Item 7D.
BCWMC
5-17-18

Minnesota Wetland Conservation Act
Notice of Application

Local Government Unit (LGU)	Address
City of Plymouth	**3400 Plymouth Blvd.** **Plymouth, MN 55447**

1. PROJECT INFORMATION

Applicant Name	Project Name	Date of Application	Application Number
Ben Scharenbroich	**Kilmer Park Street Reconstruction Project – City Project No. 18001**	**04/23/2018**	**NA**

Type of Application (check all that apply):

☒ Wetland Boundary or Type ☐ No-Loss ☐ Exemption ☐ Sequencing
☐ Replacement Plan ☐ Banking Plan

Summary and description of proposed project (attach additional sheets as necessary):

The City of Plymouth's Consultant (Stantec Consulting Services Inc.) performed a Level 1 wetland determination and delineation of the Kilmer Park Street Reconstruction Project Area. This project is located generally located between 26th and 28th Avenues North and west of State Highway 169 in Plymouth, Minnesota as shown on the project Location Map. This area was developed during the late 1940s as the Klausmans residential development.

The parcels were inspected in April 2018 for the presences and extent of wetlands. Eight wetlands were delineated on site. Wetland 1(W-A) is a Type 2, PEMB Wet Meadow wetland dominated by narrow-leaf cattail, reed canary grass and garlic mustard. Wetland 2 (W-B) is a Type 2, PEMB Wet Meadow wetland dominated by narrow-leaf cattail, reed canary grass and garlic mustard. Wetland 3 (W-C) is a Type 1, PEMA seasonally flooded wetland dominated by reed canary grass as well as bare soil. Wetland 4 (W-D) is a Type 1, PEMA seasonally flooded wetland dominated by reed canary grass as well as bare soil. Wetland 5 (W-E) is a Type 1, PEMA seasonally flooded wetland dominated by reed canary grass. Wetland 6 (W-F) is a Type 1, PEMA seasonally flooded wetland dominated by reed canary grass. Wetland 7 (W-G) is a Type 3, PEMC shallow marsh wetland dominated by narrow-leaf cattail. Wetland 8 (W-H) is a Type 3, PEMC shallow marsh wetland dominated by narrow-leaf cattail.

A level 2 wetland delineation may be completed, if necessary, by Stantec Consulting Services Inc as soon as the growing season for 2018 begins.

2. APPLICATION REVIEW AND DECISION

Signing and mailing of this completed form to the appropriate recipients in accordance with 8420.0255, Subp. 3 provides notice that an application was made to the LGU under the Wetland Conservation Act as specified above. A copy of the application is attached. Comments can be submitted to:

Name and Title of LGU Contact Person	Comments must be received by (minimum 15 business-day comment period):
Derek Asche **Water Resources Manager**	**May 15 , 2018**
Address (if different than LGU) **City of Plymouth** **3400 Plymouth Blvd.** **Plymouth, MN 55447**	Date, time, and location of decision: **May 16 , 2018** **9AM** **Plymouth City Hall**
Phone Number and E-mail Address **763-509-5526** **dasche@plymouthmn.gov**	Decision-maker for this application: ☒ Staff ☐ Governing Board or Council

Signature: Derek Asche **Date:** 04/20/2018

3. LIST OF ADDRESSEES

X HCD TEP member: **Ms. Stacey Lijewski, HCD, 701 Fourth Avenue South, Suite 700, Minneapolis, MN, 55415-1600 (sent electronically)**

X BWSR TEP member: **Ben Carlson, BWSR, 520 Lafayette Rd. N., St. Paul, MN, 55155 (sent electronically)**

☐ LGU TEP member (if different than LGU Contact):

X DNR TEP member: **Becky Horton, MN DNR, 1200 Warner Road, St. Paul, MN, 55106 (sent electronically)**

X DNR Regional Office (if different than DNR TEP member)
Jason Spiegel, Area Hydrologist, 1200 Warner Road, St. Paul, MN, 55106 (sent electronically)

X WD or WMO (if applicable): **BCWMC, c/o Laura Jester, Keystone Waters, LLC, 16415 Hillcrest Lane, Eden Prairie, MN, 55346 (sent electronically)**

X Applicant and Landowner (if different):
JOYCE CARLSON 347 19TH AVE NE MINNEAPOLIS, MN 55418
DONALD AND RUTH STADSVOLD 9610 27TH AVE N PLYMOUTH, MN 55441
PAUL JANE NEUBURGER 2720 KILMER LN N PLYMOUTH, MN 55441
DIANNA DAWIDOFF 9525 28TH AVE N PLYMOUTH, MN 55441
MICHAEL AND JENNIFER MOREEN 2730 KILMER LN N PLYMOUTH, MN 55441
THOMAS AND ROXANNE ZAUN 9700 26TH AVE N PLYMOUTH, MN 55441
WILLIAM AND LINDA THOMPSON 9640 26TH AVE N PLYMOUTH, MN 55441
STEVEN TSCHIDER 2620 58TH ST W MINNEAPOLIS, MN 55410
RYAN FRONIUS 9705 27TH AVE N PLYMOUTH, MN 55441

Members of the public who requested notice:
John Smyth, Stantec Consulting Services Inc 2335 Highway 36 West St. Paul MN 55113 (sent electronically)

X Corps of Engineers Project Manager: **Melissa Jenny, Army Corps of Engineers, 180 5th Street East, Suite 700, St. Paul, MN, 55101-1678 (sent electronically)**

☐ BWSR Wetland Bank Coordinator (wetland bank plan decisions only) ☐ BWSR Wetland Bank Coordinator (wetland bank plan applications only)

4. MAILING INFORMATION

➢For a list of BWSR TEP representatives: www.bwsr.state.mn.us/contact/WCA_areas.pdf

➢For a list of DNR TEP representatives: www.bwsr.state.mn.us/wetlands/wca/DNR_TEP_contacts.pdf

➢Department of Natural Resources Regional Offices:

NW Region:	NE Region:	Central Region:	Southern Region:
Reg. Env. Assess. Ecol.	Reg. Env. Assess. Ecol.	Reg. Env. Assess. Ecol.	Reg. Env. Assess. Ecol.
Div. Ecol. Resources	Div. Ecol. Resources	Div. Ecol. Resources	Div. Ecol. Resources
2115 Birchmont Beach Rd. NE	1201 E. Hwy. 2	1200 Warner Road	261 Hwy. 15 South
Bemidji, MN 56601	Grand Rapids, MN 55744	St. Paul, MN 55106	New Ulm, MN 56073

For a map of DNR Administrative Regions, see: http://files.dnr.state.mn.us/aboutdnr/dnr_regions.pdf

➢For a list of Corps of Project Managers: www.mvp.usace.army.mil/regulatory/default.asp?pageid=687
or send to:

US Army Corps of Engineers
St. Paul District, ATTN: OP-R
180 Fifth St. East, Suite 700
St. Paul, MN 55101-1678

➢For Wetland Bank Plan applications, also send a copy of the application to:

Minnesota Board of Water and Soil Resources
Wetland Bank Coordinator
520 Lafayette Road North

St. Paul, MN 55155

5. ATTACHMENTS

In addition to the application, list any other attachments:

☒ **Location Map**
☒ **Level 1 Wetland Delineation Report**
☒ **Project Grading Plans**


City of Plymouth
Adding Quality to Life
Kilmer Park Street Reconstruction Project
Wetland Delineation Area
Legend
Lakes
Creek
Parcels
Water Quality Pond
Wetland Mitigation
Wetland
N
W
E
S
0 30 60 120 180
Feet
28TH
27TH
26TH
LANCASTER
NATHAN
KILMER
HIGHWAY 169
SB HWY169 N TO KILMER LN N
26TH AVE N TO SB HWY169 N
KLAUSMANS
MED LK PK 3RD

Level 1 Wetland Delineation Report

Kilmer Park Street Reconstruction Project
City of Plymouth, Hennepin County, MN
Stantec Project #: 193706061

Prepared for:

Ben Scharenbroich
Senior Engineering Technician
City of Plymouth
3400 Plymouth Boulevard
Plymouth, MN 55447

Prepared by:
Stantec Consulting Services Inc.
2335 Highway 36 West
St. Paul, Minnesota 55113
Phone: (651) 636-4600
Fax: (651) 636-1311

Sign-off Sheet

This document entitled Level 1 Wetland Delineation Report was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of the City of Plymouth (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by Mike Pederson
(signature)
Mike Pederson, Environmental Scientist, WDC #1265

Reviewed by
(signature)
Julia Millet, Ecologist, WDC #1280

Reviewed by
(signature)
John Smyth, Project Manager, WCD #1044

Stantec

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1.0 INTRODUCTION

Stantec Consulting Services Inc. (Stantec) performed a Level 1 wetland determination and delineation of the Kilmer Park Street Reconstruction Project Study Area (the "Study Area") on behalf of the City of Plymouth. The Study Area is approximately 1.39 acres in size and located in Section 24, Township 118 North, Range 22 West, City of Plymouth, Hennepin County, Minnesota. Specifically, the Study Area includes Bassett Creek and the area directly adjacent to the creek as it flows through Kilmer Park and neighborhoods upstream and downstream of the park (Figure 1).

The purpose and objective of this Level 1 wetland delineation is to present preliminary opinions regarding the presence of wetland resources adjacent to Bassett Creek and to determine the Ordinary High Water Level (OHWL) of the creek and provided an estimate of the wetland boundary for planning purposes prior to the Level 2 wetland delineation. The wetland delineation was completed by Mike Pederson and John Smyth of Stantec on April 12, 2018. Eight wetland areas were identified in the Study Area. A follow up Level 2 wetland delineation will be completed during the growing season to document the wetland boundary with sampling points and confirm the boundary of the wetlands and the creek within the Study Area.

Wetlands and waterways that are considered waters of the U.S. are subject to regulation under Section 404 of the Clean Water Act (CWA) and the jurisdictional regulatory authority lies with the U.S. Army Corps of Engineers (USACE). The Minnesota Department of Natural Resources (MNDNR) has regulatory authority over certain wetlands, navigable waters and adjacent lands under Statute 103G and Rule 6115.0250. All wetlands are protected under the Wetland Conservation Act Rules Chapter 8420 and administered by a Local Governmental Unit (LGU). LGUs can be a City, County, Watershed District or Soil and Water Conservation District depending on project location. For this Study Area the LGU is the City of Plymouth. In order to continue planning and permitting Stantec recommends you submit this Level 1 wetland delineation report to the regulatory agencies followed by the Level 2 report once additional field work can be completed during the growing season.

2.0 METHODS

2.1 WETLANDS

Wetland determinations were based on the criteria and methods outlined in the *U.S. Army Corps of Engineers Wetlands Delineation Manual,* Technical Report Y-87-1 (1987) and subsequent guidance documents (USACE 1991, 1992), and applicable Regional Supplements to the *Corps of Engineers Wetland Delineation Manual*.

The wetland determination involved the use of available resources to assist in the assessment such as U.S. Geological Survey (USGS) topographic maps, U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) soil survey, U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) mapping, MNDNR Protected/Public Waters mapping, and aerial photography.

Additionally, as climate plays an important role in the formation and identification of wetlands, the antecedent precipitation in the months leading up to the field investigations was reviewed. The current year's precipitation data was compared to long-term (30-year) precipitation averages and standard deviation to determine if precipitation was normal, wet, or dry for the area using a WETS analysis as developed by the NRCS.

Due to the work being conducted outside the growing season no sampling points were completed, however vegetation, surface hydrology and topography were visible the day of the site investigation, so the boundary was identified using these parameters. Photographs documenting the site conditions the day of the visit are contained in Appendix B. The wetland boundaries were identified and flagged using pink "WETLAND DELINEATION" flags as well as surveyed with a Global Positioning System (GPS) capable of sub-meter accuracy and mapped using Geographical Information System (GIS) software. If frozen soil conditions prevented flags from being installed the point was still surveyed with the GPS unit to allow relocation of the flag during the growing season as part of the Level 2 wetland delineation.

2.2 WATERWAYS

Review of waterway characteristics and determination of navigability was beyond the scope of the investigation. However, the determining the OHWL of the creek was part of the investigation and this was surveyed using a GPS and mapped using GIS software.

3.0 RESULTS

3.1 SITE DESCRIPTION

The Study Area is comprised of Bassett Creek which is in Kilmer Park and a residential area. An improvement project that involves the stream and roads is being proposed within the Study Area. The Study Area is relatively flat, sloping to the southwest from topographic highs of approximately 920 feet mean sea level (msl) in the northeastern corner of the site to topographic lows of approximately 912 feet msl in the southwestern portion. A residential development, Kilmer Park and U.S. Highway 169 border the Study Area.

Soils present within the Study Area and their hydric status are summarized in Table 1. Wetlands identified during the field investigation are located primarily within areas mapped as hydric or partially hydric soils (Appendix A, Figures 2).

Table 1. Summary of Soils Identified within the Study Area

Soil symbol: Soil Unit Name	Soil Unit Component	Soil Unit Component Percentage	Landform	Hydric status
L22C2: Lester loam, 6 to 10 percent slopes, moderately eroded	Lester-Moderately eroded	75-90	Ground moraines, hillslopes	No
L24A: Glencoe clay loam, 0 to 1 percent slopes	Glencoe	65-95	Depressions	Yes
L36A: Hamel, overwash-Hamel complex, 0 to 3 percent slopes	Hamel-Overwash	40-60	Ground moraines	No

The National Wetland Inventory (NWI) map identifies one wetland area within the southern section of the Study Area and two wetlands outside the Study Area. One wetland is adjacent to the southern boundary and the other is located near the northern boundary (Appendix A, Figure 4). All three wetlands are mapped as PEM1A type wetlands. The field delineated wetlands A-D are all located within the same vicinity as wetlands identified on the NWI maps. The field delineated northeastern wetlands E-H are not identified on the NWI map (Appendix A, Figure 5).

No MN Protected or Public Waters were identified within the Study Area. (Appendix A, Figure 3).

Average precipitation for the investigation area was obtained from the Hennepin/Plymouth/Mission Farms, MN weather station and used for the WETS analysis. A total of 4.21 inches of precipitation occurred in the three-month time prior to the delineation in 2018 compared to the average of 3.56 inches (based on long-term rainfall data). Based on the WETS analysis, conditions were wetter than normal (Appendix C).

3.2 WETLANDS

Eight wetlands were identified and delineated within the Study Area during the 2018 visit. No wetland determination data forms were completed for the Level 1 wetland delineation, a follow

up Level 2 delineation will include data forms. Photographs of the wetlands and adjacent lands are contained in Appendix B. The wetland boundaries are shown on Figure 5 (Appendix A). The wetlands are summarized in Table 2 and described in detail in the following sections.

Table 2. Summary of Wetlands Identified within the Study Area

Wetland	Wetland Type	NWI Wetland Type	Adjacent Surface Waters	Acreage (on-site)
Wetland 1 (W-A)	Wet Meadow / Type 2/ PEMB	PEM1a	Immediately adjacent to Bassett Creek	0.021
Wetland 2 (W-B)	Wet Meadow / Type 2/ PEMB	PEM1a	Immediately adjacent to Bassett Creek	0.021
Wetland 3 (W-C)	Seasonally Flooded / Type 1 / PEMA	PEM1a	Immediately adjacent to Bassett Creek	0.025
Wetland 4 (W-D)	Seasonally Flooded / Type 1 / PEMA	PEM1a	Immediately adjacent to Bassett Creek	0.02
Wetland 5 (W-E)	Seasonally Flooded / Type 1 / PEMA	Not Mapped	Immediately adjacent to Bassett Creek	0.006
Wetland 6 (W-F)	Seasonally Flooded / Type 1 / PEMA	Not Mapped	Immediately adjacent to Bassett Creek	0.004
Wetland 7 (W-G)	Shallow Marsh / Type 3 / PEMC	Not Mapped	Immediately adjacent to Bassett Creek	0.004
Wetland 8 (W-H)	Shallow Marsh / Type 3 / PEMC	Not Mapped	Immediately adjacent to Bassett Creek	0.003

3.2.1 Wetlands 1 and 2

Wetland 1 (W-A) is a wet meadow community directly adjacent to Bassett Creek. Although it is classified as a wet meadow, there are some small pockets within the wetland that could potentially be a shallow marsh community. Due to the small size of the wetland, the shallow marsh is not delineated out as a separate area. It is mapped on the NWI as being located within a PEM1a wetland community. (Appendix A, Figure 4).

Wetland 2 (W-B) is a wet meadow community directly adjacent to Bassett Creek. Although it is classified as a wet meadow, there are some small pockets within the wetland that could potentially be a shallow marsh community. Due to the small size of the wetland, the shallow marsh is not delineated out as a separate area. It is mapped on the NWI as being located within a PEM1a wetland community. Wetlands A and B are directly across the creek from each other and share similar characteristics.

Vegetation

Dominant plant species identified within W-A consist of narrow-leaf cattail (*Typha angustifoia),* reed canary grass (*Phalaris arundinacea*) and garlic mustard (*Alliaria petiolate*) within the wetland.

Hydrology

Hydrology within the area was evident based on vegetation matted down in one direction indicating frequent flooding and flowing water of Bassett Creek in relation to the elevation of the wetland allowing seasonal saturation to occur.

Soils

Soils within the wetland are mapped by the NRCS as Hamel. Although this is not a typical wetland soil, it does have hydric inclusions.

Wetland Boundary

The wetland boundary was determined based on a vegetation change from reed canary grass to Kentucky bluegrass (*Poa pratensis*) and a well-defined topographic break.

3.2.2 Wetlands 3 and 4

Wetland 3 (W-C) is a seasonally flooded community directly adjacent to Bassett Creek. It is mapped on the NWI as being located within a PEM1a wetland community.

Wetland 4 (W-D) is a seasonally flooded community directly adjacent to Bassett Creek. It is mapped on the NWI as being located within a PEM1a wetland community. Wetlands C and D are directly across the creek from each other and share similar characteristics.

Vegetation

Dominant plant species identified within W-C consist of reed canary grass as well as bare soil within the wetland.

Hydrology

Hydrology within the area was evident based on vegetation matted down in one direction indicating frequent flooding and flowing water of Bassett Creek in relation to the elevation of the wetland allowing seasonal saturation to occur.

Soils

Soils within the wetland are mapped by the NRCS as Hamel. Although this is not a typical wetland soil, it does have hydric inclusions.

Wetland Boundary

The wetland boundary was determined based on a vegetation change from reed canary grass to Kentucky bluegrass and a well-defined topographic break.

3.2.3 Wetlands 5 and 6

Wetland 5 (W-E) is a seasonally flooded community directly adjacent to Bassett Creek. It is not mapped as an NWI wetland.

Wetland 6 (W-F) is a seasonally flooded community directly adjacent to Bassett Creek. It is not mapped on the NWI. Wetlands E and F are directly across the creek from each other and share similar characteristics.

Vegetation

Dominant plant species identified within W-E consist of reed canary grass.

Hydrology

Hydrology within the area was evident based on vegetation matted down in one direction indicating frequent flooding and flowing water of Bassett Creek in relation to the elevation of the wetland allowing seasonal saturation to occur.

Soils

Soils within the wetland are mapped by the NRCS as Hamel. Although this is not a typical wetland soil, it does have hydric inclusions.

Wetland Boundary

The wetland boundary was determined based on a well-defined topographic break and evidence of frequent flooding.

3.2.4 Wetlands 7 and 8

Wetland 7 (W-G) is a shallow marsh community directly adjacent to Bassett Creek. It is not mapped on the NWI.

Wetland 8 (W-H) is a shallow marsh community directly adjacent to Bassett Creek. It is not mapped on the NWI. Wetlands G and H are directly across the creek from each other and share similar characteristics.

Vegetation

Dominant plant species identified within W-G consists of narrow-leaf cattail.

Hydrology

Hydrology within the area was evident based on the flowing water of Bassett Creek in relation to the elevation of the wetland allowing seasonal saturation to occur.

Soils

Soils within the wetland are mapped by the NRCS as Glencoe clay loam which is a whole unit hydric soil.

Wetland Boundary

The wetland boundary was determined based on a vegetation change from cattail to Kentucky bluegrass and a well-defined topographic break.

3.3 UPLAND

Upland within the Study Area consisted of steep slopes, particularly on the east side of the Study Area. Most of the creek was channelized and therefore unable to create wetland conditions. On the western side of the Study Area, there was a retaining wall that was built along the creek next to the house. On the far northern and southern boundaries there were trees growing along the top of bank. In the portion of the Study Area that runs through the park, vegetation is mowed close to the edge of the creek. Common species seen adjacent to the creek along the length of the Study Area included: reed canary grass, garlic mustard, Kentucky bluegrass and common buckthorn (*Rhamnus cathartica*).

3.4 WATERWAYS

One waterway was identified within the Study Area and mapped as it may be subject to federal and/or state authority. The waterway named Bassett Creek is mapped as an intermittent stream. The waterway is immediately adjacent to wetlands A-H and flows south beyond the Study Area.

3.5 OTHER ENVIRONMENTAL CONSIDERATIONS

This report is limited to the identification of state and/or federally regulated wetlands and waterways within the Study Area. However, there may be other regulated environmental features within the Study Area, including, but not limited to, historical or archeological features, endangered or threatened species, and/or floodplains, etc. Federal, state, and local units of government and regional planning organizations may have regulatory authority to control or restrict land uses within or in close proximity to these features. Stantec can assist with identification and/or assessment of additional regulated resources at your request, to the extent that the work is within our range of expertise.

4.0 CONCLUSION

Stantec performed a Level 1 wetland determination and delineation of the Kilmer Park Street Reconstruction Project on behalf of the City of Plymouth. The purpose and objective of this Level 1 wetland delineation is to present preliminary opinions regarding the presence and boundaries of wetland resources adjacent to Bassett Creek for planning and permitting purposes prior to the Level 2 delineation during the growing season.

Eight wetlands were identified and delineated in the Study Area in accordance with state and federal guidelines and were subsequently flagged, surveyed with GPS, and mapped using GIS software. There was a combined total of 0.104 acre of wetlands in the Study Area. Wetlands were mostly composed of seasonally flooded, wet meadow, and shallow marsh. Adjacent uplands were composed of a park, a residential area, and mesic woods. The OHWL was documented for Bassett Creek and is included on the field map.

The USACE has regulatory authority over Waters of the U.S. including adjacent wetlands, and the MNDNR has regulatory authority over certain wetlands, navigable waters and adjacent lands under Statute 103G and Rule 6115.0250. All wetlands are protected under the Wetland Conservation Act Rules Chapter 8420 and administered by a Local Governmental Unit. Local Government Units can be a City, County, Watershed District or Soil and Water Conservation District depending on project location. Stantec recommends this report be submitted to Local Governmental Unit and USACE for final jurisdictional review and concurrence. Finally, counties, townships and municipalities may have local zoning authority over certain types of wetlands and waterways.

Prior to beginning work at this site or disturbing or altering wetlands, waterways, or adjacent lands in any way, Stantec recommends that the owner obtain the necessary permits or other agency regulatory review and concurrence with regard to the proposed work to comply with applicable regulations. Stantec can assist with identification and/or assessment of additional regulated resources at your request, to the extent that the work is within our range of expertise.

The information provided by Stantec regarding wetland boundaries is a scientific-based analysis of the wetland and upland conditions present on the Study Area at the time of the fieldwork. The delineation was performed by experienced and qualified professionals using standard practices and sound professional judgment. The ultimate decision on wetland boundaries rests with the USACE and LGU, in some cases, the MNDNR as well. As a result, there may be adjustments to boundaries based upon review by a regulatory agency. An agency determination can vary from time to time depending on various factors including, but not limited to recent precipitation patterns and the season of the year. In addition, the physical characteristics of the Study Area can change over time, depending on the weather, vegetation patterns, drainage activities on adjacent parcels, or other events. Any of these factors can change the nature and extent of wetlands on the site. This wetland delineation report and the associated wetland boundaries cannot be depended on until they are approved by the U.S. Army Corps of Engineers and Wetland Conservation Act. It is recommended to review and confirm these approvals before depending on this report.

5.0 REFERENCES

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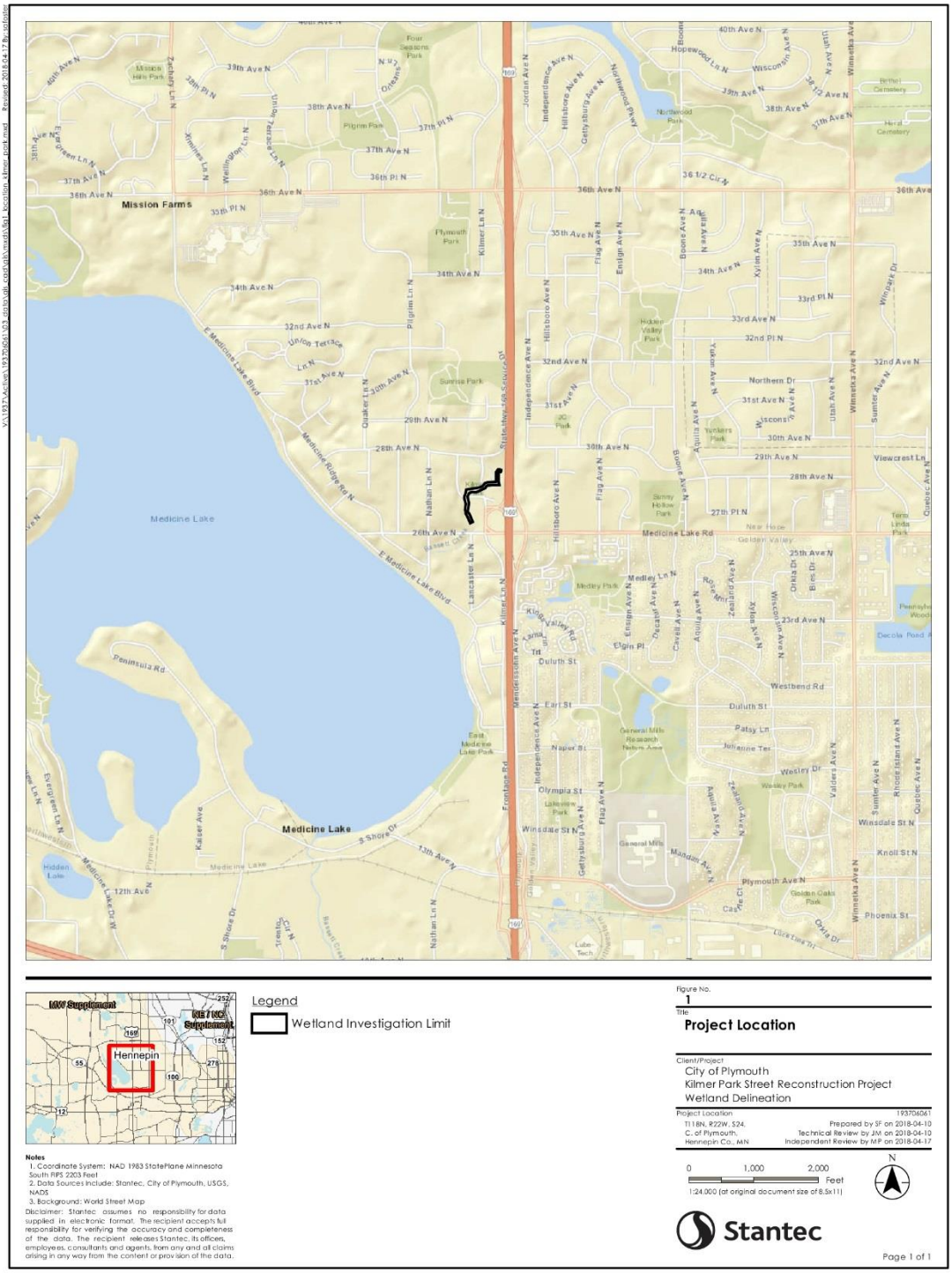
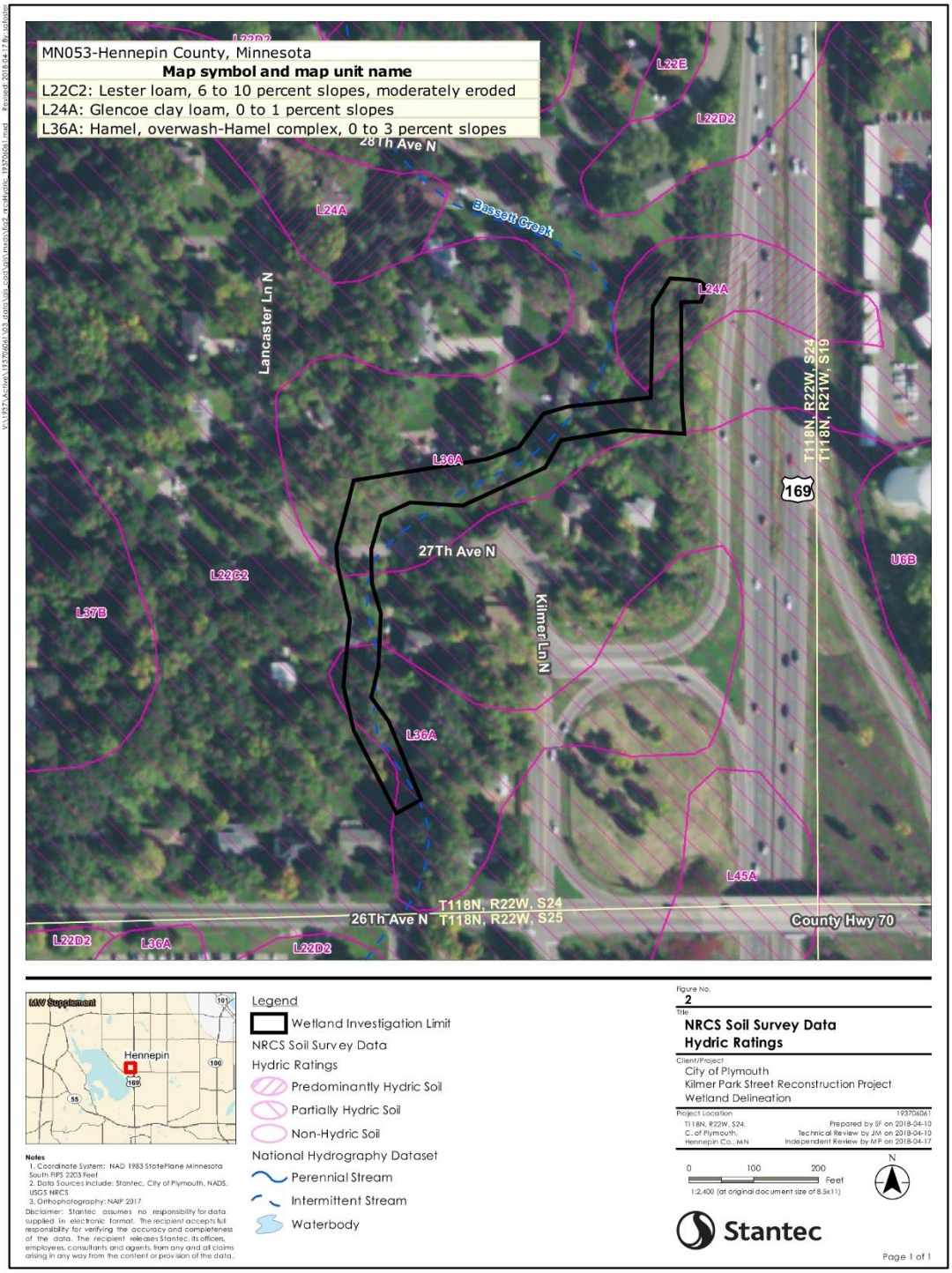
Appendix A – Figures


Mission Farms
Medicine Lake
Medicine Lake
Legend
Wetland Investigation Limit
MW Supplement
KE7/KC Supplement
Hennepin
Figure No.
1
Title
Project Location
Client/Project
City of Plymouth
Kilmer Park Street Reconstruction Project
Wetland Delineation
Project Location
T118N, R22W, S24,
C. of Plymouth,
Hennepin Co., MN
1937D6061
Prepared by SF on 2018-04-10
Technical Review by JM on 2018-04-10
Independent Review by MP on 2018-04-17
0
1,000
2,000
Feet
1:24,000 (at original document size of 8.5x11)
N
Stantec
Page 1 of 1
Notes
1. Coordinate System: NAD 1983 StatePlane Minnesota South FIPS 2203 Feet
2. Data Sources include: Stantec, City of Plymouth, USGS, NADS
3. Background: World Street Map
Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.


MN053-Hennepin County, Minnesota
Map symbol and map unit name
L22C2: Lester loam, 6 to 10 percent slopes, moderately eroded
L24A: Glencoe clay loam, 0 to 1 percent slopes
L36A: Hamel, overwash-Hamel complex, 0 to 3 percent slopes
L22E
L22D2
28Th Ave N
L24A
Bassett Creek
Lancaster Ln N
L24A
T118N, R22W, S24
T118N, R21W, S19
169
L36A
27Th Ave N
U6B
L22C2
L37B
Kilmer Ln N
L36A
L45A
T118N, R22W, S24
26Th Ave N T118N, R22W, S25
County Hwy 70
L22D2
L36A
L22D2
GW Supplement
Hennepin
Legend
Wetland Investigation Limit
NRCS Soil Survey Data
Hydric Ratings
Predominantly Hydric Soil
Partially Hydric Soil
Non-Hydric Soil
National Hydrography Dataset
Perennial Stream
Intermittent Stream
Waterbody
Notes
1. Coordinate System: NAD 1983 StatePlane Minnesota South FIPS 2203 Feet
2. Data Sources include: Stantec, City of Plymouth, NADS, USGS NRCS
3. Orthophotography: NAIP 2017
Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.
Figure No.
2
Title
NRCS Soil Survey Data
Hydric Ratings
Client/Project
City of Plymouth
Kilmer Park Street Reconstruction Project
Wetland Delineation
Project Location
T118N, R22W, S24,
C. of Plymouth,
Hennepin Co., MN
193706061
Prepared by SF on 2018-04-10
Technical Review by JM on 2018-04-10
Independent Review by MP on 2018-04-17
0 100 200
Feet
1:2,400 (at original document size of 8.5x11)
N
Stantec
Page 1 of 1

Legend

- Wetland Investigation Limit

DNR Protected / Public Waters Inventory*

- Water Basin
- Wetland
- Waterway

*No Features Within Data Frame

Figure No.
3

Title:
MN Protected/Public Waters

Client/Project
City of Plymouth
Kilmer Park Street Reconstruction Project
Wetland Delineation

Project Location
T118N, R22W, S24,
C. of Plymouth,
Hennepin Co., MN

193706061
Prepared by SF on 2018-04-10
Technical Review by JM on 2018-04-10
Independent Review by MP on 2018-04-17

0 100 200 Feet
1:2,400 (at original document size of 8.5x11)

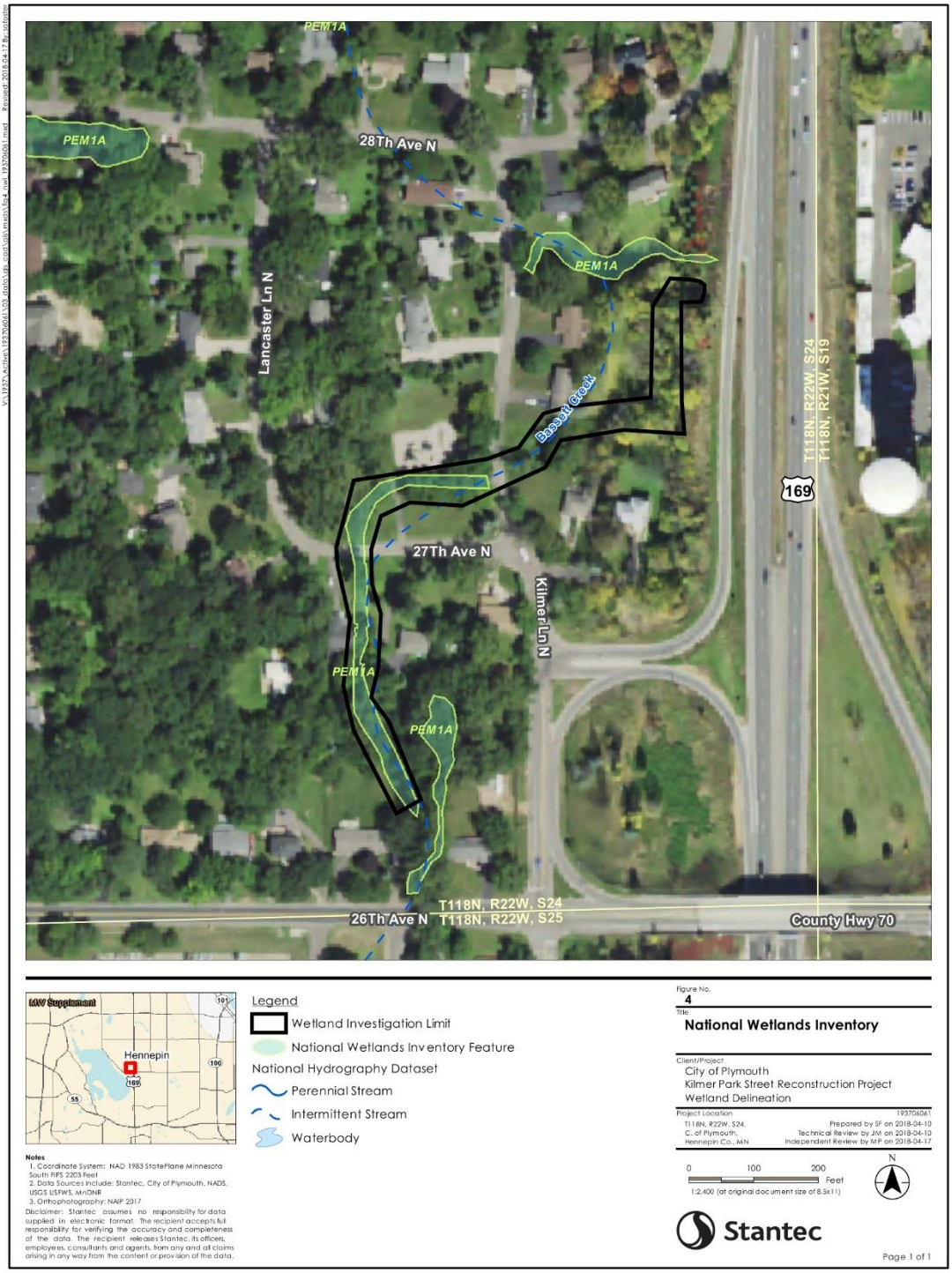
N

Stantec

Page 1 of 1

Notes
1. Coordinate System: NAD 1983 StatePlane Minnesota South FIPS 2203 Feet
2. Data Sources include: Stantec, City of Plymouth, NADS, USGS, MnDNR
3. Orthophotography: NAIP 2017

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.


PEM1A
PEM1A
28Th Ave N
PEM1A
Lancaster Ln N
Bassett Creek
T118N, R22W, S24
T118N, R21W, S19
169
27Th Ave N
Kilmer Ln N
PEM1A
PEM1A
T118N, R22W, S24
26Th Ave N
T118N, R22W, S25
County Hwy 70
LMV Supplement
Hennepin
101
100
169
55
Legend
Wetland Investigation Limit
National Wetlands Inventory Feature
National Hydrography Dataset
Perennial Stream
Intermittent Stream
Waterbody
Notes
1. Coordinate System: NAD 1983 StatePlane Minnesota South FIPS 2203 Feet
2. Data Sources include: Stantec, City of Plymouth, NADS, USGS USFWS, MnDNR
3. Orthophotography: NAIP 2017
Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.
Figure No.
4
Title
National Wetlands Inventory
Client/Project
City of Plymouth
Kilmer Park Street Reconstruction Project
Wetland Delineation
Project Location
T118N, R22W, S24,
C. of Plymouth,
Hennepin Co., MN
193706061
Prepared by SF on 2018-04-10
Technical Review by JM on 2018-04-10
Independent Review by MP on 2018-04-17
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100
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Feet
1:2,400 (at original document size of 8.5x11)
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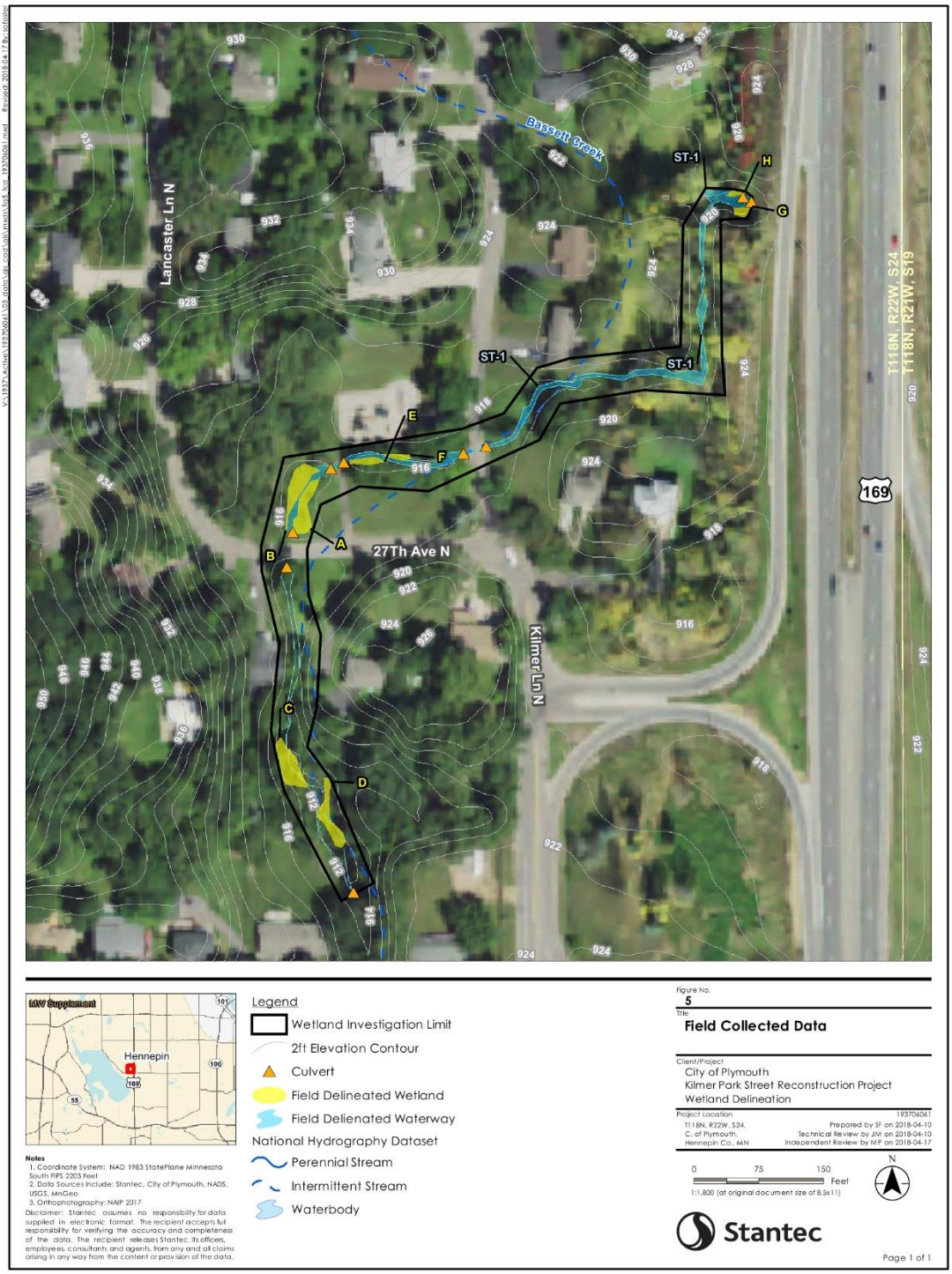
Stantec
Page 1 of 1


Bassett Creek
Lancaster Ln N
27Th Ave N
Kilmer Ln N
ST-1
ST-1
ST-1
A
B
C
D
E
F
G
H
169
T118N, R22W, S24
T118N, R21W, S19
Legend
Wetland Investigation Limit
2ft Elevation Contour
Culvert
Field Delineated Wetland
Field Delienated Waterway
National Hydrography Dataset
Perennial Stream
Intermittent Stream
Waterbody
Hennepin
Notes
1. Coordinate System: NAD 1983 StatePlane Minnesota South FIPS 2203 Feet
2. Data Sources include: Stantec, City of Plymouth, NADS, USGS, MnGeo
3. Orthophotography: NAIP 2017
Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.
Figure No.
5
Title
Field Collected Data
Client/Project
City of Plymouth
Kilmer Park Street Reconstruction Project
Wetland Delineation
Project Location
T118N, R22W, S24,
C. of Plymouth,
Hennepin Co., MN
193706061
Prepared by SF on 2018-04-10
Technical Review by JM on 2018-04-10
Independent Review by MP on 2018-04-17
0
75
150
Feet
1:1,800 (at original document size of 8.5x11)
N
Stantec
Page 1 of 1

Appendix B – Site Photographs

Photo 1. Wetland A (east side of creek), view south

Photo 2. Wetland A (east side of creek), view south

Photo 3. Wetland B, view southwest

Photo 4. Wetland B (west side of creek), view south

Photo 5. Wetland C, view north

Photo 6. Wetland C, view south

Photo 7. Wetland D, view east

Photo 8. Wetland D, view northwest

Photo 9. Wetland E, view west

Photo 10. Wetland E, view east

Photo 11. Wetland F, view east

Photo 12. Wetland F, view north

Photo 13. Wetland G, view east

Photo 14. Wetland G, view west

Photo 15. Wetland H, view east

Photo 16. Wetland H, view west

Photo 17. Bassett Creek, view east

Photo 18. Bassett Creek, view north

Appendix C – WETS Analysis

WETS Analysis Worksheet

Project Name: Kilmer Park Street Reconstruction
Project Number: 193706061
Period of interest: January - March 2018
Station: Hennepin/Plymouth/Mission Farms
County: Hennepin County, MN

Long-term rainfall records (from WETS table)

	Month	3 years in 10 less than	Normal	3 years in 10 greater than
1st month prior:	March	1.32	1.9	2.11
2nd month prior:	February	0.4	0.8	0.99
3rd month prior:	January	0.54	0.86	1.18
		Sum =	**3.56**	

Site determination

Site Rainfall (in)	Condition Dry/Normal*/Wet	Condition** Value	Month Weight	Product
1.46	Normal	2	3	6
1.45	Wet	3	2	6
1.30	Wet	3	1	3
Sum = **4.21**			Sum*** =	**15**

*Normal precipitation with 30% to 70% probability of occurrence

Determination: **X** Wet / ____ Dry / ____ Normal

**Condition value:
Dry = 1
Normal = 2
Wet = 3

***If sum is:
6 to 9 then period has been drier than normal
10 to 14 then period has been normal
15 to 18 then period has been wetter than normal

Precipitation data source: MN Climatology Working Group

Reference: Donald E.Woodward, ed. 1997. *Hydrology Tools for Wetland Determination*, Chapter 19. Engineering Field Handbook. U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, TX.

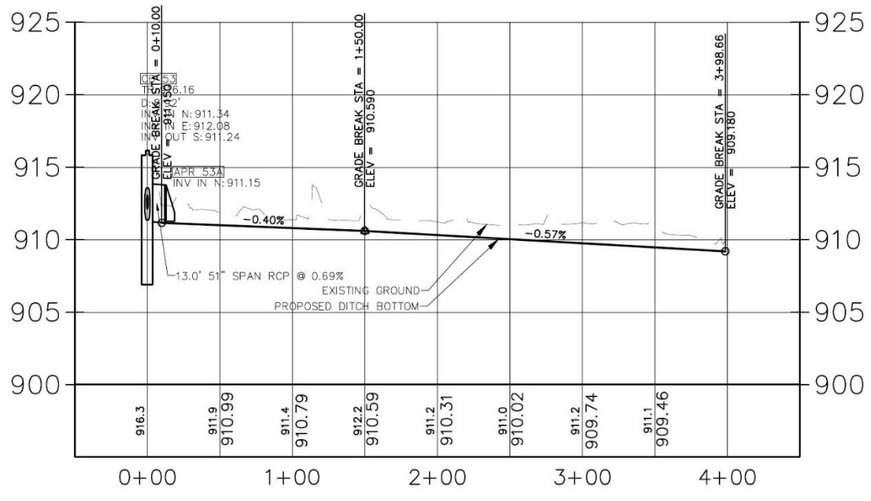
LEGEND

- LIMITS OF CONSTRUCTION
- EXISTING STORM SEWER / CULVERT
- PROPOSED STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- PROPOSED SUBSURFACE DRAIN
- SURFACE FLOW DIRECTION
- EXISTING CATCH BASIN
- EXISTING STORM SEWER MANHOLE
- EXISTING APRON
- EXISTING STRUCTURE NUMBER
- PROPOSED CATCH BASIN
- PROPOSED STORM SEWER MANHOLE
- PROPOSED STORM SEWER APRON
- PROPOSED STRUCTURE NUMBER
- EXISTING SANITARY SEWER MANHOLE
- EXISTING HYDRANT
- PROPOSED HYDRANT
- EXISTING GATE VALVE
- PROPOSED GATE VALVE
- EXISTING CURB STOP
- PROPOSED CURB STOP

GENERAL NOTES:

1. GRADE DITCHES AS DIRECTED BY ENGINEER.
2. REFER TO CROSS SECTIONS AND SIDE SLOPE TABLE FOR DITCH SIDE SLOPES.
3. SEE REMOVAL SHEETS 19–22 FOR TREE REMOVALS.
4. SEE RESTORATION SHEET 60 FOR RESTORATION INFORMATION.

0 50 100 Feet



SOUTH DITCH SIDE SLOPES

STATION	LEFT SLOPE	RIGHT SLOPE
0+10	2:1	2:1
0+55		1:1
0+95	1.5:1	
1+50		3:1*
1+75	2:1	
2+25	3:1*	

* OR FLATTER

NO	DATE	BY	CKD	APPR	REVISION

I Hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Signature: MICHAEL J. PAYNE

Date: 3-13-18 License#: 50484

City of Plymouth

PLYMOUTH, MINNESOTA
KILMER PARK STREET RECONSTRUCTION

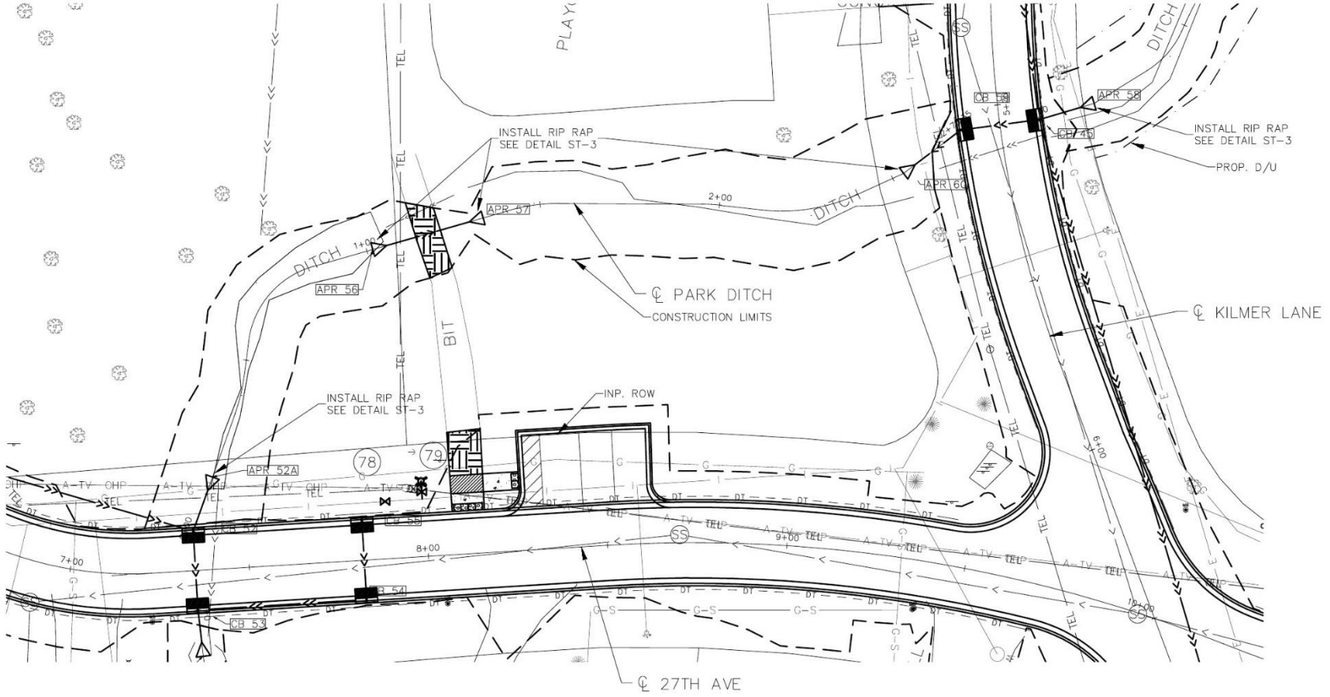
DITCH DRAINAGE PLANS & PROFILES

SOUTH DITCH

STATE AID PROJECT NO.	----
COUNTY PROJECT NO.	----
CITY PROJECT NO.	ST189001.001

DRAWN BY	M. PAYNE	2-18
DESIGNED BY	M. PAYNE	2-18
CHECKED BY	M. PAYNE	2-18
REVIEWED BY	J. RENNEBERG	2-18

SHEET 55 OF 106



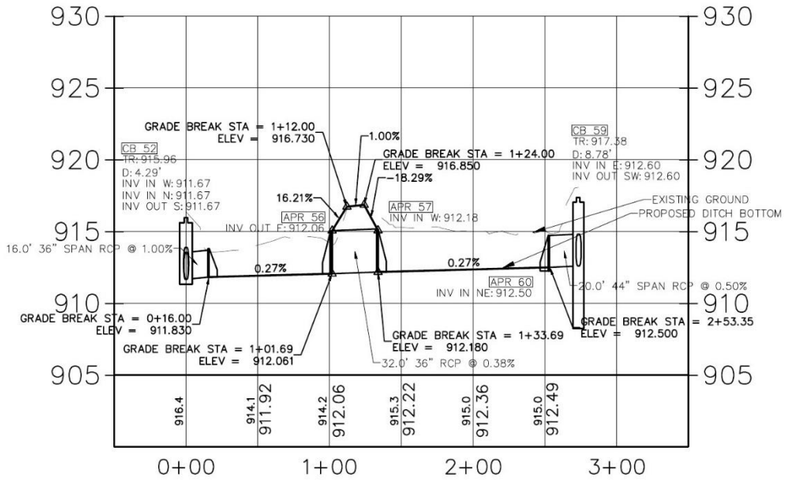
LEGEND

- LIMITS OF CONSTRUCTION
- EXISTING STORM SEWER / CULVERT
- PROPOSED STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- PROPOSED SUBSURFACE DRAIN
- SURFACE FLOW DIRECTION
- EXISTING CATCH BASIN
- EXISTING STORM SEWER MANHOLE
- EXISTING APRON
- EXISTING STRUCTURE NUMBER
- PROPOSED CATCH BASIN
- PROPOSED STORM SEWER MANHOLE
- PROPOSED STORM SEWER APRON
- PROPOSED STRUCTURE NUMBER
- EXISTING SANITARY SEWER MANHOLE
- EXISTING HYDRANT
- PROPOSED HYDRANT
- EXISTING GATE VALVE
- PROPOSED GATE VALVE
- EXISTING CURB STOP
- PROPOSED CURB STOP

GENERAL NOTES:
1. GRADE DITCHES AS DIRECTED BY ENGINEER.
2. REFER TO CROSS SECTIONS AND DETAIL FOR DITCH SIDE SLOPES.
3. SEE REMOVAL SHEETS 19-22 FOR TREE REMOVALS.
4. SEE RESTORATION SHEET 60 FOR RESTORATION INFORMATION.

N

0 50 100 Feet



NO	DATE	BY	CKD	APPR	REVISION

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Signature: MICHAEL J. PAYNE

Date: 3-13-18 License#: 50484

City of Plymouth

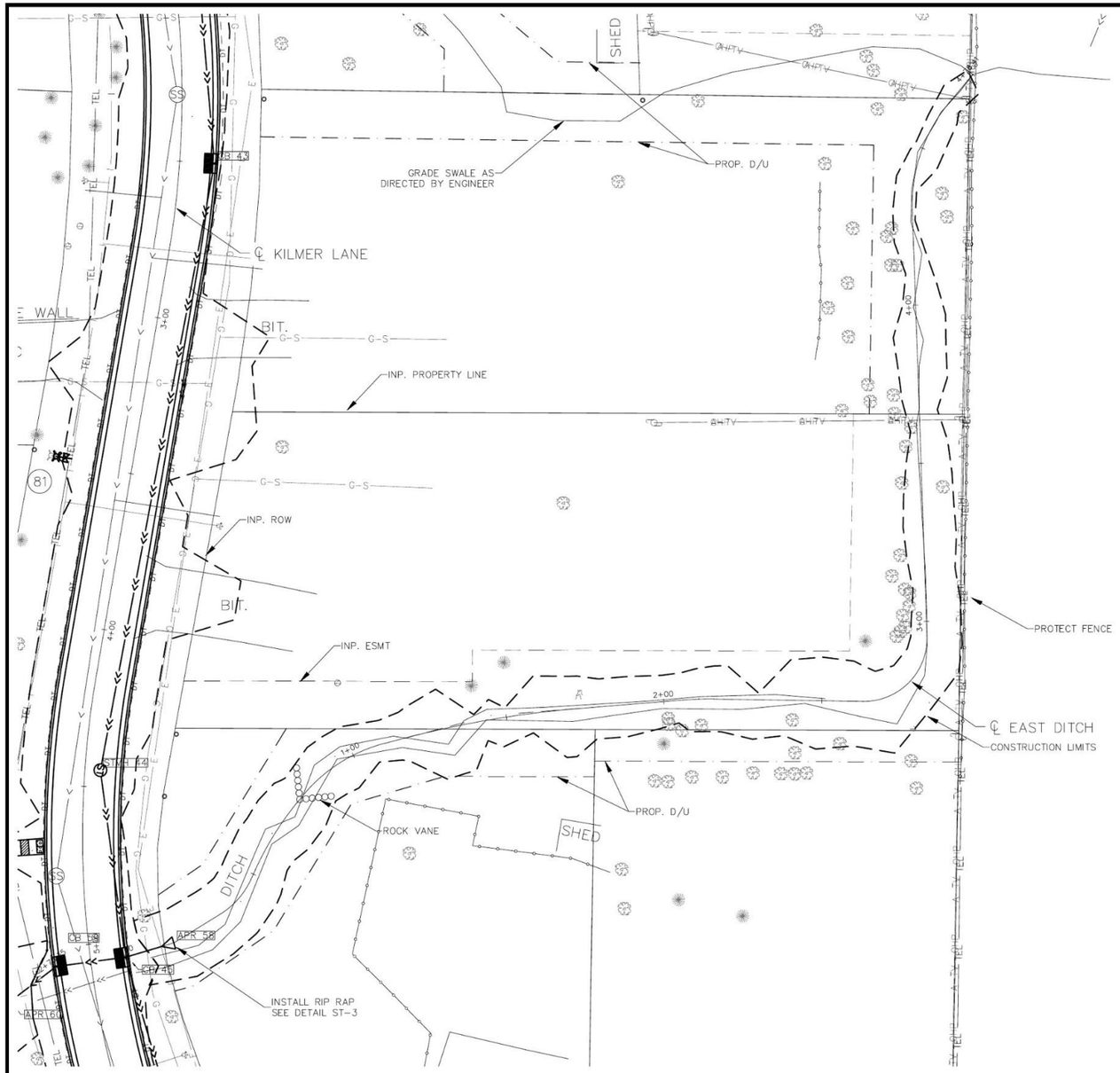
PLYMOUTH, MINNESOTA
KILMER PARK STREET RECONSTRUCTION

DITCH DRAINAGE PLANS & PROFILES

PARK DITCH

STATE AID PROJECT NO.	DRAWN BY	DATE
----	M. PAYNE	2-18
COUNTY PROJECT NO.	DESIGNED BY	
----	M. PAYNE	2-18
CITY PROJECT NO.	CHECKED BY	
ST189001.001	M. PAYNE	2-18
	REVIEWED BY	
	J. RENNEBERG	2-18

SHEET 56 OF 106



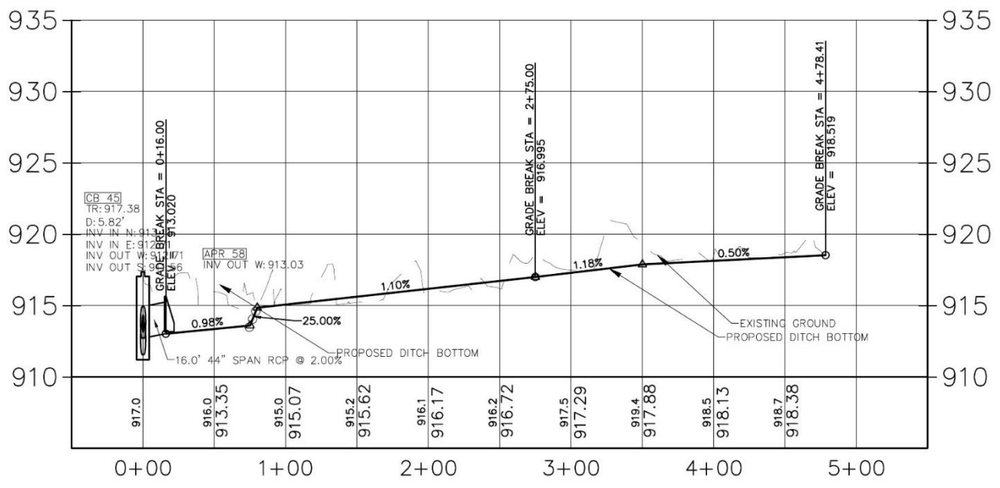
LEGEND

- LIMITS OF CONSTRUCTION
- EXISTING STORM SEWER / CULVERT
- PROPOSED STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- PROPOSED SUBSURFACE DRAIN
- SURFACE FLOW DIRECTION
- EXISTING CATCH BASIN
- EXISTING STORM SEWER MANHOLE
- EXISTING APRON
- EXISTING STRUCTURE NUMBER
- PROPOSED CATCH BASIN
- PROPOSED STORM SEWER MANHOLE
- PROPOSED STORM SEWER APRON
- PROPOSED STRUCTURE NUMBER
- EXISTING SANITARY SEWER MANHOLE
- EXISTING HYDRANT
- PROPOSED HYDRANT
- EXISTING GATE VALVE
- PROPOSED GATE VALVE
- EXISTING CURB STOP
- PROPOSED CURB STOP

GENERAL NOTES:
1. GRADE DITCHES AS DIRECTED BY ENGINEER.
2. DITCH SIDE SLOPES SHALL BE GRADED AT 2:1 OR FLATTER. SEE CROSS SECTIONS.
3. SEE REMOVAL SHEETS 19-22 FOR TREE REMOVALS.
4. SEE RESTORATION SHEET 61 FOR RESTORATION INFORMATION.

N

0 50 100 Feet



NO	DATE	BY	CKD	APPR	REVISION

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Signature: MICHAEL J. PAYNE
Date: 3-13-18 License#: 50484

City of Plymouth

PLYMOUTH, MINNESOTA
KILMER PARK STREET RECONSTRUCTION

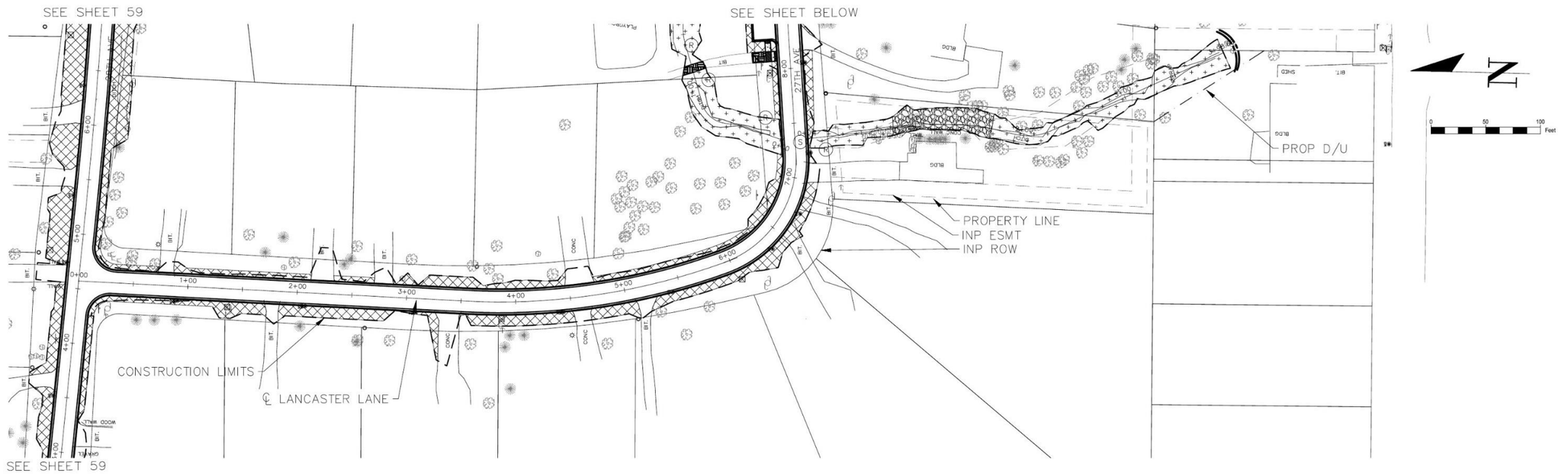
DITCH DRAINAGE PLANS & PROFILES

EAST DITCH

STATE AID PROJECT NO. ----
COUNTY PROJECT NO. ----
CITY PROJECT NO. ST189001.001

		DATE
DRAWN BY	M. PAYNE	2-18
DESIGNED BY	M. PAYNE	2-18
CHECKED BY	M. PAYNE	2-18
REVIEWED BY	J. RENNEBERG	2-18

SHEET 57 OF 106

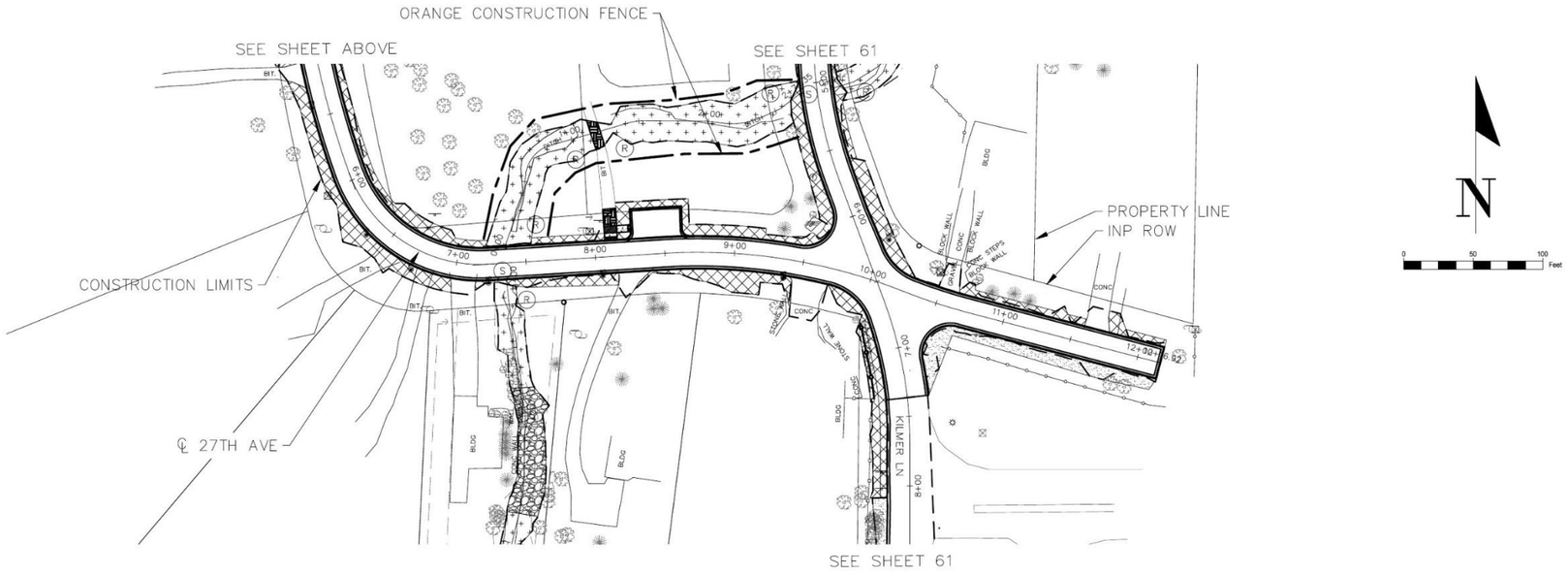


LEGEND

- SOD TYPE LAWN & BOULEVARD
- HYDROSEED: MNDOT MIX 25-151
- SEED: MNDOT MIX 34-261 W/ EROSION CONTROL BLANKET 4N
- RIPRAP
- SILT FENCE
- (R) RIPRAP AT STORM SEWER OUTLET
- (S) SUMP MANHOLE

NOTES:

- CONTRACTOR TO PROVIDE INLET PROTECTION AT ALL CATCH BASINS THAT RECEIVE RUNOFF FROM PROJECT
- CONTRACTOR SHALL PROVIDE AN APPROVED EROSION CONTROL CONSTRUCTION ENTRANCE AT BOTH ENDS OF PROJECT AS DIRECTED BY ENGINEER(INCIDENTAL)
- CONTRACTOR SHALL USE EROSION CONTROL BLANKET IN ADDITION TO HYDROSEED IN DITCH RESTORATION AREAS.
- EXPOSED SOILS IN DITCHES SHALL BE STABILIZED WITHIN 24 HOURS AFTER GRADING IS FINISHED.
- STREETS SHALL BE SWEPT AS DIRECTED BY ENGINEER.



NO	DATE	BY	CKD	APPR	REVISION

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Signature: MICHAEL J. PAYNE

Date: 3-13-18 License# 50484

City of Plymouth

PLYMOUTH, MINNESOTA
KILMER PARK STREET RECONSTRUCTION

RESTORATION & EROSION CONTROL

LANCASTER LANE & 27TH AVE

STATE AID PROJECT NO.	DRAWN BY	DATE
-----	M. PAYNE	2-18
COUNTY PROJECT NO.	DESIGNED BY	
-----	M. PAYNE	2-18
CITY PROJECT NO.	CHECKED BY	
ST189001.001	M. PAYNE	2-18
	REVIEWED BY	
	J. RENNEBERG	2-18

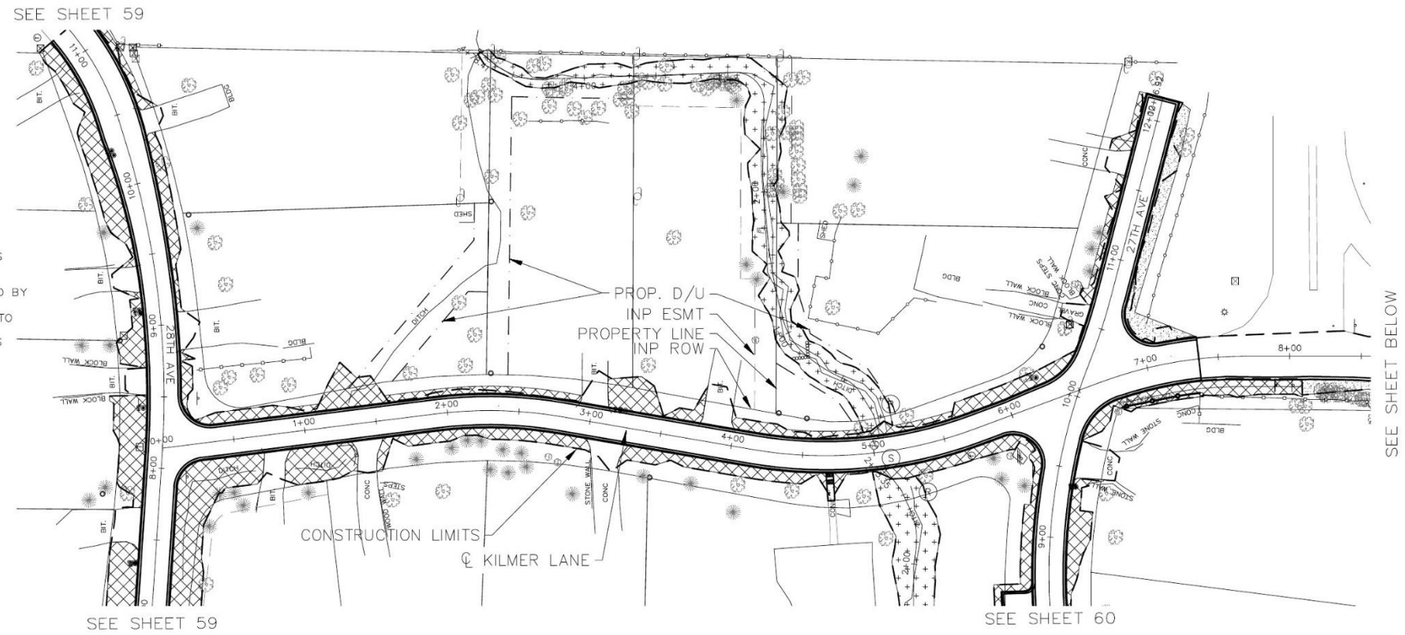
SHEET 60 OF 106

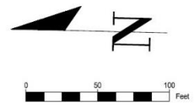
LEGEND

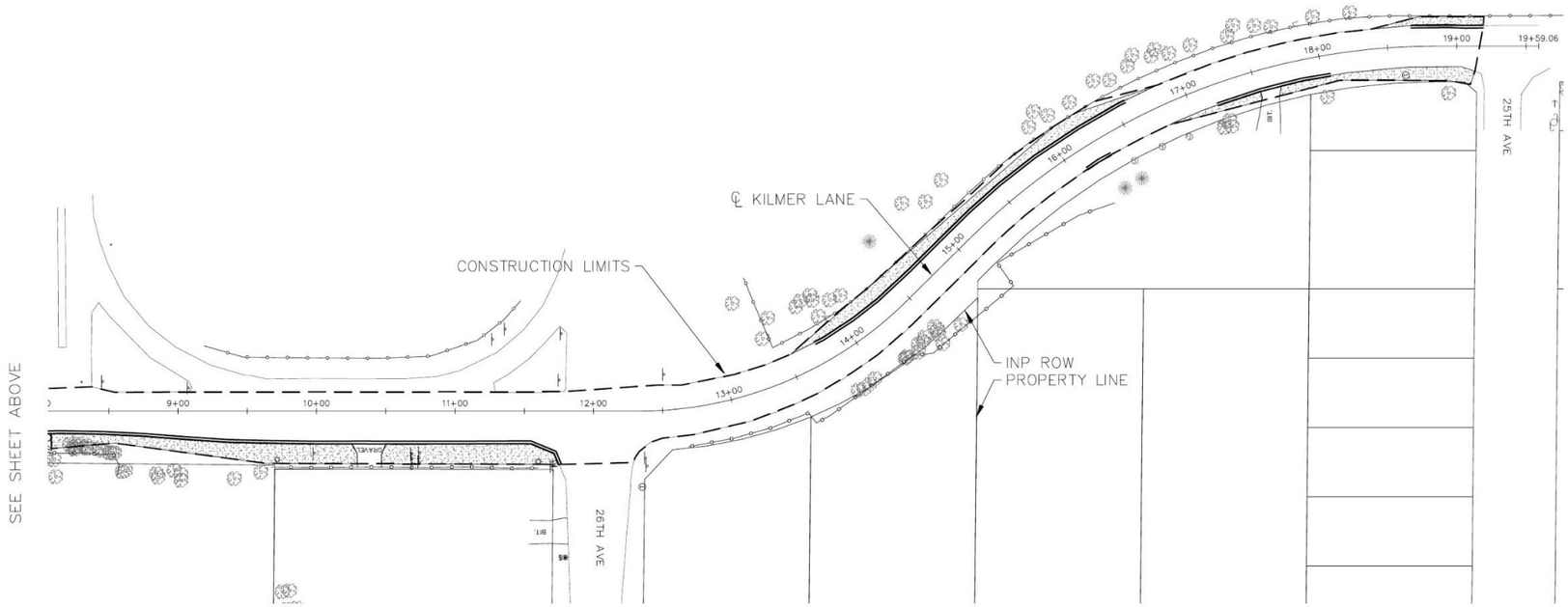
- SOD TYPE LAWN & BOULEVARD
- HYDROSEED: MNDOT MIX 25-151
- SEED: MNDOT MIX 34-261 W/ EROSION CONTROL BLANKET 4N
- RIPRAP
- SILT FENCE
- (R) RIPRAP AT STORM SEWER OUTLET
- (S) SUMP MANHOLE

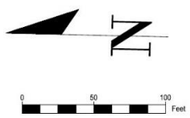
NOTES:

- CONTRACTOR TO PROVIDE INLET PROTECTION AT ALL CATCH BASINS THAT RECEIVE RUNOFF FROM PROJECT
- CONTRACTOR SHALL PROVIDE AN APPROVED EROSION CONTROL CONSTRUCTION ENTRANCE AT BOTH ENDS OF PROJECT AS DIRECTED BY ENGINEER(INCIDENTAL)
- CONTRACTOR SHALL USE EROSION CONTROL BLANKET IN ADDITION TO HYDROSEED IN DITCH RESTORATION AREAS.
- EXPOSED SOILS IN DITCHES SHALL BE STABILIZED WITHIN 24 HOURS AFTER GRADING IS FINISHED.
- STREETS SHALL BE SWEPT AS DIRECTED BY ENGINEER.









NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Signature: MICHAEL J. PAYNE

Date: 3-13-18 License#: 50484

City of Plymouth

PLYMOUTH, MINNESOTA
KILMER PARK STREET RECONSTRUCTION

RESTORATION & EROSION CONTROL

KILMER LANE

STATE AID PROJECT NO.	DRAWN BY	DATE
----	M. PAYNE	2-18
COUNTY PROJECT NO.	DESIGNED BY	
----	M. PAYNE	2-18
CITY PROJECT NO.	CHECKED BY	
ST189001.001	M. PAYNE	2-18
	REVIEWED BY	
	J. RENNEBERG	2-18

SHEET 61 OF 106