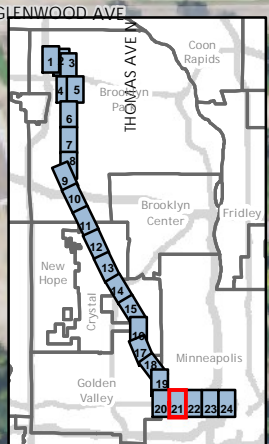


**Legend**

- Wetland\_Deel\_Jurisdictional\_Impacts
- Blue Line Stations
- Limits of Disturbance
- Area of Wetland Investigation
- Wetland Impact Footprint
- Wetland Sample Point
- Delineated Wetland

**Wetland Impacts**

- Permanent
- Temporary
- West Broadway
- OMF Facility
- Dividing Line between Watershed Districts

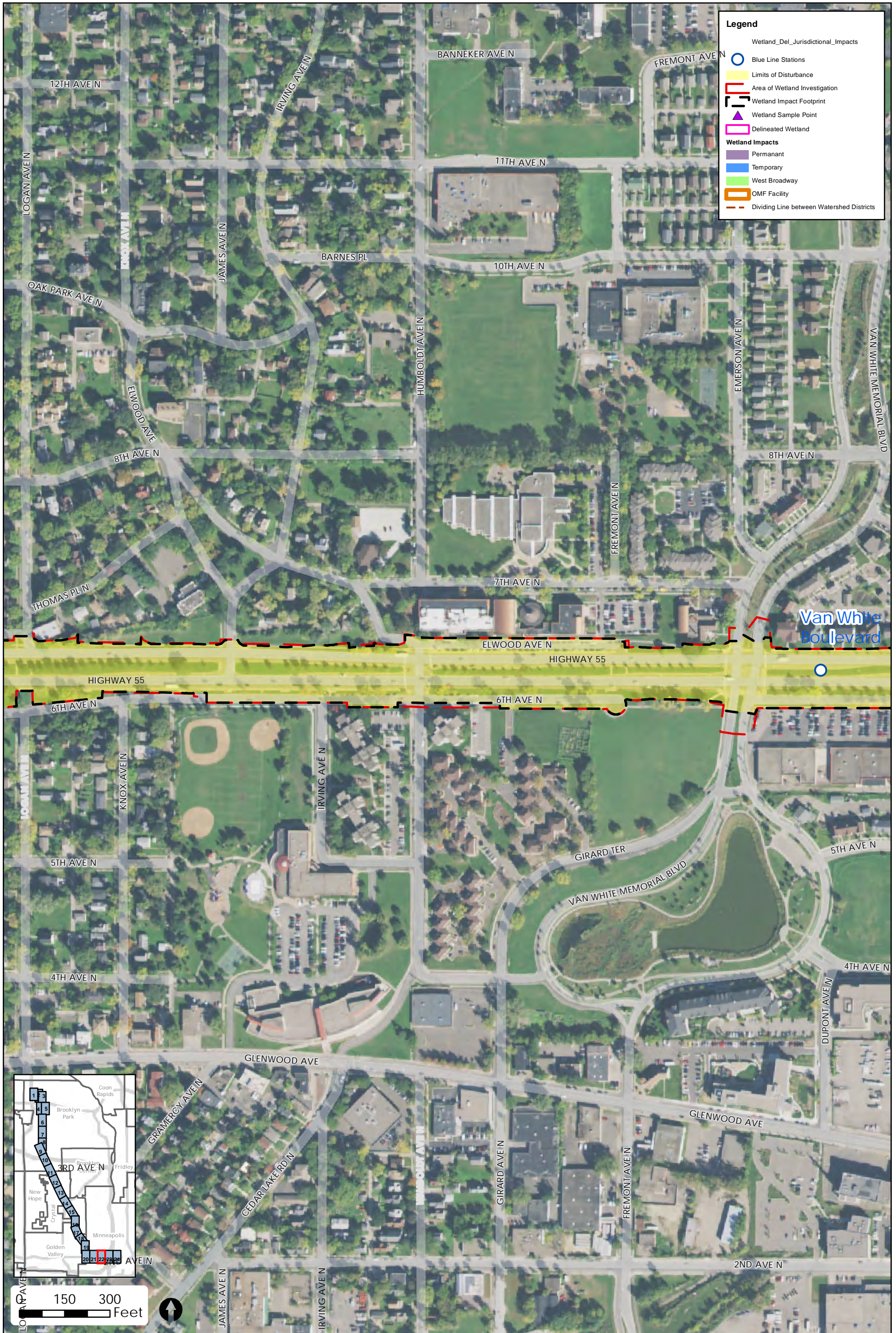


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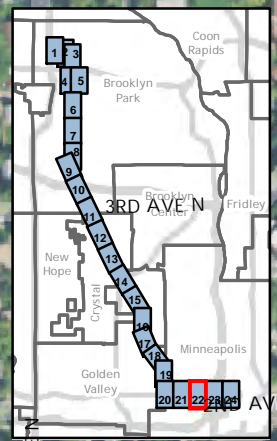
**Figure 2 - Wetlands**  
 Page 21  
 METRO Blue Line Extension

**DRAFT**





- Legend**
- Wetland\_Del\_Jurisdictional\_Impacts
  - Blue Line Stations
  - Limits of Disturbance
  - Area of Wetland Investigation
  - Wetland Impact Footprint
  - Wetland Sample Point
  - Delineated Wetland
  - Wetland Impacts**
    - Permanant
    - Temporary
    - West Broadway
    - OMF Facility
    - Dividing Line between Watershed Districts

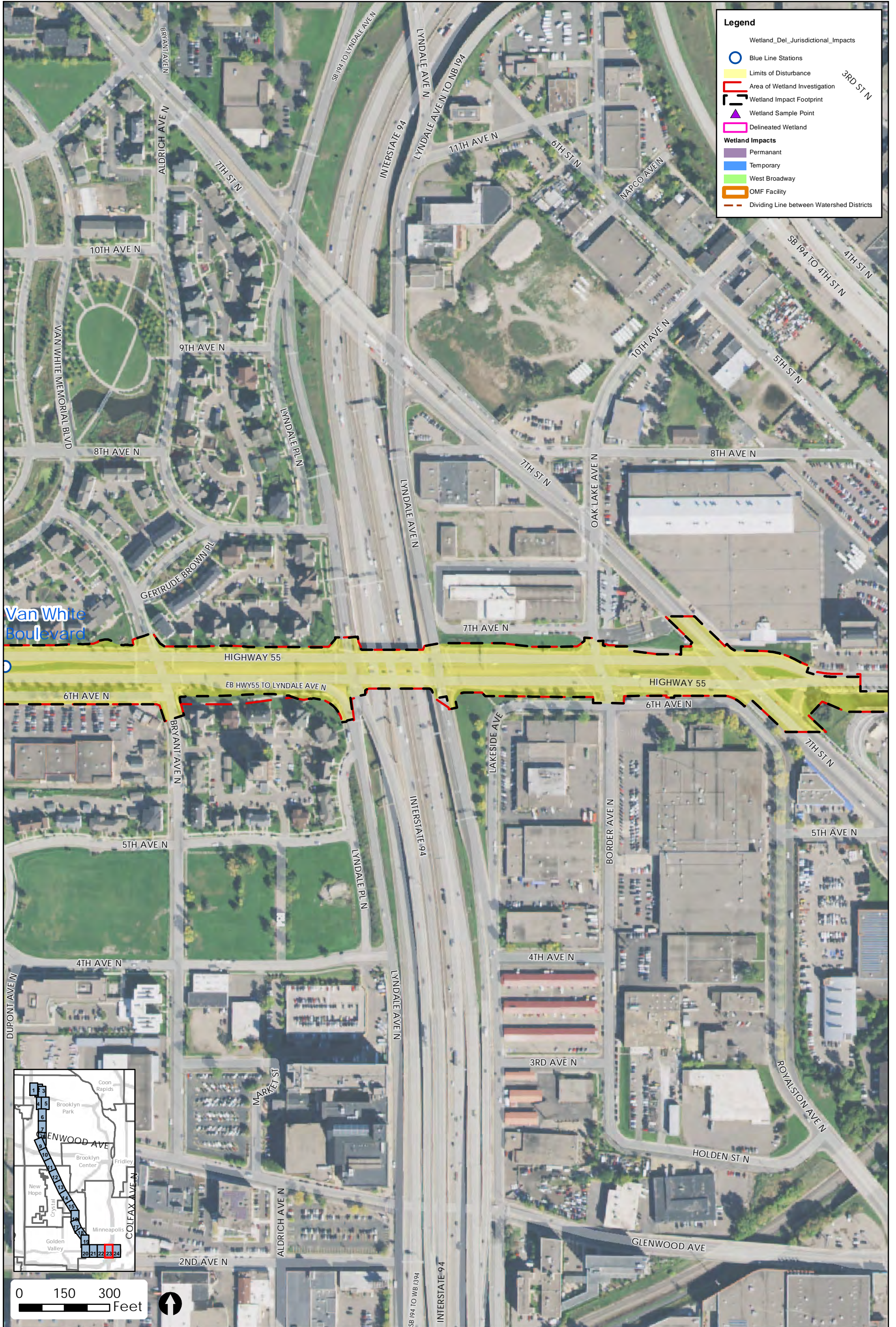


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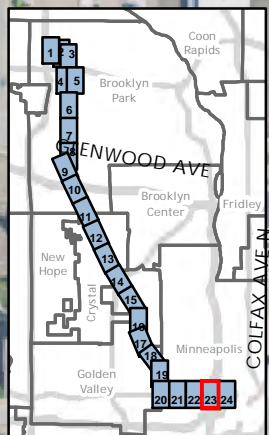
**Figure 2 - Wetlands**  
 Page 22  
 METRO Blue Line Extension

**DRAFT**





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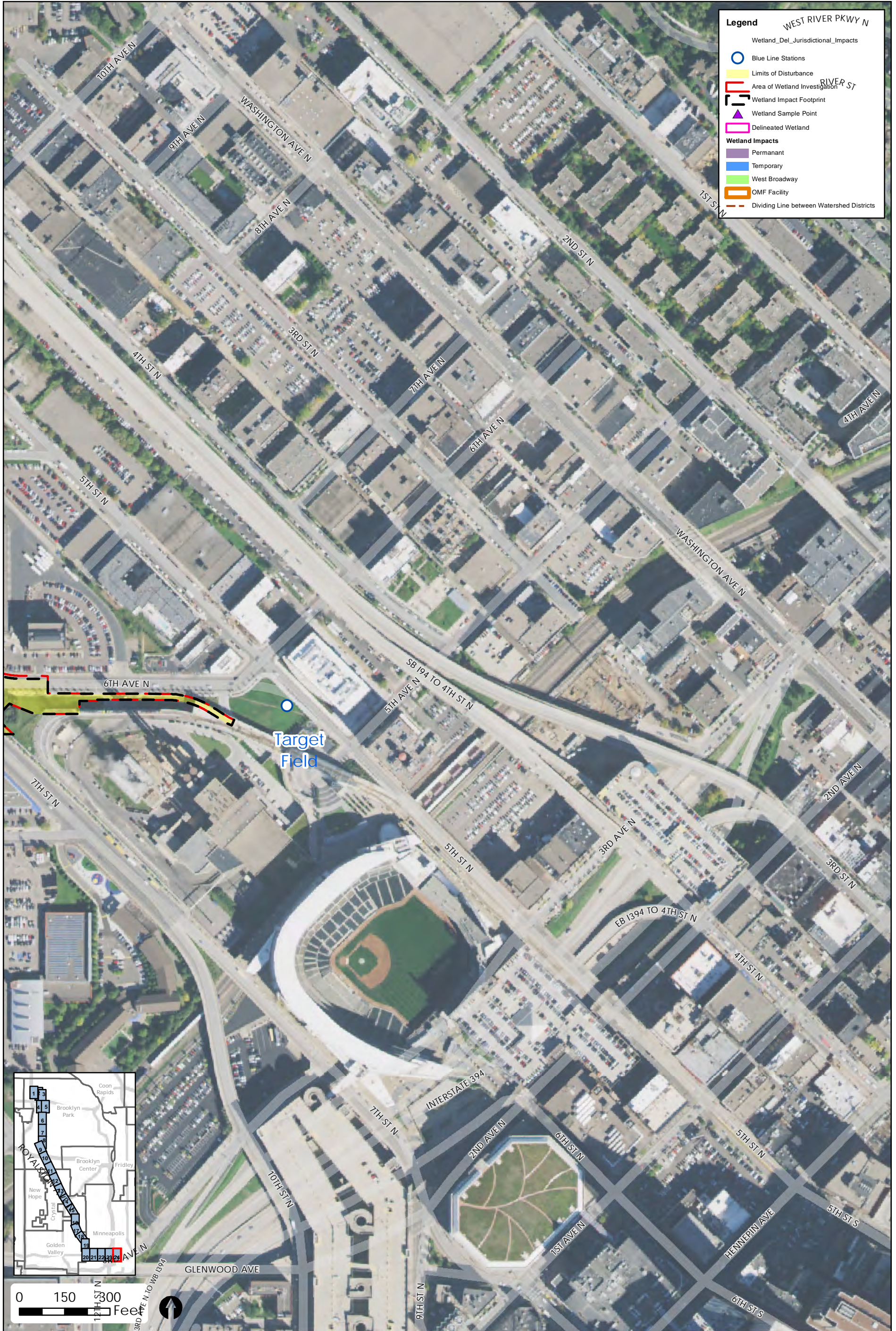
**Figure 2 - Wetlands**  
 Page 23

METRO Blue Line Extension

**DRAFT**





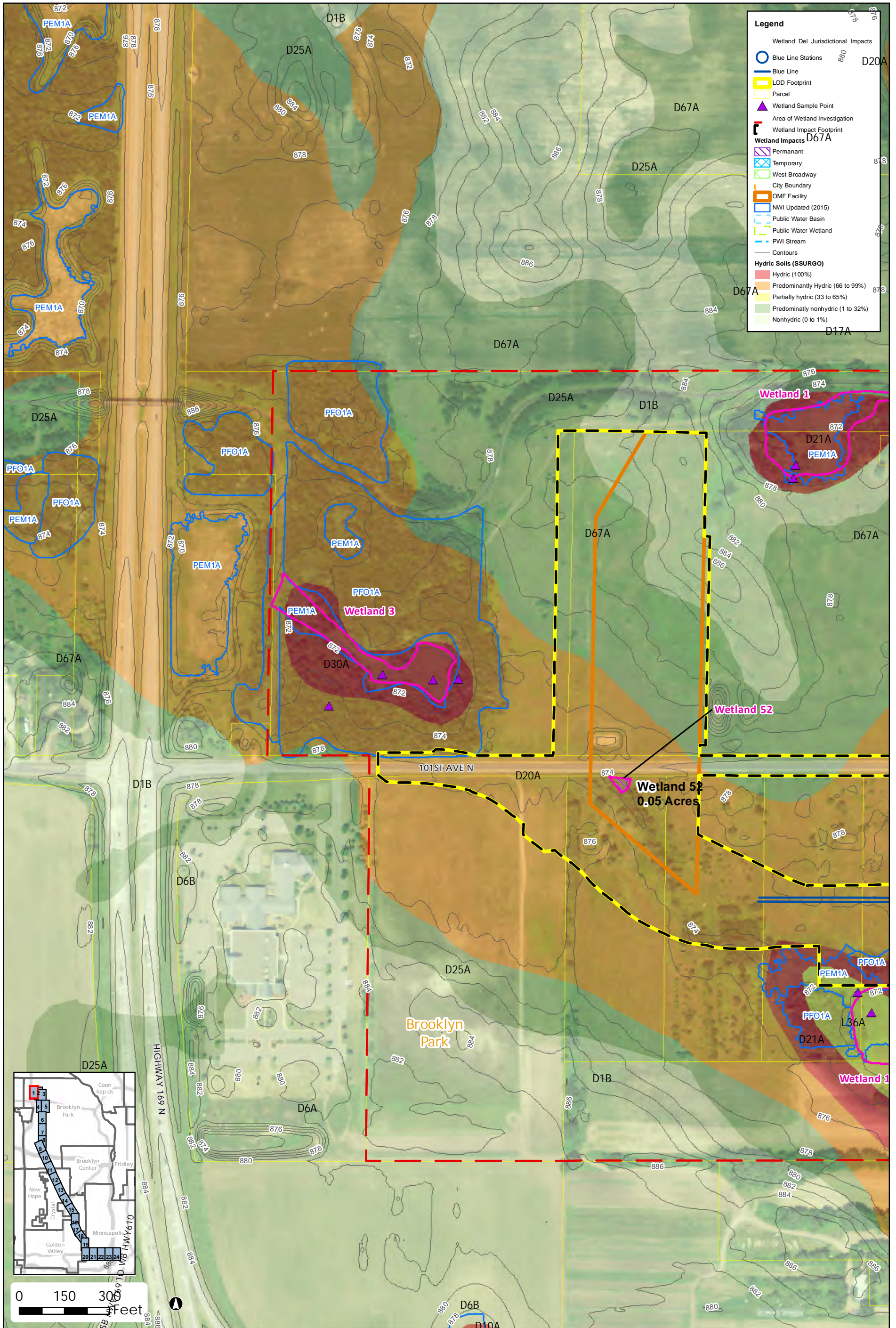


**Figure 2 - Wetlands**  
Page 24

METRO Blue Line Extension

**DRAFT**





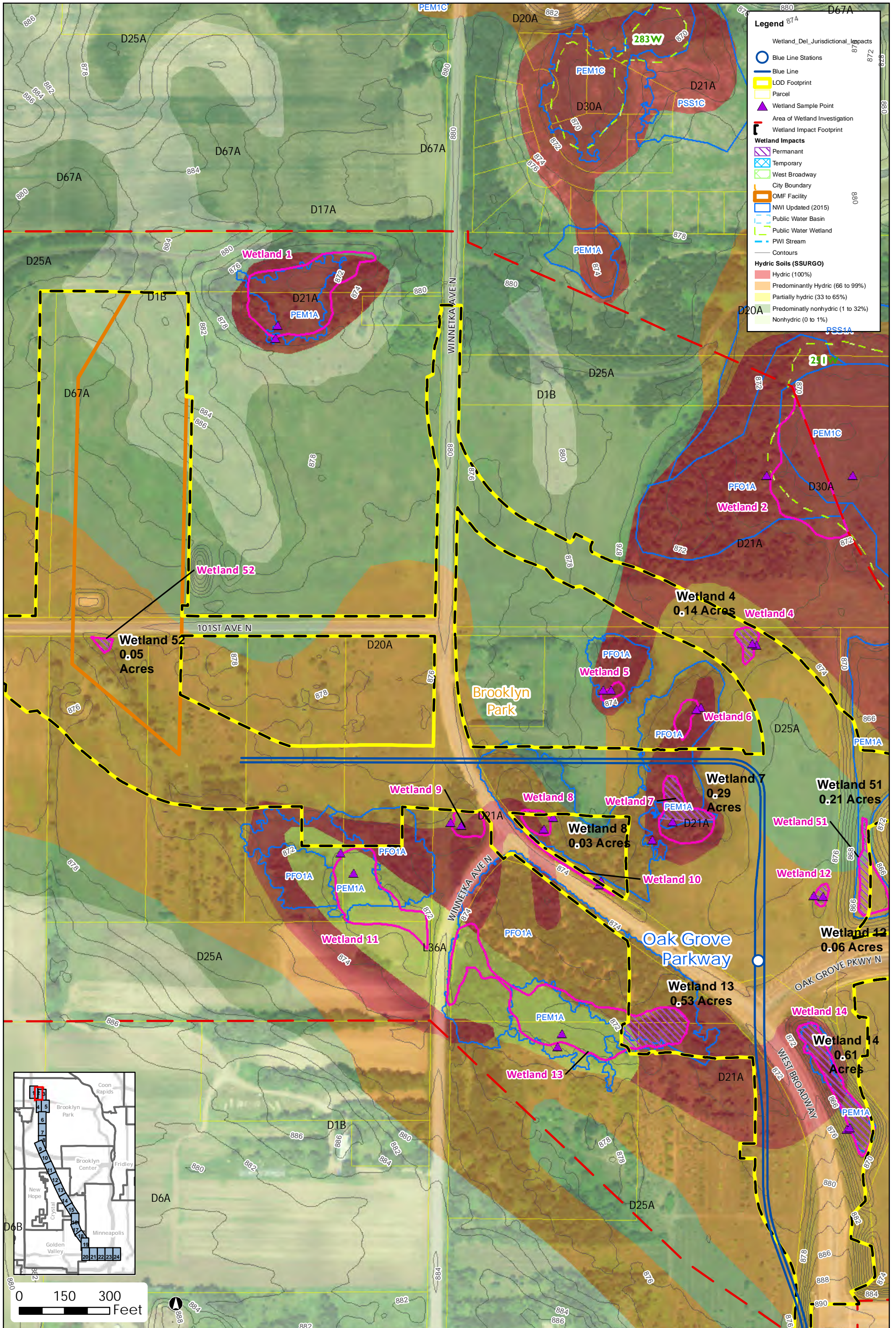
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 Source: Hennepin County, Metro Transit,  
 MnDOT, MnDNR, HDR Engineering Inc.,  
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**Figure 3 - Hydric Soils**  
 Page 1

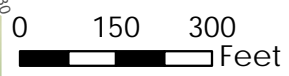
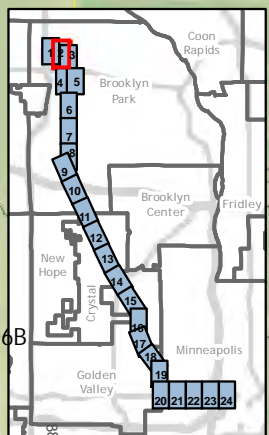
METRO Blue Line Extension

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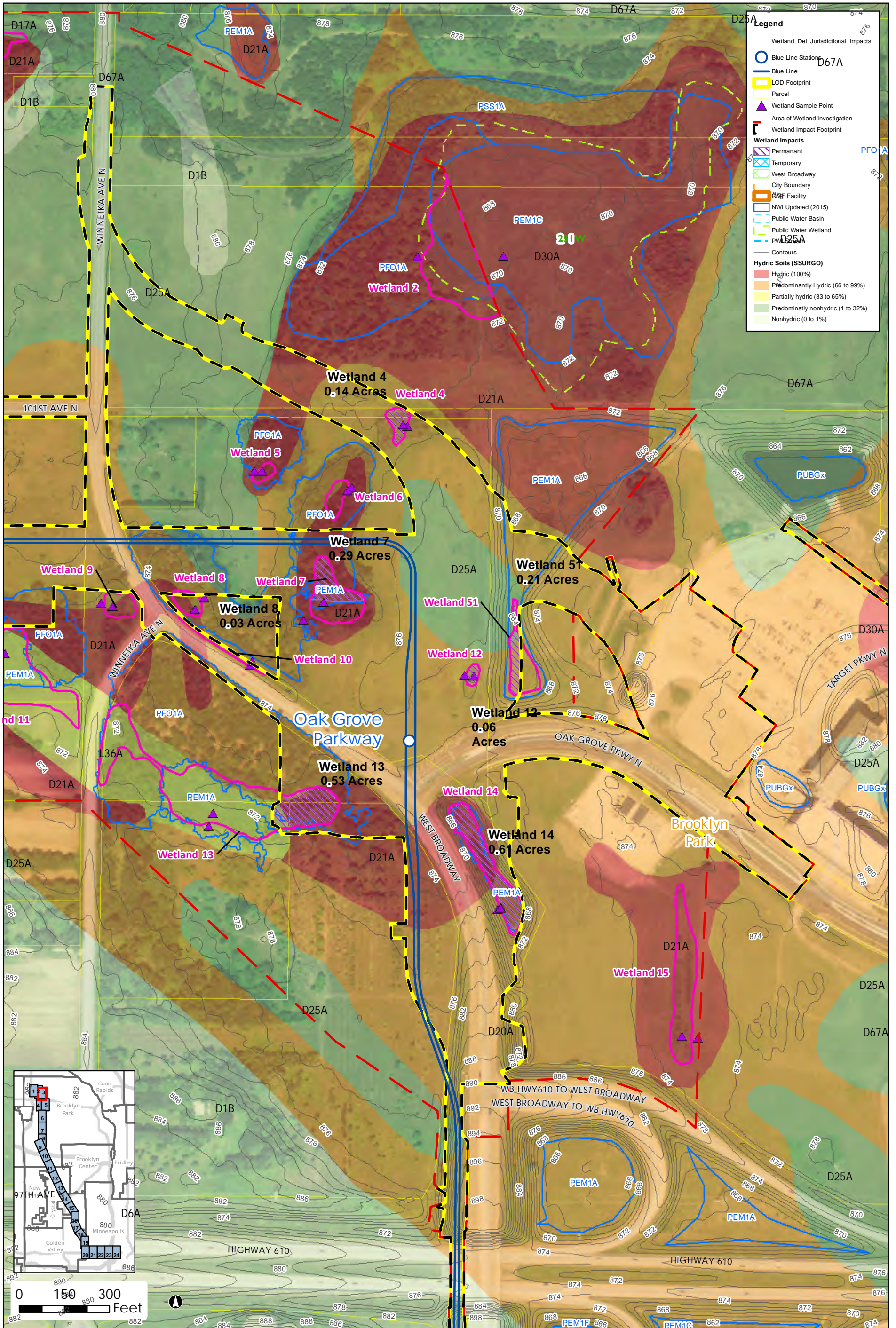
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 Source: Hennepin County, Metro Transit,  
 MnDOT, MnDNR, HDR Engineering Inc.,  
 SEH Inc., and USDA.

**Figure 3 - Hydric Soils**  
 Page 2

METRO Blue Line Extension

**DRAFT**





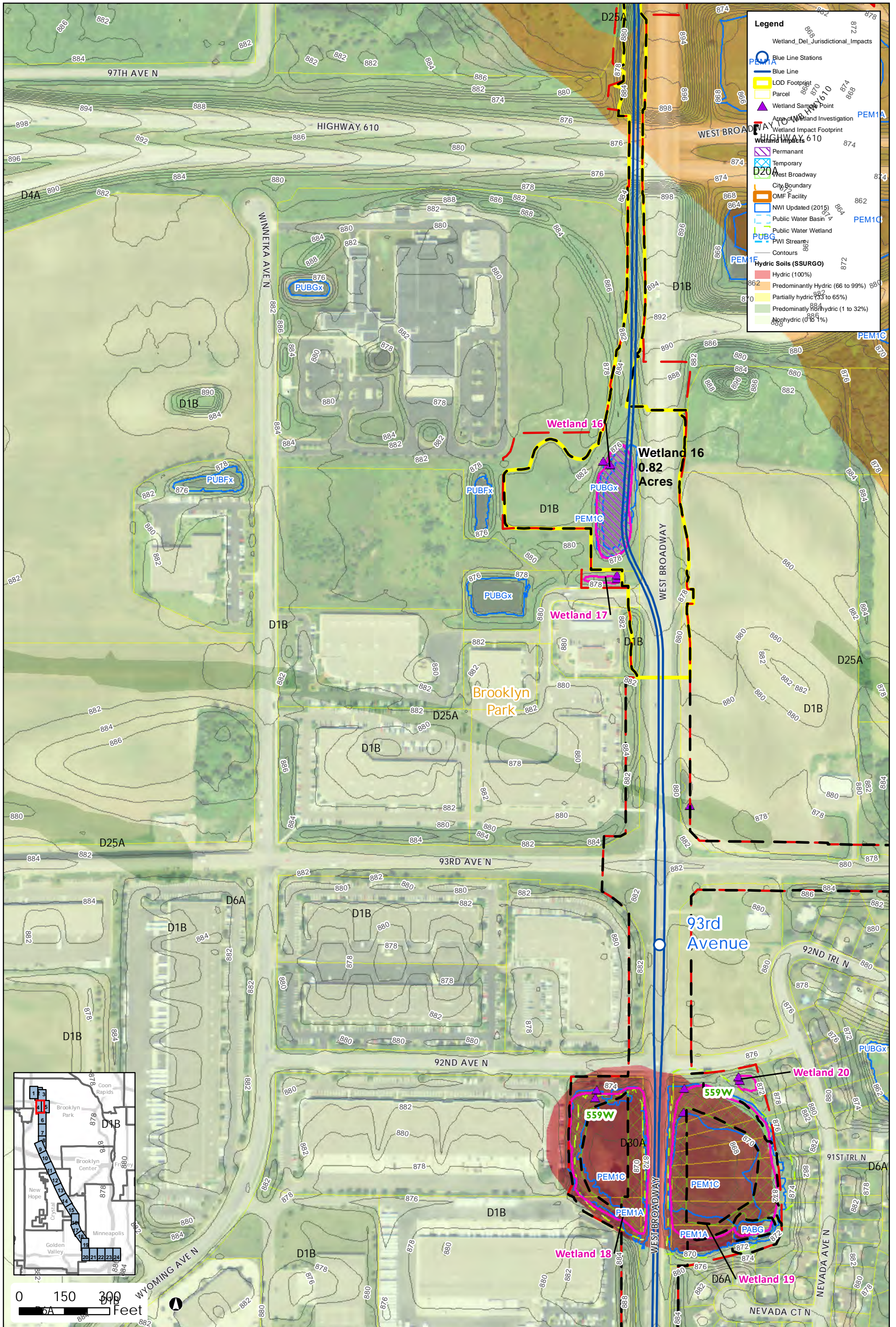
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 Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

**Figure 3 - Hydric Soils**  
 Page 3

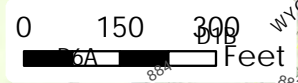
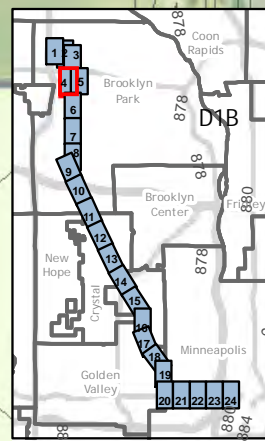
METRO Blue Line Extension

**DRAFT**





- Legend**
- Wetland\_Del\_Jurisdictional\_Impacts
  - Blue Line Stations
  - Blue Line
  - LOD Footprint
  - Parcel
  - Wetland Sample Point
  - Area of Wetland Investigation
  - Wetland Impact Footprint
  - Wetland Impacts 610
  - Permanent
  - Temporary
  - West Broadway
  - City Boundary
  - OMF Facility
  - NWI Updated (2015)
  - Public Water Basin
  - Public Water Wetland
  - PWI Stream
  - Contours
  - Hydric Soils (SSURGO)
    - Hydric (100%)
    - Predominantly Hydric (66 to 99%)
    - Partially hydric (33 to 65%)
    - Predominantly nonhydric (1 to 32%)
    - Nonhydric (0 to 1%)

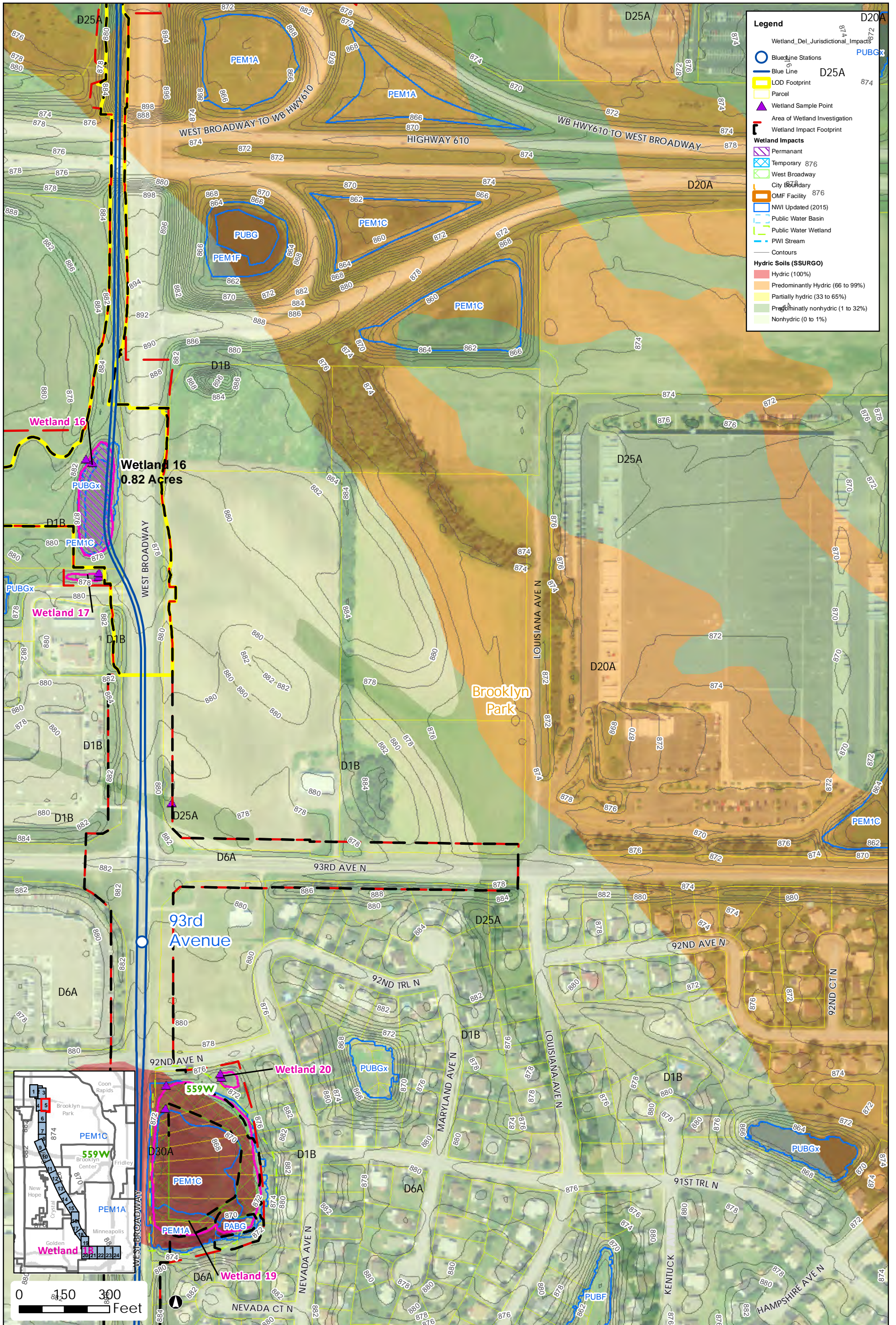


Projection: Hennepin County NAD83  
 Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

**Figure 3 - Hydric Soils**  
 Page 4  
 METRO Blue Line Extension

**DRAFT**





Projection: Hennepin County NAD83  
 Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

**Figure 3 - Hydric Soils**  
 Page 5

METRO Blue Line Extension

**DRAFT**



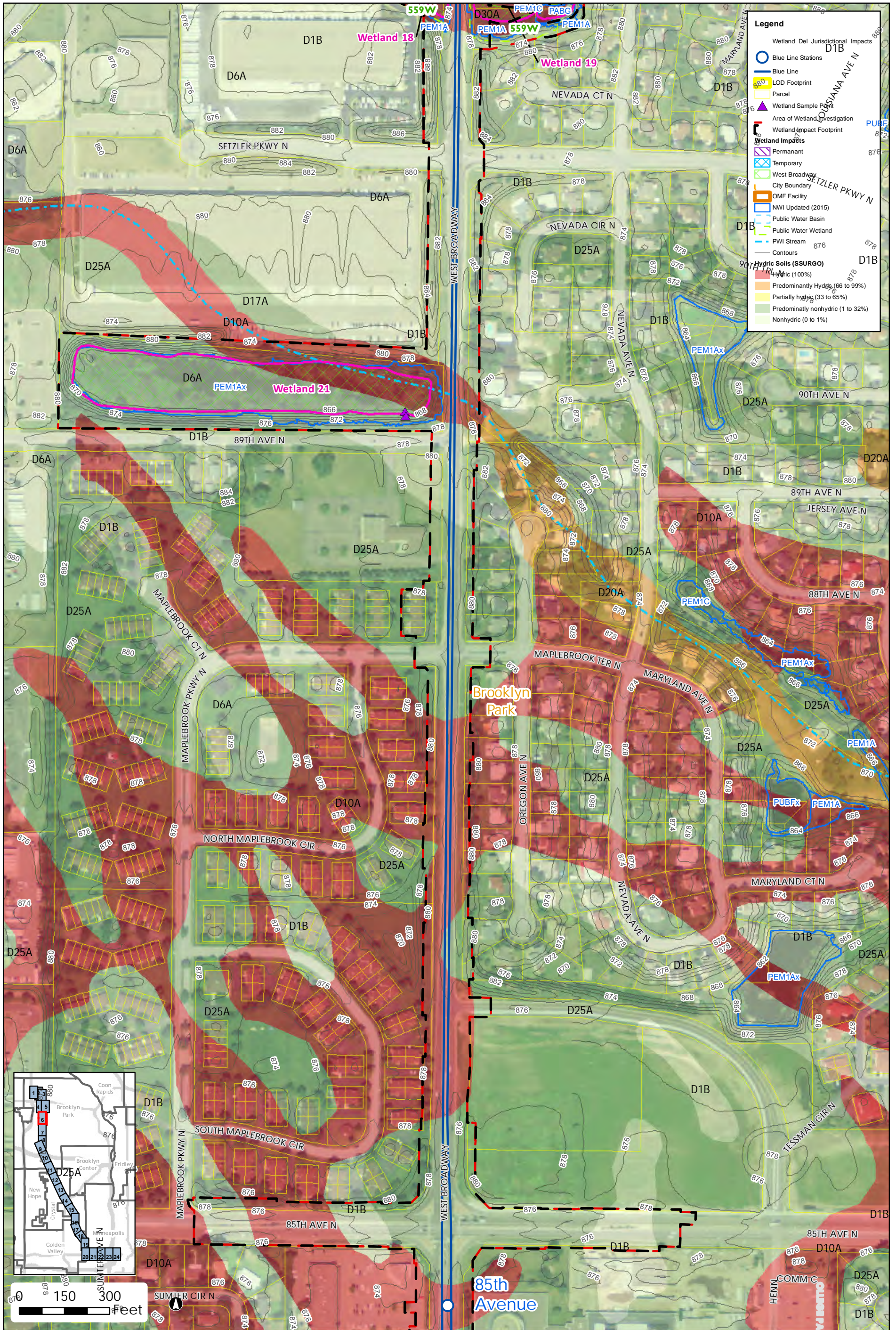
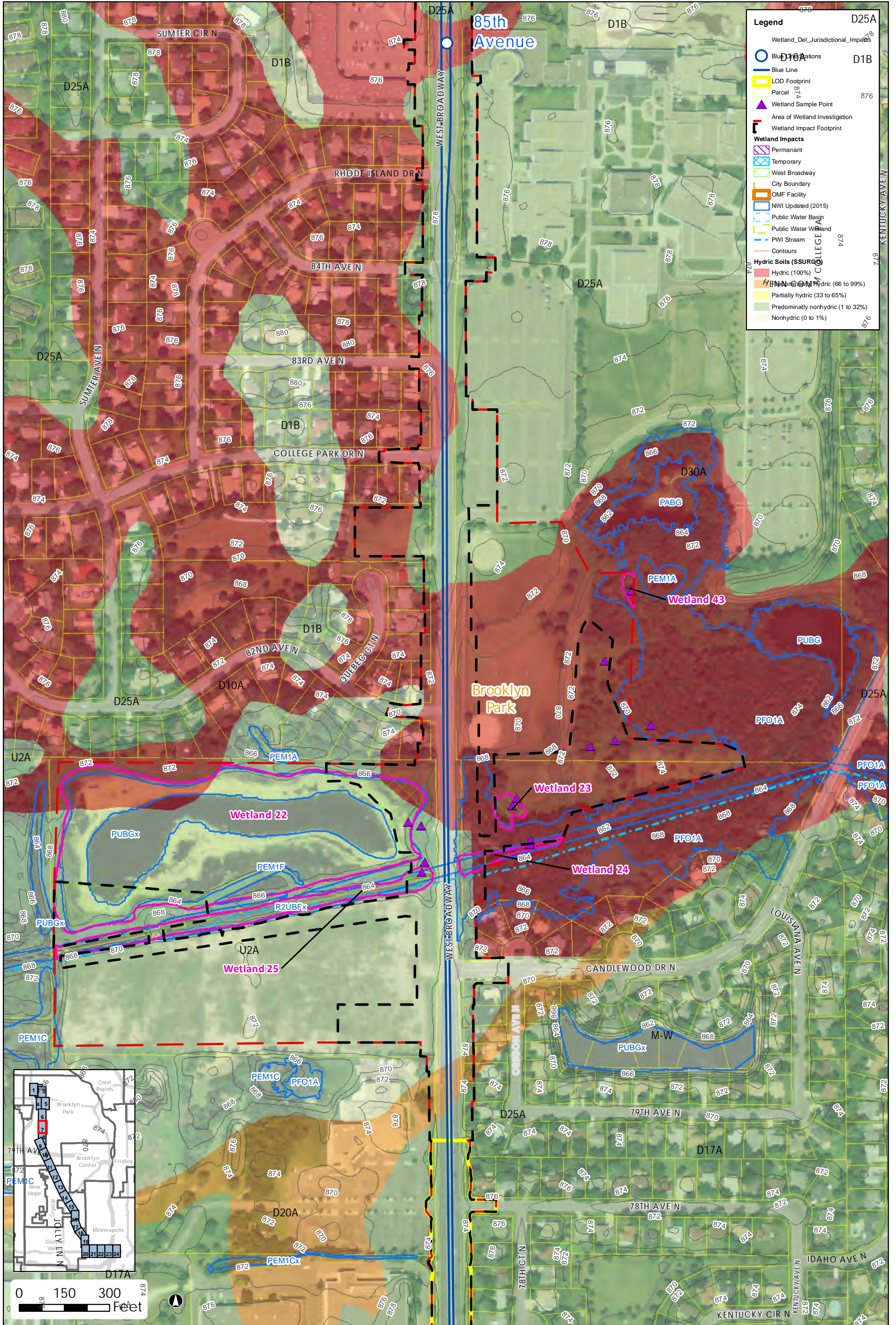


Figure 3 - Hydric Soils  
Page 6

METRO Blue Line Extension

DRAFT





Projection: Hennepin County NAD83  
 Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

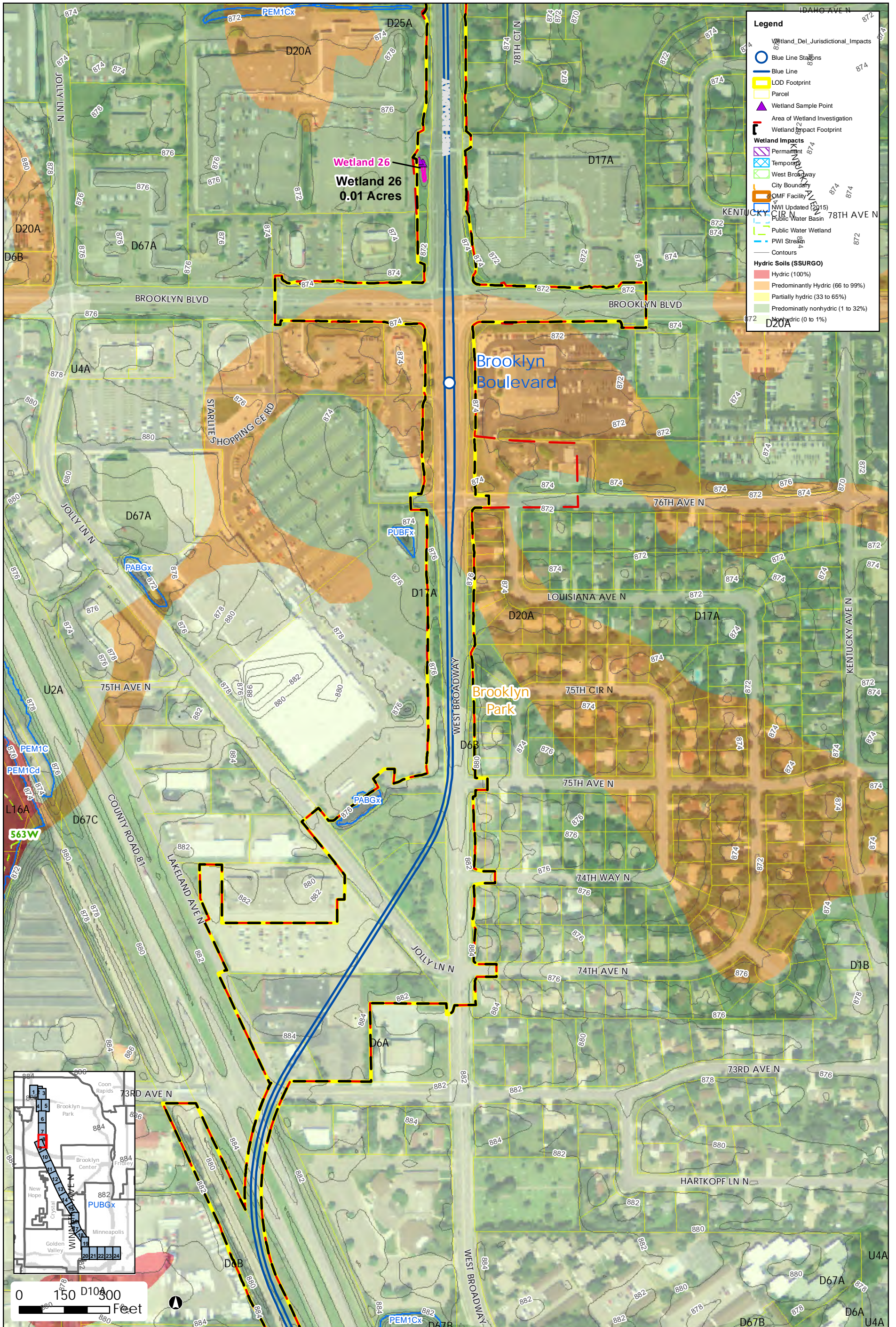
**Figure 3 - Hydric Soils**  
 Page 7

METRO Blue Line Extension

**DRAFT**

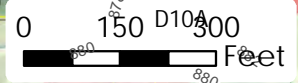
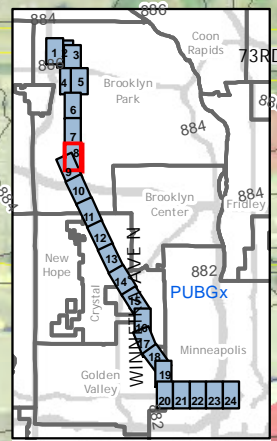






**Legend**

- Wetland\_Del\_Jurisdictional\_Impacts
- Blue Line Stations
- Blue Line
- LOD Footprint
- Parcel
- Wetland Sample Point
- Area of Wetland Investigation
- Wetland Impact Footprint
- Wetland Impacts**
  - Permanent
  - Temporary
  - West Broadway
  - City Boundary
  - OMF Facility
  - NWI Updated (2015)
  - Public Water Basin
  - Public Water Wetland
  - PWI Stream
  - Contours
- Hydric Soils (SSURGO)**
  - Hydric (100%)
  - Predominantly Hydric (66 to 99%)
  - Partially hydric (33 to 65%)
  - Predominantly nonhydric (1 to 32%)
  - Nonhydric (0 to 1%)



Projection: Hennepin County NAD83  
 Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

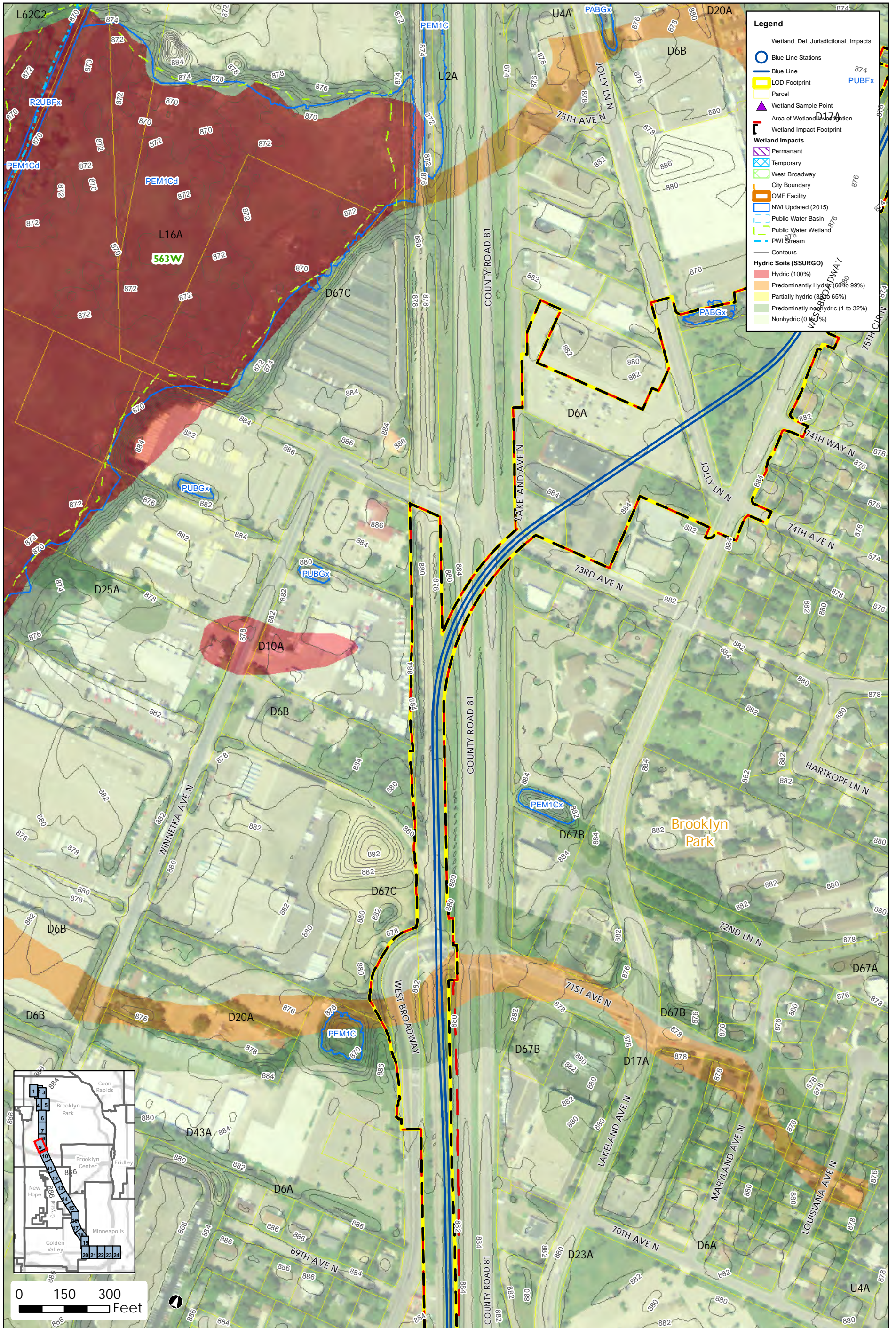
**Figure 3 - Hydric Soils**  
 Page 8

METRO Blue Line Extension

**DRAFT**

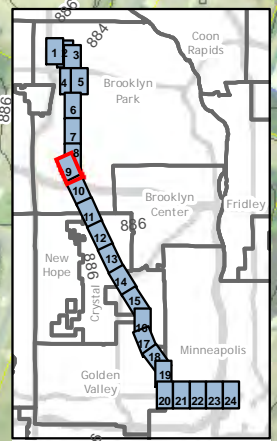


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**Legend**

- Wetland\_Del\_Jurisdictional\_Impacts
- Blue Line Stations
- Blue Line
- LOD Footprint
- Parcel
- Wetland Sample Point
- Area of Wetland Disturbance
- Wetland Impact Footprint
- Wetland Impacts**
  - Permanent
  - Temporary
- West Broadway
- City Boundary
- OMF Facility
- NWI Updated (2015)
- Public Water Basin
- Public Water Wetland
- PWI Stream
- Contours
- Hydric Soils (SSURGO)**
  - Hydric (100%)
  - Predominantly Hydric (66 to 99%)
  - Partially hydric (32 to 65%)
  - Predominantly nonhydric (1 to 32%)
  - Nonhydric (0 to 4%)



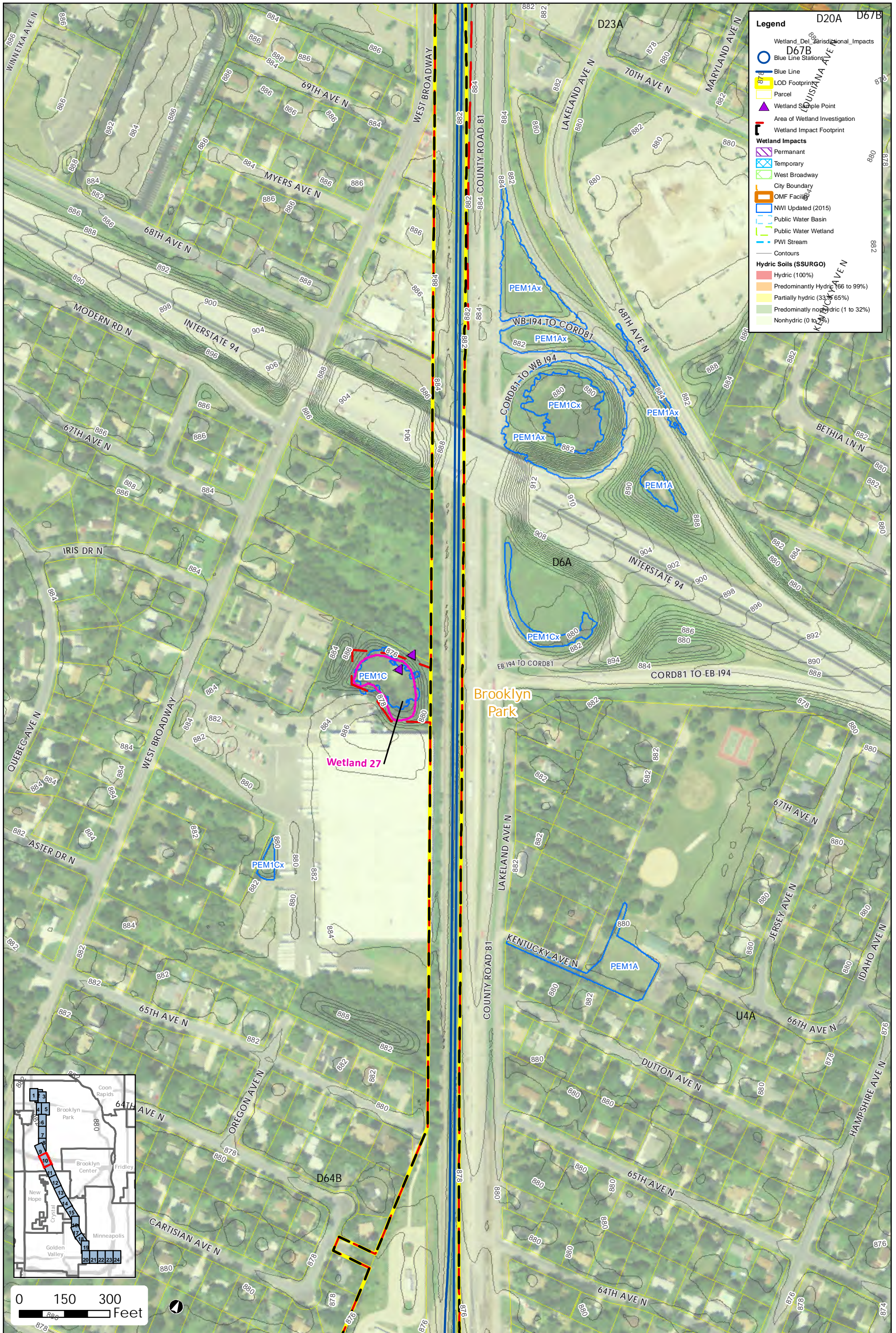
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 Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

**Figure 3 - Hydric Soils**  
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METRO Blue Line Extension

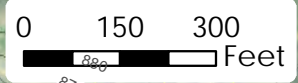
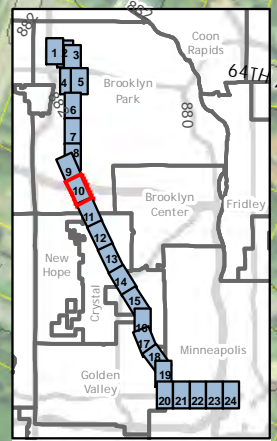
**DRAFT**





**Legend**

- Wetland, Del. Jurisdictional Impacts
- D67B Blue Line Station
- Blue Line
- LOD Footprint
- Parcel
- Wetland Sample Point
- Area of Wetland Investigation
- Wetland Impact Footprint
- Wetland Impacts**
  - Permanent
  - Temporary
  - West Broadway
  - City Boundary
  - OMF Facility
  - NWI Updated (2015)
  - Public Water Basin
  - Public Water Wetland
  - PWI Stream
  - Contours
- Hydric Soils (SSURGO)**
  - Hydric (100%)
  - Predominantly Hydric (66 to 99%)
  - Partially hydric (33 to 65%)
  - Predominantly nonhydric (1 to 32%)
  - Nonhydric (0 to 3%)



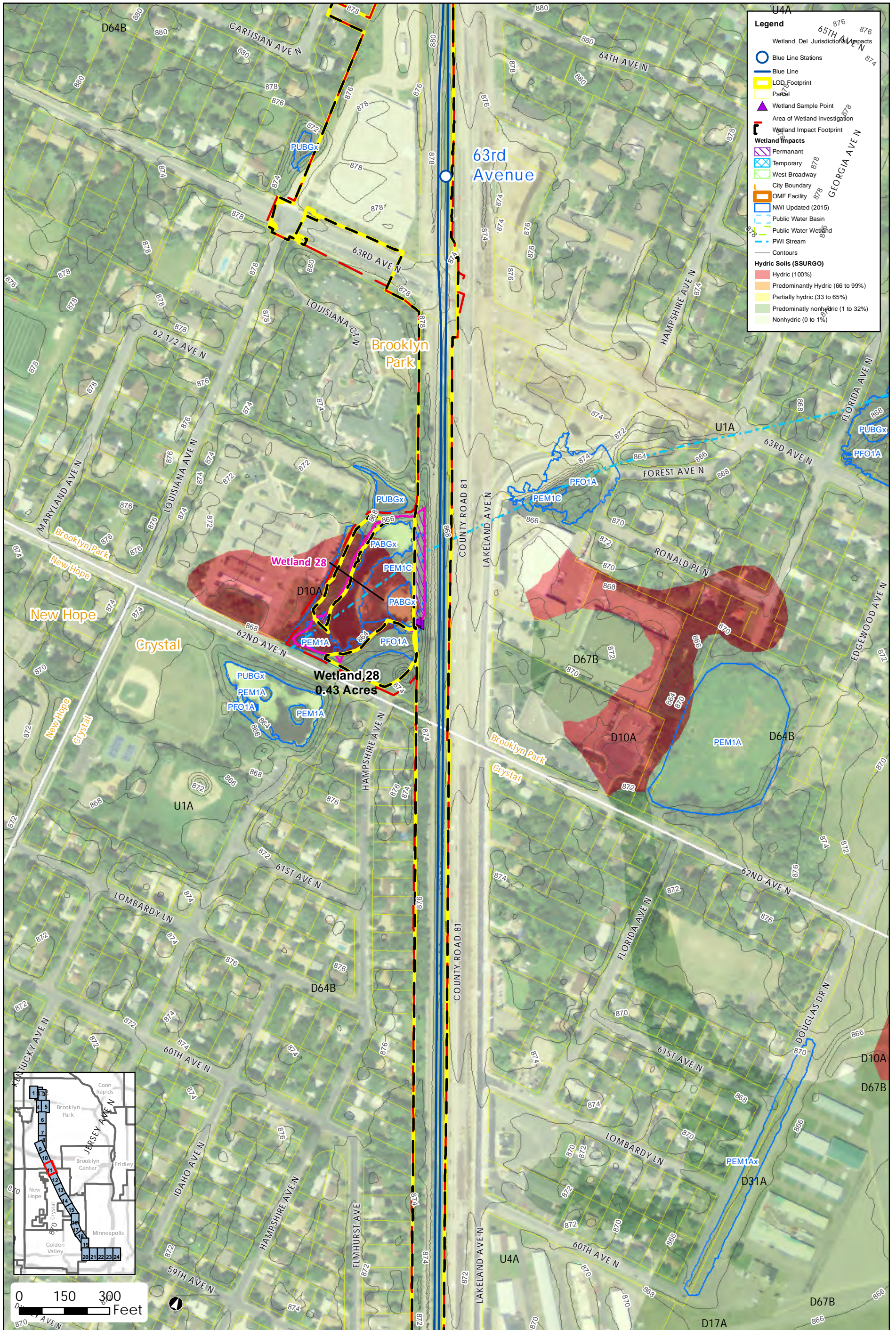
Projection: Hennepin County NAD83  
 Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

**Figure 3 - Hydric Soils**  
 Page 10

METRO Blue Line Extension

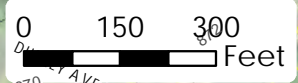
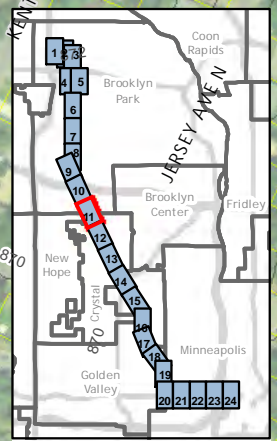
**DRAFT**





**Legend**

- Wetland\_Del\_Jurisdictional\_Impacts
- Blue Line Stations
- Blue Line
- LOD\_Footprint
- Parcel
- Wetland Sample Point
- Area of Wetland Investigation
- Wetland Impact Footprint
- Wetland Impacts**
  - Permanent
  - Temporary
  - West Broadway
- City Boundary
- OMF Facility
- NWI Updated (2015)
- Public Water Basin
- Public Water Wetland
- PWI Stream
- Contours
- Hydric Soils (SSURGO)**
  - Hydric (100%)
  - Predominantly Hydric (66 to 99%)
  - Partially hydric (33 to 65%)
  - Predominantly nonhydric (1 to 32%)
  - Nonhydric (0 to 1%)

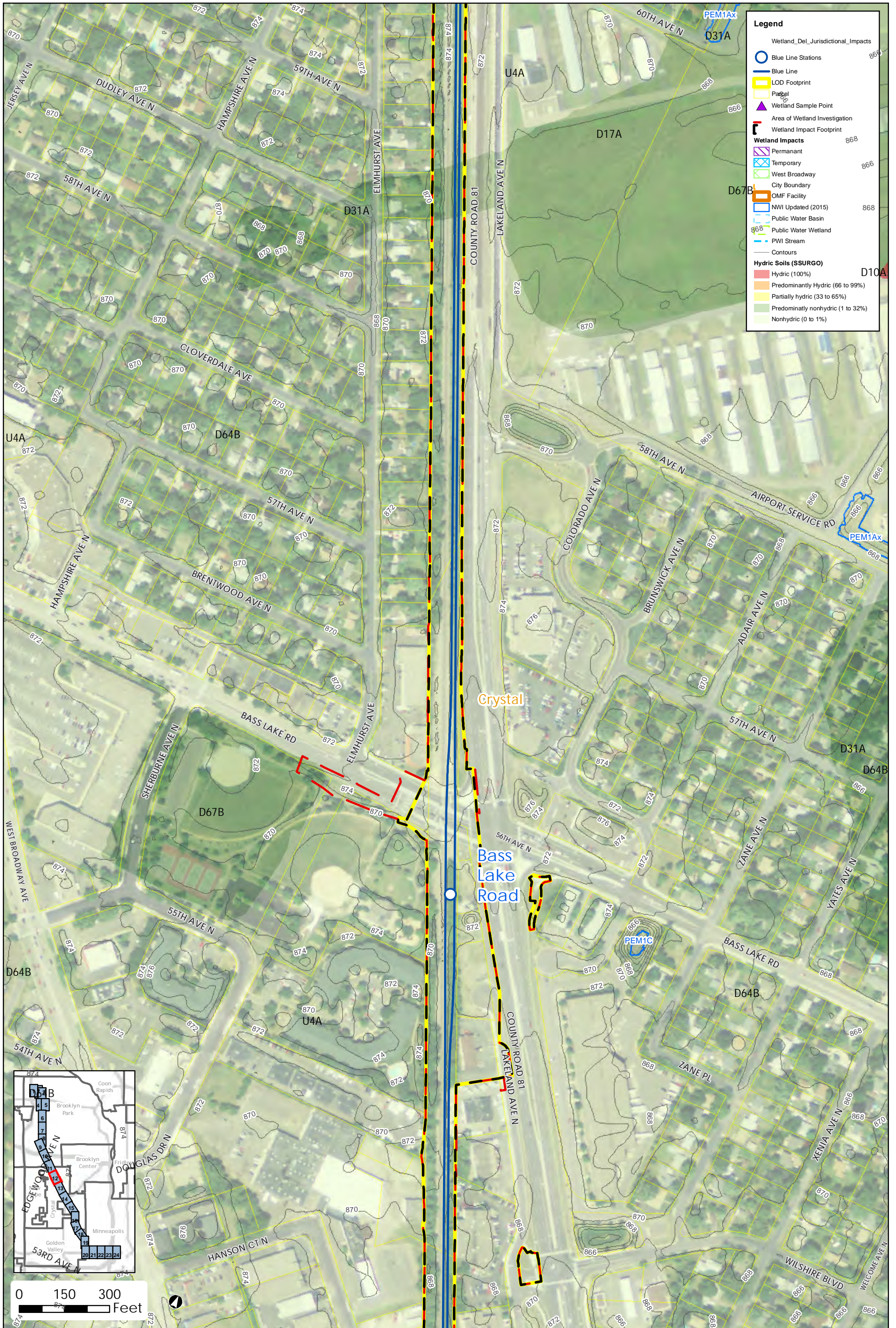


Projection: Hennepin County NAD83  
 Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

**Figure 3 - Hydric Soils**  
 Page 11

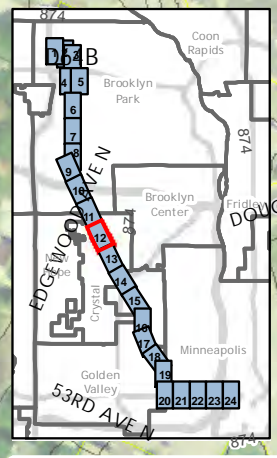
**DRAFT**





**Legend**

- Wetland\_Del\_Jurisdictional\_Impacts
- Blue Line Stations
- Blue Line
- LOD Footprint
- Parcel
- Wetland Sample Point
- Area of Wetland Investigation
- Wetland Impact Footprint
- Wetland Impacts**
  - Permanant
  - Temporary
  - West Broadway
- City Boundary
- OMF Facility
- NWI Updated (2015)
- Public Water Basin
- Public Water Wetland
- PWI Stream
- Contours
- Hydric Soils (SSURGO)**
  - Hydric (100%)
  - Predominantly Hydric (66 to 99%)
  - Partially hydric (33 to 65%)
  - Predominantly nonhydric (1 to 32%)
  - Nonhydric (0 to 1%)



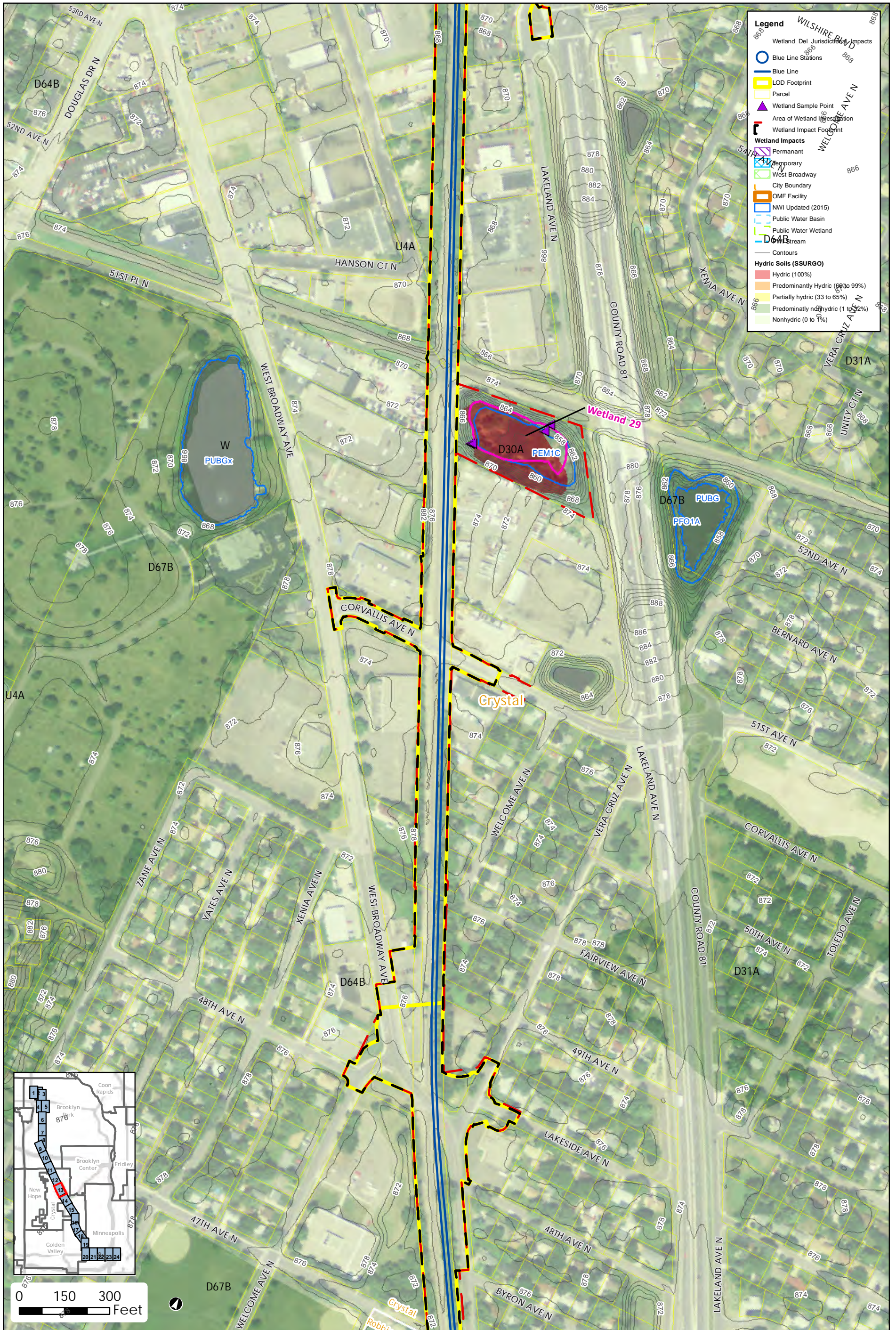
Projection: Hennepin County NAD83  
 Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

**Figure 3 - Hydric Soils**  
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 METRO Blue Line Extension

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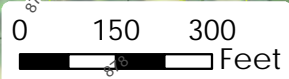
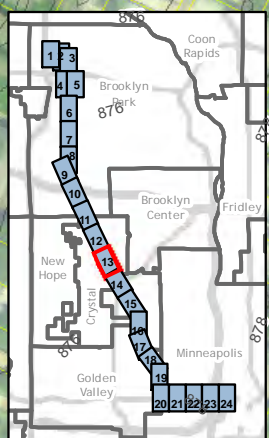
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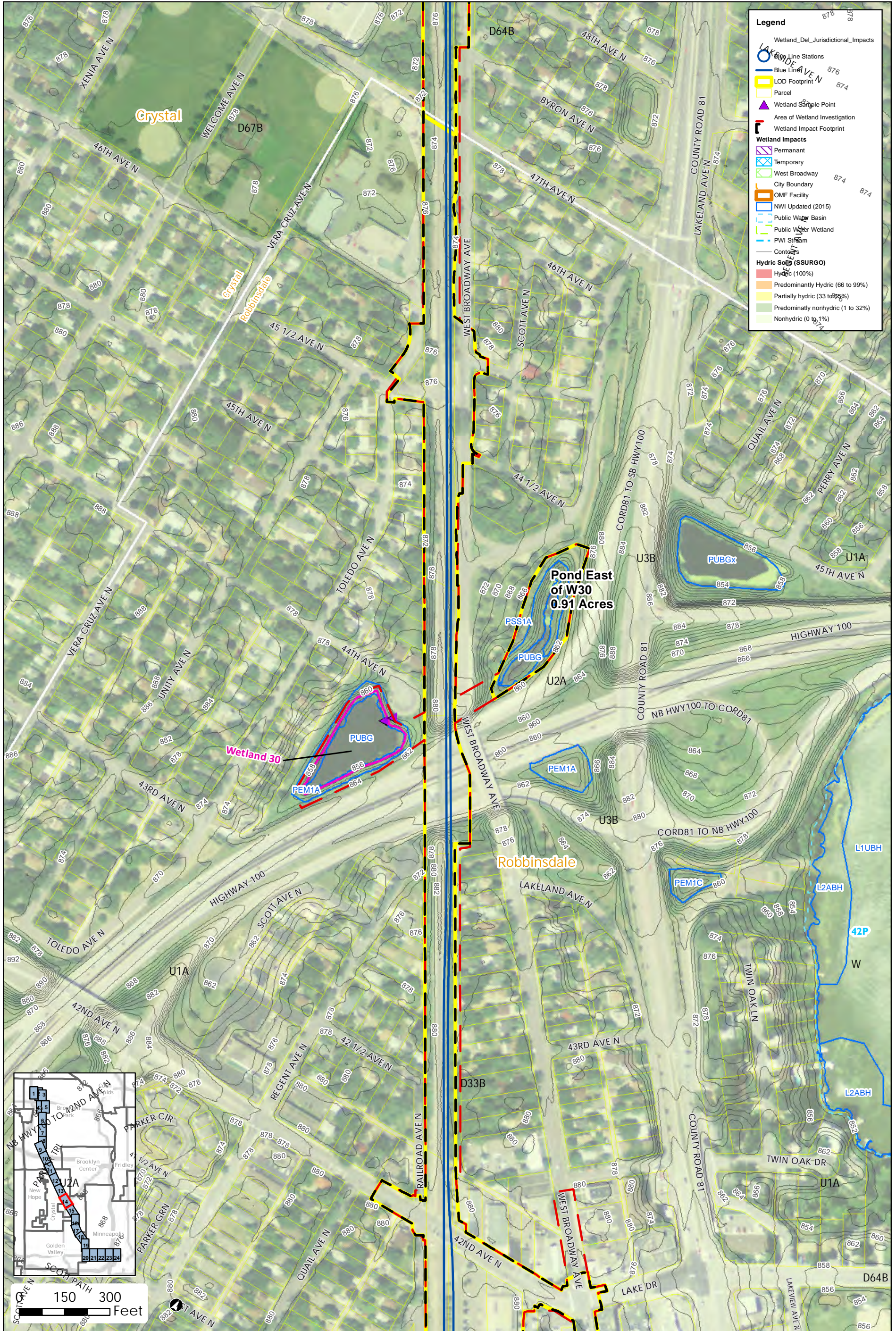


**Figure 3 - Hydric Soils**  
Page 13

METRO Blue Line Extension

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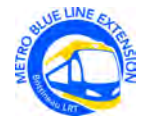




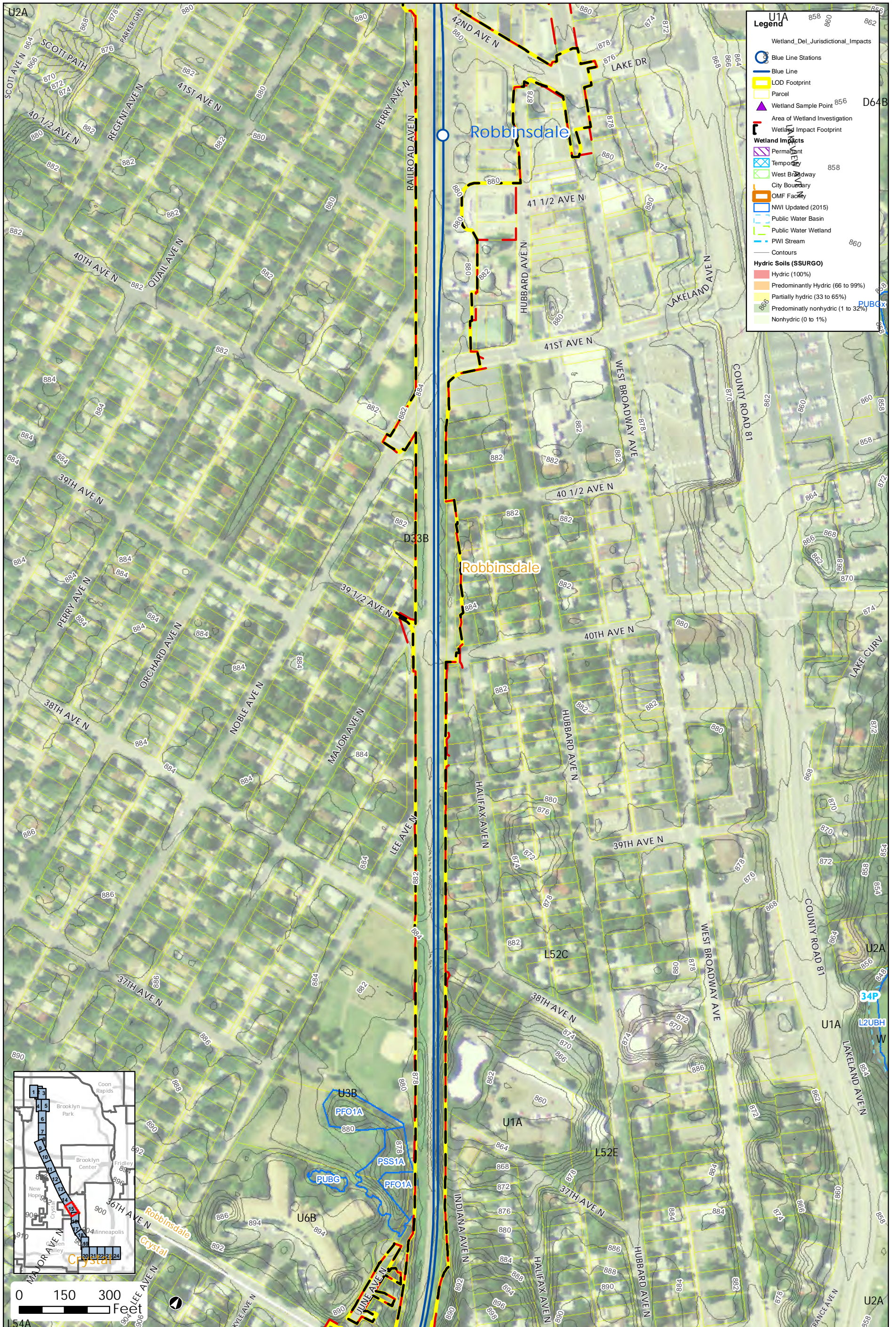
**Figure 3 - Hydric Soils**  
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METRO Blue Line Extension

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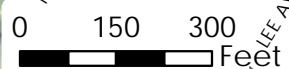
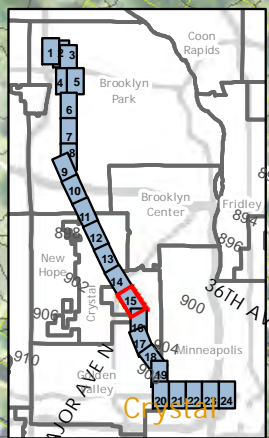
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Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.



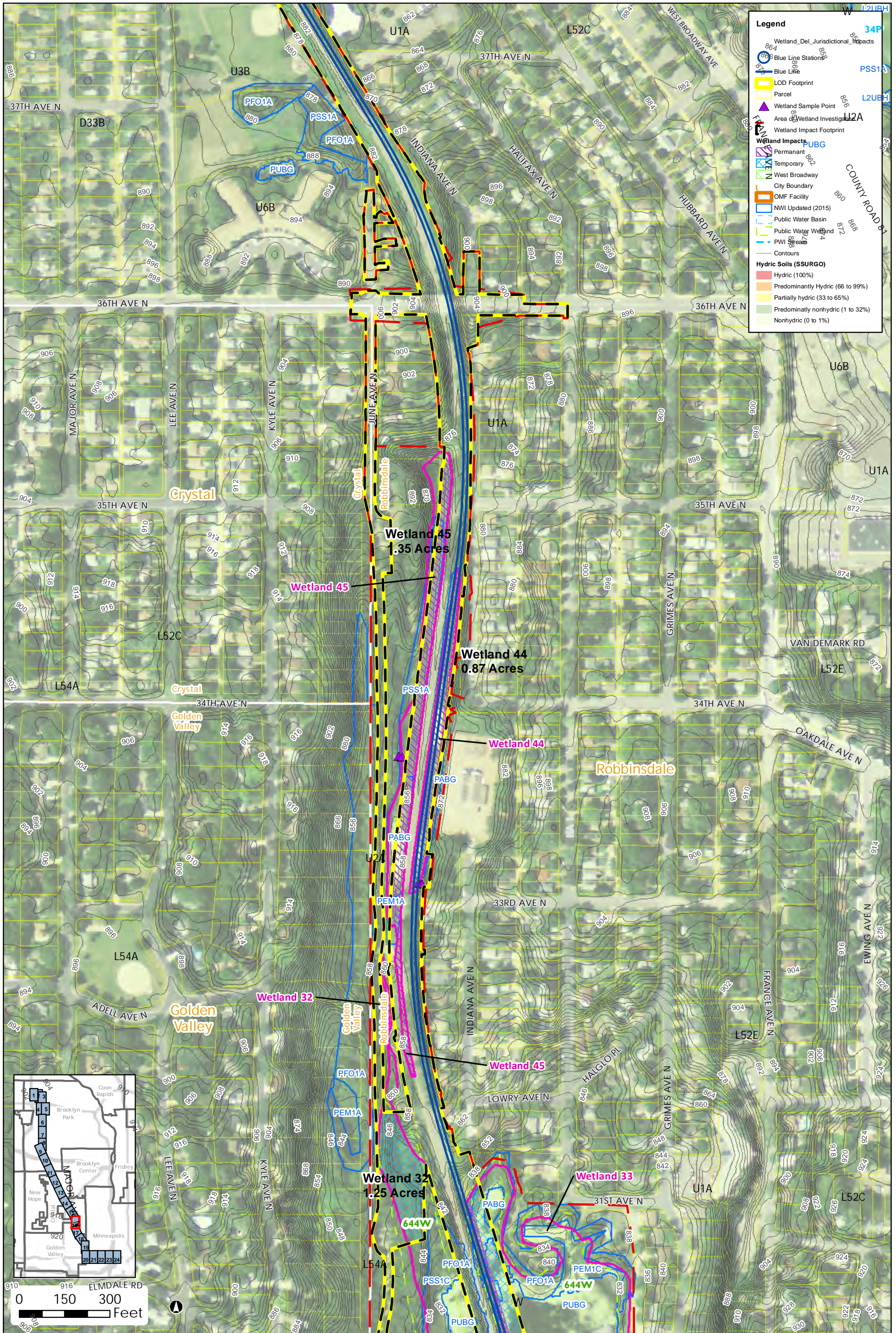
**Figure 3 - Hydric Soils**  
Page 15

METRO Blue Line Extension

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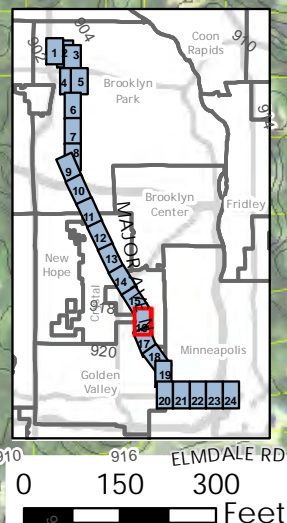






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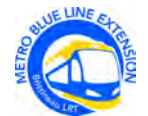
- Wetland\_Del\_Jurisdictional\_Impacts
- Blue Line Stations
- Blue Line
- LOD Footprint
- Parcel
- Wetland Sample Point
- Area of Wetland Investigation
- Wetland Impact Footprint
- Wetland Impact**
  - Permanent
  - Temporary
  - West Broadway
- City Boundary
- OMF Facility
- NWI Updated (2015)
- Public Water Basin
- Public Water Wetland
- PWI Stream
- Contours
- Hydric Soils (SSURGO)**
  - Hydric (100%)
  - Predominantly Hydric (66 to 99%)
  - Partially hydric (33 to 65%)
  - Predominantly nonhydric (1 to 32%)
  - Nonhydric (0 to 1%)



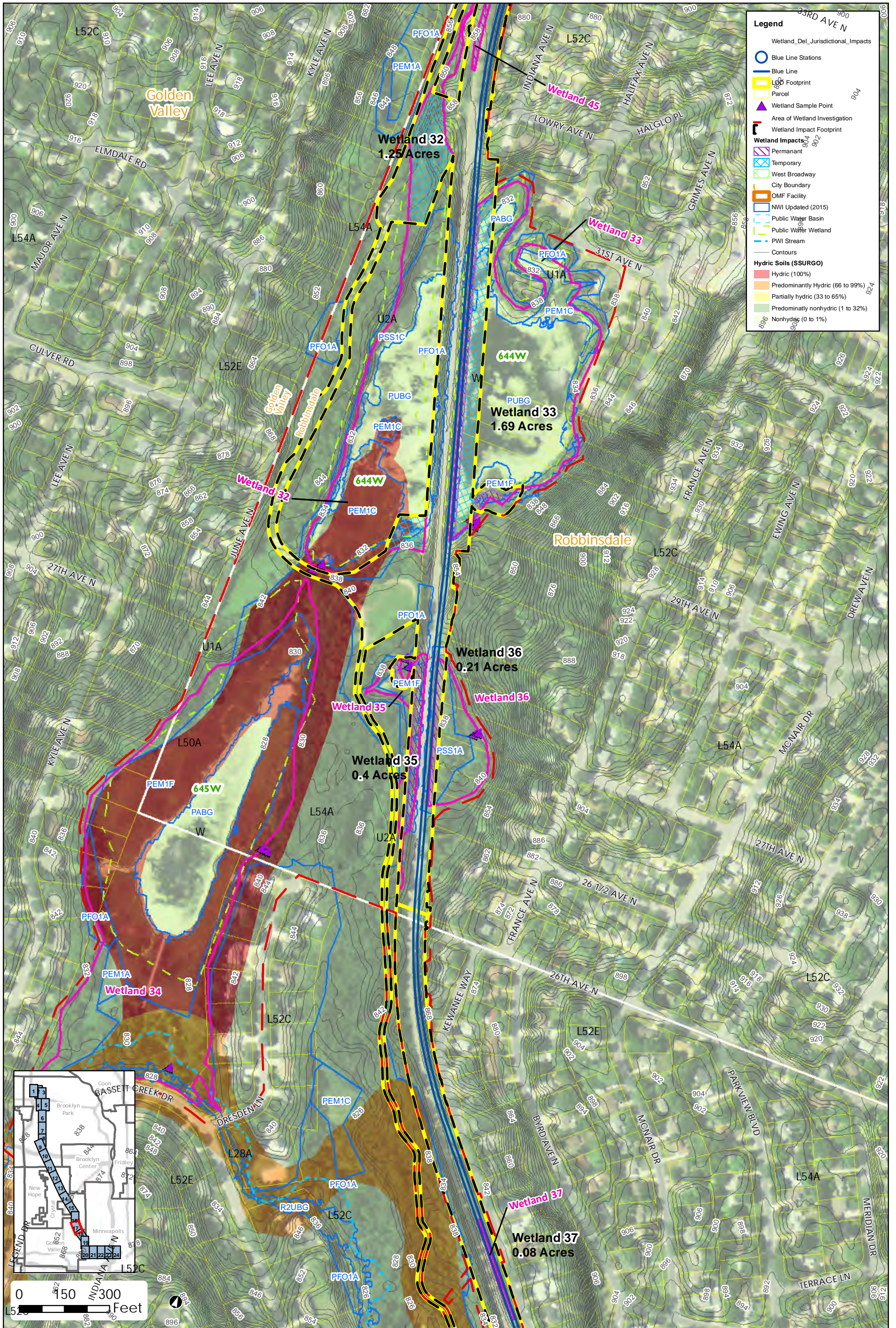
Projection: Hennepin County NAD83  
 Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

**Figure 3 - Hydric Soils**  
 Page 16  
 METRO Blue Line Extension

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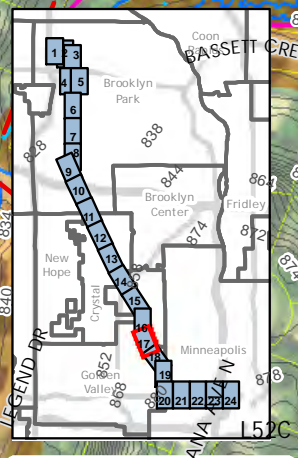


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**Legend**

- Wetland\_Del\_Jurisdictional\_Impacts
- Blue Line Stations
- Blue Line
- LOB Footprint
- Parcel
- Wetland Sample Point
- Area of Wetland Investigation
- Wetland Impact Footprint
- Wetland Impacts**
  - Permanent
  - Temporary
  - West Broadway
  - City Boundary
  - OMF Facility
  - NWI Updated (2015)
  - Public Water Basin
  - Public Water Wetland
  - PWI Stream
  - Contours
- Hydric Soils (SSURGO)**
  - Hydric (100%)
  - Predominantly Hydric (66 to 99%)
  - Partially hydric (33 to 65%)
  - Predominately nonhydric (1 to 32%)
  - Nonhydric (0 to 1%)



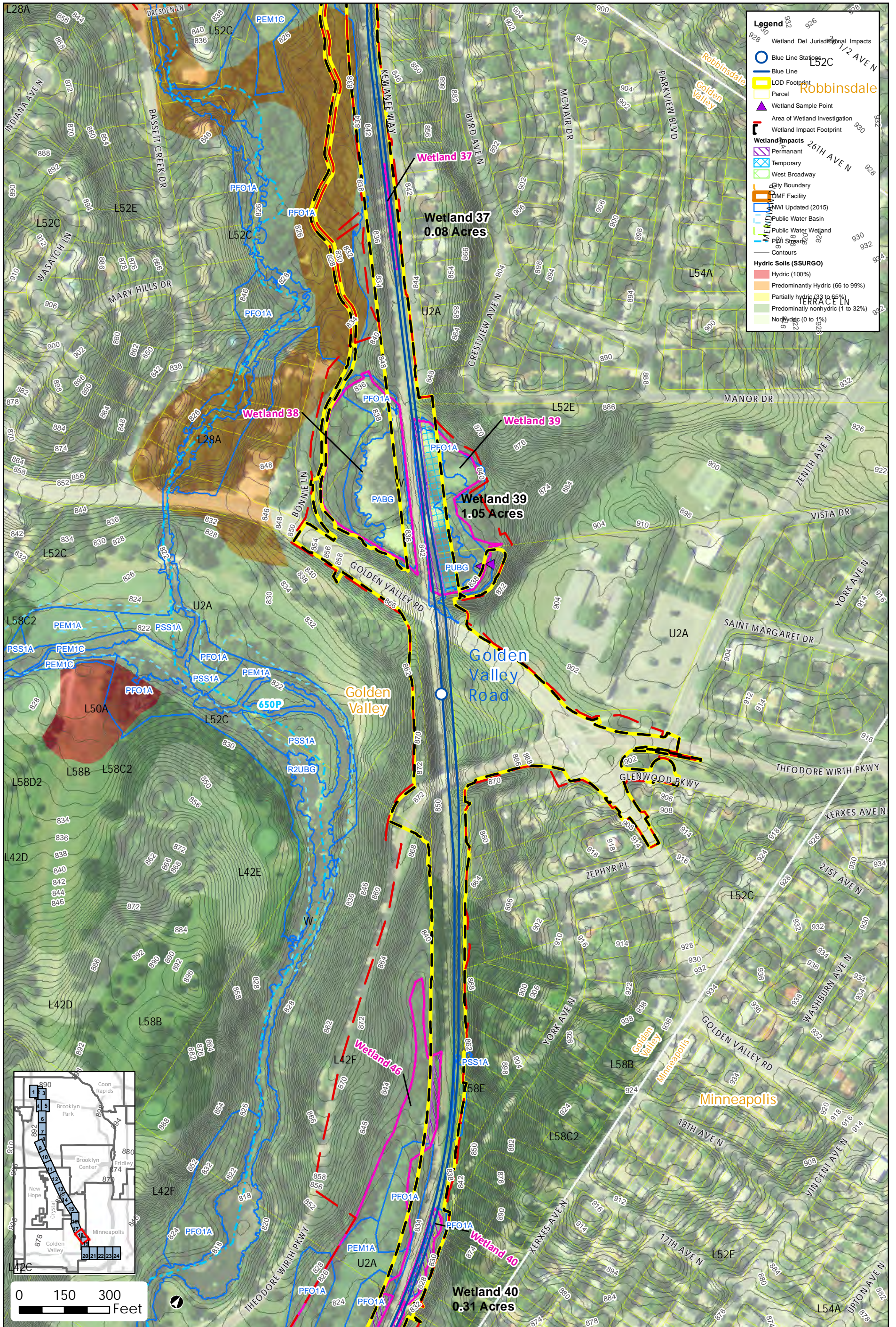
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 Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

**Figure 3 - Hydric Soils**  
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METRO Blue Line Extension

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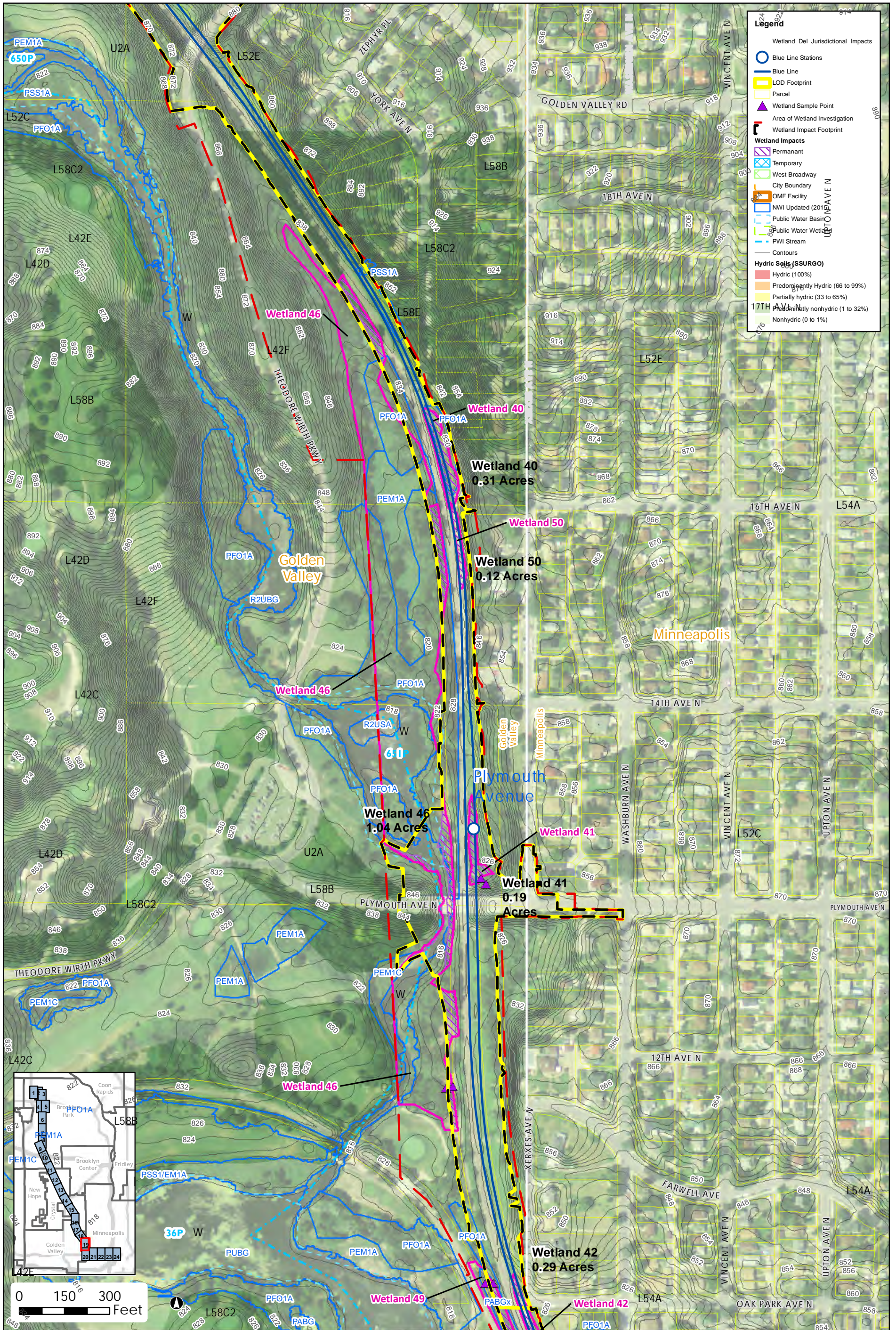


**Figure 3 - Hydric Soils**  
Page 18

METRO Blue Line Extension

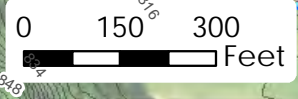
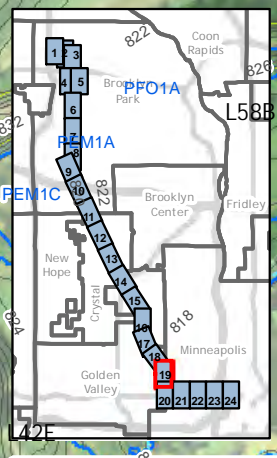
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**Legend**

- Wetland\_Del\_Jurisdictional\_Impacts
- Blue Line Stations
- Blue Line
- LOD Footprint
- Parcel
- Wetland Sample Point
- Area of Wetland Investigation
- Wetland Impact Footprint
- Wetland Impacts**
  - Permanent
  - Temporary
  - West Broadway
  - City Boundary
  - OMF Facility
  - NWI Updated (2011)
  - Public Water Basin
  - Public Water Wetland
  - PWI Stream
  - Contours
- Hydric Soils (SSURGO)**
  - Hydric (100%)
  - Predominantly Hydric (66 to 99%)
  - Partially hydric (33 to 65%)
  - Probably nonhydric (1 to 32%)
  - Nonhydric (0 to 1%)



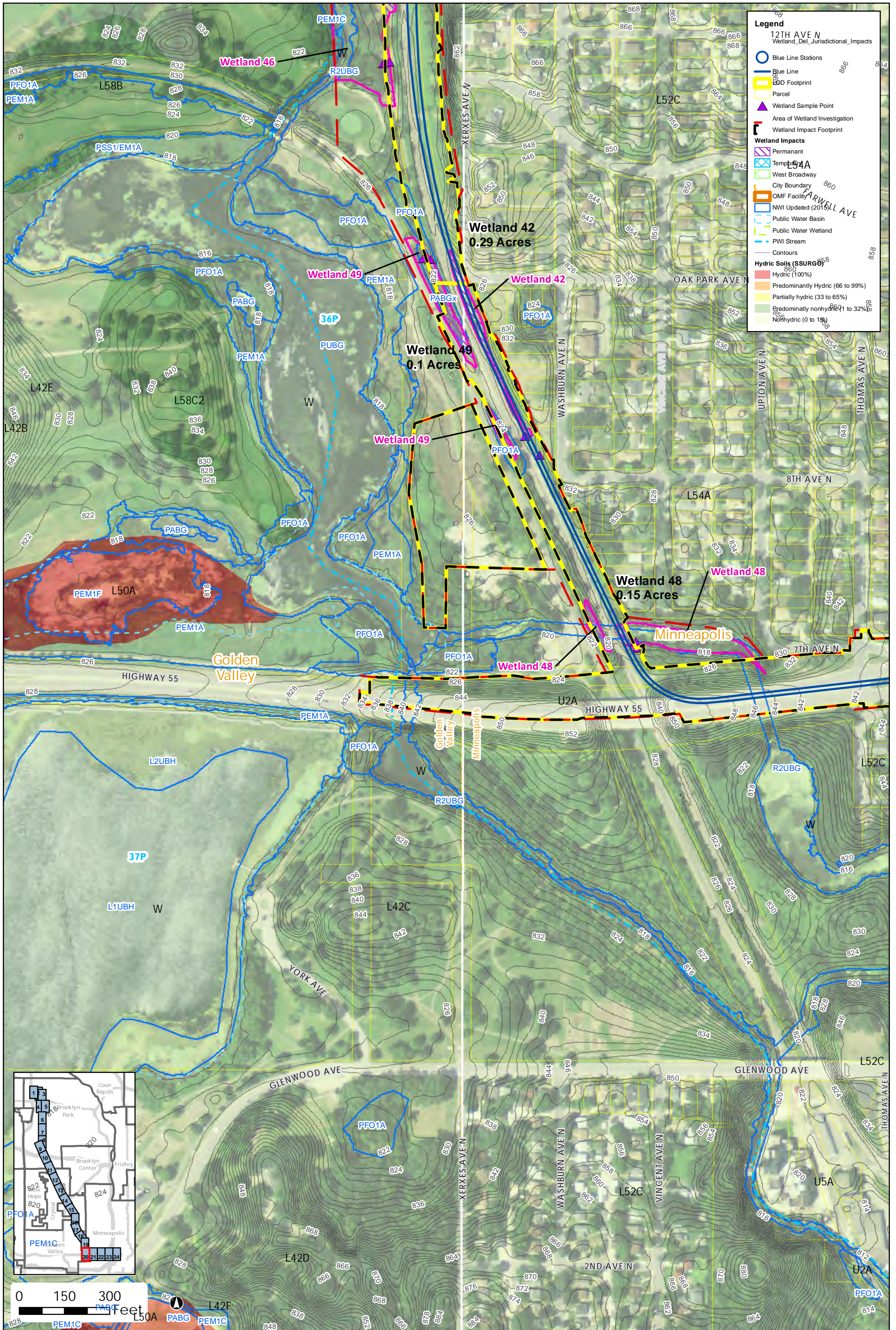
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 Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

**Figure 3 - Hydric Soils**  
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 METRO Blue Line Extension

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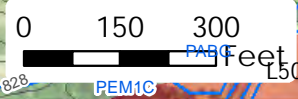
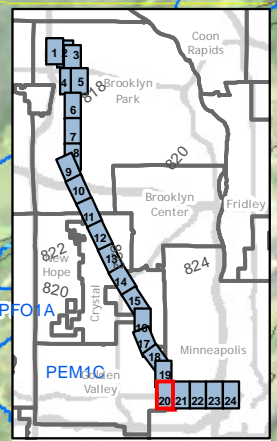


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**Legend**

- 12TH AVE N Wetland\_Del\_Jurisdictional\_Impacts
- Blue Line Stations
- Blue Line
- LOD Footprint
- Parcel
- Wetland Sample Point
- Area of Wetland Investigation
- Wetland Impact Footprint
- Wetland Impacts**
- Permanent
- Temporary
- West Broadway
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- Nonhydric (0 to 1%)



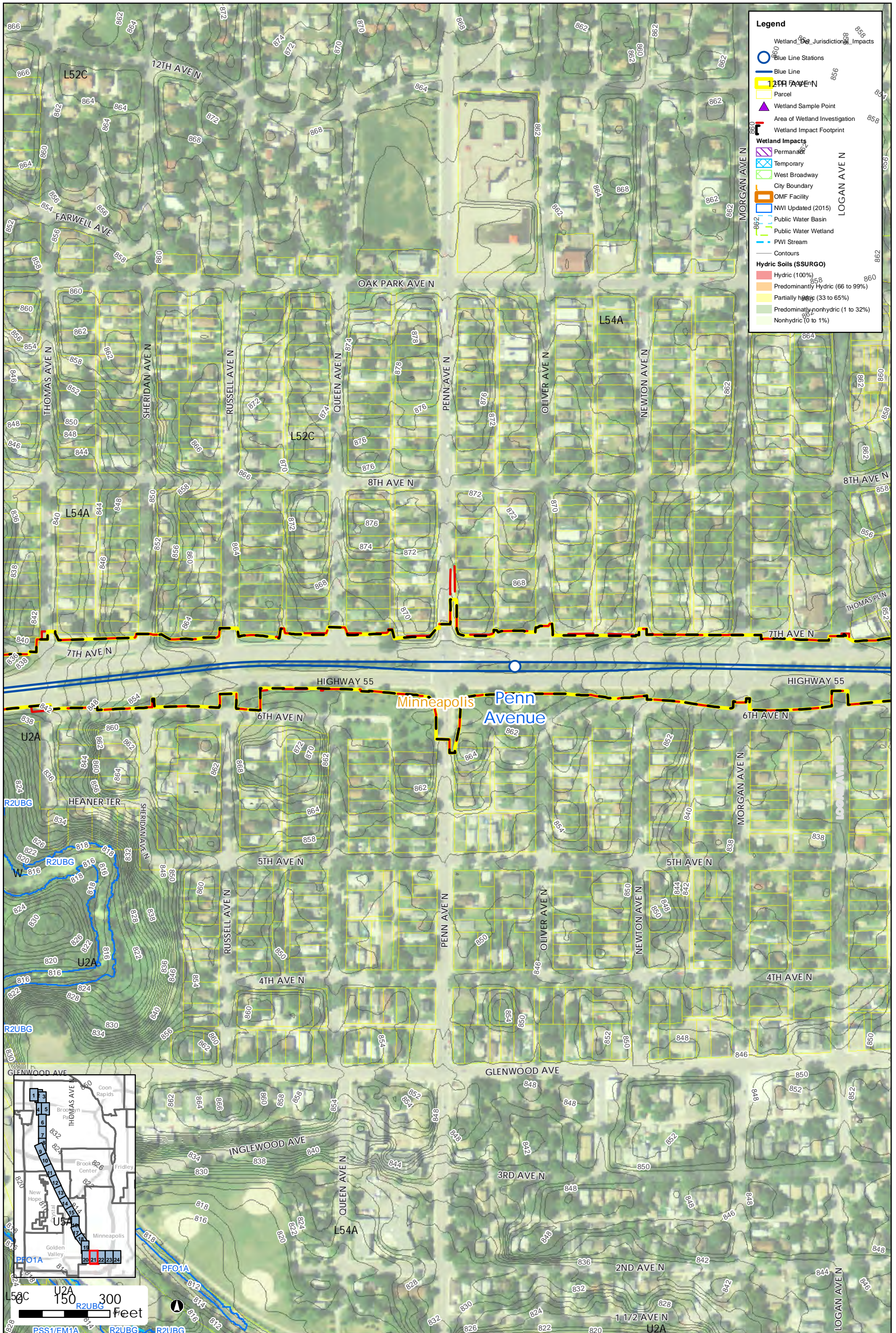
Projection: Hennepin County NAD83  
 Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

**Figure 3 - Hydric Soils**  
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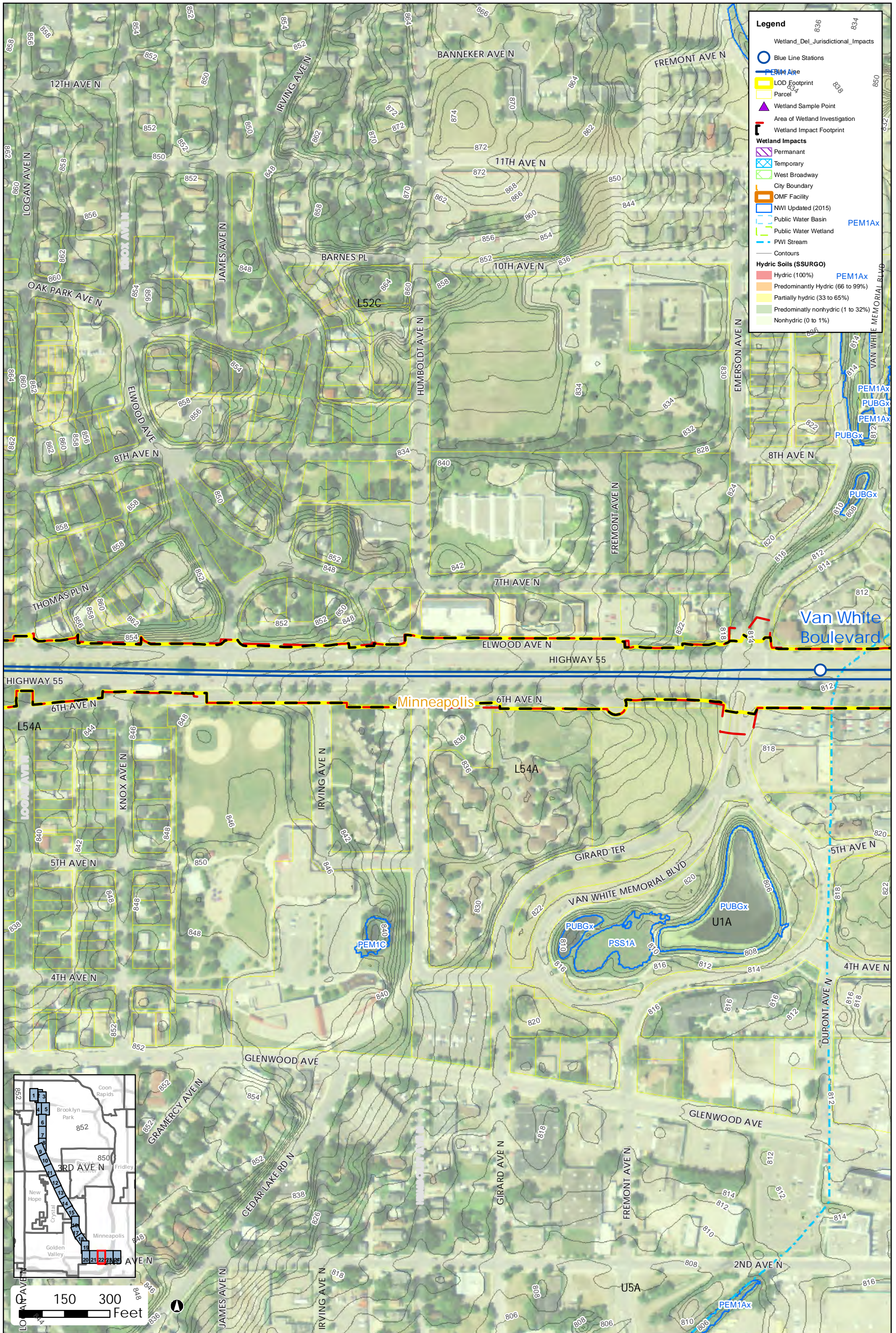


**Figure 3 - Hydric Soils**  
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METRO Blue Line Extension

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**Legend**

- Wetland\_Del\_Jurisdictional\_Impacts
- Blue Line Stations
- PEM1A Line
- LOD Footprint
- Parcel
- Wetland Sample Point
- Area of Wetland Investigation
- Wetland Impact Footprint
- Wetland Impacts**
  - Permanent
  - Temporary
  - West Broadway
  - City Boundary
  - OMF Facility
  - NWI Updated (2015)
  - Public Water Basin
  - Public Water Wetland
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  - Contours
- Hydric Soils (SSURGO)**
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  - Predominantly Hydric (66 to 99%)
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  - Predominantly nonhydric (1 to 32%)
  - Nonhydric (0 to 1%)

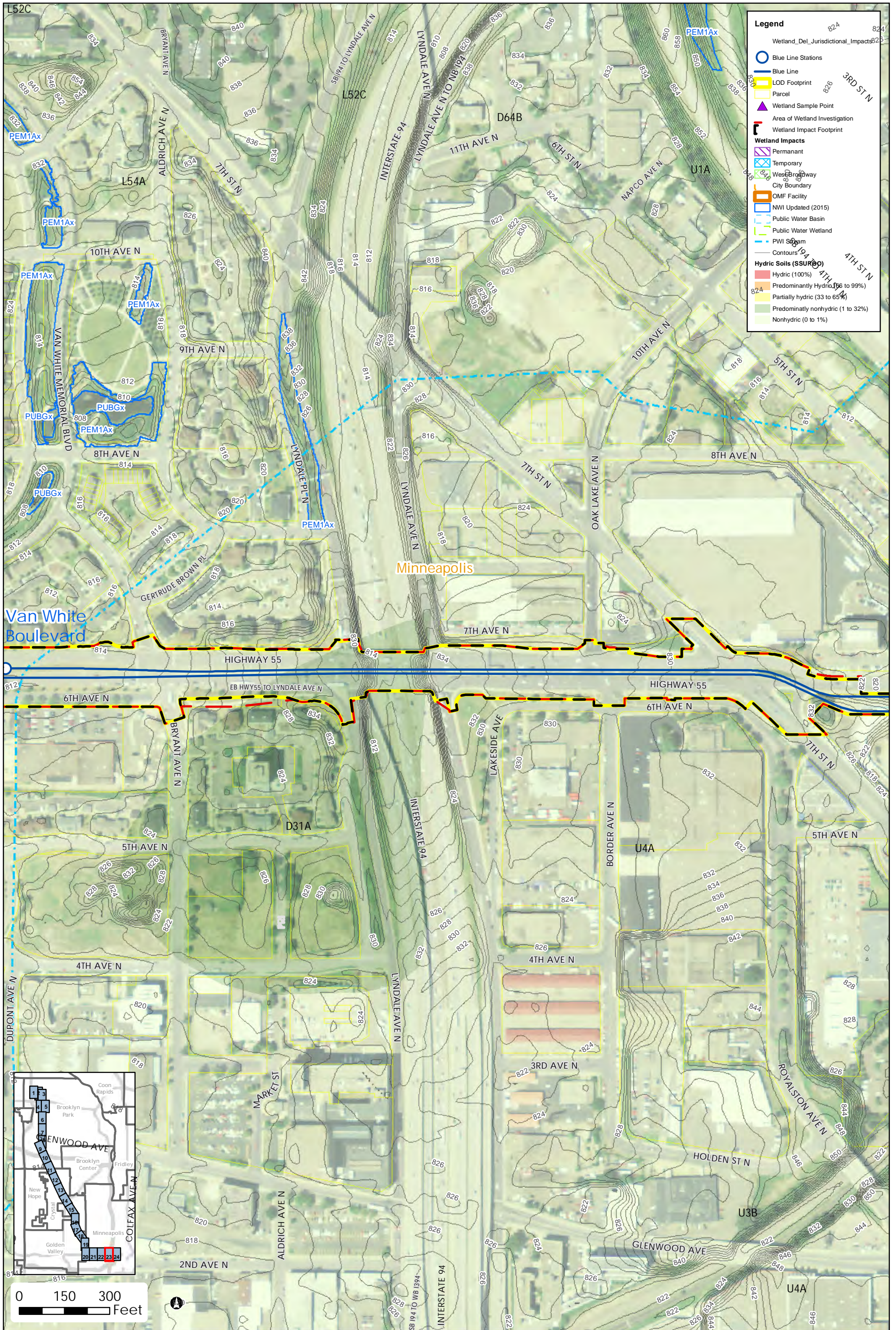
**Figure 3 - Hydric Soils**  
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METRO Blue Line Extension

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Projection: Hennepin County NAD83  
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.



**Figure 3 - Hydric Soils**  
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METRO Blue Line Extension

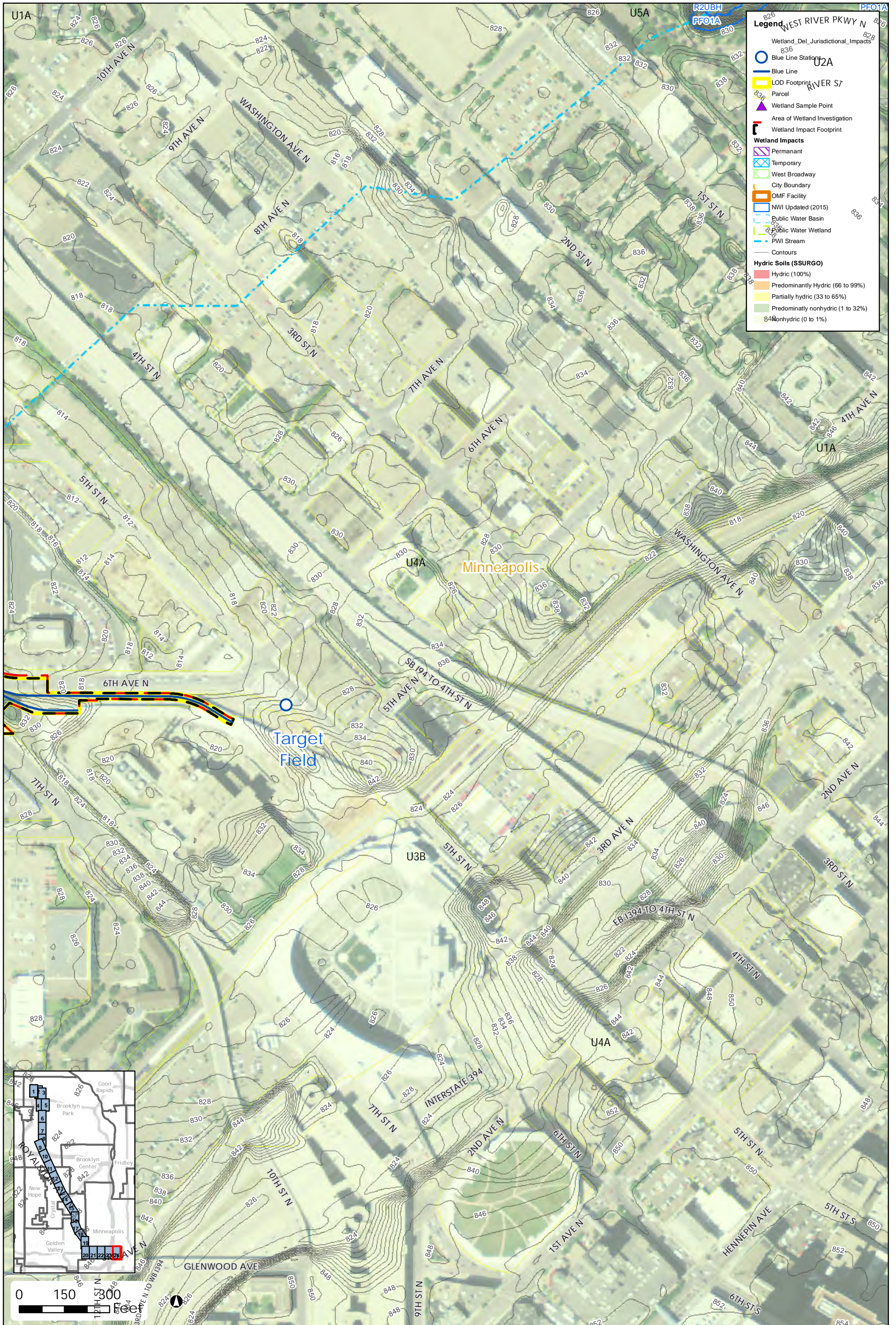
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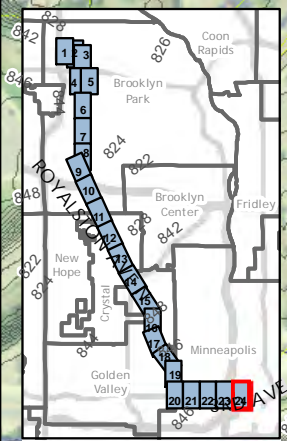




- Legend**
- Wetland\_Del\_Jurisdictional\_Impacts
  - Blue Line Station
  - Blue Line
  - LOD Footprint
  - Parcel
  - Wetland Sample Point
  - Area of Wetland Investigation
  - Wetland Impact Footprint
  - Wetland Impacts**
  - Permanent
  - Temporary
  - West Broadway
  - City Boundary
  - OMF Facility
  - NWI Updated (2015)
  - Public Water Basin
  - Public Water Wetland
  - PWI Stream
  - Contours
  - Hydric Soils (SSURGO)**
  - Hydric (100%)
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  - Partially hydric (33 to 65%)
  - Predominantly nonhydric (1 to 32%)
  - Nonhydric (0 to 1%)

Minneapolis

Target Field



Projection: Hennepin County NAD83  
 Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

**Figure 3 - Hydric Soils**  
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METRO Blue Line Extension