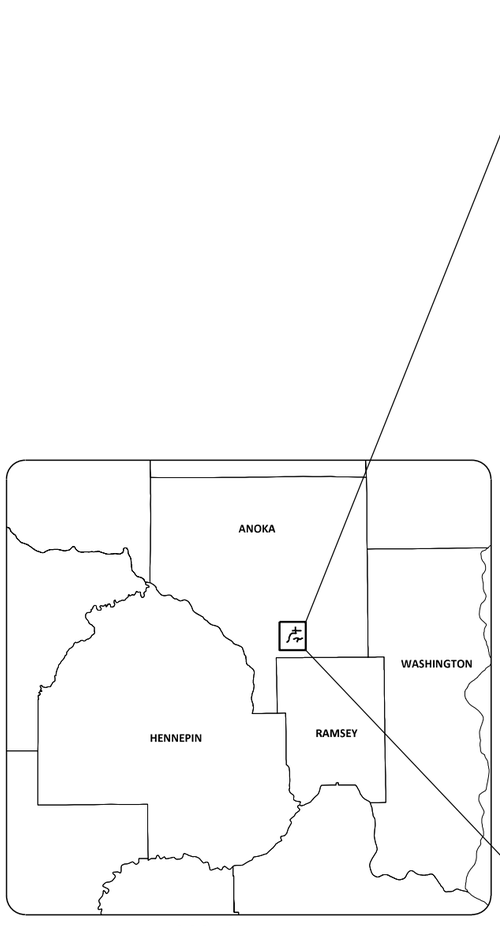
RICE CREEK WATERSHED DISTRICT
ACD 53-62 BRANCH 5 & 6 REPAIR
RICE CREEK WATERSHED DISTRICT
JULY, 2024



VICINITY MAP

LOCATION MAP

HOUSTON engineering, inc.
7550 MERIDIAN CIR N
SUITE 120
MAPLE GROVE, MN 55369
P: 763.493.4522
T: 1.866.319.2040
www.houstoneng.com

SURVEY INFORMATION:

HORIZONTAL DATUM: NAD 83
VERTICAL DATUM: NAVD 88
COORDINATE SYSTEM: MINNESOTA STATE PLANE SOUTH ZONE
UNIT OF MEASURE: US SURVEY FOOT
PROJECT BENCHMARK:

UTILITY NOTE:

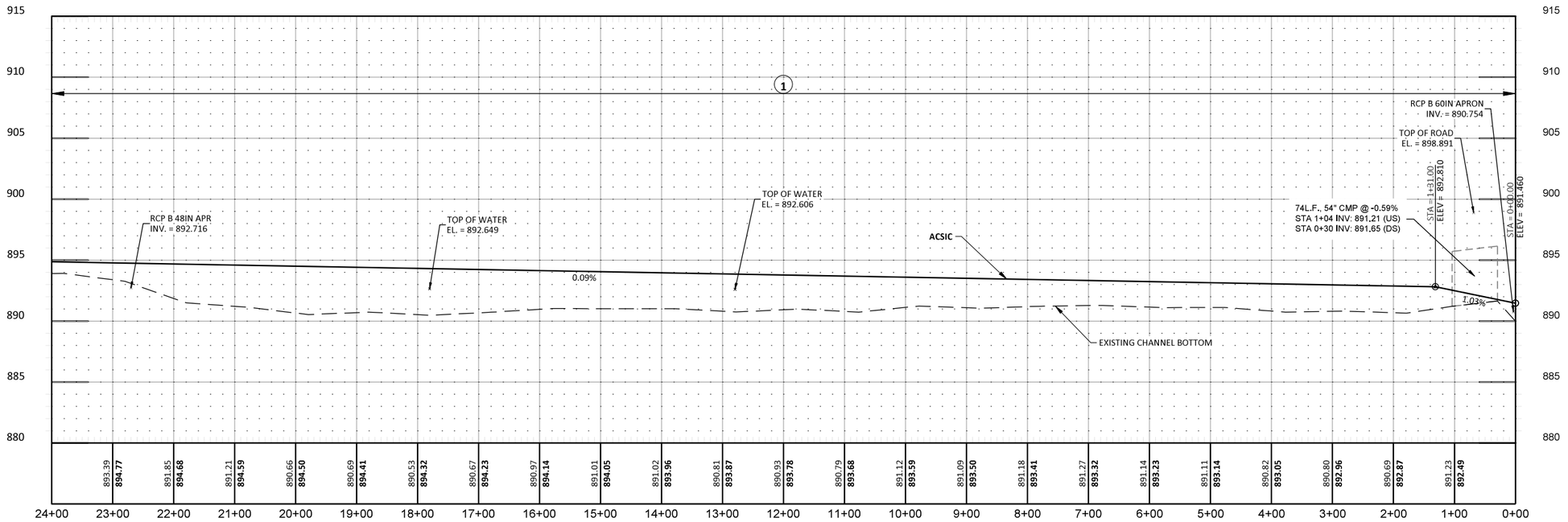
PRIOR TO ANY EXCAVATION WORK, THE CONTRACTOR IS RESPONSIBLE UNDER MINNESOTA STATE STATUE 216D AND MINNESOTA RULES CHAPTER 7560 TO CONTACT GOPHER STATE ONE CALL FOR THE LOCATION OF UNDERGROUND UTILITY FACILITIES IN PROXIMITY TO THE EXCAVATION SITE.

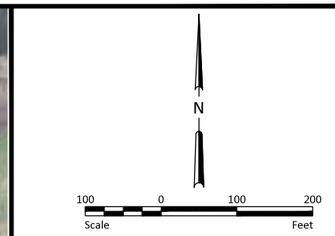
CONTACT "GOPHER STATE ONE CALL" FOR LOCATIONS OF BURIED UTILITIES. CALL (651) 454-0002 OR (800) 252-1166.
ALSO CONTACT AT www.gopherstateonecall.org

PRELIMINARY
NOT FOR CONSTRUCTION

Project No. 5555-0347

H:\JBN\5500\5555\5555_0347 ACD 53-62 Br 5 and 6 Repair\CAD\Plans\5555-0347 COVERSHEET.dwg-11x17 Landscape Cover-7/23/2024 7:42 AM-[breeve]





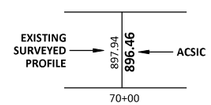
NOTES

1. HORIZONTAL CONTROL: ANY COORDINATES LISTED IN THIS PLAN MINNESOTA STATE PLANE, SOUTH ZONE, US FOOT.
2. VERTICAL CONTROL: ALL ELEVATIONS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

LEGEND

NO WORK (1)

LEGEND FOR PROFILE ELEVATIONS



No.	Revision	Date	By

PRELIMINARY
NOT FOR CONSTRUCTION

HOUSTON engineering, inc.

Drawn by	Date
IRR	7-23-2024
Checked by	Scale
ANN	AS SHOWN

ACD 53-62 BRANCH 5 & 6 REPAIR

RICE CREEK WATERSHED DISTRICT

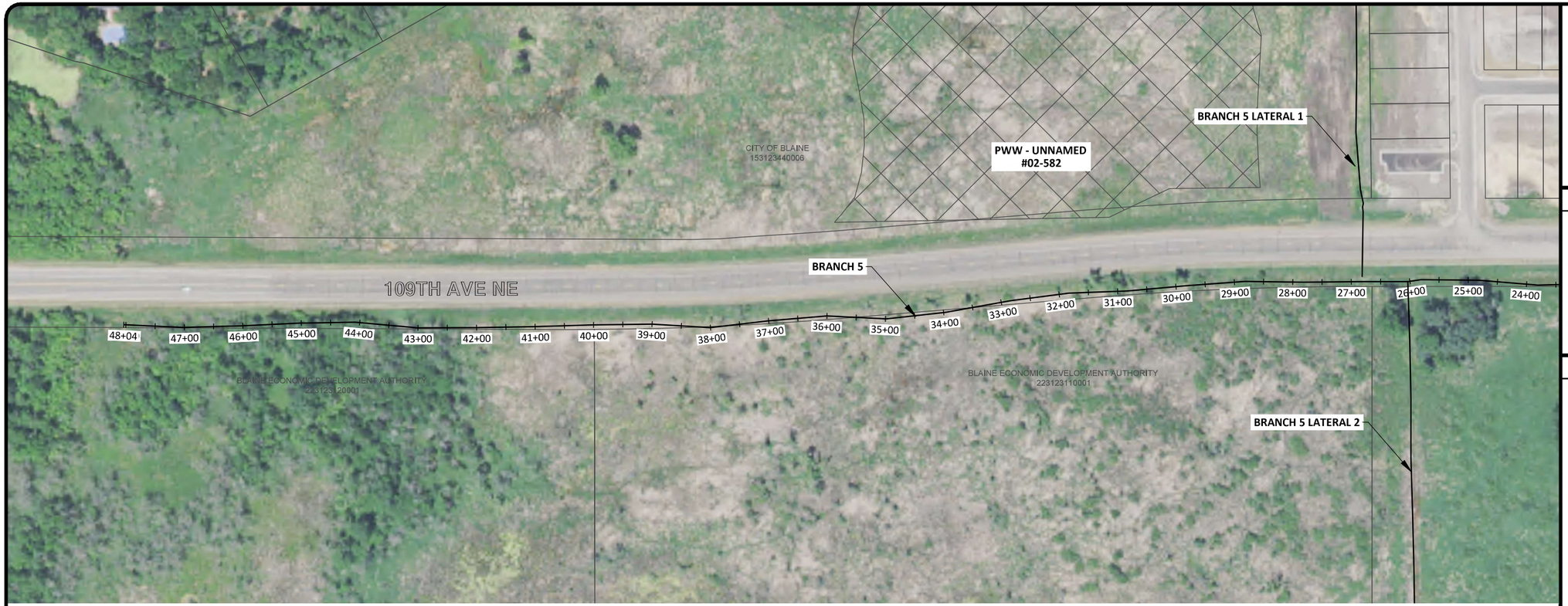
BRANCH 5 PLAN & PROFILE

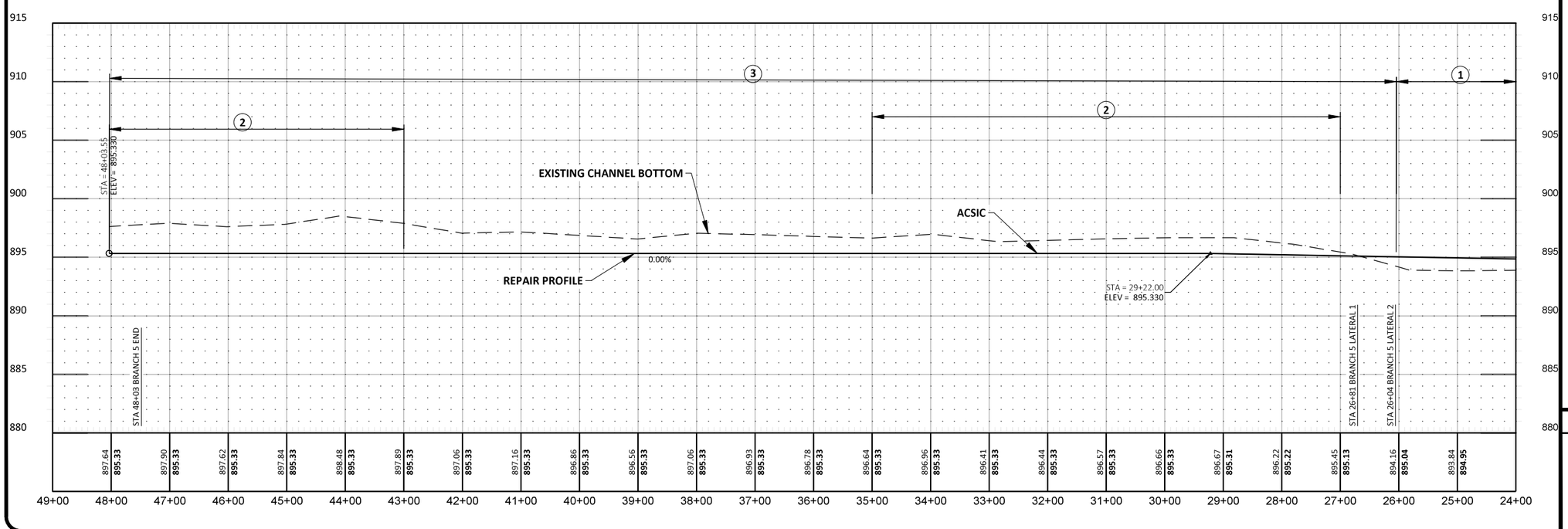
PROJECT NO. 5555-0347

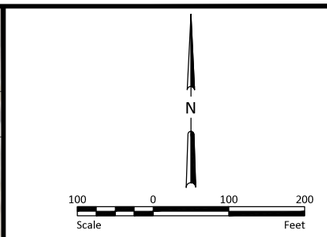
SHEET 2

H:\JBN\5500\5555\5555_0347 ACD 53-62 Br 5 and 6 Repair\CAD\Plans\5555-0347 PLAN & PROFILE.dwg-BRANCH 5 -1-7/23/2024 7:43 AM-(breeve)

HEI NO. 5555-0347







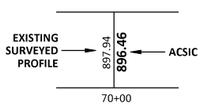
NOTES

1. HORIZONTAL CONTROL: ANY COORDINATES LISTED IN THIS PLAN MINNESOTA STATE PLANE, SOUTH ZONE, US FOOT.
2. VERTICAL CONTROL: ALL ELEVATIONS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

LEGEND

NO WORK	1
TREE, BRUSH, AND WOODY VEGETATION CLEARING AND REMOVAL	2
DITCH EXCAVATION	3

LEGEND FOR PROFILE ELEVATIONS



No.	Revision	Date	By

PRELIMINARY
NOT FOR CONSTRUCTION

HOUSTON engineering, inc.

Drawn by	Date
IRR	7-23-2024
Checked by	Scale
ANN	AS SHOWN

ACD 53-62 BRANCH 5 & 6 REPAIR

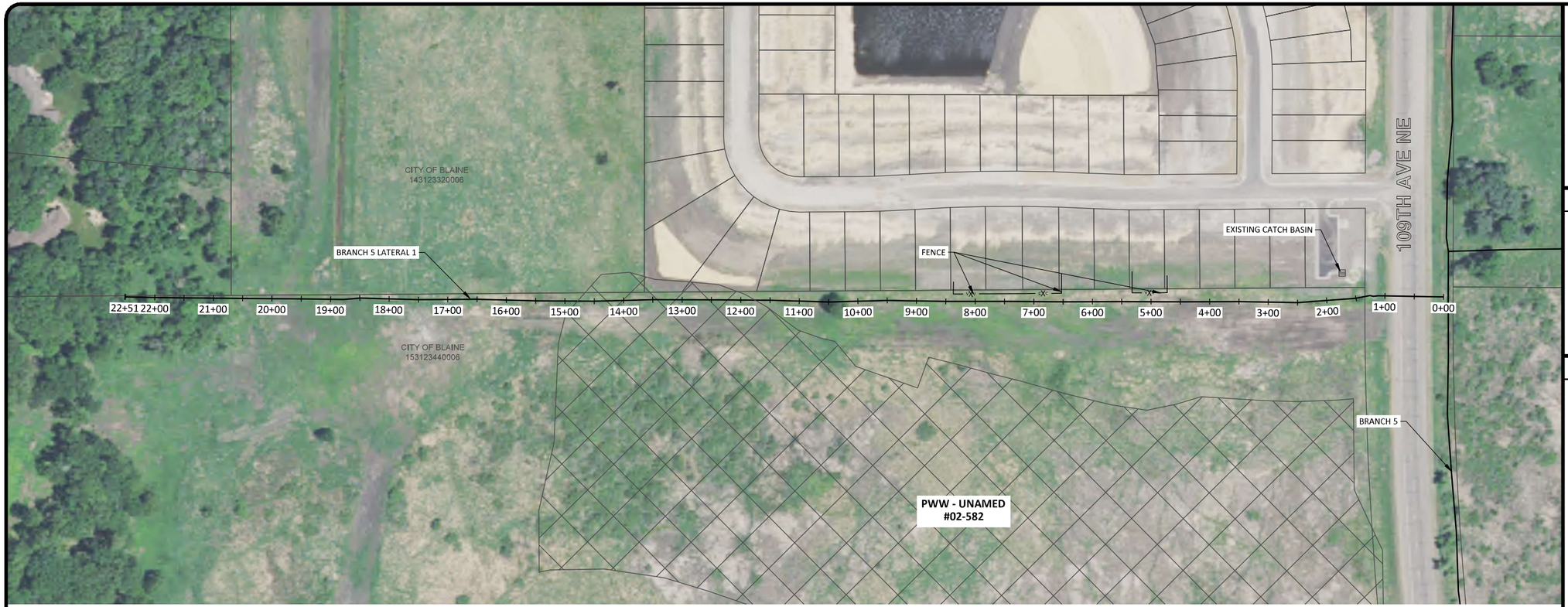
RICE CREEK WATERSHED DISTRICT

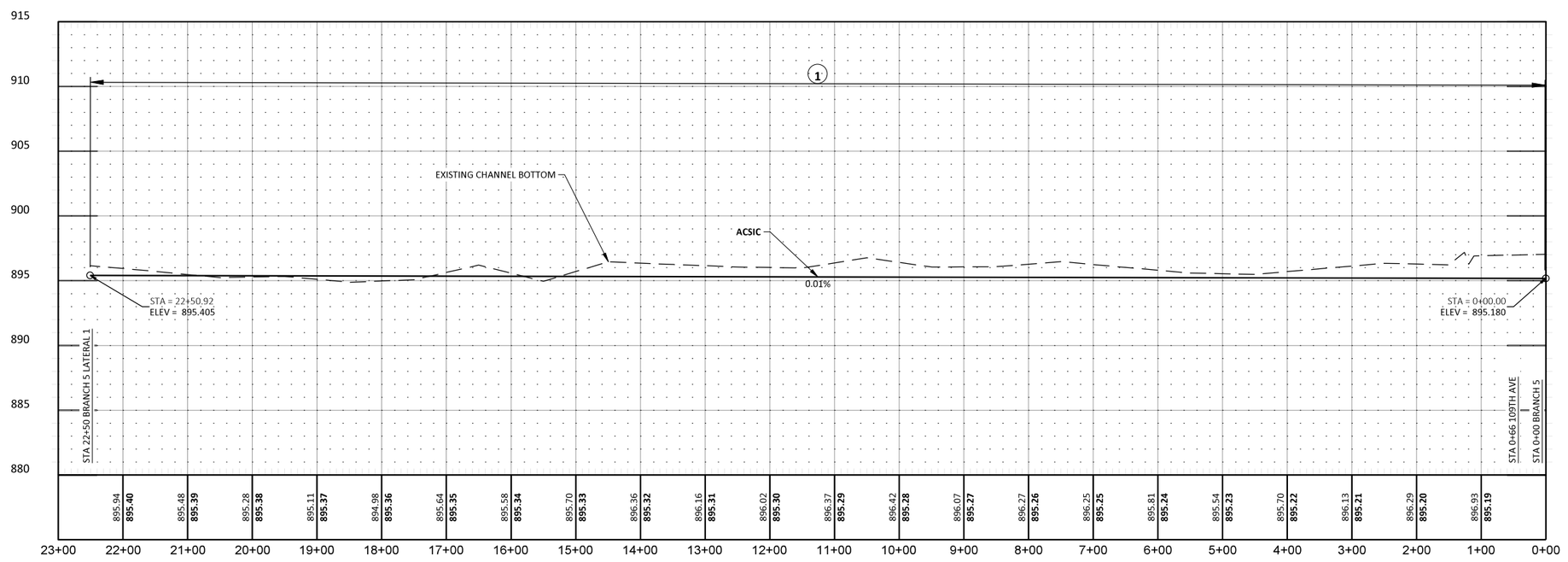
BRANCH 5 PLAN & PROFILE

PROJECT NO. 5555-0347

SHEET 3

H:\JBN\5500\5555\5555_0347 ACD 53-62 Br 5 and 6 Repair\CAD\Plans\5555-0347 PLAN & PROFILE.dwg-BRANCH 5 - 2-7/23/2024 7:43 AM-{breeve}





N

100 0 100 200
Scale Feet

NOTES

1. HORIZONTAL CONTROL: ANY COORDINATES LISTED IN THIS PLAN MINNESOTA STATE PLANE, SOUTH ZONE, US FOOT.
2. VERTICAL CONTROL: ALL ELEVATIONS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

LEGEND

NO WORK (1)

LEGEND FOR PROFILE ELEVATIONS

EXISTING SURVEYED PROFILE → 897.94 / 896.46 ← ACSIC

70+00

No.	Revision	Date	By

PRELIMINARY
NOT FOR CONSTRUCTION

HOUSTON engineering, inc.

Drawn by	Date
IRR	7-23-2024
Checked by	Scale
ANN	AS SHOWN

ACD 53-62 BRANCH 5 & 6 REPAIR

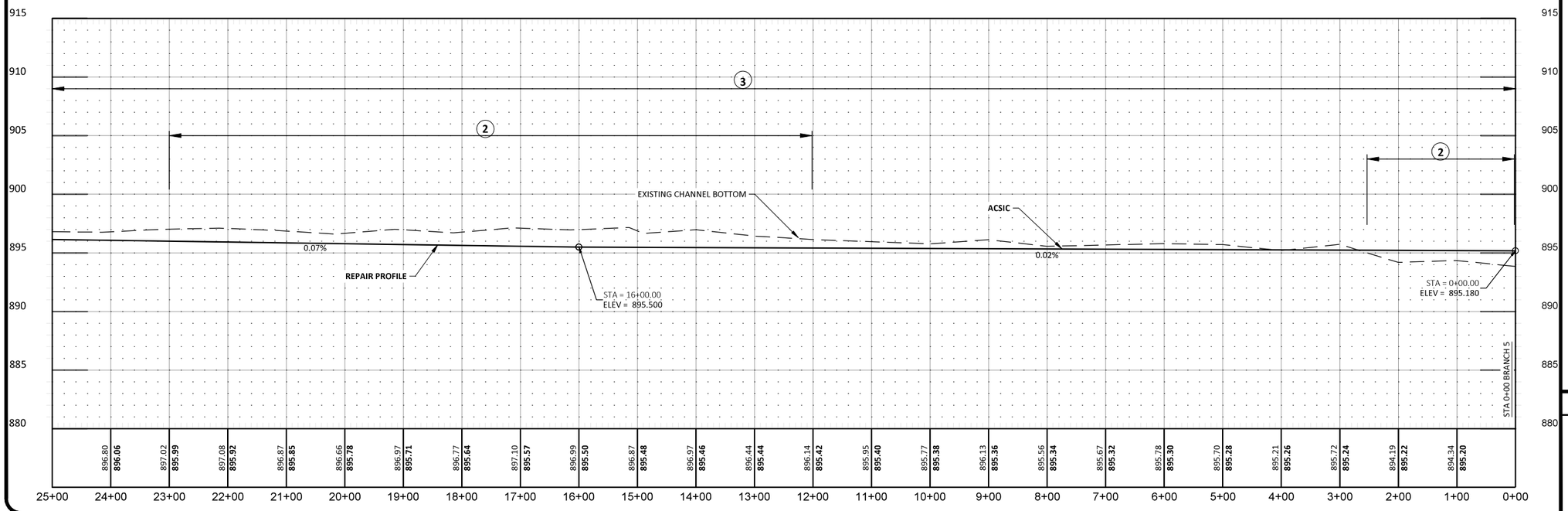
RICE CREEK WATERSHED DISTRICT

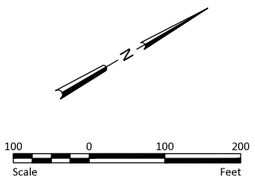
BRANCH 5 LATERAL 1 PLAN & PROFILE

PROJECT NO. 5555-0347

SHEET 4

H:\JBN\5500\5555\5555_0347 ACD 53-62 Br 5 and 6 Repair\CAD\Plans\5555-0347 PLAN & PROFILE.dwg-BRANCH 5 LATERAL 1-7/23/2024 7:43 AM-(breeve)





NOTES

1. HORIZONTAL CONTROL: ANY COORDINATES LISTED IN THIS PLAN MINNESOTA STATE PLANE, SOUTH ZONE, US FOOT.
2. VERTICAL CONTROL: ALL ELEVATIONS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

LEGEND

TREE, BRUSH, AND WOODY VEGETATION CLEARING AND REMOVAL	(2)
DITCH EXCAVATION	(3)

LEGEND FOR PROFILE ELEVATIONS

EXISTING SURVEYED PROFILE → 897.94 / **896.46** ← ACSIC

70+00

No.	Revision	Date	By

PRELIMINARY
NOT FOR CONSTRUCTION

HOUSTON engineering, inc.

Drawn by	Date
IRR	7-23-2024
Checked by	Scale
ANN	AS SHOWN

ACD 53-62 BRANCH 5 & 6 REPAIR

RICE CREEK WATERSHED DISTRICT

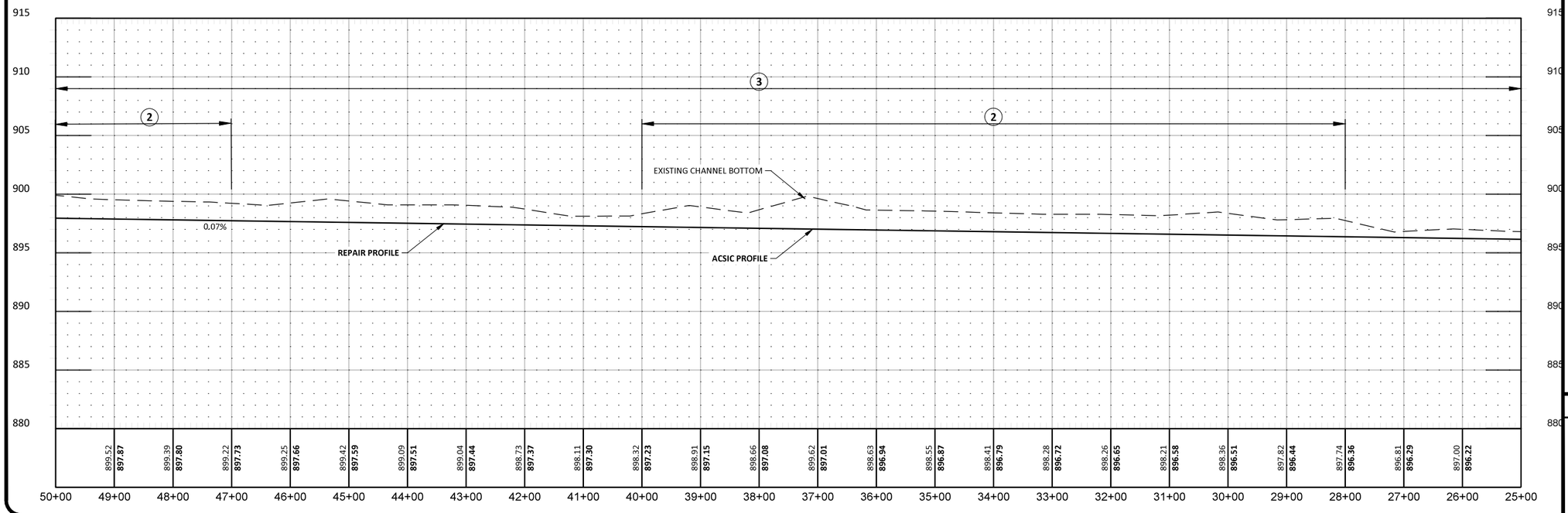
BRANCH 5 LATERAL 2 PLAN & PROFILE

PROJECT NO. 5555-0347

SHEET 5

H:\JBN\5500\5555\5555_0347 ACD 53-62 Br 5 and 6 Repair\CAD\Plans\5555-0347 PLAN & PROFILE.dwg-BRANCH 5 LATERAL 2-7/23/2024 7:43 AM-(breeve)

HEI NO. 5555-0347



100 0 100 200
Scale Feet

NOTES

1. HORIZONTAL CONTROL: ANY COORDINATES LISTED IN THIS PLAN MINNESOTA STATE PLANE, SOUTH ZONE, US FOOT.
2. VERTICAL CONTROL: ALL ELEVATIONS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

LEGEND

TREE, BRUSH, AND WOODY VEGETATION CLEARING AND REMOVAL (2)

DITCH EXCAVATION (3)

LEGEND FOR PROFILE ELEVATIONS

EXISTING SURVEYED PROFILE → 897.94 / 896.46 ← ACSIC

70+00

No.	Revision	Date	By

PRELIMINARY
NOT FOR CONSTRUCTION

HOUSTON engineering, inc.

Drawn by	Date
IRR	7-23-2024
Checked by	Scale
ANN	AS SHOWN

ACD 53-62 BRANCH 5 & 6 REPAIR

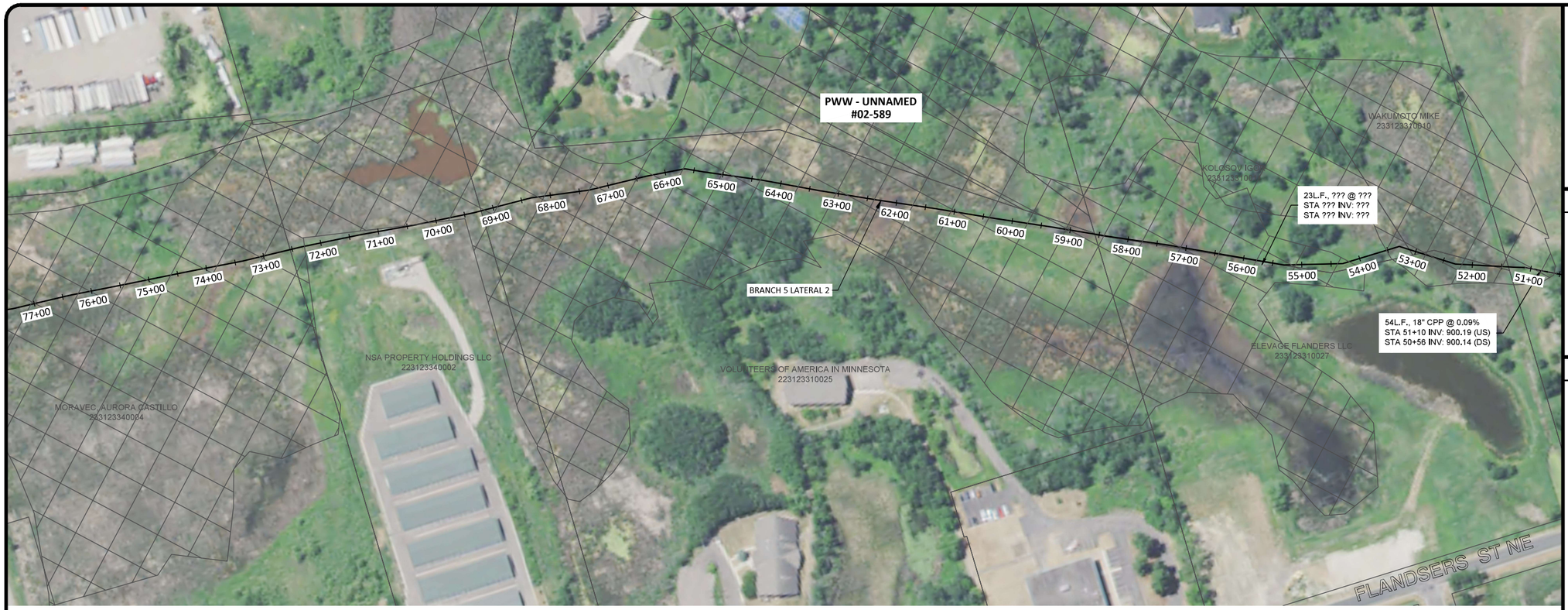
RICE CREEK WATERSHED DISTRICT

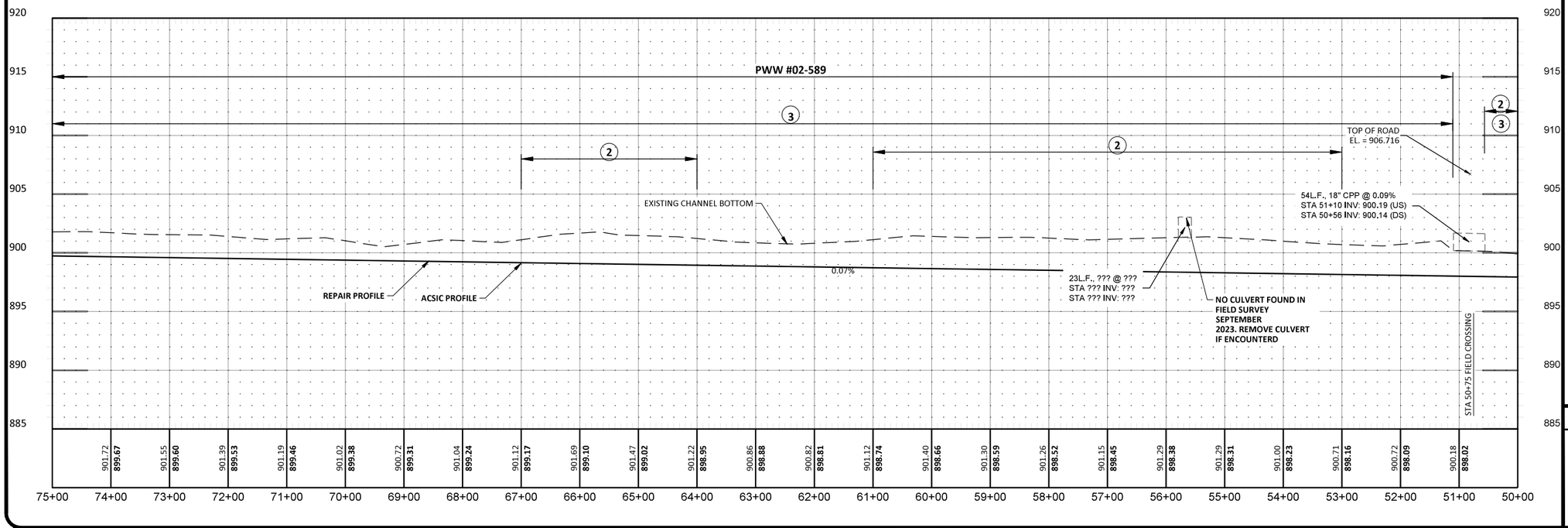
BRANCH 5 LATERAL 2 PLAN & PROFILE

PROJECT NO. 5555-0347

SHEET 6

H:\JBN\5500\5555\5555_0347 ACD 53-62 Br 5 and 6 Repair\CAD\Plans\5555-0347 PLAN & PROFILE.dwg-BRANCH 5 LATERAL 2 (1)-7/23/2024 7:44 AM-(breeve)





100 0 100 200
Scale Feet

NOTES

1. HORIZONTAL CONTROL: ANY COORDINATES LISTED IN THIS PLAN MINNESOTA STATE PLANE, SOUTH ZONE, US FOOT.
2. VERTICAL CONTROL: ALL ELEVATIONS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

LEGEND

TREE, BRUSH, AND WOODY VEGETATION CLEARING AND REMOVAL	(2)
DITCH EXCAVATION	(3)

LEGEND FOR PROFILE ELEVATIONS

EXISTING SURVEYED PROFILE — 897.94 / 896.46 — ACSIC

70+00

No.	Revision	Date	By

PRELIMINARY
NOT FOR CONSTRUCTION

HOUSTON engineering, inc.

Drawn by	Date
IRR	7-23-2024
Checked by	Scale
ANN	AS SHOWN

ACD 53-62 BRANCH 5 & 6 REPAIR

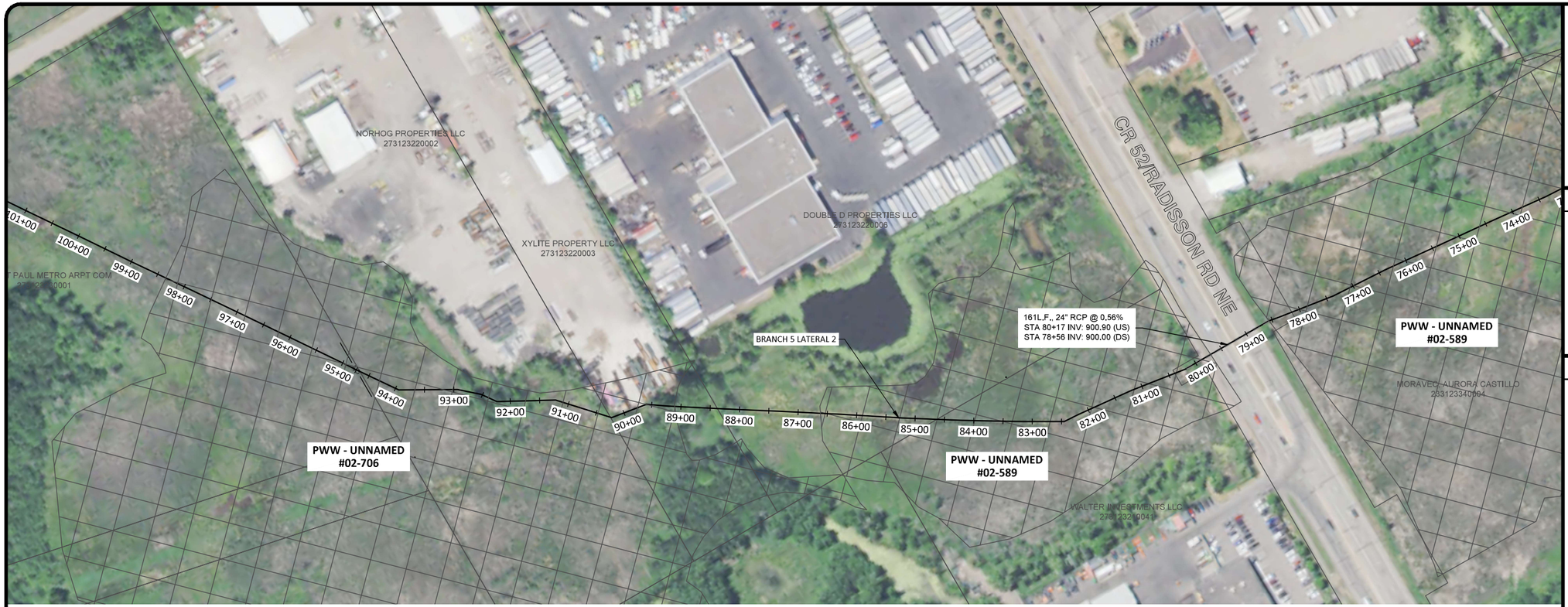
RICE CREEK WATERSHED DISTRICT

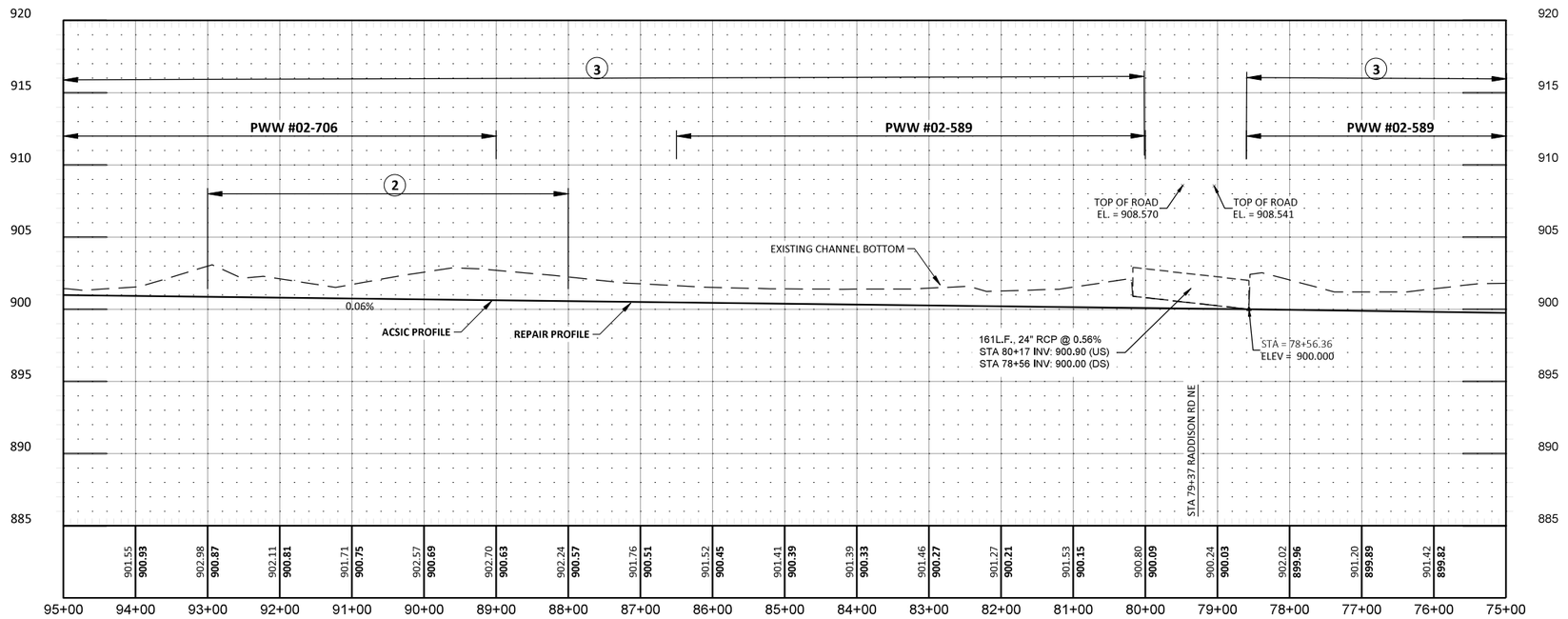
BRANCH 5 LATERAL 2 PLAN & PROFILE

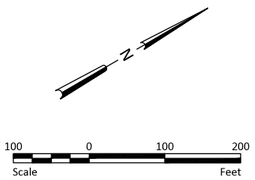
PROJECT NO. 5555-0347

SHEET 7

H:\JBM\5500\5555\5555_0347 ACD 53-62 Br 5 and 6 Repair\CAD\Plans\5555-0347 PLAN & PROFILE.dwg-BRANCH 5 LATERAL 2 (2)-7/23/2024 7:44 AM-(breeve)







NOTES

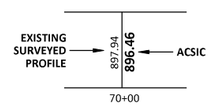
1. HORIZONTAL CONTROL: ANY COORDINATES LISTED IN THIS PLAN MINNESOTA STATE PLANE, SOUTH ZONE, US FOOT.
2. VERTICAL CONTROL: ALL ELEVATIONS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

LEGEND

TREE, BRUSH, AND WOODY VEGETATION CLEARING AND REMOVAL (2)

DITCH EXCAVATION (3)

LEGEND FOR PROFILE ELEVATIONS



No.	Revision	Date	By

PRELIMINARY
NOT FOR CONSTRUCTION

HOUSTON engineering, inc.

Drawn by	Date
IRR	7-23-2024
Checked by	Scale
ANN	AS SHOWN

ACD 53-62 BRANCH 5 & 6 REPAIR

RICE CREEK WATERSHED DISTRICT

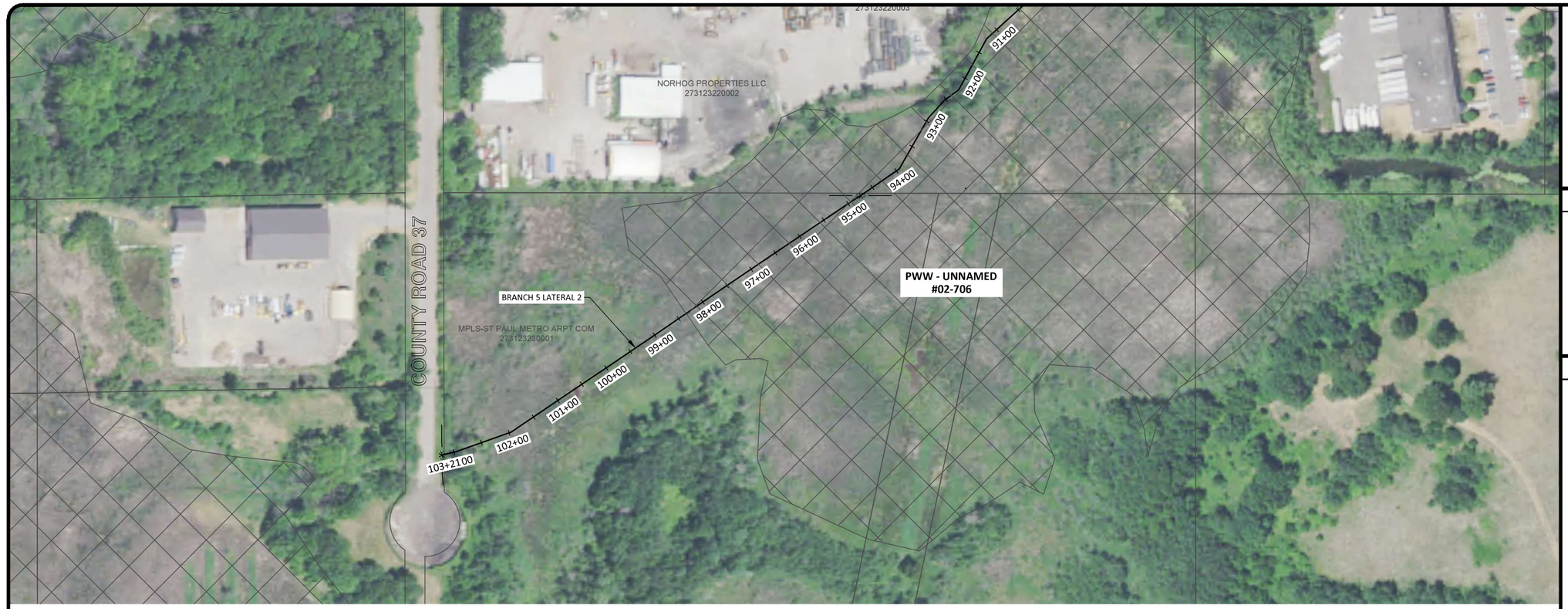
BRANCH 5 LATERAL 2 PLAN & PROFILE

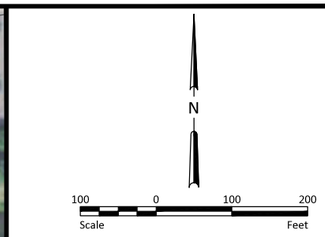
PROJECT NO. 5555-0347

SHEET 8

H:\JBN\5500\5555\5555_0347 ACD 53-62 Br 5 and 6 Repair\CAD\Plans\5555-0347 PLAN & PROFILE.dwg-BRANCH 5 LATERAL 2 (3)-7/23/2024 7:44 AM-(breeve)

HEI NO. 5555-0347



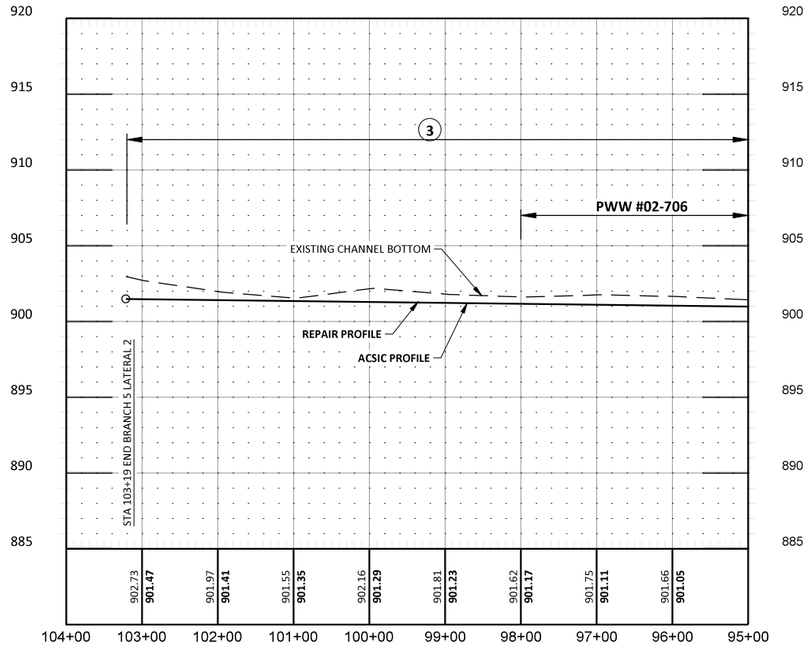


NOTES

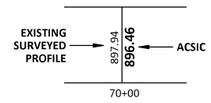
1. HORIZONTAL CONTROL: ANY COORDINATES LISTED IN THIS PLAN MINNESOTA STATE PLANE, SOUTH ZONE, US FOOT.
2. VERTICAL CONTROL: ALL ELEVATIONS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

LEGEND

DITCH EXCAVATION (3)



LEGEND FOR PROFILE ELEVATIONS



No.	Revision	Date	By

PRELIMINARY
NOT FOR CONSTRUCTION

HOUSTON engineering, inc.

Drawn by	Date
IRR	7-23-2024
Checked by	Scale
ANN	AS SHOWN

ACD 53-62 BRANCH 5 & 6 REPAIR

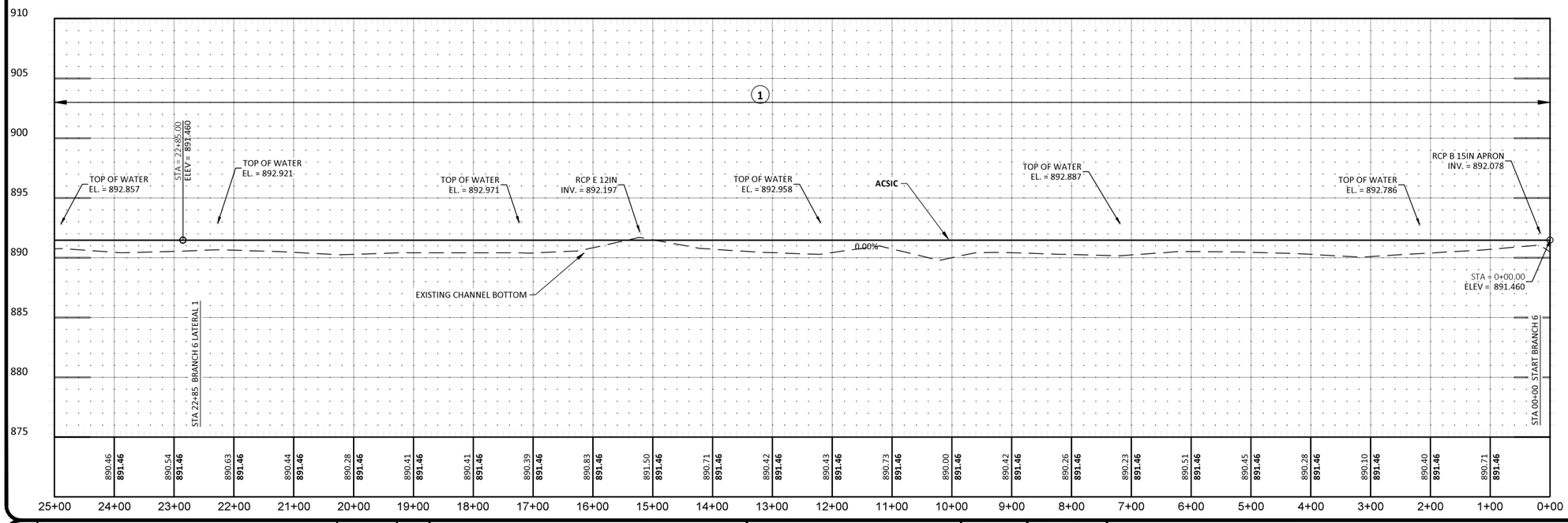
RICE CREEK WATERSHED DISTRICT

BRANCH 5 LATERAL 2 PLAN & PROFILE

PROJECT NO. 5555-0347

SHEET 9

H:\JBM\5500\5555\5555_0347 ACD 53-62 Br 5 and 6 Repair\CAD\Plans\5555-0347 PLAN & PROFILE.dwg-BRANCH 5 LATERAL 2(4)-7/23/2024 7:49 AM-{breeve}



N

100 0 100 200

Scale Feet

NOTES

1. HORIZONTAL CONTROL: ANY COORDINATES LISTED IN THIS PLAN MINNESOTA STATE PLANE, SOUTH ZONE, US FOOT.
2. VERTICAL CONTROL: ALL ELEVATIONS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

LEGEND

NO WORK (1)

LEGEND FOR PROFILE ELEVATIONS

EXISTING SURVEYED PROFILE — 897.94 / 896.46 — ACSIC

70+00

No.	Revision	Date	By

PRELIMINARY
NOT FOR CONSTRUCTION

HOUSTON engineering, inc.

Drawn by	Date
IRR	7-23-2024
Checked by	Scale
ANN	AS SHOWN

ACD 53-62 BRANCH 5 & 6 REPAIR

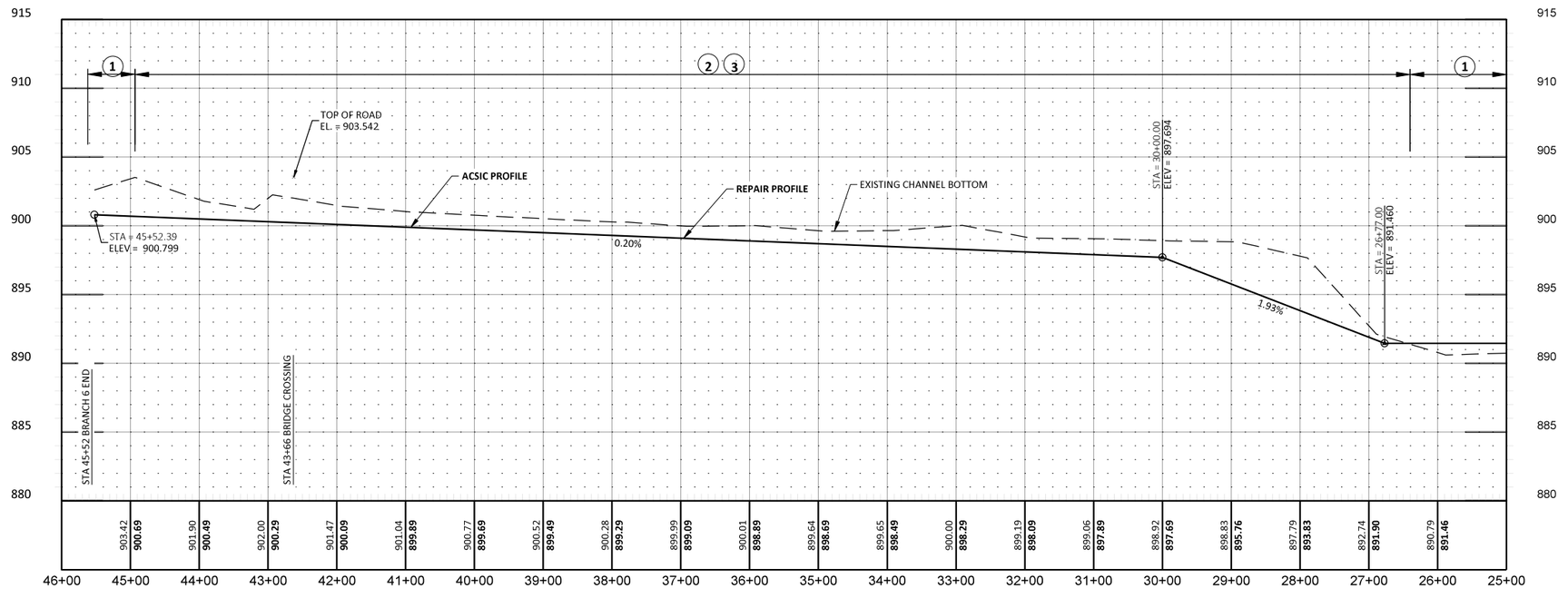
RICE CREEK WATERSHED DISTRICT

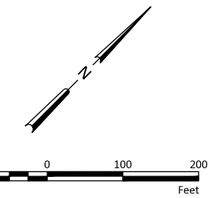
BRANCH 6 PLAN & PROFILE

PROJECT NO. 5555-0347

SHEET 10

H:\JBM\5500\5555\5555_0347 ACD 53-62 Br 5 and 6 Repair\CAD\Plans\5555-0347 PLAN & PROFILE.dwg-BRANCH 6-7/23/2024 7:45 AM (breeve)





NOTES

1. HORIZONTAL CONTROL: ANY COORDINATES LISTED IN THIS PLAN MINNESOTA STATE PLANE, SOUTH ZONE, US FOOT.
2. VERTICAL CONTROL: ALL ELEVATIONS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

LEGEND

NO WORK	1
TREE, BRUSH, AND WOODY VEGETATION CLEARING AND REMOVAL	2
DITCH EXCAVATION	3

LEGEND FOR PROFILE ELEVATIONS

EXISTING SURVEYED PROFILE → 897.94 / 896.46 ← ACSIC

70+00

No.	Revision	Date	By

PRELIMINARY
NOT FOR CONSTRUCTION

HOUSTON engineering, inc.

Drawn by	Date
IRR	7-23-2024
Checked by	Scale
ANN	AS SHOWN

ACD 53-62 BRANCH 5 & 6 REPAIR

RICE CREEK WATERSHED DISTRICT

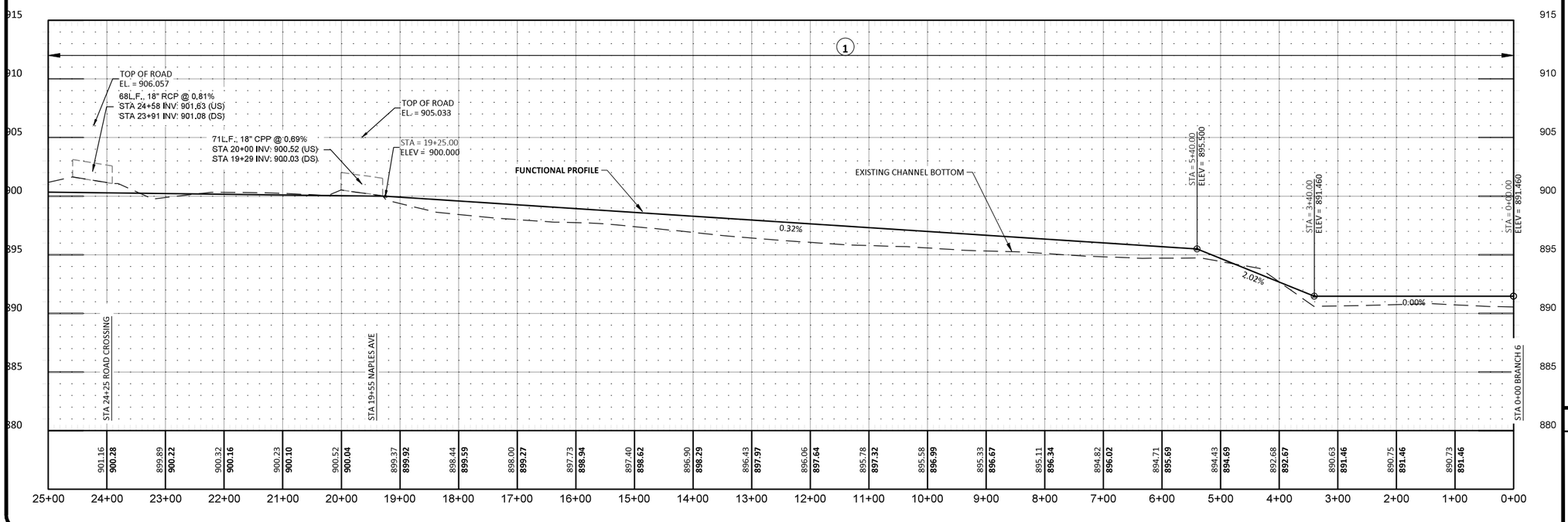
BRANCH 6 PLAN & PROFILE

PROJECT NO. 5555-0347

SHEET 11

H:\JBN\5500\5555\5555_0347 ACD 53-62 Br 5 and 6 Repair\CAD\Plans\5555-0347 PLAN & PROFILE.dwg-BRANCH 6 (1)-7/23/2024 7:45 AM-{breeve}

HEI NO. 5555-0347



N

100 0 100 200
Scale Feet

NOTES

1. HORIZONTAL CONTROL: ANY COORDINATES LISTED IN THIS PLAN MINNESOTA STATE PLANE, SOUTH ZONE, US FOOT.
2. VERTICAL CONTROL: ALL ELEVATIONS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

LEGEND

NO WORK (1)

LEGEND FOR PROFILE ELEVATIONS

EXISTING SURVEYED PROFILE → 897.94 / 896.46 ← ACSIC

70+00

No.	Revision	Date	By

PRELIMINARY
NOT FOR CONSTRUCTION

HOUSTON engineering, inc.

Drawn by	Date
IRR	7-23-2024
Checked by	Scale
ANN	AS SHOWN

ACD 53-62 BRANCH 5 & 6 REPAIR

RICE CREEK WATERSHED DISTRICT

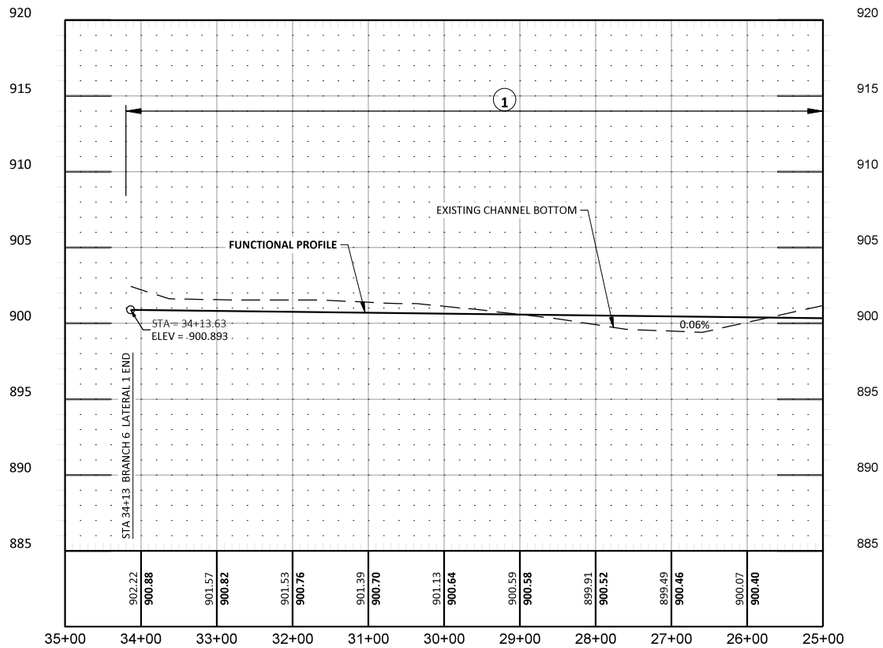
BRANCH 6 LATERAL 1 PLAN & PROFILE

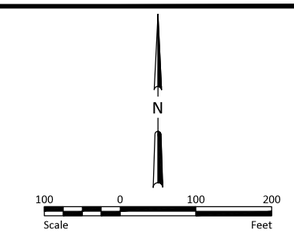
PROJECT NO. 5555-0347

SHEET 12

H:\JBN\5500\5555\5555_0347 ACD 53-62 Br 5 and 6 Repair\CAD\Plans\5555-0347 PLAN & PROFILE.dwg-BRANCH 6 LATERAL 1-7/23/2024 7:45 AM-(breeve)

HEI NO. 5555-0347





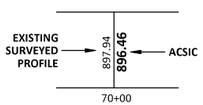
NOTES

1. HORIZONTAL CONTROL: ANY COORDINATES LISTED IN THIS PLAN MINNESOTA STATE PLANE, SOUTH ZONE, US FOOT.
2. VERTICAL CONTROL: ALL ELEVATIONS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

LEGEND

NO WORK (1)

LEGEND FOR PROFILE ELEVATIONS



No.	Revision	Date	By

PRELIMINARY
NOT FOR CONSTRUCTION

HOUSTON engineering, inc.

Drawn by	Date
IRR	7-23-2024
Checked by	Scale
ANN	AS SHOWN

ACD 53-62 BRANCH 5 & 6 REPAIR

RICE CREEK WATERSHED DISTRICT

BRANCH 6 LATERAL 1 PLAN & PROFILE

PROJECT NO. 5555-0347

SHEET 13

H:\JBN\5500\5555\5555_0347 ACD 53-62 Br 5 and 6 Repair\CAD\Plans\5555-0347 PLAN & PROFILE.dwg-BRANCH 6 LATERAL 1 (1)-7/23/2024 7:45 AM-(breeve)

HEI NO. 5555-0347

APPENDIX B: PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COST

Appendix B. Preliminary Opinion of Probably Construction Cost Alternative 2

Description	Units	Unit Price	Est'd Quantity	Extension
Mobilization	Lump Sum	$30,000	1	$30,000.00
Traffic Control	Lump Sum	$5,000	1	$5,000.00
Excavation of Open Channel	Linear Foot	$10	17544	$175,440.00
Spoil Management	Linear Foot	$6	17544	$105,264.00
Tree Clearing, Chipping and Removal	Acre	$15,000	7.4	$110,595.73
Remove & Dispose of Inplace Culvert	Each	$2,000	3	$6,000.00
12" RCP	LF	$101	110	$11,088.00
18" RCP	LF	$105	72	$7,560.00
18" CPP	LF	$45	70	$3,150.00
Bituminous Patch	Each	$5,000	2	$10,000.00
Construction Matting	Lump Sum	$20,000	1	$20,000.00
Seeding and Mulch	Acre	$3,000	12	$36,270.00
Silt Fence	Linear Foot	$5	100	$500.00
Sediment Control Log	Linear Foot	$4	100	$400.00
Erosion Control Blanket Cat. 3	Square Yard	$4	100	$400.00
SWPPP Documentation & Reporting	Lump Sum	$5,000	1	$5,000.00
			Construction Cost Total	**$526,667.73**
			Engineering	$ 150,000.00
			Legal/Admin (Fixed Fee)	$25,000.00
			Construction Contingency (20%)	$105,333.55
			TOTAL PROJECT COST	**$807,001.28**

Appendix B. Preliminary Opinion of Probably Construction Cost Alternative 3

Description	Units	Unit Price	Est'd Quantity	Extension
Mobilization	Lump Sum	$30,000	1	$30,000.00
Excavation of Open Channel	Linear Foot	$10	14286	$142,860.00
Spoil Management	Linear Foot	$6	14286	$85,716.00
Tree Clearing, Chipping and Removal	Acre	$15,000	7.2	$108,643.25
Remove & Dispose of Inplace Culvert	Each	$2,000	1	$2,000.00
Construction Matting	Lump Sum	$20,000	1	$20,000.00
Seeding and Mulch	Acre	$3,000	10	$29,520.00
Erosion Control Blanket Cat. 3	Square Yard	$4	100	$400.00
SWPPP Documentation & Reporting	Lump Sum	$5,000	1	$5,000.00
			Construction Cost Total	**$424,139.25**
			Engineering	$ 100,000.00
			Legal/Admin (Fixed Fee)	$15,000.00
			Construction Contingency (20%)	$84,827.85
			TOTAL PROJECT COST	**$623,967.10**

APPENDIX C: DNR NATURAL HERITAGE REVIEW

Minnesota Department of Natural Resources
Division of Ecological & Water Resources
500 Lafayette Road, Box 25
St. Paul, MN 55155-4025

April 26, 2024

Isabella Reeve
Houston Engineering, Inc.

RE: Natural Heritage Review of the proposed **Anoka County Ditch 53-62 Branch 5&6 Repair,**
T31N R23W Sections 15, 22, 23, 26, 27, & 28; Anoka County

Dear Isabella Reeve,

For all correspondence regarding the Natural Heritage Review of this project please include the project ID **MCE-2024-00235** in the email subject line.

As requested, the Minnesota Natural Heritage Information System has been reviewed to determine if the proposed project has the potential to impact any rare species or other significant natural features. Based on the project details provided with the request, the following rare features may be impacted by the proposed project:

State-listed Species

- A dozen unique state-listed endangered and threatened plant species have been documented in the vicinity of the proposed project. Minnesota's Endangered Species Statute (Minnesota Statutes, section 84.0895) and associated Rules (Minnesota Rules, part 6212.1800 to 6212.2300 and 6134) prohibit the take of endangered or threatened plants or animals, including their parts or seeds, without a permit. **To demonstrate avoidance, a qualified surveyor will need to determine if suitable habitat exists within the activity impact area and, if so, conduct a survey prior to any project activities.**

  Surveys must be conducted by a qualified surveyor and follow the standards contained in the Rare Species Survey Process and Rare Plant Guidance. Visit the Natural Heritage Review page for a list of certified surveyors and more information on this process. Project planning should take into account that any botanical survey needs to be conducted during the appropriate time of the year, which may be limited. Please consult with the NH Review Team at Review.NHIS@state.mn.us if you have any questions regarding this process.

- Blanding's turtles (*Emydoidea blandingii*), a state-listed threatened species, have been documented in the vicinity of the proposed project. Blanding's turtles use upland areas up to and over a mile distant from wetlands, waterbodies, and watercourses. Uplands are used for nesting, basking, periods of dormancy, and traveling between wetlands. Factors believed to contribute to the decline of this species include collisions with vehicles, wetland drainage and degradation, and the development of upland habitat. Any added mortality can be detrimental to populations of Blanding's turtles, as these turtles have a low reproduction rate that depends upon a high survival rate to maintain population levels.

  This project has the potential to impact this rare turtle through direct fatalities and habitat disturbance/destruction due to excavation, fill, and other construction activities associated with the project. Minnesota's Endangered Species Statute (Minnesota Statutes, section 84.0895) and associated Rules (Minnesota Rules, part 6212.1800 to 6212.2300 and 6134) prohibit the take of threatened or endangered species without a permit. As such, **the following avoidance measures are required**:

  - Avoid wetland and aquatic impacts during hibernation season, between September 15 and April 15, if the area is suitable for hibernation.
  - If applicable, permanent riprap must have voids filled with gravel, soil, or other material between large stones to avoid entrapping turtles and to maintain connectivity between aquatic and upland habitat. For an example, reference vegetation riprap as described in Best Practices for Meeting DNR General Public Waters Work Permit GP 2004-0001 (state.mn.us) Chapter 1, Page 33
  - Limit erosion and sediment control to wildlife friendly erosion control to avoid the inadvertent take of Blanding's turtles.
  - Avoid hydro-mulch products that contain any materials with synthetic (plastic) fiber additives, as the fibers can re-suspend and flow into waterbodies.
  - The Blanding's turtle flyer must be given to all contractors working in the area.
  - Check bare ground within construction areas for turtles before the use of heavy equipment or any ground disturbance.
  - Report any sightings to Reports.NHIS@state.mn.us; please include date, observer, location, and photograph of the Blanding's turtle.
  - If turtles are in imminent danger, move them by hand out of harm's way; otherwise, they are to be left undisturbed. Directions on how to move turtles safely can be found at Helping Turtles Across the Road.

  Please refer to the Blanding's turtle fact sheet for additional recommendations (both lists) that may be relevant to your project.

Please contact Review.NHIS@state.mn.us **to confirm that the above avoidance measures will be implemented or to inform us that they are not feasible.** If the measures are not feasible, a project-specific avoidance plan will likely be needed.

- Wilson's phalarope (*Phalaropus tricolor*), a state-listed threatened bird, has been documented during the breeding season in the vicinity of the proposed project. This wetland species nests on the ground in wet meadows, grassy marshes, and along edges of shallow inland waters. Minnesota's Endangered Species Statute (Minnesota Statutes, section 84.0895) and associated Rules (Minnesota Rules, part 6212.1800 to 6212.2300 and 6134) prohibit the take of threatened or endangered species without a permit. Given the presence of this state-protected bird, **disturbance to suitable nesting habitat must be avoided between mid-May and July, the breeding season for Wilson's phalaropes**.

  Please contact Review.NHIS@state.mn.us **to confirm that the above avoidance measure will be implemented or to inform us that avoidance is not feasible.** If avoidance is not feasible, the project area will need to be surveyed for active nests prior to any project disturbance. Requirements for surveys and lists of DNR certified lists of surveyors can be found at the Natural Heritage Review website.

- The Natural Heritage Information System (NHIS) tracks bat roost trees and hibernacula plus some acoustic data, but this information is not exhaustive. Even if there are no bat records listed nearby, all of Minnesota's bats, including the federally endangered northern long-eared bat (*Myotis septentrionalis*), can be found throughout Minnesota. During the active season (approximately April-November) bats roost underneath bark, in cavities, or in crevices of both live and dead trees. Tree removal can negatively impact bats by destroying roosting habitat, especially during the pup rearing season when females are forming maternity roosting colonies and the pups cannot yet fly. To minimize these impacts, **the DNR recommends that tree removal be avoided from June 1 through August 15.**

- Please visit the DNR Rare Species Guide for more information on the habitat use of these species and recommended measures to avoid or minimize impacts.

Federally Protected Species

- The area of interest overlaps with a U.S Fish and Wildlife Service (USFWS) Rusty Patched Bumble Bee High Potential Zone. The rusty patched bumble bee *(Bombus affinis)* is federally listed as endangered and is likely to be present in suitable habitat within High Potential Zones. From April through October this species uses underground nests in upland grasslands, shrublands, and forest edges, and forages where nectar and pollen are available. From October through April the species overwinters under tree litter in upland forests and woodlands. The rusty patched bumble bee may be impacted by a variety of land management activities including, but not limited to,

prescribed fire, tree-removal, haying, grazing, herbicide use, pesticide use, land-clearing, soil disturbance or compaction, or use of non-native bees. If applicable, **the DNR recommends reseeding disturbed soils with native species of grasses and forbs using** BWSR Seed Mixes **or** MnDOT Seed Mixes**.**

To ensure compliance with federal law, please conduct a federal regulatory review using the U.S. Fish and Wildlife Service's online Information for Planning and Consultation (IPaC) tool. Please note that all projects, regardless of whether there is a federal nexus, are subject to federal take prohibitions. The IPaC review will determine if prohibited take is likely to occur and, if not, will generate an automated letter. The USFWS RPBB guidance provides guidance on avoiding impacts to rusty patched bumble bee and a key for determining if actions are likely to affect the species; the determination key can be found in the appendix.

- To ensure compliance with federal law, conduct a federal regulatory review using the U.S. Fish and Wildlife Service's (USFWS) online Information for Planning and Consultation (IPaC) tool.

Environmental Review and Permitting

- Please include a copy of this letter and the MCE-generated Final Project Report in any state or local license or permit application. Please note that measures to avoid or minimize disturbance to the above rare features may be included as restrictions or conditions in any required permits or licenses.

The Natural Heritage Information System (NHIS), a collection of databases that contains information about Minnesota's rare natural features, is maintained by the Division of Ecological and Water Resources, Department of Natural Resources. The NHIS is continually updated as new information becomes available, and is the most complete source of data on Minnesota's rare or otherwise significant species, native plant communities, and other natural features. However, the NHIS is not an exhaustive inventory and thus does not represent all of the occurrences of rare features within the state. Therefore, ecologically significant features for which we have no records may exist within the project area. If additional information becomes available regarding rare features in the vicinity of the project, further review may be necessary.

For environmental review purposes, the results of this Natural Heritage Review are valid for one year; the results are only valid for the project location and project description provided with the request. **If project details change or the project has not occurred within one year, please resubmit the project for review within one year of initiating project activities.**

The Natural Heritage Review does not constitute project approval by the Department of Natural Resources. Instead, it identifies issues regarding known occurrences of rare features and potential impacts to these rare features. Visit the Natural Heritage Review website for additional information regarding this process, survey guidance, and other related information. For information on the

environmental review process or other natural resource concerns, you may contact your DNR Regional Environmental Assessment Ecologist.

Thank you for consulting us on this matter and for your interest in preserving Minnesota's rare natural resources.

Sincerely,

Molly Barrett
Natural Heritage Review Specialist
Molly.Barrett@state.mn.us

Cc: Melissa Collins, Regional Environmental Assessment Ecologist, Central (Region 3)

APPENDIX D: RARE SPECIES SURVEY RESULTS

Critical Connections Ecological Services, Inc.
450 Main Street North, Suite 130, Stillwater, Minnesota 55082

Natural Resource Consulting
Landscape Ecology
Botanical Inventories
Threatened & Endangered Species Surveys
Greenway & Open Space Planning
Natural Community Restoration
Wetland Delineation & Permitting
Wetland Banking & Monitoring
Minnesota Land Cover Classification
Geographic Information Systems
Global Positioning Systems
Database Management & Development
Environmental Education

December 18, 2024

Bridget Henning-Randa
Endangered Species Consultant
Minnesota Department of Natural Resources
500 Lafayette Road, Box 32
St. Paul, MN 55155-4032

RE: Botanical Survey Final Report
Houston Engineering, Inc.
Anoka County Ditch 53-62 Branch 5&6 Repair Project
City of Blaine, Anoka County, Minnesota

Dear Bridget Henning-Randa:

The Rice Creek Watershed District (RCWD) retained the services of Critical Connections Ecological Services (CCES) to complete botanical surveys to determine the presence/absence and distribution of state-listed rare vascular plant species occurring within a 32.3 acre survey area within the Rice Creek Watershed District, Blaine, Anoka County. The survey area includes portions of the alignment of Anoka County Ditch 53-62 Branch 5 and Branch 6 as well as a 50 foot buffer to either side of the ditch center line as defined by the RCWD. These segments of ACD 53-62 are scheduled for improvements and maintenance by the RCWD in 2025. CCES began presence/absence surveys on July 1, 2024, and completed detailed surveys on October 15, 2024. The following report provides background, methods, and results associated with these botanical surveys of the ACD 53-62 project area.

Project Background:

The ACD 53-62 improvements and maintenance project (Project) is located in T31N R23W Sections 15, 22, 23, 26, 27, & 28; in the RCWD, City of Blaine, Anoka County, Minnesota. The Project is generally located to the west of Interstate 35W and south of 109th Avenue NE (County Hwy 12). The project location and associated survey boundaries are shown in **Appendix A, Figure 1**. Botanical surveys were completed within a defined survey area as provided by the RCWD. The survey area included portions of the alignment of Branch 5 and Branch 6 of ACD 53-62 proposed for improvements, as well as a buffer of 50 feet on either side of the ditch centerline.

To prepare for the surveys, CCES reviewed correspondence from the MNDNR to the RCWD dated April 26, 2024 (Project ID: MCE-2024-00235). The letter summarized the results of a

Natural Heritage Information System (NHIS) review completed by the MNDNR for the Project area. Results of the NHIS query indicated that "a dozen unique state-listed endangered and threatened plant species have been documented in the vicinity of the proposed project. Minnesota's Endangered Species Statute (Minnesota Statutes, section 84.0895) and associated Rules (Minnesota Rules, part 6212.1800 to 6212.2300 and 6134) prohibit the take of endangered or threatened plants or animals, including their parts or seeds, without a permit. A qualified surveyor was required to determine if suitable habitat exists within the Project's proposed impact area, and, if so, complete botanical surveys for state-listed and protected vascular plant species prior to initiation of any project activities.

CCES completed an additional query of the NHIS database (CCES License LA 2023-032, last updated April 2024) to generate a list of specific rare plant species known to occur within one mile of the entire survey boundary. These species and their associated habitats served as the focus and target of field surveys. Rare vascular plant species known to occur (NHIS) within a one mile radius of the survey boundary are listed below in **Table 1**.

Table 1: NHIS Query Results - Species List (Recommended for Survey)

Scientific Name	Common Name	MN Status	Optimal Survey Period
Aristida longespica	Slimspike three-awn	Endangered	August to September
Fimbristylis autumnalis	Autumn fimbry	Special Concern	July to September
Juncus marginatus	Marginated rush	Endangered	August to September
Orobanche uniflora	One-flowered broomrape	Threatened	May to June
Platanthera flava	Tubercled rein orchid	Threatened	June to August
Polygala cruciata	Cross-leaved milkwort	Endangered	July to August
Rubus fulleri	Fuller's bristle-berry	Threatened	July to August
Rubus missouricus	Missouri bristle-berry	Endangered	July to August
Rubus stipulatus	A bristle-berry	Endangered	July to August
Sceptridium rugulosum	St. Lawrence grapefern	Special Concern	Spring to Fall
Trichophorum clintonii	Clinton's bulrush	Threatened	May to June
Viola lanceolata	Lance-leaf violet	Threatened	Spring to Fall
Xyris torta	Twisted yellow-eyed grass	Endangered	July to August

The rare vascular plant species that were surveyed for included those listed above in **Table 1** as well as additional associated rare species which are known to occur in similar habitats in the Anoka Sand Plain (as shown below in **Table 2**).

Prior to the start of botanical survey work, CCES was required to submit a rare species survey proposal to the MNDNR for review and approval. As required, the proposed survey protocol was submitted to the MNDNR on June 26, 2024 via an email to reports.nhis@state.mn.us. This survey protocol is included as **Appendix C** of this report.

Survey Methods:

As proposed in the submitted survey protocol, CCES plant ecologists conducted botanical field surveys within the defined survey area (see **Figure 1**) to detect any Minnesota special concern, threatened, or endangered vascular plant species occurring within the survey area that could be affected by the planned ditch improvement project.

Target Plant Species:

CCES completed surveys for the target plant species that were identified in the NHIS review (**Table 1**), and for additional species, which have been detected in similar habitats within the vicinity of the project in the Anoka Sand Plain. Additional species that were surveyed for are included in **Table 2**, below.

Table 2: Additional Target Plant Species Included in the Survey

Scientific Name	Common Name	MN Status	Optimal Survey Period
Botrychium simplex	Least moonwort	Special Concern	May to June
Decodon verticillatus	Waterwillow	Special Concern	June to July
Gaylussacia baccata	Black huckleberry	Threatened	August to September
Potamogeton bicupulatus	Snailseed pondweed	Endangered	July to August
Rotala ramosior	Toothcup	Threatened	August to September
Rubus multifer	Kinnickinnick dewberry	Special Concern	July to August
Rubus vermontanus	Vermont blackberry	Special Concern	July to August
Rubus wheeleri	Wheeler's blackberry	Watchlist	July to August
Sceptridium oneidense	Blunt-lobed grapefern	Threatened	May to October

Desktop and Existing Data Review:

Prior to the start of any field work, CCES reviewed existing desktop based and written information related to the project site and/or the specific vascular plant species and habitats for which we will be surveying. CCES reviewed habitat requirements for each of the above listed species (**Table 1** and **Table 2**) using the MNDNR's Rare Species Guide as well as other pertinent reference material (i.e. Smith 2008, Trees and Shrubs of Minnesota, Statement of Need and Reasonableness (2012)).

As necessary, CCES visits the University of Minnesota Herbarium prior to conducting any field work to review collections of preserved specimens of the species listed in **Table 1** and **Table 2** to ensure a thorough understanding of identifying field characters.

CCES reviewed existing desktop-based habitat information (i.e. Color and infra-red aerial photographs, land cover, LiDAR, Soils, Wetlands/NWI, NHIS (LA 1034)) to help refine and focus our field search area.

Field Survey Methods:

Initial Surveys:

CCES ecologists conducted initial surveys for the presence/absence of the vascular plant species listed above (**Table 1** and **Table 2**) as well as their associated habitats between July 1 and August 30, 2024. The optimal survey period for most of the plant species listed was included within this survey time frame. Field survey work was led and completed by CCES Principal Ecologist, Jason Husveth (MNDNR Approved Surveyor for Endangered and Threatened Vascular Plant Species). Jason was assisted in the field by additional CCES field staff, including Amy Husveth.

Plant survey work was conducted using a random meander survey protocol. This type of survey allowed for coverage of all habitats and plant community types within the survey boundary, regardless of their condition and suitability to support rare species. When suitable habitat for any of the above listed species was encountered in the field (**Table 1** and **Table 2**), a more focused and intensive survey was completed within the habitat(s). An informed meander survey of suitable habitats was used to detect suitable micro-habitats and plant associations known to support the individual target rare plant species. Biotic and abiotic information was used to successfully detect and locate target rare species.

Detailed Surveys:

Once initial surveys were completed, CCES reported to the RCWD our initial findings in mid-August, 2024. CCES then coordinated with the RCWD to complete follow up detailed surveys of locations with positive rare species detections. Once authorized, CCES completed detailed surveys of two portions of ditch alignments where state-listed species were detected. Detailed surveys were authorized in late August 2024, and field work of detailed surveys was completed between September 1 and October 15, 2024. Detailed surveys focused on locating the spatial extents of all detected rare species subpopulations, flagging these extents in the field, recording of spatial extents with a GPS, counting of individuals, and collection of voucher specimens, photographs and required habitat information.

Documentation of Rare Vascular Plant Species:

When state-listed vascular plant species were detected by CCES ecologists in the field, CCES flagged the extents of rare species subpopulations or individuals and recorded GPS point locations. When detections were large and contained multiple individuals, CCES flagged the perimeter of the detection and counted the number of individual plants (or stems) contained within the area. CCES spatially recorded the boundary of the detection with a sub-meter accuracy Trimble global positioning system (GPS).

Along with location information, CCES also collected more detailed field data associated with each detection and summarized findings using a standard data collection sheet. Data sheets included a description of each detection, a description of the associated habitat, a list of associated species, and the number of individuals/or stems observed.

When appropriate, CCES collected a voucher specimen(s) of each rare vascular plant species encountered within the Project boundary under Jason Husveth's Special Collector's Permit (Permit No. 36050, issued

June 27, 2024). These specimens have been processed and are being submitted to the MNDNR with this final report and following standard procedures. Along with each specimen sheet, one archival specimen label has been provided which includes specific specimen information such as location, collectors/surveyors, dates, habitat, and associated species. These data are also included in Mr. Husveth's rare species reporting database, to be submitted to the MNDNR NHIS on or before January 31, 2025. Where necessary, representative photographs of specimens and habitats were collected (see **Appendix B** of this report).

Survey Results:

During the 2024 surveys of the ACD 53-62 ditch system, CCES detected four state-listed species occurring at two survey sites, comprising a total of five subpopulations. State-listed species were detected along ACD 53-62 Branch 5 and Branch 6 (see **Figures 2, 3A, and 3B, Appendix A**).

Along ACD 53-62 Branch 5, the following state-listed species was detected: *Rubus semisetosus* (MN Threatened; see **Figure 3A**). Along ACD 53-62 Branch 6, the following state-listed species were documented within the survey limits: *Rubus stipulatus* (MN Endangered), *Rubus semisetosus* (MN Threatened), *Platanthera flava* var. *herbiola* (MN Threatened), and *Rubus multifer* (MN Special Concern; see **Figure 3B**).

Tables 3 and 4 below, provide an accounting of each subpopulation detected by species, the spatial extent of each subpopulation as mapped in a GIS, and an estimated count of the number of individual plants located within each subpopulation per the methods described above. No additional rare species locations were detected within the remainder of the survey area.

ACD 53-62 Branch 5 Rare Plant Detections:

On location of rare plant subpopulations were detected along ACD 53-62 Branch 5. These were comprised of one location of *Rubus semisetosus* (Swamp Blackberry, MN Threatened). Detections along Branch 5 are summarized below, and are depicted in **Appendix A, Figures 2, and 3A.**

Table 3. ACD 53-62 Branch 5 Rare Plant Subpopulation Detections, Area, and Estimated Count of Individuals

Subpopulation ID	Scientific Name	Common Name	Subpopulation Area (SQFT)	Subpopulation Estimated Count
RSE-05	*Rubus semisetosus*	Swamp Blackberry	379	62 Canes

RSE-05 Subpopulation Notes: This subpopulation of *Rubus semisetosus* was comprised of 62 canes, located within a relatively small area immediately adjacent to the ditch and on ditch spoil (250 square feet). Of these canes, most were vegetative primocanes, and very few floricanes were observed producing viable fruit (restricted to sunnier areas). This subpopulation was located on the transition between a southern wet aspen forest (WFs55a) and northern wet meadow openings (WMn82b1) immediately adjacent to the ditch. These swamp blackberries were associated with*: Populus tremuloides, Betula papyrifera, Ulmus americana, Prunus serotina, Salix nigra, Salix* spp., *Rhamnus cathartica, Rubus idaeus, Spiraea alba, Solidago gigantea, Carex lacustris, Calamagrostis canadensis,* and *Phalaris arundinacea.* Soils were saturated to seasonally inundated Isanti sandy loams, with a shallow sedge peat organic surface layer. Exposure was partial sun to partial shade. The plants were most densely occurring in the sunnier and more open/exposed portions of the habitat and were stunted in shadier areas among the quaking aspen.

No voucher specimens of *Rubus semisetosus* were collected at the subpopulation location along ACD Branch 5. This was due to the general lack of flowering and fruiting floricanes and the relatively small size of the subpopulation (less than 100 canes, primarily primocanes). However, CCES is certain of the species identification, based on the following combination of field characters: an upright bristle-berry, with palmately compound leaves, aciculate prickles too weak to break skin, prickles weak and less than 4mm in length, and the undersides of primocane leaflets were moderately to densely hairy. The few withered floricane inflorescences that were found in the field contained flowers with glandular hairs on the pedicles.

ACD 53-62 Branch 6 Detections:

Four locations of rare plant subpopulations were detected along ACD 53-62 Branch 6. These were comprised of one location of *Rubus stipulatus* (A Species of Bristle-berry, MN Endangered), *Rubus semisetosus* (Swamp Blackberry, MN Threatened), one location of *Platanthera flava* var. *herbiola* (Tubercled Rein-orchid, MN Threatened), and one location of *Rubus multifer* (Kinnickinnick Dewberry, MN Special Concern). Detections along ACD 53-62 Branch 6 are summarized below, and are depicted in **Appendix A, Figures 2, and 3B.**

Table 4 summarizes these detections associated with the southern end of Branch 6 of Anoka County Ditch 53-62. These four species were generally occurring in the same wet meadow (WMn82a/b1) and wet forest (WFs55a) habitat near the southern end (headwaters) of Branch 6.

Table 4. Branch 6 Rare Species Subpopulation Detections, Area, and Count of Individuals

Subpopulation ID	Scientific Name	Common Name	Subpopulation Area (SQFT)	Subpopulation Estimated Count
RST-06	*Rubus stipulatus*	A Species of Bristle-berry	371	16 Canes
RSE-06	*Rubus semisetosus*	Swamp Blackberry	4,062	508 Canes
PF-06	*Platanthera flava*	Tubercled Rein-orchid	594	74 Plants
RMU-06	*Rubus multifer*	Kinnickinnick Dewberry	67	3 Canes

Voucher specimens for RMU-06 (JJH-2024-144), RSE-06 (JJH-2024-118, 119, 120A/120B), and PF-06 (JJH-2024-114, 115) were collected at the Branch 6 locations. No voucher specimens were collected for RST-06 (*Rubus stipulatus*) because there were too few individuals and these were primarily primocane material, with diagnostic large stipules relatively absent from damping off in high humidity conditions. Photographs of *Rubus stipulatus* primocanes and leaves were collected.

RST-06 Subpopulation Notes: This subpopulation of *Rubus stipulatus* was comprised of 16 canes, located within a relatively small area (371 square feet). Of these canes, most were vegetative primocanes, and no floricanes were observed producing viable fruit. This subpopulation was located on the transition between a southern wet aspen forest (WFs55a) and northern wet meadow openings (WMn82b1). These Minnesota Endangered bristle-berries were closely associated and co-occurring with *Rubus semisetosus* (MN Threatened)*, Rubus idaeus,* and *Rubus multifer* (MN Special Concern). Other associated species included: *Populus tremuloides, Betula papyrifera, Ulmus americana, Prunus serotina, Salix nigra, Salix* spp., *Rhamnus cathartica, Spiraea alba, Solidago gigantea, Carex lacustris, Calamagrostis canadensis,* and *Phalaris arundinacea.* Soils were earthworm impacted saturated to mesic Isanti sandy loams, with a shallow sedge peat organic surface layer. Exposure was partial shade to shade.

RSE-06 Subpopulation Notes: This subpopulation of *Rubus semisetosus* was comprised of 508 canes, located within a relatively small area (4,062 square feet). Of these canes, most were vegetative primocanes, and very few floricanes were observed producing viable fruit (floricanes were restricted to sunnier, open areas). This subpopulation was located on the transition between a southern wet aspen forest (WFs55a) and northern wet meadow openings (WMn82b1). These Minnesota Threatened bristle-berries were closely associated and co-occurring with *Rubus stipulatus* (MN Endangered)*, Rubus idaeus, Rubus ferrofluvius,* and *Rubus multifer* (MN Special Concern). Other associated species included: *Populus tremuloides, Betula papyrifera, Ulmus americana, Acer rubrum, Acer saccharinum, Prunus serotina, Salix nigra, Salix* spp., *Rhamnus cathartica, Spiraea alba, Solidago gigantea, Lycopus americanus, Euthamia gymnospermoides, Carex lacustris, Calamagrostis canadensis,* and *Phalaris arundinacea.* Soils were earthworm impacted saturated to mesic Isanti sandy loams, with a shallow sedge peat organic surface layer. Exposure was partial shade to shade. Plants were absent from areas of thick reed canary grass or dense shade.

PF-06 Subpopulation Notes: This subpopulation of *Platanthera flava* was comprised of 74 plants, with three plants in flower/fruit at the time of detection on July 29, 2024. This subpopulation of *Platanthera flava* was located within a relatively small area (594 square feet). Of these plants, most were vegetative basal leaves only, with just three individuals producing flower spikes and fruits along open wet meadow microhabitats and deer paths. This subpopulation was located on the transition between a southern wet aspen forest (WFs55a) and northern wet meadow openings (WMn82b1). These Minnesota threatened orchids were associated with typical wet forest and wet meadow species of the Anoka Sand Plain, including: *Populus tremuloides, Betula papyrifera, Ulmus americana, Acer saccharinum, Prunus serotina, Ilex verticillata, Salix nigra, Salix* spp., *Rubus idaeus, Rubus pubescens, Rhamnus cathartica, Spiraea alba, Solidago gigantea, Boehmeria cylindrica, Scutellaria lateriflora, Eutrochium maculatum, Eupatorium perfoliatium, Onoclea sensibilis, Thelypteris palustris, Persicaria saggitata, Carex lacustris, Calamagrostis canadensis,* and *Phalaris arundinacea.* There is a portion of the *Rubus semisetosus* (MN Threatened) subpopulation nearby, sixty feet to the east of these orchids on the east side of the ditch lateral. Soils were earthworm impacted saturated to seasonally inundated Isanti sandy loams, with a shallow sedge peat organic surface layer.

RMU-06 Subpopulation Notes: This small subpopulation of *Rubus multifer* was comprised of three (3) canes, located within a relatively small area (67 square feet). Of these canes, two were prostrate vegetative primocanes, and one was a fruiting floricane. This subpopulation was located as two separate individuals along the upper topographic positions of the transition between a southern wet aspen forest (WFs55a) and northern wet meadow openings (WMn82b1). These Minnesota Special Concern dewberries were closely associated and co-occurring with *Rubus stipulatus* (MN Endangered), *Rubus semisetosus* (MN Threatened)*, Rubus ferrofluvius,* and *Rubus idaeus. Populus tremuloides, Betula papyrifera, Ulmus americana, Acer rubrum, Acer saccharinum, Prunus serotina, Salix nigra, Salix* spp., *Rhamnus cathartica, Spiraea alba, Solidago gigantea, Lycopus americanus, Euthamia gymnospermoides, Carex lacustris, Calamagrostis canadensis,* and *Phalaris arundinacea.* Soils were earthworm impacted mesic to dry Isanti sandy loams, with a shallow sedge peat organic surface layer. Exposure was partial shade to sun, with flowering and fruit production occurring in sub exposed portions of the habitat.

No other state-listed vascular plant species or subpopulations were detected in the remaining 32.3 acre survey areas along the Anoka County Ditch 53-62 Branch 5 and 6.

Other Noteworthy Detections:

As a result of the 2024 surveys, three locations of a non-listed but rarely documented dewberry, *Rubus ithicanus,* were detected and collected. *Rubus ithicanus* is a species of dewberry that is native to Minnesota but has only two prior detections and collections throughout the state (Bell Museum Biodiversity Atlas, accessed December 2024, Smith 2008, Welby Smith email communication July 2024). CCES encountered *Rubus ithicanus* at three locations during the completion of this survey. CCES collected multiple voucher specimens of *Rubus ithicanus* primocanes and floricanes, and these specimens are being submitted along with state-listed species voucher specimens associated with this survey report (specimen sheets JJH-2024-106, 107, 108, 109, 100, and 234, 235).

Berberis thunbergii is an exotic and invasive woody species. Multiple naturalized fruiting individuals were detected among subpopulations RST-06, RSE-06, PF-06, and RMU-06 within wetland edge and upland habitats along Branch 6 of ACD 53-62. In the twenty five years we have been surveying the landscapes of Anoka County, this is the first time we have detected *Berberis thunbergii* as a naturalizing species. Voucher specimens were collected (specimen sheets JJH-2024-113A and 113B). This invasive species location was documented by Jason Husveth through the eddmaps.org website with photo documentation and mapping on July 30, 2024 (Record ID: 12105116, verified by Laura Van Ripper).

Deliverables to the MNDNR:

CCES has prepared this final survey report that includes an introduction, background, methods, and results of the survey effort. In addition to this final survey report, as permitted by MNDNR, CCES has collected and prepared voucher specimens with archival labels to be submitted to Welby Smith, MNDNR State Botanist, at the time of the issuance of the final survey report. Where collections were not permitted or possible, diagnostic digital macrophotography were collected in place of voucher specimens where possible (see **Appendix B**). Lastly, CCES will provide accompanying rare species GIS point and polygon shapefiles and attribute database to Lisa Joyal (MNDNR Endangered Species Environmental Review Coordinator) upon issuance of this final survey report.

Thank you for your review of this botanical survey final report for a planned Anoka County Ditch 53-62 improvement project located in T31N R23W Sections 15, 22, 23, 26, 27, & 28; in the City of Blaine, Anoka County, Minnesota.

Please review this final survey report and supporting information and voucher specimens. Please contact Jason Husveth if you have any questions or require additional information regarding our survey and findings. As of the writing of this report, we believe that botanical surveys of the 32.3 acre ACD 53-62 project area are now complete, and no additional surveys should be necessary.

Respectfully submitted,

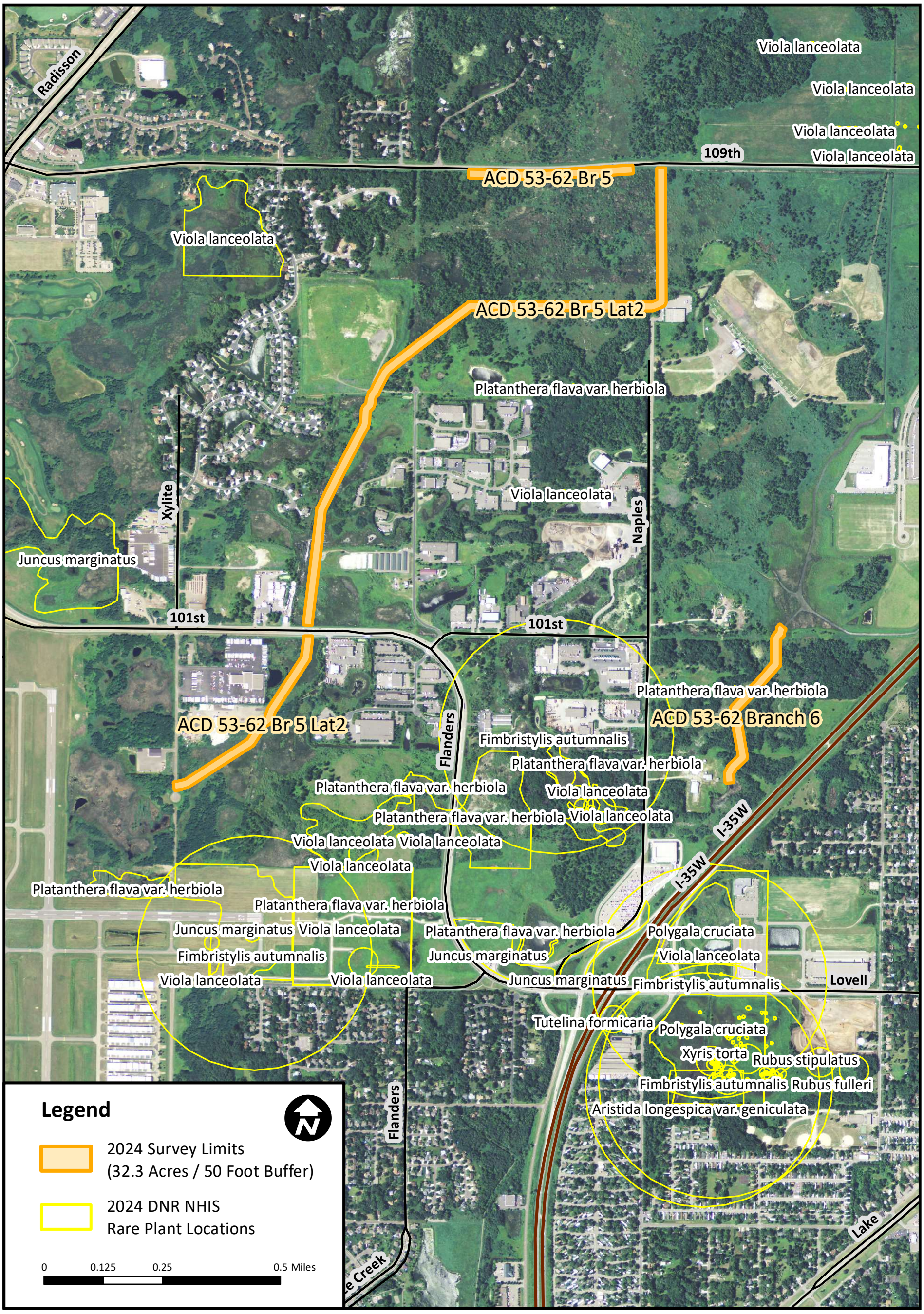
Critical Connections Ecological Services, Inc.

Jason J. Husveth, MS
Principal Ecologist
jhusveth@ccesinc.com | 651-247-0474 cell

cc: Chris Otterness, PE, Senior Civil Engineer, Houston Engineering, Inc.
Nick Tomczik, Administrator, Rice Creek Watershed District
Melissa Collins, MNDNR Regional Environmental Assessment Ecologist

Appendix A

Figures

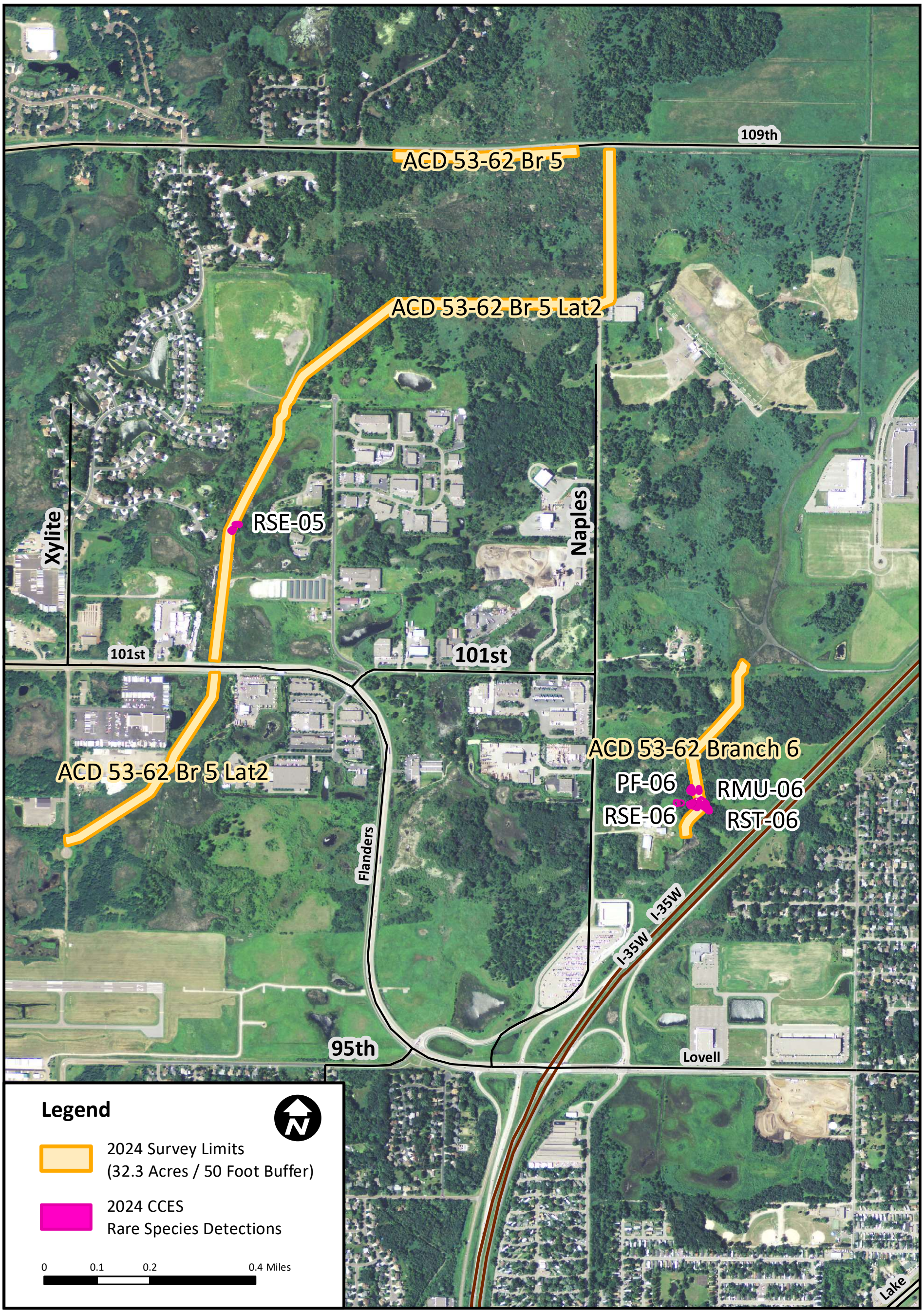


Anoka County Ditch 53-62, Branch 5 and 6
Rare Plant Surveys
2024 Survey Areas and NHIS Rare Species Records
Rice Creek Watershed District, Blaine, Anoka County, MN

Critical Connections
Ecological Services, Inc.

December 18, 2024

Figure 1



December 18, 2024

Anoka County Ditch 53-62, Branch 5 and 6
Rare Plant Surveys
2024 CCES Rare Plant Detections (Overview)
Rice Creek Watershed District, Blaine, Anoka County, MN

Critical Connections
Ecological Services, Inc.

Figure 2

Critical Connections
Ecological Services, Inc.

Anoka County Ditch 53-62, Branch 5
Rare Plant Surveys
2024 CCES Rare Plant Detections (Detail)
Rice Creek Watershed District, Blaine, Anoka County, MN

December 18, 2024

Figure 3A

ACD 53-62 Branch 6

100 Feet

Legend

2024 Survey Limits
(32.3 Acres / 50 Foot Buffer)

2024 CCES
Rare Species Detections

RSE-06
Rubus semisetosus, THR
(508 Canes / 4,062 Sq Ft)

RST-06
Rubus stipulatus, END
(16 Canes / 371 Sq Ft)

RMU-06
Rubus multifer, SPC
(2 Canes / 500 Sq Ft)

PF-06
Platanthera flava, THR
(74 Plants / 594 Sq Ft)

0 25 50 100 Feet

N

Critical Connections
Ecological Services, Inc.

Anoka County Ditch 53-62, Branch 6
Rare Plant Surveys
2024 CCES Rare Plant Detections (Detail)
Rice Creek Watershed District, Blaine, Anoka County, MN

December 18, 2024

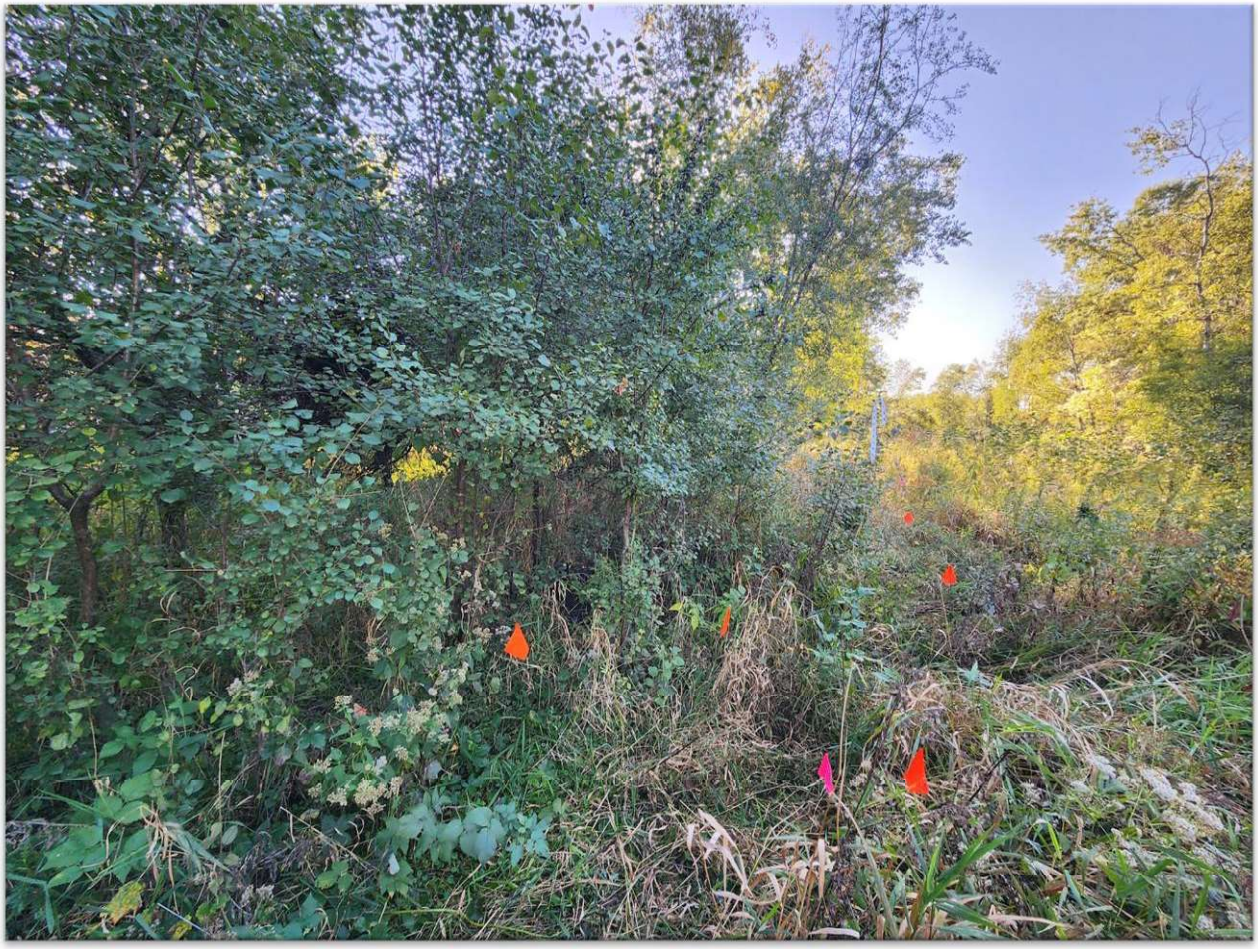
Figure 3B

Appendix B

Photographs

Rubus semisetosus subpopulation RSE-05 along the eastern edge of ACD 53-62 Branch 5

Rubus semisetosus subpopulation RSE-05, primocane leaf and leaf hairs detail



Rubus stipulatus and *R. semisetosus* habitat at southern end of ACD 53-62 Branch 6

Rubus stipulatus subpopulation RST-06 leaf and diagnostic stipules

Platanthera flava subpopulation PF-06, cluster of basal leaf plants at ACD 53-62 Branch 6

Platanthera flava subpopulation PF-06 voucher specimens of flowering orchids

Rubus semisetosus subpopulation RSE-05 along the eastern edge of ACD 53-62 Branch 6

Rubus semisetosus subpopulation RSE-05, primocane leaf, aciculate prickles, and leaf hairs detail

Appendix C

Survey Protocol

(June 26, 2024)

Critical Connections Ecological Services, Inc.
450 Main Street North, Suite 130, Stillwater, Minnesota 55082

Natural Resource Consulting
Landscape Ecology
Botanical Inventories
Threatened & Endangered Species Surveys
Greenway & Open Space Planning
Natural Community Restoration
Wetland Delineation & Permitting
Wetland Banking & Monitoring
Minnesota Land Cover Classification
Geographic Information Systems
Global Positioning Systems
Database Management & Development
Environmental Education

June 26, 2024

Ms. Lisa Joyal
Endangered Species Review Coordinator
Minnesota Department of Natural Resources
500 Lafayette Road, Box 32
St. Paul, MN 55155-4032

RE: Botanical Survey Protocol
Houston Engineering, Inc.
Anoka County Ditch 53-62 Branch 5&6 Repair
City of Blaine, Anoka County, Minnesota

Dear Lisa Joyal:

Houston Engineering, Inc. (Client) has retained the services of Critical Connections Ecological Services (CCES) to complete botanical surveys to determine the presence/absence and distribution of state-listed rare vascular plant species occurring within a 22.5 acre survey area. The survey area includes portions of the alignment of Anoka County Ditch 53-62 Branch 5 and Branch 6 as well as a buffer to the ditch alignment as defined by the Client. This portion of ACD 53-62 is scheduled for improvements and maintenance by the Rice Creek Watershed District (RCWD). The survey area associated with this proposed Project is shown as attached in **Figure 1**.

The ACD 53-62 improvements and maintenance project (Project) is located in T31N R23W Sections 15, 22, 23, 26, 27, & 28; in the RCWD, City of Blaine, Anoka County, Minnesota. The Project is generally located to the west of Interstate 35 and south of 109th Avenue NE (County Hwy 12). The project location and associated survey boundaries are shown in **Figure 1**. Botanical surveys will be completed within a defined survey area as provided by the Client. The survey area includes portions of the alignment of Branch 5 and Branch 6 of ACD 53-62 as well as a buffer of 50 feet on either side of the ditch centerline. CCES will begin presence/absence surveys beginning on Monday, July 1, 2024.

CCES reviewed correspondence from the MNDNR to the Client dated April 26, 2024 (Project ID: MCE-2024-00235). The letter summarized the results of a Natural Heritage Information System (NHIS) review completed by the MNDNR for the Project area. Results of the NHIS query indicated that "a dozen unique state-listed endangered and threatened plant species have been documented in the vicinity of the proposed project. Minnesota's Endangered Species Statute (Minnesota Statutes, section 84.0895) and associated Rules

(Minnesota Rules, part 6212.1800 to 6212.2300 and 6134) prohibit the take of endangered or threatened plants or animals, including their parts or seeds, without a permit. To demonstrate avoidance, a qualified surveyor will need to determine if suitable habitat exists within the activity impact area and, if so, conduct a survey prior to any project activities.

CCES then completed an additional query of the NHIS database (LA 2023-032) to generate a list of specific species known to occur within 1-mile of the survey boundary. These species and their associated habitats will serve as the focus and target of field surveys. Rare vascular plant species known to occur (NHIS) within a one mile radius of the survey boundary are listed below in **Table 1**.

Table 1: NHIS Query Results - Species List

Scientific Name	Common Name	Status	Optimal Survey Period
Aristida longespica	Slimspike three-awn	Endangered	August to September
Fimbristylis autumnalis	Autumn fimbry	Special Concern	July to September
Juncus marginatus	Marginated rush	Endangered	August to September
Orobanche uniflora	One-flowered broomrape	Threatened	May to June
Platanthera flava	Tubercled rein orchid	Threatened	June to August
Polygala cruciata	Cross-leaved milkwort	Endangered	July to August
Rubus fulleri	Fuller's bristle-berry	Threatened	July to August
Rubus missouricus	Missouri bristle-berry	Endangered	July to August
Rubus stipulatus	A bristle-berry	Endangered	July to August
Sceptridium rugulosum	St. Lawrence grapefern	Special Concern	Spring to Fall
Trichophorum clintonii	Clinton's bulrush	Threatened	May to June
Viola lanceolata	Lance-leaf violet	Threatened	Spring to Fall
Xyris torta	Twisted yellow-eyed grass	Endangered	July to August

Due to the presence of multiple state listed species as well as written correspondence and guidance from the MNDNR, a qualified surveyor must complete a habitat assessment and botanical survey within the survey boundary. Rare vascular plant species to be surveyed for include those listed above in **Table 1** as well as additional species as shown below in **Table 2** which are known to occur in similar habitats in the Anoka Sand Plain.

Prior to the start of botanical survey work, CCES is required to submit a rare species survey proposal to the MNDNR for review and approval. To meet this requirement, CCES has prepared the following information:

Proposed Survey Methods:

CCES plant ecologists will conduct field surveys within the defined survey area (see **Figure 1**) to detect any Minnesota special concern, threatened, or endangered vascular plant species occurring within the survey area that could be affected by the planned Project.

In addition to the species to be surveyed for as indicated by NHIS review, CCES will also assess all habitat within the survey area and document any locations of habitat that could be associated with additional rare species that are known to occur in the Anoka Sand Plain in similar habitats as those occurring within the survey boundary.

Target Plant Species:

CCES will complete surveys for the target plant species listed above in **Table 1.**

In addition, CCES will also conduct surveys for additional species, which have been detected in similar habitats within the vicinity of the project in the Anoka Sand Plain. These species are listed below in **Table 2**. Species in **Table 2** are listed as Endangered, Threatened, Special Concern, or Watchlist.

Table 2: Additional Target Plant Species To Be Included in Survey

Scientific Name	Common Name	Status	Optimal Survey Period
Botrychium simplex	Least moonwort	Special Concern	May to June
Decodon verticillatus	Waterwillow	Special Concern	June to July
Gaylussacia baccata	Black huckleberry	Threatened	August to September
Potamogeton bicupulatus	Snailseed pondweed	Endangered	July to August
Rotala ramosior	Toothcup	Threatened	August to September
Rubus multifer	Kinnickinnick dewberry	Special Concern	July to August
Rubus vermontanus	Vermont blackberry	Special Concern	July to August
Rubus wheeleri	Wheeler's blackberry	Watchlist	July to August
Sceptridium oneidense	Blunt-lobed grapefern	Threatened	May to October

The vascular plant species listed above in **Table 1** and **Table 2** as well as their associated habitats will be the focus of the upcoming initial survey effort. Should habitat with the potential to support additional rare vascular plant species not included in the tables above be detected, CCES will make note of such detections in the final report and make recommendations to the Client regarding future survey needs.

Desktop and Existing Data Review:

Prior to the start of any field work, CCES will review existing desktop based and written information related to the project site and/or the specific vascular plant species and habitats for which we will be surveying. CCES will review habitat requirements for each of the above listed species (**Table 1** and **Table 2**) using the MNDNR's Rare Species Guide as well as other pertinent reference material (i.e. Smith 2008, Trees and Shrubs of Minnesota, Statement of Need and Reasonableness (2012)).

If necessary, CCES will visit the University of Minnesota Herbarium prior to conducting any field work to review collections of preserved specimens of the species listed in **Table 1** and **Table 2** to ensure a thorough understanding of identifying field characters.

CCES will also review existing desktop-based habitat information (i.e. Color and infra-red aerial photographs, land cover, LiDAR, Soils, Wetlands/NWI, NHIS (LA 1034)) to help refine and focus our field search area.

Field Survey Methods:

CCES ecologists will conduct surveys for the presence/absence of the vascular plant species listed above (Table 1 and Table 2) as well as their associated habitat between July 1 and August 30, 2024. The optimal survey period for most of the plant species listed does include this planned survey time frame and CCES has experience detecting each of the above listed species during this time period. Should habitat be encountered for any rare vascular plant species that cannot be readily identified or detected during the proposed survey period, CCES will note habitat detections and make a recommendation in the survey report that additional field survey work be considered by the Client.

Field survey work will be lead and completed by CCES lead/principal ecologist, Jason Husveth (MNDNR Approved Surveyor for Endangered and Threatened Vascular Plant Species). Jason may be assisted in the field by additional CCES field staff.

Plant survey work will be conducted using a random meander survey protocol. This type of survey allows for coverage of all plant community types within the survey boundary. When suitable habitat for any of the above listed species is encountered in the field (**Table 1** and **Table 2**), a more focused and intensive survey will be completed in the area. An informed meander survey of suitable habitats will be used to detect suitable micro-habitats and plant associations known to support the individual target rare plant species. Biotic and abiotic information will be used to successfully detect and locate target rare species.

Documentation of Rare Vascular Plant Species:

Should state-listed vascular plant species be detected by CCES ecologists in the field, CCES will flag and record a GPS point location(s) of individual rare vascular plant(s) or populations. If detections are large and contain multiple individuals, CCES will flag the perimeter of the detection and count the number of individual plants contained within the area. CCES will then GPS the boundary of the detection.
Along with location information, CCES will also collect detailed field data associated with each detection and summarize findings using a standard data collection sheet. Data sheets will include a description of each detection, a description of the associated habitat, a list of associated species, and the number of individuals/or stems observed.

CCES will collect one voucher specimen of each rare vascular plant species encountered within the Project boundary under Jason Husveth's Special Collector's Permit (permit renewal pending approval

with Bridget Henning-Randa, renewal application submitted June 18, 2024). The specimen(s) will be prepared and submitted to the MNDNR following standard procedures. Along with each specimen, one archival specimen label will be provided which shall include specific specimen information such as location, collectors/surveyors, habitat, and associated species.

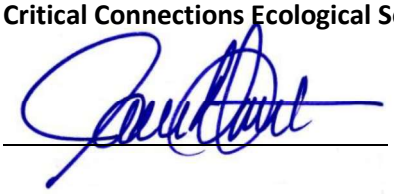
Deliverables to the MNDNR:

CCES will prepare a final survey report that will include an introduction, background, methods, and results section to summarize the survey effort. The final survey report will be issued to the MNDNR at the completion of the survey. In addition to the final survey report, as permitted by MNDNR, CCES will provide voucher specimens with archival labels to Welby Smith, MNDNR State Botanist, at the time of the issuance of the final survey report. If collections are not permitted or possible, diagnostic digital macrophotography will be submitted in place of voucher specimens. Lastly, CCES will provide a completed rare species GIS point and/or polygon shape file and attribute database to Lisa Joyal (MNDNR Endangered Species Environmental Review Coordinator) and Derek Anderson (Botanist/Plant Ecologist) upon completion of the surveys and issuance of the final survey report.

Thank you for your review of our rare species survey proposal (provided by CCES on behalf of Houston Engineering, Inc. for a planned project located in T31N R23W Sections 15, 22, 23, 26, 27, & 28; in the City of Blaine, Anoka County, Minnesota. Please review the proposed survey methods and contact us if you have any questions or suggestions to improve upon our suggested survey methodology. CCES plans to begin survey work as soon as possible in July 2024.

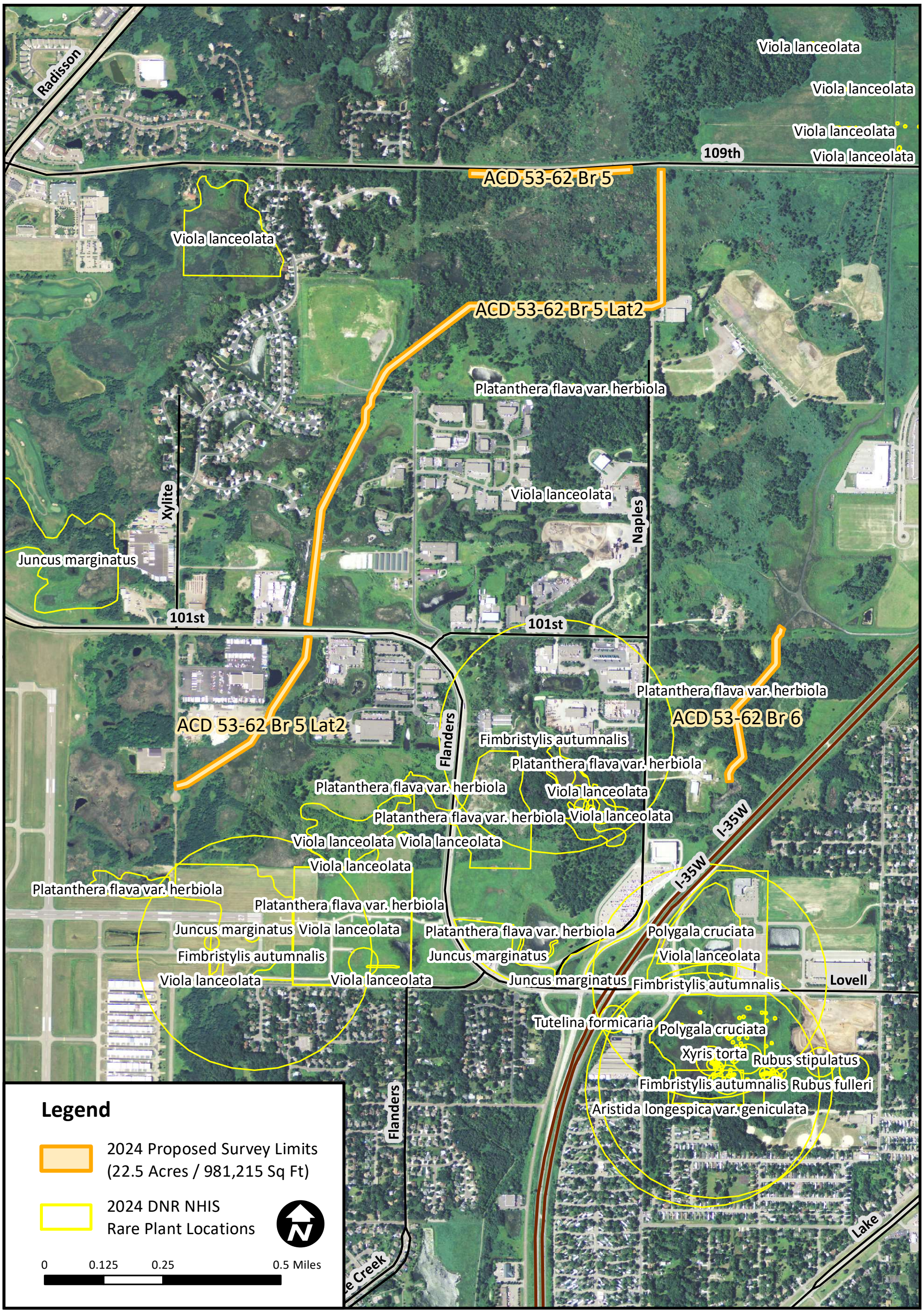
Respectfully submitted,

Critical Connections Ecological Services, Inc.



Jason J. Husveth, MS
Principal Ecologist
651-247-0474
jhusveth@ccesinc.com

cc: Chris Otterness, PE, Senior Civil Engineer, Houston Engineering, Inc.



June 26, 2024

Initial Rare Plant Surveys and Potential Habitat Assessment
Anoka County Ditch 53-62, Branch 5 and 6
2024 Proposed Survey Area and NHIS Rare Species Detections
Rice Creek Watershed District, Blaine, Anoka County, MN

Critical Connections
Ecological Services, Inc.

Figure 1

ITEMS REQUIRING BOARD ACTION

3. Arden Hills Cost-Share Request, Karth Lake Outlet Pump (Matt Kocian)

MEMORANDUM
Rice Creek Watershed District

Date: September 3, 2025
To: RCWD Board of Managers
From: Matt Kocian, Lake and Stream Manager
Subject: Arden Hills cost-share request, Karth Lake outlet pump

Introduction

Seeking Board response to Arden Hills cost-share request for Karth Lake pumping

Background

Karth Lake is located in Arden Hills, near the intersection of Hwy 96 and Lexington Ave. The lake is approximately 20 acres with a maximum depth of 14 ft. Except for a city park on the southwest corner, the lake is surrounded by homes – about 42. Karth Lake has no natural outlet. To prevent flooding, the City of Arden Hills periodically pumps water from Karth Lake to a storm sewer system that runs south and west to Valentine Lake. The pump is manually deployed and operated (Figure 1). The current pumping plan allows for water level bounce on Karth Lake of up to 2 feet; large precipitation events or drought can create even higher bounce, up to 4 feet.

Figure 1. *The current Karth Lake overflow pump, manually deployed and operated*

The Karth Lake Improvement District (KLID) contacted the RCWD in 2023, seeking guidance on water level management. Residents are concerned about shoreline erosion caused by lake level bounce. Shoreline erosion is a common problem, and several residents have already received cost-share dollars from the RCWD for stabilization projects. The RCWD offered to assist the KLID and the City by using our District-Wide Model (DWM). Using the DWM, Houston Engineering produced a basic lake level model for Karth Lake, capable of predicting lake levels based on various new pumping scenarios. The results of

this work suggested that a new, automated pump system could more effectively manage lake levels, reducing lake level bounce.

The City of Arden Hills is currently planning new investments in street and utility infrastructure in the area around Karth Lake. As part of this effort, and responding to concerns from residents, the City is proposing to install a new outlet pump system for Karth Lake. The City considered multiple alternatives for a new system, ultimately selecting the 'middle' option, seeing this as achieving the desired outcome while keeping costs down. The new system would create a manhole structure for semi-permanent pump installation, with automated on/off pump controls based on real-time lake levels. The proposed system would reduce lake level bounce to approximately 6 inches. The City is requesting cost-share dollars from the RCWD for this project (see Attachment).

The proposed project is consistent with the priorities in the RCWD's Watershed Management Plan, including flood prevention, erosion control, and water quality protection. The proposed project does not fit into the RCWD's Stormwater Management Grant Program; cost-share would be a direct allocation from the RCWD to the City. The RCWD has funded lake outlet and lake level management projects in the past, including on Lake Johanna and Priebe Lake.

Staff Recommendation

Staff recommend working with the City of Arden Hills to partially fund a new Karth Lake outlet pump. The purpose of the new pump system is consistent with the RCWD's Watershed Management Plan. This cost was anticipated by RCWD staff; the draft 2026 RCWD budget includes funds for this effort.

Proposed Motion

Manager _____ moves to authorize the Administrator, on advice from counsel, to develop and execute a cost-share agreement with the City of Arden Hills for the Karth Lake Pump System, not to exceed $56,000

Attachment

- City of Arden Hills letter, dated 8/27/2025, re: Karth Lake Pump System

MEMORANDUM

Date: 8/27/2025

To: Rice Creek Watershed District Board of Managers

From: David Swearingen, P.E.
Arden Hills Public Works Director / City Engineer

Subject: Funding Request
Karth Lake Pump System
2026 PMP Street & Utility Improvements

Dear Board Members,

The City of Arden Hills is pursuing improvements to its pump system used to manage Karth Lake's water level as part of the 2026 PMP Street & Utility Improvements project. Karth Lake is a natural occurring lake and Public Water as identified by the Minnesota Department of Natural Resources (MnDNR) on their Public Waters Inventory (PWI). This lake does not have an outlet for emergency overflow scenarios, which would result in flooding of the surrounding areas. The 100-year floodplain elevation is 938.19 (NAVD 88). As a result, the City installed and operates a manually deployed pump and forcemain system to manage the lake level. The pumped outlet consists of a pump system with a sump pump mounted on a floating raft that pumps through a 6-inch forcemain to the southwest where it outlets in the city storm sewer system at the north side of the Cummings Park Drive cul-de-sac. This system was installed in the early 2000's and is permitted through the MnDNR to maintain lake levels between an elevation of 934.0 and 936.0.

The Karth Lake Improvement District (KLID), consisting of Karth Lake's lakefront property owners, requested a revision to the pumping operations to limit the water level of the lake to a 6-inch bounce level. This would limit water surface fluctuations of Karth Lake between the elevations of 935.0 to 935.5 (as opposed to the current 2-foot bounce level). This improvement would help to reduce the shoreline erosion effect and promote vegetative growth, stabilizing the shoreline while maintaining the flood mitigation benefits of the system. The complaints with the existing conditions of the system were evaluated and subsequently incorporated into the nearby street and utility project for further evaluation.

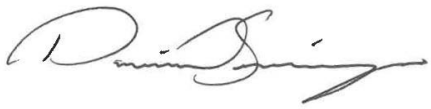
A feasibility study was conducted for the project, including the proposed Karth Lake pump improvements. Three options were investigated for the pump improvements and the middle-of-the-line option was selected to incorporate into the final design of the project as the most cost-effective option to monitor the water level and incorporate automation. This option includes the installation of a 48-inch diameter concrete manhole structure located on shore to place the existing pump in. An 18-inch RCP skimmer pipe below the normal lake level will be installed to connect the water to the new structure with the pump. The submerged pipe will help to mitigate the influence of waves and wind on the water logging device. The installation of the structure and pipe directly connected to the lake requires the use of a water barrier, such as sheet piling. The existing pump was recently replaced and is in good condition, which is why it is proposed to be reused. As part of these improvements, a

water monitoring logger and creation of automated on/off water level triggers are proposed to be incorporated. The existing pump is proposed to be deployed from spring to fall and will operate automatically to maintain desired water levels. An OTT PLS 500 Pressure Level Sensor paired with a Sutron SatLink3 (or similar) is recommended to be used for this project. The sensor will be installed in the manhole structure, and the SatLink3 will log and transmit the data.

Total preliminary project costs are identified to be around $112,000. In accordance with similar project agreements, the City of Arden Hills is requesting that a 50% cost share with the Rice Creek Watershed District for the improvements to the Karth Lake pump system, not to exceed $56,000.

Sincerely,

CITY OF ARDEN HILLS



David Swearingen, P.E.
Public Works Director/City Engineer

ITEMS REQUIRING BOARD ACTION

4. HEI Task Order 2025-016: Anoka Ramsey Judicial Ditch 1 Repair Report (Tom Schmidt)

MEMORANDUM
Rice Creek Watershed District

Date: September 2, 2025
To: RCWD Board of Managers
From: Tom Schmidt, Drainage & Facilities Manager
Subject: Anoka Ramsey Judicial Ditch #1 Task Order

Introduction

The Board is being asked to approve a task order for Houston Engineering (HEI) to develop a repair report for Anoka Ramsey Judicial Ditch #1 (ARJD#1).

Background

The Board has generally undertaken one Public Drainage System repair per year. The next system in the queue is ARJD#1. This drainage system serves portions of Mounds View, the southeast sections of Blaine, and portions of the City of Lexington. The repair report will provide the Board with an analysis of the current condition, as well as recommendations on repair alternatives. The Board corrected the drainage system record of ARJD #1 on August 13, 2014, via the adoption of resolution 2014-23, establishing the functional alignment and grade of the drainage system, which is the equivalent of the As Constructed Subsequently Improved Condition (ACSIC), which represents the extent to which RCWD in its role as the Drainage Authority can legally repair/maintain the drainage system.

Proposed Motion

Manager _____ moves to approve Task Order 2025 -016, ARJD 1 Repair Report, not to exceed $102,000
Seconded by Manager _____.

Attachment

Task Order 2025 -016, ARJD #1 Repair Report

SCOPE OF SERVICES

Task Order 2025-016
Rice Creek Watershed District

ARJD 1 Repair Report

RCWD Administrative Information:

Account Number: 80-03
Account Name: Repair Reports

Houston Engineering Project No.: R005555-0371

Task Order Purpose:

The purpose of this Task Order is to complete a repair report for the Anoka / Ramsey Judicial Ditch (ARJD) 1 public drainage system including the Main Trunk and Branches 1, 2, 3, and 5 and associated Laterals. Branch 4 repair has been more recently completed and is not included within this task order. In 2014, the Rice Creek Watershed District (RCWD) completed a historical review of ARJD 1 which included the determination of the As-Constructed and Subsequently Improved Condition (ACSIC) and culminated with a consolidation of the public drainage system record per Minnesota Statute 103E. The historic review noted that much of the public drainage system is in need of repair and recommended the completion of a repair report on the system. Based on input from District and HEI staff, the RCWD Board of Managers has prioritized repairs to ARJD 1 for completion in 2027/2028. The purpose of the repair report will be to detail the repair methods, outline regulatory requirements, and provide an opinion of probable construction costs for a repair to the ACSIC grade and cross-section.

Professional Services Rendered:

HEI intends to provide the following professional services during the completion of this Task Order:

- Complete a drone survey of ARJD1. The video from this flight will be utilized for multiple purposes including identifying construction considerations, supporting regulatory correspondence, and engaging the public;
- Complete field survey of the existing channel bottom profile and culvert data along the repair corridor;
- Evaluate repair components including:
    - Ditch repair to the ACSIC grade, or functional grade throughout the open channel portions of the ARJD 1 system;
    - Alternative realignments of storm sewer portions of Branch 2 to avoid conflicts with existing buildings;

- Investigation of historical purpose / relevance of the existing weir structures along the Main Trunk; and,
- A modified repair in select locations to reduce impacts to adjacent infrastructure;

- Complete a determination of effectiveness of each repair component in restoring drainage function and the potential for impacts to wetlands;
- Prepare a report summarizing the benefits, costs, and regulatory requirements and recommending a repair; and
- Complete presentations at meetings leading to a consideration for the order of the repair.

Deliverables:

The deliverables for the Task Order consist of:

- Drone survey video and stills;
- Draft and final repair report including plan and profile drawings; and
- Presentation at a Board Workshop, Public Information Meeting, and Public Hearing.

Schedule and Compensation:

The repair report will be completed by June 1, 2026. We anticipate that public meetings and public hearings will be completed by September 1, 2026. HEI recommends that the RCWD budget the amount of **$102,000** for engineering services described within this task order (see **Attachment A**). HEI shall not exceed this amount for the completion of this work without prior authorization from the Rice Creek Watershed District.

Assumptions:

The estimated compensation for the execution of the tasks identified within the "Professional Services Rendered" section of this Task Order is based upon the following assumptions:

1. There will be no need for additional survey data.
2. It is recommended that the RCWD complete televising, independent of this task order, for portions of the system that cannot be easily accessed through drone or traditional survey. Such as the portion of Branch 2 underneath the commercial building. Televising will help inform the District whether or not to pursue repairs in those select areas at this time or not. Time for coordination of televising is not included in this scope.
3. No simulation using the District Wide Model will be required. However, culvert sizes will be checked against the typical design standards using results from the District Wide Model.

4. Scope includes approximately 5.5 miles of open ditch and 0.5 miles of storm sewer/tile along ARJD1, Branches 1, 2, 3, and 5, and associated Laterals.
5. No work in public waters is anticipated along ARJD 1, and thus DNR engagement is not required. However an early coordination meeting with DNR is intended to clarify the work being performed.
6. A field wetland delineation will not be required, but a desktop review will be completed to consider design implications. As such, a wetland delineation site meeting with TEP/LGU will not be required.
7. Six meetings will be required: one on-site site visit with the commercial landowner along branch 2; an early coordination meeting with DNR; one meeting with the City of Moundsview; one Board workshop; one public informational meeting; and one public hearing on the repair.
8. Preparation of a no-loss application under the Wetland Conservation Act (WCA) will be required for the repair. This work is outside the scope of this task order and will be completed in conjunction with final plan preparation under a separate task order. However, the repair report will describe and evaluate considerations related to regulatory requirements for proposed repairs, including WCA, public waters, and state-listed threatened and endangered species.

SIGNATURES:

The services described in this Task Order are being provided in accordance with the Professional Services Agreement between the Rice Creek Watershed District and Houston Engineering dated May 14, 2008, as amended and extended. This **Task Order** shall be effective **August 1, 2025** as authorized by the signatures of representatives of the Rice Creek Watershed District and Houston Engineering, Inc.

Rice Creek Watershed District	**Houston Engineering, Inc.**
By: _____	By: _____
Name: Michael Bradley	Name: Christopher C. Otterness
Title: President	Title: District Engineer
Date: _____	Date: August 15, 2025

Attachment A
ESTIMATED BUDGET
ARJD1 Repair Report

Date Prepared: August 15, 2025
Prepared by: A. Nies
Check by: C. Otterness

Total Estimated Labor	**$99,688**
Total Estimated Expenses	**$2,320**
Total Estimated Budget	**$102,008**

TASK DESCRIPTION	Engineer 11	Engineer 9	Engineer 4	Scientist 3	Scientist 7	GIS Analyst 3	CAD Technician 7	General Civil	Two-Person Crew	Total Hours	Total Dollars
	CO	AN	BR	CT	MA	KB	AD	AZ	JM		
Total Labor Ho	49	123	189	30	0	18	92	36	40	577	
Total Labor Do	$10,976	$25,215	$29,295	$4,650	$0	$2,268	$14,352	$4,572	$8,360	$99,688	
Project Totals	49	123	189	30	0	18	92	36	40	577	$99,688
Task 1 - Document Existing Conditions	0	6	8	0	0	1	12	32	40	99	$16,892
Field Survey	0	5	6	0	0	1	6	16	40	74	$13,409
Coordinate survey / process points		1	4			1	6	4			
Field survey									40		
Gopher 1 utility - call and field visit. Specific to Branch 2 under building		4						4			
Update existing CAD plans with new survey			2					8			
Aerial Flight of Ditch	0	1	2	0	0	0	6	16	0	25	$3,483
Planning / coordination		1	2					6			
Aerial Flight and observer time							6	6			
Process UAS data								4			
Task 2 - Repair Components Evaluation	8	23	96	0	0	0	0	0	0	127	$21,387
Practical Considerations	8	23	96	0	0	0	0	0	0	127	$21,387
Determine functional components	4	8	8								
Culvert sizing analysis (Basic)		4	40								
Weir Structure Historical Investigation and Conceptualization	1	4	20								
P8 modeling for stormwater pond along main trunk for potential weir removals		1	8								
Storm Sewer Reroute	2	4	12								
Ditch Realignments	1	2	8								
Task 3 - Regulatory Considerations	4	7	13	28	0	5	0	0	0	57	$9,316
Wetland Delineation	0	1	1	12	0	1	0	0	0	15	$2,346
Desktop Review & Reporting & Coordination		1	1	12		1					
Regulatory Evalutation	4	6	12	16	0	4	0	0	0	42	$6,970
Early coordination meeting with DNR	2	4	2								
Review NHIS			2	4							
Qualitatively address WCA potential for drainage impacts in report	2	2	8	12		4					
Task 4 - Plans Cost Estimate and Repair Memorandum	11	29	68	0	0	12	80	4	0	204	$33,449
Repair plans	1	4	12	0	0	0	80	4	0	101	$15,892
CAD plans of the proposed repair							80				
QA/QC plans	1	4	12					4			
Prepare Preliminary Opinions of Probable Cost / Benefits Analysis	2	5	20	0	0	0	0	0	0	27	$4,573
Determine construction quantities from functional design	1	4	12								
Obtain unit cost and complete POPCC	1	1	8								
Reporting	8	20	36	0	0	12	0	0	0	76	$12,984
Draft	2	12	24			8					
QA/QC	4	4									
Final	2	4	12			4					
Task 5 -Meetings, Hearings, and Project Coordination	26	58	4	2	0	0	0	0	0	90	$18,644
Project Coordination	23	34	4	2	0	0	0	0	0	63	$13,052

Continued

TASK DESCRIPTION	Engineer 11	Engineer 9	Engineer 4	Scientist 3	Scientist 7	GIS Analyst 3	CAD Technician 7	General Civil	Two-Person Crew	Total	
										Hours	Dollars
Meetings/correspondence with District staff	8	8		2							
Meeting with the City of Moundsview and prep	1	2									
Meeting with Commercial Landowner for Branch 2 Realignment and prep/tra	2	4									
Site walk for other critical design components	4	4									
Internal meetings/coordination/mangagement	8	16	4								
Presentation to Board of Managers - Workshop	1	8	0	0	0	0	0	0	0	9	$1,864
Prepare powerpoint presentation	1	4									
Present to Board		4									
Public Information Meeting	1	8	0	0	0	0	0	0	0	9	$1,864
Prepare powerpoint presentation	1	4									
Present at Public Info Meeting		4									
Public Hearing	1	8	0	0	0	0	0	0	0	9	$1,864
Prepare powerpoint presentation	1	4									
Present at Public Heaering		4									

ITEMS REQUIRING BOARD ACTION

5. HEI Task Order 2025-006: Anoka County Ditch 53-62 Branches 5 & 6 Final Design Bidding and Construction Management (Tom Schmidt)

MEMORANDUM
Rice Creek Watershed District

Date: September 3, 2025
To: RCWD Board of Managers
From: Tom Schmidt, Drainage & Facilities Manager
Subject: Anoka County Ditch 53-62 Branches 5 & 6 Final Design, Bidding, and Construction Management Task Order

Introduction

The Board is being asked to approve a Houston Engineering (HEI) task order for final design, bidding, and construction management of the Anoka County Ditch #53-62 (ACD #53-62), Branches 5 & 6 repair project.

Background

On August 13, 2025, the Board held a public hearing on the repair of ACD #53-62, branches 5 & 6, which was continued until September 10, 2025. The Board will consider ordering the project at its September 10th meeting. When the Board orders the project, given the project's work time frames related to Threatened and Endangered (T&E) species concerns, the District may maintain a workable schedule by subsequently considering the next task order.

Suggested motion

Manager _____ moves to approve Task Order 2025-006, ACD #53-62 Branches 5 & 6 Final Design Bidding and Construction Management, not to exceed $125,500
Seconded by Manager _____.

Attachments

HEI Task Order 2025 -006, ACD #53-62 Branches 5 & 6 Final Design Bidding and Construction Management.

SCOPE OF SERVICES

Task Order No. 2025-006
Rice Creek Watershed District

ACD 53-62 Branches 5 & 6 Final Design Bidding and Construction Management

RCWD Administrative Information:

Account No.: 80-24 and 80-25

Account Name: ACD 53-62 WMD and ACD 53-62 Repair

Houston Engineering Project No.: R005555-0365

Task Order Purpose:

The purpose of the task order is to complete final design, prepare construction plans, prepare bid documents and complete bidding on behalf of the RCWD for the Anoka County Ditch 53-62 Branches 5 and 6 Repair. This includes public outreach, regulatory coordination, and construction management.

Professional Services Rendered:

HEI intends to provide the following professional services during the completion of this Task Order:

1. Complete final construction plans and specifications package of the repair.
2. Preparation and incorporation of a Stormwater Pollution Prevention Plan (SWPPP) into the construction documents. HEI can assist the contractor with application of the construction general permit, if necessary.
3. Administer the bid letting process through Quest CDN online bidding portal including; preparing the bid documents and advertisement; leading the bid opening (virtual); reviewing the bids received for responsive/ responsible contractors; and preparation of a memorandum recommending award.
4. Provide one round of construction staking of the work limits for channel depth of cut, culvert inverts, and similar items.
5. Complete construction management activities including pre-construction meeting; processing field and change orders; recommending partial payments; and summarizing construction progress to the District staff and Board.
6. Provide full-time construction observation for the project, assuming a construction schedule of 40 working days, and up to 320 hours of construction observation. The amount of time necessary for inspection may vary based on Contractor performance.
7. Create record drawings based on as built survey, field/change orders, and construction observation notes.

Deliverables:

The deliverables for the Task Order consist of the following:

- Meetings including: virtual staff meetings with RCWD; a pre-construction meeting; 8 weekly construction meetings; a project closeout presentation at a Board of Managers meeting.
- Various contract documents including Change and Field Orders, Payment Certification, and Project Acceptance.
- Record Drawings.

Schedule and Compensation:

HEI recommends a budget in the amount of **$125,500** for engineering services described within this task order. HEI shall not exceed this amount for the completion of this work without prior authorization.

Assumptions:

The estimated compensation for the execution of the tasks identified within the "Professional Services Rendered" section of this Task Order is based upon the following assumptions:

1. There will not be a pre-bid meeting.
2. Construction stakes will be set once. Contractor is responsible for replacement of staking.
3. Construction observation activities will be completed in 8 weeks.
4. Contractor practices that result in additional regulatory coordination are out of scope.
5. Minimal coordination with the MnDNR will be required regarding work in public waters; Notification only.
6. A No-Loss application will satisfy the WCA requirements.
7. A landowner public meeting and individual landowner site visits will not be required.

SIGNATURES:

The services described by this Task Order are being provided in accordance with the Professional Services Agreement between the Rice Creek Watershed District and Houston Engineering dated May 14, 2008, as amended and extended. This **Task Order** shall be effective **June 24, 2025** as authorized by the signatures of representatives of the Rice Creek Watershed District and Houston Engineering, Inc.

Rice Creek Watershed District

By: _____

Name: Nick Tomczik

Title: Administrator

Date: _____

Houston Engineering, Inc.

By: _____

Name: Chris Otterness

Title: District Engineer

Date: June 24, 2025

Attachment A
ESTIMATED BUDGET
ACD 53-62 Branches 5 and 6 Final Design, Bidding, Construction Management

Houston Engineering Inc.

Date Prepared: March 14, 2025
Date Revised:
Prepared by: A. Nies
Checked by: C. Otterness

Total Estimated Labor	**$124,550**
Total Estimated Expenses	**$968**
Total Estimated Budget	**$125,518**

TASK DESCRIPTION	Engineer 11	Engineer 9	Engineer 4	Two-Person Field Crew/ Land Surveyor	Engineer 2	Scientist 3	Technician 7	Total Hours	Total Dollars
	CO	AN	BR	JM	MB	CT	AD		
Total Labor Hours ===>	20	92	236	60	361	10	0	779	
Total Labor Dollars ===>	$4,480	$18,860	$36,580	$12,540	$50,540	$1,550	$0	$124,550	
ACD 53-62 Branches 5 and 6 Final Design, Bidding, Construction Management	20	92	236	60	361	10	0	175	$124,550
Task 1 - Final Design, Project Manual, Bidding	**10**	**40**	**98**	**0**	**0**	**0**	**0**	**148**	**$25,630**
Final Plans	**3**	**12**	**42**	**0**	**0**	**0**	**0**	**57**	**$9,642**
Finalize Construction Plans	2	8	30						
Develop SWPPP		1	4						
Detail Sheets		2	8						
Review meeting with District Staff (1 virtual)	1	1							
Bidding	**2**	**14**	**12**	**0**	**0**	**0**	**0**	**28**	**$5,178**
Advertisement for Bids (Quest)		4	4						
Bidder Questions / Addendums	1	4							
Bid Opening meeting (virtual - Quest)		1							
Bids Review and call references		1	4						
Bid tabulation and contractor selection memorandum	1	4	4						
Project Manual and Bid Documents	**5**	**14**	**44**	**0**	**0**	**0**	**0**	**63**	**$10,810**
Finalize POPCC	1	2	4						
Specifications Package	4	12	40						
Task 2 - Agency Engagement	**6**	**8**	**2**	**0**	**1**	**10**	**0**	**27**	**$4,984**
Permitting and Regulatory	**6**	**8**	**2**	**0**	**1**	**10**	**0**	27	$4,984
Regulatory coordination with District staff	2	2				2			
Prepare final WCA No-Loss Application	2	2			1	8			
DNR - Work in Public Waters Coordination (Notification Only)	2	4	2						
Task 3 - Construction Management	**4**	**44**	**136**	**60**	**360**	**0**	**0**	**604**	**$93,936**
Staking and Inspection	**0**	**5**	**32**	**60**	**360**	**0**	**0**	457	$68,925
Staking		1	4	40					
Construction Observation (8 weeks full time)					320				
As-built Survey		1	4	20					
Record Drawings		1	8						
Daily Reporting		2	16		40				
Construction Managment	**4**	**39**	**104**	**0**	**0**	**0**	**0**	147	$25,011
Contract Documents (includes up to 2 change orders)	2	8	20						
Pre-construction meeting (Engineer and Inspector)		4	4						
Processing Pay Requests (assume 3 requests, include progress report)		2	12						
Weekly construction meetings (8)			24						
Coordination with RCWD during construction	1	8	8						
Coordination with City and landowners during construction		1	4						
PM time for coordination with RPR		4	20						
Punch-list walkthrough	1	8	8						
Board Project Closeout Presentation & Meeting		4	4						

ITEMS REQUIRING BOARD ACTION

6. Check Register Dated September 10, 2025, in the Amount of $94,694.90 Prepared by Redpath and Company

Rice Creek Watershed District
Check Register
August 28, 2025 - September 10, 2025
To Be Approved at the September 10, 2025 Board Meeting

Check #	Date	Payee	Description	Amount
26600	09/10/25	City of Mounds View	Professional Services	$200.00
26601	09/10/25	ECM Publishers, Inc.	Legal Notices	133.00
26602	09/10/25	Leah Ngo	Construction -Mini Grant	500.00
26603	09/10/25	ODP Business Solutions, LLC	Office Supplies	169.55
26604	09/10/25	Press Publications	Legal Notices	236.92
26605	09/10/25	Print Central	Printing	1,228.58
26606	09/10/25	Ramsey County	Contracted Services	8,797.60
26607	09/10/25	St. Paul Pioneer Press	Legal Notices	527.40
26608	09/10/25	Timesaver Off Site Secretarial	Professional Services	513.75
26609	09/10/25	WCHO Services, LLC	Contracted Services	9,750.00
11481	09/10/25	Connexus Energy	Surety Release - #22-114	1,000.00
11482	09/10/25	J Johnson Development LLC	Surety Release - #14-018A01	5,000.00
Payroll	09/15/25	September 15th Payroll (estimate)	September 15th Payroll (estimate)	39,061.80
EFT	09/08/25	US Bank Equipment Finance	Equipment Lease	669.32
EFT	09/10/25	Comcast	Telecommuncations	334.89
EFT	09/10/25	Wex Bank	Vehicle Fuel	555.39
EFT	09/10/25	Xcel Energy	Telecommuncations	61.05
EFT	09/10/25	Xcel Energy	Telecommuncations	14.29
EFT	09/15/25	Internal Revenue Service	9/15 Federal Withholding (estimate)	13,706.97
EFT	09/15/25	Minnesota Revenue	9/15 State Withholding (estimate)	2,439.00
EFT	09/15/25	Empower Retirement	9/15 Deferred Compensation	860.00
EFT	09/15/25	Empower Retirement	9/15 Roth IRA	390.00
EFT	09/15/25	Health Equity	9/15 HSA	453.83
EFT	09/15/25	PERA	9/15 PERA (estimate)	8,091.56
Total				**$94,694.90**

ITEMS FOR DISCUSSION AND INFORMATION

1. District Engineer Updates and Timeline

District Engineer - Monthly Project Report August 2025
Rice Creek Watershed District

Date Prepared: 3-Sep-25
Prepared by: C. Grandbois

Project Name	Task Order Manager	Estimated Budget	Cost to Date	Remaining Budget	Project Complete / Transfer Funds?	Estimated Progress Based on Work Completed	Percentage of Budget Utilized	Within Budget? (Y/N)	District Billed for Exceedence of Budget? (Y/N)	Initial Target Completion Date	Items of Interest / Concern
GIS and Ditch Records Maintenance; DrainageDB Annual Subscription	Brian Fischer	$16,000	$13,285	$2,715	N	66.7%	83.0%	Y	N/A	31-Dec-25	Drainage records are being added to DrainageDB on a quarterly basis.
MS4Front Annual Subscription and Implementation Services	Brian Fischer	$16,000	$7,029	$8,971	N	66.7%	43.9%	Y	N/A	31-Dec-25	We continue to make updates on an as-requested basis.
East Moore Lake Stormwater Resilience and Water Quality Analysis	Adam Nies	$77,000	$924	$76,077	N	1.0%	1.2%	Y	N/A	1-Feb-26	A kick-off meeting was held with the City of Fridley
Old Central Aventue Feasibility Study	Greg Bowles	$26,000	$2,040	$23,961	N	5.0%	7.8%	Y	N/A	30-Sep-25	HEI and District staff have completed an on-site meeting and are beginning to conceptualize options.
JD 3 Clearwater Creek Final Plans	Adam Nies	$110,000	$1,062	$108,938	N	1.0%	1.0%	Y	N/A	30-Jun-26	HEI held a kickoff meeting with the City of Centerville
2025 District Wide Modeling Program Annual Updates	Bret Zimmerman	$35,200	$21,657	$13,543	N	60.0%	61.5%	Y	N/A	1-Nov-25	We have updated several models with revised geometric data.
Lake Johanna Outlet Structure Feasibility Study	Chris Otterness	$13,000	$2,391	$10,609	N	15.0%	18.4%	Y	N/A	30-Aug-25	We have begun reviewing concept layouts for a new outlet structure
Jones Lake Outlet Modification and Dredging Project: Final Design and Permitting	Joe Lewis	$485,000	$15,752	$469,249	N	3.0%	3.2%	Y	N/A	30-Jun-26	We have begun preparing environmental review documents.
Hardwood Creek / JD 2 Subwatershed Storage Feasibility Study	Adam Nies	$54,000	$180	$53,821	N	0.0%	0.3%	Y	N/A	1-Mar-26	This project will begin with conceptualization of storage location alternatives

Values in red are either potential budget concerns or changes in schedule.
The "overage" for those projects shown as "over budget" is not billed to the District. The cost to date column reflects HEi's actual internal cost. Projects are considered within budget if ± 5%.

HoustonEngineering Inc.

RCWD RICE CREEK WATERSHED DISTRICT

District Engineer
Monthly Progress Report (Actual & Estimated Progress)
Through August 2025