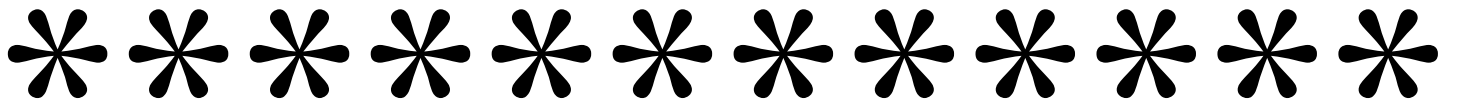




**RAMSEY-WASHINGTON**  
METRO WATERSHED DISTRICT

**April 2023**  
**Board Packet**



# Agenda





## Regular Board Meeting Agenda

Wednesday, April 5, 2023

6:30 PM

*This month's meeting will be held at the District office (2665 Noel Drive, Little Canada, MN) but also via the video conferencing platform Zoom. Board members, staff, consultants, and general public will be able to join in person OR via video and/or phone. In order to continue to be sensitive to the COVID-19 pandemic, we may need to limit the number of public in the board room. The public will be able to listen to meeting but not participate with the exception of the visitor comments portion of the agenda. Instructions for joining in on the Zoom meeting can be found after the agenda.*

1. Call to Order – 6:30 PM
2. **Approval of Agenda (pg. 3)**
3. **Consent Agenda: To all be approved with one motion unless removed from consent agenda for discussion.**
  - A. Approval of Regular Meeting Minutes March 1, 2023 (pg. 7)
  - B. Treasurer's Report and Bill List (pg. 15)
  - C. Permit Program
    - i. 23-09 Woodbury 2023 Street Improvements (pg. 29)
    - ii. 23-11 Reuter Walton Apartments II, Little Canada (pg. 32)
    - iii. 23-12 Jordan Seeds Property Grading, Woodbury (pg. 37)
  - D. Stewardship Grant Program
    - i. 23-08 CS Jakel, rain garden (pg. 44)
4. Visitor Comments (limited to 4 minutes each)
5. Permit Program
  - A. Applications
    - i. **23-08 Little Canada 2023 Street Improvements (pg. 47)**
    - ii. **23-10 Oakdale Senior Living (pg. 73)**
  - B. Enforcement Action Report (pg. 82)
  - C. Hillcrest Golf Course Redevelopment - Wetland Replacement Plan Information (pg. 84)
6. Stewardship Grant Program
  - A. Applications
    - i. **22-08 CS Battle Creek Middle School, request for additional funds (pg. 88)**
  - B. Budget Status Update (pg. 89)
7. Action Items
  - A. **Owasso Shoreline Restoration Phase 2 Advertise for Bid (pg. 91)**
  - B. **Arbogast Underground Stormwater Filter Advertise for Bid (pg. 145)**
  - C. **2023-2025 BMP Maintenance Program Selection of Contractors (pg. 166)**
8. Attorney Report
9. Board Discussion Topics
  - A. Spring Flood Risk Assessment (see item 12A)
  - B. Adopt-A-Culvert
  - C. Agenda Changes

## Board Meeting Agenda

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10. New Reports and/or Presentations
  - A. District Wetland Management Strategies (*pg. 177*)
  - B. Owasso Basin Area & North Star Estates Flood-Risk Reduction Scope Summary (*pg. 201*)
  - C. Targeted Retrofits – Roosevelt Homes, St. Paul Scope Summary (*pg. 217*)
11. Administrator’s Report (*pg. 224*)
  - A. Meetings Attended
  - B. Upcoming Meetings and Dates
  - C. Board Action Log and Updates
  - D. Minnesota Watersheds Updates
  - E. Staff Changes and Organizational Chart
12. Project and Program Status Reports (*pg. 231*)
  - A. Barr’s Approach to Assessing the Risk of Spring Flooding

*Project Feasibility Studies*

  - B. Interim Emergency Response Planning
  - C. Kohlman Creek Flood Risk Feasibility Study
  - D. Kohlman Creek/Wakefield Lake Diversion Feasibility Study
  - E. County Ditch 17 Improvements Feasibility Study
  - F. Phalen Village Feasibility Study
  - G. Ames Lake Area Flood Risk Reduction Planning Study
  - H. Owasso Basin/North Star Estates Improvements
  - I. Carver Ponds Improvement Study
  - J. South Metro Mississippi River TSS TMDL
  - K. Resiliency Study for non-Beltline Tributary Areas
  - L. Street Sweeping Study

*Research Projects*

  - M. Kohlman Lake Aquatic Plans and Nutrients Study

*Capital Improvements*

  - N. Woodbury Target Store Stormwater Retrofit Projects
  - O. Targeted Retrofit Projects
  - P. Stewardship Grant Program Support
  - Q. Arbogast Stormwater Filtration BMP
  - R. Pioneer Park Stormwater Reuse
  - S. Double Driveway Pond and Fish Creek Tributary Improvements

*CIP Project Repair and Maintenance*

  - T. 2023 CIP Maintenance and Repair Project
  - U. 2023-2025 BMP Maintenance Program

*Program Updates*

  - V. Natural Resources Program
  - W. Public Involvement and Education Program
13. Manager Comments and Next Month’s Meeting
14. **Adjourn**



# RAMSEY-WASHINGTON

## METRO WATERSHED DISTRICT

### NOTICE OF BOARD MEETING

Wednesday, April 5, 2023

6:30 PM

### Hybrid Meeting: In-Person and Web Conference

This month's meeting will be held at the District office (2665 Noel Drive, Little Canada, MN) AND via the video conferencing platform Zoom. Board members, staff, consultants, and general public will be able to join in person or via Zoom. In order to continue to be sensitive to the COVID-19 pandemic, we may need to limit the number of public in the board room area. The public will be able to listen to meeting but not participate with the exception of the visitor comments portion of the agenda. Visitor comment may be given in person or via Zoom. Instructions for joining in on the Zoom meeting can be found below.

To access the meeting via webcast, please use this link: <https://us02web.zoom.us/j/86911577397?pwd=SHFFT0dZSTICdTRJL3BNRWRWclUyZz09>

The meeting room will open at 6:20 pm with the meeting starting at 6:30 pm. To connect to audio you may choose to use your computer audio options or you may use your mobile device to call. The phone access number is **(312) 626-6799**. The Meeting ID is **869 1157 7397**. The meeting password is **389428**. If you have any questions, please contact Tina Carstens at [tina.carstens@rwmwd.org](mailto:tina.carstens@rwmwd.org).



# Consent Agenda





# RAMSEY-WASHINGTON

## METRO WATERSHED DISTRICT

### Ramsey-Washington Metro Watershed District Minutes of Regular Board Meeting March 1, 2023

The Regular Meeting of March 1, 2023, was held at the District Office Board Room, 2665 Noel Drive, Little Canada, Minnesota, and via Zoom web conferencing, at 6:30 p.m. A video recording of the meeting can be found at <https://youtu.be/H0IPbXZn4a8>. Video time stamps included after each agenda item in minutes.

#### **PRESENT:**

Val Eisele, President  
Dr. Pam Skinner, Vice President (via Zoom)  
Matt Kramer, Treasurer  
Benjamin Karp, Secretary  
Mark Gernes, Manager

#### **ABSENT:**

#### **ALSO PRESENT:**

Tina Carstens, District Administrator  
Tracey Galowitz, Attorney for District  
Nicole Soderholm, Permit Inspector  
Kyle Kubitza, Water Quality Technician  
Dave Vlasin, Project Coordinator

Paige Ahlborg, Project Manager  
Brad Lindaman, Barr Engineering  
Mary Fitzgerald, District Inspector  
Matt Doneux, Natural Resources Technician  
Eric Seaburg, Bolton & Menk

#### **1. CALL TO ORDER**

The meeting was called to order by Manager Eisele at 6:30 p.m.

#### **2. ELECTION OF PRESIDENT PRO TEM (0:08)**

Motion: Manager Eisele moved, Manager Kramer seconded, to elect Val Eisele as President Pro Tem.

A roll call vote was performed:

Manager Karp	aye
Manager Gernes	aye
Manager Kramer	aye
Manager Eisele	aye

Motion carried unanimously.

#### **3. APPROVAL OF AGENDA (0:36)**

Motion: Manager Kramer moved, Manager Gernes seconded, to approve the agenda as presented.

A roll call vote was performed:

Manager Karp	aye
Manager Gernes	aye
Manager Kramer	aye

President Pro Tem Eisele            aye

Motion carried unanimously.

The members of the Board and staff introduced themselves.

**4.        RAMSEY-WASHINGTON METRO WATERSHED DISTRICT BOARD MANAGER OATH OF OFFICE (5:44)**

Tracey Galowitz administered the Oath of Office to managers Kramer, Karp, Gernes, Eisele, and Skinner.

**5.        CONSENT AGENDA (7:37)**

A.        Approval of Minutes from February 1, 2023

B.        Treasurer’s Report and Bill List

C.        Permit Program

        i.        23-07: White Bear Lake High School South Baseball Field

D.        Stewardship Grant Program

        i.        23-04 CS: DeLong, Rain Garden and Habitat Restoration

E.        2023 CIP Maintenance and Repair – Change Order No. 1

Motion: Manager Kramer moved, Manager Karp seconded, to approve the consent agenda as presented.

A roll call vote was performed:

Manager Karp                            aye

Manager Gernes                        aye

Manager Kramer                        aye

President Pro Tem Eisele            aye

Motion carried unanimously.

President Pro Tem Eisele thanked staff for the addition of the previous permits.

**6.        VISITOR COMMENTS (8:37)**

No comments.

**7.        PERMIT PROGRAM (8:50)**

A.        Applications

Permit #23-03 WCA: Little Canada Twin Lake Boulevard Wetland Replacement Plan – for discussion only

Nicole Soderholm stated that staff is reviewing the wetland replacement plan related to a road improvement project for Twin Lake Boulevard and wanted to get input from the Board. She provided a brief overview and welcomed input from the Board.

Manager Gernes acknowledged that the replacement plan includes banking from outside of the District and asked the level of scrutiny that has been done for potential restoration onsite or within the District. He asked if replacement could occur in the fringe wetlands in that area to the west of the Saint Paul Regional Water road. He noted that perhaps there is available wetland restoration to the east in Vadnais Heights as well. Tina Carstens noted that those areas are owned by Saint Paul Regional Water and Ramsey County Parks and is not within the right-of-way area.

Nicole Soderholm stated that she can direct the applicant to consider project direct replacement, whether the property is owned by the applicant or not if that is the desire of the Board.



Tina Carstens provided more information on the sequencing that an applicant follows before attempting to use wetland credits.

Nicole Soderholm stated that staff does recognize that there is such a small area to restore wetlands and therefore that is a tall ask for the applicant. She stated that while it is better to avoid or minimize impacts, they were open to banking because of the small area of impact.

Manager Gernes stated that he has online sources that he used to review potential wetland restoration areas and provided that information to staff. He confirmed that he would also send the specific locations he was describing. Nicole Soderholm stated that she would pass on those suggestions and the applicant can respond.

President Pro Tem Eisele stated that he liked the technical questions asked by staff in the report and asked if feedback has been received from the applicant. Nicole Soderholm provided additional details noting that Bolton & Menk would be responding to the comments. She stated that the buffer comments are not related to the Wetland Conservation Act (WCA) but would have to be addressed in the process of District permitting. She stated that the applicant did look at fencing and retaining walls but because of the grade, that would require more fill of the wetland. She stated that relocating the trail to the south side would increase pedestrian crossings and would not affect the largest portion of impact.

President Pro Tem Eisele commented that culverts are being installed and asked if there is a comprehensive plan with how that water will be managed. Nicole Soderholm stated that there is a full stormwater management report that will be part of the grading permit review.

President Pro Tem Eisele asked if water quality would be addressed as well. Nicole Soderholm confirmed that would be part of the grading permit application review.

Eric Seaburg stated that they continue to work through the process and hope to have a revision ready to provide to the District in the next few days.

Manager Karp commented that he would find it helpful to see the location of the utility easements and to see the difference in the line types shown on the map.

President Pro Tem Eisele asked if staff would be looking at the water path and how that fits in with the District. Nicole Soderholm confirmed that the hydrologic modeling separates the drainage areas for West Vadnais and Twin Lake and will be a part of the grading permit review.

Nicole Soderholm thanked the Board for its input, noting that this is earlier in the process and more details will come.

B. Monthly Enforcement Report

During January, one notice was sent to address: install/repair construction entrance.

**8. STEWARDSHIP GRANT PROGRAM (29:43)**

A. Applications - See Consent Agenda

B. Budget Status Update

Paige Ahlborg provided a brief overview of the budget status update and the Stewardship Grant Program.

Manager Gernes asked how the \$5,000 threshold is applied to multiple phase projects. Paige Ahlborg stated that staff is not always aware if there is going to be a second phase. She stated that often times people do one project and then a few years down the road choose to do a second project.

President Pro Tem Eisele asked if new projects could be highlighted differently on the report to make those easier to identify when skimming the report. He also asked for details on the public art item. Paige Ahlborg replied that she can make that change. She provided more details on the City of Woodbury public art project.

**9. ACTION ITEMS (34:59)**

**A. Board of Managers Annual Meeting**

Tina Carstens provided an overview of the different actions before the Board under this agenda item.

- Election of Officers

Manager Karp nominated Val Eisele for the position of President.

There were no other nominations.

Motion: Manager Karp moved, Manager Gernes seconded, to elect Val Eisele as President for 2023.

A roll call vote was performed:

Manager Karp	aye
Manager Gernes	aye
Manager Kramer	aye
President Pro Tem Eisele	aye

Motion carried unanimously.

Nominations were opened for the position of Vice President.

Manager Skinner commented that she would be willing to serve as Vice President.

There were no other nominations.

Motion: Manager Karp moved, Manager Kramer seconded, to elect Dr. Pam Skinner as Vice President for 2023.

A roll call vote was performed:

Manager Karp	aye
Manager Gernes	aye
Manager Kramer	aye
President Pro Tem Eisele	aye

Motion carried unanimously.

Nominations were opened for the position of Treasurer.

Manager Kramer volunteered for the position of Treasurer.

There were no other nominations.

Motion: Manager Gernes moved, Manager Karp seconded, to elect Matt Kramer as Treasurer for 2023.

A roll call vote was performed:

Manager Karp	aye
Manager Gernes	aye
Manager Kramer	aye
President Pro Tem Eisele	aye

Motion carried unanimously.

Nominations were opened for the position of Secretary.

Manager Karp commented that he would be willing to serve as Secretary.

There were no other nominations.

Motion: Manager Kramer moved, Manager Gernes seconded, to elect Ben Karp as Secretary for 2023.

A roll call vote was performed:

Manager Karp	aye
Manager Gernes	aye
Manager Kramer	aye
President Pro Tem Eisele	aye

Motion carried unanimously.

- Liaisons to the CAC and Minnesota Watersheds

Tina Carstens provided details on the different liaison positions.

Manager Karp volunteered to serve as liaison to the District's Community Advisory Committee, and Manager Gernes volunteered to serve as the alternate.

Motion: Manager Kramer moved, Manager Gernes seconded, to appoint Ben Karp as the Liaison to the District's Community Advisory Committee.

A roll call vote was performed:

Manager Karp	aye
Manager Gernes	aye
Manager Kramer	aye
President Pro Tem Eisele	aye

Motion carried unanimously.

- Consulting Staff Selection

Tina Carstens reviewed the current consulting appointments, noting that action is required each year to reselect these consultants. She noted that next year staff will solicit proposals for those services.

Manager Skinner encouraged a member of the Board to make a motion to retain the existing consultants.

Motion: Manager Gernes moved, Manager Kramer seconded, to appoint Barr Engineering, Galowitz Olson, and Redpath and Company to continue as the consultants for 2023.

A roll call vote was performed:

Manager Karp	aye
Manager Gernes	aye
Manager Kramer	aye
President Pro Tem Eisele	aye

Motion carried unanimously.

- Official Designations

Tina Carstens reviewed the proposed designations before the Board.

Motion: Manager Kramer moved, Manager Karp seconded, to approve the 4M Fund with LMC: US Bank as the Official Bank of Deposit and *St. Paul Pioneer Press* as the Official Newspaper for 2023.

A roll call vote was performed:

Manager Karp	aye
Manager Gernes	aye
Manager Kramer	aye
President Pro Tem Eisele	aye

Motion carried unanimously.

**10. ATTORNEY REPORT (44:57)**

Tracey Galowitz welcomed the new members and looked forward to working with them.

**11. BOARD ISSUES, POLICIES, AND OPERATION (FOR DISCUSSION AT MEETING) (45:35)**

A. Board Action Log: Additions, Deletions

President Pro Tem Eisele provided a brief overview of the items on the log.

**12. NEW REPORTS AND/OR PRESENTATIONS (47:27)**

A. Kohlman Creek Wakefield Diversion Flood Risk Reduction Feasibility Study

Brad Lindaman noted that Items A and B are updates while Items C and D are scope summaries. He referenced Item A and noted that as they moved forward in the study there were challenges that caused that item to not be feasible and therefore, they did not move forward on that approach. He stated that because the diversion was not feasible, they chose to focus further downstream and the option for PCU pond.

President Pro Tem Eisele asked if a motion were needed to move forward. Tina Carstens noted that this was intended to be an update and answer any questions. Brad Lindaman noted that staff provides a monthly update in the status report.

Paige Ahlborg provided more details on a potential partnership with Ramsey County.

President Pro Tem Eisele asked staff to provide a quick summary of why the diversion was not feasible. Brad Lindaman provided a brief overview of the challenges that would not make the diversion a feasible option.

B. Owasso Basin and North Star Estates Flood Risk Reduction Study Update

Brad Lindaman stated that this study was much more detailed than the summary memorandum update and provided an overview.

Manager Gernes noted that the three alternatives look to be similar. Brad Lindaman reviewed the details provided in the table which provide an estimated construction cost for the different options, related flood reduction level, homes in the flood zone, and unit cost.

Manager Gernes stated that all options appear to remove one home from the flood zone with some relief to businesses. Tina Carstens confirmed that the same level of benefit to homes and businesses is provided through each option, but different levels of flood storage would be provided.

President Pro Tem Eisele asked for clarification on potential scenarios and modeling. Brad Lindaman provided additional explanation on who would be responsible for certain elements in future development scenarios.

President Pro Tem Eisele noted the mention of wooden walkways in Little Canada and asked who would be responsible for ongoing maintenance. Tina Carstens stated that typically if infrastructure were constructed as part of a structure, the District would maintain it. She noted that there are times the City collaborates with other entities and part of that agreement may place the maintenance on the city rather than the District.

President Pro Tem Eisele noted the difference in cost between options two and three and noted that sometimes it is more economical to make a larger investment to start rather than coming back later to make additional improvements/adjustments. Brad Lindaman noted that they are focusing on areas under city ownership and expansion could potentially occur in the future. He stated that in the next month or two, staff will bring forward a more formal scope summary for the Board to review.

Manager Karp asked if the increase in cost for option three is due to the cost to purchase land. Brad Lindaman confirmed that is part of the cost, along with removal of debris.

C. Ames Lake Flood Risk Reduction Feasibility Study Scope Summary

Tina Carstens stated that this would be implementation of the project feasibility study.

Brad Lindaman provided a brief overview of the scope summary. He noted that this is a unique opportunity as the HRA has expressed interest in partnering on the project.

D. Kohlman Lake Aquatic Plant Management Effects: Phase I Scope Summary

Brad Lindaman provided background information on the work that has previously done on Kohlman Lake, noting that recommendations will come forward in phase II.

Tina Carstens stated that staff is also working with the DNR on this study. She stated that while the first phase is being completed, staff will bring forward a scope summary that provides details on the second phase as well. She confirmed that Kohlman is an impaired water body.

**13. ADMINISTRATOR'S REPORT (1:26:52)**

A. Meetings Attended

No comments.

B. Upcoming Meetings and Dates

No comments.

C. Ongoing Project Updates

No comments.

D. Minnesota Watersheds Updates

Paige Ahlborg provided an update on the legislative event she attended.

Tina Carstens provided an overview on the priorities and tasks the group is focused on at this time.

**14. PROJECT AND PROGRAM STATUS REPORTS (1:34:36)**

*Project Feasibility Studies*

- A. Interim Emergency Response Planning
- B. Kohlman Creek Flood Risk Feasibility Study
- C. Kohlman Creek/Wakefield Lake Diversion Feasibility Study
- D. County Ditch 17 Improvements Feasibility Study
- E. Phalen Village Feasibility Study
- F. Ames Lake Area Flood Risk Reduction Planning Study
- G. Owasso Basin/North Star Estates Improvements
- H. Double Driveway Pond Optimization Study
- I. Carver Ponds Improvement Study
- J. South Metro Mississippi River TSS TMDL
- K. Resiliency Study for Non-Beltline Tributary Areas

*Research Projects*

- L. Kohlman Lake Aquatic Plants and Nutrients Study
- M. Shallow Lake Aeration Study

*Capital Improvements*

- N. Woodbury Target Store Stormwater Retrofit Projects
- O. Targeted Retrofit Projects
- P. Stewardship Grant Program Support
- Q. Lake Emily Subwatershed Regional BMP
- R. Pioneer Park Stormwater Reuse

*CIP Project Repair and Maintenance*

- S. 2023 CIP Maintenance and Repair Project
- T. 2023-2025 BMP Maintenance Program

*Program Updates*

- U. Natural Resources Program
- V. Public Involvement and Education Program

Brad Lindaman noted that there is a lot of information available in the StoryMap feature. Manager Gernes provided input how a feature of the tool he would find helpful.

**15. MANAGER COMMENTS AND NEXT MONTH'S MEETING (1:38:52)**

A. Board Action Log

President Pro Tem Eisele stated that he appreciated the additional information on the normalization tool for inspections and looks forward to the next steps.

**16. ADJOURN**

Motion: Manager Kramer moved, Manager Gernes seconded, to adjourn the meeting at 8:10 p.m. Motion carried unanimously.

RWMWD BUDGET STATUS REPORT

Administrative & Program Budget

Fiscal Year 2023

3/31/2023

Budget Category	Budget Item	Account Number	Original Budget	Budget Transfers	Current Month Expenses	Year-to-Date Expenses	Current Budget Balance	Percent of Budget
Manager	Per diems	4355	\$7,000.00	-	-	375.00	\$6,625.00	5.36%
	Manager expenses	4360	3,000.00	-	-	-	3,000.00	0.00%
Committees	Committee/Bd Mtg. Exp.	4365	3,500.00	-	234.50	984.17	2,515.83	28.12%
	<b>Sub-Total: Managers/Committees:</b>		<b>\$13,500.00</b>	<b>\$0.00</b>	<b>\$234.50</b>	<b>\$1,359.17</b>	<b>\$12,140.83</b>	<b>10.07%</b>
Employees	Staff salary/taxes/benefits	4010	1,860,000.00	-	172,523.76	432,424.08	1,427,575.92	23.25%
	Employee expenses	4020	15,000.00	-	344.83	645.69	14,354.31	4.30%
	District training & education	4350	75,000.00	-	528.31	1,347.49	73,652.51	1.80%
	<b>Sub-Total: Employees:</b>		<b>\$1,950,000.00</b>	<b>\$0.00</b>	<b>\$173,396.90</b>	<b>\$434,417.26</b>	<b>\$1,515,582.74</b>	<b>22.28%</b>
Administration/Office	GIS system maint. & equip.	4170	10,000.00	-	-	1,257.25	8,742.75	12.57%
	Data Base/GIS Maintenance	4171	20,000.00	-	-	-	20,000.00	0.00%
	Equipment maintenance	4305	2,000.00	-	-	-	2,000.00	0.00%
	Telephone	4310	2,000.00	-	59.34	178.02	1,821.98	8.90%
	Office supplies	4320	7,000.00	-	807.05	1,425.67	5,574.33	20.37%
	IT/Internet/Web Site/Software Lic.	4325	85,000.00	-	7,042.14	21,152.39	63,847.61	24.89%
	Postage	4330	2,000.00	-	143.55	143.55	1,856.45	7.18%
	Printing/copying	4335	5,000.00	-	294.00	1,286.00	3,714.00	25.72%
	Dues & publications	4338	15,000.00	-	-	12,500.00	2,500.00	83.33%
	Janitorial/Trash Service	4341	15,000.00	-	1,683.64	4,398.98	10,601.02	29.33%
	Utilities/Bldg.Contracts	4342	30,000.00	-	400.04	1,546.63	28,453.37	5.16%
	Bldg/Site Maintenance	4343	125,000.00	-	8,718.91	13,716.68	111,283.32	10.97%
	Miscellaneous	4390	5,000.00	-	-	-	5,000.00	0.00%
	Insurance	4480	60,000.00	-	-	-	60,000.00	0.00%
	Office equipment	4703	100,000.00	-	161.00	498.00	99,502.00	0.50%
	Vehicle lease, maintenance	4810-40	20,000.00	-	105.74	1,015.14	18,984.86	5.08%
	<b>Sub-Total: Administration/Office:</b>		<b>\$503,000.00</b>	<b>\$0.00</b>	<b>\$19,415.41</b>	<b>\$59,118.31</b>	<b>\$443,881.69</b>	<b>11.75%</b>
Consultants/Outside Services	Auditor/Accounting	4110	75,000.00	-	3,025.25	7,120.20	67,879.80	9.49%
	Engineering-administration	4121	132,000.00	-	6,812.44	17,767.93	114,232.07	13.46%
	Engineering-permit I&E	4122	10,000.00	-	-	-	10,000.00	0.00%
	Engineering-eng. review	4123	70,000.00	-	5,264.50	10,526.50	59,473.50	15.04%
	Engineering-permit review	4124	59,000.00	-	4,373.00	14,322.00	44,678.00	24.27%
	Project Feasibility Studies	4129	395,000.00	-	15,883.50	45,863.37	349,136.63	11.61%
	Attorney-permits	4130	5,000.00	-	-	-	5,000.00	0.00%
	Attorney-general	4131	40,000.00	-	1,900.00	5,965.00	34,035.00	14.91%
	Outside Consulting Services	4160	20,000.00	-	-	-	20,000.00	0.00%
	<b>Sub-Total: Consultants/Outside Services:</b>		<b>\$806,000.00</b>	<b>\$0.00</b>	<b>\$37,258.69</b>	<b>\$101,565.00</b>	<b>\$704,435.00</b>	<b>12.60%</b>
Programs	Educational programming	4370	70,000.00	-	3,271.99	5,947.02	64,052.98	8.50%
	Communications & Marketing	4371	50,000.00	-	152.00	841.09	49,158.91	1.68%
	Events	4372	51,000.00	-	12,845.04	14,120.23	36,879.77	27.69%
	Water QM-Engineering	4520-30	240,000.00	-	8,978.11	12,886.99	227,113.01	5.37%
	Project operations	4650	200,000.00	-	572.75	2,149.63	197,850.37	1.07%
	SLMP/TMDL Studies	4661	142,000.00	-	114.00	114.00	141,886.00	0.08%
	Natural Resources/Keller Creek	4670-72	120,000.00	-	1,367.91	1,786.26	118,213.74	1.49%
	Outside Prog.Support/Weed Mgmt.	44683	57,000.00	-	1,500.00	11,500.00	45,500.00	20.18%
	Research Projects	4695	155,000.00	-	706.00	3,384.00	151,616.00	2.18%
	Health and Safety Program	4697	4,000.00	-	-	29.15	3,970.85	0.73%
<b>Sub-Total: Programs:</b>		<b>\$1,089,000.00</b>	<b>\$0.00</b>	<b>\$29,507.80</b>	<b>\$52,758.37</b>	<b>\$1,036,241.63</b>	<b>4.84%</b>	
<b>GENERAL FUND TOTAL</b>		<b>\$4,361,500.00</b>	<b>\$0.00</b>	<b>\$259,813.30</b>	<b>\$649,218.11</b>	<b>\$3,712,281.89</b>	<b>14.89%</b>	
CIP's	CIP Project Repair & Maintenance	516	1,500,000.00	-	131,834.23	444,907.37	1,055,092.63	29.66%
	Targeted Retrofit Projects	518	1,500,000.00	-	63,960.31	102,389.72	1,397,610.28	6.83%
	Flood Risk Reduction Fund	520	5,200,000.00	-	196,008.45	196,889.37	5,003,110.63	3.79%
	Debt Services-96-97 Beltline/MM/Battle Creek	526	395,404.00	-	-	278,086.78	117,317.22	70.33%
	Stewardship Grant Program Fund	529	1,128,000.00	-	10,473.60	16,804.60	1,111,195.40	1.49%
	Double Driveway Water Quality Optimization	537	675,000.00	-	3,974.04	10,287.04	664,712.96	1.52%
Wetland Restoration Projects	540	500,000.00	-	-	-	500,000.00	0.00%	
<b>CIP BUDGET TOTAL</b>		<b>\$10,898,404.00</b>	<b>\$0.00</b>	<b>\$406,250.63</b>	<b>\$1,049,364.88</b>	<b>\$9,849,039.12</b>	<b>9.63%</b>	
<b>TOTAL BUDGET</b>		<b>\$15,259,904.00</b>	<b>\$0.00</b>	<b>\$666,063.93</b>	<b>\$1,698,582.99</b>	<b>\$13,561,321.01</b>	<b>11.13%</b>	

Current Fund Balances:

Fund:	Unaudited Beginning Fund Balance @ 12/31/22	Fund Transfers	Year to date Revenue	Current Month Expenses	Year to Date Expense	Unaudited Fund Balance @ 03/31/23
101 - General Fund	\$2,313,604.42	-	86,843.14	259,813.30	649,218.11	1,751,229.45
516 - CIP Project Repair & Maintenance	1,143,456.57	-	12,472.86	131,834.23	444,907.37	711,022.06
518 - Targeted Retrofit Projects	164,101.49	-	-	63,960.31	102,389.72	61,711.77
520 - Flood Damage Reduction Fund	5,075,970.05	-	20,829.51	196,008.45	196,889.37	4,899,910.19
526 - Debt Services-96-97 Beltline/MM/Beltline-Battle Creek Tunnel Repair	551,908.60	-	-	-	278,086.78	273,821.82
529 - Stewardship Grant Program Fund	428,736.05	-	-	10,473.60	16,804.60	411,931.45
536 - Stormwater Impact Fund	358,950.00	-	-	-	-	358,950.00
537 - Double Driveway Water Quality Optimization Implementation	-	-	-	3,974.04	10,287.04	(10,287.04)
540 - Wetland Restoration Projects	498,036.00	-	-	-	-	498,036.00
580 - Contingency Fund	1,465,487.00	-	-	-	-	1,465,487.00
<b>Total District Fund Balance</b>	<b>\$12,000,250.18</b>	<b>\$0.00</b>	<b>\$120,145.51</b>	<b>\$666,063.93</b>	<b>\$1,698,582.99</b>	<b>\$10,421,812.70</b>

**Ramsey Washington Metro Watershed Dist.**  
**Check Register**  
For the Period From Mar 1, 2023 to Mar 31, 2023

Check #	Date	Payee ID	Invoice #	Payee	Description	Amount
EFT	03/02/23	hea002	Apr-23	HealthPartners	Employee Benefits	\$13,105.18
EFT	03/02/23	met008	Mar-23	MetLife-Group Benefits	Employee Benefits	1,643.92
EFT	03/15/23	ada002	23-Mar	Adam's Pest Control	Utilities/Building Services Contracts	275.55
EFT	03/13/23	nsp001	Mar-23	Xcel Energy	Project Operations/Flood Damage Reduction	35.44
EFT	03/13/23	nsp001	Mar-23	Xcel Energy	Project Operations/Flood Damage Reduction	16.23
EFT	03/13/23	nsp001	Mar-23	Xcel Energy	Project Operations/Flood Damage Reduction	921.02
73672	03/14/23	aws001	S1335957-030123	AWS Service Center	Janitorial/Trash/Plowing/Sweeping	324.64
73673	03/14/23	bfg001	2237631-00; 223887-00	BFG Supply Co., LLC	Educational Program	423.54
73674	03/14/23	cit013	58919	City of St. Paul	Events	1,000.00
73675	03/14/23	con005	74916	Contree Sprayer & Equip. Co., LLC	Natural Resources Program	404.90
73676	03/14/23	han008	2197	Hanna Enterprises, LLC	Janitorial/Trash/Plowing/Sweeping	765.00
73677	03/14/23	hom001	02/28/23	Home Depot Credit Services	Natural Resources Program	164.68
73678	03/14/23	ncp001	Feb 2023	NCBERS Group Life Ins.	Employee Benefits	16.00
73679	03/14/23	pit001	3105965481	Pitney Bowes Global Financial Serv LLC	Postage	143.55
73680	03/14/23	pre003	319290307	Premium Waters, Inc.	Utilities/Building Services Contracts	31.00
73681	03/14/23	ret001	0119603-IN	The Retrofit Companies, Inc.	Building/Site Maintenance	105.18
73682	03/14/23	shi001	B16525246	SHI International Corp.	Equipment	161.00
73683	03/14/23	stu001	2019696	Studio Lola	Stewardship Grant Program	3,456.25
73684	03/14/23	tes002	5744	Testing Services, Inc.	Water Quality Monitoring-Staff	216.00
73685	03/14/23	twi001	53194	Twin City Seed Co.	Construction Improvements/Project Maint. & Repair	62.40
73686	03/14/23	usb002	Mar-23	U.S. Bank	Office Supplies	3,967.92
73687	03/14/23	usb005	495624009	US Bank Equipment Finance	Copier Lease	294.00
73688	03/14/23	voy001	8692934232308	US Bank Voyager Fleet Sys.	Vehicle Fuel	11.47
73689	03/29/23	ahl001	March 2023	Paige Ahlborg	Employee Reimbursement	415.19
73690	03/29/23	bar001	February 11 to March 17, 2023	Barr Engineering	March Engineering Expenses	139,207.90
73691	03/29/23	bfg001	2255809-00; 2255164-00	BFG Supply Co., LLC	Educational Program	246.66
73692	03/29/23	boa001	Mary MWPCP	Board of Water & Soil Resources	Training and Education	60.00
73693	03/29/23	cad001	19336195	Zayo Group, LLC	Water Quality Monitoring-Staff	139.65
73694	03/29/23	com004	Mar 16, 2023	Comcast	Utilities/Building Services Contracts	93.49
73695	03/29/23	cro001	50367805	Nutrien Ag Solutions, Inc.	Natural Resources Program	152.92
73696	03/29/23	don001	March 2023	Matthew Doneux	Employee Reimbursement	357.84
73697	03/29/23	fit002	23-Mar	Mary Fitzgerald	Employee Benefits	58.25
73698	03/29/23	fla001	7/1-12/31/22	Lyndsey R. Flaten	Employee Reimbursement	2.88
73699	03/29/23	gal001	March 22, 2023	Galowitz Olson, PLLC	Attorney General	1,900.00
73700	03/29/23	gil001	229255	Gilbert Mechanical Contractors, Inc.	Building / Site Maintenance	7,912.56
73701	03/29/23	ing002	603611	INGCO International, Inc.	Communications and Marketing	112.50
73702	03/29/23	int001	W23020493	Office of MN, IT Services	Telephone	59.34
73703	03/29/23	kub001	Mar-23	Kyle W. Kubitz	Employee Reimbursement	48.00
73704	03/29/23	lea003	15-1005	L. Tracy Leavenworth	Educational Program	2,031.29
73705	03/29/23	mbe001	1154	MBohn Consulting, LLC	Events	5,000.00
73706	03/29/23	mel001	Feb-March 2023	Michelle L. Melsner	Employee Reimbursement	79.96
73707	03/29/23	met005	1708	Metro Blooms	Outside Program Support	1,500.00
73708	03/29/23	met012	1145	Metro-INET	Roseville IT Services/Web Site/Software/Licenses	6,859.00
73709	03/29/23	mil003	PP#2	Miller Excavating, Inc.	Construction Improvements/Project Maint. & Repair	107,633.22
73710	03/29/23	ncp001	Feb 10, 2023	NCBERS Group Life Ins.	Employee Benefits	32.00
73711	03/29/23	nsp001	47994; 68469; 05793; 18240	Xcel Energy	Project Operations/Flood Damage Reduction Fund	556.74
73712	03/29/23	pac001	23100408554; 23100405859	Pace Analytical Services, Inc.	Water Quality Monitoring-Staff	1,689.80
73713	03/29/23	qwe001	44995	CenturyLink	Project Operations	272.75
73714	03/29/23	ram015	22-06 CS	Ramsey Co. Parks and Rec.	Stewardship Grant Program	5,280.35
73715	03/29/23	red002	150476560	Redpath & Company	February Accounting Services	2,765.40
73716	03/29/23	rmbo01	B008310	RMB Environmental Laboratories	Water Quality Monitoring-Staff	120.80
73717	03/29/23	sim001	Mar-23	Emily Simmons	Employee Reimbursement	51.92
73718	03/29/23	sod001	23-2	Nicole Soderholm	Employee Reimbursement	107.63
73719	03/29/23	stu001	45005	Studio Lola	Events	3,775.00
73720	03/29/23	tec001	44991	Tech Sales Co.	Water Quality Monitoring-Staff	1,987.00
73721	03/29/23	til002	Mar-23	Joseph S. Tillotson	Employee Benefits, Expenses	537.74
73722	03/29/23	tim002	M28077	Timesaver Off-Site Secretarial, Inc.	Committee/Board Meeting Expenses	234.50
73723	03/29/23	tra003	7377861	Department of Transportation	Construction/Improvements/Flood Damage Reduction	186,668.33
73724	03/29/23	tro002	23-3	Cathy Troendle	Educational Program	490.52
73725	03/29/23	van001	Apr-23	Vanguard Cleaning Systems of Minnesota	Janitorial/Trash/Plowing/Sweeping	594.00
73726	03/29/23	vla001	7/1-12/31/22	Dave Vlasin	Employee Expenses	4.76
73727	03/29/23	voy001	8692934232312	US Bank Voyager Fleet Sys.	Vehicle Fuel	104.84
73728	03/29/23	was002	5968	Washington Conservation District	Stewardship Grant Program	1,072.00
73729	03/29/23	was003	2023	Washington Co.-Taxation Div.	Accounting	50.00
73730	03/29/23	wil002	WF23-2	Wilderness Inquiry	Events	1,560.00
<b>Total</b>						<b>\$509,371.60</b>

EFT	03/03/23	myp001	03/03/23	March 3rd Payroll	4110-101-000	66.15
EFT	03/17/23	myp001	03/17/23	March 17th Payroll	4110-101-000	71.85
EFT	03/31/23	myp001	03/31/23	March 31st Payroll	4110-101-000	71.85
Dir.Dep.	03/03/23	---	Payroll Expense-Net	March 3rd Payroll	4010-101-000	28,815.30
EFT	03/03/23	int002	Internal Rev.Serv.	March 3rd Federal Withholding	2001-101-000	10,455.85
EFT	03/03/23	mnd001	MN Revenue	March 3rd State Withholding	2003-101-000	1,865.47
EFT	03/03/23	per001	PERA	March 3rd PERA	2011-101-000	6,423.98
EFT	03/03/23	emp002	Empower Retirement	Employee Def. Comp. Contributions	2016-101-000	2,603.00
EFT	03/03/23	emp002	Empower Retirement	Employee IRA Contributions	2018-101-000	857.00
Dir.Dep.	03/17/23	---	Payroll Expense-Net	March 17th Payroll	4010-101-000	28,815.36
EFT	03/17/23	int002	Internal Rev.Serv.	March 17th Federal Withholding	2001-101-000	10,455.73
EFT	03/17/23	mnd001	MN Revenue	March 17th State Withholding	2003-101-000	1,865.47
EFT	03/17/23	per001	PERA	March 17th PERA	2011-101-000	6,423.98
EFT	03/17/23	emp002	Empower Retirement	Employee Def. Comp. Contributions	2016-101-000	2,603.00
EFT	03/17/23	emp002	Empower Retirement	Employee IRA Contributions	2018-101-000	857.00



**Ramsey Washington Metro Watershed Dist.**  
**Check Register**  
**For the Period From Mar 1, 2023 to Mar 31, 2023**

Check #	Date	Payee ID	Invoice #	Payee	Description	Amount
Dir.Dep.	03/31/23	---	Payroll Expense-Net	March 31st Payroll	4010-101-000	29,016.12
EFT	03/31/23	int002	Internal Rev.Serv.	March 31st Federal Withholding	2001-101-000	10,532.90
EFT	03/31/23	mnd001	MN Revenue	March 31st State Withholding	2003-101-000	1,881.68
EFT	03/31/23	per001	PERA	March 31st PERA	2011-101-000	6,464.69
EFT	03/31/23	emp002	Empower Retirement	Employee Def. Comp. Contributions	2016-101-000	2,603.00
EFT	03/31/23	emp002	Empower Retirement	Employee IRA Contributions	2018-101-000	857.00
<b>Payroll/Benefits:</b>						<b><u>\$153,606.38</u></b>
<b>Total</b>	<b>Accounts Payable/Payroll/Benefits:</b>					<b><u>\$662,977.98</u></b>

**Ramsey Washington Metro Watershed Dist.**  
**Cash Disbursements Journal**  
**For the Period From Mar 1, 2023 to Mar 31, 2023**

Date	Check #	Vendor ID	Name	Account ID	Description	Amount	
03/02/23	EFT	met008	HealthPartners	4040-101-000	Employee Benefits	\$13,105.18	
03/02/23	EFT	hea002	MetLife-Group Benefits	4040-101-000	Employee Benefits	1,643.92	
03/15/23	EFT	ada002	Adam's Pest Control	4342-101-000	Utilities/Building Services Contracts	275.55	
03/13/23	EFT	nsp001	Xcel Energy	4650-520-000	Project Operations/Flood Damage Reduction	35.44	
03/13/23	EFT	nsp001	Xcel Energy	4650-520-000	Project Operations/Flood Damage Reduction	16.23	
03/13/23	EFT	nsp001	Xcel Energy	4650-520-000	Project Operations/Flood Damage Reduction	921.02	
				4650-520-000	Project Operations/Flood Damage Reduction		125.13
				4343-101-000	Building and Site Maintenance		629.70
				4530-101-000	Water Quality Monitoring		166.19
03/14/23	73672	aws001	AWS Service Center	4341-101-000	Janitorial/Trash/Plowing/Sweeping	324.64	
03/14/23	73673	bfq001	BFG Supply Co., LLC	4370-101-000	Educational Program	423.54	
03/14/23	73674	cit013	City of St. Paul	4372-101-000	Events	1,000.00	
03/14/23	73675	con005	Contree Sprayer & Equip. Co., LLC	4670-101-000	Natural Resource Program	404.90	
03/14/23	73676	han008	Hanna Enterprises, LLC	4341-101-000	Janitorial/Trash/Plowing/Sweeping	765.00	
03/14/23	73677	hom001	Home Depot Credit Services	4670-101-000	Natural Resources Program	164.68	
03/14/23	73678	nep001	NCPERS Group Life Ins.	4040-101-000	Employee Benefits	16.00	
03/14/23	73679	pit001	Pitney Bowes Global Fianacial Svs.	4330-101-000	Postage	143.55	
03/14/23	73680	pre003	Premium Waters, Inc.	4342-101-000	Utilities/Building Services Contracts	31.00	
03/14/23	73681	ret001	The Retrofit Companies, Inc.	4343-101-000	Building/Site Maintenance	105.18	
03/14/23	73682	shi001	SHI International Corp.	4703-101-000	Equipment	161.00	
03/14/23	73683	stu001	Studio Lola	4682-529-000	Stewardship Grant Program	3,456.25	
03/14/23	73684	tes002	Testing Services Inc.	5430-101-000	Water Quality Monitoring - Staff	216.00	
03/14/23	73685	twi001	Twin City Seed Co.	4630-516-000	Construction Improvements/Project Maint. & Repair	62.40	
03/14/23	73686	usb002	U.S. Bank			3,967.92	
				4325-101-000	Roseville IT/Web Site/Software/Licenses		96.15
				4320-101-000	Office Supplies		77.94
				4320-101-000	Office Supplies		40.56
				4325-101-000	Roseville IT/Web Site/Software/Licenses		86.99
				4320-101-000	Office Supplies		2.98
				4320-101-000	Office Supplies		123.95
				4320-101-000	Office Supplies		26.95
				4530-101-000	Water Quality Monitoring - Staff		248.75
				4320-101-000	Office Supplies		97.00
				4350-101-000	Training & Education		250.00
				4040-101-000	Employee Benefits		79.85
				4370-101-000	Education Program		71.98
				4343-101-000	Building/Site Maintenance		71.47
				4670-101-000	Natural Resource Program		113.98
				4320-101-000	Office Supplies		25.00
				4040-101-000	Employee Benefits		542.30
				4350-101-000	Training & Education		100.00
				4320-101-000	Office Supplies		28.58
				4350-101-000	Training & Education		40.00
				4350-101-000	Training & Education		40.00
				4320-101-000	Office Supplies		116.75
				4670-101-000	Natural Resources Program		54.34
				4320-101-000	Office Supplies		43.98
				4371-101-000	Marketing and Communications		39.50
				4372-101-000	Events		404.25
				4320-101-000	Office Supplies		18.39

**Ramsey Washington Metro Watershed Dist.**  
**Cash Disbursements Journal**  
**For the Period From Mar 1, 2023 to Mar 31, 2023**

Date	Check #	Vendor ID	Name	Account ID	Description	Amount
				4320-101-000	Office Supplies	18.55
				4372-101-000	Events	398.80
				4372-101-000	Events	706.99
				4320-101-000	Office Supplies	1.94
03/14/23	73687	usb005	US Bank Equipment Finance	4335-101-000	Copier Lease	294.00
03/14/23	73688	voy001	US Bank Voyager Fleet Sys.	4830-101-000	Vehicle Fuel	11.47
03/29/23	73689	ahl001	Paige Ahlborg			415.19
				4040-101-000	Employee Benefits	280.00
				4320-101-000	Office Supplies	135.19
03/29/23	73690	bar001	Barr Engineering			139,207.90
				4121-101-000	Engineering Admin	6812.44
				4129-101-000	Project Feasibility	365.00
				4123-101-000	Engineer Eng. Rev	5264.50
				4129-101-000	Project Feasibility	2175.00
				4129-101-000	Project Feasibility	4686.50
				4129-101-000	Project Feasibility	150.00
				4129-101-000	Project Feasibility	300.00
				4129-101-000	Project Feasibility	780.00
				4128-520-000	Engineering-Flood Damage	8902.50
				4129-101-000	Project Feasibility	436.00
				4129-101-000	Project Feasibility	1631.50
				4129-101-000	Project Feasibility	3320.00
				4129-101-000	Project Feasibility	961.50
				4129-101-000	Project Feasibility	1078.00
				4520-101-000	WQM-Engineering	1117.00
				4520-101-000	WQM-Engineering	797.00
				4520-101-000	WQM-Engineering	2200.00
				4124-101-000	Eng. Permit Review	4373.00
				4661-101-000	SLMP/TMLD Studies	75.00
				4661-101-000	SLMP/TMLD Studies	39.00
				4695-101-000	Research Projects	695.00
				4695-101-000	Research Projects	11.00
				4650-101-000	Project Operations	300.00
				4128-518-000	Engineering -Targeted Retrofit	1135.00
				4128-518-000	Engineering -Targeted Retrofit	20501.81
				4682-529-000	Stewardship Grant Program	665.00
				4128-518-000	Engineering -Targeted Retrofit	25401.00
				4128-518-000	Engineering -Targeted Retrofit	16922.50
				4129-537-000	Driveway Fish Creek Tributary	3974.04
				4128-516-000	Eng. Projects-Maint & Repair	11347.61
				4128-516-000	Eng. Projects-Maint & Repair	2685.00
				4128-516-000	Eng. Projects-Maint & Repair	10106.00
03/29/23	73691	bfg001	BFG Supply Co., LLC	4370-101-000	Educational Program	246.66
03/29/23	73692	boa001	Board of Water & Soil Resources	4350-101-000	Training & Education	60.00
03/29/23	73693	cad001	Zayo Group, LLC	4530-101-000	Water Quality Monitoring - Staff	139.65
03/29/23	73694	com004	Comcast	4342-101-000	Utilities/Building Services Contracts	93.49
03/29/23	73695	cro001	Nutrien Ag Solutions, Inc.	4670-101-000	Natural Resource Program	152.92
03/29/23	73696	don001	Matthew Doneux			357.84
				4040-101-000	Employee Benefits	226.21
				4670-101-000	Natural Resource Program	131.63
03/29/23	73697	fit002	Mary Fitzgerald	4040-101-000	Employee Benefits	58.25

**Ramsey Washington Metro Watershed Dist.**  
**Cash Disbursements Journal**  
**For the Period From Mar 1, 2023 to Mar 31, 2023**

Date	Check #	Vendor ID	Name	Account ID	Description	Amount	
03/29/23	73698	fla001	Lyndsey R. Flaten	4020-101-000	Employee Expenses	2.88	
03/29/23	73699	gal001	Galowitz Olson, PLLC	4131-101-000	Attorney General	1,900.00	
03/29/23	73700	gil001	Gilbert Mechanical Contractors, Inc.	4343-101-000	Building/Site Maintenance	7,912.56	
03/29/23	73701	ing002	INGCO International, Inc.	4371-101-000	Communications & Marketing	112.50	
03/29/23	73702	int001	Office of MN, IT Services	4310-101-000	Telephone	59.34	
03/29/23	73703	kub001	Kyle W. Kubitza			48.00	
				4040-101-000	Employee Benefits		40.00
				4370-101-000	Educational Program		8.00
03/29/23	73704	lea003	L. Tracy Leavenworth	4370-101-000	Educational Program	2,031.29	
03/29/23	73705	mbc001	MBohn Consulting, LLC	4372-101-000	Events	5,000.00	
03/29/23	73706	mel001	Michelle L. Melser			79.96	
				4040-101-000	Employee Benefits		40.00
				4020-101-000	Employee Expenses		39.96
03/29/23	73707	met005	Metro Blooms	4683-101-000	Outside Program Support	1,500.00	
03/29/23	73708	met012	Metro-INET	4325-101-000	Roseville IT Services/Web Site/Software/Licenses	6,859.00	
03/29/23	73709	mil003	Miller Excavating, Inc.	4630-516-000	Construction Improvements/Project Maint. & Repair	107,633.22	
03/29/23	73710	npc001	NCPERS Group Life Ins.	4040-101-000	Employee Benefits	32.00	
03/29/23	73711	nsp001	Xcel Energy			556.74	
				4650-520-000	Project Operations/Flood Damage Reduction		260.82
				4530-101-000	Water Quality Monitoriong - Staff		295.92
03/29/23	73712	pac001	Pace Analytical Services, Inc.	4040-101-000	Water Quality Monitoriong - Staff	1,689.80	
03/29/23	73713	qwe001	CenturyLink	4650-101-000	Project Operations	272.75	
03/29/23	73714	ram015	Ramsey Co. Parks and Rec.	4682-529-000	Stewardship Grant Program	5,280.35	
03/29/23	73715	red002	Redpath & Company	4110-101-000	Auditor/Accounting	2,765.40	
03/29/23	73716	rmb001	RMB Environmental Laboratories	4530-101-000	Water Quality Monitoriong - Staff	120.80	
03/29/23	73717	sim001	Emily Simmons			51.92	
				4040-101-000	Employee Benefits		40.00
				4020-101-000	Employee Expenses		11.92
03/29/23	73718	sod001	Nicole Soderholm			107.63	
				4040-101-000	Employee Benefits		40.00
				4320-101-000	Office Supplies		49.29
				4020-101-000	Employee Expenses		18.34
03/29/23	73719	stu001	Studio Lola	4372-101-000	Events	3,775.00	
03/29/23	73720	tec001	Tech Sales Co.	4530-101-000	Water Quality Monitoriong - Staff	1,987.00	
03/29/23	73721	til002	Joseph S. Tillotson			537.74	
				4040-101-000	Employee Benefits		40.00
				4020-101-000	Employee Expenses		113.97
				4350-101-000	Training & Education		38.31
				4670-101-000	Natural Resources Program		345.46
03/29/23	73722	tim002	Timesaver Off-Site Secretarial, Inc.	4365-101-000	Committee/Board Meeting Expenses	234.50	
03/29/23	73723	tra003	Department of Transportation	4630-520-000	Construction/Improvements/Flood Damage Reduction	186,668.33	
03/29/23	73724	tro002	Cathy Troendle	4370-101-000	Educational Program	490.52	
03/29/23	73725	van001	Vanguard Cleaning Systems of Minnesota	4630-516-000	Janitorial/Trash/Plowing/Sweeping	594.00	
03/29/23	73726	via001	Dave Vlasin	4020-101-000	Employee Expenses	4.76	
03/29/23	73727	voy001	US Bank Voyager Fleet Sys.	4830-101-000	Vehicle Fuel	104.84	
03/29/23	73728	was002	Washington Conservation District	4682-529-000	Stewardship Grant Program	1,072.00	
03/29/23	73729	was003	Washington Co.-Taxation Div.	4110-101-000	Accounting	50.00	
03/29/23	73730	wil002	Wilderness Inquiry	4372-101-000	Educational Program	1,560.00	
<b>Total</b>						<b>\$509,371.60</b>	

**Ramsey Washington Metro Watershed Dist.**  
**Cash Disbursements Journal**  
**For the Period From Mar 1, 2023 to Mar 31, 2023**

<b>Date</b>	<b>Check #</b>	<b>Vendor ID</b>	<b>Name</b>	<b>Account ID</b>	<b>Description</b>	<b>Amount</b>
03/03/23	EFT	myp001	March 3rd Payroll	4110-101-000	March 3rd Payroll	66.15
03/17/23	EFT	myp001	March 17th Payroll	4110-101-000	March 17th Payroll	71.85
03/31/23	EFT	myp001	March 31st Payroll	4110-101-000	March 31st Payroll	71.85
03/03/23	Dir.Dep.	---	March 3rd Payroll	4010-101-000	March 3rd Payroll	28,815.30
03/03/23	EFT	int002	March 3rd Federal Withholding	2001-101-000	March 3rd Federal Withholding	10,455.85
03/03/23	EFT	mnd001	March 3rd State Withholding	2003-101-000	March 3rd State Withholding	1,865.47
03/03/23	EFT	per001	March 3rd PERA	2011-101-000	March 3rd PERA	6,423.98
03/03/23	EFT	emp002	Employee Def. Comp. Contributions	2016-101-000	Employee Def. Comp. Contributions	2,603.00
03/03/23	EFT	emp002	Employee IRA Contributions	2018-101-000	Employee IRA Contributions	857.00
03/17/23	Dir.Dep.	---	March 17th Payroll	4010-101-000	March 17th Payroll	28,815.36
03/17/23	EFT	int002	March 17th Federal Withholding	2001-101-000	March 17th Federal Withholding	10,455.73
03/17/23	EFT	mnd001	March 17th State Withholding	2003-101-000	March 17th State Withholding	1,865.47
03/17/23	EFT	per001	March 17th PERA	2011-101-000	March 17th PERA	6,423.98
03/17/23	EFT	emp002	Employee Def. Comp. Contributions	2016-101-000	Employee Def. Comp. Contributions	2,603.00
03/17/23	EFT	emp002	Employee IRA Contributions	2018-101-000	Employee IRA Contributions	857.00
03/31/23	Dir.Dep.	---	March 31st Payroll	4010-101-000	March 17th Payroll	29,016.12
03/31/23	EFT	int002	March 31st Federal Withholding	2001-101-000	March 17th Federal Withholding	10,532.90
03/31/23	EFT	mnd001	March 31st State Withholding	2003-101-000	March 17th State Withholding	1,881.68
03/31/23	EFT	per001	March 31st PERA	2011-101-000	March 17th PERA	6,464.69
03/31/23	EFT	emp002	Employee Def. Comp. Contributions	2016-101-000	Employee Def. Comp. Contributions	2,603.00
03/31/23	EFT	emp002	Employee IRA Contributions	2018-101-000	Employee IRA Contributions	857.00
<b>Payroll/Benefits:</b>						<b><u>\$153,606.38</u></b>
<b>Total</b>						<b><u>\$662,977.98</u></b>
<b>Accounts Payable/Payroll/Benefits:</b>						<b><u>\$662,977.98</u></b>



**Summary of Professional Engineering Services During the Period  
February 11, 2023 through March 17, 2023**

	Total Engineering Budget (2023)	Total Fees to Date (2023)	Budget Balance (2023)	Fees During Period	District Accounting Code	Plan Implementation Task Number
<b>Engineering Administration</b>						
General Engineering Administration	\$87,000.00	\$17,767.93	\$69,232.07	\$6,812.44	4121-101	DW-13
RWMWD Health and Safety/ERTK Program	\$2,000.00	\$0.00	\$2,000.00	\$0.00	4697-101	DW-13
Educational Program/Educational Forum Assistance	\$20,000.00	\$702.50	\$19,297.50	\$0.00	4129-101	DW-11
Topical Workshop, Education, and Planning	\$25,000.00	\$3,159.00	\$21,841.00	\$365.00	4129-101	DW-13
<b>Engineering Review</b>						
Engineering Review	\$70,000.00	\$10,526.50	\$59,473.50	\$5,264.50	4123-101	DW-13
<b>Project Feasibility Studies</b>						
Emergency Response Plans (communication with cities from 2021 and 2022 efforts)	\$15,000.00	\$920.00	\$14,080.00	\$0.00	4129-101	DW-19
Kohlman Creek flood damage reduction feasibility study	\$75,000.00	\$3,031.00	\$71,969.00	\$2,175.00	4129-101	DW-9, KC-2, BELT-3
Kohlman Creek- Wakefield Lake Diversion Planning and Design	\$111,600.00	\$9,980.00	\$101,620.00	\$4,686.50	4129-101	DW-9, KC-2, BELT-3
Improvements to County Ditch 17	\$5,000.00	\$250.00	\$4,750.00	\$150.00	4129-101	DW-9, BELT-3
Improvements to Phalen Village	\$5,000.00	\$400.00	\$4,600.00	\$300.00	4129-101	DW-9, BELT-3
Ames Lake Technical Assistance and Project Planning with St. Paul	\$40,000.00	\$780.00	\$39,220.00	\$780.00	4129-101	DW-9, BELT-3
Resiliency Study for non-Beltline tributary areas (pre-planning study and evaluation of existing data)	\$150,000.00	\$9,655.00	\$140,345.00	\$8,902.50	4128-520	DW-9
Evaluate compliance with South Metro Mississippi River TSS TMDL	\$2,000.00	\$501.00	\$1,499.00	\$436.00	4129-101	MR-2
Owasso Basin area/North Star Estates improvements (with City of Little Canada)	\$30,000.00	\$12,592.37	\$17,407.63	\$1,631.50	4129-101	GC-3
Street Sweeping	\$20,000.00	\$8,526.50	\$11,473.50	\$3,320.00	4129-101	DW-6, DW-15
Retrofit Inventory	\$20,000.00	\$2,115.00	\$17,885.00	\$961.50	4129-101	DW-17, DW-20
Wetland Restoration Workshop, Education, and Planning	\$5,000.00	\$2,906.00	\$2,094.00	\$1,078.00	4129-101	DW-8, DW-13
Contingency*	\$30,000.00				4129-101	
<b>GIS Maintenance</b>						
GIS Maintenance	\$5,000.00	\$0.00	\$5,000.00	\$0.00	4170-101	DW-13
<b>Monitoring Water Quality/Project Monitoring</b>						
Lake Water Quality Monitoring (Misc QA/QC)	\$10,000.00	\$90.00	\$9,910.00	\$0.00	4520-101	DW-2
Annual WQ Report Assistance	\$12,000.00	\$1,219.50	\$10,780.50	\$1,117.00	4520-101	DW-2
Special Project BMP Monitoring	\$25,000.00	\$1,179.50	\$23,820.50	\$797.00	4520-101	DW-12
Grass Lake Berm Wetland Monitoring	\$12,000.00	\$2,350.00	\$9,650.00	\$2,200.00	4520-101	DW-5, DW-8
Battle Creek Monitoring to address TMDL	\$15,000.00	\$0.00	\$15,000.00	\$0.00	4520-101	DW-1, DW-2
<b>Permit Processing, Inspection and Enforcement</b>						
Permit Application Inspection and Enforcement	\$10,000.00	\$0.00	\$10,000.00	\$0.00	4122-101	DW-7
Permit Application Review	\$59,000.00	\$14,322.00	\$44,678.00	\$4,373.00	4124-101	DW-7
<b>Lake Studies/TMDL Reports</b>						
West Vadnais Lake Incorporation	\$15,000.00	\$75.00	\$14,925.00	\$75.00	4661-101	DW-2
2023 Grant Applications	\$40,000.00	\$0.00	\$40,000.00	\$0.00	4661-101	DW-13
WMP Updates - Including Implementation Plan Updates if needed	\$20,000.00	\$0.00	\$20,000.00	\$0.00	4661-101	DW-13
Prioritization of water quality projects from subwatershed feasibility studies	\$5,000.00	\$39.00	\$4,961.00	\$39.00	4661-101	DW-20
Carver Ponds Internal Load Reduction	\$12,000.00	\$0.00	\$12,000.00	\$0.00	4661-101	DW-12
Contingency for Lake Studies	\$22,500.00	\$0.00	\$22,500.00	\$0.00		
<b>Research Projects</b>						
New Technology Mini Case Studies (average 6 per year)	\$15,000.00	\$2,645.50	\$12,354.50	\$695.00	4695-101	DW-12
Kohlman Permeable Weir Test System - Implement Monitoring Plan	\$5,000.00	\$150.00	\$4,850.00	\$0.00	4695-101	DW-12
Shallow Lake Aeration Study	\$40,000.00	\$588.50	\$39,411.50	\$11.00	4695-101	DW-12
<b>Project Operations</b>						
2023 Tanners Alum Facility Monitoring	\$17,000.00	\$540.00	\$16,460.00	\$300.00	4650-101	TaL-3
Phalen/Keller and Twin Operations Support & Communications	\$5,000.00	\$0.00	\$5,000.00	\$0.00	4650-101	DW-5, DW-13
Lake Level Station Operation and Maintenance (add rain gauges?)	\$50,000.00	\$0.00	\$50,000.00	\$0.00	4650-101	DW-5
<b>Capital Improvements</b>						
Tanners Outlet	\$5,000.00	\$0.00	\$5,000.00	\$0.00	4128-520	DW-9
Woodbury Target	\$180,000.00	\$22,001.50	\$157,998.50	\$1,135.00	4128-518	DW-6
Targeted Retrofit Projects 2023	\$150,000.00	\$27,315.81	\$122,684.19	\$20,501.81	4128-518	DW-6
Stewardship Grant Program	\$75,000.00	\$5,344.00	\$69,656.00	\$665.00	4682-529	DW-6
West Industrial Park Berm and associated improvements	\$300,000.00	\$0.00	\$300,000.00	\$0.00	4128-520	GC-3
Lake Emily Subwatershed BMP	\$160,000.00	\$105,696.76	\$54,303.24	\$25,401.00	4128-518	LE-3
Pioneer Park Stormwater Reuse	\$151,200.00	\$37,058.54	\$114,141.46	\$16,922.50	4128-518	DW-6
Double Driveway and Fish Creek Tributary Improvements	\$112,200.00	\$10,287.04	\$101,912.96	\$3,974.04	4129-537	FC-2
<b>CIP Project Repair &amp; Maintenance</b>						
Routine CIP Inspection and Unplanned Maintenance Identification	\$125,000.00	\$20,888.11	\$104,111.89	\$11,347.61	4128-516	DW-5
Beltline 5-year Inspection	\$15,000.00	\$5,788.00	\$9,212.00	\$2,685.00	4128-516	BELT-2
District Inspection Standardization	\$0.00	\$0.00	\$0.00	\$0.00	4128-516	DW-5
2023 CIP Maintenance and Repairs	\$165,000.00	\$57,745.90	\$107,254.10	\$10,106.00	4128-516	DW-5

**\$139,207.90**

Barr declares under the penalties of Law that this Account,  
Claim, or Demand is just and that no part has been paid.

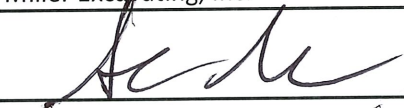
Bradley J. Lindaman, Vice President

**2023 Capitol Improvemnet Project (CIP) Progress Payment Number 2**

1.0	Total Completed Through This Period:	<u>\$415,930.28</u>	
2.0	Total Completed Previously Completed:		<u>\$302,632.15</u>
3.0	Total Completed This Period:		<u>\$113,298.13</u>
4.0	Amount Previously Retained:	<u>\$15,131.61</u>	
5.0	Amount Retained This Period (See Note 1):		<u>\$5,664.91</u>
6.0	Total Amount Retained (See Note 1):	<u>\$20,796.52</u>	
7.0	Retainage Released Through This Period:		<u>\$0.00</u>
8.0	Total Retainage Remaining:	<u>\$20,796.52</u>	
9.0	Amounts Previously Paid:	<u>\$287,500.54</u>	
10.0	Amount Due This Estimate:		<u><u>\$107,633.22</u></u>

Note 1: Retainage shall be 5 percent of the value of the Work completed.

SUBMITTED BY:

Name: Steve St. Claire Date: March 21, 2023  
 Title: President  
 Contractor: Miller Excavating, Inc.  
 Signature: 

RECOMMENDED BY:

Name: Brad Lindaman Date: \_\_\_\_\_  
 Title: District Engineer  
 Engineer: Barr Engineering Company  
 Signature: \_\_\_\_\_

APPROVED BY:

Name: Val Eisele Date: \_\_\_\_\_  
 Title: President  
 Owner: Ramsey-Washington Metro Watershed District  
 Signature: \_\_\_\_\_

**2023 Capital Improvement Project (CIP)**  
**Ramsey-Washington Metro Watershed District**  
**Summary of Work Completed Through March 21, 2023 for Progress Payment Number 2**

Item	Description	Unit	Estimated Quantity	Unit Price	Extension	(1) Total Completed Through This Period		(2) Total Completed Previous Period		(3) Total Completed This Period	
						Quantity	Amount	Quantity	Amount	Quantity	Amount
<b>General</b>											
A	Mobilization/Demobilization	L.S.	1	\$32,668.83	\$32,668.83	0.75	\$24,501.62	0.50	\$16,334.42	0.25	\$8,167.21
B	Control of Water	L.S.	1	\$11,998.46	\$11,998.46	0.75	\$8,998.85	0.50	\$5,999.23	0.25	\$2,999.62
C	Traffic Control	L.S.	1	\$5,833.16	\$5,833.16	0.75	\$4,374.87	0.50	\$2,916.58	0.25	\$1,458.29
<b>Site 1 - Tamarack Swamp, Woodbury (PFS Basins Cleaning/Sweeping)</b>											
D	Sediment/Muck Cleanout Excavation, Loading, Hauling and Disposal of Regulated Material (SRV Level 2 and 3)	Ton	92	\$141.58	\$13,025.36	0	\$0.00	0	\$0.00	0	\$0.00
E	Site Restoration (Seeding and Erosion Control Blanket)	S.Y.	100	\$9.68	\$968.00	0	\$0.00	0	\$0.00	0	\$0.00
F	Sediment Log (9-Inch Diameter)	L.F.	60	\$6.61	\$396.60	0	\$0.00	0	\$0.00	0	\$0.00
G	Paver Sweeping	S.Y.	1,400	\$3.34	\$4,676.00	0	\$0.00	0	\$0.00	0	\$0.00
<b>Site 2 - Tanners Wetland, Oakdale (Wetland Weir Maintenance)</b>											
D	Sediment/Muck Cleanout Excavation, Loading, Hauling and Disposal of Regulated Material (SRV Level 2 and 3)	Ton	250	\$136.94	\$34,235.00	324	\$44,427.44	0	\$0.00	324	\$44,427.44
E	Site Restoration (Seeding and Erosion Control Blanket)	S.Y.	210	\$13.32	\$2,797.20	0	\$0.00	0	\$0.00	0	\$0.00
J	Permeable Weir Maintenance (Reopening Drainage Slots and Remove all Brush and Debris)	L.F.	580	\$14.04	\$8,143.20	0	\$0.00	0	\$0.00	0	\$0.00
M	Construction Entrance	Each	1	\$1,316.48	\$1,316.48	0	\$0.00	0	\$0.00	0	\$0.00
<b>Site 3 - 5th Street Wetland, Oakdale (Wetland Weir Maintenance)</b>											
E	Site Restoration (Seeding and Erosion Control Blanket)	S.Y.	210	\$13.32	\$2,797.20	1,213	\$16,157.16	1,213	\$16,157.16	0	\$0.00
J	Permeable Weir Maintenance (Reopening Drainage Slots and Remove all Brush and Debris)	L.F.	65	\$37.72	\$2,451.80	0	\$0.00	0	\$0.00	0	\$0.00
W	Sediment/Muck Cleanout Excavation with On-Site Disposal	L.S.	1	\$6,213.07	\$6,213.07	1	\$6,213.07	1	\$6,213.07	0	\$0.00
<b>Site 4 - Gervais Mill Park, Little Canada (Mill Pond Filter Maintenance)</b>											
E	Site Restoration (Seeding and Erosion Control Blanket)	S.Y.	400	\$9.69	\$3,876.00	0	\$0.00	0	\$0.00	0	\$0.00
H	Remove Existing 1 1/2" to 2" Filter Rock	L.S.	1	\$2,470.52	\$2,470.52	0	\$0.00	0	\$0.00	0	\$0.00
I	Clear Washed Filter Rock	Ton	50	\$89.51	\$4,475.50	0	\$0.00	0	\$0.00	0	\$0.00
L	Flotation Silt Curtain	L.F.	45	\$33.84	\$1,522.80	0	\$0.00	0	\$0.00	0	\$0.00
O	Composite Mud Mats	S.Y.	100	\$47.24	\$4,724.00	0	\$0.00	0	\$0.00	0	\$0.00
<b>Site 4 - Gervais Mill Park, Little Canada (Steep Slope Repair)</b>											
E	Site Restoration (Seeding and Erosion Control Blanket)	S.Y.	150	\$23.83	\$3,574.50	0	\$0.00	0	\$0.00	0	\$0.00
F	Sediment Log (9-Inch Diameter)	L.F.	40	\$13.51	\$540.40	0	\$0.00	0	\$0.00	0	\$0.00
M	Construction Entrance	Each	1	\$1,316.48	\$1,316.48	0	\$0.00	0	\$0.00	0	\$0.00
P	Clearing and Grubbing	L.S.	1	\$2,767.48	\$2,767.48	0	\$0.00	0	\$0.00	0	\$0.00
V	Repair Slope with Imported Soils and Grading	L.S.	1	\$8,277.21	\$8,277.21	0	\$0.00	0	\$0.00	0	\$0.00
X	Pressure Clean Drainage Pipe System	L.S.	1	\$2,987.71	\$2,987.71	0	\$0.00	0	\$0.00	0	\$0.00
Y	Furnish and Install Cone Grate	Each	2	\$285.91	\$571.82	0	\$0.00	0	\$0.00	0	\$0.00
Z	MN/DOT Class II Riprap (Field Stone) with Geotextile Filter Fabric	Ton	30.0	\$99.69	\$2,990.70	0.0	\$0.00	0.0	\$0.00	0.0	\$0.00



**2023 Capital Improvement Project (CIP)**  
**Ramsey-Washington Metro Watershed District**  
**Summary of Work Completed Through March 21, 2023 for Progress Payment Number 2**

Item	Description	Unit	Estimated Quantity	Unit Price	Extension	(1) Total Completed Through This Period		(2) Total Completed Previous Period		(3) Total Completed This Period	
						Quantity	Amount	Quantity	Amount	Quantity	Amount
<b>Site 5 - Lower Afton Road, Maplewood (Drainageway Sediment Removal)</b>											
D	Sediment/Muck Cleanout Excavation, Loading, Hauling and Disposal of Regulated Material (SRV Level 2 and 3)	Ton	127	\$109.70	\$13,931.90	133	\$14,555.00	0	\$0.00	133	\$14,555.00
E	Site Restoration (Seeding and Erosion Control Blanket)	S.Y.	210	\$9.28	\$1,948.80	64	\$593.92	0	\$0.00	64	\$593.92
M	Construction Entrance	Each	1	\$1,316.48	\$1,316.48	0	\$0.00	0	\$0.00	0	\$0.00
N	Temporary Rock Filter Dike	Ton	10	\$125.18	\$1,251.80	0	\$0.00	0	\$0.00	0	\$0.00
O	Composite Mud Mats	S.Y.	45	\$44.39	\$1,997.55	280	\$12,429.20	0	\$0.00	280	\$12,429.20
Z	MN/DOT Class III Riprap (Field Stone) with Geotextile Filter Fabric	Ton	21.0	\$89.03	\$1,869.63	19.8	\$1,762.79	0.0	\$0.00	19.8	\$1,762.79
Z	MN/DOT Class IV Riprap (Field Stone) with Geotextile Filter Fabric	Ton	17.0	\$86.19	\$1,465.23	20.8	\$1,792.75	0.0	\$0.00	20.8	\$1,792.75
<b>Site 6 - Kohlman Basin, Maplewood (Weirs Upflow Treatment System)</b>											
L	Flotation Silt Curtain	L.F.	110	\$24.49	\$2,693.90	0	\$0.00	0	\$0.00	0	\$0.00
M	Construction Entrance	Each	1	\$1,316.48	\$1,316.48	0	\$0.00	0	\$0.00	0	\$0.00
R	Silt Fence	L.F.	150	\$10.93	\$1,639.50	0	\$0.00	0	\$0.00	0	\$0.00
S	Removal and Disposal of Existing Materials to Construct Upflow Treatment System Complete	L.S.	1	\$4,024.26	\$4,024.26	0	\$0.00	0	\$0.00	0	\$0.00
T	Construct Upflow Treatment System Complete	L.S.	1	\$67,698.10	\$67,698.10	0	\$0.00	0	\$0.00	0	\$0.00
<b>Site 7 - Gervais County Park, Little Canada (Wetland Sediment Removal)</b>											
E	Site Restoration (Seeding and Erosion Control Blanket)	S.Y.	540	\$5.91	\$3,191.40	368	\$2,174.88	0	\$0.00	368	\$2,174.88
F	Sediment Log (9-Inch Diameter)	L.F.	300	\$11.98	\$3,594.00	0	\$0.00	0	\$0.00	0	\$0.00
M	Construction Entrance	Each	1	\$1,316.48	\$1,316.48	0	\$0.00	0	\$0.00	0	\$0.00
O	Composite Mud Mats	S.Y.	30	\$48.47	\$1,454.10	201	\$9,742.47	0	\$0.00	201	\$9,742.47
P	Clearing and Grubbing	L.S.	1	\$3,084.66	\$3,084.66	1	\$3,084.66	0	\$0.00	1	\$3,084.66
U	Trench Excavation and Compacted Clay Fill (P)	C.Y.	38	\$266.05	\$10,109.90	38	\$10,109.90	0	\$0.00	38	\$10,109.90
<b>Site 8 - Woodwinds Drive, Woodbury (SC846 and SC847)</b>											
D	Sediment/Muck Cleanout Excavation, Loading, Hauling and Disposal of Regulated Material (SRV Level 2 and 3)	Ton	370	\$68.39	\$25,304.30	400	\$27,356.00	400	\$27,356.00	0	\$0.00
E	Site Restoration (Seeding and Erosion Control Blanket)	S.Y.	170	\$16.17	\$2,748.90	462	\$7,470.54	462	\$7,470.54	0	\$0.00
K	Remove Select Tree	Each	2	\$1,233.44	\$2,466.88	3	\$3,700.32	3	\$3,700.32	0	\$0.00
L	Flotation Silt Curtain	L.F.	110	\$14.58	\$1,603.80	0	\$0.00	0	\$0.00	0	\$0.00
O	Composite Mud Mats	S.Y.	30	\$48.47	\$1,454.10	60	\$2,908.20	60	\$2,908.20	0	\$0.00
Z	MN/DOT Class III Riprap (Field Stone) with Geotextile Filter Fabric	Ton	20.0	\$90.68	\$1,813.60	18.0	\$1,632.24	18.0	\$1,632.24	0.0	\$0.00
AA	Inlet Protection	Each	2	\$146.31	\$292.62	1	\$146.31	1	\$146.31	0	\$0.00
<b>Site 8 - Woodwinds Drive, Woodbury (SC190)</b>											
E	Site Restoration (Seeding and Erosion Control Blanket)	S.Y.	85	\$21.17	\$1,799.45	171	\$3,620.07	171	\$3,620.07	0	\$0.00
K	Remove Select Tree	Each	2	\$1,233.44	\$2,466.88	2	\$2,466.88	2	\$2,466.88	0	\$0.00
L	Flotation Silt Curtain	L.F.	100	\$15.08	\$1,508.00	0	\$0.00	0	\$0.00	0	\$0.00
O	Composite Mud Mats	S.Y.	30	\$48.47	\$1,454.10	30	\$1,454.10	30	\$1,454.10	0	\$0.00

**2023 Capital Improvement Project (CIP)**  
**Ramsey-Washington Metro Watershed District**  
**Summary of Work Completed Through March 21, 2023 for Progress Payment Number 2**

Item	Description	Unit	Estimated Quantity	Unit Price	Extension	(1) Total Completed Through This Period		(2) Total Completed Previous Period		(3) Total Completed This Period	
						Quantity	Amount	Quantity	Amount	Quantity	Amount
Q	Sediment/Muck Cleanout Excavation, Loading, Hauling and Disposal of Unregulated Material (SRV Level 1) (P)	C.Y.	65	\$53.70	\$3,490.50	115	\$6,175.50	115	\$6,175.50	0	\$0.00
Z	MN/DOT Class III Riprap (Field Stone) with Geotextile Filter Fabric	Ton	10.0	\$76.34	\$763.40	12.2	\$931.35	12.2	\$931.35	0.0	\$0.00
AA	Inlet Protection	Each	2	\$112.37	\$224.74	1	\$112.37	1	\$112.37	0	\$0.00

**2023 Capital Improvement Project (CIP)  
 Ramsey-Washington Metro Watershed District  
 Summary of Work Completed Through March 21, 2023 for Progress Payment Number 2**

Item	Description	Unit	Estimated Quantity	Unit Price	Extension	(1) Total Completed Through This Period		(2) Total Completed Previous Period		(3) Total Completed This Period	
						Quantity	Amount	Quantity	Amount	Quantity	Amount
<b>Site 9 - Century Ave. South, Woodbury (SC275)</b>											
D	Sediment/Muck Cleanout Excavation, Loading, Hauling and Disposal of Regulated Material (SRV Level 2 and 3)	Ton	400	\$70.88	\$28,352.00	446	\$31,612.48	446	\$31,612.48	0	\$0.00
E	Site Restoration (Seeding and Erosion Control Blanket)	S.Y.	170	\$16.17	\$2,748.90	690	\$11,157.30	690	\$11,157.30	0	\$0.00
F	Sediment Log (9-Inch Diameter)	L.F.	20	\$11.34	\$226.80	0	\$0.00	0	\$0.00	0	\$0.00
K	Remove Select Tree	Each	2	\$1,193.99	\$2,387.98	2	\$2,387.98	2	\$2,387.98	0	\$0.00
L	Flotation Silt Curtain	L.F.	70	\$17.41	\$1,218.70	0	\$0.00	0	\$0.00	0	\$0.00
O	Composite Mud Mats	S.Y.	30	\$48.47	\$1,454.10	30	\$1,454.10	30	\$1,454.10	0	\$0.00
P	Clearing and Grubbing	L.S.	1	\$3,700.33	\$3,700.33	1	\$3,700.33	1	\$3,700.33	0	\$0.00
Z	MN/DOT Class III Riprap (Field Stone) with Geotextile Filter Fabric	Ton	30.0	\$101.37	\$3,041.10	17.0	\$1,723.29	17.0	\$1,723.29	0.0	\$0.00
<b>Site 10 - Aspen Circle, Little Canada (Aspen Pond)</b>											
D	Sediment/Muck Cleanout Excavation, Loading, Hauling and Disposal of Regulated Material (SRV Level 2 and 3)	Ton	1770	\$71.50	\$126,555.00	1,842	\$131,703.00	1,842	\$131,703.00	0	\$0.00
E	Site Restoration (Seeding and Erosion Control Blanket)	S.Y.	300	\$12.51	\$3,753.00	300	\$3,753.00	300	\$3,753.00	0	\$0.00
N	Temporary Rock Filter Dike	Ton	10	\$114.21	\$1,142.10	0	\$0.00	0	\$0.00	0	\$0.00
O	Composite Mud Mats	S.Y.	30	\$48.47	\$1,454.10	30	\$1,454.10	30	\$1,454.10	0	\$0.00
Z	MN/DOT Class III Riprap (Field Stone) with Geotextile Filter Fabric	Ton	30.0	\$89.61	\$2,688.30	18.5	\$1,657.79	18.5	\$1,657.79	0.0	\$0.00
				<b>Contract Base Extensions =</b>	<b>\$517,633.33</b>		<b>\$409,495.83</b>		<b>\$296,197.70</b>		<b>\$113,298.13</b>
<b>Change Order 1</b>											
C.O.1.A	Site 10 Storm Pipe Extension	L.S.	1	\$4,247.45	\$4,247.45	1	\$4,247.45	1	\$4,247.45	0	\$0.00
C.O.1.B	Sediment Log (6-Inch Diameter)	L.F.	243	\$9.00	\$2,187.00	243	\$2,187.00	243	\$2,187.00	0	\$0.00

**Change Order Extensions = \$6,434.45 \$6,434.45 \$6,434.45 \$0.00**

**Contract Grand Total = \$524,067.78 \$415,930.28 \$302,632.15 \$113,298.13**

Galowitz Olson, PLLC  
10390 39th Street North  
Lake Elmo, Minnesota 55042  
Office: (651) 777-6960  
Fax: (651) 777-8937

Ramsey-Washington Metro Watershed District  
C/O Tina Carstens  
2665 Noel Drive  
Little Canada MN 55117

Page: 1  
March 22, 2023  
File No: 9M

	Balance
General Account	<u>\$1,900.00</u>

# Permit Application Coversheet

Date April 05, 2023

Project Name Woodbury 2023 SIP

Project Number 23-09

Applicant Name Tony Kutzke, City of Woodbury

Type of Development Linear

## Property Description

This project is located in a residential neighborhood southeast of I-494 and Valley Creek Road in the City of Woodbury. A southeast portion of the neighborhood is located in South Washington Watershed District (SWWD) and will be regulated separately. The applicant is proposing a roadway improvements project that will involve partial reconstruction and partial pavement rehabilitation. The total site area is approximately 45 acres. Within the RWMWD portion of the project, 6 filtration rain gardens and 5 filtration trenches are proposed to partially meet stormwater treatment requirements. The applicant is proposing to submit a \$782,281 payment into the Stormwater Impact Fund to meet remaining treatment requirements, taking into account the linear cost cap. The applicant indicates that limited right-of-way, poor soils, and utility conflicts limit the ability to meet volume reduction requirements onsite, however onsite rate control is being met. The city continues to engage homeowner participation in the city's residential rain garden program to achieve additional onsite treatment where there is interest.

## Watershed District Policies or Standards Involved:

- |  |   |
|--|---|
| <input type="checkbox"/> <i>Wetlands</i>                         | <input checked="" type="checkbox"/> <i>Erosion and Sediment Control</i> |
| <input checked="" type="checkbox"/> <i>Stormwater Management</i> | <input type="checkbox"/> <i>Floodplain</i>                              |

## Water Quantity Considerations

The proposed stormwater management plan is sufficient to handle the runoff from the site.

## Water Quality Considerations

### *Short Term*

The proposed erosion and sediment control plan is sufficient to protect downstream water resources during construction.

### *Long Term*

The proposed erosion and sediment control plan is sufficient to protect the long term quality of downstream water resources.

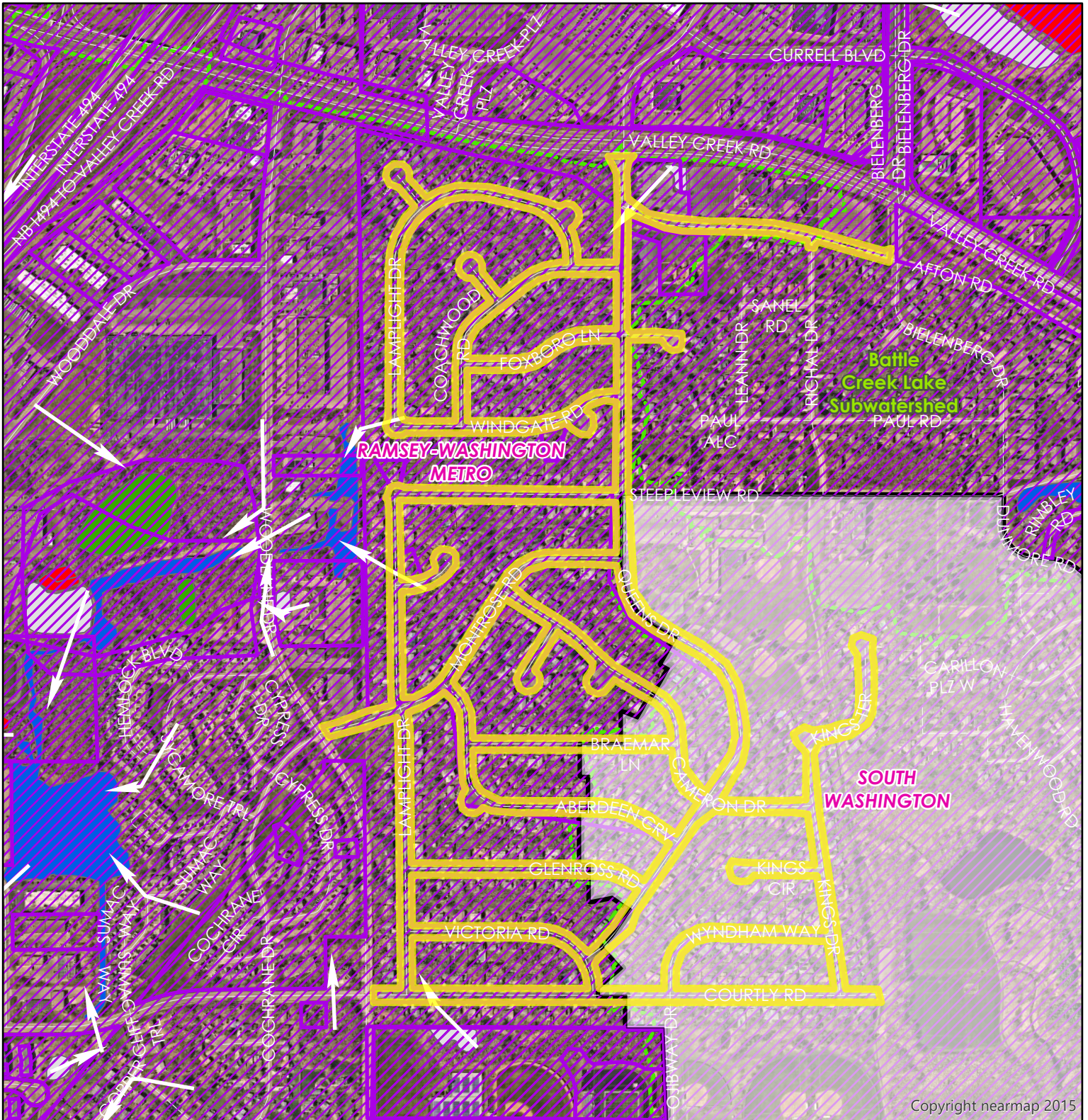
## Staff Recommendation

Staff recommends approval of this permit with the special provisions.

## Attachments:

- Project Location Map
- Project Grading Plan

# #23-09 Woodbury 2023 SIP



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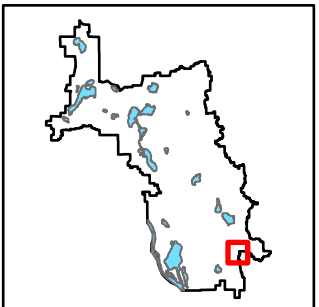
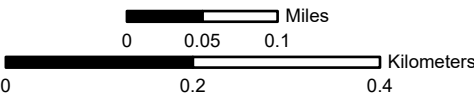
Wetlands	
	Manage A
	Manage B
	Manage C
	Lake
	Sediment Pond
	Not Assessed
	WMO_Metro

	Flow Arrows
	Roads
	Permits
	Cities
	Subwatersheds
	RWMWD Boundary
	WMO_Metro

Shaded area is outside RWMWD

Highlighted Areas Represent Active Permit



23-09

### Special Provisions

1. The applicant shall submit the \$782,281 payment into the Stormwater Impact Fund.
2. The applicant shall submit contact information for the trained erosion control coordinator responsible for implementing the SWPPP (Stormwater Pollution Prevention Plan (SWPPP)).

# Permit Application Coversheet

Date April 05, 2023

Project Name Reuter Walton Apartments II Project Number 23-11

Applicant Name Kelley Egan-Wittrock, Reuter Walton

Type of Development Residential

## Property Description

This project is located near Twin Lake Boulevard & Bankers Drive in the City of Little Canada. The applicant is proposing a "Phase 2" apartment building, just west of another apartment building that is currently being constructed (#22-10). The total site area proposed as part of this permit is approximately 2 acres. An underground infiltration system is proposed to meet stormwater treatment requirements.

## Watershed District Policies or Standards Involved:

- |  |   |
|--|---|
| <input type="checkbox"/> <i>Wetlands</i>                         | <input checked="" type="checkbox"/> <i>Erosion and Sediment Control</i> |
| <input checked="" type="checkbox"/> <i>Stormwater Management</i> | <input type="checkbox"/> <i>Floodplain</i>                              |

## Water Quantity Considerations

The proposed stormwater management plan is sufficient to handle the runoff from the site.

## Water Quality Considerations

### *Short Term*

The proposed erosion and sediment control plan is sufficient to protect downstream water resources during construction.

### *Long Term*

The proposed stormwater management plan is sufficient to protect the long term quality of downstream water resources.

## Staff Recommendation

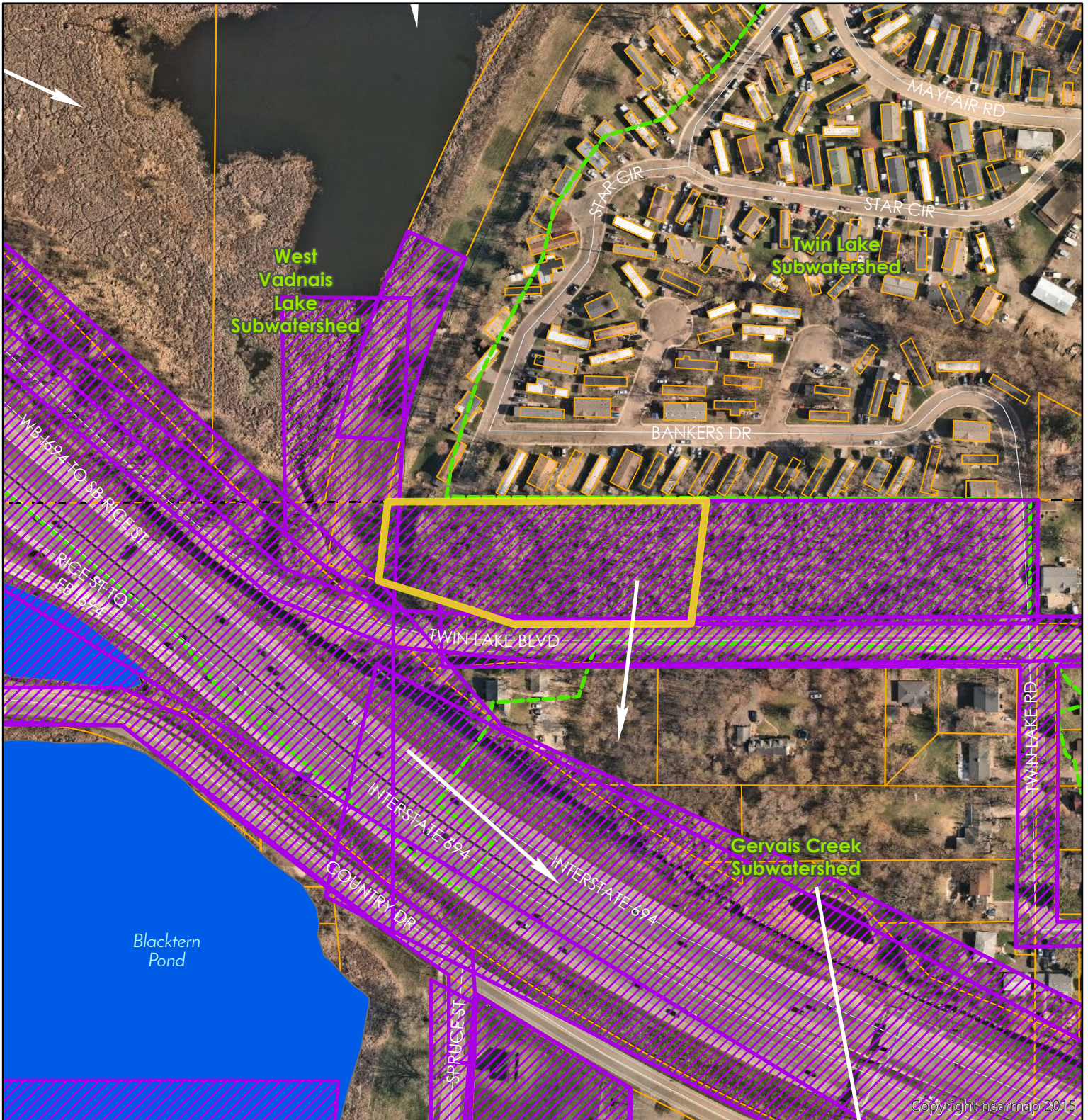
Staff recommends approval of this permit with the special provisions.

## Attachments:

- Project Location Map
- Project Grading Plan



# #23-11 Reuter Walton Apartments II



Copyright nearmap 2015

<b>Wetlands</b> Manage A Manage B Manage C Lake Sediment Pond Not Assessed		Flow Arrows Roads Permits Cities Subwatersheds Parcels/Ramsey RWMWD Boundary		<p>Highlighted Areas Represent Active Permit</p> 					
--	--	--	--	--	--	--	--	--	--

Special Provisions

1. The applicant shall submit the escrow fee of \$9,700.
2. The applicant shall add notes to the plans:
  - A. Notify Nicole Soderholm, Ramsey-Washington Metro Watershed District, at 651-792-7976 prior to beginning construction activity in order to schedule an initial erosion control walk-through.
  - B. Notify Nicole Soderholm, Ramsey-Washington Metro Watershed District, at 651-792-7976 at least 48 hours prior to construction of the underground stormwater system.
3. The applicant shall submit site-specific details for the underground infiltration system, including inlet and outlet structures for future inspection purposes.
4. The applicant shall label inspection locations and clean-outs on the plans for the proposed underground infiltration system.
5. The applicant shall submit the final, signed plans set.
6. The applicant shall submit an executed stormwater maintenance agreement for the proposed stormwater facilities.
7. The applicant shall submit a site-specific, BMP Operations & Maintenance Plan for the proposed stormwater facilities.
8. The applicant shall submit a copy of the approved Minnesota Pollution Control Agency's NPDES Construction Permit coverage for the project.

**PRELIMINARY:  
NOT FOR CONSTRUCTION**

**LICA**  
LITTLE CANADA, MN 55117  
**REUTER WALTON DEVELOPMENT**  
4450 EDGECLIFF BOULEVARD, SUITE 400  
ST. LOUIS PARK, MN 55416

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

*Matthew R. Pavek*  
Matthew R. Pavek  
DATE 3-24-23 LICENSE NO. 44263

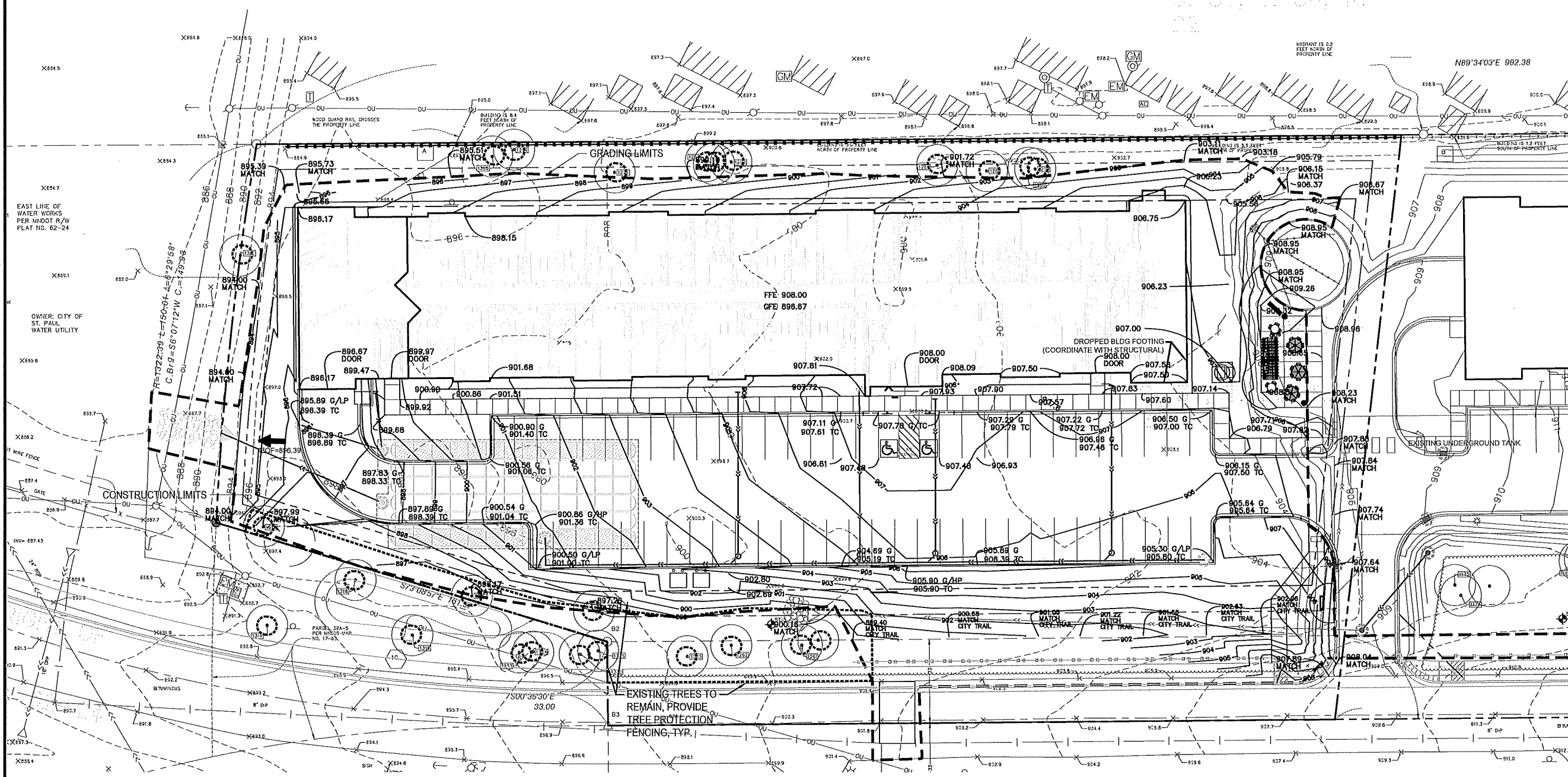
ISSUE/SUBMITTAL SUMMARY	
DATE	DESCRIPTION
3-23	PROVIDE REVIEW SET
3-23	WATERSHED SUBMITTAL
3-23	PROVIDE SET
3-23	WATERSHED SUBMITTAL

DRAWN BY: XJM, MS REVIEWED BY: HP  
PROJECT NUMBER: 22023.02

REVISION SUMMARY	
DATE	DESCRIPTION

GRADING PLAN

**C3.0**



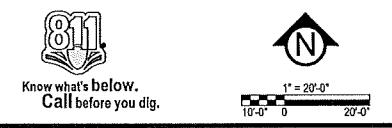
SEE C0.1 FOR GENERAL GRADING PLAN NOTES

COORDINATING WITH CITY OF LITTLE CANADA FOR TRAIL GRADES FOR MATCH POINTS - 3/6/23

**GRADING PLAN LEGEND:**

-----	EX. 1' CONTOUR ELEVATION INTERVAL
-----	1.0' CONTOUR ELEVATION INTERVAL
○	SPOT GRADE ELEVATION (GUTTER/FLOW LINE UNLESS OTHERWISE NOTED)
○	SPOT GRADE ELEVATION GUTTER
○	SPOT GRADE ELEVATION TOP OF CURB
○	SPOT GRADE ELEVATION BOTTOM OF STAIRS/TOP OF STAIRS
○	SPOT GRADE ELEVATION MATCH EXISTING
=====	CURB AND GUTTER (T.O = TIP OUT)
→	EMERGENCY OVERFLOW

EOF=1135.52



EAST LINE OF WATER WORKS PER MUSDOT R/W PLAT NO. 62-24

OWNER: CITY OF ST. PAUL WATER UTILITY

WIRE FENCE

PARCELS 37A-5 PER UNIFORM PAR. NO. 17-63.

EXISTING TREES TO REMAIN, PROVIDE TREE PROTECTION FENCING, TYP.

# Permit Application Coversheet

Date April 06, 2022

Project Name Reuter Walton Apartments Project Number 22-10

Applicant Name Kris Ikeler, Reuter Walton Development

Type of Development Residential

## Property Description

This project is located on Twin Lake Boulevard, south of West Vadnais Lake in the City of Little Canada. The applicant is proposing to construct a multi-family apartment building with associated parking, landscaping, and stormwater improvements. The total site area is 2.14 acres. An underground infiltration system is proposed to meet stormwater treatment requirements. Pretreatment will be included in the form of isolator rows within the chamber system. A portion of the site is located within the 100-year floodplain, and no fill is proposed in order to maintain flood storage on the landscape.

## Watershed District Policies or Standards Involved:

- |  |   |
|--|---|
| <input type="checkbox"/> <i>Wetlands</i>                         | <input checked="" type="checkbox"/> <i>Erosion and Sediment Control</i> |
| <input checked="" type="checkbox"/> <i>Stormwater Management</i> | <input checked="" type="checkbox"/> <i>Floodplain</i>                   |

## Water Quantity Considerations

The proposed stormwater management plan is sufficient to handle the runoff from the site.

## Water Quality Considerations

### *Short Term*

The proposed erosion and sediment control plan is sufficient to protect downstream water resources during construction.

### *Long Term*

The proposed stormwater management plan is sufficient to protect the long term quality of downstream water resources.

## Staff Recommendation

Staff recommends approval of this permit with the special provisions.

## Attachments:

- Project Location Map
- Project Grading Plan

# Permit Application Coversheet

Date April 05, 2023

Project Name Jordan Seeds Property Grading Project Number 23-12

Applicant Name Jake Jordan, Jordan Seeds

Type of Development Grading

## Property Description

This project is located west of the intersection of Tamarack Road and Weir Drive in the City of Woodbury. The applicant is proposing to import soil, regrade a portion of the parcel, and restore with vegetation. There is no proposed impervious surface included in this project, thus permanent stormwater treatment is not required. Wetlands were delineated with boundaries approved by RWMWD in December 2022 (#22-21 WCA). The applicant has demonstrated that proposed grading activities will take place outside of delineated wetlands, their associated upland buffers, and 100-year floodplain. The total site area is 18 acres.

## Watershed District Policies or Standards Involved:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> <i>Wetlands</i>   | <input checked="" type="checkbox"/> <i>Erosion and Sediment Control</i> |
| <input type="checkbox"/> <i>Stormwater Management</i> | <input type="checkbox"/> <i>Floodplain</i>                              |

## Water Quantity Considerations

There are no water quantity considerations.

## Water Quality Considerations

### *Short Term*

The proposed erosion and sediment control plan is sufficient to protect downstream water resources during construction.

### *Long Term*

There are no long term water quality considerations.

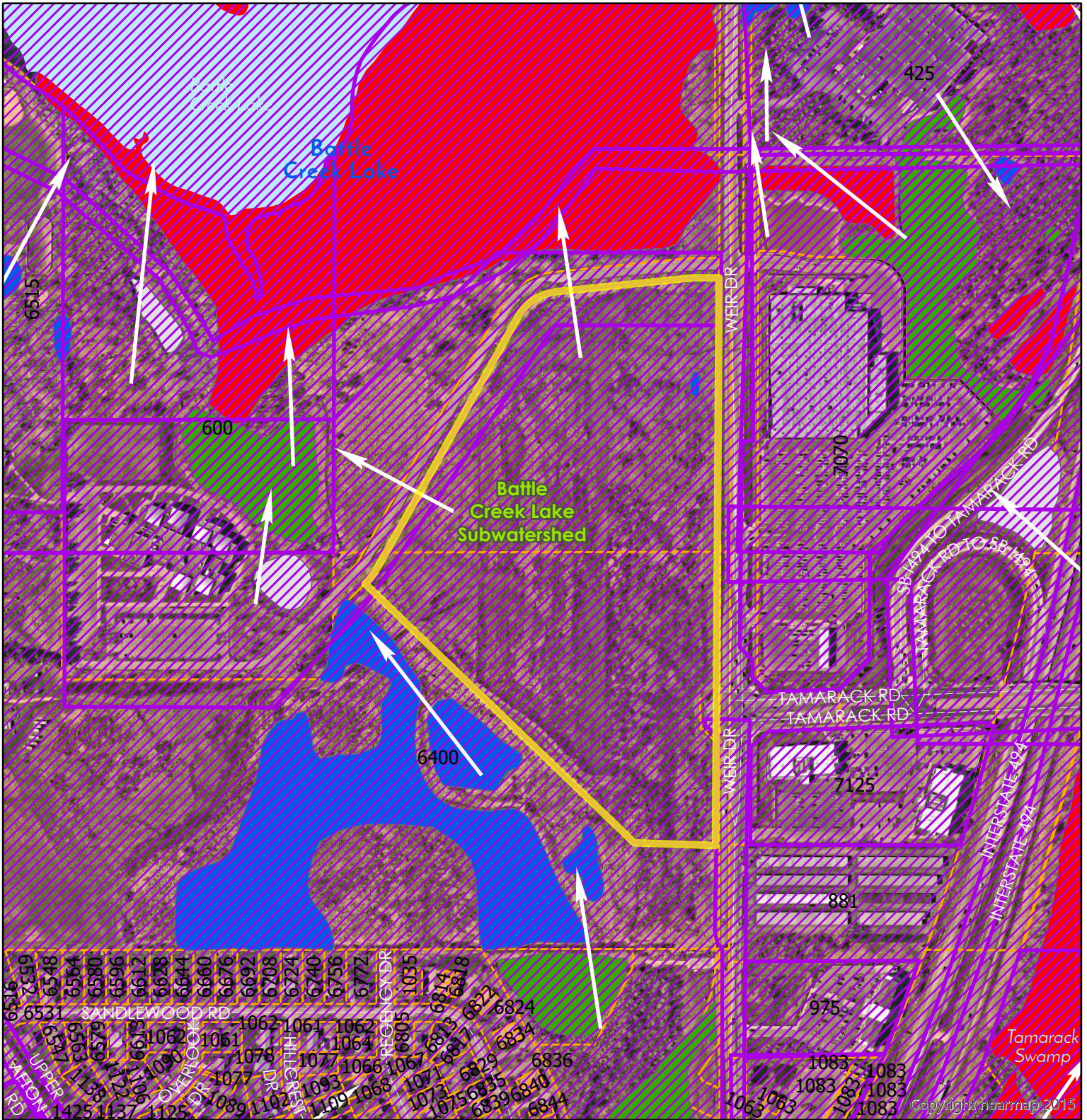
## Staff Recommendation

Staff recommends approval of this permit with the special provisions.

## Attachments:

- Project Location Map
- Project Grading Plan

# #23-12 Jordan Seeds Property Grading



Wetlands	
	Manage A
	Manage B
	Manage C
	Lake
	Sediment Pond
	Not Assessed

	Flow Arrows
	Roads
	Permits
	Cities
	Subwatersheds
	Lakes
	ParcelsWashington
	RWMWD Boundary

Highlighted Areas  
Represent Active Permit

0 0.1 0.2 Miles

0 0.2 0.4 Kilometers

N





23-12

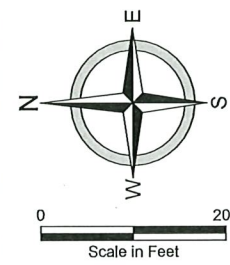
### Special Provisions

1. The applicant shall add notes to the plans:
  - A. Notify Nicole Soderholm, at Ramsey-Washington Metro Watershed District, at 651-792-7976 prior to beginning construction activity in order to schedule an initial erosion control walk-through.
  - B. Add a note to the plans that the specified erosion and sediment control practices are the minimum. Additional practices may be required during the course of construction.
2. The applicant shall submit the final, signed plans set.

FILE LOCATION: R:\Projects\23000\23000\CIVIL\PRODUCTION\23075\_GradingPlan.dwg

### LEGEND

-  EXISTING SURFACE CONTOURS
-  PROPOSED SURFACE CONTOURS
-  75' WETLAND BUFFER
-  100 YEAR FLOOD PLAIN



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

Josiah C. Rostad

DATE: 03.15.23 LIC. NO. 60526



SITE PLANS  
 SEEDS PROPERTY  
 STORMWATER POLLUTION PREVENTION PLAN  
 WOODBURY, MN  
 GRADING PLAN

DATE:	03.15.23
REV DATE:	—
REV NUM:	—
RECORD:	—
PROJECT No.	23075
MANAGER:	—
DESIGNER:	JCR
DRAFTER:	JCR
REVIEWER:	TO

C-601



## Minnesota Wetland Conservation Act Notice of Decision

<b>Local Government Unit:</b> Ramsey-Washington Metro Watershed District (RWMWD) <b>County:</b> Washington
<b>Applicant Name:</b> Nick Reichl (Ames Construction) <b>Applicant Representative:</b> Lucas Mueller (Kjolhaug Environmental Services)
<b>Project Name:</b> Weir Drive <b>LGU Project No. (if any):</b> 22-21 WCA
<b>Date Complete Application Received by LGU:</b> 11/2/2022
<b>Date of LGU Decision:</b> 11/29/2022
<b>Date this Notice was Sent:</b> 12/6/2022

**WCA Decision Type** - check all that apply

<input checked="" type="checkbox"/> <b>Wetland Boundary/Type</b> <input type="checkbox"/> <b>Sequencing</b> <input type="checkbox"/> <b>Replacement Plan</b> <input type="checkbox"/> <b>Bank Plan (not credit purchase)</b>
<input type="checkbox"/> <b>No-Loss (8420.0415)</b> <input type="checkbox"/> <b>Exemption (8420.0420)</b>
<b>Part:</b> <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G <input checked="" type="checkbox"/> H <b>Subpart:</b> <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9

**Replacement Plan Impacts** (replacement plan decisions only)

Total WCA Wetland Impact Area:
Wetland Replacement Type: <input type="checkbox"/> Project Specific Credits: <input type="checkbox"/> Bank Credits:
Bank Account Number(s):

**Technical Evaluation Panel Findings and Recommendations (attach if any)**

<input checked="" type="checkbox"/> Approve <input type="checkbox"/> Approve w/Conditions <input type="checkbox"/> Deny <input checked="" type="checkbox"/> No TEP Recommendation
<b>Nicole Soderholm (RWMWD- LGU), Mary Fitzgerald (RWMWD), and Ben Meyer (BWSR) met with Ames and Kjolhaug representatives for a delineation review on 11/15/22. No changes were requested to the delineation report.</b>

**LGU Decision**

<input type="checkbox"/> Approved with Conditions (specify below) <sup>1</sup> <input checked="" type="checkbox"/> Approved <sup>1</sup> <input type="checkbox"/> Denied List Conditions:
<b>Decision-Maker for this Application:</b> <input checked="" type="checkbox"/> Staff <input type="checkbox"/> Governing Board/Council <input type="checkbox"/> Other:
<b>Decision is valid for:</b> <input checked="" type="checkbox"/> 5 years (default) <input type="checkbox"/> Other (specify):

<sup>1</sup> *Wetland Replacement Plan approval is not valid until BWSR confirms the withdrawal of any required wetland bank credits. For project-specific replacement a financial assurance per MN Rule 8420.0522, Subp. 9 and evidence that all required forms have been recorded on the title of the property on which the replacement wetland is located must be provided to the LGU for the approval to be valid.*

**LGU Findings** – Attach document(s) and/or insert narrative providing the basis for the LGU decision<sup>1</sup>.

<input type="checkbox"/> Attachment(s) (specify): <input checked="" type="checkbox"/> Summary: <b>See TEP Findings.</b>
--

<sup>1</sup> Findings must consider any TEP recommendations.

**Attached Project Documents**

<input checked="" type="checkbox"/> Site Location Map <input type="checkbox"/> Project Plan(s)/Descriptions/Reports (specify):
--

**Appeals of LGU Decisions**

If you wish to appeal this decision, you must provide a written request within 30 calendar days of the date you received the notice. All appeals must be submitted to the Board of Water and Soil Resources Executive Director along with a check payable to BWSR for \$500 *unless* the LGU has adopted a local appeal process as identified below. The check must be sent by mail and the written request to appeal can be submitted by mail or e-mail. The appeal should include a copy of this notice, name and contact information of appellant(s) and their representatives (if applicable), a statement clarifying the intent to appeal and supporting information as to why the decision is in error. Send to:

Appeals & Regulatory Compliance Coordinator  
 Minnesota Board of Water & Soils Resources  
 520 Lafayette Road North  
 St. Paul, MN 55155  
[travis.germundson@state.mn.us](mailto:travis.germundson@state.mn.us)

Does the LGU have a local appeal process applicable to this decision?

Yes<sup>1</sup>       No

<sup>1</sup>If yes, all appeals must first be considered via the local appeals process.

**Local Appeals Submittal Requirements** (LGU must describe how to appeal, submittal requirements, fees, etc. as applicable)

--

**Notice Distribution (include name)**

*Required on all notices:*

<input checked="" type="checkbox"/> SWCD TEP Member: <b>Jay Riggs (Washington Conservation District)</b>	<input checked="" type="checkbox"/> BWSR TEP Member: <b>Ben Meyer</b>
<input type="checkbox"/> LGU TEP Member (if different than LGU contact):	
<input checked="" type="checkbox"/> DNR Representative: <b>Kelly Pharis</b>	
<input type="checkbox"/> Watershed District or Watershed Mgmt. Org.:	
<input checked="" type="checkbox"/> Applicant (notice only): <input type="checkbox"/> Agent/Consultant (notice only):	

*Optional or As Applicable:*

<input checked="" type="checkbox"/> Corps of Engineers:	
<input type="checkbox"/> BWSR Wetland Mitigation Coordinator (required for bank plan applications only):	
<input type="checkbox"/> Members of the Public (notice only):	<input checked="" type="checkbox"/> Other: <b>Mary Fitzgerald (RWMWD)</b>

<b>Signature:</b> <i>Nicole Soderholm</i>	<b>Date:</b> 12/6/2022
--	---------------------------

**This notice and accompanying application materials may be sent electronically or by mail. The LGU may opt to send a summary of the application to members of the public upon request per 8420.0255, Subp. 3.**

## Stewardship Grant Application Summary

**Project Name:** Jakel

**Application Number** 23-08 CS

**Board Meeting Date:** 4/5/2023

**Applicant Name:** John Jakel

**Residential**  **Commercial/Government**

### Project Overview:

This project is located behind a townhome unit within the Owasso Heights Townhome Association (OHTA) in the City of Roseville. OHTA was approved for a stewardship grant (#23-01 CS) to install a dry creek bed and rain garden to help alleviate drainage issues they experience after heavy rainfalls. This application is for a project at an individual unit to help alleviate drainage issues specific to this unit. The applicant has received approval from OHTA to move forward with the project. The applicant will maintain the rain garden for the first 5 years and then OHTA will take over ongoing maintenance. This project is eligible for 75% funding up to \$15,000.

### BMP type(s):

Rain Garden(1)

### Grant Request:

\$6,570.00

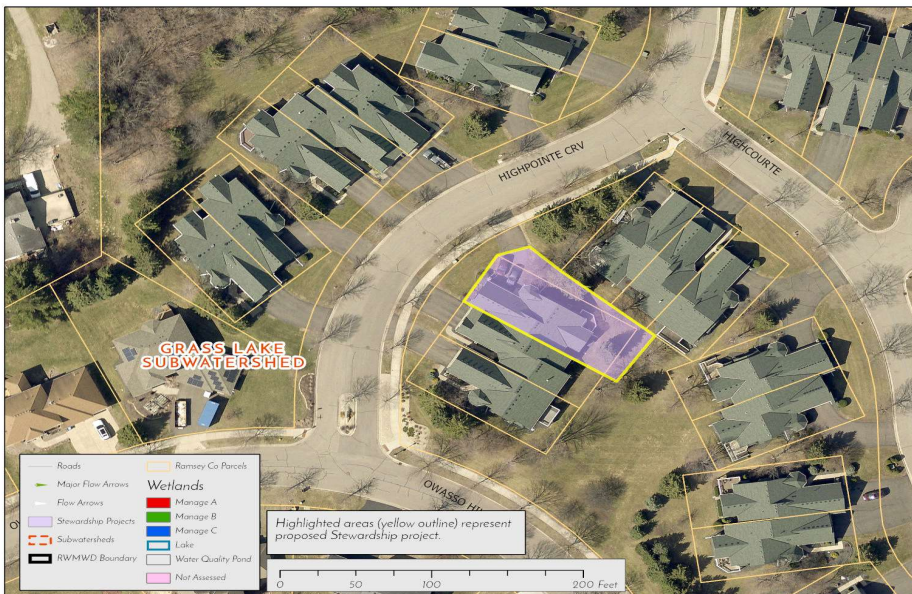
### Recommendation:

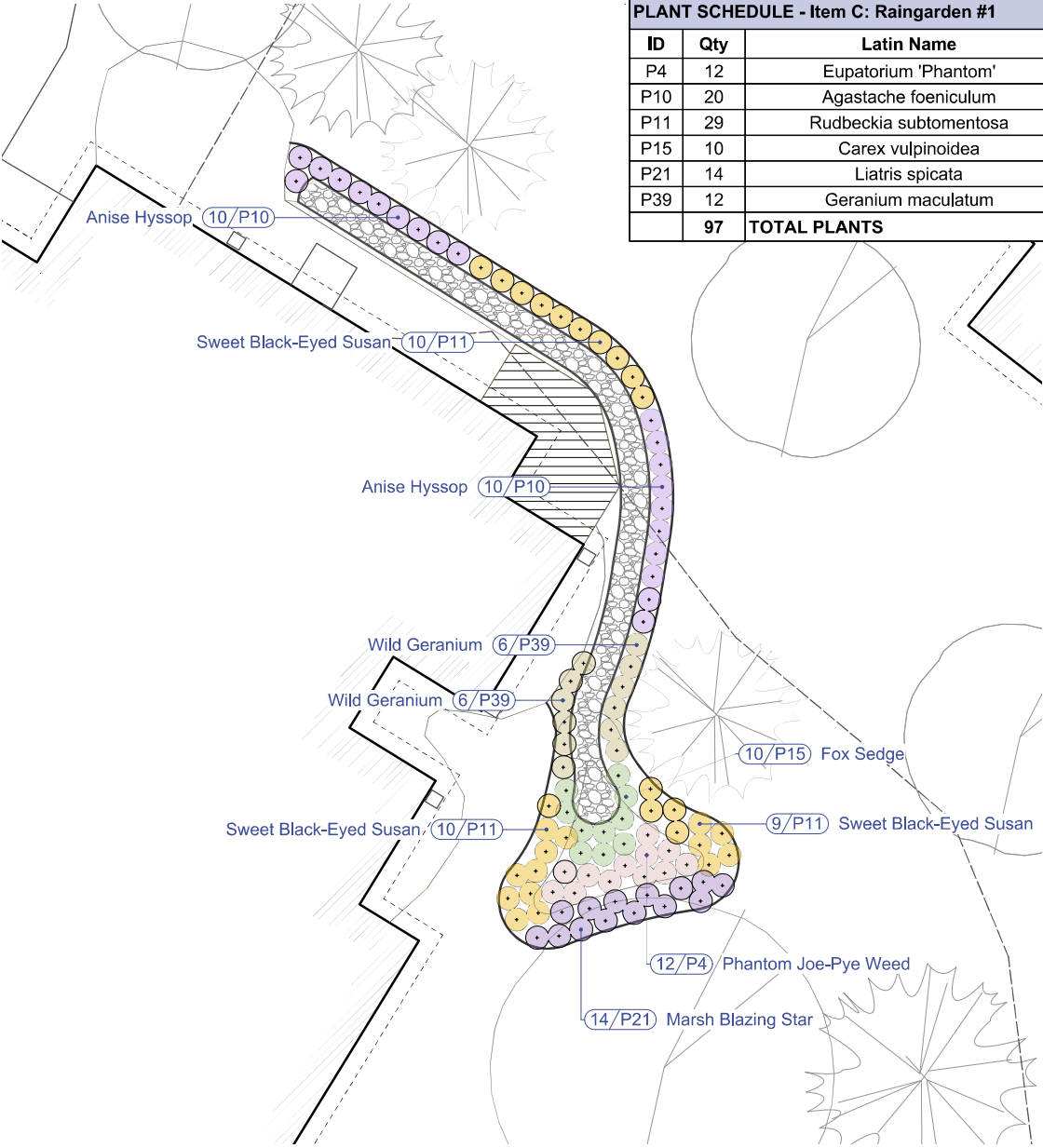
Staff recommends approval of this application.

### Subwatershed:

Lake Owasso

### Location Maps:





PLANT SCHEDULE - Item C: Raingarden #1					
ID	Qty	Latin Name	Common Name	Size	Spacing (ft)
P4	12	Eupatorium 'Phantom'	Phantom Joe-Pye Weed	4" Pot	2
P10	20	Agastache foeniculum	Anise Hyssop	4" Pot	2
P11	29	Rudbeckia subtomentosa	Sweet Black-Eyed Susan	4" Pot	2
P15	10	Carex vulpinoidea	Fox Sedge	4" Pot	2
P21	14	Liatris spicata	Marsh Blazing Star	4" Pot	2
P39	12	Geranium maculatum	Wild Geranium	4" Pot	2
97	<b>TOTAL PLANTS</b>				

**RAMSEY COUNTY**  
 RAMSEY COUNTY SWCD  
 2015 VAN DYKE STREET  
 MAPLEWOOD, MN 55109  
 651-266-7280  
 www.ramseycounty.us

PROJECT:  
 JAKEL RESIDENCE  
 LOCATION:  
 2974 HIGHPOINTE CURVE  
 ROSEVILLE, MN 55113  
 WATERSHED DISTRICT:  
**RAMSEY-WASHINGTON**  
 METRO WATERSHED DISTRICT

DESIGNER: BRIAN T. OLSEN  
 DATE: 1/24/2023  
 PAST REVISION:  
 PAST REVISION:  
 PAST REVISION:  
 PAST REVISION:  
 CHECKED BY:  
 TAA:

NOTES:  
 -CALL GOPHER ONE TO MARK UTILITIES BEFORE DIGGING  
 -SEE PLANT SCHEDULE FOR SPECIES, SIZE & SPACING  
 [PLANT LOCATION MAY VARY]  
 -PLANT SUBSTITUTIONS MUST BE APPROVED BY RCD STAFF  
 -ORIGINAL SHEET SIZE: 11"x17"

SCALE: 1"=10'-0"

PLANTING PLAN

L200

\* \* \* \* \*

# Permit Program

\* \* \* \* \*

# Permit Application Coversheet

Date April 05, 2023

Project Name Little Canada 2023 SIP

Project Number 23-08

Applicant Name Eric Seaburg, City of Little Canada

Type of Development Linear

## Property Description

This project is located along Twin Lake Boulevard where it intersects in two locations with Vadnais Boulevard in the cities of Little Canada and Vadnais Heights. The applicant is proposing a roadway improvements project which will involve partial reconstruction and partial pavement rehabilitation. The road will be narrowed from 32' to 26' with installation of curb and gutter, watermain/sanitary sewer, and construction of an 8' sidewalk/trail on the north side of Twin Lake Blvd. The total site area is approximately 4 acres.

Stormwater treatment requirements are proposed to be met through construction of three filtration basins onsite as well as utilizing 2,059 cubic feet of volume reduction credit that the city has banked from previous projects. The applicant has demonstrated onsite stormwater rate control requirements are met for both subwatersheds that this site drains to: West Vadnais Lake and Twin Lake. Minor grading is proposed within the 100-year floodplain, and the applicant has demonstrated creation of compensatory storage such that there is no net loss of flood storage on the landscape.

An existing wetland to the north of Twin Lake Boulevard was delineated with a boundary approved by RWMWD in September 2022 (#22-08 WCA). A wetland replacement plan (#23-03 WCA) was submitted by the applicant and includes a request to permanently impact 0.03 acre (1,307 square ft) of wetland to accommodate the trail construction, which is described as a critical safety component to accommodate pedestrian access to Rice Street. Wetland Conservation Act (WCA) Technical Evaluation Panel (TEP) comments were prepared 2/14/23. A revised replacement plan application and offsite mitigation memo is included for board consideration and was submitted in response to TEP and RWMWD Manager comments. A wetland buffer variance request is also included for stormwater improvements and grading. Buffer areas that are disturbed temporarily will be restored with a native seed mix.

A temporary erosion control permit was issued on 2/24/23 to accommodate tree removal outside of the wetlands.

---

## Watershed District Policies or Standards Involved:

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> <i>Wetlands</i>              | <input checked="" type="checkbox"/> <i>Erosion and Sediment Control</i> |
| <input checked="" type="checkbox"/> <i>Stormwater Management</i> | <input checked="" type="checkbox"/> <i>Floodplain</i>                   |

---

## Water Quantity Considerations

The proposed stormwater management plan is sufficient to handle the runoff from the site and results in no net loss of floodplain storage volume.

---

## Water Quality Considerations

*Short Term*

The proposed erosion and sediment control plan is sufficient to protect downstream water resources during construction.

*Long Term*

The proposed stormwater management plan is sufficient to protect the long term quality of downstream water resources.

---

Staff Recommendation

Staff recommends approval of the permit with the special provisions, wetland replacement plan, and variance request.

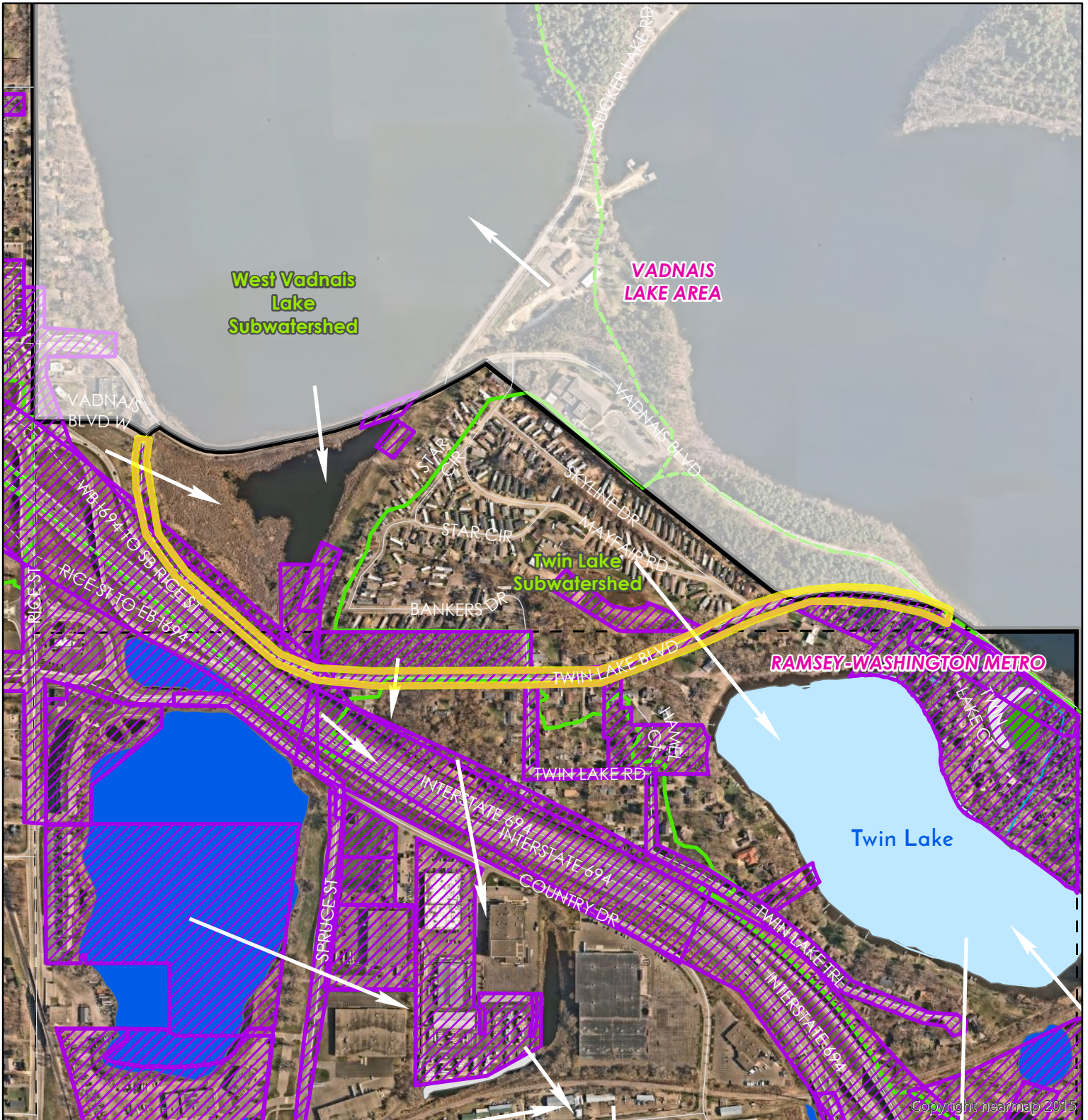
---

Attachments:

- Project Location Map
- Project Grading Plan



# #23-08 Little Canada 2023 SIP



Copyright nearmap 2015

Wetlands	
<span style="display:inline-block; width:15px; height:10px; background-color:red;"></span>	Manage A
<span style="display:inline-block; width:15px; height:10px; background-color:green;"></span>	Manage B
<span style="display:inline-block; width:15px; height:10px; background-color:blue;"></span>	Manage C
<span style="display:inline-block; width:15px; height:10px; background-color:lightblue;"></span>	Lake
<span style="display:inline-block; width:15px; height:10px; background-color:gray;"></span>	Sediment Pond
<span style="display:inline-block; width:15px; height:10px; background-color:purple;"></span>	Not Assessed
<span style="display:inline-block; width:15px; height:10px; border:1px dashed purple;"></span>	WMO_Metro

	Flow Arrows
	Flow_Arrows (Major)
	Roads
	Permits
	Cities
	Subwatersheds
	Lakes
	RWMWD Boundary
	WMO_Metro

Shaded area is outside RWMWD

Highlighted Areas  
Represent Active Permit

Miles

Kilometers

N

23-08

### Special Provisions

1. The applicant shall submit the final, signed plans set.
2. The applicant shall submit contact information for the trained erosion control coordinator responsible for implementing the Stormwater Pollution Prevention Plan (SWPPP).
- #3. The applicant shall submit a copy of the approved Minnesota Pollution Control Agency's NPDES Construction Permit coverage for the project.



Real People. Real Solutions.

3507 High Point Drive North  
Bldg. 1 Suite E130  
Oakdale, MN 55128

Ph: (651) 704-9970  
Bolton-Menk.com

March 7, 2023

Nicole Soderholm  
Permit Coordinator  
Ramsey-Washington Metro Watershed District

RE: Wetland Buffer Variance Request  
Twin Lake Boulevard Improvements  
Project No.: ON1.125376

Dear Nicole,

As you know, the Cities of Little Canada and Vadnais Heights continue planning for programmed improvements to Twin Lake Boulevard in 2023. An existing wetland delineation has been performed and is shown in the attached exhibit titled "Wetland, Wetland Buffers, Floodplain".

#### **Wetland Buffer Rules**

Rule E (paragraph 3.d) of the Ramsey-Washington Metro Watershed Rules outlines the wetland buffer requirements for development projects. Due to the physical constraints of this project, we are requesting the following variances to watershed's wetland buffer rules:

#### **Rule 1**

The existing of a Manage A wetland along Twin Lake Boulevard requires an Average Buffer Width of 75' and a Minimum Buffer Width of 37.5'. These buffers are shown in the attached exhibit titled "Wetland, Wetland Buffers, Floodplain".

#### **Variance Request**

As shown the attached figure, the 75' average wetland buffer extends beyond the roadway for approximately 50% of the length of the wetland. Additionally, the 37.5' minimum buffer distance either encroaches into the roadway or runs immediately adjacent to the edge of the roadway for the majority of the length of the wetland. This poses unique circumstances of an existing roadway located in very close proximity to an existing wetland makes it very difficult to meet the buffer requirements listed. In an effort to reduce impacts to the wetland buffers, we have narrowed the roadway, reduced the width of the proposed trail, and have utilized slopes as steep as 1:2. We request:

- Variance to allow for average wetland buffer of 41' along length of wetland
- Variance to allow for roadway improvements and embankment with the 37.5' minimum setback buffer

Name: Nicole Soderholm

Date: March 7, 2023

Page: 2

### Rule 3

Stormwater management BMP's shall not be allowed to be constructed in the buffer areas.

#### Variance Request

As shown in the attached figure, Stormwater BMP #1 is located within both the 75' average buffer as well as the 37.5' minimum buffer, albeit slightly. As discussed previously, the proximity of the existing roadway to the existing wetland results in 75' average and 37.5' minimum wetland buffer that extends along the roadway and even into the roadway in several locations. As such, the allowable space for stormwater management is significantly reduced for this subwatershed. Additionally, the roadway topography and limited vertical separation between the stormwater management basin and floodplain elevation further restricts our ability to locate the stormwater management BMP outside of the wetland buffers. We request:

- Variance to allow for a stormwater management BMP within the wetland buffer areas

#### Disturbed Buffer Restoration

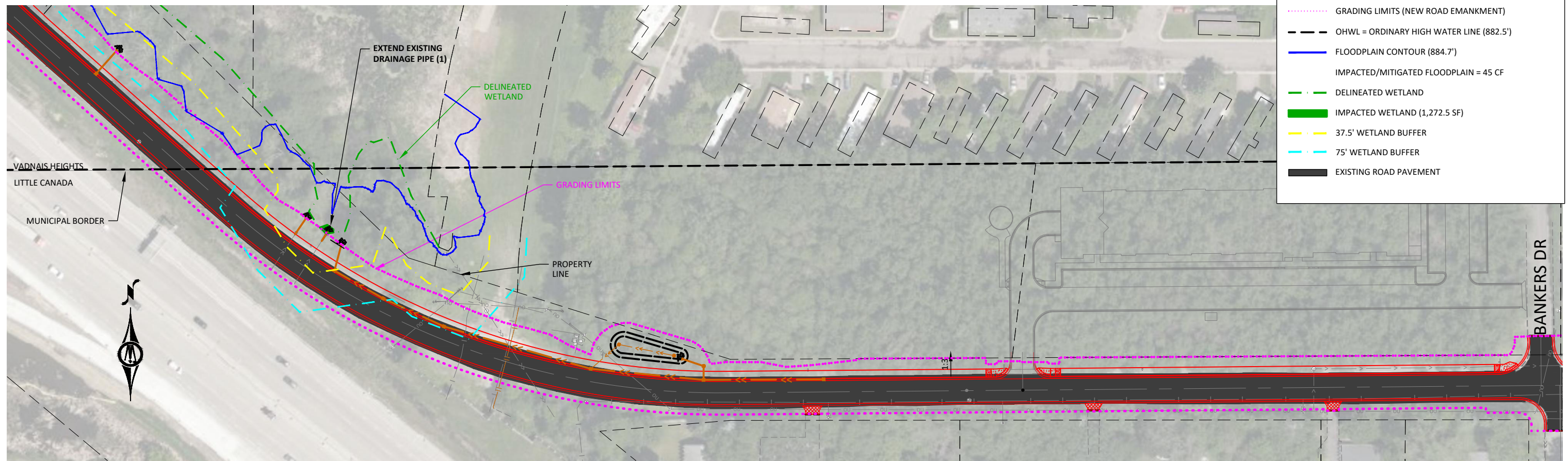
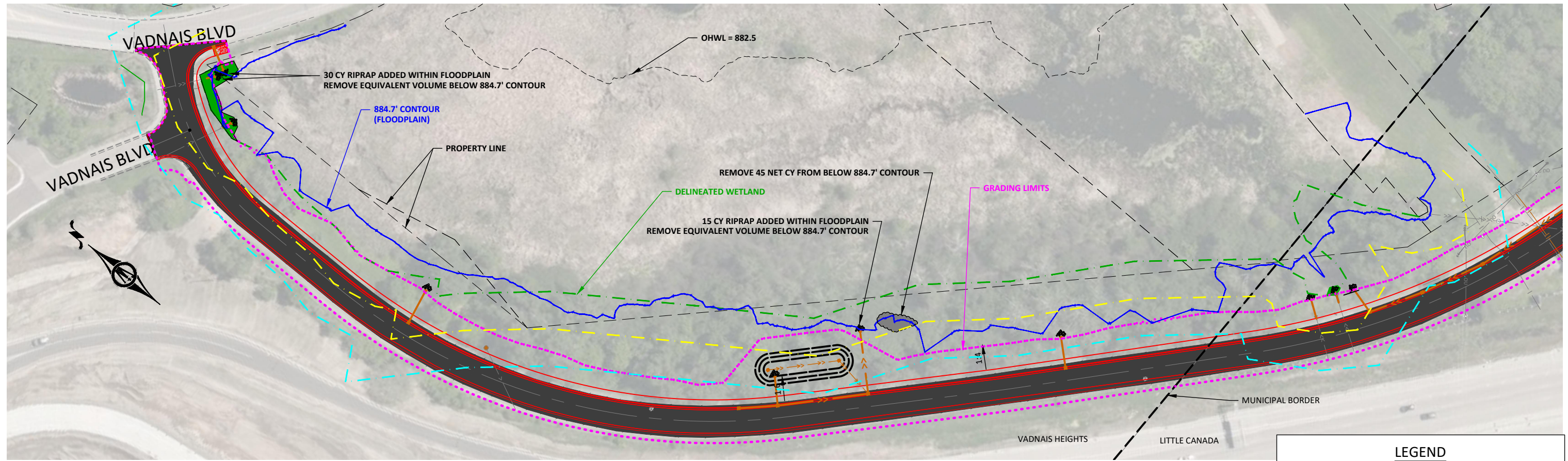
Upon completion of the work, disturbed wetland buffers we'll be restored in accordance with the Project's Stormwater Pollution Prevention Plan (SWPPP) and Erosion Control Plan. Generally, the restoration plan includes replacement of topsoil, MnDOT Native Seed Mix 35-241 and a combination of Hydraulic Matrix Type Mulch, Erosion Control Blanket, and Turf Reinforcement Mat. We will provide periodic water and maintenance of the native seeding until successfully established in accordance with the Watershed's rules for wetland buffer restoration.

Sincerely,

**Bolton & Menk, Inc.**

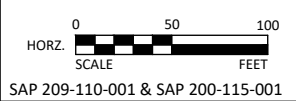


**Eric Seaburg, PE**  
Principal Engineer



LEGEND	
	PROPOSED ROAD AND TRAIL IMPROVEMENTS
	GRADING LIMITS (NEW ROAD EMBANKMENT)
	OHWL = ORDINARY HIGH WATER LINE (882.5')
	FLOODPLAIN CONTOUR (884.7')
	IMPACTED/MITIGATED FLOODPLAIN = 45 CF
	DELINEATED WETLAND
	IMPACTED WETLAND (1,272.5 SF)
	37.5' WETLAND BUFFER
	75' WETLAND BUFFER
	EXISTING ROAD PAVEMENT

© Bolton & Menk, Inc. 2023. All Rights Reserved. C:\Users\jmenk\OneDrive\Documents\123276-2D\Floodplain Impacts.dwg 3/7/2023 5:57:01 PM



I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
*Eric J. Seaburg*  
 ERIC J. SEABURG  
 LIC. NO. 53712 DATE 01/25/2023



DESIGNED	NO.	REQUEST FOR	DATE
MAJ	A	ADD 1	02/23/2023
	B	ADD 2	
	C	ADD 3	03/02/2023

DRAWN: JKB  
 CHECKED: EJS  
 CLIENT PROJ. NO.: 0N1.125376

**LITTLE CANADA, MINNESOTA**  
 TWIN LAKE BOULEVARD IMPROVEMENTS  
 WETLAND, WETLAND BUFFERS, FLOODPLAIN

SHEET

## Minnesota Wetland Conservation Act Notice of Application

<b>Local Government Unit:</b> Ramsey-Washington Metro Watershed District	<b>County:</b> Ramsey
<b>Applicant Name:</b> Bill Dircks (City of Little Canada) <b>Applicant Representative:</b> Chad Ponce (Bolton & Menk, Inc.)	
<b>Project Name:</b> Twin Lake Blvd Replacement Plan <b>LGU Project No. (if any):</b> 23-03 WCA	
<b>Date Complete Application Received by LGU:</b> 1/11/2023	
<b>Date this Notice was Sent by LGU:</b> 1/25/2023	
<b>Date that Comments on this Application Must Be Received By LGU<sup>1</sup>:</b> 2/15/2023	

<sup>1</sup> minimum 15 business day comment period for Boundary & Type, Sequencing, Replacement Plan and Bank Plan Applications

**WCA Decision Type** - check all that apply

<input type="checkbox"/> Wetland Boundary/Type	<input type="checkbox"/> Sequencing	<input checked="" type="checkbox"/> Replacement Plan	<input type="checkbox"/> Bank Plan (not credit purchase)
<input type="checkbox"/> No-Loss (8420.0415)			<input type="checkbox"/> Exemption (8420.0420)
<b>Part:</b> <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G <input type="checkbox"/> H		<b>Subpart:</b> <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9	

**Replacement Plan Impacts** (replacement plan decisions only)

<b>Total WCA Impact Area Proposed:</b> 0.03 acre
--

**Application Materials**

<input checked="" type="checkbox"/> Attached <input type="checkbox"/> Other <sup>1</sup> (specify):
---

<sup>1</sup> Link to ftp or other accessible file sharing sites is acceptable.

**Comments on this application should be sent to:**

<b>LGU Contact Person:</b> Nicole Soderholm
<b>E-Mail Address:</b> nicole.soderholm@rwmwd.org
<b>Address and Phone Number:</b> 2665 Noel Drive, Little Canada MN 55117 651-792-7976
<b>Decision-Maker for this Application:</b>
<input type="checkbox"/> Staff <input checked="" type="checkbox"/> Governing Board/Council <input type="checkbox"/> Other (specify):

**Notice Distribution (include name)**

*Required on all notices:*

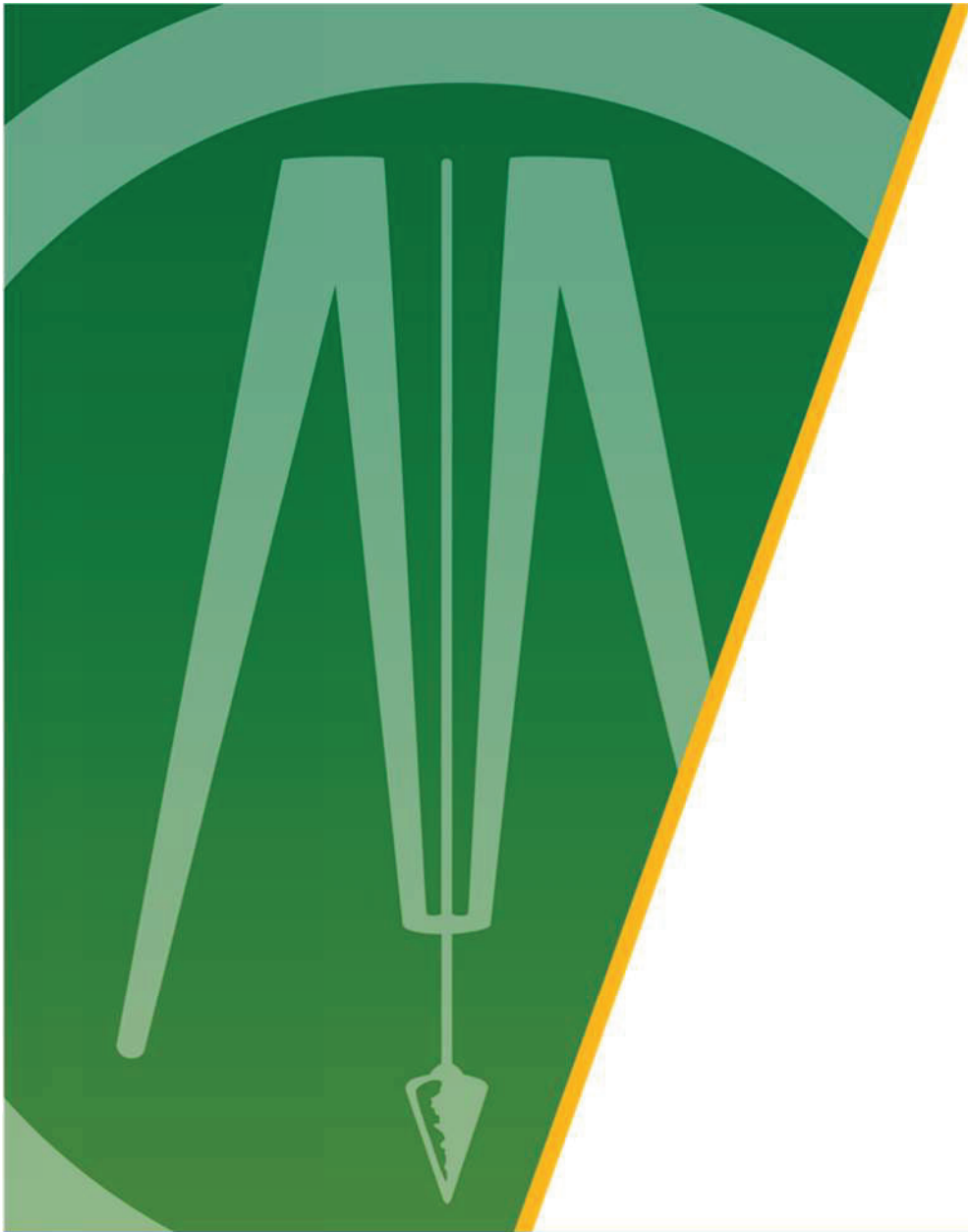
<input checked="" type="checkbox"/> SWCD TEP Member: <b>Mike Goodnature (Ramsey County)</b> <input checked="" type="checkbox"/> BWSR TEP Member: <b>Ben Meyer</b>
<input type="checkbox"/> LGU TEP Member (if different than LGU contact):
<input checked="" type="checkbox"/> DNR Representative: <b>Jim Levitt, Dan Scollan</b>
<input type="checkbox"/> Watershed District or Watershed Mgmt. Org.:
<input checked="" type="checkbox"/> Applicant (notice only): <input checked="" type="checkbox"/> Agent/Consultant (notice only): <b>Brandon Bohks/Eric Seaburg (Bolton &amp; Menk)</b>

*Optional or As Applicable:*

<input checked="" type="checkbox"/> Corps of Engineers:
<input type="checkbox"/> BWSR Wetland Mitigation Coordinator (required for bank plan applications only):
<input type="checkbox"/> Members of the Public (notice only): <input checked="" type="checkbox"/> Other <b>Mary Fitzgerald (RWMWD)</b>

<b>Signature:</b> <i>Nicole Soderholm</i>	<b>Date:</b> 1/25/2023
--	------------------------

**This notice and accompanying application materials may be sent electronically or by mail. The LGU may opt to send a summary of the application to members of the public upon request per 8420.0255, Subp. 3.**



# Twin Lake Blvd. Improvements

Amended Replacement Plan

City of Little Canada  
March 9, 2023

**Submitted by:**  
Bolton & Menk, Inc.  
1960 Premier Drive  
Mankato, MN 56001  
P: (507) 625-4171  
F: (507) 625-4177



**BOLTON  
& MENK**

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# Appendix

EXHIBIT 1 – LOCATION MAP	
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EXHIBIT 3 - PROJECT LAYOUT MAP	
EXHIBITS 4A & 4B - PROPOSED WETLAND IMPACTS MAP	

MITIGATION MEMO	
UPDATED PLAN SET	

## PART ONE: Applicant Information

If applicant is an entity (company, government entity, partnership, etc.), an authorized contact person must be identified. If the applicant is using an agent (consultant, lawyer, or other third party) and has authorized them to act on their behalf, the agent's contact information must also be provided.

<b>Applicant/Landowner Name:</b>	Bill Dircks   Public Works Director   City of Little Canada
<b>Mailing Address:</b>	515 Little Canada Rd. E   Little Canada, MN 55117
<b>Phone:</b>	(651) 766-4049
<b>E-mail Address:</b>	Bill.dircks@littlecanadamn.org

**Authorized Contact (do not complete if same as above):**

**Mailing Address:**

**Phone:**

**E-mail Address:**

<b>Agent Name:</b>	Chad Ponce   Natural Resources Specialist   Bolton & Menk, Inc.
<b>Mailing Address:</b>	116 N. Markley St., Suite 101   Greenville, SC   29601
<b>Phone:</b>	(843) 286-3631
<b>E-mail Address:</b>	chad.ponce@bolton-menk.com

## PART TWO: Site Location Information

**County:** Ramsey County

**City/Township:** Little Canada and Vadnais Heights

**Parcel ID and/or Address:** See Location Map

**Legal Description (Section, Township, Range):** Sec 31, T30N, R22W

**Lat/Long (decimal degrees):**

**Attach a map showing the location of the site in relation to local streets, roads, highways.**

**Approximate size of site (acres) or if a linear project, length (feet):** ~5,000 feet in length

If you know that your proposal will require an individual Permit from the U.S. Army Corps of Engineers, you must provide the names and addresses of all property owners adjacent to the project site. This information may be provided by attaching a list to your application or by using block 25 of the Application for Department of the Army permit which can be obtained at:

[http://www.mvp.usace.army.mil/Portals/57/docs/regulatory/RegulatoryDocs/engform\\_4345\\_2012oct.pdf](http://www.mvp.usace.army.mil/Portals/57/docs/regulatory/RegulatoryDocs/engform_4345_2012oct.pdf)

## PART THREE: General Project/Site Information

If this application is related to a delineation approval, exemption determination, jurisdictional determination, or other correspondence submitted **prior to** this application then describe that here and provide the Corps of Engineers project number.

*A type and boundary application requesting a delineation concurrence was submitted for the site on August 1, 2022. The US Army Corps provided concurrence on August 25, 2022 (MVP-2022-01411-JST). The delineation was Approved with Conditions by a WCA Notice of Decision dated August 31, 2022. The LGU decision required the inclusion of a previously approved boundary for offsite Wetland 2. The updated wetland boundary exhibit was provided on August 25, 2022 (attached **Exhibit 2**).*

*A Replacement Plan for the Twin Lake Blvd. Improvements was submitted on January 11, 2023. A TEP findings document with comments was received on February 14, 2023. This Amended Replacement Plan is intended to address the comments found in the TEP finding document.*

Describe the project that is being proposed, the project purpose and need, and schedule for implementation and completion. The project description must fully describe the nature and scope of the proposed activity including a description of all project elements that effect aquatic resources (wetland, lake, tributary, etc.) and must also include plans and cross section or profile drawings showing the location, character, and dimensions of all proposed activities and aquatic resource impacts.

*Twin Lake Boulevard is a shared road that is located within the City of Little Canada and the City of Vadnais Heights (**Exhibit 1**). The cities are planning to improve Twin Lake Boulevard during the 2023 construction season, in accordance with the Capital Improvement Plan (Little Canada) and 2022 Approved Annual Budget (Vadnais Heights). The City of Little Canada is planning a full depth reclamation along the 4600-feet of Twin Lakes Boulevard. The existing road corridor is 32-feet wide, composed of 12-foot lanes and 4-foot shoulders. The proposed corridor has been reduced to 26-feet wide to minimize impacts to wetlands and protected species. The project will also include the addition of a 8-foot wide paved trail on the north side of the road and improvements to the storm sewer, sanitary sewer, and watermain.*

*Historical aerials show the eastern half of Twin Lake Boulevard in its current alignment as early as 1937. The western half of Twin Lake Boulevard was realigned with the construction of I-694 during the 1960's. The roadway was last improved by means of roadway reclamation and paving in 1992. Since then, the street and underground utilities have been routinely maintained with pavement patching becoming a very routine need over the last several years.*

*In 2022, the City of Little Canada approved a development plan that will bring two high-density multi-family residential housing developments to vacant property that was previously owned by the City of Little Canada. Two sixty-unit buildings will be constructed in phases with phase one (eastern parcel) beginning during the fall of 2022 with phase two (western parcel) anticipated to begin during the fall of 2023.*

*In coordination with Ramsey County staff, City of Little Canada and City of Vadnais Heights staff have scoped a proposed realignment of Twin Lake Boulevard at it approaches Vadnais Boulevard near the east end of the project. The realignment would provide better sight lines and a safer intersection for traffic. Selective clearing of brush and trees is also proposed and would further improve sightlines.*

*The Twin Lake Boulevard project involves the construction of a eight-foot wide paved trail along the north side of Twin Lake Boulevard between Vadnais Boulevard which results in impacts to wetlands at the site and is the focus of this report. The proposed sidewalk provides safer access and connections to existing neighborhoods and the planned high-density multi-family residential housing development discussed previously. The trail also provides a connection to Snail Lakes Regional Park, and to the commercial node located at Rice Street and Grass Lake Place. This pedestrian amenity also connects to a future regional trail that is being planned by Ramsey County. Impacts at the site are related to the development of this trail and stormwater improvements including extension of culverts below the trail, associated rip rap, and installation of a new stormwater outfall at the western end of the trail. See the Site Layout Map included as **Exhibit 3**.*

*Permanent impacts are proposed for the construction of the above activities. Total WCA permanent impacts are 0.03-acres (Wetland1) (**Exhibits 4A and 4B**).*

*Based on RWMWD Rule E 2 (a)(2), wetland replacement, where permitted, shall be in accordance with the following prioritization for the location of the replacement wetland:*

- i. Onsite replacement is most preferred*
- ii. Within the same subwatershed*
- iii. Within the District*
- iv. Outside the District is the least preferred*

*Proposed permanent wetland impacts (0.03 acres) are proposed to be mitigated through a federal and state approved wetland bank with approved credits available at a ratio of 2:1 for a total of 0.06 credits. The following siting was used to determine the bank:*

- On-site mitigation is not feasible due to spatial constraints and the low viability of success for a very small (0.06 acre) project-specific mitigation effort. See the Mitigation Memo in the Appendix for additional details regarding feasibility of project-specific mitigation efforts.*
- Wetland mitigation credits are not available within the subwatershed or the District.*
- Bank #1762 is in the same major watershed (20) and the same Bank Service Area (BSA 7) as the wetland impacts. The needed wetland credits (0.06) are proposed to be drawn from this bank at the required 2:1 ratio.*

*Applicable USACE permit for impacts: Transportation Regional General Permit – Category 3: New Construction – Linear Transportation.*

*8420.0515 Special Considerations*

*Subpart 1. Scope.*

*Subp. 2. Endangered and Threatened Species*

*An NHIS request form recently submitted. No response received yet. Blanding's turtle may occur near the site. See the BMPs which will be used to protect this species below.*

*Subp. 3. Rare natural communities*

*An NHIS request form recently submitted. No response received yet.*

*Subp. 4. Special fish and wildlife resources*

*Activities at the site will not have a significant adverse effect on special or locally significant fish and wildlife resources.*

*Subp. 5. Archaeological, historic, or cultural resources sites*

*An archeological survey has not been performed at this study area for this project.*

*Subp. 6. Groundwater sensitivity*

*Activities at the site will not have an adverse effect on groundwater quality.*

*Subp. 7. Sensitive surface waters*

*Vadnais Lake is broken into two main water bodies, East and West Vadnais Lakes, separated by Sucker Lake Road. West Vadnais Lake includes a small impoundment which is separated from the main section of West Vadnais Lake by Vadnais Blvd. West Vadnais Lake, north of Vadnais Blvd., is listed as impaired for nutrient pollution. East Vadnais Lake is impaired for mercury in fish tissue.*

*Subp. 8. Education or research use*

*Not applicable.*

*Subp. 9. Waste disposal sites.*

*None on site.*

*Subp. 10. Consistency with other plans*

*The contents of this replacement plan are consistent with the Capital Improvement Plan (Little Canada) and 2022 Approved Annual Budget (Vadnais Heights).*

*Based on a review of potential threatened and/or endangered species occurrence, we found that Blanding's turtle may occur within one mile of the study area. We plan to incorporate the following BMPs to protect the Blanding's turtle:*

- 1. Installation of silt fence along the entire length of the wetland, to prevent turtles from entering the construction zone*
- 2. Reduction of the street width (32 feet to 26 feet) to reduce the crossing distance for turtles*
- 3. Use of 1:3 slopes or flatter wherever possible (1:2 immediately adjacent to wetland to reduce wetland impacts)*
- 4. Curb reduction to half-height (3") in three locations along the wetland to provide gaps in the barrier curb for turtles to get back to the wetland if they end up in the road*

*Tree removal activities at the site will take place within the study area/construction limits. Approximately 190 trees will be cleared. Tree removal is planned for early March to avoid impacts to potential bat habitat during active season.*

## PART FOUR: Aquatic Resource Impact<sup>1</sup> Summary

If your proposed project involves a direct or indirect impact to an aquatic resource (wetland, lake, tributary, etc.) identify each impact in the table below. Include all anticipated impacts, including those expected to be temporary. Attach an overhead view map, aerial photo, and/or drawing showing all of the aquatic resources in the project area and the location(s) of the proposed impacts. Label each aquatic resource on the map with a reference number or letter and identify the impacts in the following table.

Aquatic Resource ID (as noted on overhead view)	Aquatic Resource Type (wetland, lake, tributary etc.)	Type of Impact (fill, excavate, drain, or remove vegetation)	Duration of Impact Permanent (P) or Temporary (T) <sup>1</sup>	Size of Impact <sup>2</sup>	Overall Size of Aquatic Resource <sup>3</sup>	Existing Plant Community Type(s) in Impact Area <sup>4</sup>	County, Major Watershed #, and Bank Service Area # of Impact Area <sup>5</sup>
Wetland 1	Wetland	Fill	P	0.03 ac	N/A	Shallow Marsh	Ramsey, 20, 7

<sup>1</sup>If impacts are temporary; enter the duration of the impacts in days next to the “T”. For example, a project with a temporary access fill that would be removed after 220 days would be entered “T (220)”.

<sup>2</sup>Impacts less than 0.01 acre should be reported in square feet. Impacts 0.01 acre or greater should be reported as acres and rounded to the nearest 0.01 acre. Tributary impacts must be reported in linear feet of impact and an area of impact by indicating first the linear feet of impact along the flowline of the stream followed by the area impact in parentheses). For example, a project that impacts 50 feet of a stream that is 6 feet wide would be reported as 50 ft (300 square feet).

<sup>3</sup>This is generally only applicable if you are applying for a de minimis exemption under MN Rules 8420.0420 Subp. 8, otherwise enter “N/A”.

<sup>4</sup>Use *Wetland Plants and Plant Community Types of Minnesota and Wisconsin* 3<sup>rd</sup> Ed. as modified in MN Rules 8420.0405 Subp. 2.

<sup>5</sup>Refer to Major Watershed and Bank Service Area maps in MN Rules 8420.0522 Subp. 7.

If any of the above identified impacts have already occurred, identify which impacts they are and the circumstances associated with each:

N/A

<sup>1</sup> The term “impact” as used in this joint application form is a generic term used for disclosure purposes to identify activities that may require approval from one or more regulatory agencies. For purposes of this form it is not meant to indicate whether or not those activities may require mitigation/replacement.

## PART FIVE: Applicant Signature

Check here if you are requesting a pre-application consultation with the Corps and LGU based on the information you have provided. Regulatory entities will not initiate a formal application review if this box is checked.

By signature below, I attest that the information in this application is complete and accurate. I further attest that I possess the authority to undertake the work described herein.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

I hereby authorize Bolton & Menk to act on my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this application.

## Attachment C

### Avoidance and Minimization

**Project Purpose, Need, and Requirements.** Clearly state the purpose of your project and need for your project. Also include a description of any specific requirements of the project as they relate to project location, project footprint, water management, and any other applicable requirements. Attach an overhead plan sheet showing all relevant features of the project (buildings, roads, etc.), aquatic resource features (impact areas noted) and construction details (grading plans, storm water management plans, etc.), referencing these as necessary:

*Twin Lake Boulevard is a shared road that is located within the City of Little Canada and the City of Vadnais Heights (**Exhibit 1**). The cities are planning to improve Twin Lake Boulevard during the 2023 construction season, in accordance with the Capital Improvement Plan (Little Canada) and 2022 Approved Annual Budget (Vadnais Heights). The City of Little Canada is planning a full depth reclamation along the 4600-feet of Twin Lakes Boulevard. The existing road corridor is 32-feet wide, composed of 12-foot lanes and 4-foot shoulders. The proposed corridor has been reduced to 26-feet wide to minimize impacts to wetlands and protected species.*

*The Twin Lake Boulevard project involves the construction of a eight-foot wide concrete sidewalk along the north side of Twin Lake Boulevard between Vadnais Boulevard. Impacts at the site are related to the development of this trail, extension of culverts below the trail, and installation of a new stormwater outfall at the western end of the trail. The proposed sidewalk provides safer access and connections to existing neighborhoods. The sidewalk also provides a connection to Snail Lakes Regional Park, and to the commercial node located at Rice Street and Grass Lake Place. This trail also connects to a future regional trail that is being planned by Ramsey County.*

*Applicable USACE permit for impacts: Transportation Regional General Permit – Category 3: New Construction – Linear Transportation.*

**Avoidance.** Both the CWA and the WCA require that impacts to aquatic resources be avoided if practicable alternatives exist. Clearly describe all on-site measures considered to avoid impacts to aquatic resources and discuss at least two project alternatives that avoid all impacts to aquatic resources on the site. These alternatives may include alternative site plans, alternate sites, and/or not doing the project. Alternatives should be feasible and prudent (see MN Rules 8420.0520 Subp. 2 C). Applicants are encouraged to attach drawings and plans to support their analysis:

1. *No build alternative: If the trail along the north side of Twin Lake Blvd is not completed, pedestrian safety would not be improved as there is no sidewalk or other trail along this road. The City of Little Canada has approved a zone map amendment and comprehensive plan amendment to rezone two parcels of land along the north side of Twin Lake Blvd. to allow a multi-family housing development (approximately 120 units). The trail is important to protect pedestrian safety for the increase in pedestrian traffic from this development. If the trail is not built, a safe connection for pedestrians from Twin Lake Blvd. to Vadnais Blvd. is not provided.*
2. *Boardwalk alternative: A wetland boardwalk crossing was considered at the terminal end of the trail to avoid all impacts to wetlands. This option was not chosen because the introduction of a new walking/biking surface for such a limited span significantly detracts from the useability and safety of the trail. The City maintains another, very long boardwalk in its Thunder Bay Park Trail system. The boardwalk has presented significant maintenance issues and the City frequently receives complaints about its condition. The complaints from residents frequently include safety issues such as slips, trips, & falls. Also, due to the poor soils, there is a long-term concern of differential settlement and failure of beams and deck boards. As a result, the City is reluctant to take on maintenance and ownership of another boardwalk. This option does not meet the project objectives and does not provide a safe connection for pedestrians from Twin Lake Blvd. to Vadnais Blvd.*
3. *Alternative 3. We considered termination of the trail prior to the wetland impacts. This option does not meet the project objectives and does not provide a safe connection for pedestrians from Twin Lake Blvd. to Vadnais Blvd.*
4. *Alternative 4. We considered locating the trail on the south side of Twin Lake Blvd instead of its currently proposed location on the north side. This option detracted from the useability and safety of the trail. A benefit area for the trail project was defined; 368 housing units are located on the north side of the Twin Lake Boulevard versus 80 on the south side. Due to the disproportionate amount of potential trail users on the north side, locating the trail on the south side would significantly increase the number of road crossings by pedestrians and result in a higher rate of pedestrian-vehicle conflicts. Additionally, in*

*the area along the wetland impact, both sides of the roadway are constrained. On the south side, existing guard rail, fencing, and stormwater management pond(s) make widening for a trail equally difficult and complex. This option does not meet the project objectives and does not provide a safe connection for the majority of expected pedestrians traveling from Twin Lake Blvd. to Vadnais Blvd.*

**Minimization.** Both the CWA and the WCA require that all unavoidable impacts to aquatic resources be minimized to the greatest extent practicable. Discuss all features of the proposed project that have been modified to minimize the impacts to water resources (see MN Rules 8420.0520 Subp. 4):

*Minimization of impacts has been implemented throughout the design process. The proposed corridor has been reduced to 26-foot wide to minimize impacts to wetlands and protected species. Slopes have been increased to 2:1 along the wetland to reduce impacts. We plan to use minimum amount of rip rap sufficient to prevent scour and erosion at the stormwater outfalls. Culvert outfalls are outside of wetlands across the site with the exception of 3 outfalls on the west side of the corridor. Culverts and pipes have been appropriately sized to avoid unnecessary impacts but convey expected stormwater flows. BMPs will be implemented to avoid impacts to native plants and animals. BMPs include the use of clean fill materials, staging outside of jurisdictional areas, erosion and sediment control procedures, and protections for the Blanding's turtle.*

*The trail has been designed with a minimal inside clear zone along the road in order to further reduce wetland impacts. This reduction of inside clear zone required a MnDOT-approved variance from State Statute and further shows the extent the project team is attempting to reduce wetland impacts.*

*The use of a retaining wall was considered to minimize impacts to wetlands. Due to the poor underlying soils, a significant soil correction would have been required in order to maintain wall stability. Due to the proximity of the wetland, soil corrections would have extended well into the wetlands and would have resulted in more damage to the wetland than with the proposed 2:1 slope. The preferred slope is 4:1 but we reduced the slope to 2:1 in order to minimize impacts to the wetland. This steep embankment requires fencing to protect pedestrians.*

**Off-Site Alternatives.** An off-site alternatives analysis is not required for all permit applications. If you know that your proposal will require an individual permit (standard permit or letter of permission) from the U.S. Army Corps of Engineers, you may be required to provide an off-site alternatives analysis. The alternatives analysis is not required for a complete application but must be provided during the review process in order for the Corps to complete the evaluation of your application and reach a final decision. Applicants with questions about when an off-site alternatives analysis is required should contact their Corps Project Manager.

*Off-site alternatives are not applicable to this linear transportation project.*



*reduce impacts. We plan to use minimum amount of rip rap sufficient to prevent scour and erosion at the stormwater outfalls. Culvert outfalls are outside of wetlands across the site with the exception of 3 outfalls on the west side of the corridor. Culverts and pipes have been appropriately sized to avoid unnecessary impacts but convey expected stormwater flows. BMPs are implemented to avoid impacts to native plants and animals. BMPs include the use of clean fill materials, staging outside of jurisdictional areas, erosion and sediment control procedures, and protections for the Blanding's turtle.*

**Off-Site Alternatives.** An off-site alternatives analysis is not required for all permit applications. If you know that your proposal will require an individual permit (standard permit or letter of permission) from the U.S. Army Corps of Engineers, you may be required to provide an off-site alternatives analysis. The alternatives analysis is not required for a complete application but must be provided during the review process in order for the Corps to complete the evaluation of your application and reach a final decision. Applicants with questions about when an off-site alternatives analysis is required should contact their Corps Project Manager.

*Off-site alternatives are not applicable to this linear transportation project.*

## Attachment D

### Replacement/Compensatory Mitigation

Complete this part **if** your application involves wetland replacement/compensatory mitigation not associated with the local road wetland replacement program. Applicants should consult Corps mitigation guidelines and WCA rules for requirements.

**Replacement/Compensatory Mitigation via Wetland Banking.** Complete this section if you are proposing to use credits from an existing wetland bank (with an account number in the State wetland banking system) for all or part of your replacement/compensatory mitigation requirements.

Wetland Bank Account #	County	Major Watershed #	Bank Service Area #	Credit Type (if applicable)	Number of Credits
1762	Anoka	20	7	SWC	0.06

Applicants should attach documentation indicating that they have contacted the wetland bank account owner and reached at least a tentative agreement to utilize the identified credits for the project. This documentation could be a signed purchase agreement, signed application for withdrawal of credits or some other correspondence indicating an agreement between the applicant and the bank owner. *However, applicants are advised not to enter into a binding agreement to purchase credits until the mitigation plan is approved by the Corps and LGU.*

**Project-Specific Replacement/Permittee Responsible Mitigation.** Complete this section if you are proposing to pursue actions (restoration, creation, preservation, etc.) to generate wetland replacement/compensatory mitigation credits for this proposed project.

WCA Action Eligible for Credit <sup>1</sup>	Corps Mitigation Compensation Technique <sup>2</sup>	Acres	Credit % Requested	Credits Anticipated <sup>3</sup>	County	Major Watershed #	Bank Service Area #

<sup>1</sup>Refer to the name and subpart number in MN Rule 8420.0526.

<sup>2</sup>Refer to the technique listed in *St. Paul District Policy for Wetland Compensatory Mitigation in Minnesota*.

<sup>3</sup>If WCA and Corps crediting differs, then enter both numbers and distinguish which is Corps and which is WCA.

Explain how each proposed action or technique will be completed (e.g. wetland hydrology will be restored by breaking the tile.....) and how the proposal meets the crediting criteria associated with it. Applicants should refer to the Corps mitigation policy language, WCA rule language, and all associated Corps and WCA guidance related to the action or technique:

N/A

Attach a site location map, soils map, recent aerial photograph, and any other maps to show the location and other relevant features of each wetland replacement/mitigation site. Discuss in detail existing vegetation, existing landscape features, land use (on and surrounding the site), existing soils, drainage systems (if present), and water sources and movement. Include a topographic map showing key features related to hydrology and water flow (inlets, outlets, ditches, pumps, etc.):

N/A

Attach a map of the existing aquatic resources, associated delineation report, and any documentation of regulatory review or approval. Discuss as necessary:

N/A

For actions involving construction activities, attach construction plans and specifications with all relevant details. Discuss and provide documentation of a hydrologic and hydraulic analysis of the site to define existing conditions, predict project outcomes, identify specific project performance standards and avoid adverse offsite impacts. Plans and specifications should be prepared by a licensed engineer following standard engineering practices. Discuss anticipated construction sequence and timing:

N/A

For projects involving vegetation restoration, provide a vegetation establishment plan that includes information on site preparation, seed mixes and plant materials, seeding/planting plan (attach seeding/planting zone map), planting/seeding methods, vegetation maintenance, and an anticipated schedule of activities:

N/A

For projects involving construction or vegetation restoration, identify and discuss goals and specific outcomes that can be determined for credit allocation. Provide a proposed credit allocation table tied to outcomes:

N/A

Provide a five-year monitoring plan to address project outcomes and credit allocation:

N/A

Discuss and provide evidence of ownership or rights to conduct wetland replacement/mitigation on each site:

N/A

Quantify all proposed wetland credits and compare to wetland impacts to identify a proposed wetland replacement ratio. Discuss how this replacement ratio is consistent with Corps and WCA requirements:

N/A

By signature below, the applicant attests to the following (only required if application involves project-specific/permittee responsible replacement):

- All proposed replacement wetlands were not:
  - Previously restored or created under a prior approved replacement plan or permit
  - Drained or filled under an exemption during the previous 10 years
  - Restored with financial assistance from public conservation programs
  - Restored using private funds, other than landowner funds, unless the funds are paid back with interest to the individual or organization that funded the restoration and the individual or organization notifies the local government unit in writing that the restored wetland may be considered for replacement.
- The wetland will be replaced before or concurrent with the actual draining or filling of a wetland.
- An irrevocable bank letter of credit, performance bond, or other acceptable security will be provided to guarantee successful completion of the wetland replacement.
- Within 30 days of either receiving approval of this application or beginning work on the project, I will record the Declaration of Restrictions and Covenants on the deed for the property on which the replacement wetland(s) will be located and submit proof of such recording to the LGU and the Corps.

Applicant or Representative: N/A Title:

Signature: N/A Date:



Real People. Real Solutions.

3507 High Point Drive North  
Bldg. 1 Suite E130  
Oakdale, MN 55128

Ph: (651) 704-9970  
Bolton-Menk.com

## MEMORANDUM

Date: March 9, 2023  
To: Nicole Soderholm, RWMWD Permit Coordinator  
From: Chad Ponce, PWS  
Subject: Twin Lake Blvd. Improvements – Mitigation Memo  
City of Little Canada  
Project No.: 0N1.125376

Permanent impacts are proposed for the construction activities described in the Amended Replacement Plan by the City of Little Canada (City). Total Minnesota Wetland Conservation Act (WCA) permanent impacts are 0.03-acres of Type 3 – Shallow Marsh wetland (Wetland1) (Exhibits 4A and 4B of the Amended Replacement Plan). The impacts are required to be offset by a mitigation ration of 2:1, therefore, 0.06 acres of Type 3 – shallow marsh will be replaced for the 0.03 acres of wetland lost. Bolton & Menk understands that it is Ramsey-Washington Metro Watershed District's (RWMWD's) policy to manage wetlands so that no net loss of acreage, functions, and values occurs. RWMWD wetland rules are being carefully considered for the mitigation of the proposed impacts. Based on RWMWD Rule E 2 (a)(2), wetland replacement, where permitted, shall be in accordance with the following prioritization for the location of the replacement wetland:

- i. Onsite replacement is most preferred
- ii. Within the same subwatershed
- iii. Within the District
- iv. Outside the District is the least preferred

Onsite replacement was considered as a first priority to comply with Rule E 2 (a)(2). Due to the linear nature of the project, very few locations within the project corridor would be suitable for this. Upland areas adjacent to wetlands would be the most feasible location to restore/create wetlands. The primary area for this on site would be the shrub/forest area between Twin Lake Boulevard and Wetland 1. This shrub/forest is dominated by European buckthorn (*Rhamnus cathartica*), an invasive species. The shallow marsh section at the fringe of Wetland 1 is also dominated by invasives (cattail and reed canary grass). Due to the abundance of invasive species in this area, a small restoration project (0.06 acres) would be highly unlikely to meet performance standards associated with the vegetation matrix. The area that would be disturbed to create or restore wetland for mitigation would likely be quickly overgrown with aggressive non-native invasive species monocultures. Monotypic stands of non-native vegetation do not provide adequate habitat for native species and often do not provide similar water quality functions as a native wetland community. It would not be in the best interest of the City or RWMWD to

Name: Twin Lakes Boulevard Improvements – Mitigation Memo

Date: 03/09/23

Page: 2

create a wetland that does not provide adequate wetland functions and that would not meet performance standards, therefore, we consider this option to not be feasible.

The Restorable Wetland Prioritization Tool (<http://mnwetlandrestore.org/>) was used to look for potential restoration sites within the subwatershed and district. Potential sites with a high viability of restoration include part of Vadnais Snail Lake Regional Park (parcel# 243023340003) owned by Ramsey County Parks and Rec and part of Island Lake County Park (parcel# 263023330058), owned by Ramsey County Public Works. Both of those sites are located in Shoreview. There is also a privately owned vacant 16.2-acre residential lot (parcel# 042922240016) with high restoration viability which is located in the City of Little Canada. Each of these three sites were deemed poor candidates for off-site mitigation due to the underlying property ownership. There does not appear to be land owned by the City that would have high restoration potential.

Similar concerns exist for off-site project-specific mitigation efforts as for the on-site mitigation efforts. The primary concern is that a very small wetland restoration/creation effort of 0.06 acres would not be successful in meeting performance criteria. Wetlands are in relationship with the surrounding environment in terms of hydrology, vegetation, and chemical processes. The effort to restore such a small portion of a larger ecosystem would ultimately be pointless as the smaller system would naturally degrade to that of the surrounding system. In this case, we believe that using an established wetland bank would provide a higher value in terms of wetland value and function for the mitigation of the proposed impacts.

We are proposing that the permanent wetland impacts of 0.03 acres should be mitigated through a federal and state approved wetland mitigation bank with approved credits. There are currently no credits available within the subwatershed or District. Therefore, we are proposing to use the Butterfly Marsh Wetland Bank (Account# 1762), which is located approximately 12 miles north of the project area in the City of Columbus in Anoka County. Butterfly Marsh Wetland Bank is a 192-acre Federal and State approved wetland bank within BSA 7 and the same watershed as the project site (Mississippi River – Metro).

We hope that you will consider and approve our proposed mitigation strategy. If you approve, the credits will be purchased from Butterfly Mitigation Marsh at a ratio of 2:1 for a total of 0.06 credits.



<input checked="" type="checkbox"/> Attachment(s) (specify): <b>Revised Exhibit F1 8-25-22</b> <input checked="" type="checkbox"/> Summary: <b>The delineation report with revised Exhibit F1 accurately represents conditions observed in the field.</b>
--

<sup>1</sup> Findings must consider any TEP recommendations.

**Attached Project Documents**

<input checked="" type="checkbox"/> Site Location Map <input type="checkbox"/> Project Plan(s)/Descriptions/Reports (specify):
--

**Appeals of LGU Decisions**

If you wish to appeal this decision, you must provide a written request within 30 calendar days of the date you received the notice. All appeals must be submitted to the Board of Water and Soil Resources Executive Director along with a check payable to BWSR for \$500 *unless* the LGU has adopted a local appeal process as identified below. The check must be sent by mail and the written request to appeal can be submitted by mail or e-mail. The appeal should include a copy of this notice, name and contact information of appellant(s) and their representatives (if applicable), a statement clarifying the intent to appeal and supporting information as to why the decision is in error. Send to:

Appeals & Regulatory Compliance Coordinator  
 Minnesota Board of Water & Soils Resources  
 520 Lafayette Road North  
 St. Paul, MN 55155  
[travis.germundson@state.mn.us](mailto:travis.germundson@state.mn.us)

Does the LGU have a local appeal process applicable to this decision?

Yes<sup>1</sup>       No

<sup>1</sup>If yes, all appeals must first be considered via the local appeals process.

**Local Appeals Submittal Requirements** (LGU must describe how to appeal, submittal requirements, fees, etc. as applicable)

--

**Notice Distribution (include name)**

*Required on all notices:*

<input checked="" type="checkbox"/> SWCD TEP Member: <b>Mike Goodnature (Ramsey County)</b>	<input checked="" type="checkbox"/> BWSR TEP Member: <b>Ben Meyer</b>
<input type="checkbox"/> LGU TEP Member (if different than LGU contact):	
<input checked="" type="checkbox"/> DNR Representative: <b>Jim Levitt, Dan Scollan</b>	
<input type="checkbox"/> Watershed District or Watershed Mgmt. Org.:	
<input checked="" type="checkbox"/> Applicant (notice only):	<input checked="" type="checkbox"/> Agent/Consultant (notice only): <b>Madeline Maurer/Brandon Bohks (Bolton &amp; Menk, Inc.)</b>

*Optional or As Applicable:*

<input checked="" type="checkbox"/> Corps of Engineers: <b>Daryl Wierzbinski</b>	
<input type="checkbox"/> BWSR Wetland Mitigation Coordinator (required for bank plan applications only):	
<input type="checkbox"/> Members of the Public (notice only):	<input checked="" type="checkbox"/> Other: <b>Mary Fitzgerald (RWMWD)</b>

<b>Signature:</b> <i>Nicole Soderholm</i>	<b>Date:</b> 9/2/2022
--	--------------------------

**This notice and accompanying application materials may be sent electronically or by mail. The LGU may opt to send a summary of the application to members of the public upon request per 8420.0255, Subp. 3.**



# Permit Application Coversheet

Date April 05, 2023

Project Name Oakdale Senior Living Project Number 23-10

Applicant Name Matt Yetzer, MWF Properties

Type of Development Residential

## Property Description

This project is located between Hadley Ave North & I-694 in the City of Oakdale. The applicant is proposing to construct a senior apartment building with associated parking and landscaping. The total site area is approximately 4 acres. An above-ground filtration basin and below-ground filtration system are proposed to meet stormwater treatment requirements. Filtration is being proposed due to poor soils and high groundwater. An existing wetland located north and east of the proposed development was delineated with a boundary approved in September 2022 (#22-13 WCA). In order to accommodate site grading for the building, a variance request for temporary wetland buffer disturbance is included for board consideration. District buffer requirements will be met in the final, proposed condition with temporarily disturbed areas restored with a native seed mix.

## Watershed District Policies or Standards Involved:

- Wetlands*  *Erosion and Sediment Control*
- Stormwater Management*  *Floodplain*

## Water Quantity Considerations

The proposed stormwater management plan is sufficient to handle the runoff from the site.

## Water Quality Considerations

### *Short Term*

The proposed erosion and sediment control plan is sufficient to protect downstream water resources during construction.

### *Long Term*

The proposed stormwater management plan is sufficient to protect the long term quality of downstream water resources.

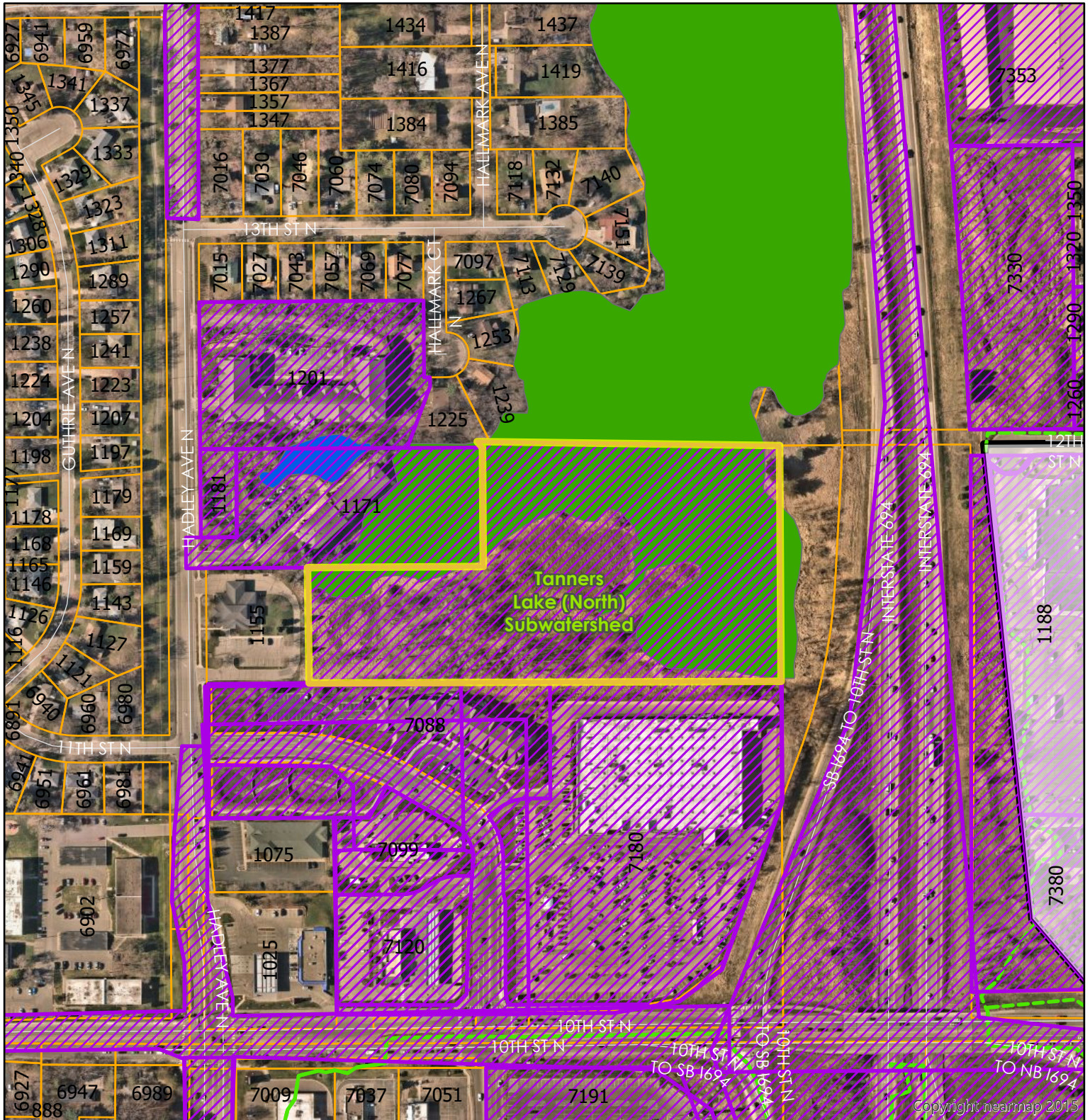
## Staff Recommendation

Staff recommends approval of this permit with the special provisions and variance request.

## Attachments:

- Project Location Map
- Project Grading Plan

# #23-10 Oakdale Senior Living



Copyright nearmap 2015

**Wetlands**

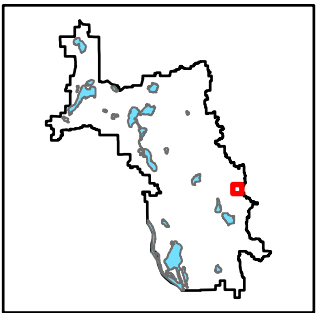
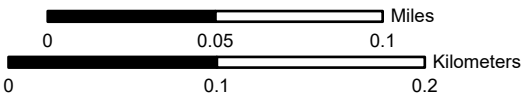
- Manage A
- Manage B
- Manage C
- Lake
- Sediment Pond
- Not Assessed

**Roads**

- Permits
- Cities
- Subwatersheds
- Parcels Washington
- RWMWD Boundary

Shaded area is outside RWMWD

Highlighted Areas Represent Active Permit

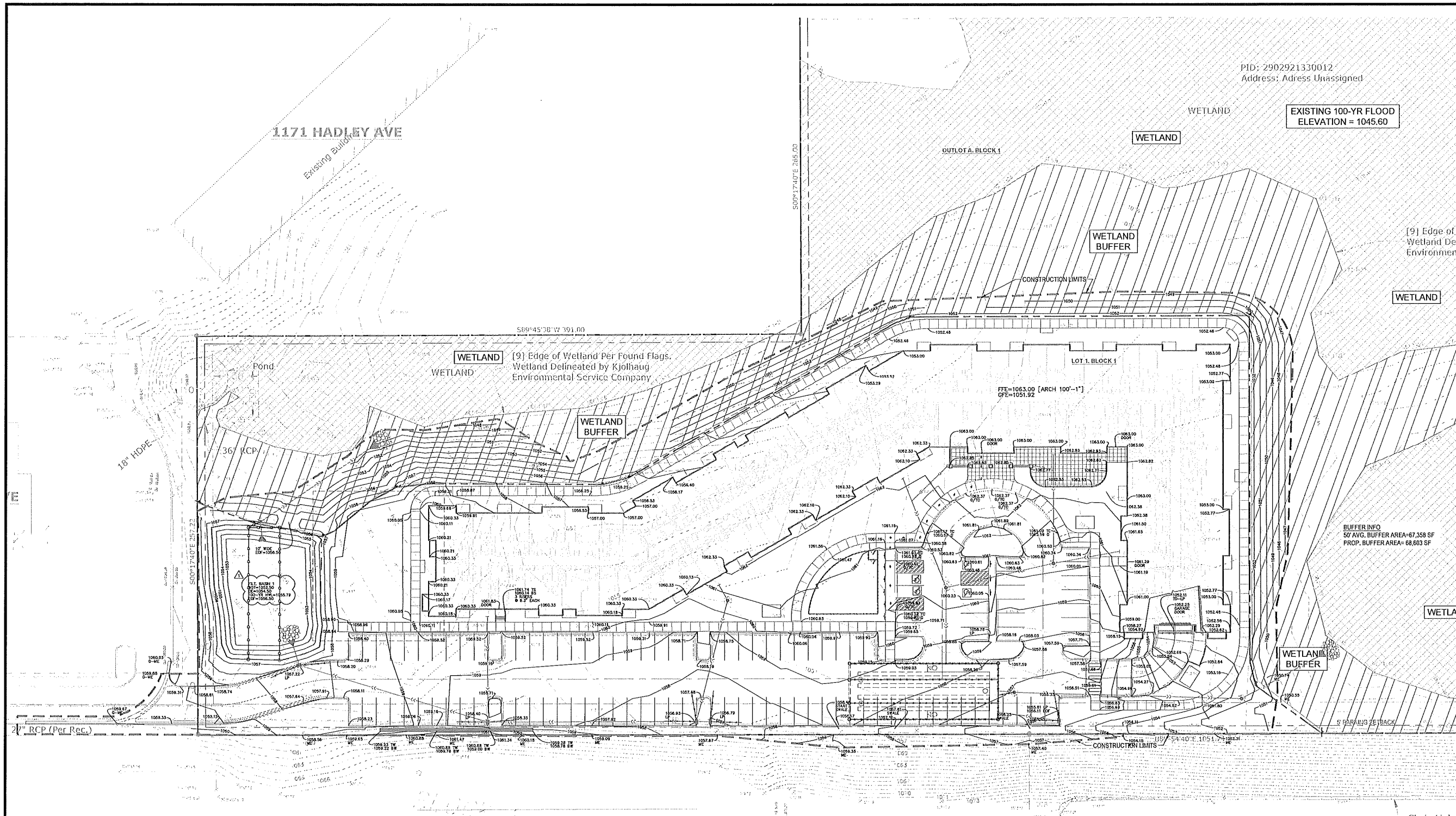


Special Provisions

1. The applicant shall specify wetland buffer monuments on the plans according to District Rule E.
2. The applicant shall submit the escrow fee of \$19,500.
3. The applicant shall submit an executed stormwater maintenance agreement for the proposed facilities.
4. The applicant shall provide contact information for the trained erosion control coordinator responsible for implementing the SWPPP (Stormwater Pollution Prevention Plan).
5. The applicant shall submit a copy of the Minnesota Pollution Control Agency's NPDES Construction Permit coverage for the project.
6. The applicant shall submit the final, signed plans set.

PID: 2902921330012  
Address: Address Unassigned

EXISTING 100-YR FLOOD  
ELEVATION = 1045.60



[9] Edge of Wetland Del Environment

[9] Edge of Wetland Per Found Flags. Wetland Delineated by Kjolhaug Environmental Service Company

BUFFER INFO  
50' AVG. BUFFER AREA=67,358 SF  
PROP. BUFFER AREA= 68,603 SF

**OAKDALE SENIOR LIVING**  
HADLEY AVE NORTH & 11TH STREET NORTH, OAKDALE MN 55128

**MWF PROPERTIES**  
7645 LYNDALE AVE S., MINNEAPOLIS MN 55423

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

*David J. Kraebel*  
David J. Kraebel  
DATE 3/17/23 LICENSE NO. 48776

DATE	DESCRIPTION
08/19/22	CITY SUBMITTAL
12/29/22	CITY PERMITTAL
2/15/23	CONTRACT PERMIT
2/21/23	CITY PERMITTAL
3/27/23	CHECK & SET
3/17/23	CONTRACT DRAWINGS

DRAWN BY: RB, DK, JL REVIEWED BY: RB, DK  
PROJECT NUMBER: 22296

DATE	DESCRIPTION
3/20/23	WATERSHED RESUBMITTAL

GRADING PLAN

**CITY OF OAKDALE GRADING NOTES:**  
1. RESERVED FOR CITY SPECIFIC GRADING NOTES.

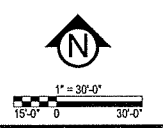
**RWMWD EROSION CONTROL NOTES:**  
1. NOTIFY NICOLE SODERHOLM, RAMSEY-WASHINGTON METRO WATERSHED DISTRICT, AT 651-792-7976 PRIOR TO BEGINNING CONSTRUCTION ACTIVITY IN ORDER TO SCHEDULE AN INITIAL SWPPP INSPECTION.  
2. NOTIFY NICOLE SODERHOLM, RAMSEY-WASHINGTON METRO WATERSHED DISTRICT, AT 651-792-7976 AT LEAST 48 HOURS PRIOR TO INSTALL OF UNDERGROUND INFILTRATION SYSTEM.

**EROSION CONTROL NOTES:**  
SEE SWPPP ON SHEETS SW1.0 - SW1.5

SEE SHEET C0.1 FOR GENERAL GRADING PLAN NOTES

**GRADING PLAN LEGEND:**

- 1125 ----- EX. 1' CONTOUR ELEVATION INTERVAL
- 1137 ----- 1.0' CONTOUR ELEVATION INTERVAL
- 41.26 SPOT GRADE ELEVATION (GUTTER/FLOW LINE UNLESS OTHERWISE NOTED)
- 891.00 G SPOT GRADE ELEVATION GUTTER
- 891.00 TC SPOT GRADE ELEVATION TOP OF CURB
- 891.00 BS/TS SPOT GRADE ELEVATION BOTTOM OF STAIRS/TOP OF STAIRS
- 891.00 ME SPOT GRADE ELEVATION MATCH EXISTING
- ⊙ GRADE BREAK - HIGH POINTS
- ==== CURB AND GUTTER (T.O = TIP OUT)
- EOF=1135.52 EMERGENCY OVERFLOW



**C3.0**

# Memorandum

**TO:** Nicole Soderholm  
Permit Coordinator – Ramsey Washington Metro Watershed District  
2665 Noel Drive  
Little Canada, MN 55117

**FROM:** David Knaeble  
Civil Site Group

**DATE:** 3/23/23

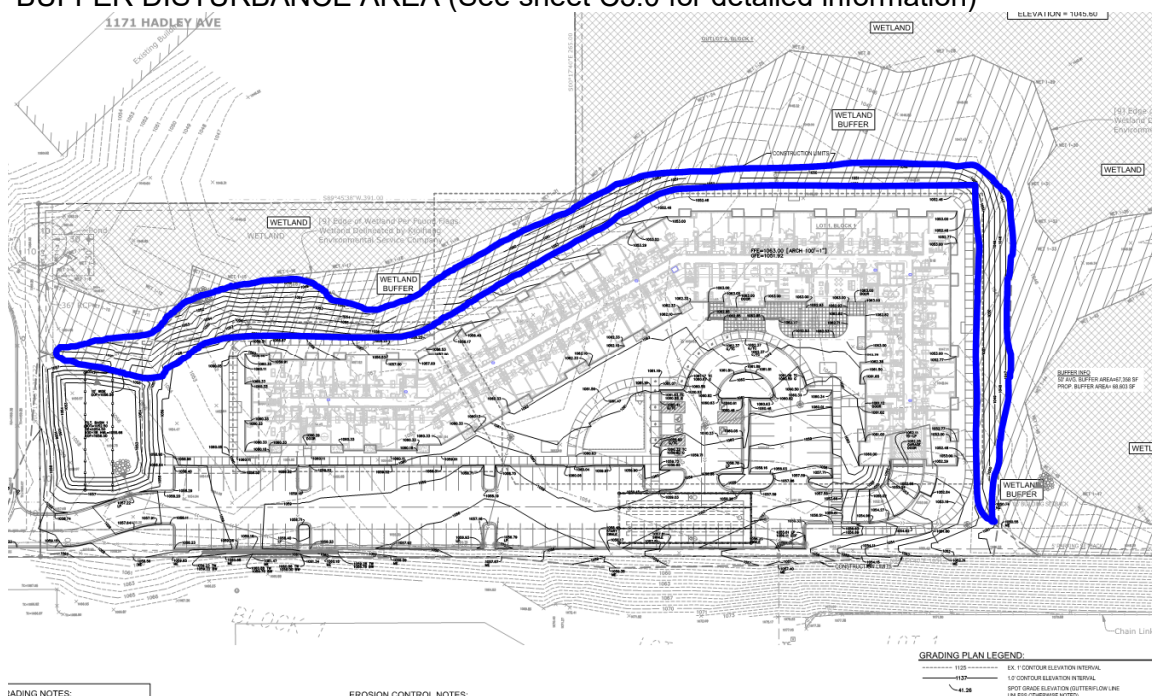
**RE:** Oakdale Senior Living – Wetland Buffer Disturbance

Dear Nicole,

As part of the project we are working on in the northeast corner of Hadley Ave. North and 11<sup>th</sup> Street North, an existing wetland exists on the property and a wetland buffer will be required to be established as part of the project. The proposed plans show the proposed wetland buffer meeting the buffer requirements of the Ramsey Washington Metro Watershed District (RWMWD). The existing wetland has been classified as a Manage B wetland with an Average Buffer Width of 50 feet.

During construction, the proposed buffer will need to be disturbed and regraded to establish the correct elevations for the proposed building. Post construction, the buffer will be reestablished with a native seed mix (See Sheet L1.0).

**BUFFER DISTURBANCE AREA (See sheet C3.0 for detailed information)**



REQUIRED BUFFER AREA (50 FT AVERAGE) = 67,358 SF  
PROVIDED BUFFER AREA = 68,603 SF

MIN. BUFFER WIDTH = 30 FEET  
MAX. BUFFER WIDTH = 98 FEET

The project is scheduled to start construction in July of 2023 with an expected completion date of November of 2024.

Temporary buffer impacts will occur right at the start of construction to facilitate the proposed grading required for the site. It will take approximately 8 weeks of grading to bring the site up to its final elevation. Once grading operations have been completed and the final grades are established, the contractor will begin final site stabilization. No permanent buffer impacts are being proposed for this project.

To prevent sediment from entering the wetland, we are utilizing multiple erosion and sediment control practices. The practices consist of keeping as much existing buffer in place as possible, utilizing redundant perimeter erosion control at the construction limits and utilizing erosion control blanket on the disturbed slopes.

Based on the site requiring the disturbance of the existing buffer to establish the grades of the proposed building, and the erosion and sediment control proposed, we are requesting approval from the RWMWD to approve the disturbance and revegetation of the existing buffer area.

Sincerely,  
David Knaeble  
Civil Site Group  
763-234-7523



## Minnesota Wetland Conservation Act Notice of Decision

<b>Local Government Unit:</b> Ramsey-Washington Metro Watershed District (RWMWD) <b>County:</b> Washington	
<b>Applicant Name:</b> Matt Yetzer (MWF Properties) <b>Applicant Representative:</b> Will Effertz (Kjolhaug Environmental Services)	
<b>Project Name:</b> MWF Properties Oakdale	<b>LGU Project No. (if any):</b> 22-13 WCA
<b>Date Complete Application Received by LGU:</b> 9/9/2022	
<b>Date of LGU Decision:</b> 10/13/2022	
<b>Date this Notice was Sent:</b> 10/15/2022	

**WCA Decision Type - check all that apply**

<input checked="" type="checkbox"/> <b>Wetland Boundary/Type</b>	<input type="checkbox"/> <b>Sequencing</b>	<input type="checkbox"/> <b>Replacement Plan</b>	<input type="checkbox"/> <b>Bank Plan (not credit purchase)</b>
<input type="checkbox"/> <b>No-Loss (8420.0415)</b>	<input type="checkbox"/> <b>Exemption (8420.0420)</b>		
<b>Part:</b> <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G <input type="checkbox"/> H		<b>Subpart:</b> <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9	

**Replacement Plan Impacts (replacement plan decisions only)**

<b>Total WCA Wetland Impact Area:</b>
<b>Wetland Replacement Type:</b> <input type="checkbox"/> Project Specific Credits: <input type="checkbox"/> Bank Credits:
<b>Bank Account Number(s):</b>

**Technical Evaluation Panel Findings and Recommendations (attach if any)**

<input type="checkbox"/> Approve <input checked="" type="checkbox"/> Approve w/Conditions <input type="checkbox"/> Deny <input type="checkbox"/> No TEP Recommendation
<b>Nicole Soderholm (RWMWD- LGU), Ben Meyer (BWSR), and Will Effertz completed a field review of the delineation on 10/3/22. A slight change to the southern wetland boundary near the center of the site was requested to better align with an observed change in topography. A revised figure that highlights this change was submitted on 10/13/22 (enclosed).</b>

**LGU Decision**

<input type="checkbox"/> Approved with Conditions (specify below) <sup>1</sup> List Conditions:	<input checked="" type="checkbox"/> Approved <sup>1</sup>	<input type="checkbox"/> Denied
<b>Decision-Maker for this Application:</b> <input checked="" type="checkbox"/> Staff <input type="checkbox"/> Governing Board/Council <input type="checkbox"/> Other:		
<b>Decision is valid for:</b> <input checked="" type="checkbox"/> 5 years (default) <input type="checkbox"/> Other (specify):		

<sup>1</sup> *Wetland Replacement Plan approval is not valid until BWSR confirms the withdrawal of any required wetland bank credits. For project-specific replacement a financial assurance per MN Rule 8420.0522, Subp. 9 and evidence that all required forms have been recorded on the title of the property on which the replacement wetland is located must be provided to the LGU for the approval to be valid.*

**LGU Findings** – Attach document(s) and/or insert narrative providing the basis for the LGU decision<sup>1</sup>.



Attachment(s) (specify): **Revised Figure 10-13-22**

Summary:

<sup>1</sup> Findings must consider any TEP recommendations.

### Attached Project Documents

Site Location Map  Project Plan(s)/Descriptions/Reports (specify):

### Appeals of LGU Decisions

If you wish to appeal this decision, you must provide a written request within 30 calendar days of the date you received the notice. All appeals must be submitted to the Board of Water and Soil Resources Executive Director along with a check payable to BWSR for \$500 *unless* the LGU has adopted a local appeal process as identified below. The check must be sent by mail and the written request to appeal can be submitted by mail or e-mail. The appeal should include a copy of this notice, name and contact information of appellant(s) and their representatives (if applicable), a statement clarifying the intent to appeal and supporting information as to why the decision is in error. Send to:

Appeals & Regulatory Compliance Coordinator  
Minnesota Board of Water & Soils Resources  
520 Lafayette Road North  
St. Paul, MN 55155  
[travis.germundson@state.mn.us](mailto:travis.germundson@state.mn.us)

Does the LGU have a local appeal process applicable to this decision?

Yes<sup>1</sup>  No

<sup>1</sup>If yes, all appeals must first be considered via the local appeals process.

**Local Appeals Submittal Requirements** (LGU must describe how to appeal, submittal requirements, fees, etc. as applicable)

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### Notice Distribution (include name)

Required on all notices:

<input checked="" type="checkbox"/> SWCD TEP Member: <b>Jay Riggs (Washington)</b>	<input checked="" type="checkbox"/> BWSR TEP Member: <b>Ben Meyer</b>
<input type="checkbox"/> LGU TEP Member (if different than LGU contact):	
<input checked="" type="checkbox"/> DNR Representative: <b>Jim Levitt, Dan Scollan</b>	
<input type="checkbox"/> Watershed District or Watershed Mgmt. Org.:	
<input checked="" type="checkbox"/> Applicant (notice only):	<input type="checkbox"/> Agent/Consultant (notice only): <b>Lucas Mueller (Kjolhaug)</b>

Optional or As Applicable:

<input checked="" type="checkbox"/> Corps of Engineers: <b>Daryl Wierzbinski</b>	
<input type="checkbox"/> BWSR Wetland Mitigation Coordinator (required for bank plan applications only):	
<input type="checkbox"/> Members of the Public (notice only):	<input checked="" type="checkbox"/> Other: <b>Mary Fitzgerald (RWMWD)</b>

<b>Signature:</b> <i>Nicole Soderholm</i>	<b>Date:</b> 10/15/2022
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This notice and accompanying application materials may be sent electronically or by mail. The LGU may opt to send a summary of the application to members of the public upon request per 8420.0255, Subp. 3.



# RAMSEY-WASHINGTON

## METRO WATERSHED DISTRICT

### MEMORANDUM

**Date:** April 5<sup>th</sup>, 2023

**To:** Board of Managers and Staff

**From:** Nicole Soderholm, Permit Coordinator  
Mary Fitzgerald, District Inspector

**Subject:** March Enforcement Action Report

During March 2023:

<b>Number of Violations:</b>	<b>2</b>
Install/Repair Construction Entrance	1
Install/Repair Inlet Protection	1

#### Activities and Coordination Meetings:

Active permit site monitoring and inspections, permitting assistance to private developers and public entities, Wetland Conservation Act (WCA) administration/procedures, new permit review with Barr Engineering, TAC rule change process, MN Water Workforce Pilot Program meetings, BMP Inspector Intern interviews, preconstruction meetings, NR staff brush haul, MECA (MN Erosion Control Association) spring inspections presentation, MPCA Stormwater Manual updates information session, UMN Construction Site Management Recertification Training, MPCA webinar on biochar, Hillcrest wetland TEP meeting

#### Single Lot Residential Permits Approved by Staff:

None

#### Permits Closed:

None

## Project Updates:

### #22-24 Impact Apartments (Oakdale)

As temps begin to hover above freezing, slow but steady snowmelt continued in the month of March. Staff conducted a routine joint inspection with a City of Oakdale representative and contractor representative on March 28<sup>th</sup>. The largest topic of discussion was a very full temporary pond that was starting to encroach on the building's foundation and access route. To avoid building damage, and to provide more pond capacity for future rain events – the team agreed dewatering needs to occur. Dewatering would allow the release of clean, controlled water offsite. This process is monitored to ensure rate and volumes are appropriate, and to ensure only clean water leaves the site. RWMWD and Oakdale city staff will continue to work together on this inspection process to ensure the site stays compliant during dewatering, and other necessary erosion and sediment control items implemented onsite.



### #23-06 Xcel Energy Roseville 0802 Line Rebuild

This project entails removal of old Xcel Energy transmission lines, and replacing with new. This project has temporary wetland disturbance to replace an existing pole structure, as well as some wetland buffer temporary disturbance for work being performed. Staff attended an initial erosion control walk-through on March 6<sup>th</sup> to monitor these two wetlands areas, as well as inspect for all other necessary erosion and sediment control items. The site was found to be compliant. Large access pads are being utilized throughout the project which is very beneficial for minimizing vegetation disturbance and preventing rutting/sediment track-out on to roadways. Staff will continue to regularly inspect the site through construction and restoration.

### #21-12 Tartan High School Phase II (Oakdale)

Phase II of Tartan High School's multi-year redevelopment continues through the month of March. Staff visited the site on March 28<sup>th</sup> for a routine joint inspection with a representative from the City of Oakdale. Action items found during this inspection included construction entrance maintenance, construction debris clean-up, damaged inlet protection replacement, and providing secondary containment to hazardous materials. Regular inspections are back on schedule for the site now that frequent above-freezing temps seem to be here to stay.



## MEMORANDUM

**Date:** April 5, 2023  
**To:** RWMWD Board of Managers  
**From:** Nicole Soderholm, Permit Coordinator  
**Subject:** Hillcrest Golf Course Redevelopment– Wetland Replacement Plan

The now-closed Hillcrest Golf Course site is a 112-acre site bounded by N Winthrop St, Larpenteur Ave E, McKnight Rd N, and Ivy Ave E in the City of St. Paul. The proposed mixed use redevelopment ‘The Heights’ has been part of a master planning process for a number of years with the high-level goals of housing creation, open and passive green space, industrial development, job creation, and public transit accessibility.

The St. Paul Port Authority purchased the property in 2019. Soil investigation on the site has found widespread mercury contamination from decades of fungicide use by the former golf course, resulting in a ‘brownfield’ designation. Large-scale soil remediation is deemed necessary for any future land use.

In July 2020 a wetland delineation was approved for the site by the City of St. Paul. The city is the designated Local Government Unit (LGU) responsible for Wetland Conservation Act (WCA) administration and decision-making for this project. There are 10 existing wetlands onsite, almost all of which are proposed to be impacted for contaminated sediment removal.

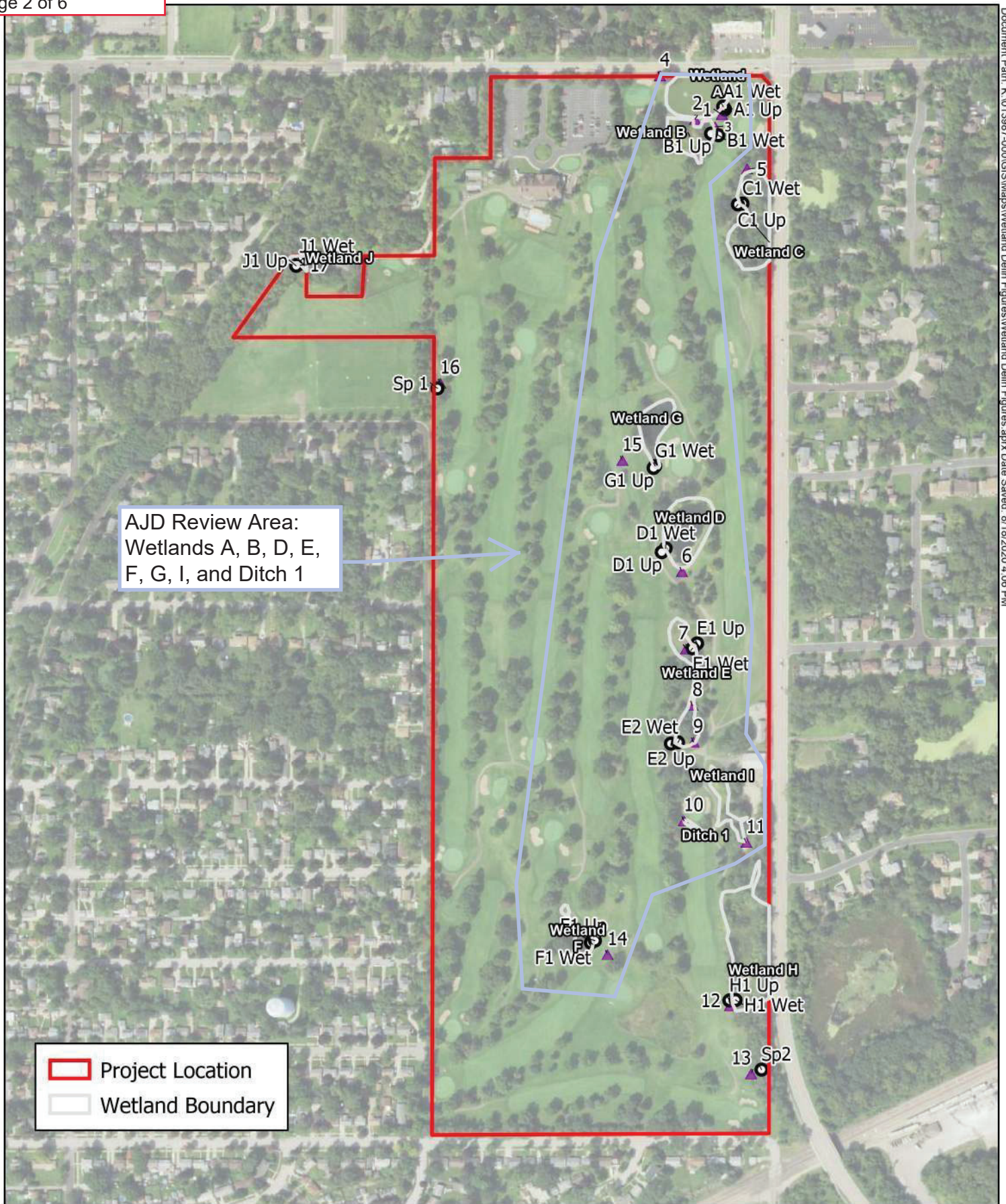
The Port Authority submitted a wetland replacement plan on 3/7/23. The proposed plan involves 0.96 acre of temporary impact and 2.87 acres of permanent impact. Wetland replacement is proposed on-site at a 1:1 ratio by area in response to RWMWD’s ‘no net loss’ of wetlands policy. The remaining 1:1 replacement is proposed to be met through the purchase of offsite banked wetland credits.

The WCA application was noticed to the Technical Evaluation Panel (TEP) on 3/8/23, which includes the DNR, Board of Water & Soil Resources (BWSR), Ramsey County, and RWMWD. A TEP meeting was held on 3/23/23 to discuss the application. TEP comments will be prepared and submitted to the city no later than the comment period deadline of 4/14/23.

This memo is for informational purposes. No action is being requested, however staff thought it prudent to update the board on this large-scale development slated to begin this year. The last board update in the form of a presentation by the Port Authority occurred in December 2020.

The Port Authority has submitted a grading permit application for the initial phase of development because it also triggers District Rules. Staff will continue to work with the city, TEP, and the permit applicant on matters concerning stormwater management, flood control, wetland management, and erosion/sediment control. After the WCA process and grading permit application is deemed complete, the board can expect to see the project on a future board meeting agenda, at which point board action will be requested.

Let me know if you have any preliminary questions or concerns.



**Figure 6a Wetland Delineation**

Hillcrest Redevelopment Master Plan  
St. Paul Port Authority  
St. Paul, MN



0 475  
Feet  
1 inch = 475 feet



## Minnesota Wetland Conservation Act Notice of Application

<b>Local Government Unit:</b> City of Saint Paul	<b>County:</b> Ramsey
<b>Applicant Name:</b> Saint Paul Port Authority	<b>Applicant Representative:</b> Alison Hardwood
<b>Project Name:</b> The Heights	<b>LGU Project No. (if any):</b>
<b>Date Complete Application Received by LGU:</b> 3/7/2023	
<b>Date this Notice was Sent by LGU:</b> 3/8/2023	
<b>Date that Comments on this Application Must Be Received By LGU<sup>1</sup>:</b> April 14, 2023	

<sup>1</sup> minimum 15 business day comment period for Boundary & Type, Sequencing, Replacement Plan and Bank Plan Applications

**WCA Decision Type** - check all that apply

<input type="checkbox"/> Wetland Boundary/Type	<input type="checkbox"/> Sequencing	<input checked="" type="checkbox"/> Replacement Plan	<input type="checkbox"/> Bank Plan (not credit purchase)
<input checked="" type="checkbox"/> No-Loss (8420.0415)	<input type="checkbox"/> Exemption (8420.0420)		
Part: <input type="checkbox"/> A <input checked="" type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input checked="" type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G <input type="checkbox"/> H		Subpart: <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9	

**Replacement Plan Impacts** (replacement plan decisions only)

<b>Total WCA Impact Area Proposed:</b> 2.87 acres
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**Application Materials**

<input type="checkbox"/> Attached <input checked="" type="checkbox"/> Other <sup>1</sup> (specify):
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<sup>1</sup> Link to ftp or other accessible file sharing sites is acceptable.

**Comments on this application should be sent to:**

<b>LGU Contact Person:</b> Andrew Hogg
<b>E-Mail Address:</b> Andrew.hogg@ci.stpaul.mn.us
<b>Address and Phone Number:</b> Dept of Safety and Inspections; 375 Jackson Street, Saint Paul, MN 55101. (651) 266-9112
<b>Decision-Maker for this Application:</b> <input checked="" type="checkbox"/> Staff <input type="checkbox"/> Governing Board/Council <input type="checkbox"/> Other (specify):

**Notice Distribution (include name)**

*Required on all notices:*

<input checked="" type="checkbox"/> SWCD TEP Member: Mike Goodnature	<input checked="" type="checkbox"/> BWSR TEP Member: Ben Meyer
<input type="checkbox"/> LGU TEP Member (if different than LGU contact):	
<input checked="" type="checkbox"/> DNR Representative: Jim Levitt	
<input checked="" type="checkbox"/> Watershed District or Watershed Mgmt. Org.: Nicole Soderholm	
<input checked="" type="checkbox"/> Applicant (notice only): Kathryn Sarnecki <input checked="" type="checkbox"/> Agent/Consultant (notice only): Alison Hardwood	

*Optional or As Applicable:*

<input checked="" type="checkbox"/> Corps of Engineers: usace_requests_mn@usace.army.mil
<input type="checkbox"/> BWSR Wetland Mitigation Coordinator (required for bank plan applications only):
<input type="checkbox"/> Members of the Public (notice only): <input type="checkbox"/> Other:

<b>Signature:</b> 	<b>Date:</b> 03/08/2023
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This notice and accompanying application materials may be sent electronically or by mail. The LGU may opt to send a summary of the application to members of the public upon request per 8420.0255, Subp. 3.

\* \* \* \* \*

# Stewardship Grant Program

\* \* \* \* \*



(651) 792-7950  
rwmwd.org

2665 Noel Drive  
Little Canada, MN 55117

April 5, 2023

**To:** RWMWD Board of Managers

**From:** Paige Ahlborg, Watershed Project Manager

**Re:** Budget Adjustment Request - Battle Creek Middle School 22-08 CS

St Paul Public Schools (SPPS) applied for a Stewardship Grant and this request was approved by the Board of Managers on 3/2/2022 for 100% funding up to \$100,000 for the costs associated to the installation of a stormwater infiltration system. The project was originally designed in 2021 with a proposed construction date of summer 2022. The project start date was postponed due to design and review delays.

As part of RWMWD's review, staff determined the project would have a better chance of succeeding if plant plugs were used in place of a native seeding which has an added project expense. Due to this increase as well as increased costs due to inflation associated with soil work and overall construction, SPPS is requesting a grant increase of \$30,000. The total grant award for this project would be \$130,000.

This request is over our standard allotment of 100% funding up to \$100,000 however staff recommends approval of this request because this is a project located at a school within a priority subwatershed and equity area of St. Paul.

The total project cost is about \$230,000.



## Stewardship Grant Program Budget Status Update

April 5, 2023

Homeowner	Coverage	Number of Projects: 4	Funds Allocated
Habitat Restoration and rain garden w/o hard surface drainage	50% Cost Share \$15,000 Max	2	\$1,110
Rain garden w/hard surface drainage, pervious pavement, green roof	75% Cost Share \$15,000 Max	2	\$16,570*
Master Water Steward Project	100% Cost Share \$15,000 Max	0	\$0
Shoreland Restoration	100% Cost Share \$15,000 Max	0	\$0

Commercial, School, Government, Church, Associations, etc.	Coverage	Number of Projects: 4	Funds Allocated
Habitat Restoration	50% Cost Share \$15,000 Max	1	\$4,065
Shoreland Restoration (below 100-year flood elevation w/actively eroding banks)	100% Cost Share \$100,000 Max	0	\$0
Priority Area Projects	100% Cost Share \$100,000 Max	2	\$91,000*
Non-Priority Area Projects	75% Cost Share \$50,000 Max	0	\$0
Public Art (\$50,000 Reserved)	50% Cost Share \$15,000 Max/Project	2	\$3,800**
Aquatic Veg Harvest/LVMP Development	50% Cost Share \$15,000 Max	0	\$0
Enhanced Street Sweeping (\$128,000 Reserved)	Grant Recipients and Amounts to be Set at Future Meeting	0	\$0

Maintenance	50% Cost Share \$7,500 Max for 5 Years	67	\$46,250**
Consultant Fees			\$2,760
<b>Total Allocated</b>			<b>\$165,555</b>

\*includes funds to be approved at the April 5, 2023 board meeting

\*\*includes staff approvals since previous board meeting

2023 Stewardship Grant Program Budget	
Budget	\$1,128,000
Total Funds Allocated	\$165,555
<b>Total Available Funds</b>	<b>\$962,445</b>

\* \* \* \* \*

# Action Items

\* \* \* \* \*

# Request for Board Action

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**Board Meeting Date:** April 5, 2023

**Agenda Item No:** 7A

**Preparer:** Tina Carstens, Administrator  
Paige Ahlborg, Watershed Project Manager

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**Item Description:** Lake Owasso Shoreline Restoration Phase 2 Project Authorization to Finalize Design and Prepare the Bidding Documents and Advertise for Bids.

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## **Background:**

This project involves the shoreline buffer restoration of 6 residential properties. Combined, the total restoration area is approximately 0.44 acres, with individual sites ranging from 365 square feet to 10,230 square feet, with an average project size of 3,198 square feet.

The project scope includes site-wide management for invasive and non-desirable species, bank and shoreline stabilization, and revegetation using a combination of native seed and plant plugs. The purpose of completing this work is to establish a diverse, natural shoreline buffer, as well as provide wildlife and pollinator habitat, runoff interception and filtration, competition for invasive species, and landscape aesthetics. Individual site design and revegetation components were developed for this project based on needs for shoreline use by landowners; in addition to, important site circumstances such as elevation, remnant plant communities, and anticipated soil and hydrologic conditions.

Site preparation for the project will begin summer 2023. Stabilization of upland soils and vegetation will shortly follow, allowing the contractor to closely monitor water level elevations for timing and favorable conditions to install plants. The overall project is expected to be substantially completed by fall of 2023. Long-term monitoring and maintenance for all individual project sites will continue beyond the completion date, for the 2024 and 2025 growing seasons. Cost estimate for the proposed project is \$125,178.

Final plans and specs are set to go out for public bid on April 7. Bids will be due on April 25. Staff will bring a contractor recommendation to the board of managers at the May 3 meeting.

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## **Applicable District Goal and Action Item:**

**Goal: Achieve healthy ecosystems-** the District will manage water and related natural resources to create and preserve healthy ecosystems.

**Action Items: EC3-** Lead ecological restoration projects to improve water resources and associated upland habitat.

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**Staff Recommendation:**

Staff recommends that the Board approve the preliminary design, estimated costs, and proposed project schedule, and direct staff to finalize the design and bidding documents and advertise the project for bid.

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**Financial Implications:**

The Lake Owasso Shoreline Restoration Project Phase 2 budget is included in the 2023 Stewardship Grant Program budget.

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**Board Action Requested:**

Approve the preliminary design, estimated costs, and proposed project schedule, and direct staff to finalize the design and bidding documents and advertise the project for bid.

**LAKE OWASSO SHORELINE RESTORATION 2023 PROJECT**  
**ROSEVILLE, MN**

**INVITATION FOR BID**

The Ramsey-Washington Metro Watershed District invites you to submit a bid for the LAKE OWASSO SHORELINE RESTORATION 2023 PROJECT in Shoreview. This letter is intended to provide you with background information about the project, the anticipated scope of work, and deliverables.

Bids for the LAKE OWASSO SHORELINE RESTORATION 2023 PROJECT in Roseville, Minnesota will be **received via email** at [paige.ahlborg@rwmwd.org](mailto:paige.ahlborg@rwmwd.org) until **1:00 pm, CDT, Tuesday, April 25, 2023**, and then opened privately. Evaluation of bids will be a qualitative review conducted by Ramsey-Washington Metro Watershed District and Ramsey County with emphasis on price, qualifications, and completeness.

The Work consists of furnishing all labor, materials, equipment, skills, and performing all operations required to construct the Work. The Work includes, but is not limited to, mobilization and demobilization; construction survey and project layout; furnishing, installing, maintaining, and removing erosion control facilities; woody and herbaceous vegetation, and invasive species removal; disposal, preparing soil, transporting and installing of all seeds, live plants and other materials required for: (1) removal of existing vegetation & minor shoreline shaping as needed, (2) seeding and planting of native plant species, (3) the establishment and protection of seeded areas and live plants, (4) site-wide management for all invasive and non-desirable species for two growing seasons post-contract period; all as provided for in the Bidding Documents.

**Instruction to Bidders Brief:** A complete submittal shall include at a minimum, the following documents, and/or items:

1. Statement of Qualifications (SOQ) per Section A – A-8 General Conditions and Requirements of the Specifications and Provisions Document
2. Completed Copy of the Bid Form (See Exhibit C)
3. Completed Copy of the ‘Responsible Contractor and Certification of Compliance’ Form (See Attachment A)

There will be no pre-bid meeting for this project. Please contact us by phone at (651) 792-7964 and (651) 266-7280 if you have any questions. Questions will be accepted until **1:00pm, CDT, April 24, 2023**. Partial sets of documents will not be issued.

**Contact Information**

Ramsey-Washington Metro Watershed District  
Paige Ahlborg  
Watershed Project Manager  
(651) 792-7964  
[paige.ahlborg@rwmwd.org](mailto:paige.ahlborg@rwmwd.org)

Ramsey County Soil & Water Conservation Division  
Brian Olsen  
Owner Representative  
(651) 266-7280  
[brian.olsen@ramseycounty.us](mailto:brian.olsen@ramseycounty.us)

**ATTACHED:**     Packaged Bidding Documents for the  
LAKE OWASSO SHORELINE RESTORATION 2023 PROJECT

**Bid Package**  
for  
**LAKE OWASSO SHORELINE  
RESTORATION 2023 PROJECT**  
(ROSEVILLE, MN 55113)

**April 7, 2023**

**Prepared By:**



**RAMSEY  
COUNTY**

## **Bid Package Content Index:**

Exhibit A: Project Specifications and Provisions

Exhibit B: Construction Plan Set

Exhibit C: Bid Form

Attachment A: 'Responsible Contractor and Certification of Compliance' Form

Attachment B: Construction Contract (Draft Example)

## Exhibit A: Project Specifications and Provisions



# SPECIFICATIONS AND PROJECT PROVISIONS

## Lake Owasso Shoreline Restoration Project 2023

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March 17, 2023

## SPECIFICATIONS AND PROJECT PROVISIONS

### SECTION A - GENERAL REQUIREMENTS

#### A-1 SCOPE OF WORK

The work to be performed under the provision of these contract documents shall include the furnishing of all materials, labor, tools, and equipment necessary to successfully and safely complete the restoration as described in the Plans and Specifications herein. Items required to perform work but may not be listed in the specifications remain the responsibility of the Contractor. Minor appurtenances not specifically listed as proposal items, but which are necessary to complete the project, as shown in the Plans and Specifications, in a satisfactory manner, shall be considered incidental items and no direct compensation will be made therefore. The Owner is not responsible for safety on this project.

Contractor is responsible for securing all required permits prior to beginning the installation. Specifically, the City of Roseville requires an Erosion Control, Grading & Stormwater Permit for these projects. When submitting the permits, be sure to notify the City Staff that the projects are being installed in partnership with Ramsey-Washington Metro Watershed District for the required fees and escrows to be waived.

#### A-2 LOCATION

The project consists of 6 residential sites, surrounding the extent of Lake Owasso (ID 62005600) – located West of the I-694 and I-35E corridor merge, within the City of Roseville. As shown on Construction Drawings.

RESIDENTIAL SITE(S) The residential sites are individually owned and located immediately surrounding Lake Owasso. Sites are separated along Heinel Drive on the Southeast side of the lake. As shown on Construction Drawings.

#### A-3 OWNER AND OWNER REPRESENTATIVE

The Owner of the Project is Ramsey-Washington Metro Watershed District (RWMWD), 2665 Noel Drive, Little Canada, MN 55117. The Owner Representative for the project unless otherwise noted, is the Ramsey County Parks & Recreation Department; Soil & Water Conservation Division staff. The Owner Representative will provide oversight and inspection for the Lake Owasso Shoreline Restoration Project 2023 site(s).

#### A-4 SPECIFICATIONS, WHICH APPLY

Except as modified herein, the following shall apply and where applicable, hereby adopted by reference:

- (1) Minnesota Department of Transportation Standard Specifications for Construction; 2018 edition, Division II and Division III.
- (2) Minnesota Seed Law and Rules; August 1, 2015 edition.

A-5 PAYMENT

Payment must be coordinated with Ramsey-Washington Metro Watershed District.

A-6 PROJECT WAGES

This is **NOT** a prevailing wage project.

A-7 STARTING AND COMPLETION DATES

Construction and installation work authorized under this contract for the Lake Owasso Shoreline Restoration Project, shall be completed by **June 17<sup>th</sup>, 2024**. Maintenance of these sites may continue beyond this date. **Work can begin after execution date of contract between the Owner and the Contractor. \*Installation of new native species timeframe to be coordinated with Owner based on landowners plan to treat aquatic invasive species in June of 2023.**

**Anticipated Project Timeline (subject to change):**

- (1) Quotation packages due: April 25, 2023
- (2) Contractor selection: May 3, 2023
- (3) Notice to Proceed: May 4, 2023
- (4) Substantial Completion: May 4, 2023 – October 31, 2023
- (5) Full Completion: June 17, 2024

A-8 QUALIFICATIONS AND CERTIFICATIONS OF CONTRACTOR

To demonstrate qualifications to perform the Work, **the Bidder shall submit to the Owner a Statement of Qualifications (SOQ)**, which demonstrates the Contractor's ability to complete the Work as specified. This documentation shall include at a minimum the following, and such other information the Owner believes necessary:

- (1) Description of the project overview and the Contractor's approach to completing the work, written in a way that demonstrates the Contractor's understanding of what is required; estimated work start date; procedures and an anticipated time of completion for each type of work listed in plan; methods and locations for material staging sites and all major points of access necessary.
- (2) Description of the Contractor's equipment, key personnel and resources which demonstrate the Contractor's ability to successfully complete the Work including: size and makeup [i.e. supervisors, crew leaders, laborers, etc.] of crew anticipated. It is required that all onsite staff proposed to supervise or lead in completion of the services must have a bachelor's degree in Natural Resources – or approved equal; experience constructing shoreline restoration projects and establishing native landscapes within the state or upper Midwest; qualifications to accurately and quickly identify trees and vegetation native to the State of Minnesota, and the invasive species targeted for eradication.

All herbicide applicators on-site must be individually licensed for application in the State of Minnesota. Copies of current herbicide applicator licenses must be submitted. Applicators applying herbicide under someone else's license is explicitly forbidden.

- (3) Description of the Contractor's project experience including: nature of project, owner's name and contact information, dollar value and name of bonding company.  
Contractors must have performed similar shoreline restoration, native landscape installation work at a minimum of five (5) projects within the past five (5) years, to the extent possible for projects of equal size.

Contractors must have performed similar vegetation management work at a minimum of five (5) projects within the past five (5) years, not including projects that were primarily installation work. Provide five (5) references of vegetative management work within the past five (5) years. Include only projects that were primarily vegetation management/maintenance.

- (4) Description of present commitments during the 2023-2025 growing seasons.

A-9 LISTING OF SUBCONTRACTORS

The Contractor shall provide the Owner with a listing of subcontractors, contact information who will perform the major items of work on this project and their qualifications **within three calendar days following the Owner's request**. If while completing the project, additional Sub-Contractors are required, the general Contractor shall notify the Owner in writing of the Contractors name, contact information, and Work to be performed prior to the start of the work to be completed.

A-10 WORKING HOURS

Work shall not commence before 7:00 a.m. nor extend beyond sundown Monday through Friday. No work is to be done on Saturday or Sunday without prior Owner, County and City approval.

A-11 DRUG AND ALCOHOL FREE WORKPLACE

The Contractor hereby certifies, under penalty of perjury, under the laws of the State of Minnesota that under the contract they will comply with the requirements of the Drug-Free Workplace Act of 1988 (Government Code Section 8350 et. Seq.). Therefore, the work site shall be kept drug and alcohol free at all times.

A-12 CONTRACTOR ACCESS TO SITE

The project site(s) will be accessible from surrounding roads. It is the contractor's responsibility to coordinate with the individual residential landowners and The Owner to locate the best access points to the shoreline projects. Contractor to use the least amount of different access points as reasonable to complete the scope of work and minimize damage to properties for access points. Private property, of residential landowners participating in the restoration project have consented to reasonable and appropriate access to sites respectively. It is the contractor's responsibility to obtain permission through contact, coordination, and notification with individual residential landowners for abrupt or intrusive access, usage of sites for staging of materials, access with equipment, and the temporary relocation of existing above ground and below ground structures.

A-13 BRAND NAME

If items called for by these documents have been identified herein by a "brand name or equal" description, such identification is intended to be descriptive but not restrictive and is to indicate the quality and characteristics of products that will be satisfactory.

A-14 MEASUREMENT VERIFICATION

The Contractor shall verify all measurements and grades, which relate to his/her work at the site and shall, before commencing work, report any variations or discrepancies to the Owner Representative for adjustment.

A-15 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

The Contractor is expected to carefully examine the site prior to submitting a bid and prior to any contract for restoration work begins. Contractor specifically acknowledges and declares that the Contract Documents are sufficient to have enabled it to determine the Guaranteed Maximum Price, and that the Drawings and Specifications are sufficient to enable Contractor to properly complete the Work to fulfill all its obligations under the Contract Documents. Contractor shall carefully study and compare all existing conditions, Drawings, Specifications, and other Contract Documents; shall verify all figures on the Drawings before laying out the Work; shall take field measurements and verify field conditions; shall carefully compare such field measurements and conditions and other information known to Contractor with the Contract Documents before commencing activities; and shall give prompt notice to the Owner Representative in writing, of all errors, inconsistencies, or omissions, which it may discover and obtain specific instructions in writing with respect thereto before proceeding with the Work.

The Contractor is reminded that the responsibility for determining all surface and sub-surface conditions is placed solely on the Bidder. This shall be construed to include the location of all underground facilities and utilities, the soil type, the depth of water table, and all other factors having an influence on the work.

A-16 WARRANTY AND GAURANTEES

The Contractor shall provide a warranty and guarantee on all material, products and work performed by the Contractor and subcontractor for the restoration project for a period of not less than one year, as specified below, or as agreed between Owner and Contractor prior to beginning of restoration work. Specific products used in the restoration of the project may include warranties specific to them and of longer term than 1 year. Provide written verification from the manufacture of the product stating what the warranty covers and the timeframe in which the warranty expires.

SEEDED AREAS

Contractor shall guarantee seeded areas through the specified maintenance period, and until final acceptance. Success is defined as minimum 80% cover of acceptable species as determined by Owner Representative and minimum of 50% of seeded species. Areas unsuccessful because native plants have not become successfully established at any time during the maintenance period shall have weed species and problem areas removed prior to seed dispersal and be re-seeded at the original density.

A-17 UNIT PRICES

Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead and profit. **For Measurement and Payment, refer to Bid Form.** Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price.

A-18 MATERIALS FURNISHED BY CONTRACTOR

All materials used in the Work shall be new unless otherwise provided for in the Contract Documents, shall meet the requirements of the specification, be in conformance with samples provided, and shall not be incorporated into the work until reviewed by the Owner Representative. Unless otherwise specifically indicated in the Contract Documents, all materials necessary for the proper execution of the Work shall be furnished and paid for by the Contractor, whether temporary or not and whether incorporated into the work or not. Manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditions as specified by the manufacturer. Materials supplied or equipment to be incorporated into the work shall not be purchased by the Contractor or the subcontractor subject to a chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller.

A-19 PRODUCT SUBSTITUTIONS

Each Contractor, by signing and submitting a response form, represents that their response is based upon the materials and equipment described or designated in the Contract Documents and that, if Awarded the Contract, will furnish or use only materials and equipment so described or designated. No substitution will be considered unless written request has been submitted to the Owner for approval at least four (4) calendar days prior to the date and hour set for receipt of response. Each request shall include a complete description of the proposed substitution and any other data or information necessary for a complete evaluation by the Owner. If the Owner approves any proposed substitution, such approval will be set forth in an addendum. The general requirements for substitutions will be equal to or better than the initially specified materials.

A-20 STORAGE OF MATERIALS

Materials shall be so stored by the Contractor as to insure the preservation of their quality and fitness for the work. Stored materials shall be located so as to facilitate prompt inspection. Private property shall not be used for storage purposes without written permission of the owner respectively or lessee thereof, or otherwise noted by the project Owner.

A-21 SUBMITTALS PROCEDURES

The Contractor shall provide submittals for project products, services, equipment in accordance with the following instructions:

- (1) Action Submittals: Written and graphic information that requires Owner Representative responsive action.

- (2) Informational Submittals: Written information that does not require Owner Representative responsive action. Submittals may be rejected for not complying with requirements.

Coordinate preparation and processing of submittals with performance of restoration activities. Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Owner Representatives receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals. Allow 10 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Owner Representative will advise Contractor when a submittal being processed must be delayed for coordination. Resubmittal Review: Allow 10 days for review of each resubmittal. Make resubmittals in same form and number of copies as initial submittal. Place a permanent label or title block on each submittal for identification. Highlight, encircle, or otherwise specifically identify deviations from the Contract Documents on submittals.

A-22 PROGRESS AND COMPLETION

The Contractor understands and agrees that time is of the essence for completion of this Contract. The Contractor, by submitting a bid and entering into a contract with the Owner, agrees that Substantial Completion, as certified by the Owner of the Lake Owasso Shoreline Restoration Project, **shall be substantially completed by October 31<sup>st</sup>, 2023**; after written Notice to Proceed. The date of Substantial Completion shall be adjusted accordingly if the OWNER does not issue the Notice to Proceed on or before the aforementioned dates. Refer to General Contract/Agreement Terms and Conditions.

A-23 SITE PROTECTION

The Contractor shall protect that which is to remain and shall conduct all installation operations in a manner that will not damage or jeopardize the surrounding plant life or existing structures designated to remain. The Contractor is responsible for all utility locates and shall coordinate with the appropriate utility provider for any modification for all major and small utilities. Any damage to utilities, trees or other existing-to-remain items shall be repaired at the Contractor's expense.

A-24 EXCAVATED MATERIALS

Excavated materials must be removed from site, deposited, or stored in an upland area, in a manner where the materials will not be redeposited into the water body by reasonably expected high water or runoff. Departure from any previously approved spoil disposal plans may be allowed only through approval by Owner Representative.

Excavated material shall not be permanently placed within community designated floodplain areas or shoreland areas unless all necessary local permits and approvals have been obtained.

A-25 INVASIVE SPECIES – EQUIPMENT DECONTAMINATION

All equipment intended for use at the project site must be free of prohibited invasive species and aquatic plants prior to being transported into the project site; and from one site to the next within the overall scope of the project, for the duration of the Installation and Maintenance Contract periods.

A-26 SITE CLEANLINESS AND CLEAN-UP

The Contractor shall be responsible for keeping the restoration site clean, neat, and orderly during the actual restoration project and free of trash. Material shall be stored in areas approved by Owner Representative. Dirt and debris shall be removed from paved surfaces in and immediately around the restoration limits. For final acceptance, the site shall be thoroughly cleaned. This shall include but not be limited to, remove all materials, trash and sweeping streets or pavement used during work. On weekends all materials or equipment on-site shall be neatly stored and safely out of the way of vehicle or pedestrian traffic.

Contractor shall protect landscape work and materials from damage due to landscape operations, operations by other trades and trespassers. Contractor shall maintain protection during installation and maintenance periods, and shall treat, repair, or replace damaged landscape work as directed by Owner's Representative.

A-27 PLANS DURING RESTORATION

The Contractor is expected to carefully examine the site prior to submitting a Bid and prior to any restoration work. Prior to commencing with the restoration project, the Contractor shall have the restoration plan, Addenda, permits, and all supplemental instructions on site. These documents shall be made available to all Subcontractors, Owner, and agency inspectors. Permits shall be displayed for easy review by agency staff. The project restoration plan and specifications shall be kept with staff on site during work on the project.

## SECTION B – MATERIALS

B-1 SUBMITTALS LIST

Contractor shall provide the Owner and Owner Representative the following submittals within 30 days notice to proceed on contracted work, or as otherwise specified, per the Owner Representative's request.

(1) Weed Spraying and Vegetation Removal Schedule

1. Dates of mobilization to the site, initial crew size, and equipment being used.
2. Herbicides(s) product name and rate of application.

(2) Temporary Erosion Control, Grading, Seed Bed Preparation and Mulch/Rolled Erosion Blanket Installation Schedule

1. Dates of mobilization to the site, initial crew size, and equipment being used.

(3) Planting Schedule

1. Prior to the time of any seeding and/or planting Contractor shall supply the Owner's Representative with the proposed planting schedule for each operation.

(4) Seeding and Planting Supplies

1. Prior to the time of any seeding and/or planting the Contractor shall supply the Owner's Representative with the names and addresses of all seed and live plant suppliers showing quantities related to supplier for all seeds and live plants. Plant species, including scientific names, seed blends, percentages, weights, and ratios shall be submitted and guaranteed in writing.



B-2 HERBICIDE

All herbicides to be used must be pre-approved by Owner Representative before being brought on site for use. Contractor shall submit any alternative equal herbicide requests to Owner Representative before use. Herbicide shall be delivered to the site in the closed fully labeled manufacturer's container.

All herbicide used in or around saturated or wet areas such as wetlands, seeps, shrub swamps, open water, shorelines, etc. should be marketed for safe use around aquatic habitat.

The primary herbicides for herbaceous vegetation used shall be a broad-spectrum non-selective post-emergent systemic formulation such as "Rodeo" (Glyphosate) manufactured by Monsanto company or an approved equal suitable for application by appropriate sprayer. Any other herbicide will be a broadleaf selective, which will be chosen to fit the specific weeds found during the restoration phase. Contractor shall submit any alternative equal herbicide requests to Owner Representative before use.

The primary herbicides for woody stump treatment shall be "Garlon 3A" (triclopyr) manufactured by DOW or an approved equal suitable for application by appropriate sprayer. Any other herbicide will be an invasive woody selective, which will be chosen to fit the specific species found during the restoration phase, for example "Transline" (clopyralid) manufactured by DOW or an approved equal suitable for application by appropriate sprayer.

B-3 SEED MIXTURES

All seed mixtures are shown on the Construction Drawings; and outlined as such in the following: Seeds shall be blended by the vendor and the mixture and ratio shall be guaranteed in writing to be as specified by percentage or weight in the Seed and Plant Lists.

TURF SEED

The seed mixture and rate of application to be used in the restoration of disturbed areas, and for all areas identified on drawings, will be standard Minnesota State Seed Mix 25-131; Low-Grow Non-Native Fine Fescue Seed Mix; at 220 pounds per acre; or approved equal. See Construction Drawings for all project seed mixtures.

NATIVE SEED

*Permanent Native Seed – Wet-Transitional Mix (Custom):*

The *Wet-Transitional Mix*; or approved equal, shall be planted for all corresponding areas identified on Construction Drawings. Additional areas to be reviewed onsite by Contractor and Owner Representative as necessary due to water-level fluctuations, prior to seeding activities are as follows: areas one-foot higher than water elevation down to six-inches lower than water elevation, along the edge of standing water, areas of wet or pro-longed saturated soils and areas that may periodically be saturated.

COVER CROP

All cover crop shall be mixed and sown accordingly, and specified rates of application, to be used will be the standard Minnesota State Seed Mix 21-111 (Oats Cover Crop), OR, the standard

Minnesota State Seed Mix 21-112 (Winter Wheat Cover Crop); see MNDOT Table 3876-1. For all Permanent Native Seed Mixes, oats and winter wheat shall be selected based on the time of year that the Permanent Native Seed Mix is being used; Contractor shall specify cover crop in species submission to the Owner Representative for approval.

**B-4**     SEED REQUIREMENTS

All seed shall be true to their name as specified. All seed shall originate from parent plants as close to the site as possible, located within the St. Paul Baldwin Plains and Moraines or Anoka Sand Plain Ecoregions or within 200 miles of project location. The origin of seed is required to be listed on the seed tag for all species in a mix. Plant origins beyond a 200-mile radius shall be approved in writing by the Owner Representative.

Species and quantities to be planted shall be those specified. Seed mixtures and any substitutions or changes shall be submitted in writing to the Owner Representative for approval.

All seed that is supplied for projects must be labeled according to the requirements of the Minnesota Seed Law, section 21.82. All seed should be of the highest quality pure live seed and germination rate.

All seed shall be stored in such a manner to insure adequate protection against damage by heat, moisture and/or high humidity to maintain dormancy, rodents or other such causes. Seed which has become wet, moldy, or otherwise damaged in transit, storage or during planting operations will not be acceptable.

All legumes shall be inoculated with the proper rhizobia and at the appropriate time prior to planting.

**B-5**     EROSION AND SEDIMENT CONTROL

In all cases, methods that have been determined to be the most effective and practical means of preventing or reducing sediment from leaving the worksite shall be installed according to the Plans and Specifications; or as directed by the Owner Representative; and in areas that slope to the water and on worksite areas that have the potential for direct discharge to the water body. These methods such as mulches, erosion control blankets, temporary coverings, silt fence, silt curtains, bio-rolls, barriers, dead-turfgrass preservation, as specified in the Plans and Specifications, or as required during the process of construction; shall be installed or implemented concurrently with construction and planting operations, or within 24 hours after the start of the project per site.

Sediment Control Logs/Bio-Rolls are preferred and may be used in lieu of silt fence where trenching is not acceptable (i.e. within the drip-line of existing trees, etc.). Bio-Rolls shall conform to MNDOT 3897 Specification.

Any work below the water level shall be encircled by a flotation sediment curtain to prevent sediment from being transported beyond the construction site. Rolled erosion control prevention shall be installed according to the plans and specifications. (See Section B-6).

The Contractor is responsible for stabilizing all areas until after final acceptance. The Contractor shall provide written request for stabilization acceptance. Contractor to remove temporary erosion control measures upon notification by Owner Representative.

**B-6** ROLLED EROSION CONTROL PREVENTION

Rolled erosion control prevention shall conform to the requirements of MNDOT 3885, category erosion control blanket shall be made of all natural, biodegradable materials such as jute or coconut fiber, or straw. Thread shall be cotton or similar all-natural material. **PHOTO BIODEGRADBLE MATERIAL WILL NOT BE ACCEPTED; METAL STAPLES WILL NOT BE ACCEPTED.**

Contractor shall use erosion control blanket as indicated in Construction Drawings. Install rolled blanket per manufacturer specifications.

Basis of Specification Standards shall be used for the following:

**(1) Specified for Use Within Revegetation Unit-2:**

**Specified Per Plan As: Category 25**

American Excelsior Company (AEC); Curlex II FibreNet

**Roll Size** – 4.0ft x 101.25ft (45 SY) or 8.0ft x 101.25ft (90 SY)

**Weight** – 32.9lb. or 65.7lb

**Fiber Count** – 7,000 per yd<sup>2</sup>

**Fiber Length (80% min.)** – 6.0 in.

**Mass per Unit Area (+/-10%)** – 0.73lb./ yd<sup>2</sup>

**Net Openings** – 0.5 in. x 1.0 in.

**Thread** – Biodegradable natural jute fiber

**(2) Specified for Use Within Revegetation Unit-4**

**Specified Per Plan As: Category 30**

North American Green (NAG); BioNet SC150BN

**Roll Size** – 6.67ft x 108ft (80 SY) or 8.0ft x 112ft (100 SY)

**Top Net** – Leno woven, 100% biodegradable jute; 9.35lb./1,000 ft<sup>2</sup> (4.53 kg/100 m<sup>2</sup>) approx. wt.

**Bottom Net** – 100% biodegradable jute; 7.70lb./1,000 ft<sup>2</sup> (3.76 kg/100 m<sup>2</sup>)

approx. wt.

**Matrix** – 70% Straw Fiber 0.35lb./ yd<sup>2</sup> (0.19 kg/100 m<sup>2</sup>); 30% Coconut Fiber 0.15lb./ yd<sup>2</sup> (0.15 kg/100 m<sup>2</sup>)

**Thread** – Biodegradable woven natural fiber

**(3) North American Green (NAG); Eco-Stake 6-inch and 12-inch**

**Leg Length** – 5.00-inch

**Leg Thickness** – 0.40-inch

**Head Width** – 1.25-inch

**Total Length** – 6.00-inch

**Head Thickness** – 0.40-inch

**Leg Width (tapered to point)** – 0.60-inch

The Contractor shall submit other equal erosion control blanket samples with manufacturer information for consideration by Owner Representative as approved equal.

**B-7** LIVE PLANTS

Basis of Specification Standards shall be used for the following:

1. NATIVE PERENNIAL 4" CONTAINERIZED

2. NATIVE PERENNIAL 2" PLUG

- a. Cell Size: 2 1/8 in. x 2 3/8 in. x 2 1/4 in. deep; or approved equal

Plants shall be true to their name as specified. Any substitution or change shall be approved in writing by the Owner Representative. Their origin shall be known to be local within a 200-mile radius of the project location. Plant origin beyond a 200-mile radius shall be submitted in writing to the Owner Representative for approval.

All live plants and seed, including bare roots, live stakes, and all container grown plants including shrubs and trees, shall be produced in nurseries that do not use neonicotinoids in the storing or production of the plants or the storing or production of the seed producing plants. Plants stored on site shall be given proper horticultural care until installation. Plants shall be free from insects, diseases and weeds; and must show appearances of normal health and vigor.

All plant material, including collected stock, shall comply with the State and Federal laws with respect to inspection for plant diseases and insect and weed infestations. The plants shall be carefully protected to ensure that the plants are delivered in a good condition.

All plants shall be free of unacceptable weed species, pests, root or crown rot, mold and debris.

All plants shall have been in current pot a minimum of six (6) weeks. Plants shall be free of Woody circling roots.

B-8 MULCH

Shredded hardwood mulch shall conform to the requirements of MNDOT 3882, Type 6 mulch. Natural color undyed mulch only. Contractor shall install mulch in planting areas not susceptible to flooding, and/or all planting areas not specified for vegetation establishment in combination with seed.

B-9 TEMPORARY EXCLUSION FENCE

Exclusion fencing shall be installed immediately after the start of planting operations and placed according to the Plans and Specifications, or as directed by the Owner Representative. Contractor shall submit written request for approval by Owner Representative for the need of additional fencing material. Steel securing staples shall be used for fence installation only; are temporary; and shall be removed and disposed off-site by contractor during fence removal operations.

Basis of Specification Standards shall be used for the following:

- (1) Heavy Duty Fence Posts – 12 Gauge; Color-Green  
**Size** – 6.0ft H      **Weight** – 5.50 lb.
- (2) Vinyl-Coated Welded Wire Fence; PVC Green  
**Size** – 2" x 4" (maximum opening dimensions) x 14 Gauge-Galvanized Steel Core (maximum gauge); 48" (maximum height)  
**Weight** – 72.00 lb.
- (3) Steel Securing Staples; 6-inch  
**Size** – 6.0-inch x 1.0-inch x 6.0-inch

## SECTION C – PROJECT EXECUTION

### C-1 DESCRIPTION

The Work shall consist of furnishing all labor, tools and equipment required for grading, preparing soil, transporting, and installing of all seeds, live plants and other materials required for:

- (1) Shoreline and soil stabilization practices
- (2) Seeding and planting of native plant species
- (3) The establishment and protection of seeded areas and live plants designated in the plans
- (4) Site-wide management for all invasive species for two growing seasons (2024 and 2025)

### C-2 PRE-CONSTRUCTION CONFERENCE

Prior to the start of the Work, there will be a pre-construction conference arranged by the Owner and Owner Representative; attended by Owner, Owner Representative, Contractor (including designated project superintendent), and others as appropriate; held to establish a working understanding among the parties as to the Work, to discuss the Project Tasks and Timeline, and set forth a Progress Meeting Schedule (See Section C-3) for which it will be mandatory for Contractor to attend.

At this meeting, the Contractor shall designate a competent project superintendent. The Contractor shall also submit a list of phone numbers for the various subcontractors, foremen and all superintendents, including numbers to use in case of emergency.

At this meeting, the Contractor shall submit in writing to the Owner Representative for approval, a schedule of procedure indicating the order in which the Contractor proposes to perform the various stages of the work. Contractor to also include anticipated start and completion dates.

### C-3 PROGRESS MEETINGS

Progress meetings will be held – **Weekly, or as otherwise determined by Owner and Owner Representative** to monitor progress and coordinate activities on the project site. The Contractor and its subcontractors shall attend these meetings, provide any required documentation of progress and anticipated construction scheduling as required by Owner Representative.

### C-4 JOB CONDITIONS

The Contractor shall examine and evaluate soils, and water levels, observe conditions under which work is to be performed, and notify the Owner Representative of unsatisfactory conditions. If conditions detrimental to installation or plant growth are encountered, such as prolonged high or low water levels different from expected that may affect revegetation unit success, the Contractor shall notify Owner Representative.

### C-5 UTILITY COORDINATION

Contractor shall notify Gopher State One-Call for all utilities locates prior to work initiation.

Private Landowners shall provide private utility locates at the request of the Contractor. The Contractor is not responsible for private underground facilities and utilities (wires, cables, irrigation, electrical, etc.), but shall be required to coordinate and receive confirmation from

landowners to ensure all private utilities are located or indicated to the fullest extent conceivable prior to the commencement of restoration work.

C-6 CONSTRUCTION SURVEYING

Contractor shall provide construction surveying for the onsite staking of critical construction elevations; elevations shall be staked in the field for positioning review and approval by Owner Representative prior to commencement of work activities; and maintained in place by the Contractor until project completion. Critical construction elevations as specified below should be staked, for a minimum of once per site, or additionally as necessary.

Basis of Specification Standards for Construction Survey Staking shall be used for the following critical elevations:

1. Lake Owasso Ordinary High Water Level (OHWL): 887.10' NAVD88

C-7 PROJECT FIELD LOCATION AND LAYOUT

The Contractor and Owner Representative shall jointly inspect the work area(s) prior to the start of the restoration project to establish or verify the boundaries and/or limits of the work area(s), equipment assignment, material storage areas and access routes.

The Contractor is required to field stake all elements and boundaries to be constructed with the project and review the location with the Owner Representative prior to construction of the element. Project elements and boundaries constructed without Owner Representative approval that are constructed in the wrong location or with the wrong elevation shall be removed at the Contractor's expense and replaced per the requirements of the plan and field conditions. Contractor shall provide Owner Representative with 72-hour notice of each field meeting needed for approval.

The Owner Representative will provide flagging of unique features, trees or ground cover vegetation to remain and/or be relocated prior to construction. The Contractor shall provide Owner Representative with 72-hour notice to when flagging will be required.

C-8 SITE WIDE MANAGEMENT FOR HERBACEOUS WEEDS

The Contractor shall begin management for herbaceous weeds as soon as the growing season begins in 2023. Sites identified for preliminary weed infestation severity have been indicated on the Construction Drawings; to be field verified by Contractor.

The Contractor shall coordinate timing and methods for eradication of all woody and herbaceous weeds throughout the Installation Contract Period of the 2023 growing season and Maintenance Contract Period of the 2024 and 2025 growing seasons. The Contractor shall thoroughly inspect each site – once per month during the growing season (May– October) and perform eradication of all invasive species, including re-sprouts of woody invasives removed previously as well as all herbaceous invasive plants as listed below in weed control plan.

The Contractor shall provide to the Owner Representative a detailed management inspection report, including amount of staff people on site, type and quantity of herbicide used, type of

equipment used if any, and a general description of the work performed, including areas in which invasive plants were controlling and if further action should be taken, for the entirety of the contract period.

C-9 SITE PREPARATION

Before soil preparation and planting activities commence, the Contractor shall control and eliminate all competing vegetation located within the project limits; designated per plan; or as not to remain by Owner Representative, including but not limited by: all native and non-native; annual, biennial or perennial; lawn and turfgrass-type, bed plantings, etc.

Additionally, Contractor to control and eliminate all other plant species listed in part of the Minnesota Noxious Weed Law (Minnesota Statutes 18.75-18.91). **No noxious weed or non-desirable plant species shall be allowed to recolonize and go to seed at any point during the contract period.**

At least 14 days prior to seeding and planting in areas shall be a foliar spray of glyphosate, to be added in areas with large numbers of broadleaf and turfgrass species present. Obtain approval by Owner Representative before planting; Owner Representative will approve seeding and plant installation after site has been herbicided and all turfgrass and weeds are dead.

<u>Timing</u>	<u>Activity</u>
2 weeks before seeding or planting	Herbicide Application 1: Broadcast Spray Herbicide all areas
5-7 days after herbicide application 1	Mow/Cut: Mow/Cut all areas to height 4-6” as necessary.
2 weeks after beginning of site preparation	Begin seeding and planting if no unacceptable species are visible to Owner’s Representative within 14 days of herbicide application and Owner Representative approves seeding and planting; otherwise apply herbicide again as directed until approval from Owner Representative is obtained.

The contractor shall provide adequate surface preparation and soil treatment required to facilitate maximum germination and growth success for plants. Site shall be relatively free of debris before planting. Dead turfgrass shall remain undisturbed for soil stabilization; or as approved by Owner Representative. All soil preparation prior/post planting activities will be conducted on the contour to reduce erosion. In areas of exposed soils, Contractor must allow all soil to effectively settle before planting.

C-10 CLEARING OPERATIONS & VEGETATION REMOVAL

Clearing Operations of existing vegetation shall be according to MNDOT 2101 Specification. Contractor shall cut off, remove and dispose of trees under 4” in diameter, brush, shrubs, intrusive suckering of existing trees, bedding plants, herbaceous perennials, and other plant life within the boundaries of each site as identified on the plans; which is not specifically designated to remain; or as directed by Owner Representative. Contractor shall be responsible for securing a disposal

area offsite and shall comply with all regulations and secure any permits necessary for the proper disposal of the material. The Contractor shall inspect each site identified in the Construction Drawings prior to the bid opening to satisfy the amount of clearing operations required.

Contractor is required to cut woody species flush to the ground, or at a point no greater than 6-inches of the ground. Contractor shall treat fresh cut stumps with herbicide immediately within a 24-hour period and shall use the appropriate herbicide (Section B-2).

The contracted Work may require grubbing of singular Trees as necessary, identified per plan and/or as determined by Owner Representative where located within project layout boundaries. The Contractor shall identify specific trees greater than 4" in diameter that need to be removed to accommodate design and restoration work. Contractor shall notify Owner Representative for approval prior to removal of impacted trees. Contractor shall provide Owner Representative with 72-hour notice of each field meeting needed for approval.

C-11 SEEDING SCHEDULE

At least three weeks prior to beginning work in each area, Contractor shall submit a seeding plan for approval by the Owner Representative. This plan shall include proposed methods of site preparation, seeding, species, quantities, and types of propagules, proposed surface preparation and equipment.

C-12 SEEDING DATES

All seeding dates shall be performed during September through Ground Freeze of the 2023 growing season; variance may be granted due to seasonal conditions with approval by Owner Representative.

C-13 SEEDING

Contractor shall notify the Owner Representative 24 hours prior to beginning the seeding operations.

Contractor shall seed all areas using a broadcast method of seeding; or equal. The broadcast method will use broadcast seeding equipped with an agitator that effectively prevents seed from bridging or plugging. Seed shall be broadcast twice over each area to help insure even distribution, with the second broadcast perpendicular to the first route of seeding. The seeded area shall be hand-raked to the extent necessary to cover the majority of the seed with 1/8" to 1/4" of soil. 1/8-inch to 1/4-inch of soil.

All cover crop shall be mixed and sown accordingly, and specified rates of application, to be used will be the standard Minnesota State Seed Mix 21-111 (Oats Cover Crop), OR, the standard Minnesota State Seed Mix 21-112 (Winter Wheat Cover Crop); see MNDOT Table 3876-1. For all Permanent Native Seed Mixes, oats and winter wheat shall be selected based on the time of year that the Permanent Native Seed Mix is being used; Contractor shall specify cover crop in species submission to the Owner Representative for approval.

Within 12 hours, if conditions permit or as soon thereafter as practical, the Contractor shall cover all seeded areas with specified erosion control blanket. The Contractor shall be fully responsible



for implementing and maintaining permanent and temporary erosion control measures within prescribed planting areas until vegetated cover has been established to the Owner's Representative's satisfaction.

No fertilizer shall be applied to any seeded areas for any reason.

C-14 SITE RESTORATION

Turf establishment shall apply to all disturbed areas not specified for permanent native seed or live plantings, designated per plan and/or otherwise stated; shall be according to MNDOT 2575, except as modified. Turf establishment shall occur within two (2) weeks of completing grading activities and/or soil bed preparation. Contractor shall be responsible for maintaining and watering during installation and for at least 60-day establishment period after acceptance. The volume of water shall be per plant requirements for establishment and normal growth. Contractor shall provide written request for acceptance inspection.

C-15 LIVE PLANTING INSTALLATION

Four (4) Revegetation Units were delineated for this project based on elevation, anticipated soil and hydrologic conditions, special installation and treatment needs associated with each site respectively. The planting locations and layouts shown in the Plan are approximate. The Contractor shall stake the exact locations and layouts of plants for approval by Owner Representative. Contractor shall provide Owner Representative with 72-hour notice of each field meeting needed for approval. To remedy unanticipated localized problems and seasonal conditions that may hinder plant establishment, the Contractor may request approval by Owner Representative to relocate plantings, to make plant substitutions, or to modify soil or drainage characteristics in accordance with what is shown on plan.

Contractor shall layout a minimum of four (4) sites for plant layout review and demonstration of planting for approval by Owner Representative, to insure adequate layout and proper installation techniques are administered. All Supervisors and laborers completing aforementioned activities shall be present onsite. Contractor shall provide Owner Representative with 72-hour notice of each field meeting needed for approval.

All planting dates shall be performed during July 1-October 15 of the 2023 growing season; or as specified; variance may be granted due to seasonal conditions with approval by Owner Representative. Contractor shall time planting of all live plant material with weather conditions (including rainfall and temperatures) and hydrology per site. Live plant installation specified for areas in combination with seeding activities, shall occur after all seeding activities have been completed per site. Contractor shall install plants in conformance with each Revegetation Unit as shown on plans; and as specified in planting details and schedules. Live plants shall be randomly planted within the specified enclosure areas to provide a non-uniform appearance, in large clusters or group counts of like species throughout the site. Immediately after planting operations begin on site, the enclosures must be properly installed and located (See Section C-17). Substantial completion of planting activities for Revegetation Unit-1 and Revegetation Unit-2 estimated to cease by September 30, 2023.

All planting dates for Revegetation Unit-3 shall be performed during July 1-Aug 30 of the 2023 growing season; variance may be granted due to seasonal conditions with approval by Owner Representative. Contractor shall hand plant the prescribed quantities of aquatic emergent plants within the areas specified on the plans for Revegetation Unit-3 and shall time planting after water levels have stabilized. Substantial completion of planting activities for Revegetation Unit-3 shall be completed by September 30, 2023.

Emergent plants must be planted with their tops out of the water, plant species exceptions include: *Sagittaria latifolia* (Broadleaf Arrowhead). Revegetation Unit-3 specifies emergent plantings in areas per site ranging from areas with saturated soils, staggered along the edge of the water line, and areas of inundation or shallow water. Active water levels during the contract period will dictate the extent waterward at which the aquatic plantings can be established, but shall not be installed beyond a water depth of one (1) foot; or as approved by Owner Representative.

Plant stock shall be installed on the day of delivery to the Project site unless temporary storage methods are employed. Prior to being installed, the roots of all plants shall be kept completely covered with a moisture-holding material (wood chips, straw, sawdust, moss, or soil) that is kept thoroughly and continuously moist and protect from drying winds, direct sunlight, excessive heat, freezing, low humidity, inadequate ventilation, and animal or human harm. Plants with damage, that has occurred or has been discovered during temporary storage, will become unacceptable. Plants shall not remain stored from one planting season to the next.

C-16 MULCH

Contractor shall place mulch material as shown on plans and in standard planting details no later than seven days after plant installation. Placement of mulch that is contaminated with soil or other materials and inconsistent with the requirements of MNDOT 3882 (Mulch Materials) will be considered unacceptable and shall be removed from the Project.

C-17 TEMPORARY EXCLUSION FENCE

Contractor shall install exclusion fencing immediately surrounding the entire perimeter of each restoration area per site once planting operations have begun; extending waterward to encompass aquatic-emergent plantings as necessary. Contractor shall tie all adjacent and neighboring restoration site fencing together; shall coordinate with landowners regarding all dock staging and access sites; or as directed by Owner Representative.

All exclusion fencing shall remain for the duration of contract and maintenance periods; Contractor to remove exclusion fence upon notification by Owner Representative at the termination of the 2025 maintenance season; or as directed by Owner.

C-18 PLANT INSTALLATION PERIOD

At all times, seedings and plantings shall be maintained for the duration of the Plant Installation and Contract period. Maintenance shall include all operations necessary for the vigorous establishment of all seedings and plantings.

Watering of seedings and plantings shall be incidental to the maintenance and establishment operations, except as otherwise stated by Owner, and/or hereby supplemented with the following:

Contractor shall be responsible for watering during installation and for at least 60-day establishment period after acceptance. The volume of water shall be per plant requirements for establishment and normal growth. Contractor shall provide written request for acceptance inspection after 60-day establishment period. Upon which acceptance is awarded, responsibilities for watering all seedings and plantings will be the responsibility of the private landowner.

C-19 INSPECTION AND ACCEPTANCE

The Owner Representative reserves the right to inspect seeds and plant materials, either at place of growth or at site before planting, for compliance with requirements for name, variety, size, quantity, quality and mix proportion.

Upon request, Contractor shall supply written affidavit certifying composition of Contractor supplied seed mixtures and integrity of plant materials with respect to species, variety, source and germination.

Final Acceptance:

- (1) Acceptance of Installation: When the seeding or planting is completed, the Owner Representative will, upon request make a final inspection to determine acceptability.
- (2) Acceptance of Guaranteed Work: A minimum of one year after the seeding and planting installation is completed, the Owner Representative will, upon request, make a final inspection to determine acceptability.

Performance Standards: Contractor shall be responsible for the satisfactory growth of plants and all areas seeded under the Contract until final acceptance of the work at the end of the contract period.

Areas for Acceptance of Maintenance

- (1) Field Confirmation: Acceptance of the work will be determined by onsite review. The Owner's Representative shall conduct a review for each unit per site.
  1. The review shall be conducted during the first full growing season after seeding and/or planting.
  2. The field confirmation will review each unit that was seeded and/or planted per site respectively. If the unit area has minimum 80% of expected and acceptable cover species (See Section C-9) established; the seeding work will receive acceptance of guaranteed work. If at least 95% of the live plantings are healthy as determined by the Owner's Representative, the live plantings will receive acceptance of guaranteed work.

Non-Compliance: Where inspected seeding work does not comply with the requirements, Contractor shall replace rejected work until inspected again by the Owner's Representative and found to be acceptable. Rejected plants and materials shall be removed promptly from the

project site. Contractor shall re-sow at half the original seeding rate and replant unhealthy plants in failed areas of live plantings within 2 weeks of Owner's Representative's notification.

C-20 FINAL CLEAN-UP

Upon completion of the work and before preliminary acceptance and final installation payment will be made, the Contractor shall clean and remove from the site of the work surplus and discarded materials, temporary structures, and debris of every kind.

The Contractor shall leave the site of the work in a neat and orderly condition equal or better than that which originally existed.

Surplus materials removed from the site of the work shall be disposed of at locations approved by the Owner's Representative.

**SECTION D – FULL-SITE MANAGEMENT AND MAINTENANCE**

D-1 DESCRIPTION

The Full-Site Management and Maintenance contract of two calendar years, begins on the date which all planting operations, have been satisfactorily completed and final acceptance of the project is awarded, unless otherwise specified.

The Work more specifically consists of furnishing relevant expertise as well as all labor, materials, equipment, skills, and performing all operations required to complete all requested maintenance work, which includes, but is not limited to, mobilization and demobilization; maintenance of plantings; plant replacement; herbicide furnishment and application; invasive species management and removal; mulch replenishment; furnishing, installing, and maintaining erosion control measures as necessary; acquisition of all necessary permits to perform the Work; regular reporting of completed operations (See Section C-8 and C-9); and complete site restoration of all disturbed areas all as directed by the Owner. All live plant material installed by Contractor shall be warranted for 120 days after installation; replaced at no cost to the Owner.

The Contractor shall thoroughly inspect each site – once per month during the growing season (May – October), to control all competing vegetation sites shall be maintained approximately six (6) times or as determined per site requirements and/or as budgets allow, throughout the growing seasons for 2024 and 2025.

The Contractor shall provide to the Owner a detailed management inspection report, including amount of staff people on site, type and quantity of herbicide used, type of equipment used if any, and a general description of the work performed, including areas in which invasive plants were controlling and if further action should be taken, for the entirety of the contract period.

D-2 MAINTNENACE DUTIES

Each site included in the contract for this project shall be subject to the same maintenance requirements, progress schedule and reporting. Maintenance duties shall include at a minimum but not be limited by the following:

- (1) Spring Clean-up and Mow: All planted areas shall have all perennial vegetation from the previous growing season removed to within four (4) inches above the ground, but not less than four (4) inches. Shrubs shall be pruned to remove dead and dying vegetation. Clear sites of debris and obstructions from over-wintering that may be detrimental to growth success, and reset exclusion fencing; etc.
- (2) Weed Control Visits: All weeds and competing species as identified by the Contractor or as directed by the Owner will be monitored and controlled via manual removal, chemical herbicide applications, spot mowing or full-site mowing regiments. Herbicide application shall be performed with extreme care shall be taken to avoid damage to existing plants and seed. Weed control via manual removal shall not occur within the first growing season in any areas planted in combination with seed. Any damaged plants and seed shall be replaced by the Contractor without cost to the Owner. All planting areas shall be completely free of weeds or all weeds shall have been chemically treated after each Control Visit. All applicable State regulations regarding the application of chemical herbicide are to be complied with including but not limited to postings/notices of application and spray records.
- (3) Routine Planting Maintenance: During each growing season prior to June 15 of the contract year, the Contractor shall provide a plant replacement list to be approved by Owner, that includes plants matching those that are installed at each site per Revegetation Unit; in size, spacing and species. All plants are to be warranted for 120 days after installation and replaced at no cost to the Owner.

All mulched planting areas shall have a maintained depth of 3 inches of approved twice-shredded hardwood mulch at the end of each growing season of the Contract period. Mulch shall conform to MnDOT 3878.2 Type 6 Mulch.

For the low grow fescue and turf establishment areas, management practices will be mowing of the areas one to two times per year and spot treating for broadleaf weed species.

D-3 INSPECTION AND ACCEPTANCE

Upon request the Contractor shall be available for site inspection and review. Any defects in the work shall be corrected per Owner request.

## Exhibit B: Construction Plan Set

# LAKE OWASSO SHORELINE RESTORATION 2023

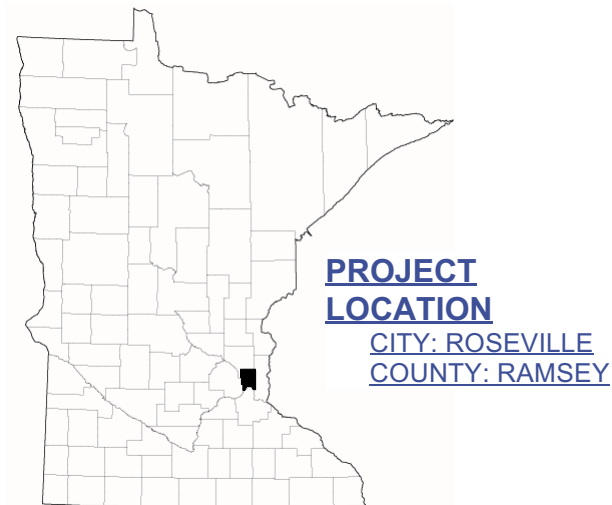
PROJECT: LAKE OWASSO SHORELINE  
 LOCATION:

WATERSHED DISTRICT:



DESIGNER: BRIAN T. OLSEN  
 DATE: 3/17/2023  
 PAST REVISION:  
 PAST REVISION:  
 PAST REVISION:  
 PAST REVISION:  
 CHECKED BY:  
 TAA:

NOTES:  
 ORIGINAL SHEET SIZE: 11" x 17"



## INDEX OF SHEETS

- G101: TITLE AND SHEET INDEX
- G102: INDIVIDUAL PROJECT SITE LOCATIONS
- L101 - L106: RESIDENTIAL SHORELINE SITE PLANS
- L201: PLANT MATERIAL LISTS & SEED MIXES
- L301: SITE DETAIL DRAWINGS
- L302 - L307: MNDOT EROSION CONTROL PLATES

THIS PLAN SET CONTAINS 16 SHEETS

1 VICINITY MAP  
 NOT TO SCALE



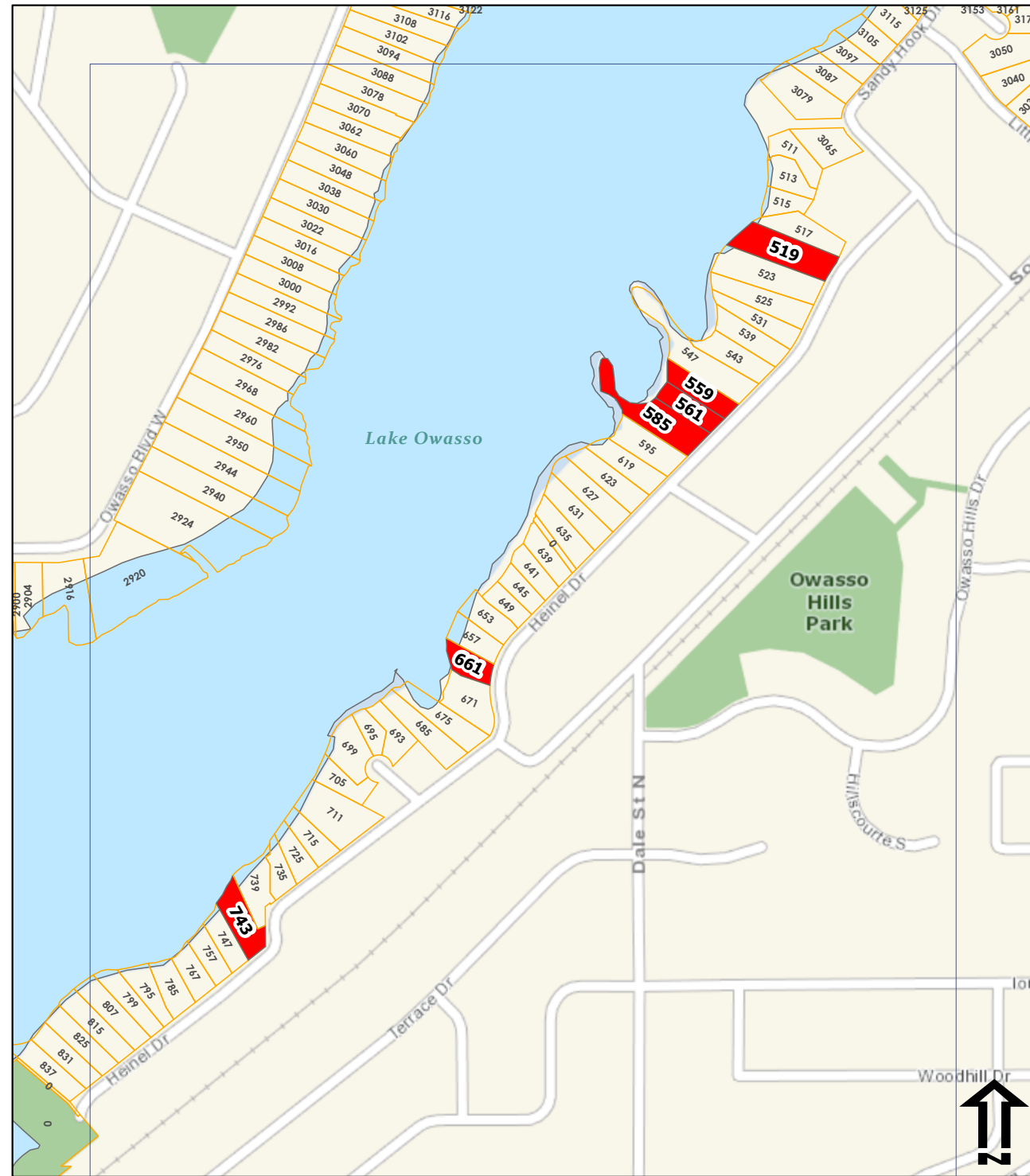
SCALE: NA



PROJECT LOCATION

G101

# INDIVIDUAL PROJECT SITE LOCATIONS



## Owasso Shoreline Restoration Properties - Phase 2 (2023)

Ramsey-Washington Metro Watershed District



Shoreline Restoration Parcels	
Resto Year	
<span style="display:inline-block; width:10px; height:10px; background-color:yellow; border:1px solid black;"></span>	2022
<span style="display:inline-block; width:10px; height:10px; background-color:red; border:1px solid black;"></span>	2023
<span style="display:inline-block; width:10px; height:10px; background-color:orange; border:1px solid black;"></span>	Shoreline parcels



RAMSEY COUNTY SWCD  
 2015 VAN DYKE STREET  
 MAPLEWOOD, MN 55109  
 651-266-7280  
 www.ramseycounty.us

PROJECT: LAKE OWASSO SHORELINE  
 LOCATION:

WATERSHED DISTRICT:



DESIGNER: BRIAN T. OLSEN  
 DATE: 3/17/2023  
 PAST REVISION:  
 PAST REVISION:  
 PAST REVISION:  
 PAST REVISION:  
 CHECKED BY:  
 TAA:

NOTES:  
 ORIGINAL SHEET SIZE: 11" x 17"

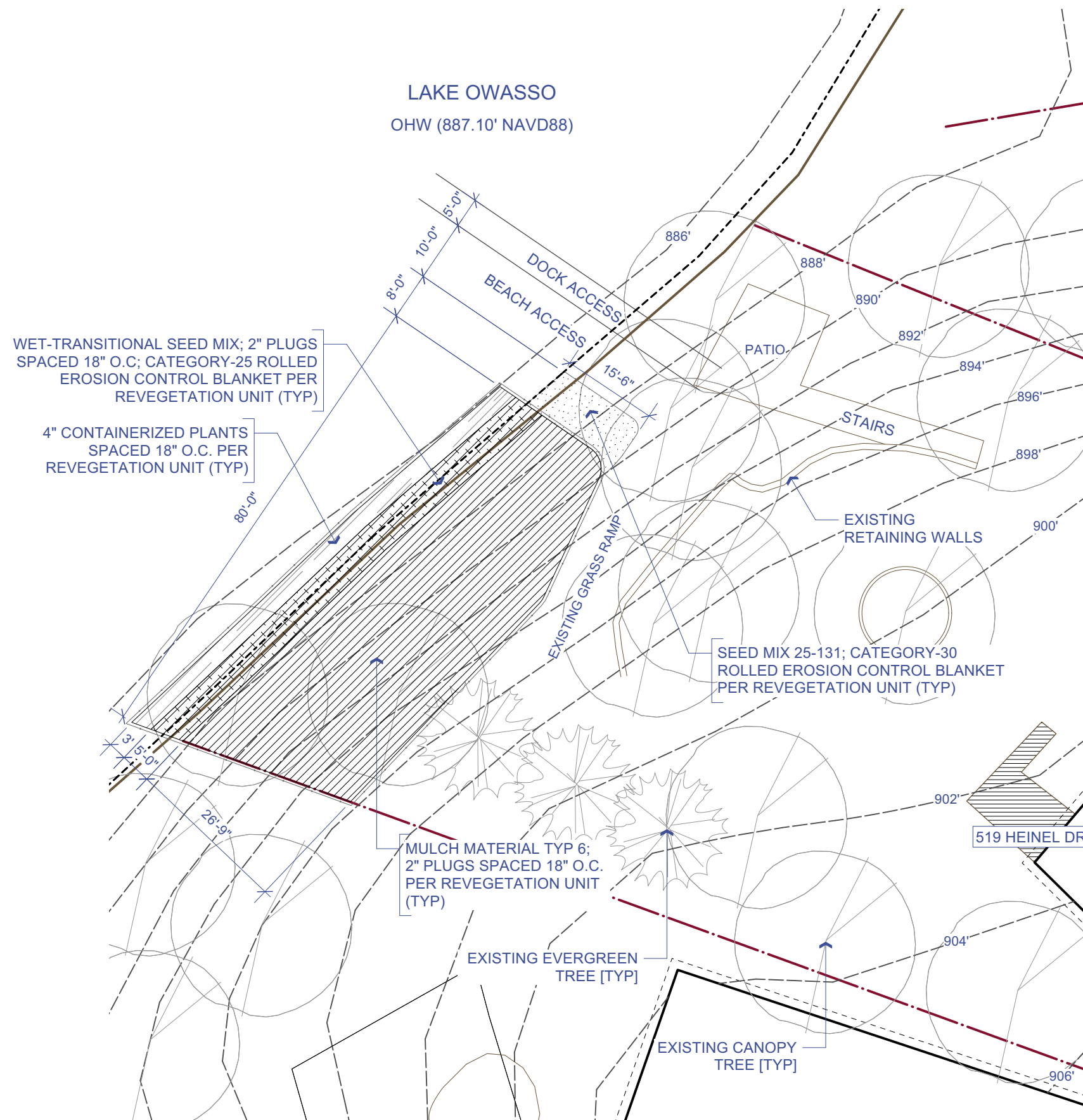
SCALE: NA



INDIVIDUAL PROJECT  
 SITE LOCATIONS

L201





SITE SPECIFIC MATERIALS SCHEDULE			
ITEM NO.	DESCRIPTION	UNIT	QTY
1	NATIVE PERENNIAL: 2" PLUG	EA	930
2	NATIVE PERENNIAL: 4" POT	EA	108
3	TEMPORARY EXCLUSION FENCE	LF	215
4	MULCH MATERIAL TYP 6 (3" DEPTH)	CY	15.5
5	SEED MIXTURE 25-131 (LOW MAINTENANCE TURF)	SF	140
6	ROLLED EROSION PREVENTION CATEGORY 30	SF	140
7	ROLLED EROSION PREVENTION CATEGORY 25	SF	400
8	SEED MIXTURE SPECIAL (NATIVE WET-TRANSITIONAL MIX)	SF	400
9	EXISTING VEGETATION/TURF REMOVAL & SOIL BED PREP.	SF	2,495

**LEGEND**

- 887.10' ELEVATION (LAKE OWASSO ORDINARY HIGH WATER LEVEL)
- EXISTING SHORELINE LOCATION (APPROXIMATE)
- .-.- PARCEL BOUNDARY (APPROX.)
- - - EXCLUSION FENCE / DISTURBANCE LIMITS
- - - 2' CONTOUR ELEVATION

- REVEGETATION UNIT-1  
TOTAL AREA: +/- 1,710 SF
- REVEGETATION UNIT-2  
TOTAL AREA: +/- 400 SF
- REVEGETATION UNIT-3  
TOTAL AREA: +/- 245 SF
- REVEGETATION UNIT-4  
TOTAL AREA: +/- 140 SF

**NOTES**

1. PROJECT LAYOUTS & CRITICAL ELEVATIONS SHALL BE STAKED AND VERIFIED BY OWNER REPRESENTATIVE PRIOR TO START AND SHALL REMAIN STAKED THROUGHOUT PROJECT PERIOD:
  - 1.1 - O.H.W.L. 887.10'
2. HERBICIDE APPLICATIONS AND SITE PREPARATION SHALL OCCUR PER PROJECT SPECIFICATIONS. REMOVE ALL EXISTING VEGETATION WITHIN PROPOSED PLANTING/SEEDING AREAS.
3. DEAD TURF TO REMAIN FOR SOIL STABILIZATION. CONTRACTOR SHALL INSTALL ADDITIONAL EROSION CONTROL FACILITIES IF REQUIRED; AS APPROVED BY OWNER REPRESENTATIVE.
4. ALL PLANTINGS INSTALLED BELOW WATER LINE, IN SOFT SOILS, OR IN AREAS SUBMERGED DUE TO WATER FLUCTUATIONS SHALL BE BIO-STAKED TO ANCHOR IN PLACE.
5. OWNER REPRESENTATIVE & CONTRACTOR SHALL MARK ANY/ALL UNIQUE ITEMS IN THE FIELD DURING SITE LAYOUT WALKTHROUGH THAT ARE TO REMAIN
6. CONTRACTOR SHALL CONNECT TEMPORARY EXCLUSION FENCE FOR ALL ADJACENT PROJECTS WHERE FEASIBLE
7. REVEGETATION UNIT-4 MATERIALS SHALL NOT BE INSTALLED BELOW B.F.E. 886.60'; OR AS APPROVED BY OWNER REPRESENTATIVE OR NOTED ON PLANS
8. REVEGETATION UNIT-1 MATERIALS SHALL NOT BE INSTALLED BELOW 887.50'; OR AS APPROVED BY OWNER REPRESENTATIVE
9. CONTRACTOR & LANDOWNER TO COORDINATE MARKING OF PRIVATE UTILITIES AND/OR SPRINKLER SYSTEMS WHERE PRESENT.



SITE SPECIFIC MATERIALS SCHEDULE			
ITEM NO.	DESCRIPTION	UNIT	QTY
1	NATIVE PERENNIAL: 2" PLUG	EA	570
2	NATIVE PERENNIAL: 4" POT	EA	172
3	TEMPORARY EXCLUSION FENCE	LF	216
4	MULCH MATERIAL TYP 6 (3" DEPTH)	CY	7.5
5	SEED MIXTURE 25-131 (LOW MAINTENANCE TURF)	SF	0
6	ROLLED EROSION PREVENTION CATEGORY 30	SF	0
7	ROLLED EROSION PREVENTION CATEGORY 25	SF	455
8	SEED MIXTURE SPECIAL (NATIVE WET-TRANSITIONAL MIX)	SF	455
9	EXISTING VEGETATION/TURF REMOVAL & SOIL BED PREP.	SF	1680

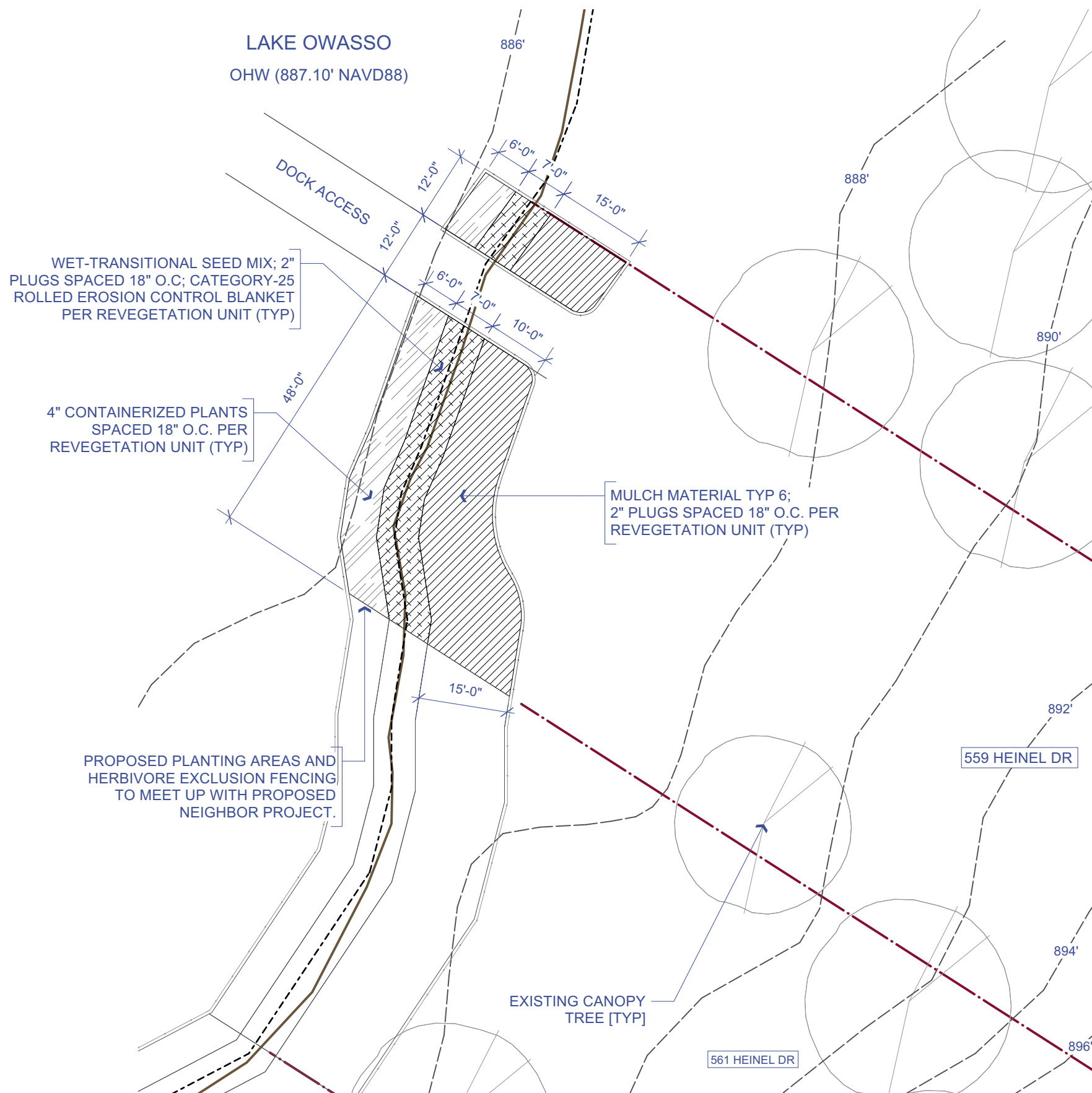
**LEGEND**

- 887.10' ELEVATION (LAKE OWASSO ORDINARY HIGH WATER LEVEL)
- EXISTING SHORELINE LOCATION (APPROXIMATE)
- - - PARCEL BOUNDARY (APPROX.)
- - - EXCLUSION FENCE / DISTURBANCE LIMITS
- - - 2' CONTOUR ELEVATION

- REVEGETATION UNIT-1  
TOTAL AREA: +/- 835 SF
- REVEGETATION UNIT-2  
TOTAL AREA: +/- 455 SF
- REVEGETATION UNIT-3  
TOTAL AREA: +/- 390 SF
- REVEGETATION UNIT-4  
TOTAL AREA: +/- 0 SF

**NOTES**

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  - 1.1 - O.H.W.L. 887.10'
2. HERBICIDE APPLICATIONS AND SITE PREPARATION SHALL OCCUR PER PROJECT SPECIFICATIONS. REMOVE ALL EXISTING VEGETATION WITHIN PROPOSED PLANTING/SEEDING AREAS.
3. DEAD TURF TO REMAIN FOR SOIL STABILIZATION. CONTRACTOR SHALL INSTALL ADDITIONAL EROSION CONTROL FACILITIES IF REQUIRED; AS APPROVED BY OWNER REPRESENTATIVE.
4. ALL PLANTINGS INSTALLED BELOW WATER LINE, IN SOFT SOILS, OR IN AREAS SUBMERGED DUE TO WATER FLUCTUATIONS SHALL BE BIO-STAKED TO ANCHOR IN PLACE.
5. OWNER REPRESENTATIVE & CONTRACTOR SHALL MARK ANY/ALL UNIQUE ITEMS IN THE FIELD DURING SITE LAYOUT WALKTHROUGH THAT ARE TO REMAIN
6. CONTRACTOR SHALL CONNECT TEMPORARY EXCLUSION FENCE FOR ALL ADJACENT PROJECTS WHERE FEASIBLE
7. REVEGETATION UNIT-4 MATERIALS SHALL NOT BE INSTALLED BELOW B.F.E. 886.60'; OR AS APPROVED BY OWNER REPRESENTATIVE OR NOTED ON PLANS
8. REVEGETATION UNIT-1 MATERIALS SHALL NOT BE INSTALLED BELOW 887.50'; OR AS APPROVED BY OWNER REPRESENTATIVE
9. CONTRACTOR & LANDOWNER TO COORDINATE MARKING OF PRIVATE UTILITIES AND/OR SPRINKLER SYSTEMS WHERE PRESENT.





SITE SPECIFIC MATERIALS SCHEDULE			
ITEM NO.	DESCRIPTION	UNIT	QTY
1	NATIVE PERENNIAL: 2" PLUG	EA	738
2	NATIVE PERENNIAL: 4" POT	EA	220
3	TEMPORARY EXCLUSION FENCE	LF	153
4	MULCH MATERIAL TYP 6 (3" DEPTH)	CY	10
5	SEED MIXTURE 25-131 (LOW MAINTENANCE TURF)	SF	0
6	ROLLED EROSION PREVENTION CATEGORY 30	SF	0
7	ROLLED EROSION PREVENTION CATEGORY 25	SF	530
8	SEED MIXTURE SPECIAL (NATIVE WET-TRANSITIONAL MIX)	SF	530
9	EXISTING VEGETATION/TURF REMOVAL & SOIL BED PREP.	SF	2,165

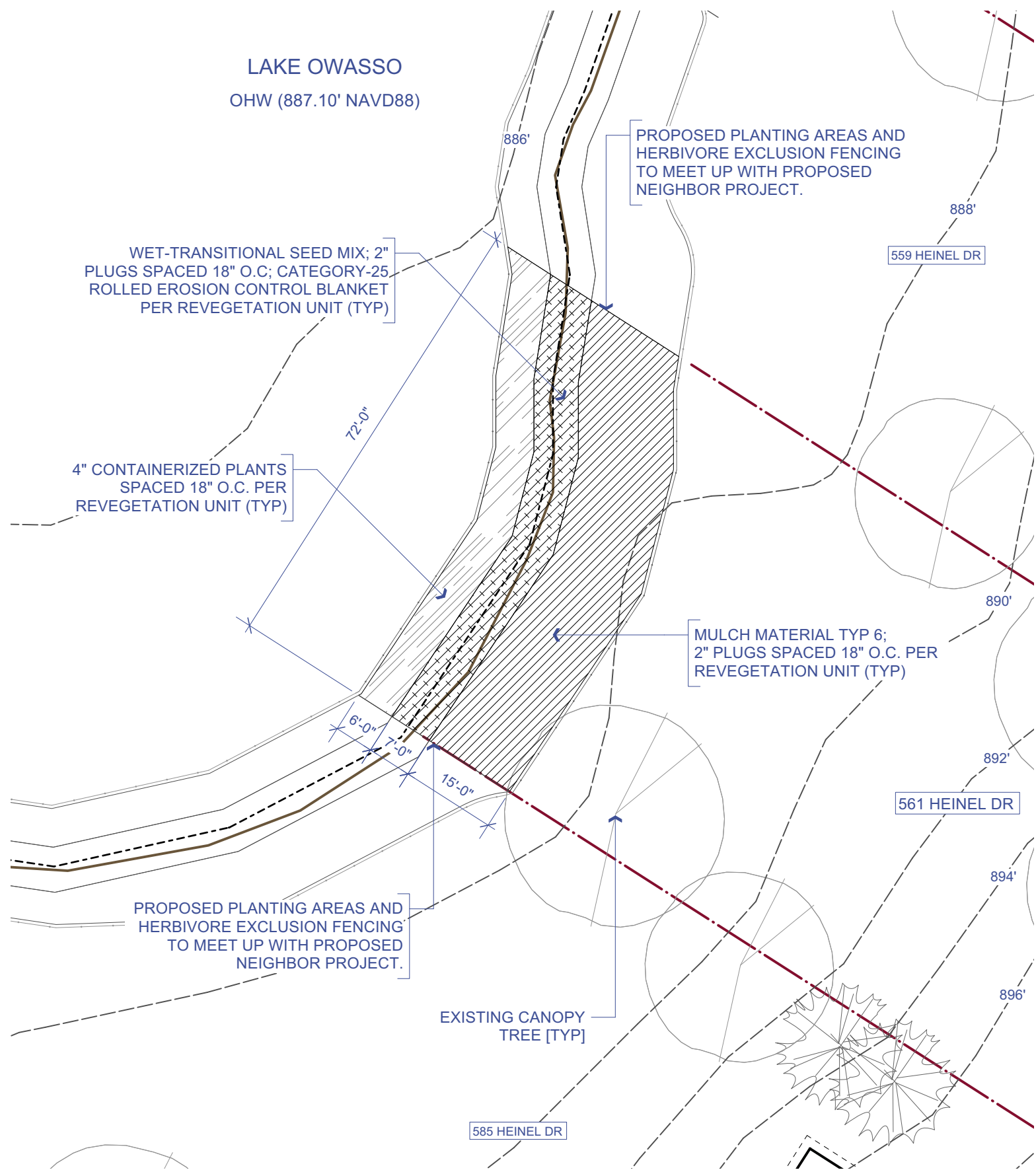
**LEGEND**

- 887.10' ELEVATION (LAKE OWASSO ORDINARY HIGH WATER LEVEL)
- EXISTING SHORELINE LOCATION (APPROXIMATE)
- .-.- PARCEL BOUNDARY (APPROX.)
- - - EXCLUSION FENCE / DISTURBANCE LIMITS
- - - 2' CONTOUR ELEVATION

- REVEGETATION UNIT-1  
TOTAL AREA: +/- 1,135 SF
- REVEGETATION UNIT-2  
TOTAL AREA: +/- 530 SF
- REVEGETATION UNIT-3  
TOTAL AREA: +/- 500 SF
- REVEGETATION UNIT-4  
TOTAL AREA: +/- 0 SF

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3. DEAD TURF TO REMAIN FOR SOIL STABILIZATION. CONTRACTOR SHALL INSTALL ADDITIONAL EROSION CONTROL FACILITIES IF REQUIRED; AS APPROVED BY OWNER REPRESENTATIVE.
4. ALL PLANTINGS INSTALLED BELOW WATER LINE, IN SOFT SOILS, OR IN AREAS SUBMERGED DUE TO WATER FLUCTUATIONS SHALL BE BIO-STAKED TO ANCHOR IN PLACE.
5. OWNER REPRESENTATIVE & CONTRACTOR SHALL MARK ANY/ALL UNIQUE ITEMS IN THE FIELD DURING SITE LAYOUT WALKTHROUGH THAT ARE TO REMAIN
6. CONTRACTOR SHALL CONNECT TEMPORARY EXCLUSION FENCE FOR ALL ADJACENT PROJECTS WHERE FEASIBLE
7. REVEGETATION UNIT-4 MATERIALS SHALL NOT BE INSTALLED BELOW B.F.E. 886.60'; OR AS APPROVED BY OWNER REPRESENTATIVE OR NOTED ON PLANS
8. REVEGETATION UNIT-1 MATERIALS SHALL NOT BE INSTALLED BELOW 887.50'; OR AS APPROVED BY OWNER REPRESENTATIVE
9. CONTRACTOR & LANDOWNER TO COORDINATE MARKING OF PRIVATE UTILITIES AND/OR SPRINKLER SYSTEMS WHERE PRESENT.





**PROJECT PHASING:**  
 A = 135 LF  
 B = 240 LF  
 C = 165 LF

SITE SPECIFIC MATERIALS SCHEDULE			
ITEM NO.	DESCRIPTION	UNIT	QTY
1	NATIVE PERENNIAL: 2" PLUG	EA	3,078
2	NATIVE PERENNIAL: 4" POT	EA	1,426
3	TEMPORARY EXCLUSION FENCE	LF	1,115
4	MULCH MATERIAL TYP 6 (3" DEPTH)	CY	29
5	SEED MIXTURE 25-131 (LOW MAINTENANCE TURF)	SF	0
6	ROLLED EROSION PREVENTION CATEGORY 30	SF	0
7	ROLLED EROSION PREVENTION CATEGORY 25	SF	3,770
8	SEED MIXTURE SPECIAL (NATIVE WET-TRANSITIONAL MIX)	SF	3,770
9	EXISTING VEGETATION/TURF REMOVAL & SOIL BED PREP.	SF	10,230

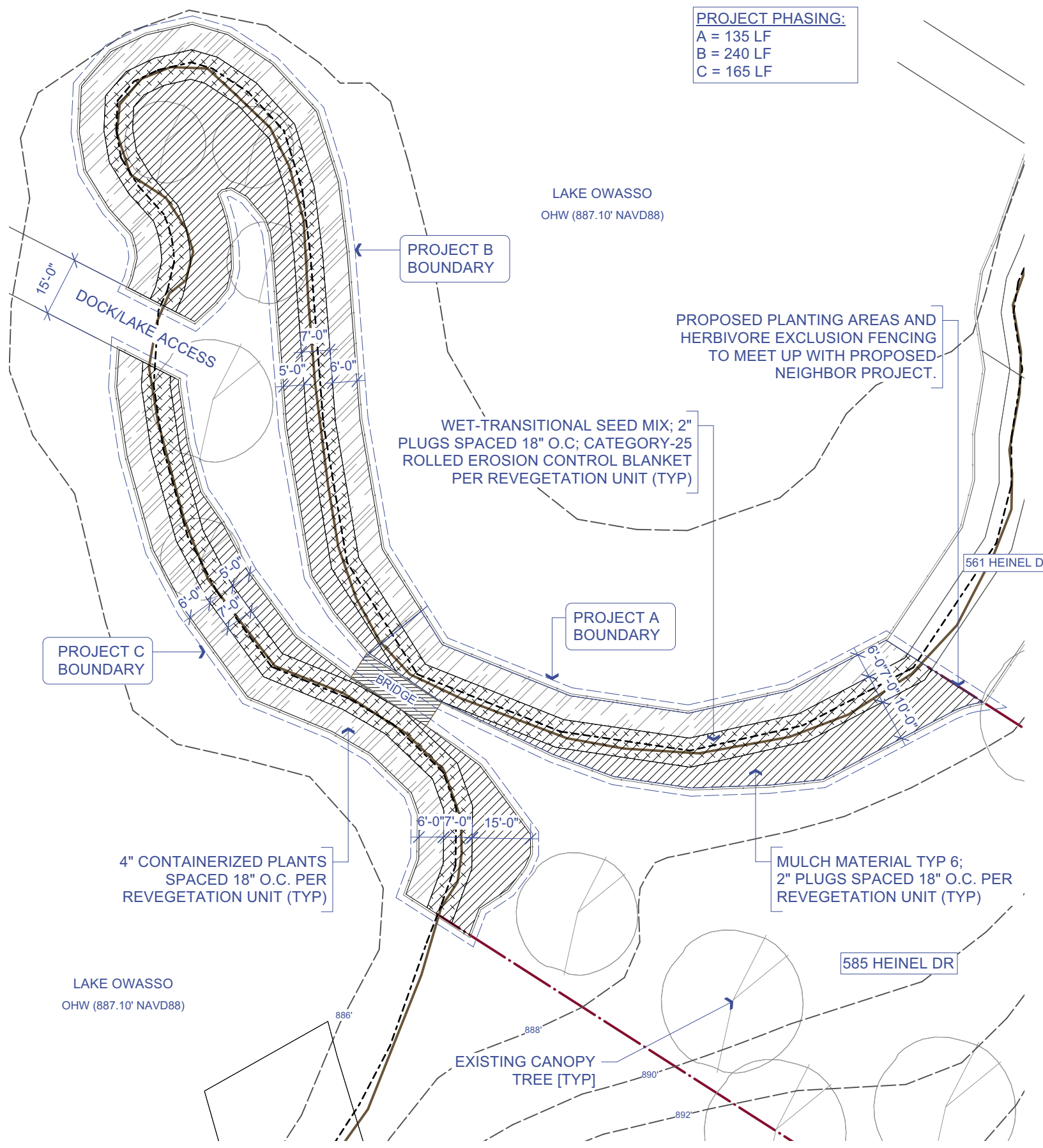
**LEGEND**

- 887.10' ELEVATION (LAKE OWASSO ORDINARY HIGH WATER LEVEL)
- EXISTING SHORELINE LOCATION (APPROXIMATE)
- - - PARCEL BOUNDARY (APPROX.)
- - - EXCLUSION FENCE / DISTURBANCE LIMITS
- - - 2' CONTOUR ELEVATION

- REVEGETATION UNIT-1  
TOTAL AREA: +/- 3,220 SF (A=820, B=1,655, C=745)
- REVEGETATION UNIT-2  
TOTAL AREA: +/- 3,770 SF (A=990, B=1,615, C=1,165)
- REVEGETATION UNIT-3  
TOTAL AREA: +/- 3,240 SF (A=780, B=1,465, C=995)
- REVEGETATION UNIT-4  
TOTAL AREA: +/- 0 SF

**NOTES**

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  - 1.1 - O.H.W.L. 887.10'
2. HERBICIDE APPLICATIONS AND SITE PREPARATION SHALL OCCUR PER PROJECT SPECIFICATIONS. REMOVE ALL EXISTING VEGETATION WITHIN PROPOSED PLANTING/SEEDING AREAS.
3. DEAD TURF TO REMAIN FOR SOIL STABILIZATION. CONTRACTOR SHALL INSTALL ADDITIONAL EROSION CONTROL FACILITIES IF REQUIRED; AS APPROVED BY OWNER REPRESENTATIVE.
4. ALL PLANTINGS INSTALLED BELOW WATER LINE, IN SOFT SOILS, OR IN AREAS SUBMERGED DUE TO WATER FLUCTUATIONS SHALL BE BIO-STAKED TO ANCHOR IN PLACE.
5. OWNER REPRESENTATIVE & CONTRACTOR SHALL MARK ANY/ALL UNIQUE ITEMS IN THE FIELD DURING SITE LAYOUT WALKTHROUGH THAT ARE TO REMAIN
6. CONTRACTOR SHALL CONNECT TEMPORARY EXCLUSION FENCE FOR ALL ADJACENT PROJECTS WHERE FEASIBLE
7. REVEGETATION UNIT-4 MATERIALS SHALL NOT BE INSTALLED BELOW B.F.E. 886.60'; OR AS APPROVED BY OWNER REPRESENTATIVE OR NOTED ON PLANS
8. REVEGETATION UNIT-1 MATERIALS SHALL NOT BE INSTALLED BELOW 887.50'; OR AS APPROVED BY OWNER REPRESENTATIVE
9. CONTRACTOR & LANDOWNER TO COORDINATE MARKING OF PRIVATE UTILITIES AND/OR SPRINKLER SYSTEMS WHERE PRESENT.





SITE SPECIFIC MATERIALS SCHEDULE			
ITEM NO.	DESCRIPTION	UNIT	QTY
1	NATIVE PERENNIAL: 2" PLUG	EA	672
2	NATIVE PERENNIAL: 4" POT	EA	367
3	TEMPORARY EXCLUSION FENCE	LF	350
4	MULCH MATERIAL TYP 6 (3" DEPTH)	CY	6.5
5	SEED MIXTURE 25-131 (LOW MAINTENANCE TURF)	SF	0
6	ROLLED EROSION PREVENTION CATEGORY 30	SF	0
7	ROLLED EROSION PREVENTION CATEGORY 25	SF	805
8	SEED MIXTURE SPECIAL (NATIVE WET-TRANSITIONAL MIX)	SF	805
9	EXISTING VEGETATION/TURF REMOVAL & SOIL BED PREP.	SF	2,355

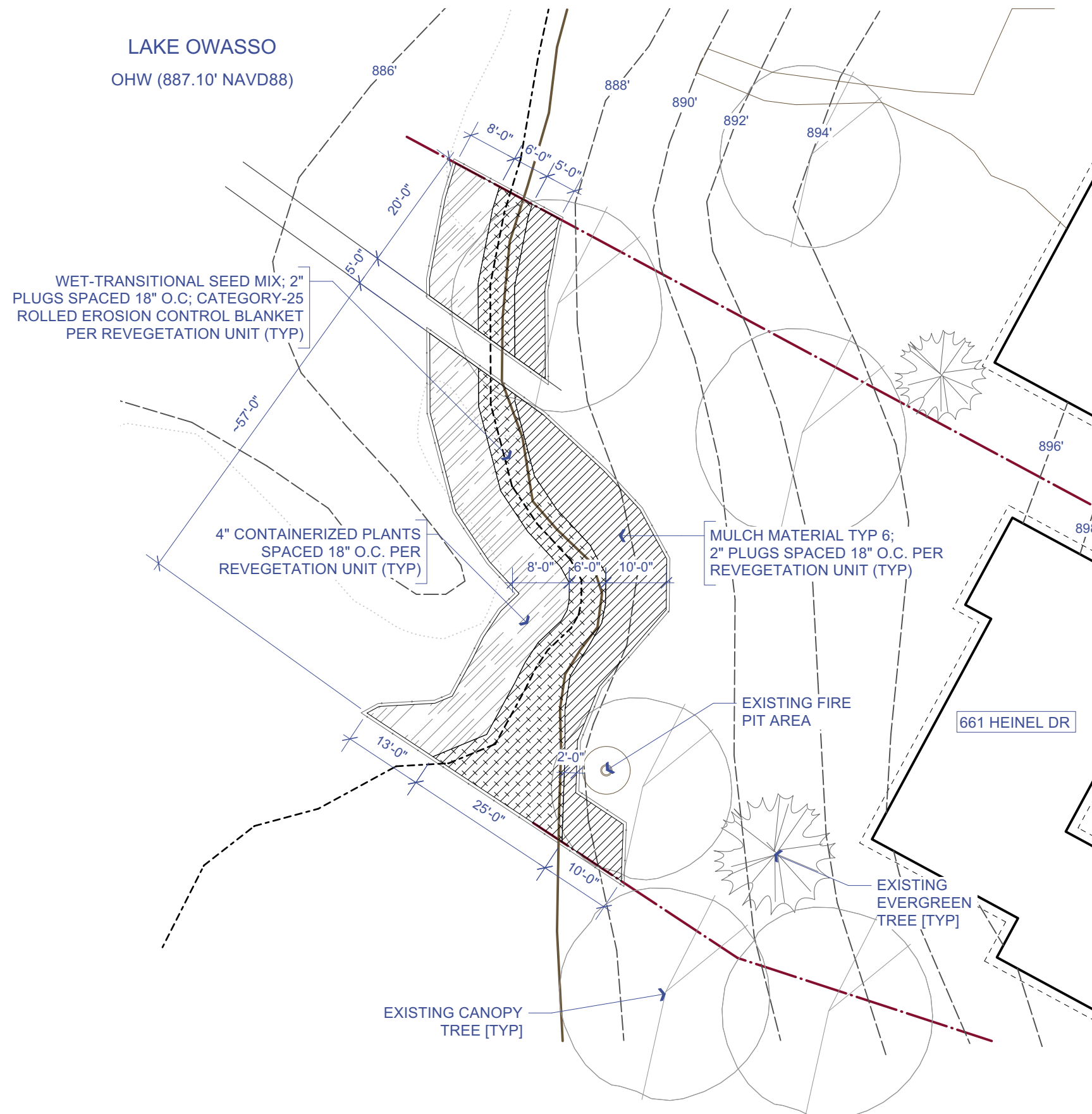
**LEGEND**

- 887.10' ELEVATION (LAKE OWASSO ORDINARY HIGH WATER LEVEL)
- EXISTING SHORELINE LOCATION (APPROXIMATE)
- .-.- PARCEL BOUNDARY (APPROX.)
- - - EXCLUSION FENCE / DISTURBANCE LIMITS
- - - 2' CONTOUR ELEVATION

- REVEGETATION UNIT-1  
TOTAL AREA: +/- 715 SF
- REVEGETATION UNIT-2  
TOTAL AREA: +/- 805 SF
- REVEGETATION UNIT-3  
TOTAL AREA: +/- 835 SF
- REVEGETATION UNIT-4  
TOTAL AREA: +/- 0 SF

**NOTES**

1. PROJECT LAYOUTS & CRITICAL ELEVATIONS SHALL BE STAKED AND VERIFIED BY OWNER REPRESENTATIVE PRIOR TO START AND SHALL REMAIN STAKED THROUGHOUT PROJECT PERIOD:
  - 1.1 - O.H.W.L. 887.10'
2. HERBICIDE APPLICATIONS AND SITE PREPARATION SHALL OCCUR PER PROJECT SPECIFICATIONS. REMOVE ALL EXISTING VEGETATION WITHIN PROPOSED PLANTING/SEEDING AREAS.
3. DEAD TURF TO REMAIN FOR SOIL STABILIZATION. CONTRACTOR SHALL INSTALL ADDITIONAL EROSION CONTROL FACILITIES IF REQUIRED; AS APPROVED BY OWNER REPRESENTATIVE.
4. ALL PLANTINGS INSTALLED BELOW WATER LINE, IN SOFT SOILS, OR IN AREAS SUBMERGED DUE TO WATER FLUCTUATIONS SHALL BE BIO-STAKED TO ANCHOR IN PLACE.
5. OWNER REPRESENTATIVE & CONTRACTOR SHALL MARK ANY/ALL UNIQUE ITEMS IN THE FIELD DURING SITE LAYOUT WALKTHROUGH THAT ARE TO REMAIN
6. CONTRACTOR SHALL CONNECT TEMPORARY EXCLUSION FENCE FOR ALL ADJACENT PROJECTS WHERE FEASIBLE
7. REVEGETATION UNIT-4 MATERIALS SHALL NOT BE INSTALLED BELOW B.F.E. 886.60'; OR AS APPROVED BY OWNER REPRESENTATIVE OR NOTED ON PLANS
8. REVEGETATION UNIT-1 MATERIALS SHALL NOT BE INSTALLED BELOW 887.50'; OR AS APPROVED BY OWNER REPRESENTATIVE
9. CONTRACTOR & LANDOWNER TO COORDINATE MARKING OF PRIVATE UTILITIES AND/OR SPRINKLER SYSTEMS WHERE PRESENT.





SITE SPECIFIC MATERIALS SCHEDULE			
ITEM NO.	DESCRIPTION	UNIT	QTY
1	NATIVE PERENNIAL: 2" PLUG	EA	120
2	NATIVE PERENNIAL: 4" POT	EA	0
3	TEMPORARY EXCLUSION FENCE	LF	170
4	MULCH MATERIAL TYP 6 (3" DEPTH)	CY	2
5	SEED MIXTURE 25-131 (LOW MAINTENANCE TURF)	SF	0
6	ROLLED EROSION PREVENTION CATEGORY 30	SF	0
7	ROLLED EROSION PREVENTION CATEGORY 25	SF	0
8	SEED MIXTURE SPECIAL (NATIVE WET-TRANSITIONAL MIX)	SF	0
9	EXISTING VEGETATION/TURF REMOVAL & SOIL BED PREP.	SF	265

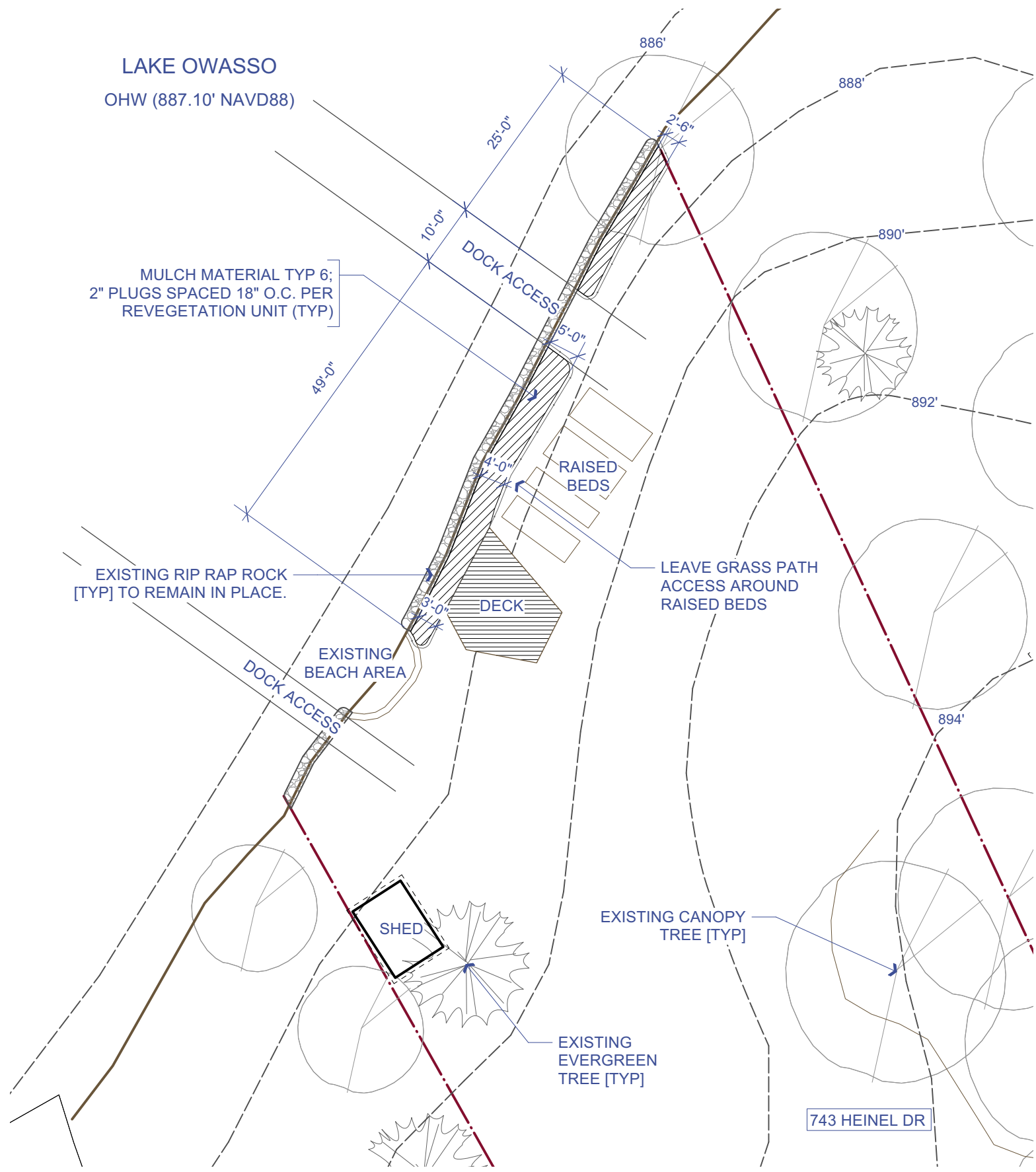
**LEGEND**

- 887.10' ELEVATION (LAKE OWASSO ORDINARY HIGH WATER LEVEL)
- EXISTING SHORELINE LOCATION (APPROXIMATE)
- - - PARCEL BOUNDARY (APPROX.)
- - - EXCLUSION FENCE / DISTURBANCE LIMITS
- - - 2' CONTOUR ELEVATION

- REVEGETATION UNIT-1  
TOTAL AREA: +/- 265 SF
- REVEGETATION UNIT-2  
TOTAL AREA: +/- 0 SF
- REVEGETATION UNIT-3  
TOTAL AREA: +/- 0 SF
- REVEGETATION UNIT-4  
TOTAL AREA: +/- 0 SF

**NOTES**

1. PROJECT LAYOUTS & CRITICAL ELEVATIONS SHALL BE STAKED AND VERIFIED BY OWNER REPRESENTATIVE PRIOR TO START AND SHALL REMAIN STAKED THROUGHOUT PROJECT PERIOD:
  - 1.1 - O.H.W.L. 887.10'
2. HERBICIDE APPLICATIONS AND SITE PREPARATION SHALL OCCUR PER PROJECT SPECIFICATIONS. REMOVE ALL EXISTING VEGETATION WITHIN PROPOSED PLANTING/SEEDING AREAS.
3. DEAD TURF TO REMAIN FOR SOIL STABILIZATION. CONTRACTOR SHALL INSTALL ADDITIONAL EROSION CONTROL FACILITIES IF REQUIRED; AS APPROVED BY OWNER REPRESENTATIVE.
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5. OWNER REPRESENTATIVE & CONTRACTOR SHALL MARK ANY/ALL UNIQUE ITEMS IN THE FIELD DURING SITE LAYOUT WALKTHROUGH THAT ARE TO REMAIN
6. CONTRACTOR SHALL CONNECT TEMPORARY EXCLUSION FENCE FOR ALL ADJACENT PROJECTS WHERE FEASIBLE
7. REVEGETATION UNIT-4 MATERIALS SHALL NOT BE INSTALLED BELOW B.F.E. 886.60'; OR AS APPROVED BY OWNER REPRESENTATIVE OR NOTED ON PLANS
8. REVEGETATION UNIT-1 MATERIALS SHALL NOT BE INSTALLED BELOW 887.50'; OR AS APPROVED BY OWNER REPRESENTATIVE
9. CONTRACTOR & LANDOWNER TO COORDINATE MARKING OF PRIVATE UTILITIES AND/OR SPRINKLER SYSTEMS WHERE PRESENT.



LAKE OWASSO  
 OHW (887.10' NAVD88)

MULCH MATERIAL TYP 6;  
 2" PLUGS SPACED 18" O.C. PER  
 REVEGETATION UNIT (TYP)

EXISTING RIP RAP ROCK  
 [TYP] TO REMAIN IN PLACE.

EXISTING  
 BEACH AREA

SHED

EXISTING  
 EVERGREEN  
 TREE [TYP]

EXISTING CANOPY  
 TREE [TYP]

LEAVE GRASS PATH  
 ACCESS AROUND  
 RAISED BEDS

RAISED  
 BEDS

DECK

743 HEINEL DR

# 1 REVEGETATION UNIT-1 MASTER LIST

REVEGETATION UNIT-1: UPLAND PLANT SPECIES LIST			
Soil Moisture: Wet-Mesic / Mesic / Dry-Mesic / Dry			
Common Name	Scientific Name	Size	Remarks
Contractor to select species from list for the appropriate site conditions; field verification and approval by Owner Representative required. Install perennials 18" on center (specified per plan) in random groups (12-36 count per group); 6-12 species per site			
<b>Grasses</b>		2" Plug	12 species per site
Side Oats Grama	Bouteloua curtipendula		
Blue Grama	Bouteloua gracilis		
Bottlebrush Grass	Elymus hystrix		
June Grass	Koeleria cristata		
Little Bluestem	Schizachyrium scoparium		
Indiangrass	Sorghastrum nutans		
Prairie Dropseed	Sporobolus heterolepis		
<b>Sedges &amp; Rushes</b>			
Bicknell's Sedge	Carex bicknellii		
Plains Oval Sedge	Carex brevior		
Field Oval Sedge	Carex molesta		
Spreading Oval Sedge	Carex normalis		
Long-beaked Sedge	Carex sprengei		
Path Rush	Juncus tenuis		
<b>Forbs &amp; Ferns</b>			
Butterfly Milkweed	Asclepias tuberosa		
Whorled Milkweed	Asclepias verticillata		
Anise Hyssop	Agastache foeniculum		
Prairie Onion	Allium stellatum		
Wild Columbine	Aquilegia canadensis		
Butterfly Milkweed	Asclepias tuberosa		
Panicled Aster	Aster lanceolatus		
Big Leaf Aster	Aster macrophyllus		
Lady Fern	Athyrium filix-femina		
Coreopsis Palmata	Coreopsis palmata		
Tall Coreopsis	Coreopsis tripteris		
White Prairie Clover	Dalea candida		
Purple Prairie Clover	Dalea purpureum		
Canada Tick Trefoil	Desmodium canadense		
Purple Coneflower	Echinacea purpurea		
Pale Purple Coneflower	Echinacea pallida		
Sweet Joe Pye Weed	Eupatorium purpureum		
Wild Geranium	Geranium maculatum		
Prairie Smoke	Geum triflorum		
Ox-eye Sunflower	Helianthus helianthoides		
Rough Blazingstar	Liatris aspera		
Meadow Blazingstar	Liatris ligulistylus		
Dense Blazingstar	Liatris spicata		
Ostrich Fern	Matteuccia struthiopteris		
Virginia Bluebells	Mertensia virginiana		
Wild Bergamot	Monarda fistulosa		
Sensitive Fern	Onoclea sensibilis		
Smooth Penstemon	Penstemon digitalis		
Prairie Phlox	Phlox pilosa		
Jacobs Ladder	Polemonium reptans		
Solomon's Seal	Polygonatum canaliculatum		
Mountain Mint	Pycnanthemum virginianum		
Black-eyed Susan	Rudbeckia hirta		
Sweet Black-eyed susan	Rudbeckia subtomentosa		
Zig Zag Goldenrod	Solidago flexicaulis		
Stiff Goldenrod	Solidago rigida		
Showy Goldenrod	Solidago speciosa		
Smooth Blue Aster	Symphotrichum laevis		
Sky Blue Aster	Symphotrichum oolentangiense		
Spiderwort	Tradescantia ohioensis		
Hoary Vervain	Verbena stricta		
Culver's Root	Veronicastrum virginicum		
Heartleaf Alexanders	Zizia aptera		
Golden Alexanders	Zizia aurea		

# 2 REVEGETATION UNIT-2 MASTER LIST

REVEGETATION UNIT-2: WET-TRANSITIONAL PLANT SPECIES LIST			
Soil Moisture: Wet / Wet-Mesic / Mesic			
Common Name	Scientific Name	Size	Remarks
Contractor to select species from list for the appropriate site conditions; field verification and approval by Owner Representative required. Install perennials 18" on center (specified per plan) in random groups (12-36 count per group); 6-12 species per site			
<b>Grasses</b>		2" Plug	12 species per site
Canada Blue Joint	Calamagrostis canadensis		
<b>Sedges &amp; Rushes</b>			
Bebb's Sedge	Carex bebbii		
Bottlebrush Sedge	Carex comosa		
Caterpillar Sedge	Carex crinita		
Porcupine Sedge	Carex hystericina		
Lake Sedge	Carex lacustris		
Common Hop Sedge	Carex lupulina		
Pointed-Broom Sedge	Carex scoparia		
Awl Fruit Sedge	Carex stipata		
Tussock Sedge	Carex stricta		
Fox Sedge	Carex vulpinoidea		
Creeping Spikerush	Eleocharis palustris		
Soft Rush	Juncus effusus		
Green Bulrush	Scirpus atrovirens		
<b>Forbs &amp; Ferns</b>			
Sweet Flag	Acorus americanus		
Water Plantain	Alisma subcordatum		
Canada Anemone	Anemone canadensis		
Swamp Milkweed	Asclepias incarnata		
Nodding Bur Marigold	Bidens cernua		
Turtlehead	Chelone glabra		
Showy Tick Trefoil	Desmodium canadense		
Joe Pye Weed	Eupatorium maculatum		
Boneset	Eupatorium perfoliatum		
Sweet Joe Pye Weed	Eupatorium purpureum		
Grass Leaf Goldenrod	Euthamia graminifolia		
Sneezeweed	Helenium autumnale		
Great St. Johnswort	Hypericum ascyron		
Northern Blue Flag Iris	Iris versicolor		
Meadow Blazing Star	Liatris ligulistylis		
Prairie Blazing Star	Liatris pycnostachya		
Dense Blazing Star	Liatris spicata		
Cardinal Flower	Lobelia cardinalis		
Great Blue Lobelia	Lobelia siphilitica		
Monkey Flower	Mimulus ringens		
Sensitive Fern	Onoclea sensibilis		
Mountain Mint	Pycnanthemum virginianum		
Riddell's Goldenrod	Solidago riddellii		
New England Aster	Symphotrichum novae-angliae		
Blue Vervain	Verbena hastata		
Golden Alexanders	Zizia aurea		

# 4 REVEGETATION UNIT-3 MASTER LIST

REVEGETATION UNIT-3: Emergent Plant Species List			
Soil Moisture: Below Water Line / Wet			
Common Name	Scientific Name	Size	Remarks
Contractor to select species from list for the appropriate site conditions; field verification and approval by Owner Representative required. Install perennials 18" on center (specified per plan) in random groups (12-36 count per group); 3-5 species per site			
<b>Species</b>		4" Container	5 species per site
Common Arrowhead	Sagittaria latifolia		
Hard Stem Bulrush	Scirpus acutus		
Three Square Bulrush	Scirpus pungens		
Soft Stem Bulrush	Scirpus validus		
Giant burreed	Sparganium eurycarpum		

# 3 REVEGETATION UNIT-2 SEED MIX

REVEGETATION UNIT-2: PERMANENT NATIVE WET-TRANSITIONAL SEED MIX				
Seeding Rate: 4 lb/acre (82.5 seeds/square foot)				
Common Name	Scientific Name	% of Mix	Seeds/Sq. Ft.	Total (PLS lb)
<b>Grasses</b>				
Fringed Brome	Bromus ciliatus	3.00%	0.20	0.04
Blue Joint Grass	Calamagrostis canadensis	0.50%	2.10	0.01
Fowl Bluegrass	Poa palustris	2.00%	3.80	0.02
<b>Sedges &amp; Rushes</b>				
Bebb's Sedge	Carex bebbii	8.00%	4.00	0.10
Bicknell's Sedge	Carex bicknellii	6.00%	1.50	0.07
Plains Oval Sedge	Carex brevior	6.00%	2.60	0.07
Bottlebrush Sedge	Carex comosa	4.00%	1.80	0.05
Fringed Sedge	Carex crinita	4.00%	1.40	0.05
Porcupine Sedge	Carex hystericina	4.00%	1.30	0.05
Lake Sedge	Carex lacustris	1.00%	0.20	0.01
Palm Sedge	Carex muskingumensi	8.00%	3.40	0.1
Pointed-Broom Sedge	Carex scoparia	8.00%	9.90	0.10
Fox Sedge	Carex stipata	8.00%	4.00	0.10
Brown Fox Sedge	Carex vulpinoidea	8.00%	11.80	0.10
Great Spike Rush	Eleocharis palustris	1.00%	0.70	0.01
Common Rush	Juncus effusus	0.60%	8.30	0.01
Softstem Bulrush	Scirpus validus	5.00%	2.30	0.06
Green Bulrush	Scirpus atrovirens	0.50%	3.40	0.01
Three Square Rush	Scirpus pungens	5.00%	0.90	0.06
<b>Forbs</b>				
Sweet Flag	Acorus americanus	2.00%	0.20	0.02
Water Plantain	Alisma subcordatum	4.00%	3.50	0.05
Northern Blue Flag Iris	Iris versicolor	5.00%	0.10	0.06
Monkey Flower	Mimulus ringens	0.40%	13.50	0.01
Common Arrowhead	Sagittaria latifolia	1.00%	0.90	0.01
Giant Bur Reed	Sparganium eurycarpum	5.00%	0.10	0.06

# 5 REVEGETATION UNIT-4 SEED MIX

REVEGETATION UNIT-4: MNDOT 25-131 LOW-MAINTENANCE TURF SEED		
Seeding Rate: 250 lb/ac		
Common Name	Scientific Name	% of Mix
<b>Grasses</b>		
Hard Fescue	Festuca longifolia	25.00%
Chewing Fescue	Festuca rubra var. commutata	25.00%
Creeping Red Fescue	Festuca rubra var. rubra	25.00%
Sheeps Fescue	Festuca ovina	25.00%

**RAMSEY COUNTY**  
 RAMSEY COUNTY SWCD  
 2015 VAN DYKE STREET  
 MAPLEWOOD, MN 55109  
 651-266-7280  
 www.ramseycounty.us

PROJECT: LAKE OWASSO SHORELINE  
 LOCATION:



DESIGNER: BRIAN T. OLSEN  
 DATE: 3/17/2023  
 PAST REVISION:  
 PAST REVISION:  
 PAST REVISION:  
 PAST REVISION:  
 CHECKED BY:  
 TAA:

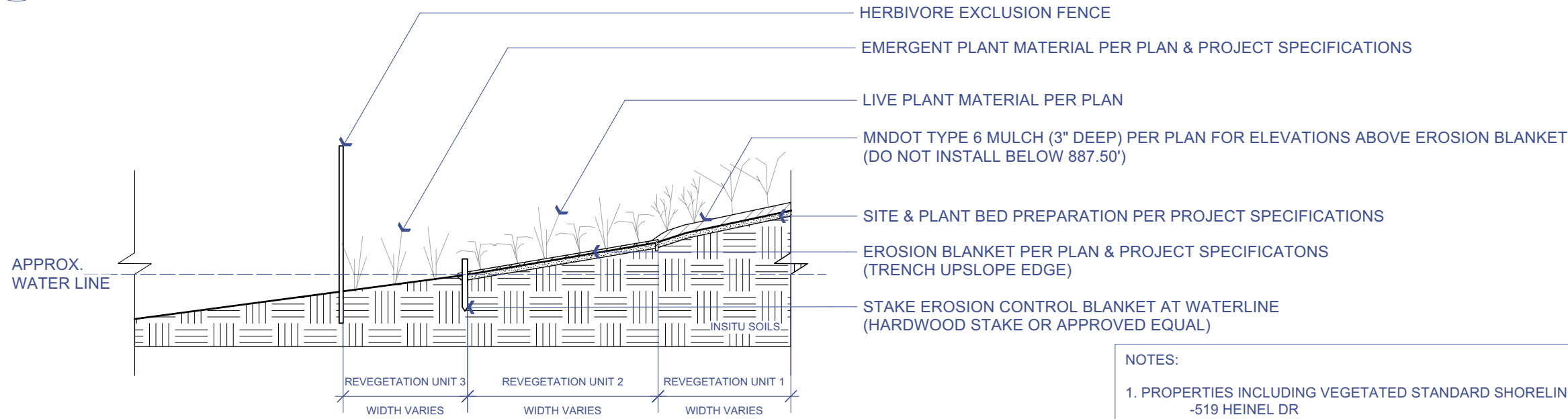
NOTES:  
 ORIGINAL SHEET SIZE: 11" x 17"

SCALE: NA

PLANT MATERIAL LISTS & SEED MIXES

L201

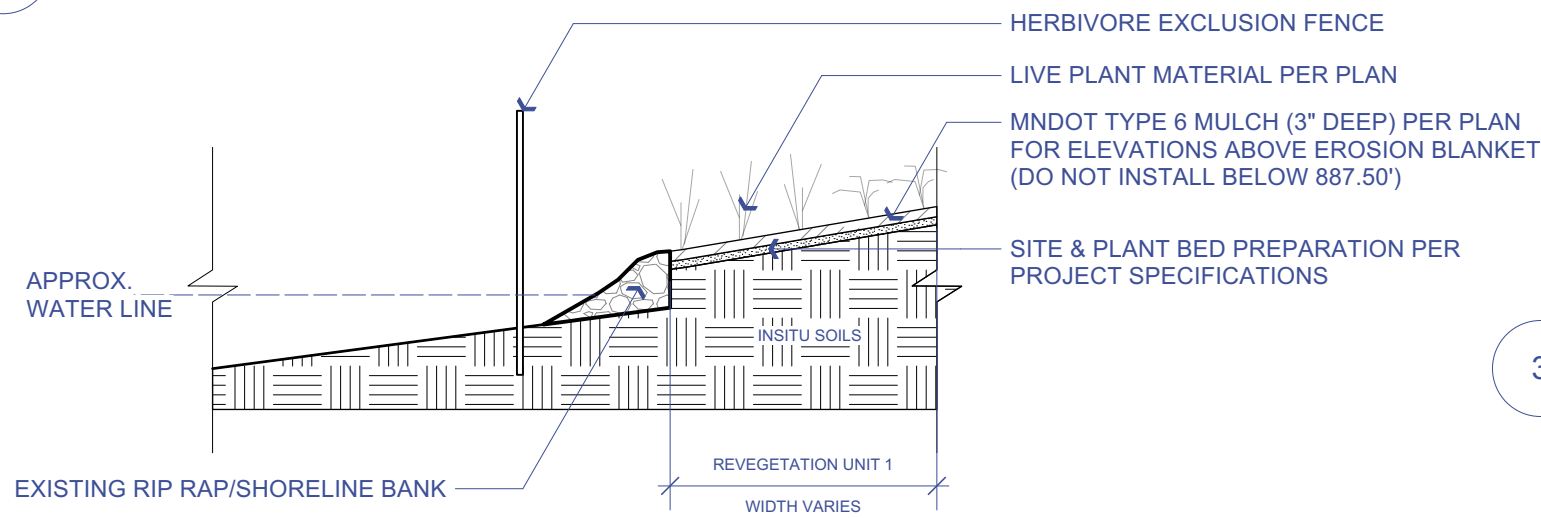
**1 VEGETATED STANDARD SHORELINE CROSS-SECTION**  
Scale: 1/4" = 1'-0"



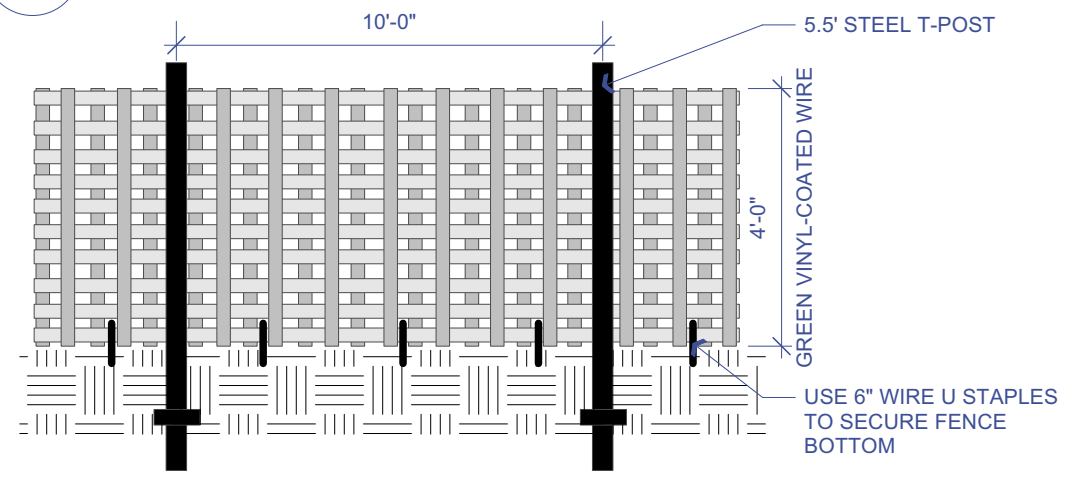
**NOTES:**

1. PROPERTIES INCLUDING VEGETATED STANDARD SHORELINE:  
-519 HEINEL DR  
-559 HEINEL DR  
-561 HEINEL DR  
-585 HEINEL DR  
-661 HEINEL DR
2. CONTRACTOR TO FOLLOW MNDOT STANDARD PLATE GUIDELINES FOR TEMPORARY AND PERMANENT EROSION CONTROL ON SITES. SEE ATTACHED MNDOT STANDARD PLATES FOR MORE DETAIL.
3. MINOR SHORELINE SHAPING / GRADING MAY BE NECESSARY AFTER VEGETATION REMOVAL TO ENSURE EVEN AND SMOOTH SHORELINE SLOPE. SITE VERIFY NEED FOR SHAPING.

**2 SHORELINE WITH EXISING ROCK CROSS-SECTION**  
Scale: 1/4" = 1'-0"



**3 HERBIVORE EXCLUSION FENCE DETAIL**  
NOT TO SCALE



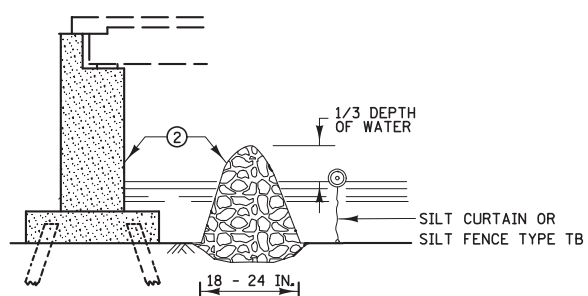
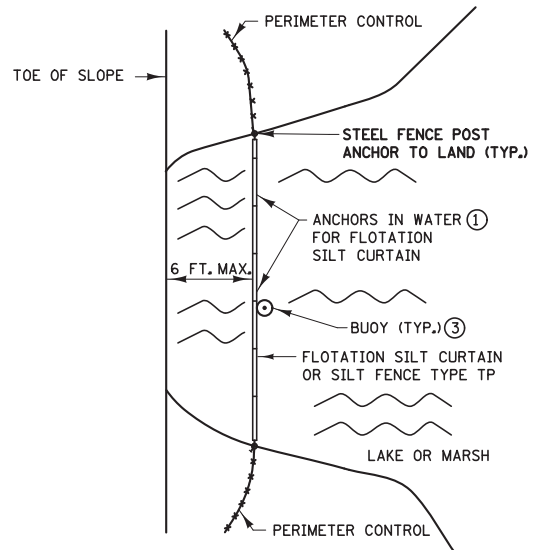
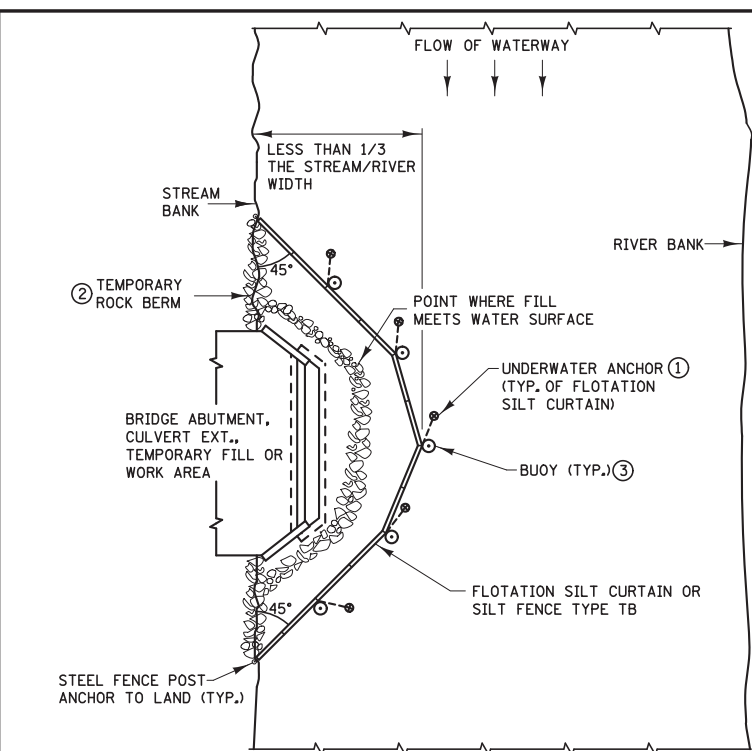
**NOTES:**

1. PROPERTIES INCLUDING EXISTING ROCK SHORELINE:  
-743 HEINEL DR
2. CONTRACTOR TO FOLLOW MNDOT STANDARD PLATE GUIDELINES FOR TEMPORARY AND PERMANENT EROSION CONTROL ON SITES. SEE ATTACHED MNDOT STANDARD PLATES FOR MORE DETAIL.



PLOTTED/REVISED: 4-APR-2018

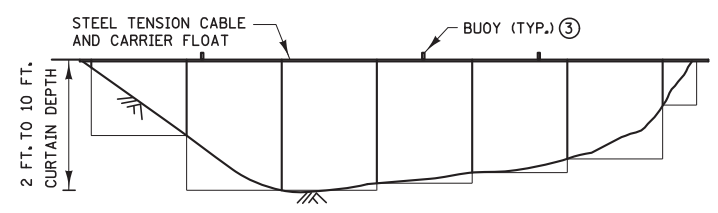
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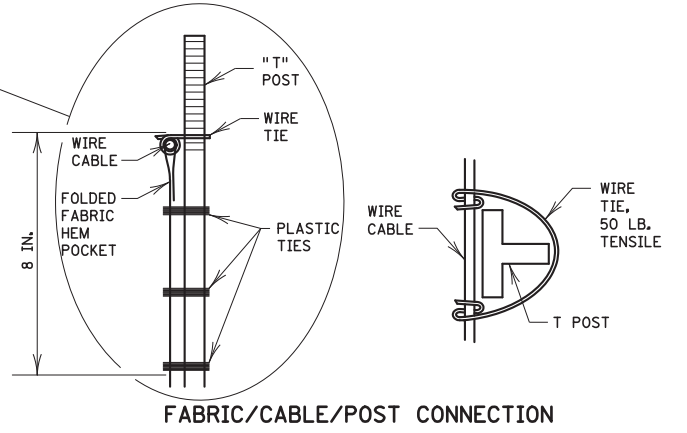
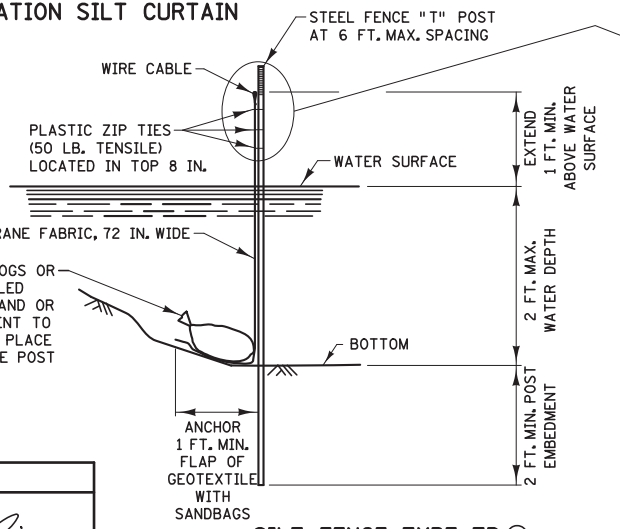
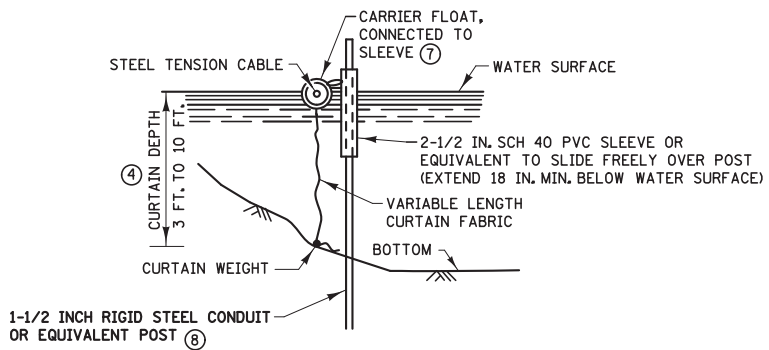
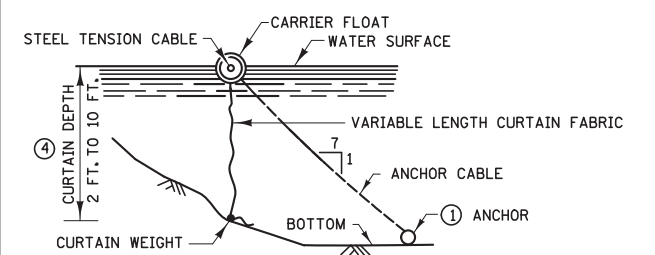
INSTALLATION GUIDELINES  
 SILT FENCE TYPE TB  
 MINIMUM WATER DEPTH: 1 FT.  
 MAXIMUM WATER DEPTH: 3 FT.  
 MAXIMUM WATER VELOCITY: 5 FT./SEC.

INSTALLATION GUIDELINES ④  
 FLOTATION SILT CURTAIN  
 TYPE: STILL WATER  
 MINIMUM WATER DEPTH: 3 FT.  
 MAXIMUM WATER DEPTH: 10 FT.  
 MAXIMUM WATER VELOCITY: 2 FT./SEC.  
 MAXIMUM WAVE HEIGHT: 1 FT

INSTALLATION GUIDELINES ④  
 FLOTATION SILT CURTAIN  
 TYPE: MOVING WATER  
 MINIMUM WATER DEPTH: 3 FT.  
 MAXIMUM WATER DEPTH: 10 FT.  
 MAXIMUM WATER VELOCITY: 5 FT./SEC.  
 MAXIMUM WAVE HEIGHT: 2 FT.



- NOTES:
- SEE SPECS. 2573, 3886, 3887 & 3893.
  - ① FOR ANCHOR SPACING AND WEIGHT REQUIREMENTS, SEE SPEC. 2573.
  - ② IN AREAS WHERE THE PLAN CALLS FOR RIPRAP AT A BRIDGE, CULVERT, OR SLOPE, A TEMPORARY ROCK BERM CONSTRUCTED FROM THE RIPRAP CAN BE USED TO PROVIDE ADDITIONAL PROTECTION. WHEN THE WORK IS COMPLETE THE RIPRAP CAN THEN BE MOVED TO THE PERMANENT LOCATION INDICATED IN THE PLANS. THE TEMPORARY ROCK BERM IS INCIDENTAL.
  - ③ ON U.S. COAST GUARD OR OTHER MOTORIZED WATERWAYS, BUOYS ARE REQUIRED TO MARK THE ENDS AND SPECIAL AREAS FOR VISIBILITY. PLACE BUOYS AS REQUIRED FOR NAVIGATIONAL PURPOSES.
  - ④ MINIMUM WATER DEPTH APPLIES TO THE DEEPEST POINT ALONG THE FLOTATION SILT CURTAIN OR SILT FENCE TYPE TB FOR DETERMINING APPLICABILITY OF FLOTATION SILT CURTAIN OR SILT FENCE TYPE TB.
  - ⑤ SILT CURTAIN SHOULD BE REMOVED WHEN THE AREA CONTRIBUTING DIRECT RUNOFF HAS BEEN TEMPORARILY OR PERMANENTLY STABILIZED. SILT CURTAIN SHOULD ALSO BE REMOVED BEFORE WINTER IF ICE UP OR ICE FLOW IS ANTICIPATED.
  - ⑥ EMBED POST INTO BOTTOM A MINIMUM OF 40% OF THE WATER DEPTH (INCLUDING WAVE HEIGHT), BUT IN NO CASE SHALL EMBEDMENT BE LESS THAN 2 FEET.
  - ⑦ ANCHOR FLOAT MUST BE CONNECTED SECURELY TO SLEEVE WITH A MINIMUM TENSILE STRENGTH OF 100 LBS. CONNECTION METHOD MUST ALLOW FOR SLEEVE TO MOVE FREELY ON POST.
  - ⑧ PROVIDE SUFFICIENT NUMBER OF POST ANCHORS TO MAINTAIN SILT CURTAIN POSITION.



REVISION:  
 APPROVED: 2-28-2017  
 Chief Environmental Officer

	STANDARD PLAN 5-297.405	1 OF 8	<b>TEMPORARY SEDIMENT CONTROL</b> SILT CURTAIN OR SILT FENCE TYPE TB		
		APPROVED: 2-28-2017			

**RAMSEY COUNTY**  
 RAMSEY COUNTY SWCD  
 2015 VAN DYKE STREET  
 MAPLEWOOD, MN 55109  
 651-266-7280  
 www.ramseycounty.us

PROJECT: LAKE OWASSO SHORELINE  
 LOCATION:

WATERSHED DISTRICT:

DESIGNER: BRIAN T. OLSEN  
 DATE: 3/17/2023  
 PAST REVISION:  
 PAST REVISION:  
 PAST REVISION:  
 PAST REVISION:  
 CHECKED BY:  
 TAA:

NOTES:  
 ORIGINAL SHEET SIZE: 11" x 17"

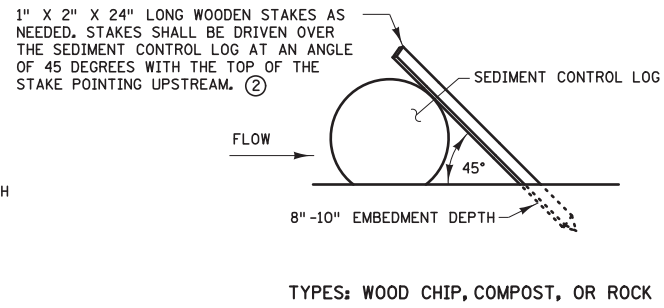
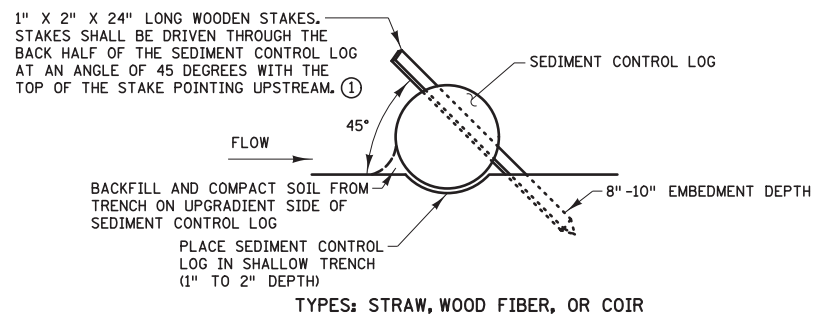
SCALE: NA

SITE DETAILS

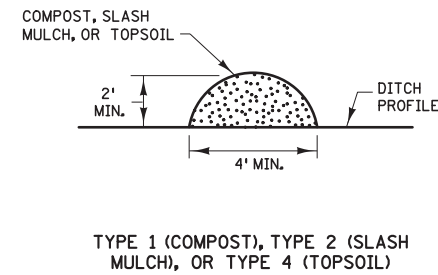
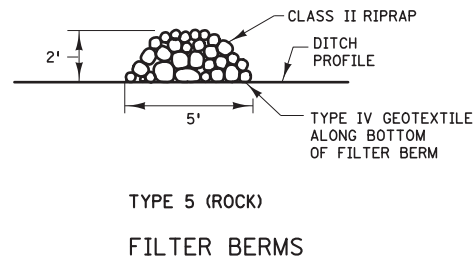
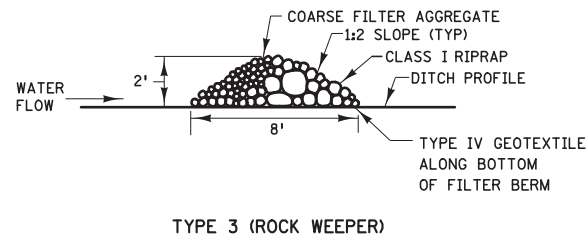
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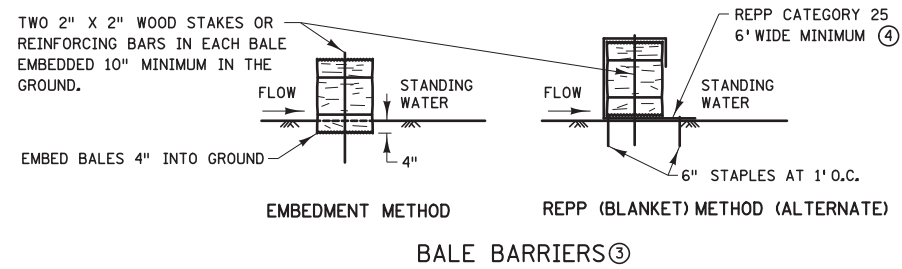
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PATH & FILENAME: OTS\DesignStandards\Development\StandardPlans\DEV400\_Series\405\_2\_spn.dgn



SEDIMENT CONTROL LOGS



FILTER BERMS



NOTES:

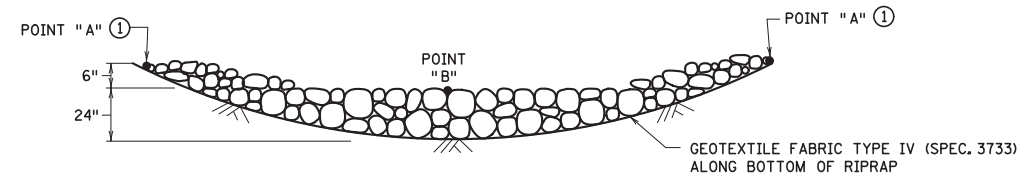
- REPP = ROLLED EROSION PREVENTION PRODUCT.  
SEE SPECS. 2573, 3149, 3874, 3882, 3885, 3886, AND 3897.
- ① SPACE BETWEEN STAKES SHALL BE A MAXIMUM OF 1' FOR DITCH CHECKS OR 2' FOR OTHER APPLICATIONS.
  - ② PLACE STAKES AS NEEDED TO PREVENT MOVEMENT OF SEDIMENT CONTROL LOGS PLACED ON SLOPES OR AS NEEDED DUE TO OTHER FACTORS. STAKES SHALL BE INCIDENTAL.
  - ③ TO BE USED FOR CRITICAL PERIMETER CONTROL AREAS WHERE STANDING WATER OCCURS (6" MAXIMUM DEPTH). BALES SHALL CONSIST OF TYPE 1 MULCH OF APPROXIMATELY 14" X 18" X 36" LONG. BALES SHALL BE PLACED ON EDGE AND BUTTED TIGHT TO ADJACENT BALES.
  - ④ INSTEAD OF TRENCHING, PLACE BALE ON THE REPP (BLANKET) AND WRAP BLANKET AROUND THE BALE. PLACE STAKE THROUGH BALE AND BLANKET.

REVISION:
APPROVED: JANUARY 8, 2020
<i>Marni Karnowski</i>
MARNI KARNOWSKI CHIEF ENVIRONMENTAL OFFICER

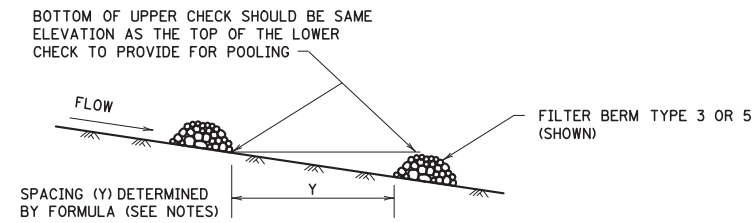
	STANDARD PLAN 5-297.405	2 OF 8	<b>TEMPORARY SEDIMENT CONTROL</b> FILTER BERMS, SEDIMENT CONTROL LOGS, AND BALE BARRIERS (T.H. ) SHEET NO. OF SHEETS	
	 THOMAS STYRBICKI STATE DESIGN ENGINEER	APPROVED: 1-8-2020 REVISED:		

PLOTTED/REVISED: 24-JAN-2020

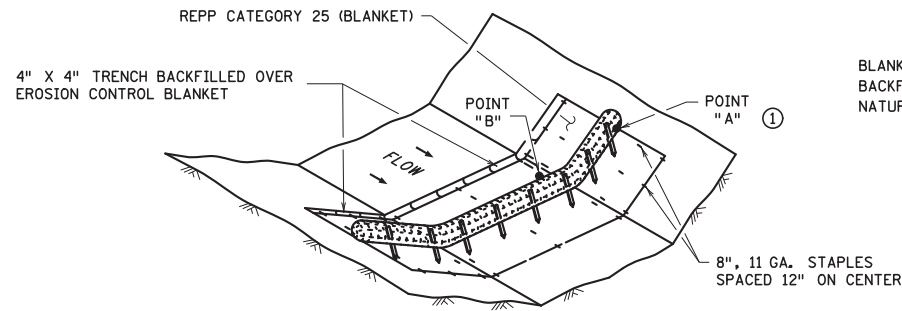
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PATH & FILENAME: OTS\DesignStandards\Development\StandardPlans\DEV400\_Series\405\_3.spl.dgn



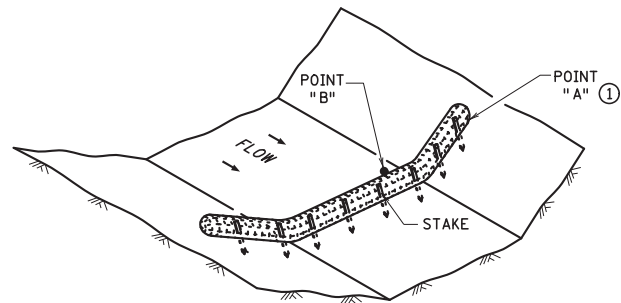
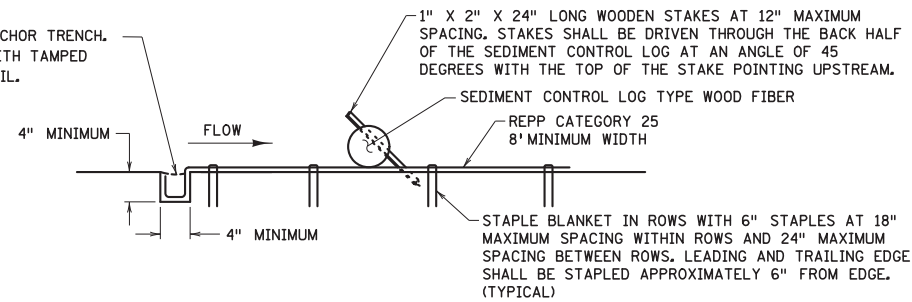
**ROCK DITCH CHECKS**  
**FILTER BERMS TYPE 3 (ROCK WEEPER) OR FILTER TYPE 5 (ROCK) ③**  
**FOR USE ON ROUGH-GRADED AREAS**  
**ONLY FOR USE OUTSIDE CLEAR ZONE ②**



**DITCH CHECK SPACING**  
**FOR ALL FILTER BERM TYPES**



**SEDIMENT CONTROL LOG TYPE REPP (BLANKET) SYSTEM ④**



**SEDIMENT CONTROL LOG TYPE WOOD FIBER, OR TYPE COMPOST ⑤**  
**FOR USE ON ROUGH GRADED AREAS**

**NOTES:**

- REPP = ROLLED EROSION PREVENTION PRODUCT.
- SEE SPECS. 2573, 3601, 3733, 3885, 3886 & 3889.
- FOR DITCH CHECKS, PLACE SEDIMENT CONTROL LOG PERPENDICULAR TO FLOW AND IN A CRESCENT SHAPE WITH THE ENDS FACING UPSTREAM.
- APPROXIMATE SPACING BETWEEN EACH DITCH CHECK SHOULD BE DETERMINED FROM THE FOLLOWING SPACING FORMULA:
- APPROXIMATE SPACING OF DITCH CHECKS (FT.) =  $Y = \frac{\text{DITCH CHECK HEIGHT (FT.)}}{\% \text{ CHANNEL SLOPE}} \times 100$
- ① POINT "A" MUST BE A MINIMUM OF 6" HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.
- ② ROCK DITCH CHECKS PLACED WITHIN THE CLEAR ZONE ARE TO BE 18" OR LESS IN HEIGHT. A 1:6 APPROACH AND DEPARTURE SLOPE SHALL BE PROVIDED.
- ③ DITCH GRADE 3% - 5%, MAX. FLOW VELOCITY 12 FT./SEC.
- ④ DITCH GRADE 1.5% - 3%, MAX. FLOW VELOCITY 4.5 FT./SEC.
- ⑤ DITCH GRADE 1.5% - 3%, MAX. FLOW VELOCITY 1.5 FT./SEC.

REVISION:
APPROVED: JANUARY 8, 2020
<i>Mari Karowski</i>
MARI KAROWSKI
CHIEF ENVIRONMENTAL OFFICER

	STANDARD PLAN 5-297.405	3 OF 8	<b>TEMPORARY SEDIMENT CONTROL</b> <b>DITCH CHECK</b>		
		APPROVED: 1-8-2020			

**RAMSEY COUNTY**

RAMSEY COUNTY SWCD  
 2015 VAN DYKE STREET  
 MAPLEWOOD, MN 55109  
 651-266-7280  
 www.ramseycounty.us

PROJECT: LAKE OWASSO SHORELINE  
 LOCATION:

WATERSHED DISTRICT:



DESIGNER: BRIAN T. OLSEN  
 DATE: 3/17/2023  
 PAST REVISION:  
 PAST REVISION:  
 PAST REVISION:  
 PAST REVISION:  
 CHECKED BY:  
 TAA:

NOTES:  
 ORIGINAL SHEET SIZE: 11" x 17"

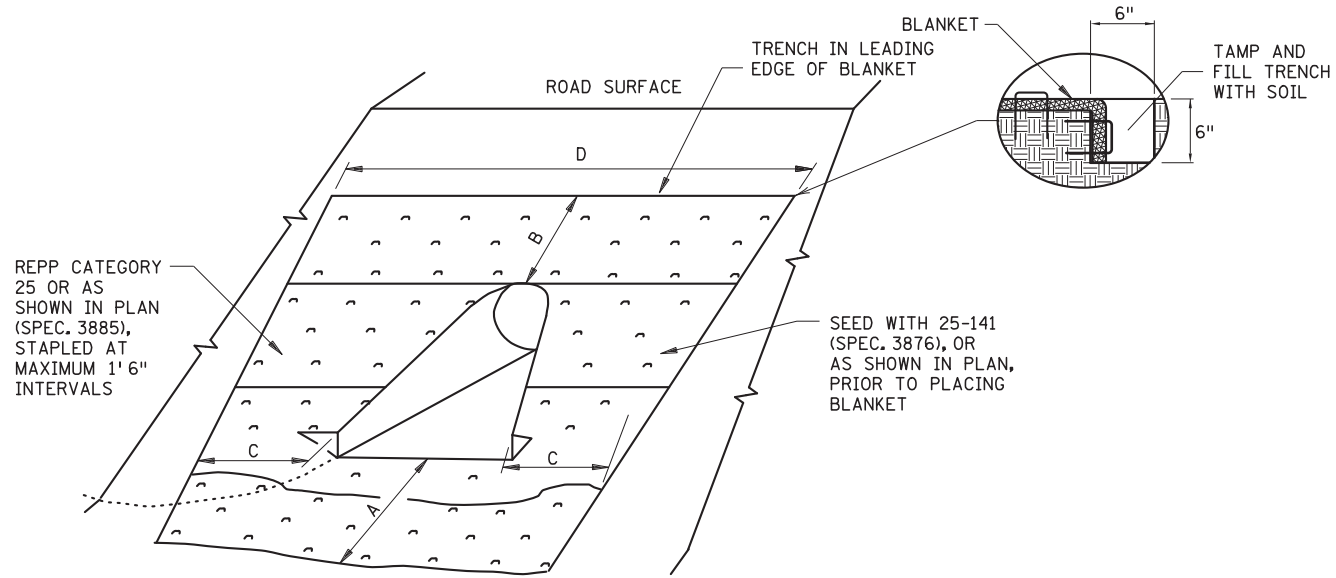
SCALE: NA

SITE DETAILS

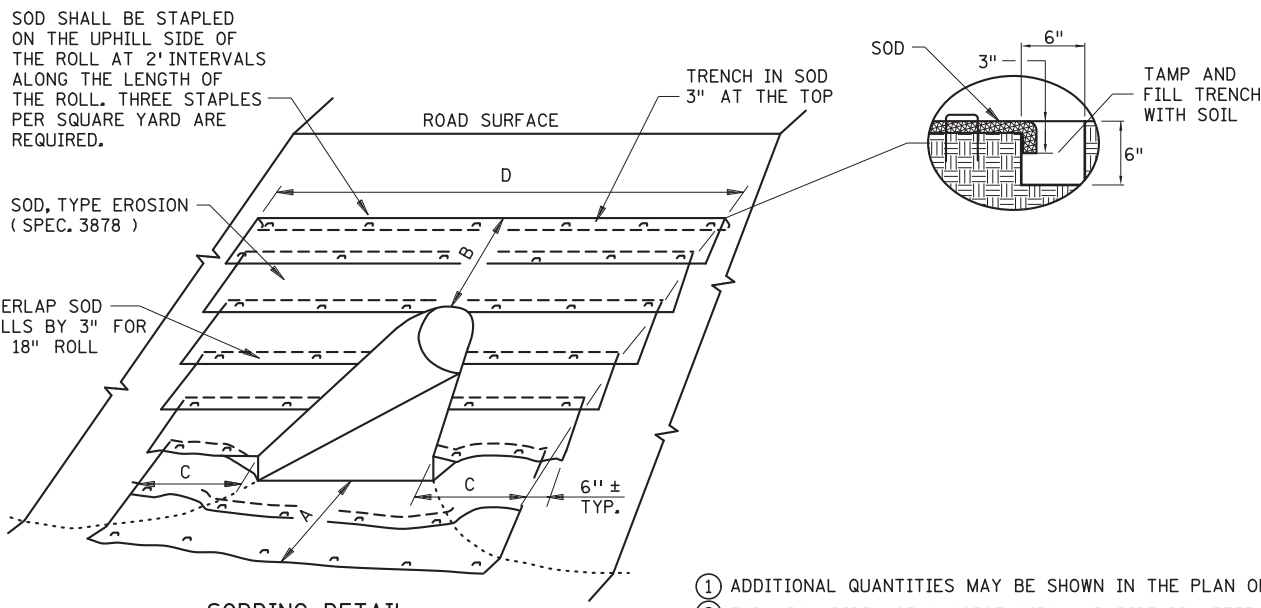
L304

PLOTTED/REVISED: 24-JAN-2020

PLOT NAME: s404\_2\_spr  
PATH & FILENAME: OTS\DesignStandards\Development\StandardPlans\DEV\400\_Series\404\_2\_spr.dgn



ROLLED EROSION PREVENTION PRODUCT (BLANKET) & SEED DETAIL



SODDING DETAIL

- ① ADDITIONAL QUANTITIES MAY BE SHOWN IN THE PLAN OR REQUIRED BY THE ENGINEER.
- ② FOR ARCH PIPE USE CLOSEST CIRCULAR PIPE DIAMETER AND APRON SLOPE. DIAMETERS LARGER THAN 72" REQUIRE SPECIAL DESIGNS.

CULVERT DIAMETER ②	CULVERT INLET APRON ①						"A"	"B"	"C"	"D"
	SOD OR REPP (SQ. YDS.)									
	CIRCULAR AND ARCH PIPE METAL APRON (PLATE 3123, PLATE 3122)	CIRCULAR AND ARCH PIPE CONCRETE APRON (PLATE 3100, PLATE 3110)	CIRCULAR AND ARCH PIPE METAL SAFETY APRON 1:4 SLOPE (PLATE 3148)	CIRCULAR AND ARCH PIPE METAL SAFETY APRON 1:6 SLOPE (PLATE 3148)	CIRCULAR CORRUGATED METAL PIPE SAFETY APRON 1:6 SLOPE (PLATE 3128)	CIRCULAR CORRUGATED METAL PIPE SAFETY APRON 1:4 SLOPE (PLATE 3128)				
15"	9	9	8	8	N/A	N/A	3'	1.5'	3'	13'
18"	13	12	12	14	16	N/A	3'	3'	3'	16'
21"	14	14	14	16	18	14	3'	3'	3'	17'
24"	16	15	16	19	21	17	3'	3'	3'	18'
27"	N/A	20	N/A	N/A	N/A	N/A	3'	4.5'	3'	20'
30"	23	22	25	30	32	N/A	3'	4.5'	3'	22'
36"	34	34	39	48	51	37	4.5'	4.5'	4.5'	27'
42"	43	40	51	64	N/A	N/A	4.5'	6'	4.5'	30'
48"	54	50	66	82	N/A	N/A	4.5'	7.5'	4.5'	34'
54"	65	58	81	102	N/A	N/A	4.5'	9'	4.5'	37'
60"	69	59	91	115	N/A	N/A	4.5'	9'	4.5'	39'
66"	69	63	N/A	N/A	N/A	N/A	4.5'	9'	4.5'	39'
72"	78	72	99	122	N/A	N/A	4.5'	10.5'	4.5'	41'

CULVERT DIAMETER ②	CULVERT OUTLET APRON ①						"A"	"B"	"C"	"D"
	SOD OR REPP (SQ. YDS.)									
	CIRCULAR AND ARCH PIPE METAL APRON (PLATE 3123, PLATE 3122)	CIRCULAR AND ARCH PIPE CONCRETE APRON (PLATE 3100, PLATE 3110)	CIRCULAR AND ARCH PIPE METAL SAFETY APRON 1:4 SLOPE (PLATE 3148)	CIRCULAR AND ARCH PIPE METAL SAFETY APRON 1:6 SLOPE (PLATE 3148)	CIRCULAR CORRUGATED METAL PIPE SAFETY APRON 1:6 SLOPE (PLATE 3128)	CIRCULAR CORRUGATED METAL PIPE SAFETY APRON 1:4 SLOPE (PLATE 3128)				
15"	10	10	9	10	N/A	N/A	4.5'	1.5'	3'	13'
18"	13	13	12	14	15	N/A	6'	1.5'	3'	14'
21"	16	14	16	18	19	15	6'	1.5'	3'	15'
24"	18	18	18	21	22	18	7.5'	1.5'	3'	16'
27"	N/A	19	N/A	N/A	N/A	N/A	7.5'	1.5'	3'	17'
30"	23	23	24	28	29	N/A	9'	1.5'	3'	18'
36"	36	35	38	47	48	37	10.5'	1.5'	4.5'	23'
42"	43	40	47	58	N/A	N/A	12'	1.5'	4.5'	25'
48"	50	46	57	70	N/A	N/A	13.5'	1.5'	4.5'	27'
54"	57	50	67	84	N/A	N/A	15'	1.5'	4.5'	29'
60"	74	63	90	113	N/A	N/A	16.5'	1.5'	6'	33'
66"	75	67	N/A	N/A	N/A	N/A	16.5'	1.5'	6'	33'
72"	77	70	92	114	N/A	N/A	16.5'	1.5'	6'	34'

NOTES:

- REPP = ROLLED EROSION PREVENTION PRODUCT.
- AREA SHOWN IN SQUARE YARDS IS FOR ONE CULVERT END.
- QUANTITIES ARE CALCULATED TO INCLUDE SOD REQUIRED TO PROVIDE A 3" OVERLAP ON ALL 18" WIDE ROLLS. THIS ALLOWS FOR SHRINKAGE OF THE SOD.
- FOR PIPE ARCHES USE EQUIVALENT PIPE DIAMETER TO APPROXIMATE AREA.
- FOR CORRUGATED POLYETHYLENE PIPE METAL APRON (PLATE 3129), USE THE METAL APRON COLUMN (PLATE 3123).
- AREAS AND DIMENSIONS ARE APPROXIMATE AND ARE BASED ON APRON SIDE SLOPES OF NO STEEPER THAN 1:2, UNLESS INDICATED AS FOR SAFETY APRONS.
- CARE SHOULD BE TAKEN IN SELECTING SOD TO STABILIZE THE APRON. RIP-RAP SHOULD BE USED FOR FLOW VELOCITIES GREATER THAN 6 FPS.

REVISION:  
APPROVED: JANUARY 8, 2020  
*Marni Karrowski*  
MARNI KARROWSKI  
CHIEF ENVIRONMENTAL OFFICER

**m** MINNESOTA DEPARTMENT OF TRANSPORTATION  
STANDARD PLAN 5-297.404 2 OF 3  
*Tom Styrbicki*  
APPROVED: 1-8-2020  
REVISED:  
THOMAS STYRBICKI  
STATE DESIGN ENGINEER

PERMANENT EROSION CONTROL  
TURF ESTABLISHMENT DETAIL AT CULVERT ENDS

STATE PROJ. NO. (T.H. ) SHEET NO. OF SHEETS

PROJECT: LAKE OWASSO SHORELINE  
LOCATION:

WATERSHED DISTRICT:



DESIGNER: BRIAN T. OLSEN  
DATE: 3/17/2023  
PAST REVISION:  
PAST REVISION:  
PAST REVISION:  
PAST REVISION:  
CHECKED BY:  
TAA:

NOTES:  
ORIGINAL SHEET SIZE: 11" x 17"

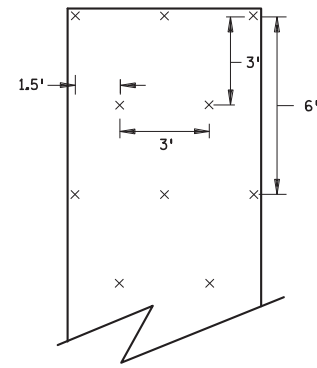
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SITE DETAILS

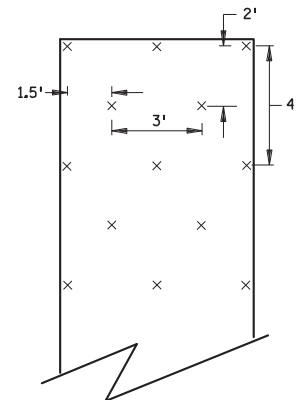
L305

PLOTTED/REVISED: 24-JAN-2020

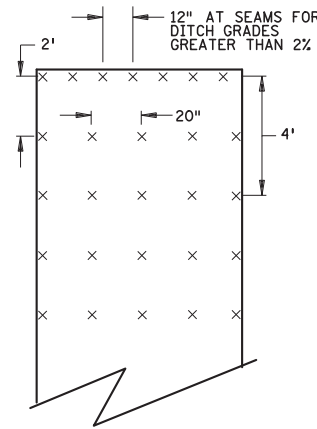
IPLOT NAME: s404\_3\_spn  
PATH & FILENAME: OTS\DesignStandards\Development\StandardPlans\DEV\400\_Series\404\_3\_spn.dgn



SLOPES FLATTER THAN 1:2  
120 STAPLES PER 100 SQ YD

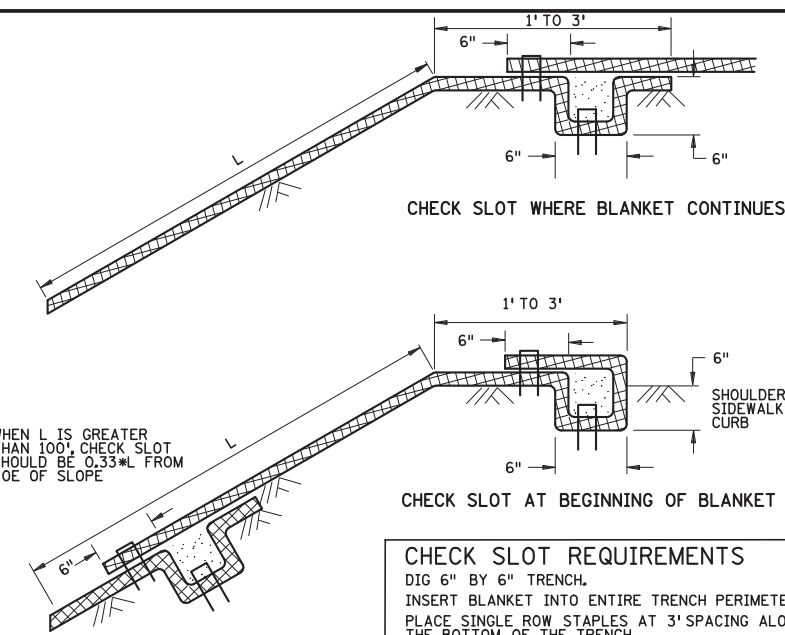


SLOPES 1:2 TO 1:1  
170 STAPLES PER 100 SQ YD



CHANNEL AND DITCH APPLICATIONS  
350 STAPLES PER 100 SQ YD

BLANKET STAPLE PATTERN

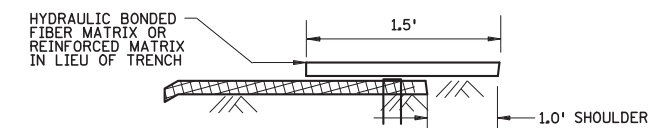


CHECK SLOT WHERE BLANKET CONTINUES

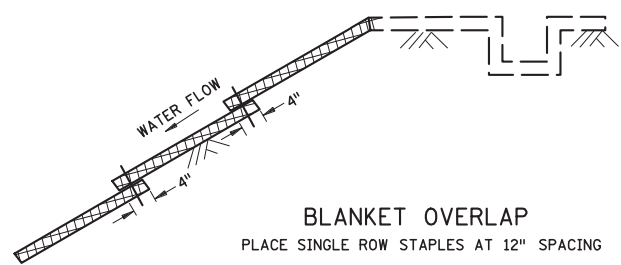
WHEN L IS GREATER THAN 100', CHECK SLOT SHOULD BE 0.33\*L FROM TOE OF SLOPE

CHECK SLOT AT BEGINNING OF BLANKET

**CHECK SLOT REQUIREMENTS**  
DIG 6" BY 6" TRENCH.  
INSERT BLANKET INTO ENTIRE TRENCH PERIMETER.  
PLACE SINGLE ROW STAPLES AT 3' SPACING ALONG THE BOTTOM OF THE TRENCH.  
BACKFILL TRENCH WITH SOIL AND TAMP.  
PLACE SINGLE ROW STAPLES AT 3' SPACING ON OVERLAP.

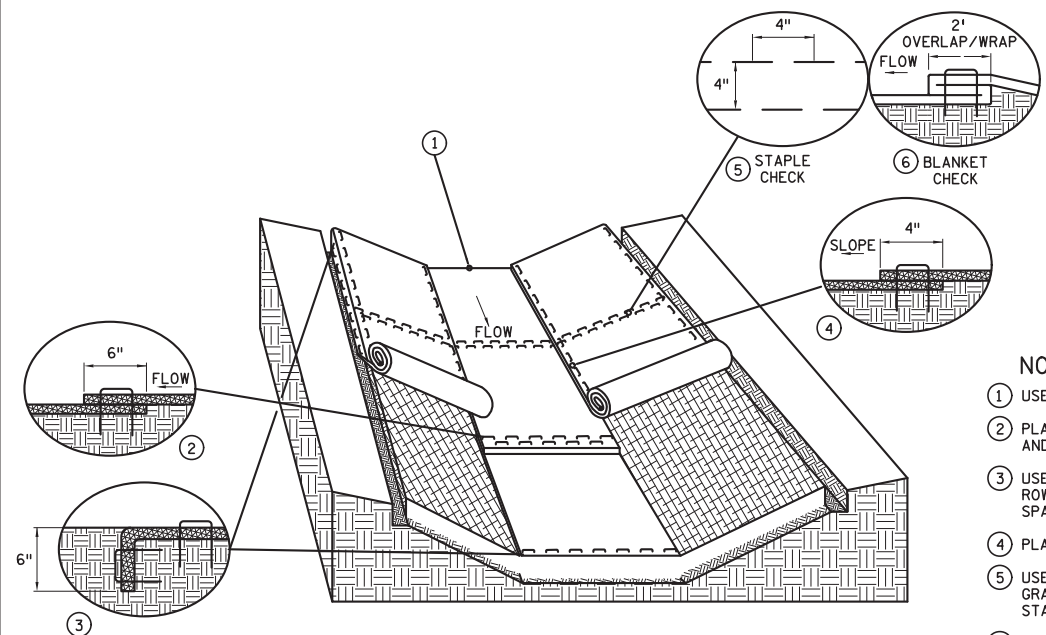


CHECK SLOT ALTERNATIVE  
PLACE SINGLE ROW STAPLES AT 12" SPACING  
CHECK SLOT DETAILS

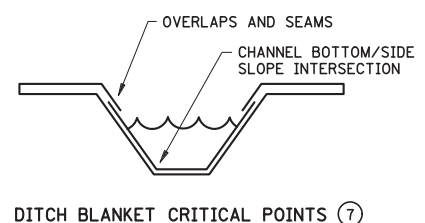


BLANKET OVERLAP  
PLACE SINGLE ROW STAPLES AT 12" SPACING

**GENERAL BLANKET INSTALLATION REQUIREMENTS**  
REPP = ROLLED EROSION PREVENTION PRODUCT.  
PREPARE SOIL AS PER SPECIFICATION 2574.  
LAY PARALLEL OR PERPENDICULAR TO THE DIRECTION OF WATER FLOW.  
OVERLAP ADJACENT STRIP EDGES A MINIMUM OF 4".  
OVERLAP BLANKET 6" (MINIMUM) AT EACH END. OVERLAP BOTTOM END OF UPPER BLANKET OVER TOP END OF LOWER BLANKET. STAPLE ALONG OVERLAP EVERY 1.5'.  
THE UPPERMOST BLANKET OF ALL SLOPE APPLICATIONS MUST START IN A CHECK SLOT. IF SLOPE LENGTH (L) IS 100' OR GREATER, INSERT BLANKET INTO A CHECK SLOT 1/3 FROM THE BOTTOM OF THE SLOPE.



DITCH BLANKET STAPLE DETAIL



DITCH BLANKET CRITICAL POINTS ⑦

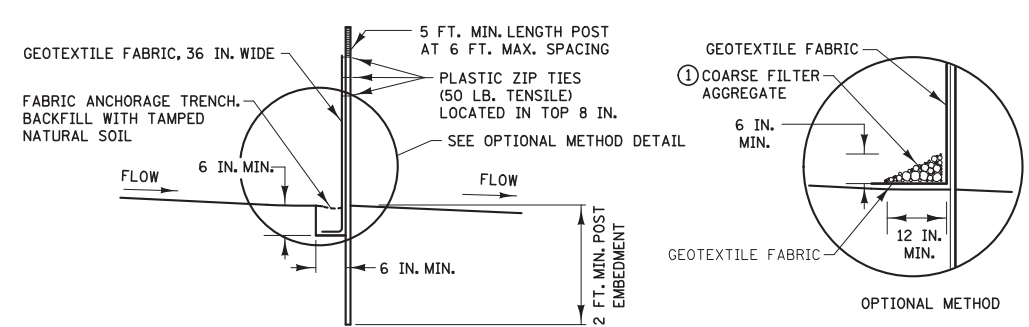
- NOTES:**
- ① USE CHECK SLOT DETAIL (NO ALTERNATES).
  - ② PLACE DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER.
  - ③ USE 6" X 6" TRENCH TO PLACE BLANKET. PLACE SINGLE ROW OF STAPLES ON TOP AND TRENCH SIDES AT 12" SPACING. BACKFILL TRENCH WITH SOIL AND TAMP.
  - ④ PLACE SINGLE ROW OF STAPLES AT 12" SPACING.
  - ⑤ USE STAPLE CHECK FOR CHANNEL SLOPES LESS THAN 2.5%. GRADE AT 100' INTERVALS. PLACE DOUBLE ROW OF STAPLES STAGGERED 4" APART AND AT 4" SPACING.
  - ⑥ USE BLANKET CHECKS FOR THE FOLLOWING SLOPES:  
2.5%-3% 100' INTERVALS  
3%-5% 50' INTERVALS  
5%-7% 25' INTERVALS
  - ⑦ CRITICAL POINTS SHALL BE SECURED WITH PROPER STAPLE PATTERNS.

REVISION:  
APPROVED: JANUARY 8, 2020  
*Marni Karnowski*  
MARNI KARNOWSKI  
CHIEF ENVIRONMENTAL OFFICER

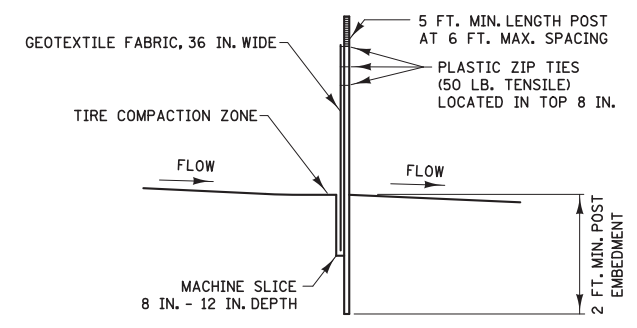
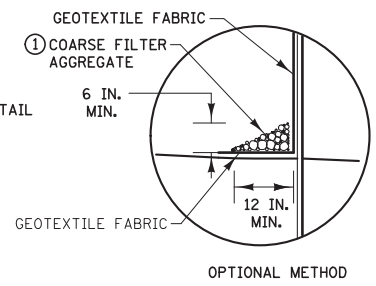
	STANDARD PLAN 5-297.404	3 OF 3	<b>PERMANENT EROSION CONTROL</b> REPP (BLANKET) STAPLE PATTERN FOR SLOPES
	APPROVED: 1-8-2020 REVISED:	STATE PROJ. NO. (T.H. )	

PLOTTED/REVISED: 4-APR-2018

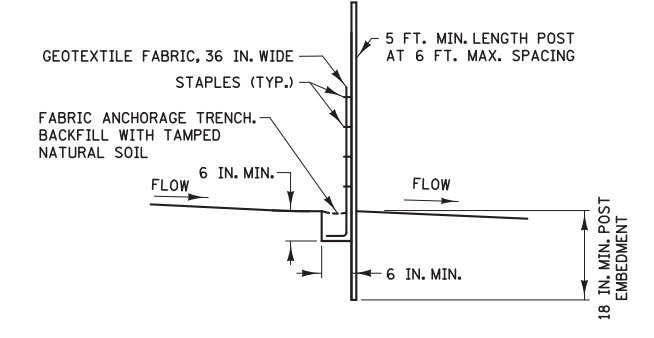
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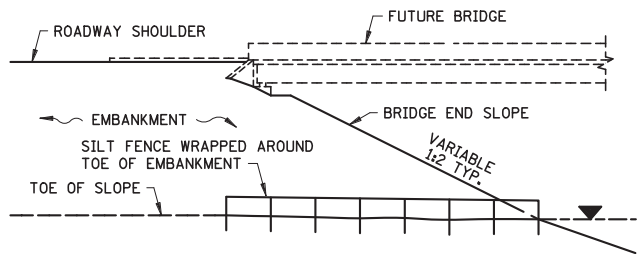
**SILT FENCE TYPE HI ② (HAND INSTALLED)**



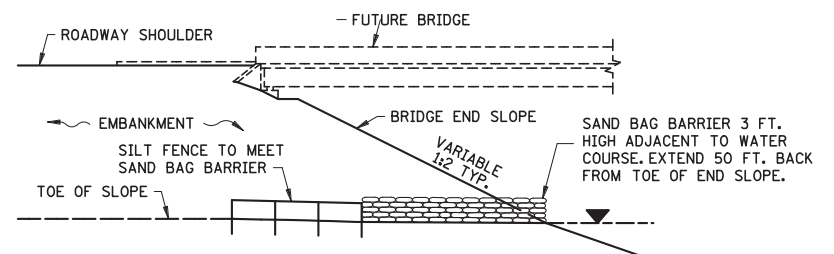
**SILT FENCE TYPE MS ② (MACHINE SLICED)**



**SILT FENCE TYPE PA ③ (PREASSEMBLED)**

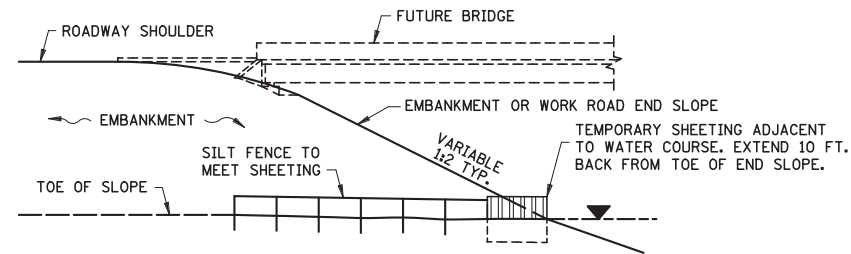


**SILT FENCE ONLY ④**

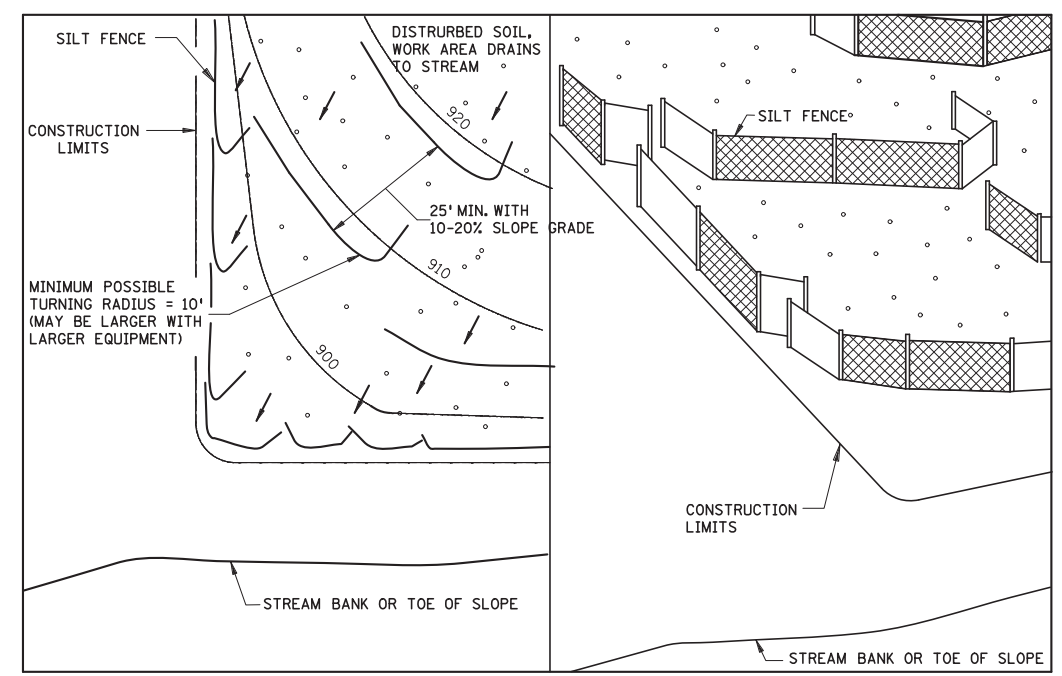


**SILT FENCE WITH SAND BAGS ⑤**

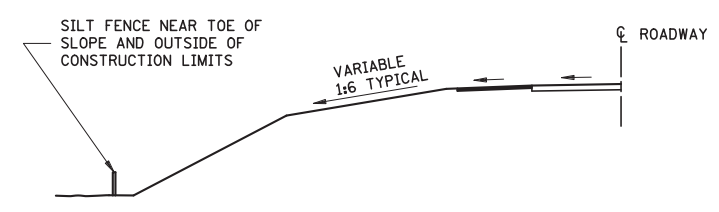
**INSTALLATION AT BRIDGE EMBANKMENT ADJACENT TO WATER**



**SILT FENCE WITH SHEETING ⑥**



**J-HOOK INSTALLATION**



**LOCATION AT TOE OF ROADWAY EMBANKMENT**

- NOTES:**  
 SEE SPECS. 2573, 3149 & 3886.  
 ① COARSE FILTER AGGREGATE (SPEC. 3149) SHALL BE INCIDENTAL.  
 ② TO PROTECT AREAS FROM SHEET FLOW, MAXIMUM CONTRIBUTING AREA: 1 ACRE.  
 ③ TO PROTECT AREAS FROM SHEET FLOW, MAXIMUM CONTRIBUTING AREA: 0.25 ACRE.  
 ④ WATER COURSE FLOW VELOCITY: STANDING. CONTRIBUTING SLOPE AREA: 1/2 ACRE.  
 ⑤ WATER COURSE FLOW VELOCITY: 1 TO 7 FT./SEC. CONTRIBUTING SLOPE AREA: 1 ACRE.  
 ⑥ WATER COURSE FLOW VELOCITY: 8 TO 15 FT./SEC. CONTRIBUTING SLOPE AREA: 3 ACRES.

REVISION:  
 APPROVED: 2-28-2017  
 [Signature]  
 CHIEF ENVIRONMENTAL OFFICER

**MINNESOTA**  
 DEPARTMENT OF TRANSPORTATION  
 [Signature]  
 STATE DESIGN ENGINEER

STANDARD PLAN 5-297.405  
 6 OF 8  
 APPROVED: 2-28-2017  
 REVISED:  
 STATE PROJ. NO.

**TEMPORARY SEDIMENT CONTROL**  
**SILT FENCE**  
 (T.H. ) SHEET NO. OF SHEETS

**RAMSEY COUNTY**  
 RAMSEY COUNTY SWCD  
 2015 VAN DYKE STREET  
 MAPLEWOOD, MN 55109  
 651-266-7280  
 www.ramseycounty.us

PROJECT: LAKE OWASSO SHORELINE  
 LOCATION:

WATERSHED DISTRICT:

DESIGNER: BRIAN T. OLSEN  
 DATE: 3/17/2023  
 PAST REVISION:  
 PAST REVISION:  
 PAST REVISION:  
 CHECKED BY:  
 TAA:

NOTES:  
 ORIGINAL SHEET SIZE: 11" x 17"

SCALE: NA

**SITE DETAILS**

**L307**

Exhibit C: Bid Form

**BID FORM**  
**LAKE OWASSO SHORELINE RESTORATION 2023**  
**ROSEVILLE, MN**

THIS BID FOR: LAKE OWASSO SHORELINE RESTORATION 2023

IS SUBMITTED (VIA EMAIL) TO:

Attn: Paige Ahlborg ([paige.ahlborg@rwmwd.org](mailto:paige.ahlborg@rwmwd.org))  
c/o Ramsey Washington Metro Watershed District  
Little Canada, MN 55117

**ARTICLE 1**

1.01 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an agreement with Owner in the procedure included in the Bidding Documents; to perform and furnish all Work as specified or indicated in the Bidding Documents for the Contract Price and within the Contract Time and in accordance with the other terms and conditions of the Contract Documents; and Contract Agreement as specified with the Owner.

**ARTICLE 2**

2.01 In submitting this Bid, Bidder represents, as more fully set forth in the Contract Documents, and incorporated into the Agreement by reference, that:

- A. Bidder has examined copies of all the Bidding Documents and of the following Addenda (receipt of all of which is hereby acknowledged):

No.	Date	Addendum Number	Signature
1			
2			
3			

- B. The contractor installing the shoreline restoration shall have experience in installing and maintaining similar projects and shall meet the qualification requirements described in Section A-8 of the General Conditions and Requirements of the Specifications and Project Provisions to Bidders.
- C. Bidder understands that the Work must be substantially complete by the date indicated in the Contract Documents; Specifications and Project Provisions to Bidders.
- D. Bidder understands that Owner has limited funds for the project, and that alternates may be eliminated from the Contract based on Bids.



- E. Bidder has familiarized himself/herself with the nature and extent of the Bidding Documents, Work, site, locality, and all local conditions and Laws and Regulations that in any manner may affect cost, progress, performance or furnishing of the Work.
- F. Bidder has obtained and carefully studied (or assumes responsibility for obtaining and carefully studying) all such examinations, investigations, explorations, tests, studies, and drawings which pertain to the surface and subsurface or physical conditions at the site or otherwise may affect the cost, progress, performance or furnishing of the Work as Bidder considers necessary for the performance or furnishing of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents; and no additional examinations, investigations, explorations, tests, reports or similar information or data are or will be required by Bidder for such purposes.
- G. Bidder has reviewed and checked all information and data with respect to existing Underground Facilities and Utilities at or contiguous to the site whether shown or indicated, or not shown or indicated, on the Drawings and Bidder assumes full responsibility for the accurate location of said Underground Facilities and Utilities prior to the performance of all elements of the Work. No additional examinations, investigations, explorations, tests, reports or similar information or data in respect of said Underground Facilities and Utilities are or will be required by Bidder in order to perform and furnish the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents.
- H. Bidder has correlated the results of all such observations, examinations, investigations, explorations, tests, reports, studies, and drawings with the terms and conditions of the Bidding Documents.
- I. Bidder has given Owner and Owner Representative written notice of all conflicts, errors or discrepancies that it has discovered in the Bidding Documents and the written resolution thereof by Owner and Owner Representative is acceptable to Bidder.
- J. This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any person, firm or corporation to refrain from bidding.
- K. This Bid has been arrived at the Bidder independently, and has been submitted without collusion with, and without any agreement, understanding, or planned common course of action with any other Bidder or vendor of materials, supplies, equipment or services described in the Bidding Documents designed to, or acting to, limit independent bidding or competition.
- L. This Bid has not been communicated by the Bidder or its employees or agents to any person not an employee or agent of the Bidder or its surety on any Bond furnished with the Bid, and will not be communicated to any such person prior to the opening of the Bid.

### ARTICLE 3

3.01 Bidder will complete the Work for the following price(s) as referenced in Section A for Unit Price, Measurement and Payment of the Specifications:

- A. BID ITEMS

Item #	Item Description	Unit	Estimated Quantity	Unit Price	Item Cost
1	NATIVE PERENNIAL: 2" PLUG	EA	6,108.00		
2	NATIVE PERENNIAL: 4" POT	EA	2,293.00		
3	TEMPORARY EXCLUSION FENCE	LF	2,219.00		
4	MULCH MATERIAL TYP 6 (3" DEPTH)	CY	73.00		
5	SEED MIXTURE 25-131 (LOW MAINTENANCE TURF) [SEEDING]	SF	140.00		
6	ROLLED EROSION PREVENTION CATEGORY 30	SF	140.00		
7	ROLLED EROSION PREVENTION CATEGORY 25	SF	5,960.00		
8	SEED MIXTURE SPECIAL (NATIVE WET-TRANSITIONAL MIX) [SEEDING]	SF	5,960.00		
9	EXISTING VEGETATION/TURF REMOVAL & SOIL BED PREP.	AC	0.44		
10	GRADING (MINOR SHORELINE SHAPING AS NEEDED)	CY	25.00		
11	CONSTRUCTION SURVEYING	LS	1.00		
12	MOBILIZATION	LS	1.00		
13	BIO LOGS/SILT FENCE OR OTHER EROSION CONTROL AS NEEDED	SITE	6.00		
14	STABILIZED CONSTRUCTION EXITS AS NEEDED	LS	1.00		
15	SITE RESTORATION – (TURF REPAIR)	SITE	6.00		
16	2023 ANNUAL MAINTENANCE	LS	1.00		
17	2024 ANNUAL MAINTENANCE	LS	1.00		
	<b>Project Subtotal</b>				

**TOTAL OF EXTENSIONS**

(in words) \_\_\_\_\_ U.S. Dollars (\$ \_\_\_\_\_)

3.02 Bidder acknowledges that (1) each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor’s overhead and profit for each separately identified item, and (2) Estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids. Final payment for all unit price Bid items will be based on actual quantities of work performed as determined in accordance with the Contract Documents.

**ARTICLE 4**

4.01 Bidder agrees that the entire Work will be substantially complete and completed and ready for final payment in accordance with the Owner, and within the number of calendar days, or by the date, provided in the Specifications and Project Provisions.

4.02 Bidder accepts the provisions of the Bidding Documents as to liquidate damages in the event of failure to complete the Work on time.

ARTICLE 5

5.01 Bidder understands and agrees that Owner reserves the right to reject any or all Bids and to waive formalities. It is further understood and agreed that this Bid may not be withdrawn within forty-five (45) calendar days following opening of Bids.

ARTICLE 6

6.01 The terms used in this Bid which are defined in the other Contract Documents have the meanings assigned to them in the Contract Documents.

ARTICLE 7

7.01 Communications concerning this Bid shall be addressed to the address of Bidder indicated below.

This Bid is submitted by:

**Company Name:** \_\_\_\_\_

**By (Typed or Printed):** \_\_\_\_\_

**Signature:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Official Address:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Phone:** (       ) \_\_\_\_\_

**Federal Tax I.D. No.** \_\_\_\_\_

**Date:** \_\_\_\_\_

## ATTACHMENT A

### RESPONSIBLE CONTRACTOR AND CERTIFICATION OF COMPLIANCE

#### PROJECT TITLE: LAKE OWASSO SHORELINE RESTORATION PROJECT

Minn. Stat. §16.285, Subd., 7, **IMPLEMENTATION.** any prime contractor or subcontractor that does not meet the minimum criteria in subdivision 3 or fails to verify it meets those criteria is not a responsible contractor and is not eligible to be awarded a construction contract for the project or to perform work on the project.

Minn. Stat. §16.285, Subd. 3. **RESPONSIBLE CONTRACTOR, MINIMUM CRITERIA.** “Responsible contractor” means a contractor that conforms to the responsibility requirements in the solicitation document for its portion of the work on the project and verifies that it meets the following minimum criteria:

1. The Contractor:
  - a. is in compliance with workers' compensation and unemployment insurance requirements;
  - b. is currently registered with the Department of Revenue and the Department of Employment and Economic Development if it has employees;
  - c. has a valid federal tax identification number or a valid Social Security number if an individual; and
  - d. has filed a certificate of authority to transact business in Minnesota with the secretary of state if a foreign corporation or cooperative.
2. The contractor or related entity is in compliance with and, during the three-year period before submitting the verification, has not violated section 177.24, 177.25, 177.41 to 177.44, 181.13, 181.14, or 181.722, and has not violated United States Code, title 29, sections 201 to 219, or United States Code, title 40, sections 3141 to 3148. For purposes of this clause, a violation occurs when a contractor or related entity:
  - a. repeatedly fails to pay statutorily required wages or penalties on one or more separate projects for a total underpayment of \$25,000 or more within the three-year period;
  - b. has been issued an order to comply by the commissioner of labor and industry that has become final;
  - c. has been issued at least two determination letters within the three-year period by the Department of Transportation finding an underpayment by the contractor or related entity to its own employees;
  - d. has been found by the commissioner of labor and industry to have repeatedly or willfully violated any of the sections referenced in this clause pursuant to section 177.27;
  - e. has been issued a ruling or findings of underpayment by the administrator of the Wage and Hour Division of the United States Department of Labor that have become final or have been upheld by an administrative law judge or the Administrative Review Board; or
  - f. has been found liable for underpayment of wages or penalties or misrepresenting a construction worker as an independent contractor in an action brought in a court having jurisdiction. Provided that, if the contractor or related entity contests a determination of underpayment by the Department of Transportation in a contested case proceeding, a violation does not occur until the contested case proceeding has concluded with a determination that the contractor or related entity underpaid wages or penalties.

3. The contractor or related entity is in compliance with and, during the three-year period before submitting the verification, has not violated section 181.723 or chapter 326B. For purposes of this clause, a violation occurs when a contractor or related entity has been issued a final administrative or licensing order.
4. The contractor or related entity has not, more than twice during the three-year period before submitting the verification, had a certificate of compliance under section 363A.36 revoked or suspended based on the provisions of section 363A.36, with the revocation or suspension becoming final because it was upheld by the Office of Administrative Hearings or was not appealed to the office.
5. The contractor or related entity has not received a final determination assessing a monetary sanction from the Department of Administration or Transportation for failure to meet targeted group business, disadvantaged business enterprise, or veteran-owned business goals, due to a lack of good faith effort, more than once during the three-year period before submitting the verification.
6. The contractor or related entity is not currently suspended or debarred by the federal government or the state of Minnesota or any of its departments, commissions, agencies, or political subdivisions; and
7. All subcontractors that the contractor intends to use to perform project work have verified to the contractor through a signed statement under oath by an owner or officer that they meet the minimum criteria listed in clauses (1) to (6).

Minn. Stat. 1§16.285, Subd. 5. **SUBCONTRACTOR VERIFICATION.** A prime contractor or subcontractor shall include in its verification of compliance under subdivision 4 a list of all of its first-tier subcontractors that it intends to retain for work on the project.

If a prime contractor or any subcontractor retains additional subcontractors on the project after submitting its verification of compliance, the prime contractor or subcontractor shall obtain verifications of compliance from each additional subcontractor with which it has a direct contractual relationship and shall submit a supplemental verification confirming compliance with subdivision 3, clause (7), within 14 days of retaining the additional subcontractors.

A prime contractor shall submit to the contracting authority upon request copies of the signed verifications of compliance from all subcontractors of any tier pursuant to subdivision 3, clause (7). A prime contractor and subcontractors shall not be responsible for the false statements of any subcontractor with which they do not have a direct contractual relationship. A prime contractor and subcontractors shall be responsible for false statements by their first-tier subcontractors with which they have a direct contractual relationship only if they accept the verification of compliance with actual knowledge that it contains a false statement.

Minn.Stat. §16.285, Subd. 4. **VERIFICATION OF COMPLIANCE.** A contractor responding to a solicitation document of a contracting authority shall submit to the contracting authority a signed statement under oath by an owner or officer verifying compliance with each of the minimum criteria in subdivision 3 at the time that it responds to the solicitation document.

A contracting authority may accept a sworn statement as sufficient to demonstrate that a contractor is a responsible contractor and shall not be held liable for awarding a contract in reasonable reliance on that statement. Failure to verify compliance with any one of the minimum criteria or a false statement under oath in a verification of compliance shall render the prime contractor or subcontractor that makes the false statement ineligible to be awarded a construction contract on the project for which the verification was submitted.

A false statement under oath verifying compliance with any of the minimum criteria may result in termination of a construction contract that has already been awarded to a prime contractor or subcontractor that submits a false statement. A contracting authority shall not be liable for declining to award a contract or terminating a contract based on a reasonable determination that the contractor

### **CERTIFICATION**

**By signing this document, I certify that I am an owner or officer of the company, and I swear under oath that:**

- 1) My company meets each of the Minimum Criteria to be a responsible contractor as defined herein and is in compliance with Minn. Stat. §16.285,**
- 2) I have included THIS FORM (Attachment A), with my company's solicitation response**

<b>Authorized Signature of Owner or Officer:</b>	<b>Printed Name:</b>
<b>Title:</b>	<b>Date:</b>
<b>Company Name:</b>	

**CONTRACT DOCUMENTS**

**LAKE OWASSO SHORELINE RESTORATION PROJECT  
SHOREVIEW, MINNESOTA  
RAMSEY-WASHINGTON METRO WATERSHED DISTRICT**

**NOTICE OF AWARD**

Dated: \_\_\_\_\_

**OWNER:** Ramsey Washington Metro Watershed District

**TO CONTRACTOR:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**CONTRACT FOR:** Lake Owasso Shoreline Restoration 2023 Project

Owner has requested that we notify you that your Bid dated \_\_\_\_\_ has been accepted as the successful Bidder and \_\_\_\_\_, has been awarded the contract to perform the Work. The Contract Price is stated in the Agreement.

\_\_\_\_\_ must comply with the following conditions precedent within fifteen (15) days of the date of this Notice of Award, that is by \_\_\_\_\_.

1. Return to Owner three fully executed counterparts of the Agreement (attached).
2. Performance and Payment Bond
3. Certificate of Insurance and endorsement(s)

Failure to comply with these conditions within the time specified will entitle Owner to consider your bid in default, to annul this Notice of Award and to declare your Bid Security forfeited.

**OWNER:** Ramsey Washington Metro Watershed District

By: \_\_\_\_\_  
(AUTHORIZED SIGNATURE)

**ACKNOWLEDGEMENT OF NOTICE**

\_\_\_\_\_  
CONTRACTOR

By: \_\_\_\_\_  
(AUTHORIZED SIGNATURE)

\_\_\_\_\_  
(TITLE)

\_\_\_\_\_  
(DATE)

**CONTRACT DOCUMENTS**

**LAKE OWASSO SHORELINE RESTORATION PROJECT  
SHOREVIEW, MINNESOTA  
RAMSEY-WASHINGTON METRO WATERSHED DISTRICT**

**FORM OF AGREEMENT**

THIS AGREEMENT is by and between Ramsey-Washington Metro Watershed District (hereinafter called Owner) and \_\_\_\_\_ (hereinafter called Contractor).

Owner and Contractor, in consideration of the mutual covenants hereinafter set forth, agree as follows:

**Article 1. WORK**

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents for Lake Owasso Shoreline Restoration Project. The Work is generally described in the General Requirements Section of the Technical Specifications. The Work to be provided under the Contract Documents may be the whole or only a part of the total construction for the Project.

**Article 2. CONTRACT TIMES**

2.01 *Time of the Essence*

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

2.02 *Dates of Substantial Completion and Final Payment*

A. The number of calendar days within which, or the dates by which, the Work is to be substantially completed and also completed and ready for final payment (the Contract Times) are set forth in the Instructions to Bidders except as may be stated below:

No exceptions.



# Request for Board Action

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**Board Meeting Date:** April 5, 2023

**Agenda Item No:** 7B

**Preparer:** Tina Carstens, Administrator

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**Item Description:** 2023 Targeted Retrofit Project Accept Plans & Advertise for Bids – Arbogast Underground Stormwater Filter

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**Background:**

See attached memo for more information on the Arbogast Underground Stormwater Filter project.

This project was planned through our Targeted Retrofit program and will be funded partially through this project fund as well as the Watershed Based Implementation Funding (WBIF) we are receiving from BWSR through the Clean Water Fund allocations to metro watersheds. That funding allocation is \$140,295.

The engineer's opinion of probably project construction cost is \$723,000. After approval at this meeting, the bidding process will be followed with a selection of contractor coming to the board for approval in May or June.

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**Applicable District Goal and Action Item:**

**Goal: Achieve quality surface water** – The District will maintain or improve surface water quality to support healthy ecosystems and provide the public with a wide range of water-based benefits.

**Action Item:** Implement retrofit water quality improvement projects.

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**Staff Recommendation:**

Staff recommends approval of the preliminary design, estimated costs, and proposed project schedule, and direct staff to finalize the design and bidding documents and solicit bid proposals.

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**Financial Implications:**

This project will be funded in the amount of \$140,295 through Clean Water WBIF. The remaining amount will come from the district's Targeted Retrofit Fund where there are sufficient funds available.

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**Board Action Requested:**

Approve the preliminary design, estimated costs, and proposed project schedule, and direct staff to finalize the design and bidding documents and solicit bid proposals.

## Technical Memorandum

**To:** RWMWD Board of Managers  
**From:** Tyler Olsen, Gabby Campagnola, Leslie DellAngelo, and Erin Anderson Wenz  
**Subject:** 95% Design Summary for the Arbogast Underground Stormwater Filter  
**Date:** March 29, 2023  
**Project:** 23/62-1446  
**c:** Paige Ahlborg (RWMWD), Tina Carstens (RWMWD), Tom Wesolowski (City of Shoreview), Mark Maloney (City of Shoreview)

### 1 Introduction

This memorandum summarizes the 95%-level designs of an underground stormwater filter located along Arbogast Street in the Lake Emily subwatershed (northwest of the lake itself). This BMP was identified in the 2016 Lake Emily feasibility study as a regional treatment location. A 30% design was completed for the BMP in November 2022 and was presented to the RWMWD Board of Managers. The goal of the BMP is to improve the water quality in Lake Emily located in the City of Shoreview (City) by filtering stormwater runoff and outflows from Lake Judy. The location of the project is shown in Figure 1, showing that the filter will be located under City property (i.e. trail right-of-way). Barr updated the 30% design to 95% design including modeling, engineer's opinion of probable cost, technical specifications, and other bidding documents. The final BMP design, modeling results, and cost estimate are discussed in the following sections. RWMWD staff and City staff have been involved with the design progression from 30% to 95%, providing feedback and comments.

### 2 BMP Design

In 2022, Barr began development of final designs for an underground filtration system under City right-of-way beneath a paved biking/walking path perpendicular to Arbogast Street. The goal of the underground filtration system is to divert low flows from the storm sewer along Arbogast Street (which conveys outflow from Lake Judy, as well as stormwater runoff from the residential drainage area to the northwest) to a subsurface treatment system



LOCATION MAP 📍

**Figure 1: Arbogast Underground Stormwater Filter Project Locations**

before discharging back to the storm sewer and ultimately into Lake Emily. The updated 95% design of the filter infrastructure is similar to what was proposed at 30% design.

## **2.1 Filtration Media Selection**

In the 30% design, Barr proposed to use iron-enhanced sand as a filtration media in the system. However, after discussions with Barr staff and review of new monitoring results of other filtration media systems, CC17 (crushed limestone) was chosen instead.

Barr evaluated two types of filtration media for the Arbogast filter: iron-enhanced sand and CC17. The media is contained in the underground vault, with a media surface area of approximately 925 square feet and a media depth of 2 feet. Underlying the media there would be a 6-inch drain tile network. Below is a discussion of the two media types, and why ultimately CC17 was chosen.

### *Iron-Enhanced Sand*

Iron-enhanced sand (IES) is a filtration technology that has been developed to remove phosphorus from stormwater. The technology involves mixing iron filings with sand to create a reactive media that enhances the ability of the sand to remove phosphorus. When stormwater containing phosphorus passes through the IES, the iron particles in the sand react with the dissolved phosphorus, forming iron phosphate. The sand filter also traps particulate forms of phosphorus. Research shows that IES is one of the most effective filtration medias at removing the dissolved form of phosphorus from stormwater runoff, which is important because the dissolved form is taken up by algae and can lead to eutrophication in downstream waterbodies.

The challenge with using IES is that the inflow and filter itself needs to remain oxygenated and dry out between storm events for the iron to remain effective. To maintain this regime, the optimal design for an iron-enhanced sand filter is to only treat high flows, rather than more frequent low flows or continuous baseflow. The presence of oxygen is necessary for the reaction between the iron particles and phosphorus to occur, as it is an aerobic process. The amount of dissolved oxygen in the stormwater can be influenced by several factors, including temperature, flow rate, and the level of organic matter in the water. If the dissolved oxygen levels are too low, the reaction between the iron and phosphorus will not occur effectively, leading to lower removal rates. Additionally, an anoxic filter bed can lead to the desorption of phosphate to the iron, and leach into the effluent stormwater. Barr used a spreadsheet model to determine the change in dissolved oxygen in the IESF to ensure that the design would not cause frequent anoxia in the system for frequent rain events (i.e. less than 1-inch of precipitation). The model was developed by Barr to evaluate dissolved oxygen levels and aeration rates in sand filters under a range of filter configurations using the hydraulic capacity of the system, the water balance of the system, and biological consumption of oxygen. The model determined that the proposed filter would not go anoxic based on the given sizing and inflow volume for small events. However, during large storm events with longer durations, the outflow from Lake Judy is prolonged and inundates the filter for multiple days (up to 7 days for the 2-year event). Because of this flow regime, the final design would need to be configured to

treat only high flows and not the continuous flow from Lake Judy's outlet. Barr designed the diversion weir to include stop logs to allow for this flexibility. Stop logs provide the operator the ability to change the diverted flows from low flows to high flows. However, when treating only high flows, the treatment efficiency of the filter is reduced.

## CC17

CC17 is a type of filter media that has been developed specifically for the treatment of stormwater, with the aim of removing phosphorus and other pollutants. This filter media is made up of limestone aggregate. When stormwater containing phosphorus enters the filter media, the phosphorus molecules are attracted to the CC17 through a bond that is not dependent on the oxygenated state of the media (unlike IES). However, CC17 has a lower removal efficiency for the dissolved fraction of phosphorus as compared to IES. CC17 has a high hydraulic conductivity rate (2264 inches per hour) and can therefore filter much higher volumes of stormwater. Because the hydraulic conductivity rate is so high, a control must be designed (i.e. appropriately sized drain tile) to increase the contact time between stormwater and CC17 to ensure the phosphorus adsorption occurs.

Because Lake Judy has prolonged discharge after large rain events and because CC17 can be continuously inundated with flow, the Barr team decided to use CC17 as the filter media for the Arbogast filter. Because the media has a higher hydraulic capacity, the diversion structure can be designed to divert larger stormwater volumes to the filter. Though CC17 has a lower phosphorus removal rate than IES, the total phosphorus removed on an annual basis is similar between the two medias because of the higher volume of water that is being treated. Because Barr designed the diversion weir to utilize stop logs, the configuration may be altered in the future to allow for use of a different treatment media (e.g. IES).

## 2.2 Storm Sewer Design

Stormwater is diverted from the existing 42-inch RCP trunk storm sewer along Arbogast Street with a weir within a 72-inch manhole structure that diverts low/continuous flows into the filter. The diversion weir is proposed to include stop logs, which allow for flexibility to change the diverted flows from low/continuous flows to high flows. The proposed final design will divert low/continuous flows to the filter. The diverted flows are conveyed in an 18-inch storm pipe below Arbogast Street to an underground concrete vault below the trail in the Emmert Street Right-of-Way. Flow enters the filter and is spread and aerated via a concrete block structure. Flow then spreads onto a trough and enters the filter media over a longitudinal weir the length of the filter. The flow is passed through the CC17 media and is collected in 6-inch drain tile and conveyed to a small chamber where the outlet is located. The drain tile pipes are fitted valves to increase, decrease, or shut off flow through a specific drain tile. A schematic of the internal components of the filter are shown on sheet C-06 of the attached plans. The effluent from the filter is conveyed through an 18-inch storm pipe approximately 400 feet below the sidewalk that runs parallel to Arbogast Street and then cross the street to connect back to the Arbogast storm sewer. The underground structure also features a sediment forebay with a passive aeration structure to ensure settling of solids and oxygenation of the inflows.

### 3 Modeling Results

Barr modeled the proposed BMP in both XPSWMM (hydrology and hydraulics) and P8 (water quality) to determine the efficacy of the BMP.

The final design BMP treats approximately 90% of annual flows through the Arbogast storm sewer. Modeling results estimate that approximately 6.4 pounds of total phosphorus would be removed from the influent stormwater annually.

### 4 Engineer's Opinion of Probable Cost

The 95% design plan sheets for the underground filter are attached to this memo. A summary of the 95% engineer's opinion of probable cost and the water quality treatment estimate for the underground filter is included in the table below.

**Table 1 Summary of 95% Opinion of Probable Costs and Water Quality Treatment Estimate for the Arbogast Underground Stormwater Filter**

Engineer's Opinion of Probable Project Construction Cost	Engineer's Opinion of Probable Cost Range (-5% to +10%)	BMP Average Annual TP Removal (lbs/year)	Annualized Cost per Pound of TP Removal
\$723,000	\$687,000 - \$795,000	6.4	\$6,600-\$8,900

The current engineer's opinion of probable cost for the project ranges from -5% to +10%. These opinions include a 25% contingency and reflect a 95% design level of accuracy. This contingency reflects uncertainty in the design elements and current bid prices. The annualized cost per pound of TP removed by the project reflects annualized total capital cost, including estimated annual maintenance with the range reflecting a 20-35-year lifespan on the project.

### 5 RWMWD Prioritization Tool

The Arbogast project was updated in the prioritization tool based on the 95% designs outlined in this memo. The Arbogast filter project scores fourth in the list of actionable projects that have not been previously evaluated (i.e. property owners contacted for implementation), behind three large-scale stormwater reuse projects. The Arbogast filter is the highest scoring stormwater retrofit project. The term "actionable" pertains to the fact that although there are projects that may currently rank higher in the RWMWD water quality project prioritization tool, there are several that are on hold for a variety of reasons, such as unwilling property owners, or projects still under consideration for a variety of reasons.

The Arbogast filter has a primary project benefit of "Water Quality". The table below summarizes the project's scores per each goal in the RWMWD's Watershed Management Plan. A description of the credits that each project received in the tool under each of RWMWD's Plan Goal categories is included below, as well.

**Table 2 Summary of RWMWD Prioritization Tool Scores for Vivian Ave Filter and Arbogast Underground Stormwater Filter**

Plan Goal Category	Arbogast Filter Scores per Plan Goal Category	Tool Credits Descriptions
1. Achieve Quality Surface Water	3.0	Annual cost-benefit of Arbogast TP removal = \$6,600/lb TP/yr (<\$10,300/lb TP/year) Arbogast TP removal = 6.4 lbs/yr
2. Achieve healthy ecosystems	0.0	N/A
3. Manage risk of flooding	0.0	N/A
4. Support sustainable groundwater	0.0	N/A
5. Inform and empower communities	3.0	Project fosters collaboration with cities, watershed management organizations, education institutions, or other stakeholders to develop and implement shared communication and messaging strategies
6. Manage organization effectively	2.0	City of Shoreview will provide long-term operations and maintenance  Willing project partners (City) are collaborating on the design process

## 6 Recommendations and Attachments

Barr recommends bidding the project to select a contractor for construction. The annualized cost-benefit estimate of \$6,600-\$8,900/lb TP is within the typical range (\$400 to \$14,000 per pound of TP) of cost per pound of TP removal for regional RWMWD water quality projects. Furthermore, the location of the proposed filtration BMP is desirable because stormwater enters Lake Emily (a lake at risk of phosphorus impairment) less than 1,000 feet downstream.

### Schedule

Pending Board approval to bid the Arbogast filter design, Barr will conduct the project bidding process in late April to early May 2023. After bidding, if a responsible low bidder is identified, the project could begin construction as early as June 2023.

### Specifications Outline (Table of Contents)

In addition to the drawings attached, bid documents are being completed that include the following specifications:

#### Front-End Specifications

- Advertisement for Bids
- Instructions to Bidders

**To:** RWMWD Board of Managers  
**From:** Tyler Olsen, Gabby Campagnola, Leslie DellAngelo, and Erin Anderson Wenz  
**Subject:** 95% Design Summary for the Arbogast Underground Stormwater Filter  
**Date:** March 29, 2023  
**Page:** 6

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- Bid Form
- Responsible Bidder Affidavit/Oath
- Prevailing Wages
- Equal Employment Opportunity Special Provisions
- Notice of Award
- Form of Agreement
- Notice to Proceed
- General Conditions
- Supplementary Conditions

General Requirements:

- Summary of Work
- Measurement and Payment
- Payment Procedures
- Project Coordination
- Submittal Procedures
- Safety
- Construction Facilities and Temporary Controls
- Traffic Control
- Mobilization
- Closeout Procedures

Technical Specifications:

- Concrete Forming and Accessories
- Concrete Reinforcing
- Cast-In-Place Concrete
- Precast Concrete
- Metal Fabrications
- Earthwork
- Site Clearing, Preparation, and Demolition
- Dewatering and Control of Water
- Erosion and Sedimentation Control
- Walks, Curbs, and Bituminous
- Painted Pavement and Markings
- Site Restoration
- Stormwater Utilities

**Attachments**

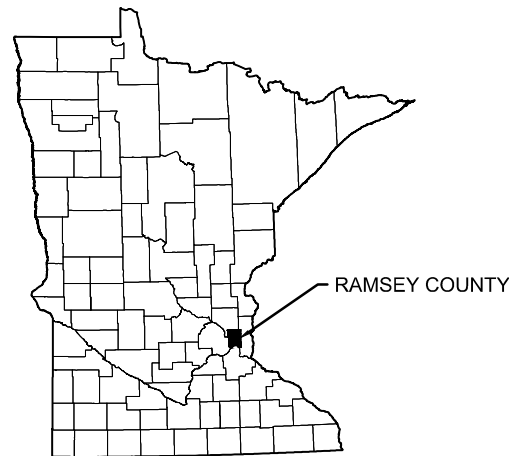
95% Draft Plans for the Arbogast Underground Stormwater Filter

## **Attachment: 95% Design Plans**



# RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

## ARBOGAST UNDERGROUND STORMWATER FILTER SHOREVIEW, MINNESOTA



### MINNESOTA COUNTY MAP

#### PROJECT CONTACTS:

NAME: LESLIE DELLANGELO, PROJECT ENGINEER  
BARR ENGINEERING CO.  
PHONE: 906-361-5329  
EMAIL: LAD@BARR.COM

NAME: ERIN ANDERSON WENZ, DISTRICT ENGINEER  
BARR ENGINEERING CO.  
PHONE: 952-832-2805  
EMAIL: ELA@BARR.COM

COORDINATE SYSTEM: MINNESOTA DOT RAMSEY COUNTY, FOOT  
HORIZONTAL DATUM: NAD83 (2011)  
VERTICAL DATUM: NAVD88



GOPHER STATE ONE CALL:  
CALL BEFORE YOU DIG.  
1-800-252-1166

CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD-LOCATING ALL SITE UTILITIES, PRIVATE AND PUBLIC, PRIOR TO STARTING THE WORK. ALL UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE. ANY UTILITIES DAMAGED BY CONTRACTOR SHALL BE REPAIRED BY CONTRACTOR TO THE SATISFACTION OF THE UTILITY OWNER.



### LOCATION MAP

### SHEET INDEX

G-GENERAL  
C-CIVIL

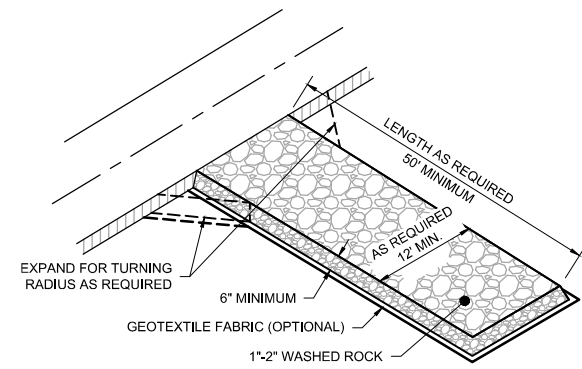
SHEET NO.	TITLE
G-01	SHEET INDEX AND LOCATION MAP
C-01	EXISTING CONDITIONS, REMOVALS AND EROSION/SEDIMENT CONTROL PLAN
C-02	EROSION/SEDIMENT CONTROL STANDARD DETAILS
C-03	STORM SEWER PLAN
C-04	STORM SEWER PROFILES
C-05	STORM SEWER STANDARD DETAILS
C-06	FILTER TREATMENT PLAN
C-07	FILTER TREATMENT SECTIONS, AND DETAILS
C-08	GRADING, PAVING, AND RESTORATION PLAN, SECTIONS, AND DETAILS
C-09	CITY OF SHOREVIEW STANDARD PLATES
S-01	VAULT STRUCTURE PLAN VIEWS
S-02	VAULT STRUCTURE SECTION VIEWS
S-03	VAULT STRUCTURE DETAILS

FOR REVIEW  
(NOT FOR CONSTRUCTION)

		I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		CLIENT PERMIT BID CONSTRUCTION RECORD		1/21/2023 03/17/2023		Project Office: BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE SUITE 200 MINNEAPOLIS, MN 55435 Corporate Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277 Ph: 1-800-632-2277		Scale AS SHOWN Date 03/17/2023 Drawn GGN Checked LAD Designed GGN Approved		ARBOGAST UNDERGROUND STORMWATER FILTER SHEET INDEX AND LOCATION MAP		BARR PROJECT No. 23/62-1446.00 CLIENT PROJECT No. DWG. No. G-01 REV. No. B	
NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION	RELEASED TO/FOR	A	B	C	0	1	2	3		

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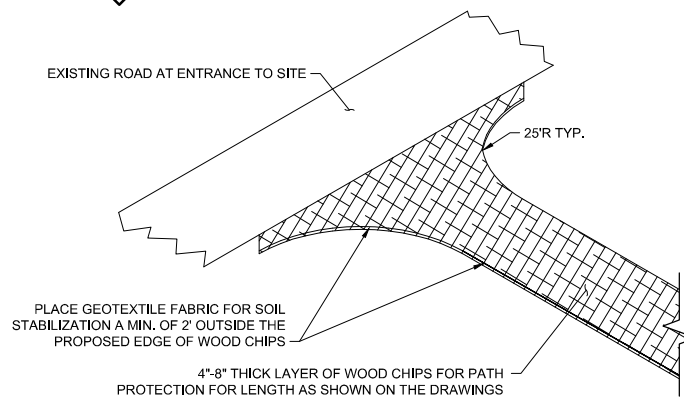




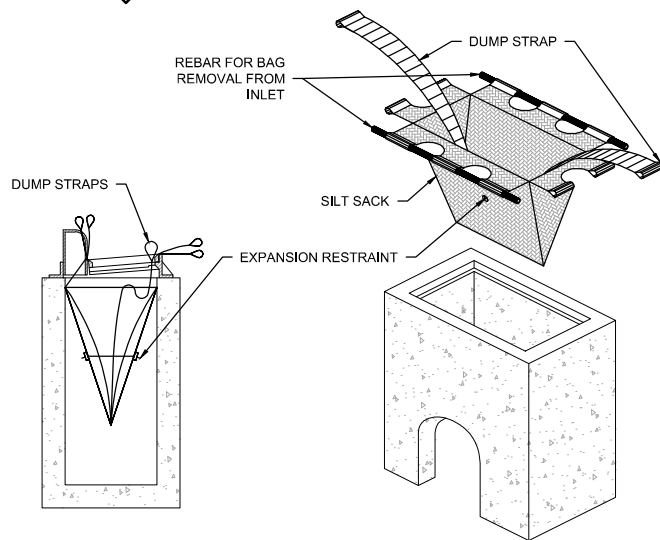
**NOTES:**

1. MAINTAIN CONSTRUCTION EXIT THROUGHOUT THE CONSTRUCTION PERIOD AND REPAIR OR REPLACE AS REQUIRED TO PREVENT TRACKING OFFSITE.
2. REMOVE CONSTRUCTION EXIT IN CONJUNCTION WITH FINAL GRADING AND SITE STABILIZATION.

**1** **DETAIL: ROCK CONSTRUCTION EXIT**  
NOT TO SCALE



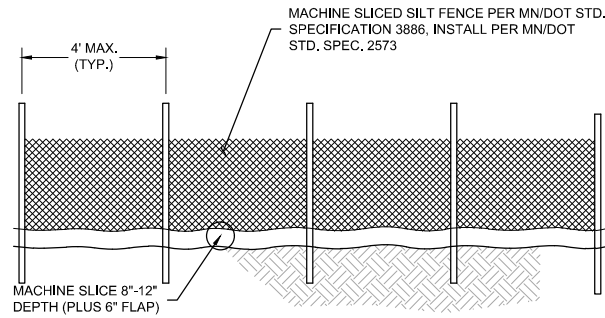
**2** **DETAIL: WOOD CHIP CONSTRUCTION EXIT**  
NOT TO SCALE



**NOTES:**

1. INSTALL INLET PROTECTION PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED OR IMMEDIATELY FOLLOWING ANY CATCHBASIN INSTALLATION AND MAINTAIN THROUGHOUT THE CONSTRUCTION PERIOD.
2. MATERIALS SHALL BE SUFFICIENT TO ALLOW FLOW WHILE BLOCKING SEDIMENT. NO HOLES OR GAPS SHALL BE PRESENT IN/AROUND FILTER SACK.
3. CLEAN FILTER SACK AND REMOVE ACCUMULATED SEDIMENT AS REQUIRED TO ALLOW FLOW INTO THE CATCHBASIN AND PREVENT SEDIMENT FROM LEAVING THE DEVICE.
4. REMOVE DEVICE AND ANY ACCUMULATED SEDIMENT IN CONJUNCTION WITH THE FINAL GRADING AND SITE STABILIZATION.

**3** **DETAIL: INLET PROTECTION, FILTER SACK TYPE**  
NOT TO SCALE

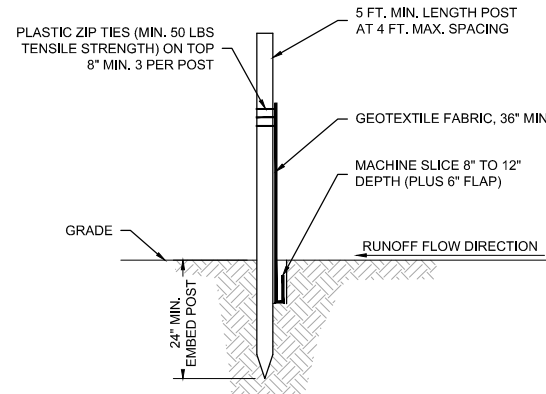


**DOWNSTREAM VIEW**

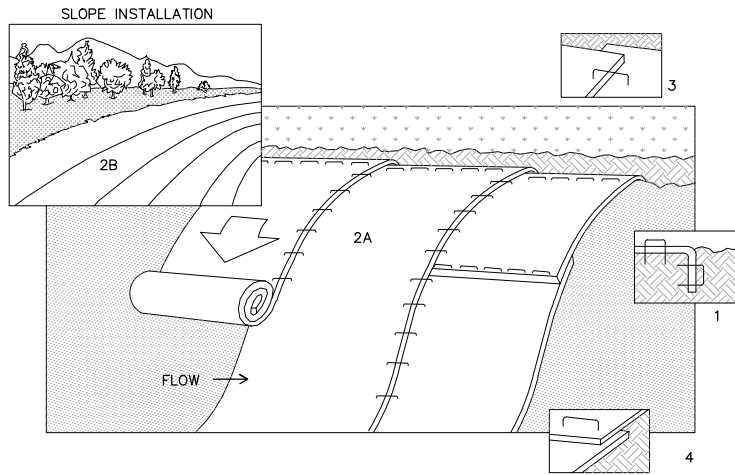
**NOTES:**

1. INSTALL SILT FENCE PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED AND MAINTAIN THROUGHOUT THE CONSTRUCTION PERIOD. REMOVE SILT FENCE AND ANY ACCUMULATED SEDIMENT IN CONJUNCTION WITH THE FINAL GRADING AND SITE STABILIZATION.
2. SILT FENCE MATERIALS AND INSTALLATION SHALL MEET THE REQUIREMENTS OF MN/DOT SPECIFICATIONS 2573 AND 3886.
3. NO HOLES OR GAPS SHALL BE PRESENT IN/UNDER SILT FENCE. PREPARE AREA AS NEEDED TO SMOOTH SURFACE OR REMOVE DEBRIS.
4. REMOVE ACCUMULATED SEDIMENT WHEN BUILD UP REACHES 1/3 OF FENCE HEIGHT. OR INSTALL A SECOND SILT FENCE DOWNSTREAM OF THE ORIGINAL FENCE AT A SUITABLE DISTANCE.
5. WHEN SPLICES ARE NECESSARY MAKE SPLICE AT POST ACCORDING TO SPLICE DETAIL. PLACE THE END POST OF THE SECOND FENCE INSIDE THE END POST OF THE FIRST FENCE. ROTATE BOTH POSTS TOGETHER AT LEAST 180 DEGREES TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL. CUT THE FABRIC NEAR THE BOTTOM OF THE POSTS TO ACCOMMODATE THE 6 INCH FLAP, THEN DRIVE BOTH POSTS AND BURY THE FLAP AND COMPACT BACKFILL.

**4** **DETAIL: SILT FENCE - MACHINE SLICED**  
NOT TO SCALE



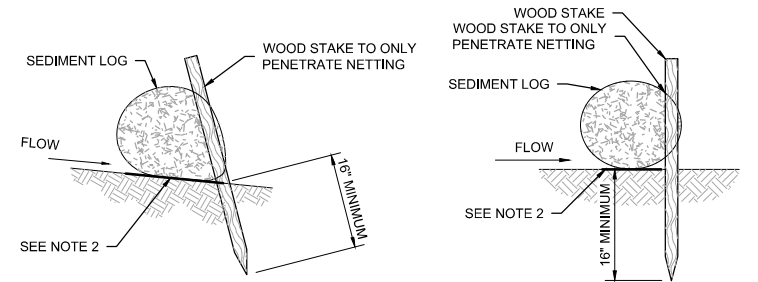
**SECTION VIEW**



NOTE: REFER TO GENERAL STAPLE PATTERN GUIDE FOR CORRECT STAPLE PATTERN RECOMMENDATIONS FOR SLOPE INSTALLATIONS.

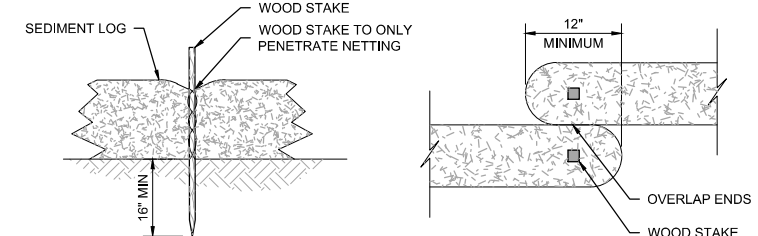
1. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
2. ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE.
3. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 6" OVERLAP, WITH THE UPHILL BLANKET ON TOP.
4. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 6" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.

**5** **DETAIL: TEMPORARY EROSION CONTROL BLANKET**  
NOT TO SCALE



**SIDE VIEW ON SLOPE**

**SIDE VIEW FLAT**



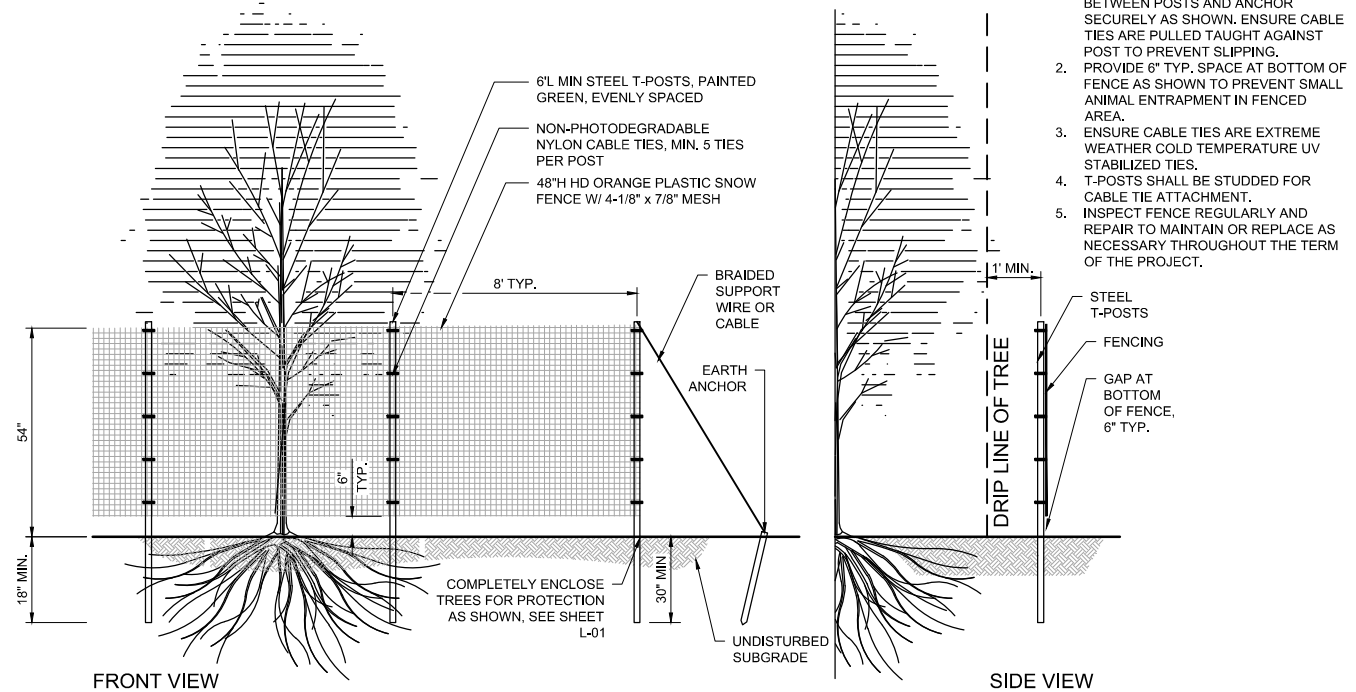
**FRONT VIEW**

**TOP VIEW**

**NOTES:**

1. INSTALL SEDIMENT LOG ALONG CONTOURS (CONSTANT ELEVATION).
2. REMOVE ALL SNOW AND SOIL IRREGULARITIES SO EROSION LOG IS IN FULL CONTACT WITH THE GROUND (NO GAPS SHALL BE PRESENT UNDER SEDIMENT LOG).
3. REMOVE ACCUMULATED SEDIMENT WHEN REACHING 1/3 OF LOG HEIGHT.
4. MAINTAIN SEDIMENT LOG THROUGHOUT THE CONSTRUCTION PERIOD AND REPAIR OR REPLACED AS REQUIRED.

**6** **DETAIL: SEDIMENT LOG**  
NOT TO SCALE



**FRONT VIEW**

**SIDE VIEW**

**NOTES:**

1. ENSURE FENCE IS PULLED TAUGHT BETWEEN POSTS AND ANCHOR SECURELY AS SHOWN. ENSURE CABLE TIES ARE PULLED TAUGHT AGAINST POST TO PREVENT SLIPPING.
2. PROVIDE 6" TYP. SPACE AT BOTTOM OF FENCE AS SHOWN TO PREVENT SMALL ANIMAL ENTRAPMENT IN FENCED AREA.
3. ENSURE CABLE TIES ARE EXTREME WEATHER COLD TEMPERATURE UV STABILIZED TIES.
4. T-POSTS SHALL BE STUDDED FOR CABLE TIE ATTACHMENT.
5. INSPECT FENCE REGULARLY AND REPAIR TO MAINTAIN OR REPLACE AS NECESSARY THROUGHOUT THE TERM OF THE PROJECT.

**7** **DETAIL: TREE PROTECTION FENCE**  
NOT TO SCALE

FOR REVIEW  
(NOT FOR CONSTRUCTION)

CADD USER: GREG NELSON FILE: M:\DESIGN\2362144600\_C02-EG STD DETAILS.DWG PLOT SCALE: 1:2 PLOT DATE: 3/24/2023 8:39 AM

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINTED NAME: \_\_\_\_\_  
SIGNATURE: \_\_\_\_\_  
DATE: \_\_\_\_\_ LICENSE #: \_\_\_\_\_

CLIENT	1/21/20	03/24/23							
PERMIT									
BID									
CONSTRUCTION									
RECORD									
RELEASED TO/FOR	A	B	C	0	1	2	3		
DATE RELEASED									

Project Office:  
BARR ENGINEERING CO.  
4300 MARKETPOINTE DRIVE  
SUITE 200  
MINNEAPOLIS, MN 55435

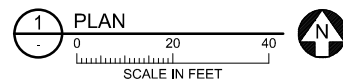
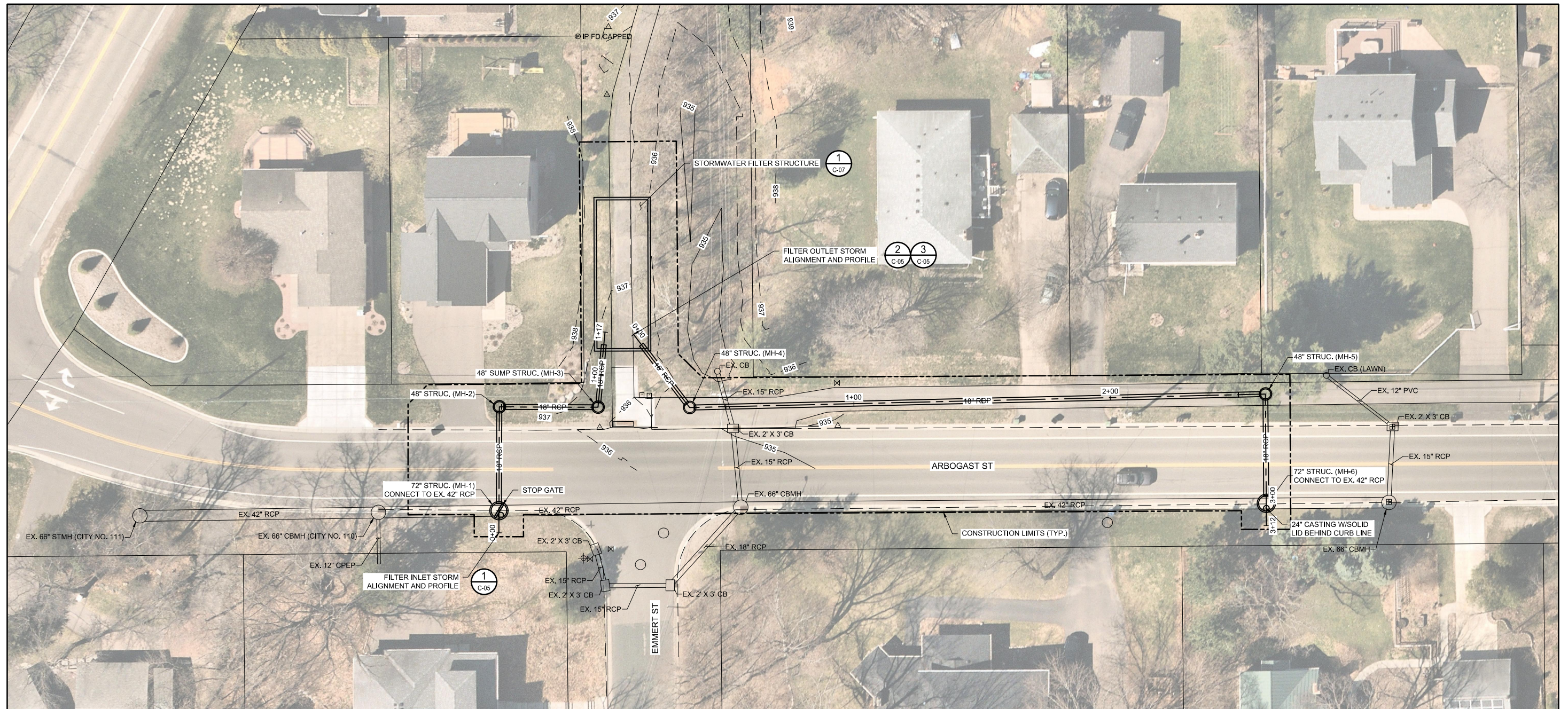
Corporate Headquarters:  
Minneapolis, Minnesota  
Ph: 1-800-632-2277  
Fax: (952) 832-2601  
www.barr.com

Scale	AS SHOWN
Date	03/17/2023
Drawn	GGN
Checked	LAD
Designed	GGN
Approved	

ARBOGAST UNDERGROUND  
STORMWATER FILTER  
EROSION/SEDIMENT CONTROL  
STANDARD DETAILS

BARR PROJECT No.	23/62-1446.00
CLIENT PROJECT No.	
DWG. No.	C-02
REV. No.	B

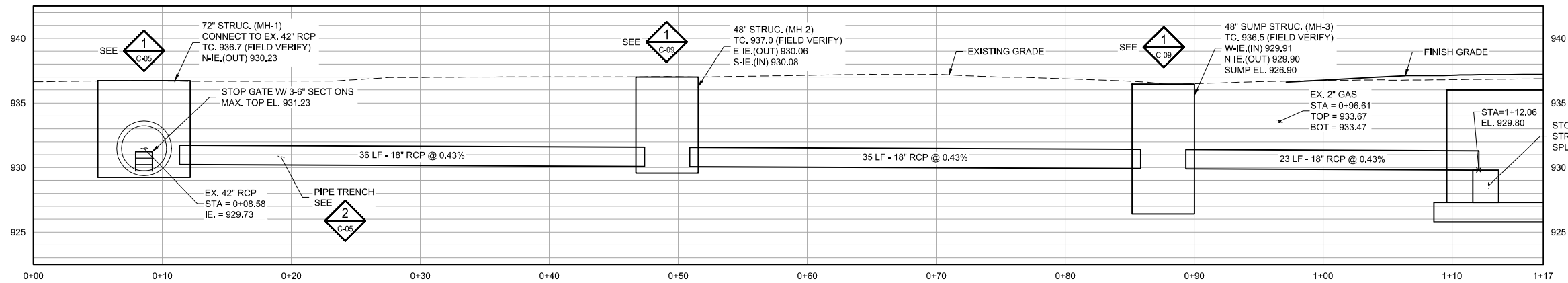
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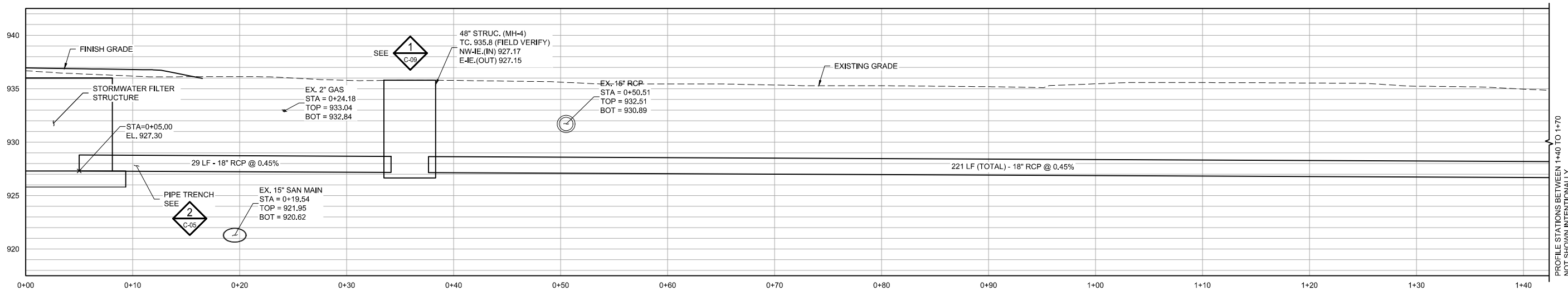
LEGEND  
 - - - - - CONSTRUCTION LIMITS

FOR REVIEW  
 (NOT FOR CONSTRUCTION)

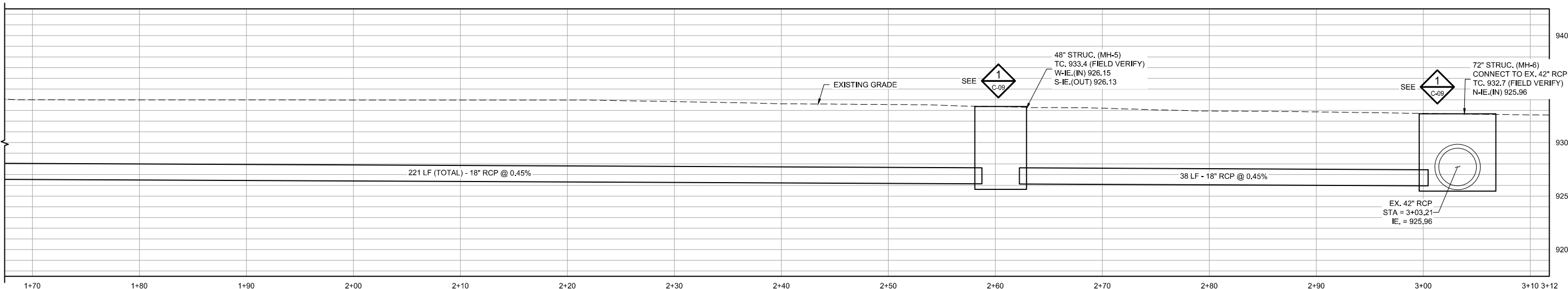
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINTED NAME: _____ SIGNATURE: _____ DATE: _____ LICENSE #: _____				CLIENT: 11/21/20 03/24/23 PERMIT: _____ BID: _____ CONSTRUCTION RECORD: _____ RELEASED TO/FOR: _____ DATE RELEASED: _____				Project Office: <b>BARR ENGINEERING CO.</b> 4300 MARKETPOINTE DRIVE SUITE 200 MINNEAPOLIS, MN 55435 Corporate Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277 Fax: (952) 832-2801 www.barr.com		Scale: AS SHOWN Date: 03/17/2023 Drawn: GGN Checked: LAD Designed: GGN Approved: _____				ARBOGAST UNDERGROUND STORMWATER FILTER  STORM SEWER PLAN		BARR PROJECT No. 23/62-1446.00	
				NO. BY CHK. APP. DATE REVISION DESCRIPTION													
DWG. No. C-03		REV. No. B															



1 FILTER INLET STORM PROFILE  
SCALE IN FEET



2 FILTER OUTLET STORM PROFILE  
SCALE IN FEET



3 FILTER OUTLET STORM PROFILE  
SCALE IN FEET

FOR REVIEW  
(NOT FOR CONSTRUCTION)

CADD USER: GREG NELSON FILE: M:\DESIGN\23621446\_03\STORM PROFILES.DWG PLOT SCALE: 1/2" = 10' PLOT DATE: 3/24/2023 8:37 AM

NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION

CLIENT	1/21/20	03/24/23							
PERMIT									
BID									
CONSTRUCTION									
RECORD									
RELEASED TO/FOR	A	B	C	0	1	2	3		
DATE RELEASED									

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4300 MARKETPOINTE DRIVE  
SUITE 200  
MINNEAPOLIS, MN 55435  
Corporate Headquarters:  
Minneapolis, Minnesota  
Ph: 1-800-632-2277  
Ph: 1-800-632-2277

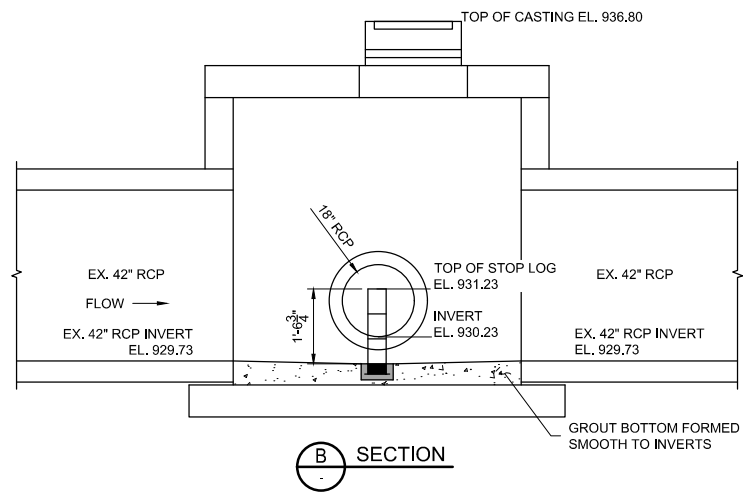
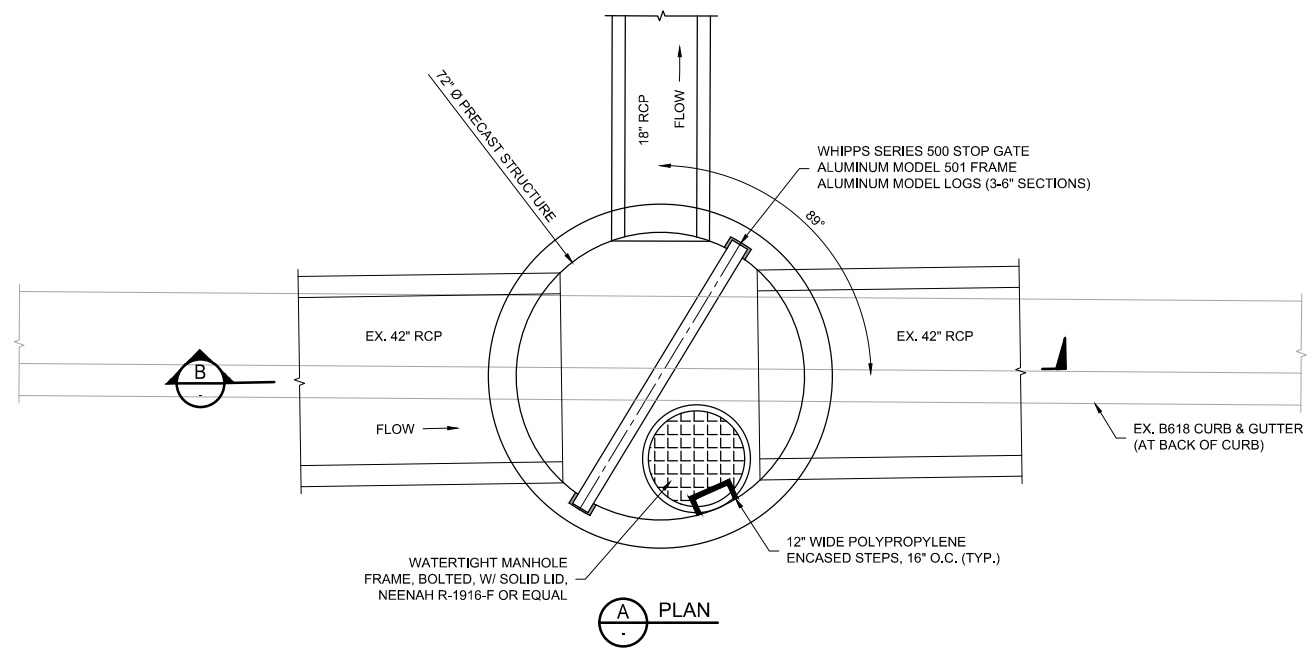
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Date	03/17/2023
Drawn	GGN
Checked	LAD
Designed	GGN
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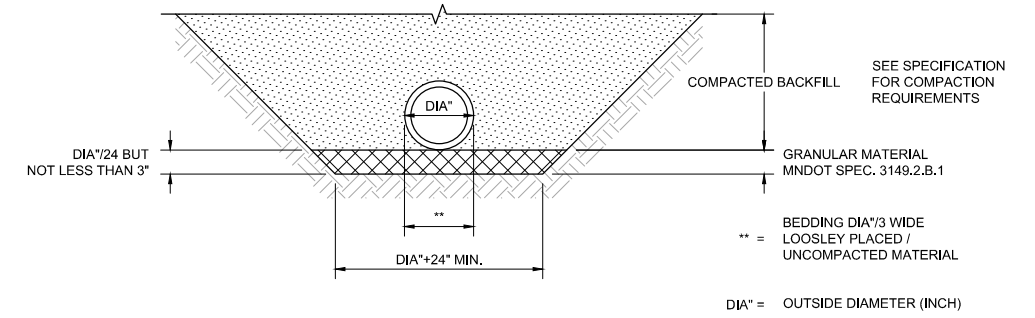
ARBOGAST UNDERGROUND  
STORMWATER FILTER  
  
STORM SEWER  
PROFILES

BARR PROJECT No.	23/62-1446.00
CLIENT PROJECT No.	
DWG. No.	C-04
REV. No.	B

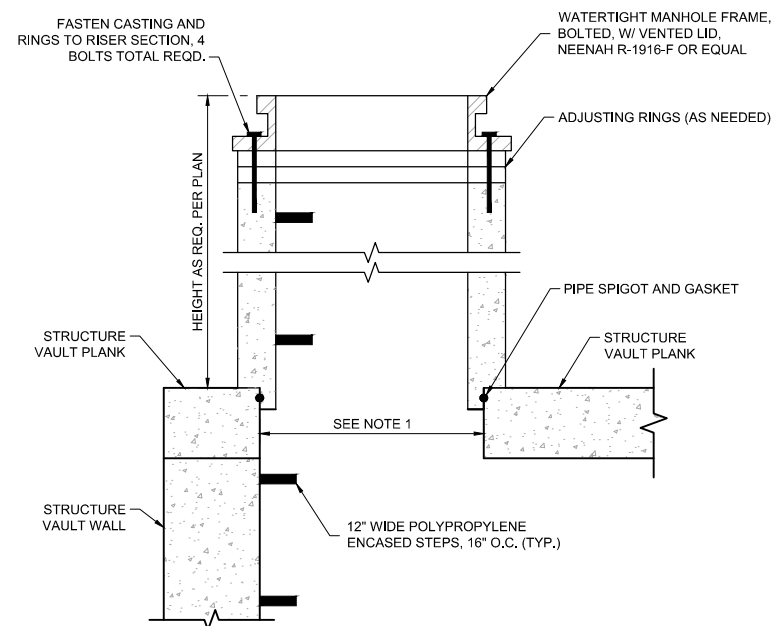
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**1** DETAIL: 72" STRUCTURE (MH-1)  
 0 1 2 3 4  
 SCALE IN FEET



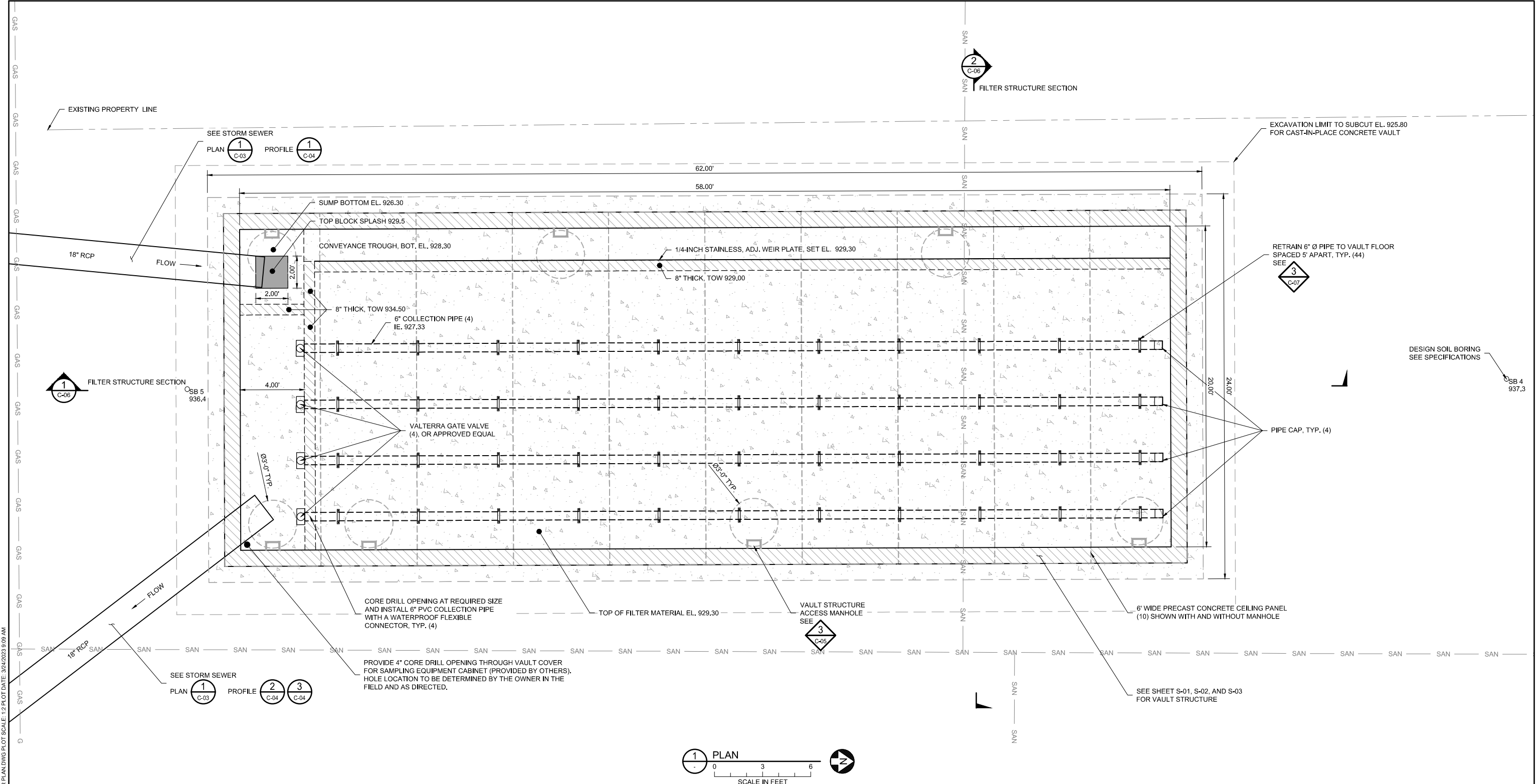
**2** DETAIL: PIPE FOUNDATION & BEDDING  
 INSTALLATION TYPE 2 FOR RCP  
 NOT TO SCALE



**3** DETAIL: STRUCTURE VAULT ACCESS MANHOLE  
 NOT TO SCALE

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 (NOT FOR CONSTRUCTION)

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NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION	RELEASED TO/FOR	A	B	C	0	1	2	3	DATE RELEASED													



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NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION

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PRINTED NAME: \_\_\_\_\_  
 SIGNATURE: \_\_\_\_\_  
 DATE: \_\_\_\_\_ LICENSE #: \_\_\_\_\_

CLIENT PERMIT	1/21/20	03/24/23							
BID									
CONSTRUCTION RECORD									
RELEASED TO/FOR	A	B	C	0	1	2	3		
DATE RELEASED									

**BARR** Project Office:  
 BARR ENGINEERING CO.  
 4300 MARKETPOINTE DRIVE  
 SUITE 200  
 MINNEAPOLIS, MN 55435

Corporate Headquarters:  
 Minneapolis, Minnesota  
 Ph: 1-800-632-2277  
 Ph: 1-800-632-2277

Scale	AS SHOWN
Date	03/17/2023
Drawn	GGN
Checked	LAD
Designed	GGN
Approved	

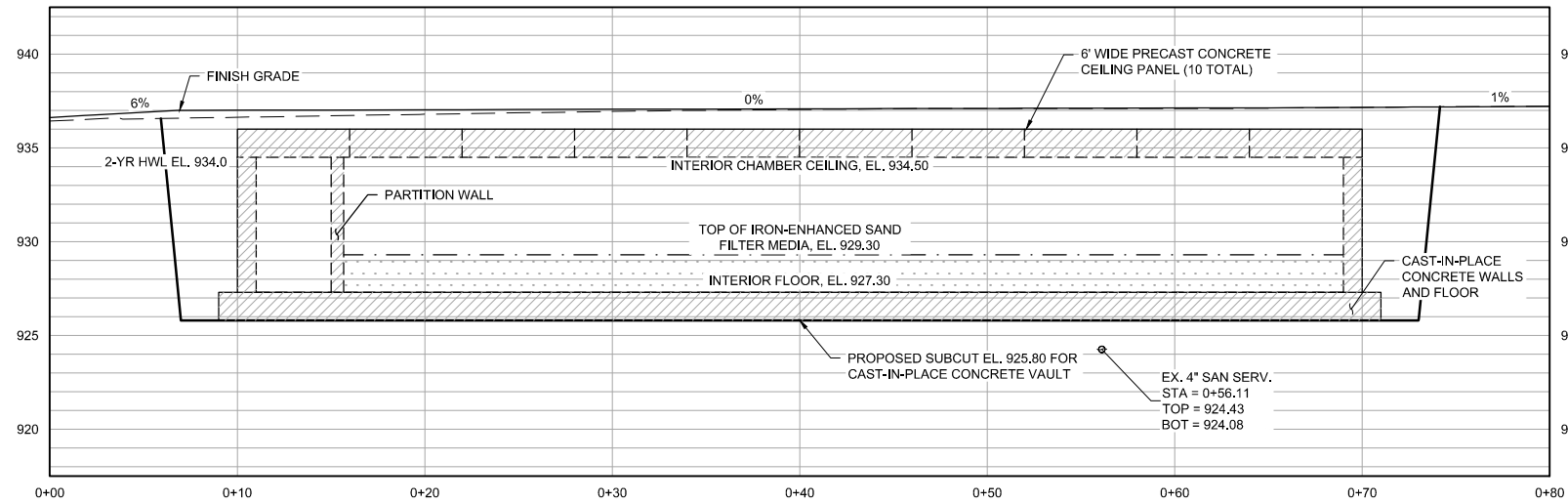


ARBOGAST UNDERGROUND  
 STORMWATER FILTER

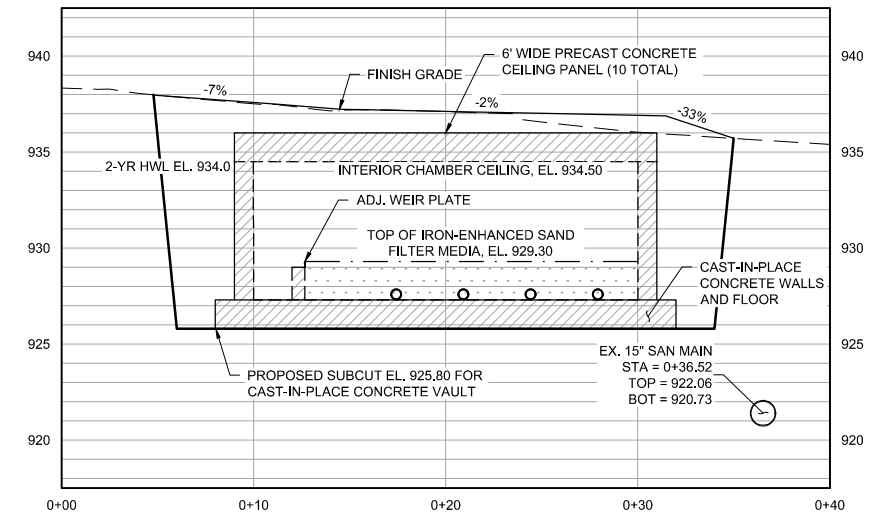
FILTER TREATMENT  
 PLAN

BARR PROJECT No. 23/62-1446.00	
CLIENT PROJECT No.	
DWG. No. C-06	REV. No. B

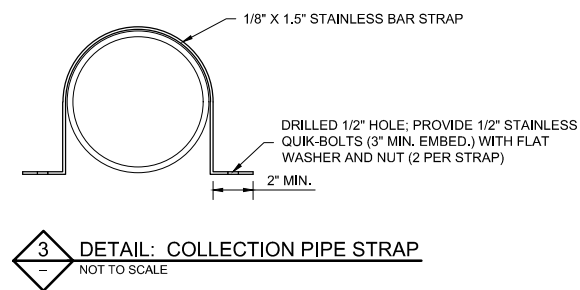
FOR REVIEW  
 (NOT FOR CONSTRUCTION)



1 SECTION: FILTER STRUCTURE  
SCALE IN FEET



2 SECTION: FILTER STRUCTURE  
SCALE IN FEET



3 DETAIL: COLLECTION PIPE STRAP  
NOT TO SCALE

FOR REVIEW  
(NOT FOR CONSTRUCTION)

CADD USER: GREG NELSON FILE: M:\DESIGN\23621446.00\23621446\_007-FILTER PROFILES.DWG PLOT SCALE: 1/2\"/>

NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION

CLIENT	1/21/20	03/24/23							
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RECORD									
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DATE RELEASED									

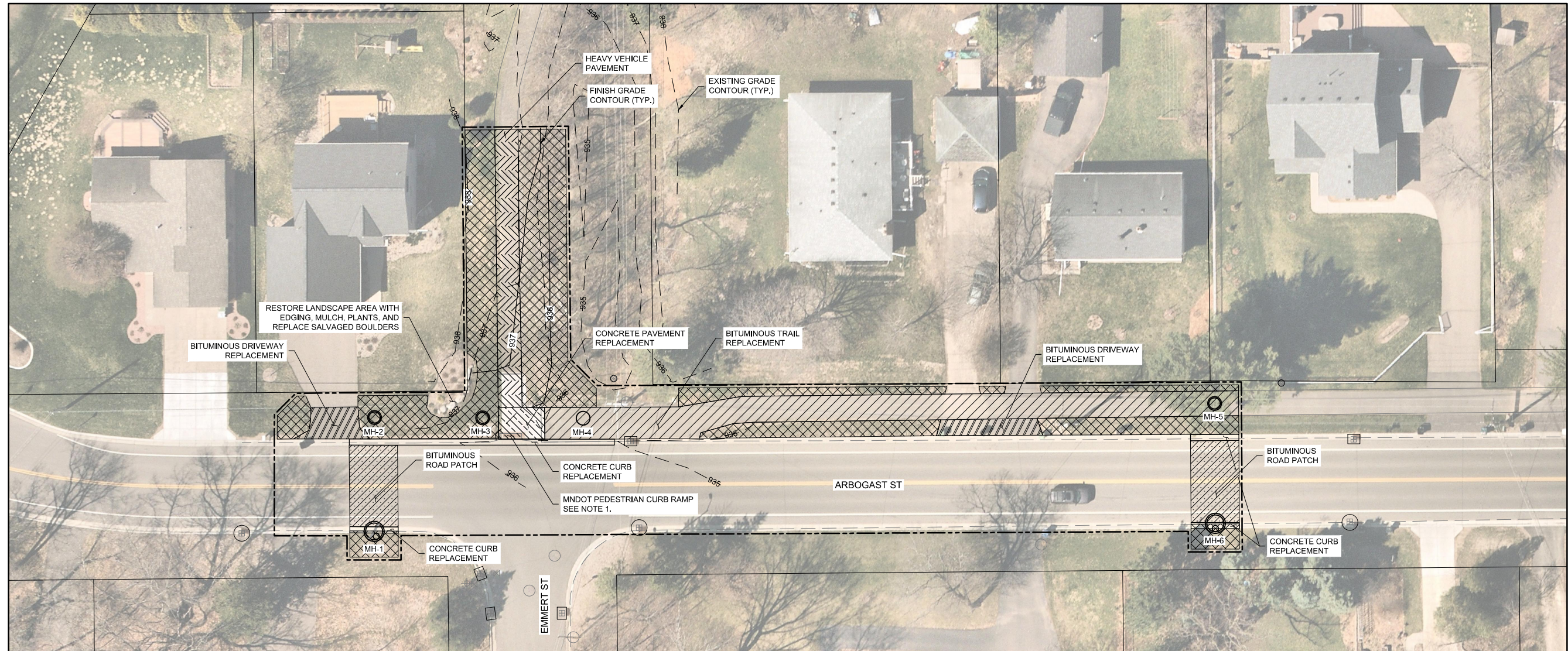
**BARR** Engineering Co.  
4300 MARKETPOINTE DRIVE SUITE 200  
MINNEAPOLIS, MN 55435  
Corporate Headquarters: Minneapolis, Minnesota  
Ph: 1-800-632-2277 Fax: (952) 832-2601 Ph: 1-800-632-2277 www.barr.com

Scale	AS SHOWN
Date	03/17/2023
Drawn	GN
Checked	LAD
Designed	GN
Approved	

**RAMSEY-WASHINGTON**  
METRO WATERSHED DISTRICT

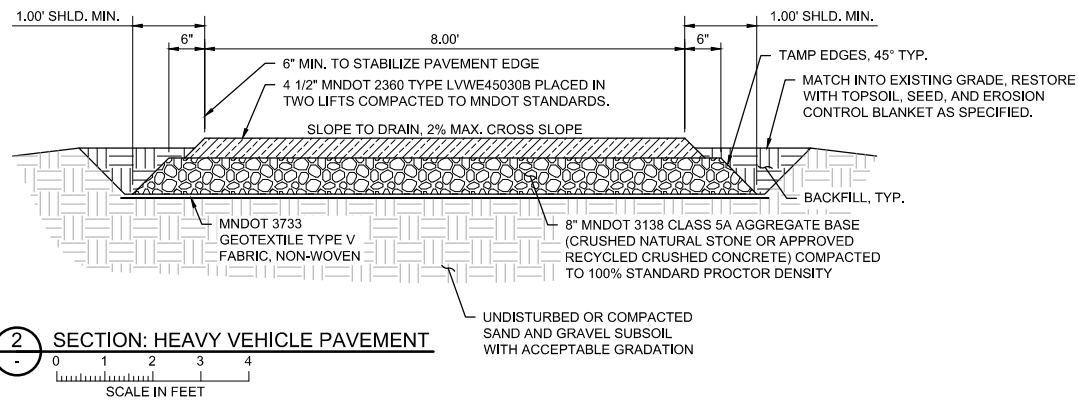
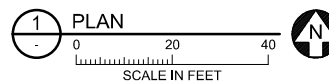
ARBOGAST UNDERGROUND STORMWATER FILTER		BARR PROJECT No. 23/62-1446.00
FILTER TREATMENT SECTIONS, AND DETAILS		CLIENT PROJECT No.
DWG. No. C-07	REV. No. B	



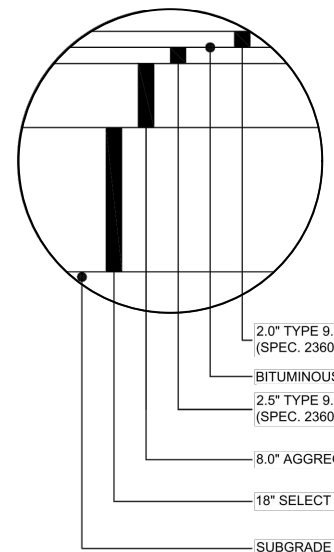


**NOTES:**

1. PEDESTRIAN CURB RAMP TO BE CONSTRUCTED IN COMPLIANCE WITH MNDOT'S STANDARD PLAN 5-297.250, DATED 11-04-2021 (INCL. 6 DETAILS SHEETS).



**2 SECTION: HEAVY VEHICLE PAVEMENT**  
SCALE IN FEET



**3 SECTION: ARBOGAST ST (TYP.)**  
NOT TO SCALE

**LEGEND**

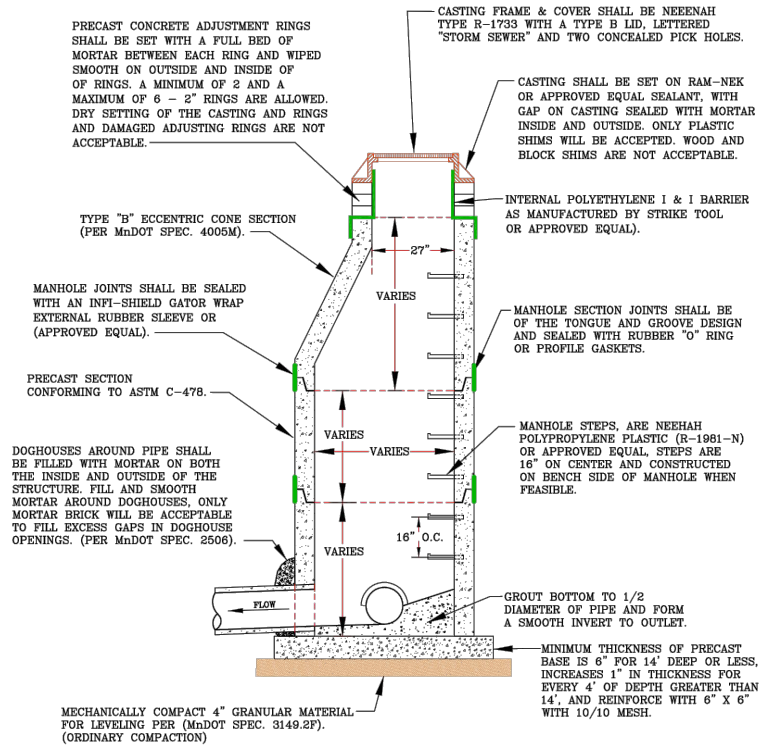
--- --	CONSTRUCTION LIMITS
▭ (hatched)	CONCRETE CURB REPLACEMENT
▭ (cross-hatched)	VEGETATION REPLACEMENT (SEED AND EROSION CONTROL BLANKET)
▭ (diagonal lines)	BITUMINOUS TRAIL REPLACEMENT
▭ (diagonal lines)	BITUMINOUS DRIVEWAY REPLACEMENT
▭ (diagonal lines)	HEAVY VEHICLE PAVEMENT SECTION
▭ (diagonal lines)	BITUMINOUS ROAD REPLACEMENT & MH PATCH
▭ (diagonal lines)	CONCRETE PAVEMENT REPLACEMENT

FOR REVIEW  
(NOT FOR CONSTRUCTION)

CADD USER: GREG NELSON FILE: M:\DESIGN\23621446\_03\2362144600\_C08-GRABE-PAVE.DWG PLOT SCALE: 1/2 PLOT DATE: 3/24/2023 8:37 AM

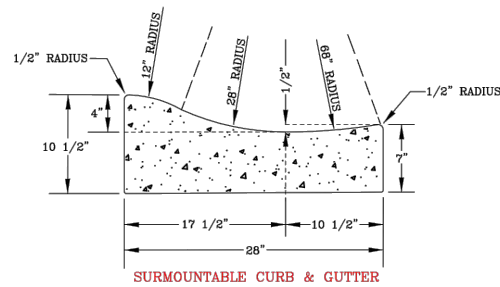
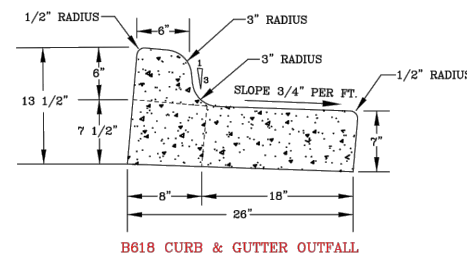
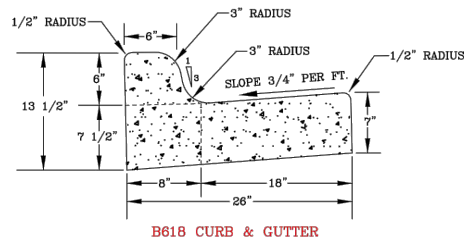
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINTED NAME: _____ SIGNATURE: _____ DATE: _____ LICENSE #: _____		CLIENT: BARR ENGINEERING CO. PERMIT: 1121/20 0324/23 BID: _____ CONSTRUCTION RECORD: _____ RELEASED TO/FOR: A B C 0 1 2 3 DATE RELEASED: _____		Project Office: BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE SUITE 200 MINNEAPOLIS, MN 55435 Corporate Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com		Scale: AS SHOWN Date: 03/17/2023 Drawn: GGN Checked: LAD Designed: GGN Approved: _____		<b>RAMSEY-WASHINGTON</b> METRO WATERSHED DISTRICT		ARBOGAST UNDERGROUND STORMWATER FILTER GRADING, PAVING, AND RESTORATION PLAN, SECTIONS, AND DETAILS		BARR PROJECT No. 23/62-1446.00 CLIENT PROJECT No. _____ DWG. No. C-08 REV. No. B	
NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION								

**STORM SEWER MANHOLE**



1 STM-4: TYPICAL STORM SEWER MANHOLE INSTALLATION

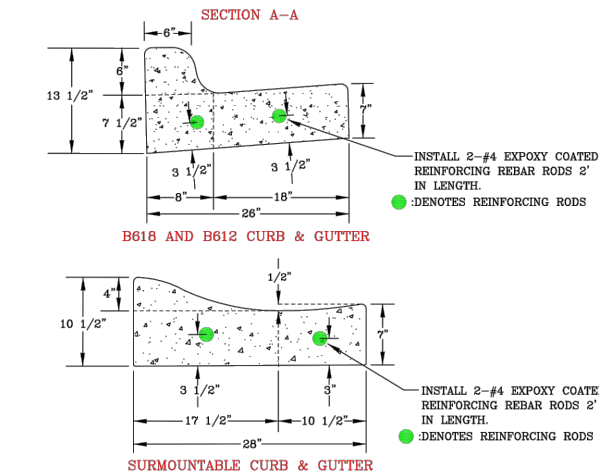
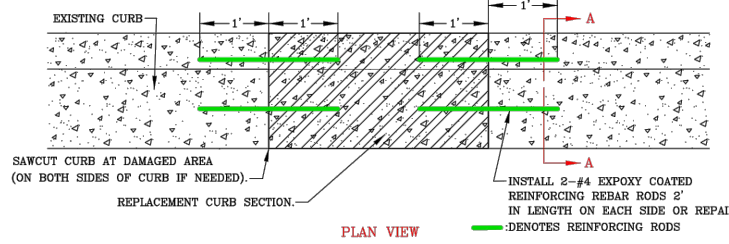
**CONCRETE CURB & GUTTER**



2 STR-1: TYPICAL CONCRETE CURB & GUTTER SECTIONS

**CONCRETE CURB & GUTTER SECTION REPLACEMENT**

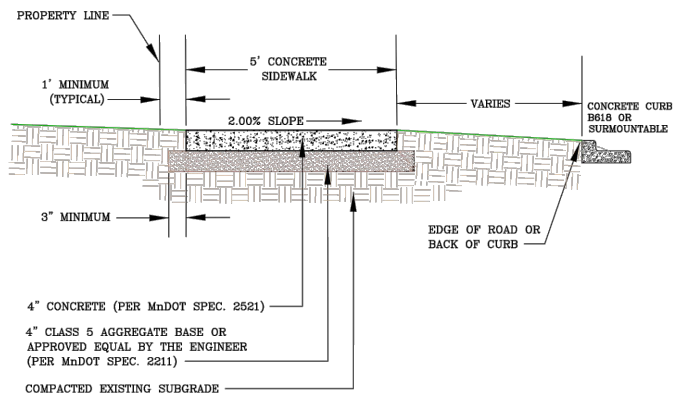
- NOTES: 1. REFER TO MnDOT SPEC. 2531 FOR CONCRETE CURBING INSTALLATION.  
 2. EXISTING CURB SHALL BE SAWCUT THRU ENTIRE DEPTH OF CURB ON BOTH SIDES OF DAMAGED AREA AS DIRECTED BY ENGINEER IN FIELD.  
 3. DRILL EXISTING CURB SECTION AND INSTALL AND EPOXY GROUT 2-#4 EPOXY COATED REINFORCING REBAR RODS AS SHOWN ON DETAIL BELOW.  
 4. COST TO SUPPLY & INSTALL DOWEL BARS SHALL BE INCIDENTAL TO THE CONCRETE CURB & GUTTER BID ITEM.



3 STR-3: TYPICAL CONCRETE CURB & GUTTER REPLACEMENT

**CONCRETE SIDEWALK**

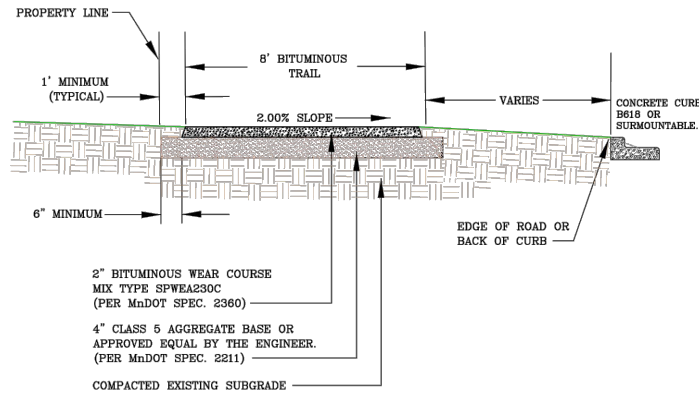
- NOTES: 1. REFER TO MnDOT SPECIFICATIONS FOR ALL INSTALLATION INSTRUCTIONS ON PEDESTRIAN RAMPS.  
 2. MINIMUM 6" THICK SIDEWALK AT ALL RESIDENTIAL DRIVEWAYS AND 8" THICK AT ALL COMMERCIAL DRIVEWAYS.  
 3. PROVIDE EXPANSION JOINT MATERIAL EVERY 100' AND A 6" MAXIMUM SPACING ON TRAWLED JOINTS.  
 4. PROVIDE EXPANSION JOINT MATERIAL ALONG BOTH EDGES OF SIDEWALK, WHERE WALK IS CONTAINED BETWEEN OBJECTS AND DRIVEWAY APRONS.



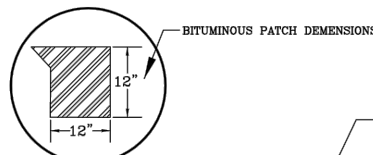
4 STR-5: TYPICAL CONCRETE SIDEWALK INSTALLATION

**BITUMINOUS TRAIL**

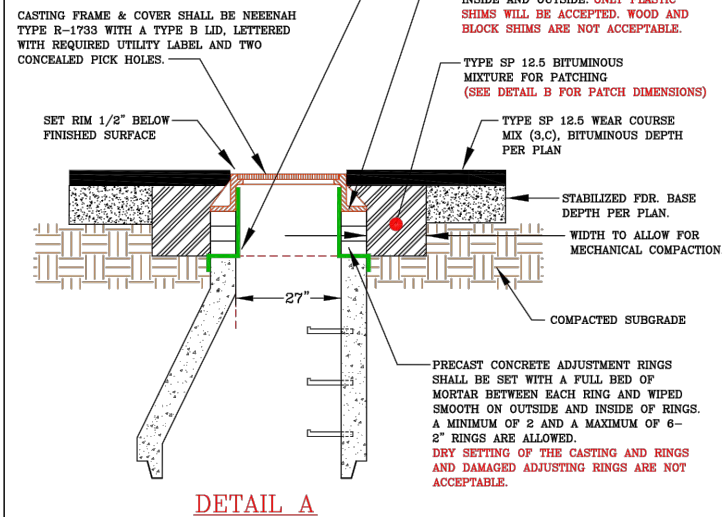
- NOTES: 1. REFER TO MnDOT SPECIFICATIONS FOR ALL INSTALLATION INSTRUCTIONS ON PEDESTRIAN RAMPS.



5 STR-6: TYPICAL BITUMINOUS TRAIL INSTALLATION



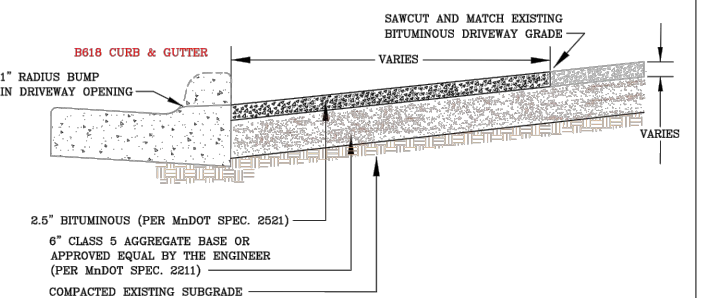
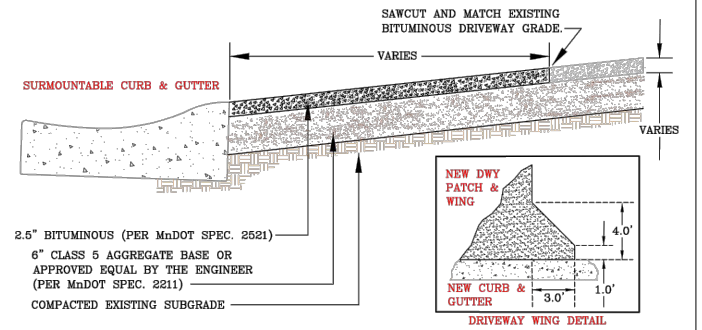
DETAIL B



DETAIL A

6 STR-7: TYPICAL BITUMINOUS ROAD PATCH INSTALLATION

- NOTES: 1. ALL DRIVEWAY REMOVALS SHALL BE MARKED BY THE ENGINEER IN THE FIELD AND RESTORED TO THE STANDARDS DETAILED BELOW.  
 2. ALL EXISTING DRIVEWAYS REMOVED SHALL BE REPLACED AND RESTORED TO ORIGINAL DESIGN AND DIMENSIONS.  
 3. CONTRACTOR SHALL PROTECT ALL SAWCUT EDGES OF EXISTING DRIVEWAY AFTER BEING REMOVED, ANY ADDED DAMAGE TO EXISTING DRIVEWAY WILL BE PAID FOR AT THE CONTRACTOR'S EXPENSE.  
 4. CONTRACTOR SHALL INSTALL DRIVEWAY WINGS TO DIMENSIONS AND STYLE PER DRIVEWAY WING DETAIL BELOW.



7 STR-10: TYPICAL RESIDENTIAL BITUMINOUS DRIVEWAY REPLACEMENT

FOR REVIEW (NOT FOR CONSTRUCTION)

CADD USER: GREG NELSON FILE: M:\DESIGN\23621446\03\2362144600\_C03-SHOREVIEW STD PLATES.DWG PLOT SCALE: 1:2 PLOT DATE: 02/22/23 8:38 AM

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINTED NAME: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_ LICENSE # \_\_\_\_\_

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PERMIT							
BID							
CONSTRUCTION							
RECORD							
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DATE RELEASED							

Project Office:  
**BARR ENGINEERING CO.**  
 4300 MARKETPOINTE DRIVE  
 SUITE 200  
 MINNEAPOLIS, MN 55435

Corporate Headquarters:  
 Minneapolis, Minnesota  
 Ph: 1-800-632-2277  
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 www.barr.com

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Date	03/17/2023
Drawn	GGN
Checked	LAD
Designed	GGN
Approved	

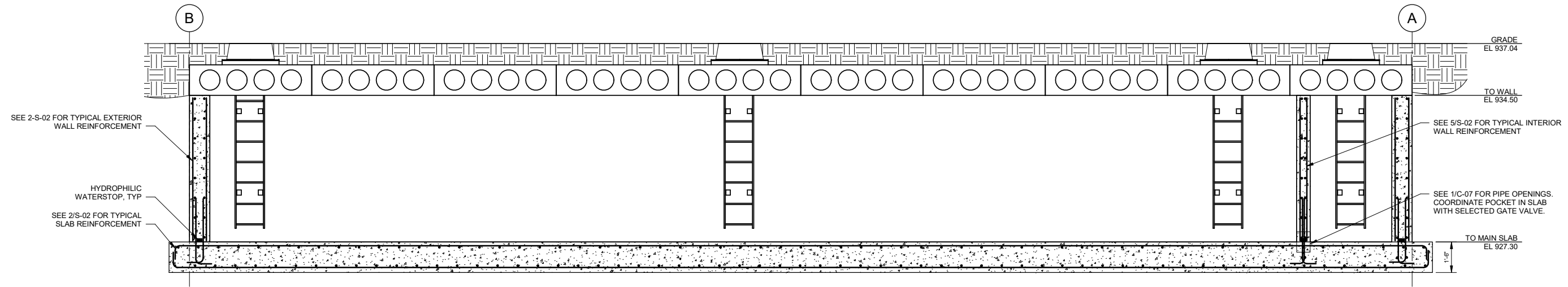
**RAMSEY-WASHINGTON**  
 METRO WATERSHED DISTRICT

ARBOGAST UNDERGROUND  
 STORMWATER FILTER

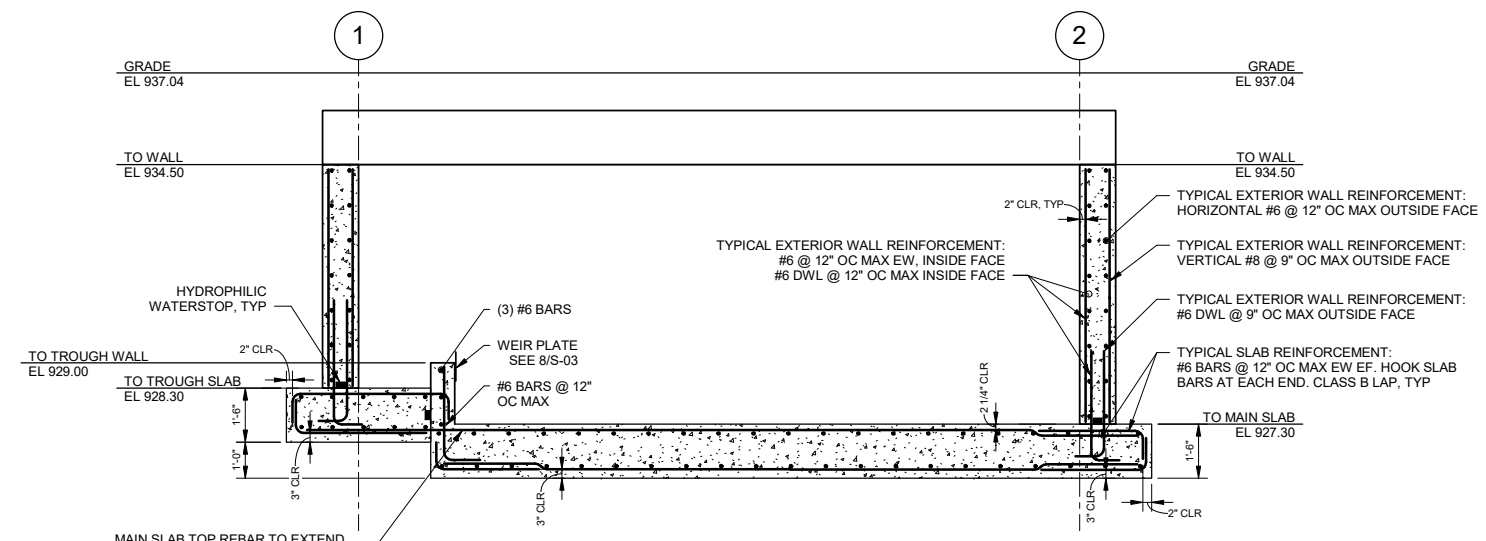
CITY OF SHOREVIEW  
 STANDARD PLATES

BARR PROJECT No.	23/62-1446.00
CLIENT PROJECT No.	
DWG. No.	C-09
REV. No.	B

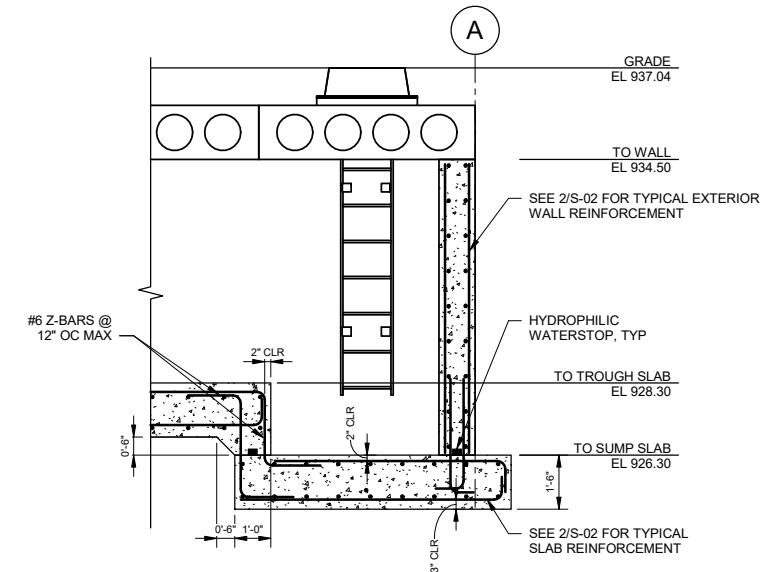




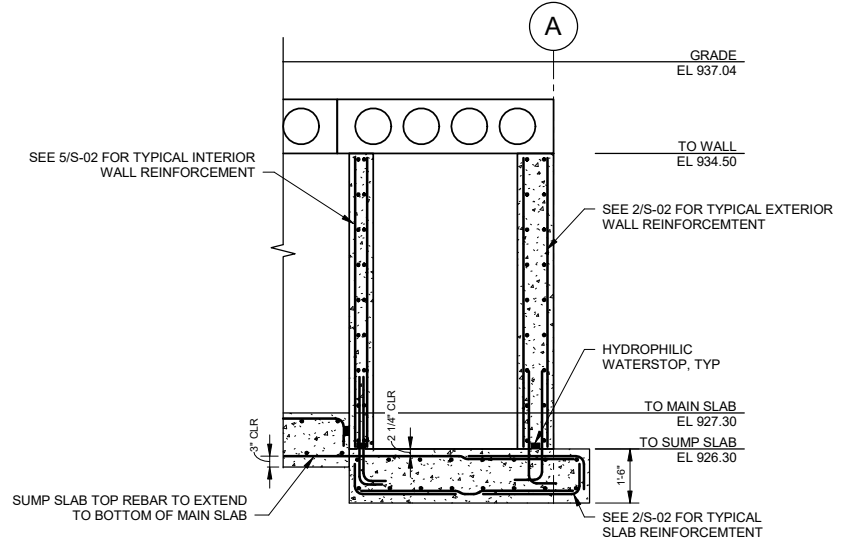
1 SECTION: TYP NORTH/SOUTH  
S-01 3/8" = 1'-0"



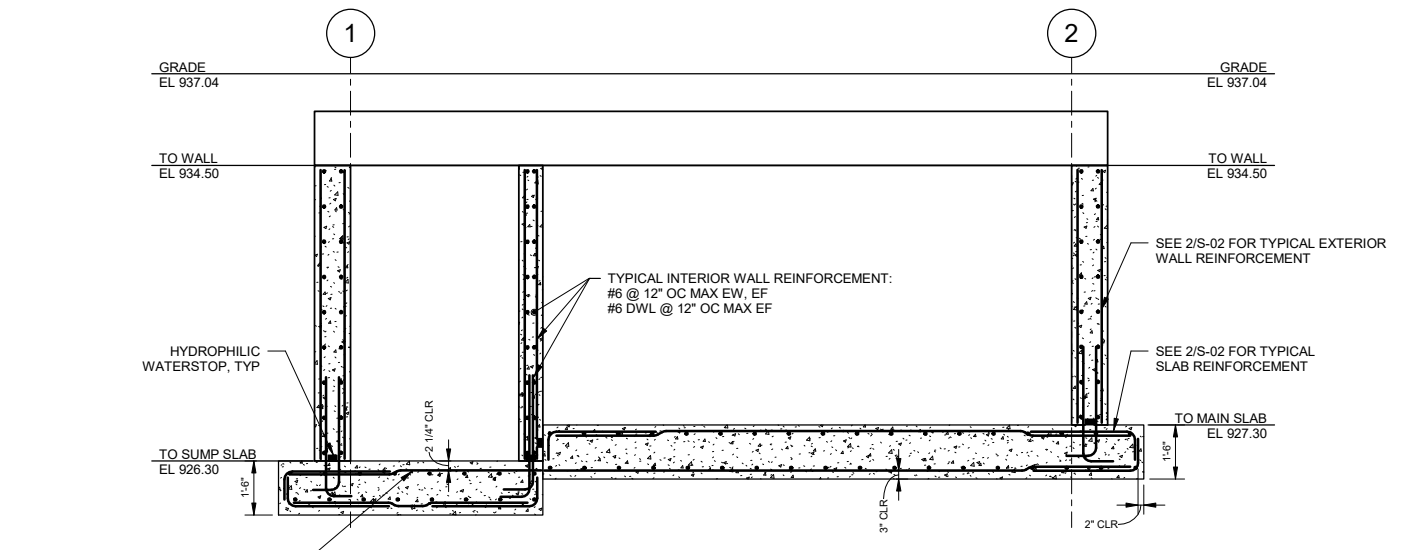
2 SECTION: TYP EAST/WEST  
S-01 3/8" = 1'-0"



3 SECTION: SLAB TRANSITION EL 926.3 TO 928.3  
S-01 3/8" = 1'-0"



4 SECTION: NORTH/SOUTH SLAB TRANSITION EL 926.3 TO 927.3  
S-01 3/8" = 1'-0"



5 SECTION: EAST/WEST SLAB TRANSITION 926.3 TO 927.3  
S-01 3/8" = 1'-0"

FOR REVIEW  
(NOT FOR CONSTRUCTION)

ARBOGAST UNDERGROUND  
STORMWATER FILTER  
VAULT STRUCTURE  
SECTION VIEWS

BARR PROJECT NO.  
23/62-1446.00  
CLIENT PROJECT NO.  
DWG NO. S-02  
REV NO. A

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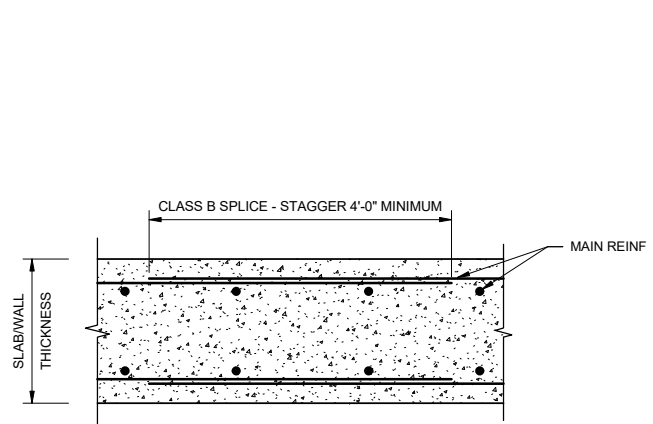
SIGNATURE \_\_\_\_\_  
PRINTED NAME \_\_\_\_\_  
DATE \_\_\_\_\_ LICENSE # \_\_\_\_\_

CLIENT	DATE	RELEASED TO/FOR	DATE RELEASED
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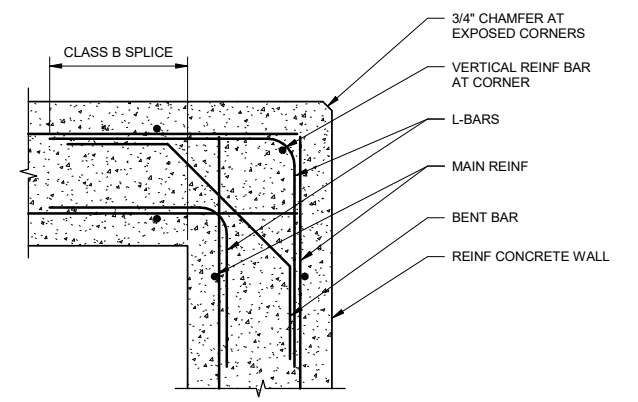
**BARR**  
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BARR ENGINEERING CO.  
4300 MARKETPOINTE DRIVE  
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MINNEAPOLIS, MN 55435  
Corporate Headquarters:  
Minneapolis, Minnesota  
Ph: 1-800-632-2277

Scale	AS SHOWN
Date	12/05/2022
Drawn	JAJ
Checked	LAD
Designed	KAG2
Approved	BJJ

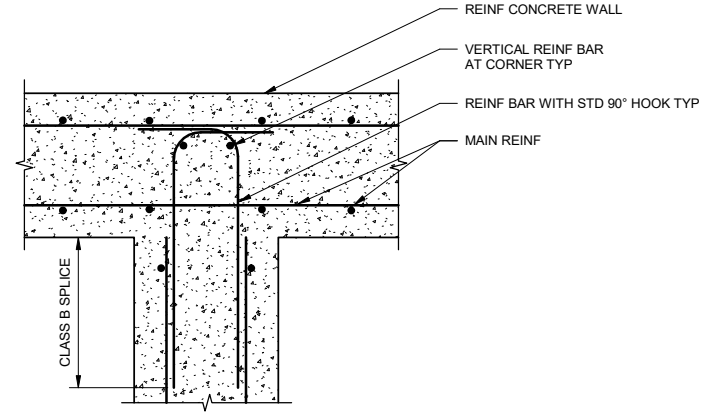
**RAMSEY-WASHINGTON**  
METRO WATERSHED DISTRICT



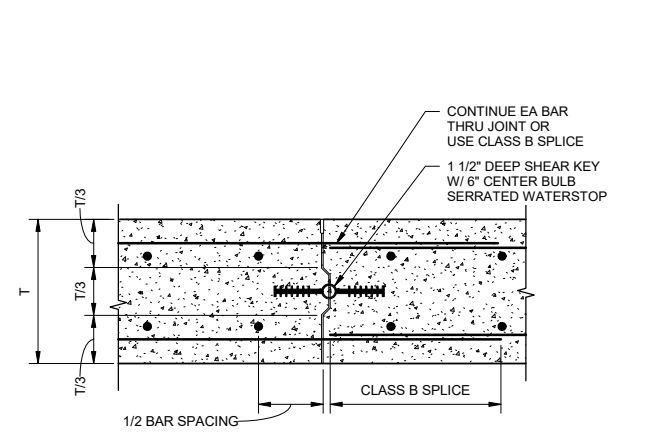
1 DETAIL: REINFORCED CONCRETE SLAB/WALL SPLICE



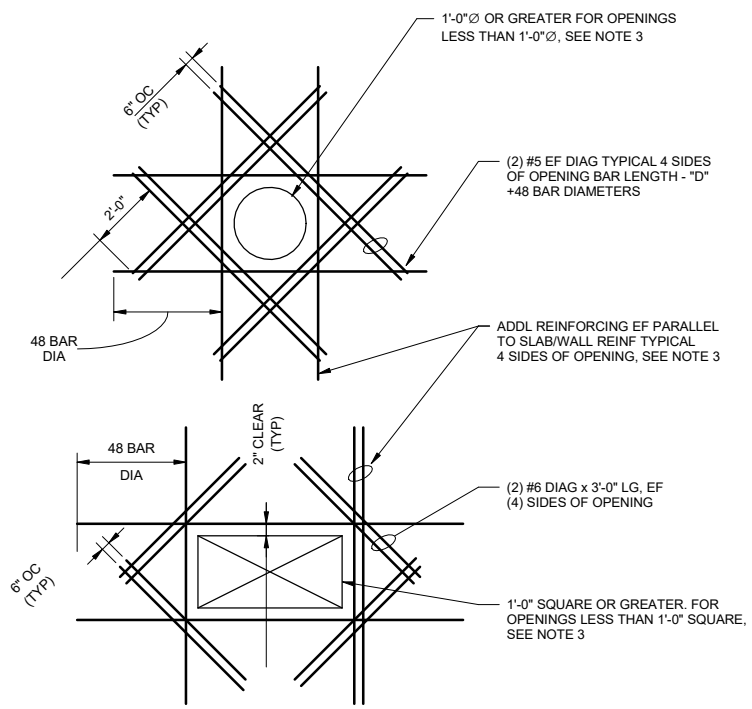
2 DETAIL: REINFORCED CONCRETE WALL CORNER



3 DETAIL: REINFORCED CONCRETE WALL INTERSECTION

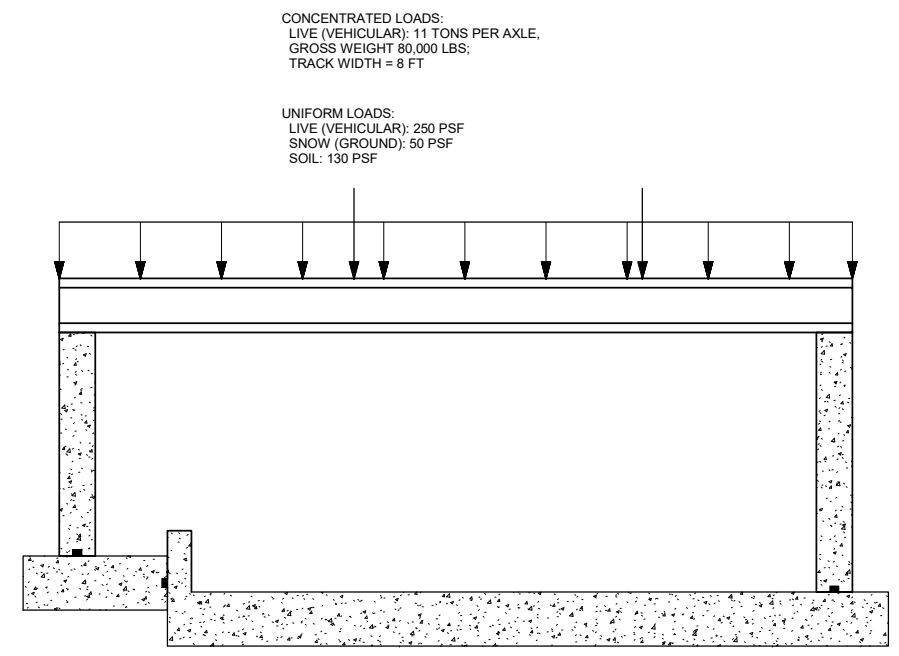


4 DETAIL: REINFORCED CONCRETE SLAB/WALL CONSTRUCTION JOINT



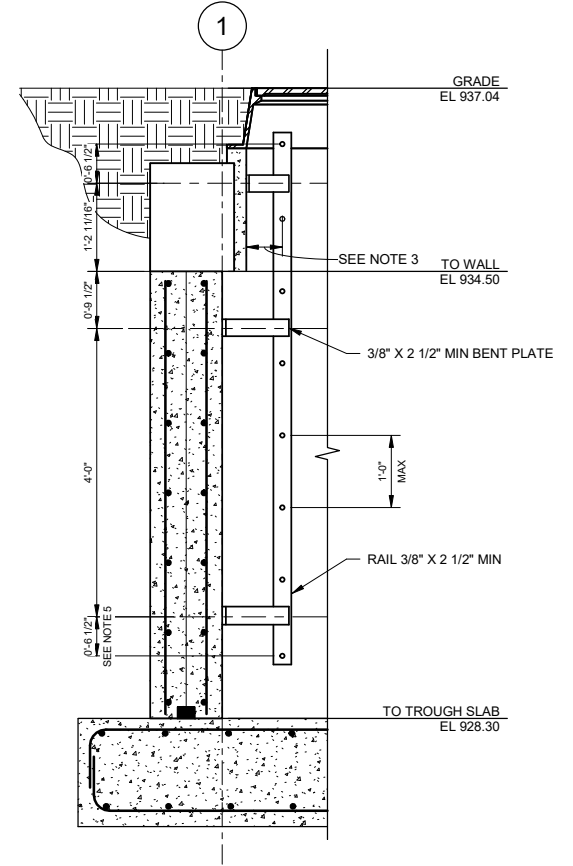
**DETAIL NOTES:**  
 1. WHERE MORE THAN ONE ADDITIONAL BAR IS REQUIRED PARALLEL TO THE EXISTING SLAB/WALL REINFORCING THE ADDITIONAL REINFORCING BARS SHALL BE SPACED AT 4 INCHES ON CENTER.  
 2. ADDITIONAL REINFORCING PARALLEL TO THE SLAB/WALL REINFORCING SHALL BE #5 BARS THAT PROVIDE A STEEL AREA ON EACH SIDE OF THE OPENING EQUAL TO 1/2 THE AREA OF THE REINFORCING CUT BY THE OPENING.  
 3. FOR OPENINGS WITH SIDES OR DIAMETERS LESS THAN 1'-0" SPREAD THE SLAB/WALL REINFORCING TO CLEAR THE OPENING.

5 DETAIL: ADDITIONAL REINFORCEMENT AT SLAB/WALL OPENINGS



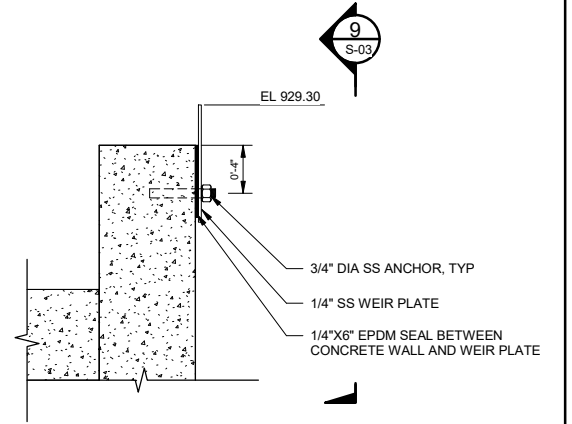
**SECTION NOTES:**  
 1. ALL LOADS ARE SERVICE LEVEL (NOT FACTORED).  
 2. DESIGN FOR WORST CASE VEHICULAR LOAD. DO NOT NEED TO DESIGN FOR CONCURRENT VEHICULAR CONCENTRATED AND UNIFORM LOADS.

6 SECTION: PRECAST DESIGN LOADING

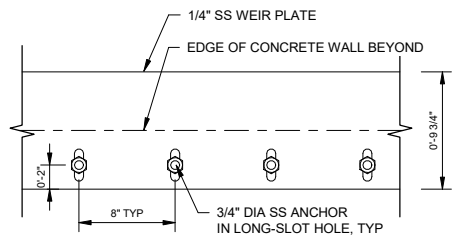


**NOTES:**  
 1. ALL STEEL TO BE GALVANIZED.  
 2. RUNGS: 3/4" DIA STEEL BARS, FIT TO CENTERLINE OF SIDE RAILS, PLUG-WELD AND GRIND SMOOTH OUTER RAIL FACES.  
 3. MINIMUM DISTANCE FROM CENTERLINE OF RUNGS TO NEAREST PERMANENT OBJECT ON BACKSIDE OF LADDER: 7".  
 4. USE GALVANIZED STEEL ANCHORS DESIGNED FOR 500 LB PULLOUT FORCE EACH.  
 5. FOR LADDERS TO MAIN SLAB (4) AND SUMP SLAB (1), EXTEND RAIL TO INCLUDE AT LEAST ONE ADDITIONAL RUNG.

7 SECTION: LADDER



8 SECTION: WEIR PLATE



9 ELEVATION: WEIR PLATE

FOR REVIEW  
(NOT FOR CONSTRUCTION)

ARBOGAST UNDERGROUND  
STORMWATER FILTER  
VAULT STRUCTURE  
DETAILS

BARR PROJECT NO. 23/62-1446.00	
CLIENT PROJECT NO.	
DWG NO. S-03	REV NO. A

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DATE RELEASED	

**BARR**  
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 www.barr.com

Scale	AS SHOWN
Date	12/05/2022
Drawn	JAJ
Checked	LAD
Designed	KAG2
Approved	BJS



# Request for Board Action

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**Board Meeting Date:** April 5, 2023

**Agenda Item No:** 7C

**Preparer:** Tina Carstens, Administrator  
Paige Ahlborg, Watershed Project Manager

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**Item Description:** 2023 - 2025 BMP Maintenance Program Selection of Contractor

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**Background:**

The purpose of this program is to provide an affordable, high-quality opportunity for best management practice (BMP) owners to keep their BMPs functional and attractive.

A Request for Qualifications (RFQ) for the 2023-2025 maintenance program was posted last month. Six contractors submitted complete qualification packages. Based on qualifications and labor and material costs submitted, three contractors have been selected. The projects will be divided between them based on previous maintenance experience.

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**Applicable District Goal and Action Item:**

**Goal: Achieve quality surface water:** The district will maintain or improve surface water quality to support healthy ecosystems and provide the public with a wide range of water-based benefits.

**Action Items:** Maintain district water quality improvement projects and consider opportunities to support the maintenance activities of others.

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**Staff Recommendation:**

Staff recommends awarding the 2023-2025 BMP Maintenance Contract to Rock Leaf Water Environmental, Davey Resource Group, and Sandstrom Land Management for the following projects:

Sandstrom Land Management:

Harmony Learning Center, Justin Alan Page Elementary School, Lionsgate Academy, Weaver Elementary School, Central Park Elementary School, Roseville Area Middle School, North St. Paul Target, Willow Pond CMAC, Casey Lake Area Rain Gardens

Davey Resource Group:

Wakefield Park Basins, Ames Lake Wetland, Maplewood Mall, Snail Lake Shoreline Restorations

Rock Leaf Water Environmental:

PCU Pond, Valley Creek Rd Basins, Enhanced Sand Filter, Mounds Park Academy, St Pascal Baylon Catholic Church, Alum Plant Pond, Kohlman Basin, Battle Creek Berm, Grass Lake Berm

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**Financial Implications:**

This program is included in the approved 2023 budget for \$250,000.

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**Board Action Requested:**

Award the 2023-2025 BMP Maintenance contract to Rock Leaf Water Environmental, Davey Resource Group, and Sandstrom Land Management for the projects specified above and direct staff to prepare the necessary documents and work with the selected contractor.

## **2023-25 BMP MAINTENANCE PROGRAM**

### **RAMSEY-WASHINGTON METRO WATERSHED DISTRICT**

#### **REQUEST FOR QUALIFICATIONS**

Ramsey-Washington Metro Watershed District (District) is establishing a pool (up to three) of qualified landscape maintenance contractors to provide construction and landscape maintenance services to the District, and throughout the District, to partnering municipalities, and local county governments within the District's boundaries. The work will include the regular and routine maintenance of various stormwater Best Management Practices (BMPs) including rainwater gardens, native planting areas, and regional infiltration and filtration basins of varying sizes, ages and conditions. The District's Board of Managers is requesting any firm interested in providing professional services to submit a Statement of Qualifications (SOQ).

#### **Submittal Deadline:**

Submit via email one (1) PDF copy of the Statement of Qualifications (SOQ) as outlined in this document no later than 2:00pm on March 24, 2023 to Paige Ahlborg, Watershed Project Manager, at [paige.ahlborg@rwmwd.org](mailto:paige.ahlborg@rwmwd.org). Questions regarding this RFQ must be made in writing via email to Paige Ahlborg at the same email address by March 22, 2023.

#### **General Work Description:**

The Work is generally a maintenance program associated with selected Stormwater BMPs in the District. The Work more specifically consists of furnishing relevant expertise as well as all labor, materials, equipment, skills, and performing all operations required to complete all requested maintenance work, which includes, but is not limited to, mobilization and demobilization; maintenance of plantings; plant replacement; herbicide furnishment and application; removal and proper disposal of accumulated sediment in the BMPs; invasive species management; mulch replenishment; furnishing, installing, and maintaining erosion control measures as necessary; acquisition of all necessary permits to perform the Work; regular reporting of completed operations; and complete site restoration of all disturbed areas all as provided for in the RFQ and as directed by the Owner of the BMP, which is not always the District.

The selected Contractor(s) will be required to execute a contract with the District for services on an as-needed basis. However, the individual BMP site Owners will vary. Municipalities, county governments, commercial properties, and private residences located within the District boundaries will have the opportunity to enter into a separate agreement with the District for the services above and will be entitled to exiting that agreement with the District at any time. The District reserves the right to decrease, increase or eliminate sites from the project at its discretion. The District will provide oversight and coordinate billing between all involved entities.

The District reserves the right to a) award all project sites to a single Contractor or b) award groupings of sites (e.g., based geographically or otherwise) at the District's discretion to up to three responsive, responsible Contractors, or c) advertise a new RFQ.



The contract will be for three (3) years (growing seasons) beginning in May 2023 and ending approximately November 15, 2025.

Statement of Qualifications elements:

The Statement of Qualifications shall address the four (4) items listed below:

1. General Contractor Information Capacity and Work Plan:
  - a) To demonstrate the Contractor's qualifications to perform the Work, each proposal shall include a full written description of the proposer's approach to completing the work written in a way that demonstrates the Contractor's understanding of what is required and to illustrate their approach for each type of the maintenance event listed. This description should include:
    - 1) Size and makeup (i.e. foreman, supervisors, crew chiefs, operators, laborers, etc.) of crew anticipated,
    - 2) Equipment to be used,
    - 3) Anticipated average time per visit expected, and
    - 4) Any pertinent information that will demonstrate the proposer's ability to complete the work in an effective, high-quality, efficient, and timely manner.
    - 5) Ability to perform controlled burns in natural areas.
  - b) In addition, each proposal shall include:
    - 1) A brief description of present commitments in 2023 during the growing season,
    - 2) A listing of the Bidder's equipment and hourly rates with an operator, including watering trucks,
    - 3) Labor rate sheet,
    - 4) Key personnel and their years of experience,
    - 5) A list of subcontractors, if any, proposers intend to use.
2. Employee Qualifications
  - a) Documentation of the following qualifications shall be included in the submittal:
    - 1) Supervisor: The Supervisor (Crew Leader) must have a Bachelor's degree in Natural Resources, or approved equal, and extensive plant knowledge. The Supervisor shall also have experience constructing or maintaining stormwater BMPs, such as rain gardens.
    - 2) Arborist: To qualify for any work at the Maplewood Mall, Target, St. Pascal's, Wakefield Park portion the Contractor shall have a minimum of one (1) Minnesota Society of Arboriculture or International Society of Arboriculture-certified arborist on staff. This qualification cannot be met through a sub-contractor.
    - 3) Herbicide Applicators: Any personal working with chemical herbicides shall have a valid herbicide applicator's license as required by the State of Minnesota.

### 3. Applicable Work Experience

- a) Contractor must have performed similar vegetation management work at a minimum of five (5) projects within the past five (5) years, excluding projects that were primarily installation.
  - 1) Provide five (5) references of vegetative management work within the past five (5) years. Include only projects that were primarily vegetation management/maintenance.
  - 2) List the following information for each project reference:
    - a. Customer
    - b. Project Location
    - c. Scope of Work
    - d. Approximate Start and End Dates
    - e. Approximate Contract Amount
    - f. Owner Contact Information – Name, Position, Phone, Email
- (b) References will be checked to help verify the Contractor's
  - 1) record of quality, timeliness and customer satisfaction of performance on previous projects, technical capabilities, qualified key personnel, necessary tools and equipment, and adequate financial resources to perform, compliance with the associated legal or regulatory requirements.

### 4. Proof of Insurance

- a) The Contractor and Subcontractors shall maintain insurance for Comprehensive Public Liability and Broad Form Property Damage, Comprehensive Automobile Public Liability and Property Damage, Contractual Liability, Completed Operations Liability and Explosion, Collapse and Underground Property Damage. The provisions must include coverage for Bodily Injury Liability which includes bodily injury claims from the Contractor's and Subcontractor's employees. Minimum coverage shall be consistent with the requirement in the Conditions of the Contract.

### 5. Unit Prices for Select Items

- a) In addition to the labor rate sheet and hourly equipment rates with operator as listed above, the Contractor shall include unit prices for the furnishment and installation of the following items:
  - 1) Mn/DOT 3878.2 Type 6 Shredded Hardwood Mulch
  - 2) #1 Containerized Perennial Plant
  - 3) #2 Containerized Shrub
  - 4) Perennial Plant Plug

## 5) Watering (MGAL)

- b) Any plants installed by the Contractor shall be warranted for ninety (90) days (during growing season) after installation and replaced at no cost to the Owner or District. Plants installed at the end of the growing season will have the warranty extend until June 1 of the subsequent growing season.

### Maintenance Duties

Each site included in the Contract shall be subject to the same maintenance requirements, progress schedule, and reporting.

Maintenance duties shall include:

- 1) Spring Clean-Up: All planted areas shall have all perennial vegetation from the previous growing season removed to within three (3) inches above the ground including all ornamental grasses and herbaceous plants. Shrubs shall be pruned to remove dead and dying vegetation. Accumulated sediment or debris, whether in inlet structures or loose sediment in the bottom of the BMP, removed and disposed of at the Contractors expense.
- 2) Plant Replacement and Potted Plant Installation: During the growing season prior to June 1<sup>st</sup> of the contract year, the Contractor shall provide a plant replacement list to be approved by the District that includes plants matching those that are installed in each BMP in size, spacing, and species. All plants are to be warranted for ninety (90) days after installation and replaced at no cost to the Owner or District.
- 3) Routine Planting Areas Maintenance: All sites shall be inspected and maintained approximately four (4) times during the growing season (May-October) or as determined per site requirements and/or as budgets allow. Sites have been designated either as Natural Area (NA) or as Stormwater BMP (BMP). These designations require different levels vegetation maintenance, as defined below.
  - a) For Natural Areas, all weeds as identified by the Contractor or as directed by the Owner or District shall be removed via manual removal or chemical herbicide application. Mowing may be accepted dependent on the species, and with prior approval by the District. Herbicide application shall be performed with extreme care shall be taken to avoid damage to existing plants. Any damaged plants shall be replaced by the Contractor without cost to the Owner or District. All planting areas shall be completely free of weeds or all weeds shall have been chemically treated after each Routine Visit. All applicable State regulations regarding the application of chemical herbicide are to be complied with including but not limited to postings/notices of application and spray records. Controlled burns may be appropriate for weed management of natural areas. Burns shall only take place with prior approval by the District and Contractor shall initiate all permits or other approvals as required by the local jurisdiction.
  - b) For BMP's, all weeds as identified by the Contractor or as directed by the Owner or District shall be removed via manual removal. Mowing is not an acceptable alternative to manual removal unless approved by the District prior to initiation of work. Chemical herbicide application may be appropriate depending on the

species, but shall not be used unless approved by the District prior to work. Herbicide application shall be performed with extreme care shall be taken to avoid damage to existing plants. Any damaged plants shall be replaced by the Contractor without cost to the Owner or District. All planting areas shall be completely free of weeds after each Routine Visit. All applicable State regulations regarding the application of chemical herbicide are to be complied with including but not limited to postings/notices of application and spray records.

- c) Any weedy vegetation removed, as well as garbage or debris found during maintenance visits, shall be removed from the site and disposed of appropriately.
- d) All planting areas shall have a maintained depth of 3 inches of approved shredded hardwood mulch at the end of each growing season of the Contract period. Mulch shall conform to Mn/DOT 3878.2 Type 6 Shredded Hardwood Mulch.
- e) During maintenance visits, the Contractor shall inspect for any inlet or outlet failure, standing water or failures of retaining walls or edging within BMPs that are visible. If any of these conditions are observed the Contractor shall contact the Owner or District for further instruction.
- f) During maintenance visits, the Contractor shall inspect trees for overall health and recommended pruning by a Certified Arborist. If pruning occurs, Contractor shall document what work took place and provide photo documentation.
- g) Contractor shall submit via email an Inspection Form (Example in Exhibit B) for each site, within 48-hours of each maintenance visit. An example form is attached for reference, but another format may be used with prior approval by the District.
- h) Contractor is required to take digital photographs of each site or BMP prior to and post-weeding to confirm work took place. Photos can be submitted with the Inspection Form and must be submitted within 48-hours of each maintenance visit.
- i) Contractor shall provide water to all trees at each site. The District may provide gator bags for use. Contractor shall notify District if any perennial or shrub planting areas are in need of watering. District may request Contractor to water BMPs as needed. Contractor shall be responsible for watering any plants that were replaced as part of their maintenance contract.

4) Fall Clean-Up:

- a) Contractor shall include one maintenance visit to clean up each site in Fall, including removal of garbage or debris with appropriate disposal off-site. If mulch is applied, Contractor to provide documentation of quantities.

5) Review and Acceptance of Work: Upon request the Contractor shall be available for site inspection and review. Any defects in the work shall be corrected per Owner or District request.

### Project Sites List and Budget Allotment

1. The Project Sites List is subject to change but shall include those sites listed in Exhibit A at the onset of the project (the listing is organized by Owner).
2. The Budget Allotment is a Not-to-exceed for each BMP Maintenance Site.
3. The list in Exhibit A is for 2023. The three-year project will have an updated list, generally similar in scope and scale, provided to the selected contractor(s) in winter 2023 for the upcoming 2024 growing season.
4. The Budget Allotment will be updated for each growing season but will generally remain similar.

### Review Notification and Contract Process:

1. The District will review all submittals and determine which Contractor(s) are qualified.
2. A selection will be made by the Owner based on the above criteria and weighting.
3. The selected Contractor(s) will be notified of which portion of the work will be contracted to them. A contract will then be developed between the District and the Contractor to be agreed upon by the Contractor. The selected Contractor(s) will enter into terms with the District including all conditions and forms of agreement as provided by the District.
4. Work on all projects except school sites is to commence no later than May 1, 2023. Work at school sites shall commence upon the end of the school year unless otherwise specified.
5. An opportunity to update unit prices for the materials listed and the labor rate will be given to the Contractor during the winter of 2023-2024. These will be negotiated, incorporated into a contract update, and utilized for budget allotment for the following growing season.

# EXHIBIT A

## 2023 Site List

2023 Maintenance Sites	Location	Owner	Budget Allotment	Type of Site	Site Designation
Ames Lake Wetland, St Paul	1380 Magnolia Ave E, St Paul, MN 55106	RWMWD	\$5,000.00	Three (3) acre wetland area and native restoration	Natural Area
Lionsgate Academy, Shoreview	599 Cardigan Rd, Shoreview, MN 55126	RWMWD	\$5,000.00	One (1) commercially sized raingarden, two (2) native prairie areas.	BMP + Natural Area
Maplewood Mall	3001 White Bear Ave, St Paul, MN 55109	RWMWD	\$38,000.00	Eight (8) regional raingardens, twenty-five (25) residentially sized raingardens, eighty two (82) parking lot end islands, five (5) entrance planting areas, and two hundred and twenty-five (225) trees located within parking lot tree trenches, raingardens, and end islands	BMP
Woodbury Elementary	1251 School Drive, Woodbury (Intersection of School Drive and Upper Afton Road)	RWMWD	\$5,000.00	Two (2) regionally sized raingardens	BMP
Casey Lake Area Rain Gardens	See addresses below	RWMWD	\$7,000.00	Fourteen (14) residential rain gardens. Spring cleanup only.	BMP
Central Park Elementary	535 County Road B2 W, Roseville, MN 55113	RWMWD	\$2,000.00	One (1) commercially sized rain garden	BMP
Harmony Learning Center	1961 County Rd C E, Maplewood, MN 55109	RWMWD	\$2,000.00	One (1) commercially sized raingarden	BMP
Justice Alan Page Elementary School (Formerly Maplewood Middle School)	2410 Holloway Ave E, Maplewood, MN 55109	RWMWD	\$5,000.00	Three (3) regionally sized raingardens. School construction in 2022 to be mindful of.	BMP
Roseville Area Middle School	15 County Rd B2 E, Little Canada, MN 55117	RWMWD	\$2,000.00	One (1) commercially sized raingarden	BMP
Weaver Elementary	2135 Birmingham St, Maplewood, MN 55109	RWMWD	\$2,000.00	One (1) commercially sized raingarden	BMP
Willow Pond CMAC	Behind 1236 Willow Ln, Roseville, MN 55113	RWMWD	\$2,000.00	0.5 acre natural area	Natural Area
Wakefield Park	1590 Frost Ave, Maplewood, MN 55109	City of Maplewood	\$20,000.00	Two (2) raingardens. Separate from RWMWD's Wakefield Park basins.	BMP
PCU Pond	West of 2201 11th Ave, North St. Paul MN 55109	RWMWD	\$5,000.00	8.1 acre natural area	Natural Area
Valley Creek Rd Basins	North of 7801 Afton Rd, Woodbury, MN 55125	RWMWD	\$5,000.00	Five (5) commercially sized raingardens	BMP
Enhanced Sand Filter	West of 1431 Beam Ave, Maplewood, MN 55109	RWMWD	\$5,000.00	0.7 acre natural area	Natural Area
Snail Lake Regional Park Boat Launch	4191 Snail Lake Blvd, Shoreview, MN 55126	RWMWD	\$10,000.00	0.1 acre natural area, 225' along shoreline	Natural Area
North St. Paul Target	2199 MN-36, North St Paul, MN 55109	RWMWD	\$15,000.00	Four (4) regionally sized raingardens, Nine (9) trees located withing parking lot tree trenches	BMP
Mounds Park Academy	2051 Larpenteur Ave E, St Paul, MN 55109	RWMWD	\$5,000.00	One (1) raingarden and small shoreline	BMP + Natural Area
St Pascal Baylon Catholic Church	1757 Conway St, St Paul, MN 55106	RWMWD	\$3,000.00	One (1) small raingarden and tree trench	BMP
Alum Plant Pond	705 Century Ave N, Maplewood, MN 55119	RWMWD	\$5,000.00	0.8 acre natural area	Natural Area
Kohlman Basin	South of 1431 Beam Ave, Maplewood, MN 55109	RWMWD	\$5,000.00	2 acre natural area	Natural Area
Battle Creek Berm	6515 Scheel Dr, Woodbury, MN 55125	RWMWD	\$5,000.00	0.3 acre natural area	Natural Area
Grass Lake Berm	South of 233 Gramsie Rd, Shoreview, MN 55126	RWMWD	\$5,000.00	1.0 Acre natural area	Natural Area

\* \* \* \* \*

# New Reports/ Presentations

\* \* \* \* \*



## Memorandum

**To:** Ramsey-Washington Metro Watershed District (RWMWD) Board of Managers  
**From:** Erin Anderson Wenz, Gabrielle Campagnola, and Greg Williams, Barr Engineering Co.  
Tina Carstens, RWMWD Administrator  
**Subject:** Summary of RWMWD Wetland Management Roles – Presentation and Board of Managers Workshop  
**Date:** March 29, 2022  
**Project:** 23621006.00-220-009

### 1 Background

The Ramsey-Washington Metro Watershed District (RWMWD) Board of Managers seeks to better understand the RWMWD's current management roles with respect to wetlands and determine if revisions to its management roles are appropriate. As an initial step in this effort, the RWMWD hosted a wetlands workshop in October 2021 (a [presentation](#) and [video of the meeting](#) are available). Barr Engineering Co. (Barr) staff reviewed the 2017 RWMWD Watershed Management Plan relative to wetland management and presented the results in a June 2022 memorandum (page 178 of the [June 2022 meeting packet; video of the meeting](#) is also available starting at 1:02:54). In August 2022, Barr staff presented a memorandum further summarizing the wetland management rules, policies, and implementation activities of the RWMWD and other Twin Cities Metro Area (TCMA) watershed management organizations (WMOs) (page 50 of the [August 2022 meeting packet](#); the presentation begins 44 minutes into the [video of the meeting](#)).

### 2 Presentation and Workshop

At the April 5, 2023 RWMWD Board of Managers meeting, Barr staff will present to the Board of Managers regarding the wetland management roles of the RWMWD and other WMOs and possible revisions to RWMWD roles. A draft presentation is included in the meeting packet. The presentation will be followed by a discussion with the Board of Managers. The goals of the presentation and discussion include, broadly:

1. Establish a shared understanding of common wetland management roles and how they align with current RWMWD activities.
2. Build Manager consensus about the need and enthusiasm for revising or adding RWMWD wetland management roles.
3. Get direction from the Board of Managers regarding scoping desirable wetland management roles in greater detail, if needed.

**To:** Ramsey-Washington Metro Watershed District (RWMWD) Board of Managers  
**From:** Erin Anderson Wenz, Gabrielle Campagnola, and Greg Williams, Barr Engineering Co.  
Tina Carstens, RWMWD Administrator  
**Subject:** Summary of RWMWD Wetland Management Roles – Presentation and Board of Managers Workshop  
**Date:** March 29, 2022  
**Page:** 2

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In considering RWMWD wetland management roles, the workshop discussion will focus on the following as a qualitative scale of need and interest:

- The role is something RWMWD should definitely do and all that remains is to scope the details.
- The role is something RWMWD maybe should do depending heavily on the specifics.
- The role is something RWMWD should not do.

# Ramsey-Washington Metro Watershed District Wetland Management Strategies

**Board of Managers Workshop**

**April 5, 2023**

# Outline

- Summary of past work
  - Wetlands background
  - RWMWD Wetland management roles
  - Wetland management roles of other WMOs/WDs
- Potential revisions to RWMWD roles
- Manager discussion of potential roles
- Next steps

## Summary of past work

- Purpose:

Review current RWMWD wetland management roles and determine if/how RWMWD roles should be revised

# Wetlands Background

- Wetlands defined by presence of hydric soils, vegetation, and hydrology
- Many types of wetlands:



Shallow  
Marsh



Deep Marsh



Wet Meadow



Floodplain  
Forest



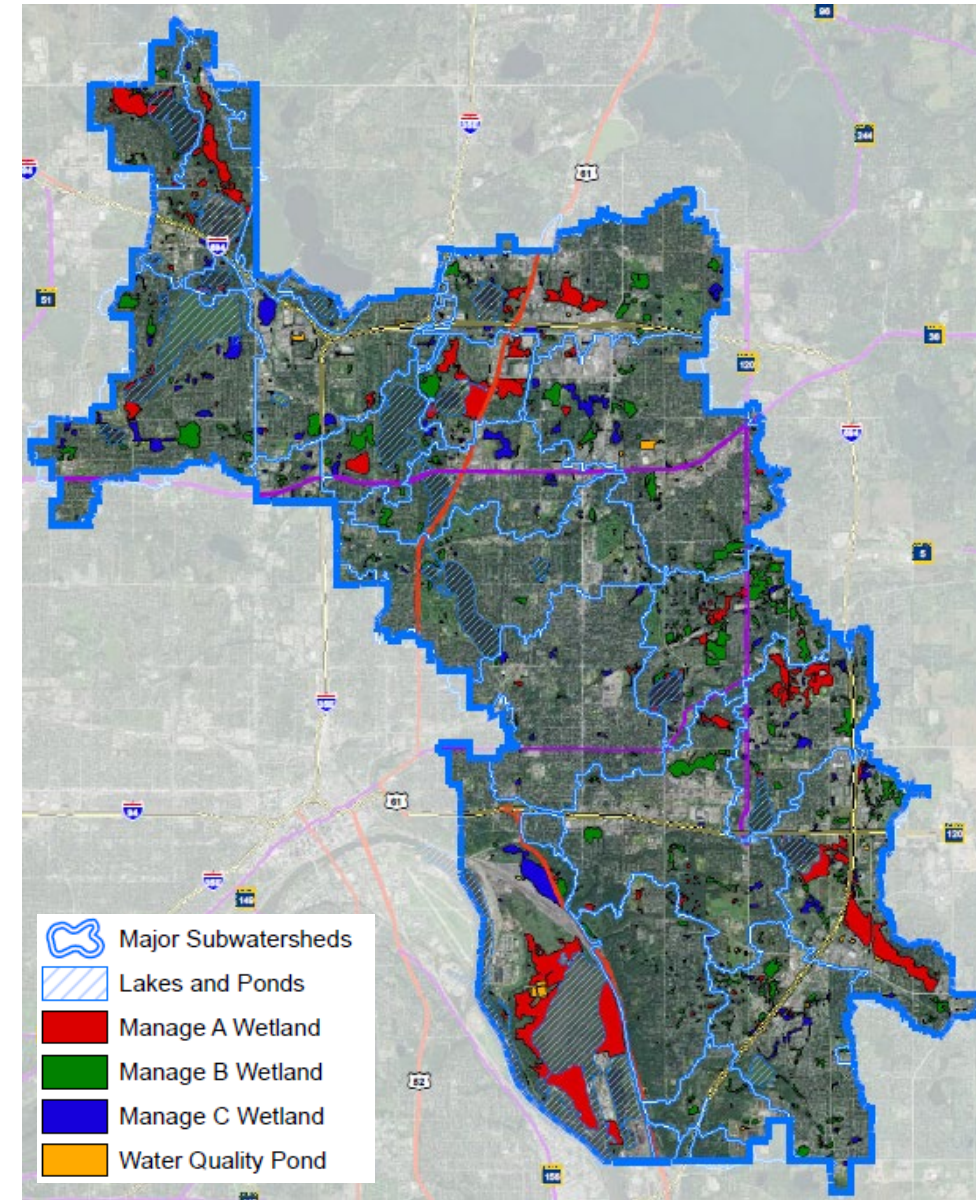
Seasonally  
Flooded Basin



Wooded  
Swamp

# Wetlands Inventory and Classification

- Wetlands classified according to functions and values (MnRAM)
- RWMWD classifications:
  - Manage A
  - Manage B
  - Manage C



Current  
RWMWD  
Wetland  
Management  
Roles

- Goals/Signs of Success:
  - *The quantity of ecologically diverse aquatic, wetland, and associated upland habitats is increased.*
  - *Wetlands are preserved and protected, as measured by their net area (no net loss) and the continued viability of their functions and value.*
- Regulation
  - WCA enforcement (regulates loss & mitigation)
  - Buffer requirements
- Monitoring
  - District-wide inventory and classification
- Projects/Studies
  - No specific projects identified in Plan



# Wetland Management Roles:

## Other WMOs and WDs

Wetland Management Role	RWMWD	BCWMC	CRWD	LMRWM	MCWD	NMCWD	SWWD	VBWD
Administer WCA	X	X	X		X	X	X	X
Adopt Wetland Rules	X		X		X	X	X	X
Enforce/Require Buffer Standards	X	X	X	X	X	X	X	X
Enforce/Require Hydrologic Standards <sup>1</sup>		X <sup>2</sup>					X	X
Perform Studies/ Inventories	X		X		X	X	X	X
Perform Capital Projects			X		X			
Manage PWI "W" waters	X <sup>3</sup>			X		X		X

- (1) Standard linked to wetland hydrology designed to protect wetlands from development activity.
- (2) BCWMC requires cities to enforce hydrologic standards for select wetland classifications only
- (3) The Plan notes that the RWMWD manages "W" designated waterbodies differently than "P" designated waterbodies

# Possible Revisions to RWMWD Roles

- RWMWD Rules
  - Wetland bounce and inundation standards
  - Buffer standards
  - Project review and documentation
- Wetland monitoring
- Wetland restoration projects

## Possible Revisions to RWMWD Roles

## Bounce and Inundation Standards

- Goal: Limit hydrologic impact to wetlands
- Set performance standards triggered by development and redevelopment projects
- Limit water level fluctuation (bounce)
- Set maximum drawdown period (inundation)
- Criteria vary by wetland classification

Implemented by:



Possible  
Revisions to  
RWMWD Roles  
  
Bounce and  
Inundation  
Standards

- Goal: Limit hydrologic impact to wetlands
- Set performance standards triggered by

Signs of Success:

- Wetlands are preserved and protected, as measured by their net area (no net loss) and the continued viability of their functions and value.
- Priority natural areas are preserved, improved, and maintained.

Imple



# Wetland Management Roles:

# Bounce and Inundation Standards

- Example: BDWMO member cities

Hydrology	Apple Valley		Burnsville	
	Protect	Maintain existing hydrologic conditions for: <ul style="list-style-type: none"> <li>• Bounce (10-yr)</li> <li>• Inundation (1, 2 &amp; 10-yr)</li> </ul>	Protect	Maintain existing conditions if no stormwater inflow, or: <ul style="list-style-type: none"> <li>• Bounce = Existing + 6"</li> <li>• Inundation:               <ul style="list-style-type: none"> <li>- 1 &amp; 2 yr = Existing + 1 day</li> <li>- 10-yr = Existing + 3 days</li> </ul> </li> <li>• Outlet control = no change</li> </ul>
	Manage 1	<ul style="list-style-type: none"> <li>• Bounce = Existing + 6"</li> <li>• Inundation:               <ul style="list-style-type: none"> <li>- 1 &amp; 2 yr = Existing + 1 day</li> <li>- 10-yr = Existing + 7 days</li> </ul> </li> </ul>	Improve	<ul style="list-style-type: none"> <li>• Bounce = Existing + 9"</li> <li>• Inundation:               <ul style="list-style-type: none"> <li>- 1 &amp; 2 yr = Existing + 1 day</li> <li>- 10-yr = Existing + 5 days</li> </ul> </li> <li>• Outlet control = no change</li> </ul>
	Manage 2	<ul style="list-style-type: none"> <li>• Bounce = Existing + 12"</li> <li>• Inundation:               <ul style="list-style-type: none"> <li>- 1 &amp; 2 yr = Existing + 2 day</li> <li>- 10-yr = Existing + 14 days</li> </ul> </li> </ul>	Manage 1	<ul style="list-style-type: none"> <li>• Bounce = Existing + 12"</li> <li>• Inundation:               <ul style="list-style-type: none"> <li>- 1 &amp; 2 yr = Existing + 5 day</li> <li>- 10-yr = Existing + 15 days</li> </ul> </li> <li>• Outlet control = Existing + 24"</li> </ul>
	Manage 3	<ul style="list-style-type: none"> <li>• Bounce = Existing + 48"</li> <li>• Inundation:               <ul style="list-style-type: none"> <li>- 1 &amp; 2 yr = Existing + 7 day</li> <li>- 10-yr = Existing + 21 days</li> </ul> </li> </ul>	Manage 2	See City of Burnsville local water management plan

## Possible Revisions to RWMWD Roles

## Buffer Standards

- Goal: Permanent protections for wetlands
- Current buffer standards are strong
- Could require conservation easements for wetlands (possibly by classification)
- Triggered by development or redevelopment activity

Implemented by:

All require buffers

None require conservation easements

# Possible Revisions to RWMWD Roles

## Buffer Standards

- Goal: Permanent protections for wetlands
- Require conservation easements for wetlands

### Signs of Success:

- Wetlands are preserved and protected, as measured by their net area (no net loss) and the continued viability of their functions and value.
- Priority natural areas are preserved, improved, and maintained.

Implement

All require buffers

None require conservation easements

Possible  
Revisions to  
RWMWD Roles  
  
Buffer  
Standards

- Existing buffer standards (average values, feet)

Class	RWMWD	BCWMC	CRWD	MCWD	SWWD	VBWD
Manage A	75	75	25	75	75/100	100
Manage B	50	50	25	40	50/75	75
Manage C	25	25	25	30	25/50	50

Notes:

Class listed by RWMWD categories, labels vary by WD/WMO

SWWD has lower/higher standards for wetlands less than/greater than 1 acre

- RWMWD buffer widths are consistent, strong



Possible  
Revisions to  
RWMWD Roles

Wetland  
Monitoring

- Goal: Identify/quantify wetland impacts
- Monitor different types of wetlands
  - Reference wetlands
  - Impacted wetlands
- Hydrology, macrophytes, macroinvertebrates, MnRAM functions and values

Implemented by:



Possible  
Revisions to  
RWMWD Roles

Wetland  
Monitoring

- Goal: Identify/quantify wetland impacts
- Monitor different types of wetlands

Signs of Success:

- Monitoring and research data are used to inform District projects and programs, and District data are shared to contribute to the science of ecological restoration.

Implemented by:

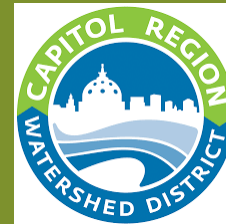


## Possible Revisions to RWMWD Roles

## Wetland Restoration

- Goal: Increase quality/quantity of wetlands
- Pursued for intrinsic benefit (not compensatory)
  - Water quality
  - Ecology
  - Flood risk reduction/resiliency
- Priority sited identified in prior RWMWD wetland restoration sites study

Implemented by:



## Possible Revisions to RWMWD Roles

## Wetland Restoration

- Goal: Increase quality/quantity of wetlands
- Signs of Success:
  - The quantity of ecologically diverse aquatic, wetland, and associated upland habitats is increased.
  - The District collaborates with public and private organizations to promote, implement, and maintain ecological restoration projects.
  - Priority natural areas are preserved, improved, and maintained.

Ir

Possible  
Revisions to  
RWMWD Roles

Manager  
Discussion

- RWMWD Rules
  - Wetland bounce and inundation standards
  - Buffer standards
  - Project review and documentation
- Wetland monitoring
- Wetland restoration projects

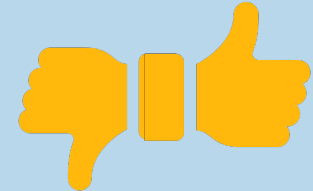
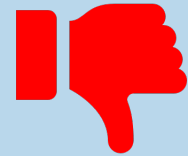
Possible  
Revisions to  
RWMWD Roles

Manager  
Discussion

- RWMWD Rules
  - Wetland bounce and inundation standards

Options:

- RWMWD should not do this
- Maybe RWMWD should to this  
(highly dependent on the specifics)
- RWMWD should definitely do this  
(just need to nail down the details)



Possible  
Revisions to  
RWMWD Roles

Next Steps

- Clarify specifics for Manager-supported wetland management roles
  - Rules updates go through a stakeholder engagement process
- Evaluate potentially Manager-supported wetland management roles in greater detail (e.g., case studies)
  - Examples for possible restoration projects

Thank You



## Project work plan

Original Date: March 28, 2023

Updated: March 28, 2023

**Project:** Owasso Basin Area and North Star Estates Flood-Risk Reduction  
**Project #** 23/62-1200.23 004

### Project team

RWMWD staff: Tina Carstens (project manager)

Barr staff: Brandon Barnes, Brad Lindaman, Greg Nelson, Lulu Fang, Joel Swenson

### Scope of work

The Owasso Basin Bypass Pipeline Feasibility Study, completed in 2020, provided a phased approach for reducing flood risk in and around Owasso Basin and North Star Estates in the City of Little Canada. In 2021, the RWMWD finished raising Ryan Drive, storm sewer modifications, maintenance along Gervais Creek and the Owasso berm, and drainage improvement at Keller Parkway (Phases 1 and 2 of the implementation strategy). Completion of these phases yielded a tangible reduction in flood risk in the Gervais Creek subwatershed, particularly for structures upstream of Keller Parkway and around Owasso Basin. The infrastructure critical to providing additional hydraulic capacity in the Gervais Creek subwatershed is now in place and, based on model results, approximately 34 homes within North Star Estates, three businesses north of Ryan Drive, and four homes immediately upstream of Keller Parkway have been removed from the 100-year inundation extent.

In May 2022, Barr, District, and City of Little Canada staff met to review flood-risk-reduction efforts in and around Owasso Basin—specifically the approach toward reducing flood risk for manufactured homes within North Star Estates. These homes are constructed differently than typical single-family dwellings. Barr subsequently drafted a technical memorandum summarizing FEMA-documented guidance and City feedback, presented to the Board of Managers at the June 2022 meeting. The following list summarizes the resulting recommendations and the manager-adopted basis for evaluating flood risk in North Star Estates:

- Evaluate flood risk for the homes in North Star Estates relative to the FEMA-recommended BFE (i.e., distance from the ground to the underside of the structure chassis support system)
- Confirm that access for emergency-response vehicles and personnel is provided to impacted homes (i.e., benchmark elevation of flood water depth less than or equal to 12 inches above the access roadway surface and flood water depth less than or equal to 6 inches above the access path to the dwelling)
- Develop emergency response plans for homes [and businesses] within the 100-year floodplain in and around Owasso Basin

In the fall of 2022, Barr and RWMWD completed a feasibility evaluation of system modifications to improve drainage and lower flood-risk near Owasso Basin, based on the direction the Board of Managers provided at the June 2022 meeting. Results from the feasibility evaluation are summarized in the January 2023 memorandum, and feasibility concepts are shown on attached figures. Feasibility concepts included grading within Owasso Basin, roadway improvements within North Star Estates, culvert capacity along S Owasso Boulevard, drainage modifications within Saint Paul Water easement, and modification to one property within North Star Estates.

The purpose of this project is to complete remaining field investigations including geotechnical borings and prepare preliminary and final plans for modifications to the drainage system around North Star Estates to reduce flood-risk to habitable structures and remove an additional 18 homes and 1 business from the floodplain.

The deliverable from this study will be final plans and specifications for construction of system modifications to lower the 100-year water surface elevation in Owasso Basin based on the direction provided by the Board of Managers in June 2022.

## Work tasks

- **Task 1. Topographic Survey**

- A topographic survey will be conducted to establish existing grades and elevations as well as locations of existing infrastructure and utilities. The survey will be conducted using a total station and/or survey-grade GPS with horizontal and vertical accuracy of +/-0.2 feet. The topographic survey will be completed for areas where survey information was not collected as part of the feasibility design. These are areas located on private property such as North Star Estates or public property that requires additional stakeholder coordination such as Saint Paul Water.

- **Task 2. Geotechnical Investigation**

- A geotechnical investigation will be conducted to evaluate soil conditions for proposed grading and dredging around Owasso Basin and culvert modifications along South Owasso Boulevard. The geotechnical investigation will be complete in two phases. The first phase will include collecting information needed for culvert modifications along South Owasso Boulevard and road raises within North Star Estates. In these areas geotechnical borings will be collected to inform design parameters for roadway modifications and culvert subgrade and backfill requirements.

The second phase will include information required near Owasso Basin. Owasso Basin is located in a historic topographic depression. Existing soil includes a substantial amount of organic material. Soil borings will be collected to inform geotechnical parameters to evaluate the stability of side slopes for Owasso Basin. The second phase of the geotechnical investigation will occur later in the fall of 2023 when water levels in Owasso Basin are lower and access to the basin side slopes is feasible with a drill rig.

- **Task 3. Preliminary design of system modifications near Owasso Basin**

- Supplemental survey (Task 1) and geotechnical investigation (Task 2) will be used to prepare preliminary designs for system modifications near Owasso Basin. Preliminary plans will be developed to approximately 30-percent design. The plans will be submitted to the City of Little Canada, Saint Paul Water, North Star Estates, and RWMWD District staff for review and comment. System modifications include:

- Grading or dredging of Owasso Basin.
- Roadway improvements within North Star Estates
- Culvert replacement at South Owasso Boulevard
- Drainage improvements along the Saint Paul Water easement including additional culvert at South Owasso Boulevard and adjacent storm sewer modifications
- Coordination with North Star Estates regarding low home on Owasso Basin

Considering the anticipated schedule for the geotechnical investigation around Owasso Basin, we anticipate completing the preliminary design in two phases. The first phase will include culvert modifications near S Owasso Boulevard and improvements in North Star Estates. The second phase will include modifications to Owasso Basin.

- **Task 4. Stakeholder Coordination**

- Drainage improvements around Owasso Basin will affect several stakeholders. Coordination with stakeholders will begin following project kickoff and continue through preliminary design (Task 3) and final design (Task 5). Stakeholder coordination will include ongoing discussions with the following entities.

- *City of Little Canada:* Staff will continue to coordinate with the City of Little Canada regarding the design of system modification and to discuss the City's goals for the Owasso Basin area. We anticipate one meeting following development of preliminary plans, and a second meeting following development of 90% plans.
- *Saint Paul Water:* Staff will reach out to Saint Paul Water to discuss drainage modifications with the existing easement and additional culvert capacity through South Owasso Boulevard. We anticipate one initial coordination meeting, and up to two design coordination meetings.
- *North Star Estates:* Staff (in coordination with the City) will reach out to the North Star Estates property owner to discuss modifications for roadways within the housing development, and to better understand if residents are aware of the flood-risk and whether they have opted to purchase flood insurance. We anticipate one initial coordination meeting and up to one design coordination meeting.

- *Diggers LLC*: Staff will reach out to Diggers LLC regarding proposed grading in Owasso Basin. (Diggers LLC is the property owner of one parcel that covers a portion of Owasso Basin)
- **Task 5. Engineering and Design**
  - Contract and bidding documents will be prepared. This task includes preparation of contract documents including final drawings, technical specifications, and bidding documents. It is anticipated that drainage improvements will be completed in two phases. The first phase includes drainage improvements related to culvert capacity at S Owasso Boulevard and improvements within North Star Estates. The second phase includes improvements to Owasso Basin. If stakeholders approve proposed modifications, it is anticipated that Phase I could be bid in 2024 and Phase II could be bid in 2025.
- **Task 6. Presentation to the RWMWD Board**
  - Final plans for system modifications and a summary of stakeholder coordination will be presented to RWMWD Board of Managers. If the board approves the plans and specifications, Barr will solicit bids for construction of flood-risk reduction modifications. Bid administration and construction observation tasks will be included in a subsequent scope.

## **Budget**

The approximate cost for Barr to complete the work outlined above is **\$300,000**. A breakdown by individual task is included in the milestone table below.

## **Schedule**

The anticipated schedule is summarized in the milestone table below. Due to availability of drilling subcontractors, site access around Owasso Basin, and stakeholder coordination required to access Owasso Basin, it is anticipated that system improvements will be advanced in two phases.

## Milestones

Task	Anticipated Completion Date	Anticipated Budget
<b>Task 1. Topographic Survey</b>	April 2023	\$20,000
<b>Task 2. Geotechnical Investigation</b>	<ul style="list-style-type: none"> <li>June 2023 – S Owasso Blvd &amp; North Star Estates</li> <li>November 2023 – Owasso Basin</li> </ul>	\$80,000
<b>Task 3. Preliminary design of system modifications near Owasso Basin</b>	<ul style="list-style-type: none"> <li>September 2023 – S Owasso Blvd &amp; North Star Estates</li> <li>February 2024 – Owasso Basin</li> </ul>	\$25,000
<b>Task 4. Stakeholder Coordination</b>	Ongoing throughout the project	\$15,000
<b>Task 5. Engineering and Design</b>	<ul style="list-style-type: none"> <li>February 2024 – S Owasso Blvd &amp; North Star Estates</li> <li>August 2024 – Owasso Basin</li> </ul>	\$155,000
<b>Task 6. Presentation to the RWMWD Board</b>	<ul style="list-style-type: none"> <li>February 2024 – S Owasso Blvd &amp; North Star Estates</li> <li>August 2024 – Owasso Basin</li> </ul>	\$5,000

## Project tracking

Month	Budget spent (\$/%)
<b>March 2023</b>	
<b>April 2023</b>	
<b>May 2023</b>	
<b>June 2023</b>	
<b>July 2023</b>	
<b>August 2023</b>	

## **Attachment A**

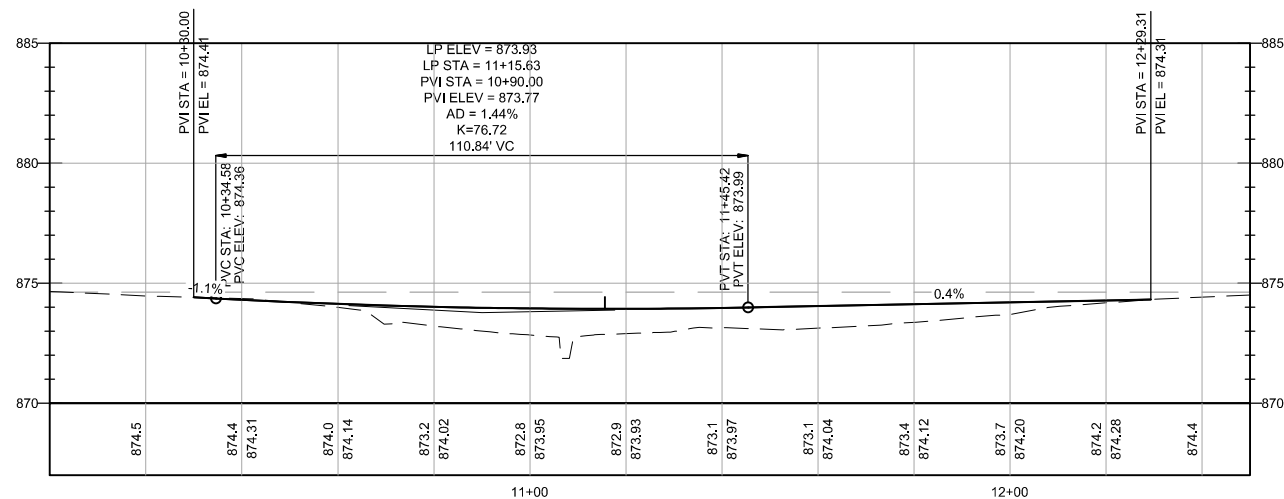
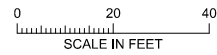
### **Feasibility Design Drawings**



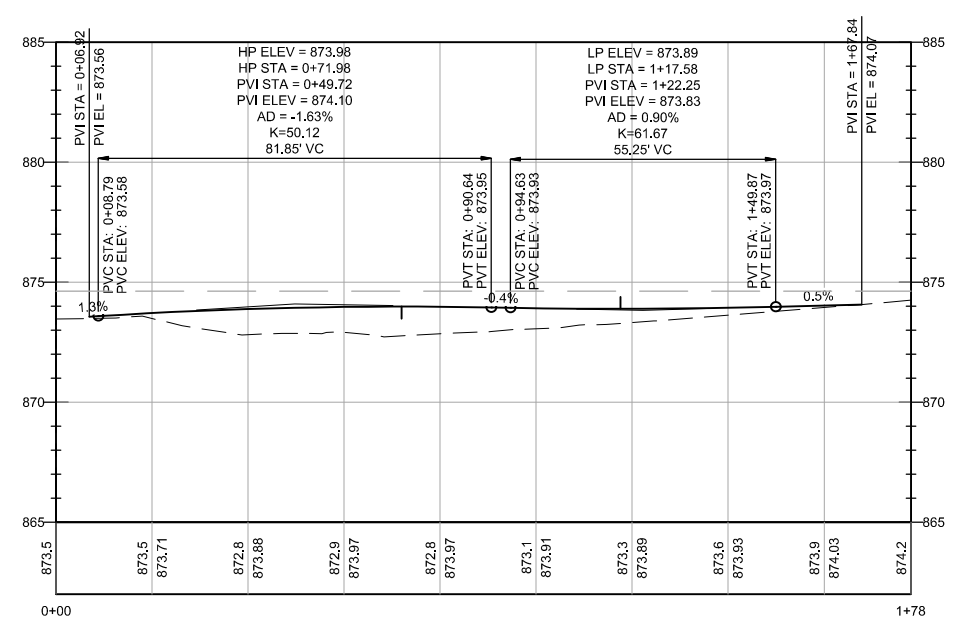
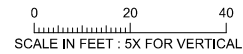


NORTH STAR ESTATES BIG CIR. DR. & LITTLE CIR. DR. MODIFICATIONS		
ITEM	VALUE	UNIT
<b>DEMOLITION</b>		
-FULL DEPTH ASPHALT ROAD REMOVAL	7,904	SF
-PARKING PAD REMOVAL (2 STALLS, 18' x 20', TYP.)	9	EA
-PARKING AREA REMOVAL (6 STALLS, 72' x 20')	1	EA
-STORM STRUCTURE REMOVAL	1	EA
<b>PROPOSED ROAD</b>		
-EARTHWORK - SUBGRADE FILL TO RAISE ROAD	190	CY
-CLASS VI 8" DEEP AGGREGATE BASE	183	CY
-2" TYPE SP 9.5 WEAR COURSE BIT.	93	TN
-2" TYPE SP 12.5 BASE COURSE BIT.	93	TN
<b>MOBILE HOME ACCESS</b>		
-NEW PARKING PAD (2 STALLS, 18' x 20', TYP.)	8	EA
-EARTHWORK - SUBGRADE FILL TO BUILD PADS	75	CY
-CLASS V 8" DEEP AGGREGATE BASE	36	CY
-NEW ACCESS RAMP (4' WIDE x 31' LONG, AVG.)	8	EA
<b>STORM UTILITY</b>		
-NEW AREA INLET STORM STRUCTURE, 18" DIA. NYOPLAST	2	EA
-12" HDPE STORM PIPE	95	LF
-RECONNECT TO EXISTING NEARBY MANHOLE	1	EA
<b>ADDITIONAL FLATWORK</b>		
-NEW PARKING AREA (6 STALLS, 72' x 20')	1	EA
-CLASS V 8" DEEP AGGREGATE	35	CY
-2" TYPE SP 9.5 WEAR COURSE BIT.	18	TN
-2" TYPE SP 12.5 BASE COURSE BIT.	18	TN

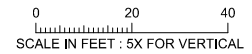
1 PLAN: OUTER LOOP ROAD - NORTHWEST



1 PROFILE: OUTER LOOP ROAD - NORTHWEST



1 PROFILE: OUTER LOOP ROAD - NORTHWEST



PRELIMINARY  
DRAFT

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CLIENT	BID	CONSTRUCTION	RECORD	RELEASED TO/FOR	A	B	C	0	1	2	3

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**BARR ENGINEERING CO.**  
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 Suite 200  
 MINNEAPOLIS, MN 55435  
 Corporate Headquarters:  
 Minneapolis, Minnesota  
 Ph: 1-800-632-2277  
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Date	10/05/2022
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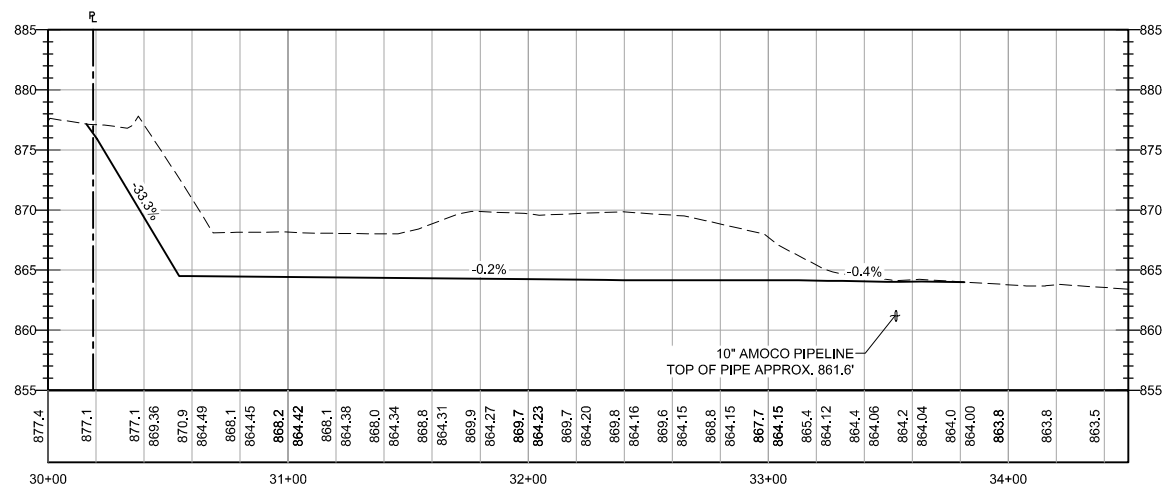
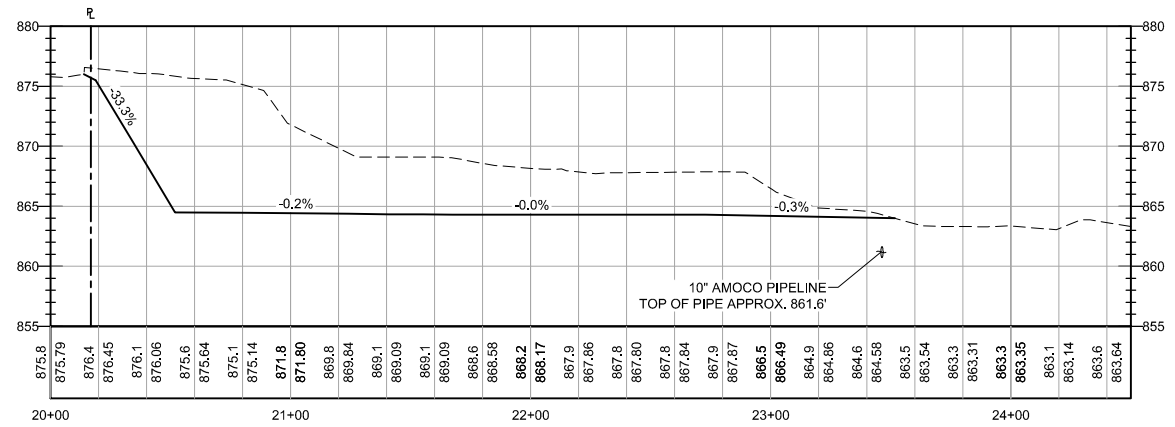
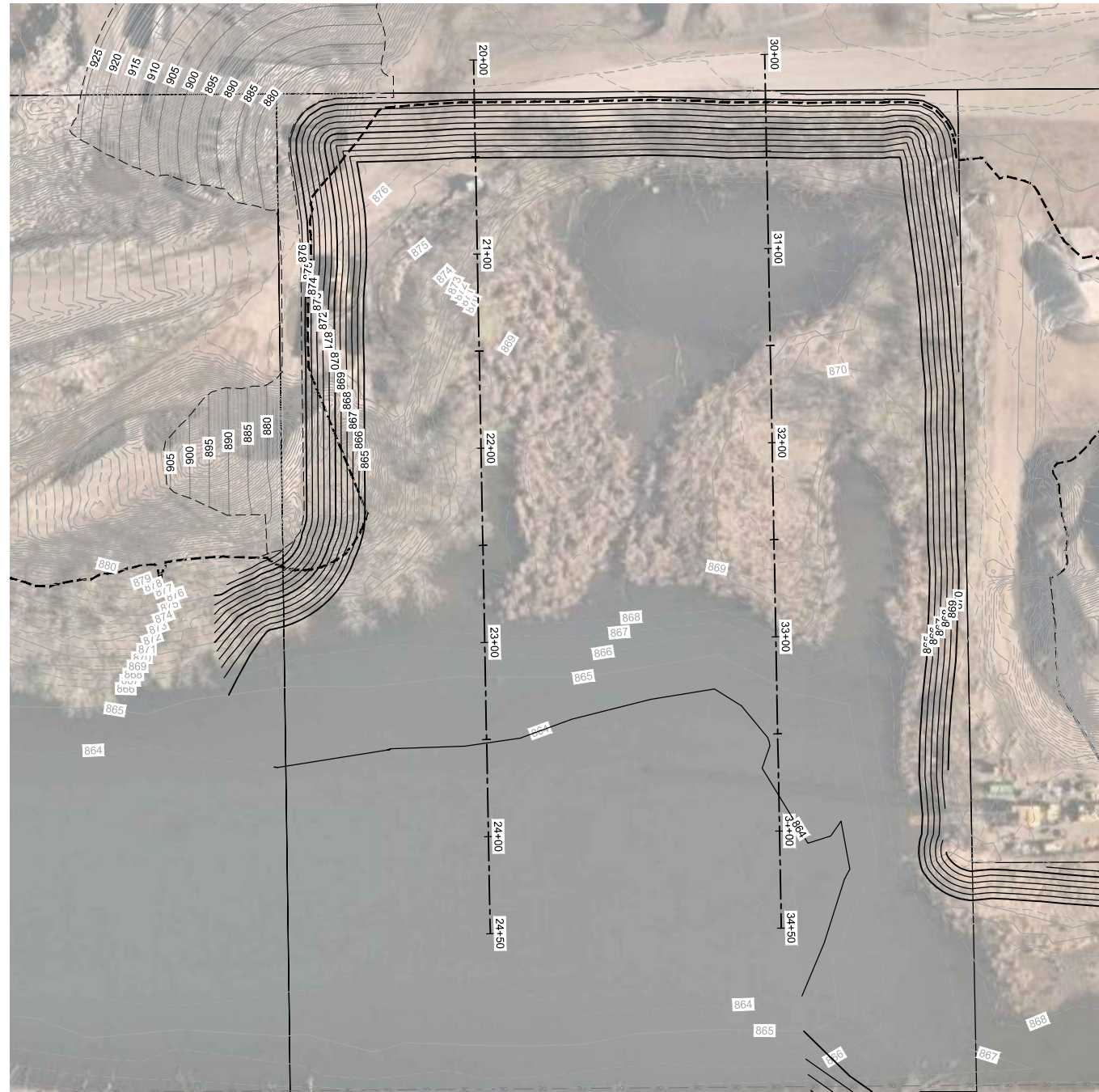
**RAMSEY-WASHINGTON**  
METRO WATERSHED DISTRICT

**NORTH STAR ESTATES / OWASSO BASIN**  
 LITTLE CANADA, MN  
 ROAD RAISE PLAN  
 OUTER LOOP ROAD - NORTHWEST

BARR PROJECT No. 23621200.22	
CLIENT PROJECT No.	
DWG. No. C1.1	REV. No. -



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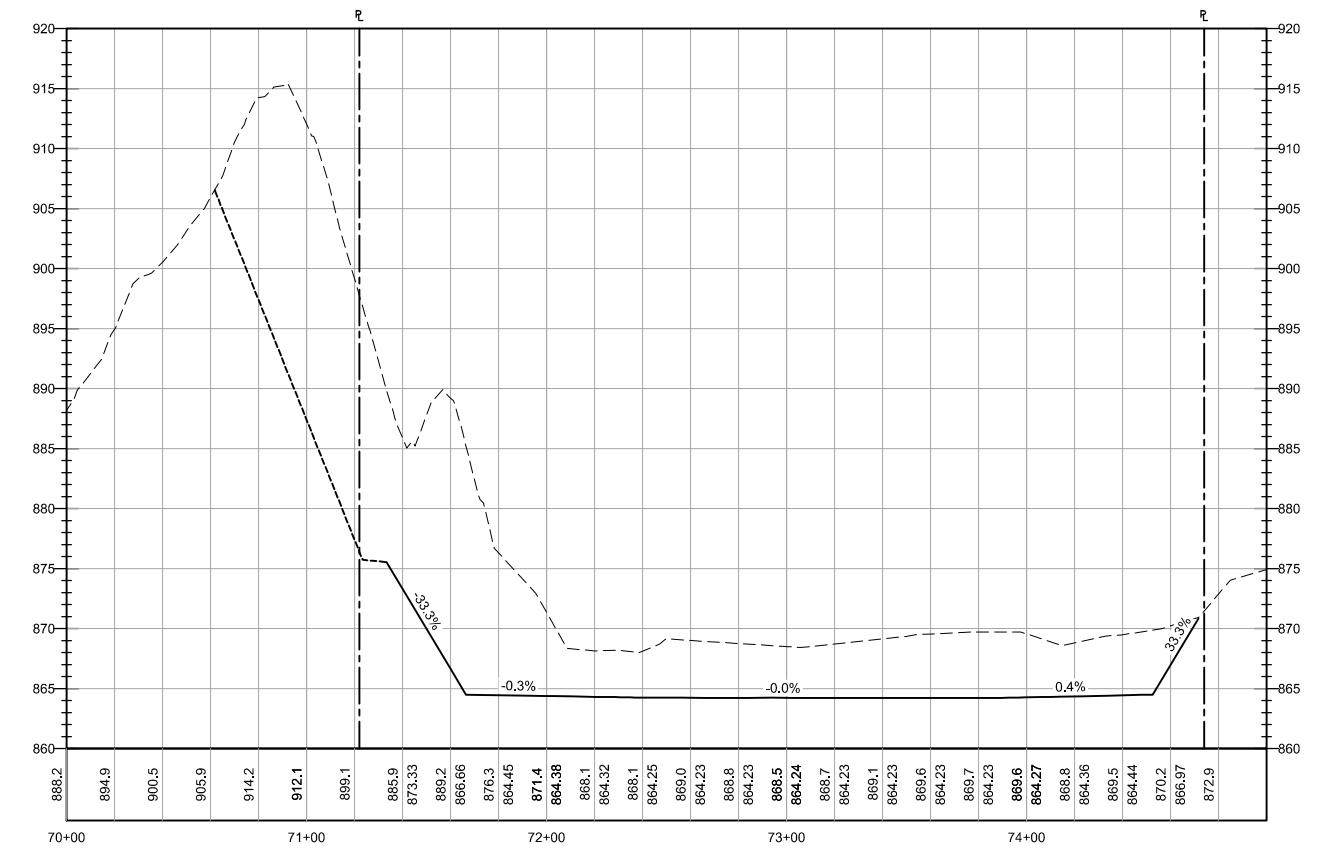
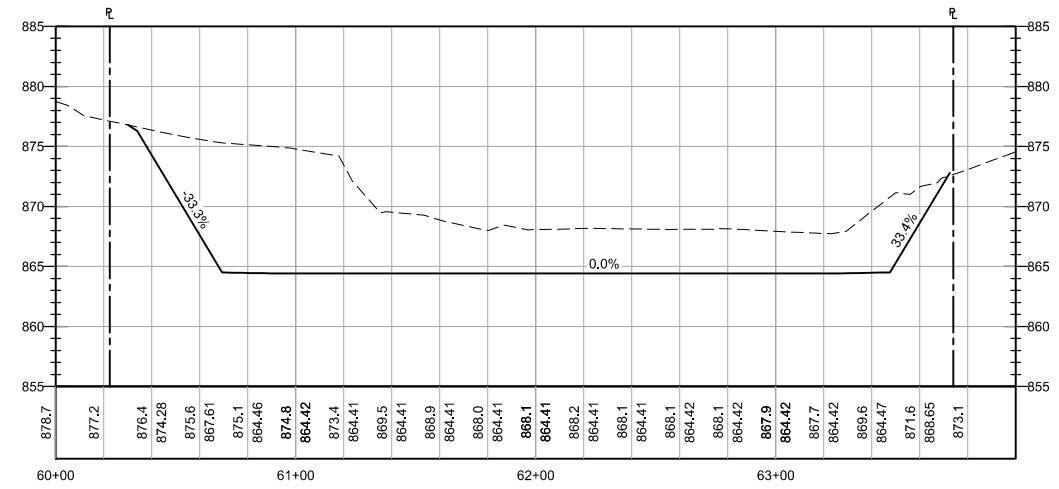
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Drawn	DJS2
Checked	SOR
Designed	BARR
Approved	BJL

**RAMSEY-WASHINGTON**  
 METRO WATERSHED DISTRICT

**NORTH STAR ESTATES / OWASSO BASIN**  
 LITTLE CANADA, MN  
**BASIN GRADING PLAN**  
 ALTERNATIVE 2 - CITY + NSE PARCEL

BARR PROJECT No.	
23621200.22	
CLIENT PROJECT No.	
DWG. No.	REV. No.
C1.2	-

CADD USER: DEREK J. SEIFERT FILE: M:\DESIGN\23621200\22\_C1\_2.DWG PLOT SCALE: 1:2 PLOT DATE: 10/26/2022 1:13 PM



PRELIMINARY  
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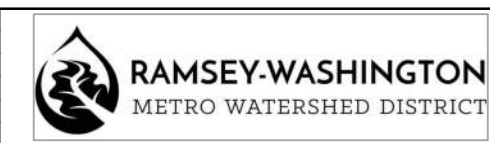
NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION

CLIENT	BID	CONSTRUCTION	RECORD

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Date	10/26/2022
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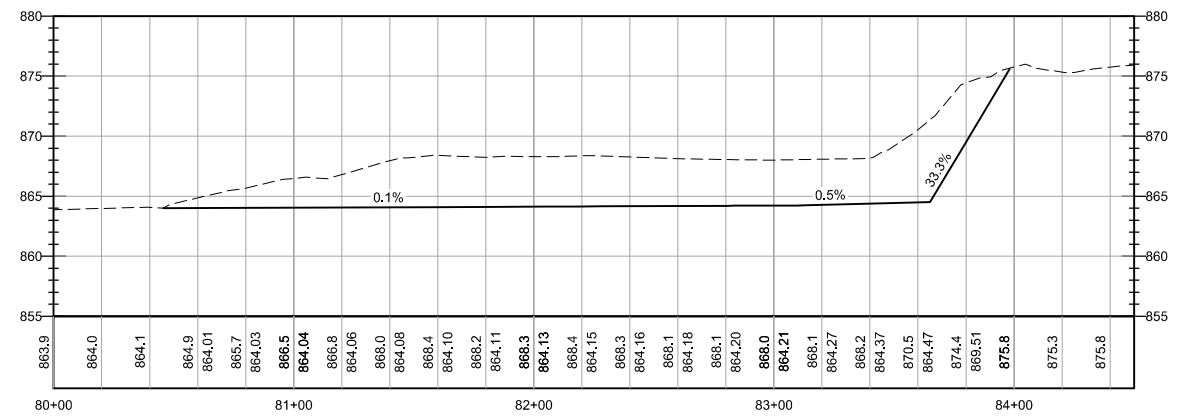
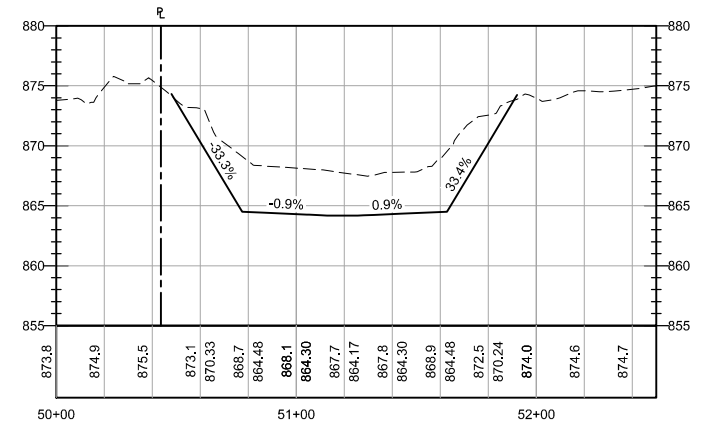
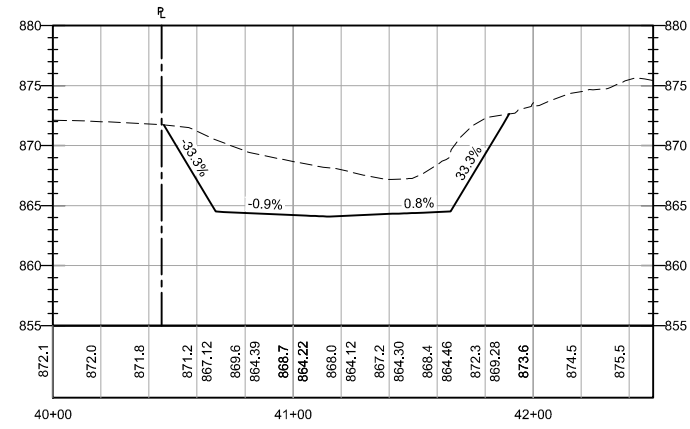
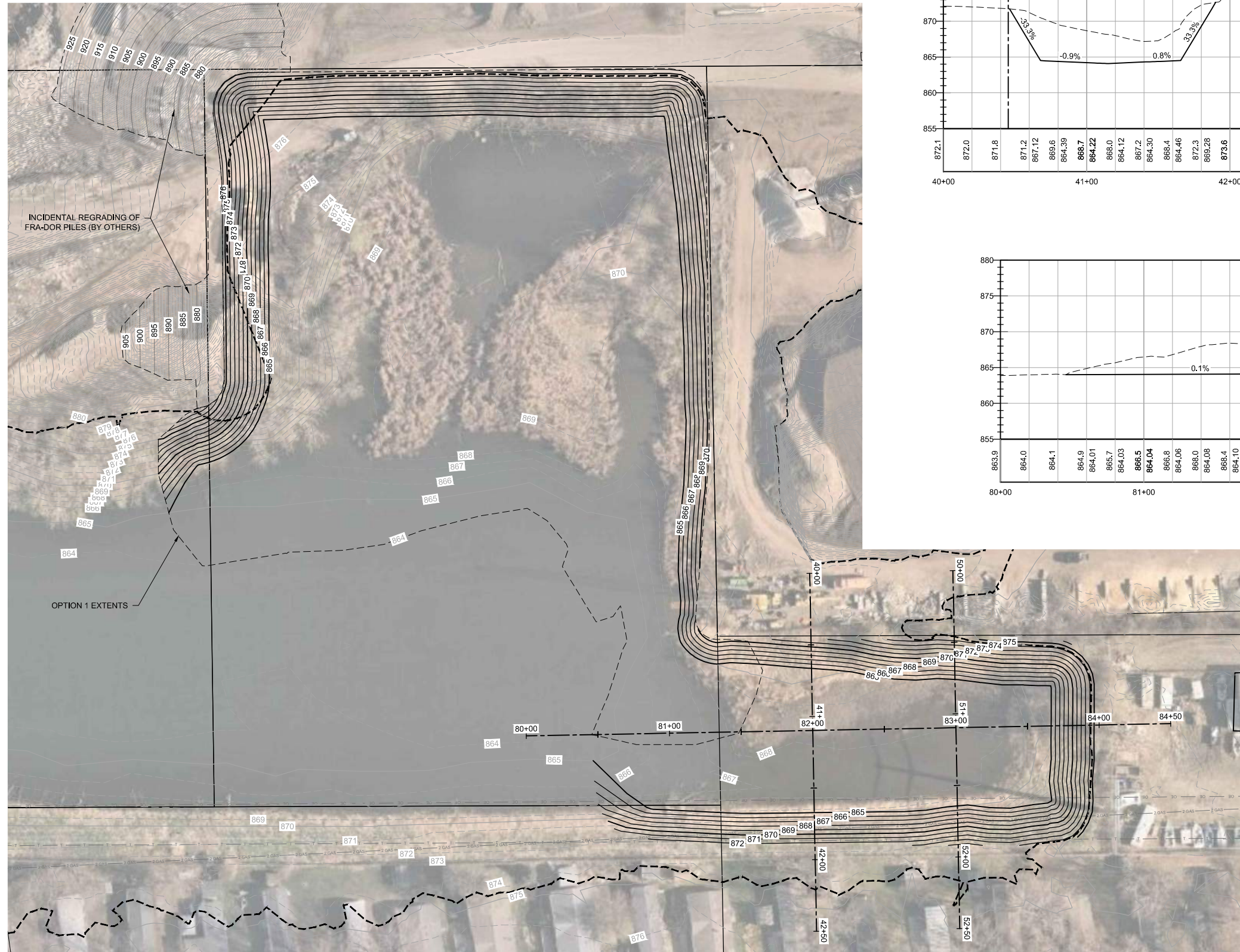


NORTH STAR ESTATES / OWASSO BASIN  
 LITTLE CANADA, MN

BASIN GRADING PLAN  
 ALTERNATIVE 2 - CITY PARCEL DREDGE PROFILES

BARR PROJECT No. 23621200.22	
CLIENT PROJECT No.	
DWG. No. C1.3	REV. No. -

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**NOTE:**

1. ALTERNATIVE 2 INCLUDES ALTERNATIVE 1 (DREDGING AND REGRADING CITY OF LITTLE CANADA PARCEL) AND DREDGING AND REGRADING OF THE EAST END OF OWASSO BASIN ON NORTH STAR ESTATES PROPERTY.
2. A/E RECOMMENDS ADDING BERMING OR SIMILAR EROSION PREVENTION BMPs TO MITIGATE FUTURE INFILLING OF BASIN FROM SURROUNDING PROPERTIES.

PRELIMINARY  
DRAFT

NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION

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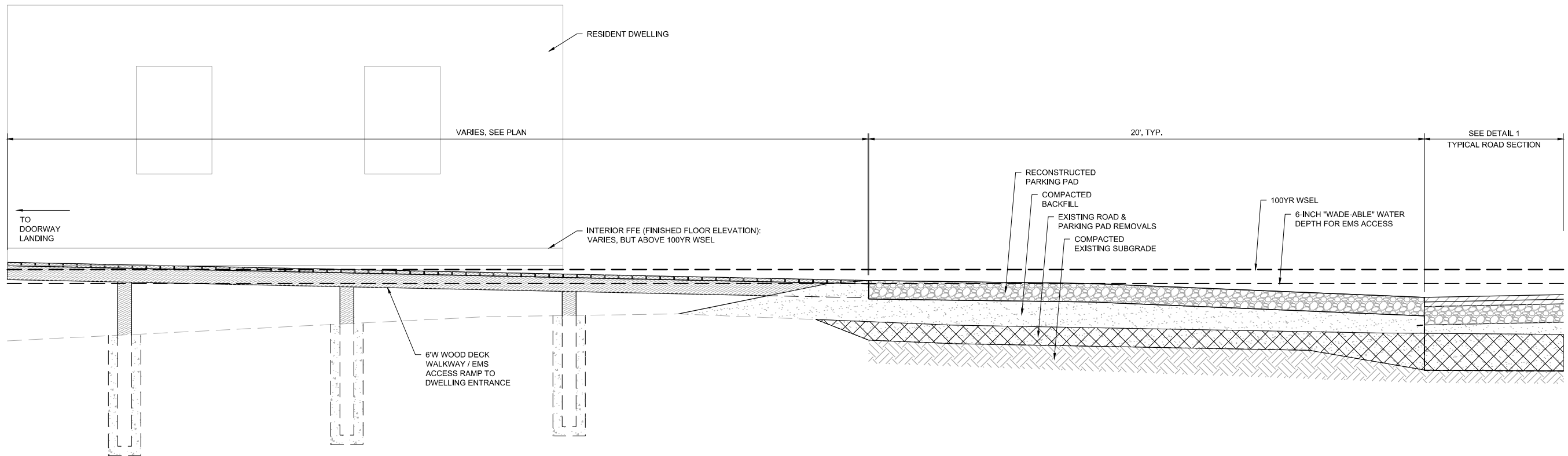
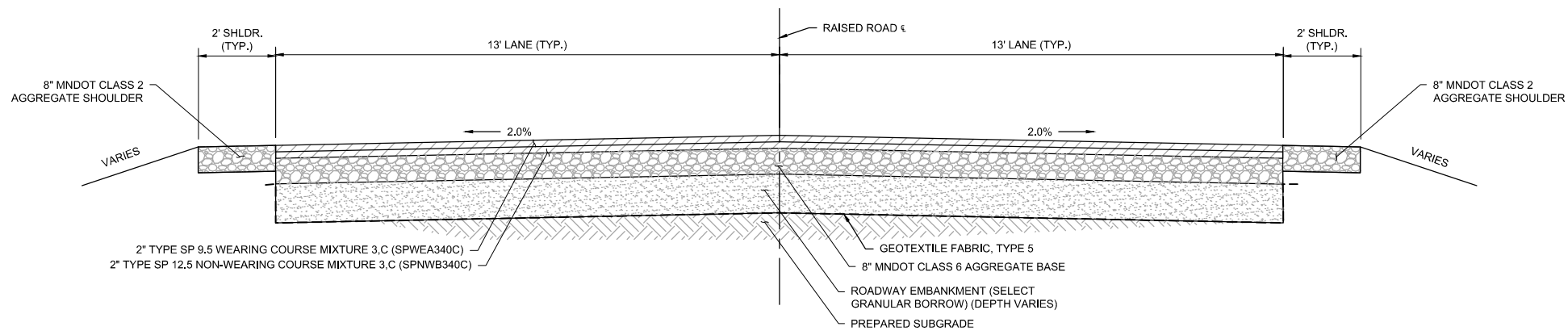
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Checked	SOR
Designed	BARR
Approved	BJL

**RAMSEY-WASHINGTON**  
METRO WATERSHED DISTRICT

**NORTH STAR ESTATES / OWASSO BASIN**  
 LITTLE CANADA, MN

**BASIN GRADING PLAN**  
 ALTERNATIVE 2 - NSE PARCEL DREDGE PROFILES

BARR PROJECT No. 23621200.22	
CLIENT PROJECT No.	
DWG. No. C1.4	REV. No. -



PRELIMINARY  
DRAFT

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CONSTRUCTION							
RECORD							
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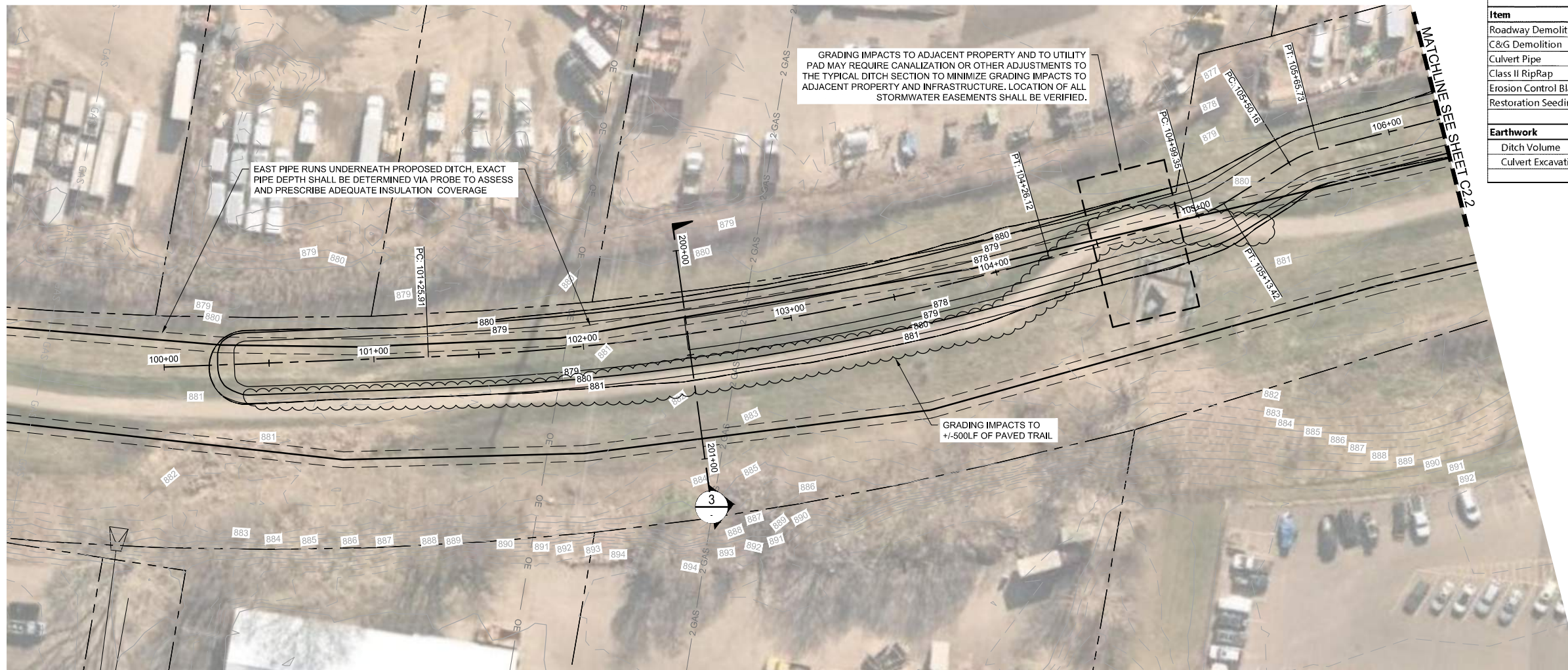
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Minneapolis, Minnesota  
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Drawn	DJS2
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Designed	BARR
Approved	BJL

NORTH STAR ESTATES / OWASSO BASIN  
LITTLE CANADA, MN

SITE DETAILS  
ROAD & EMS ACCESS MODIFICATIONS

BARR PROJECT No. 23621200.22	
CLIENT PROJECT No.	
DWG. No. C1.5	REV. No. -



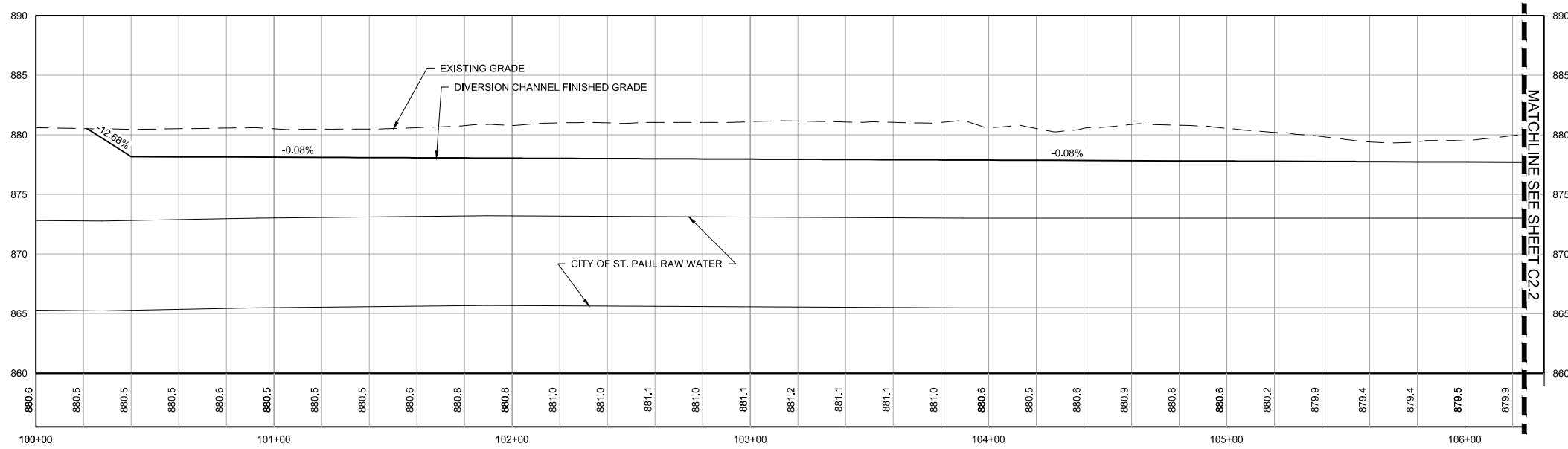
1 PLAN: WEST INDUSTRIAL PARK DIVERSION CHANNEL (100+00.00 - 106+25.00)



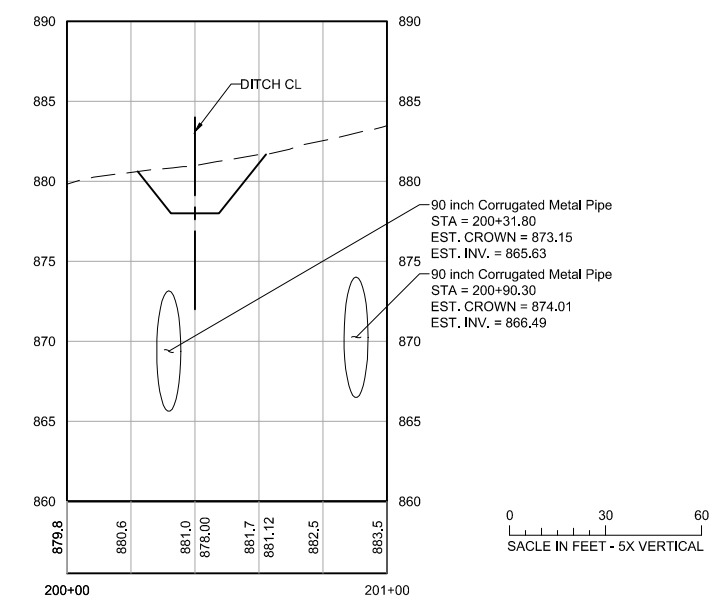
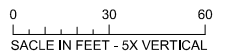
West Industrial Park - Owasso Basin Storm Diversion Ditch			
Item	Quantity	Unit	Notes
Roadway Demolition	128	SY	Full Depth remove and replace to install box culverts
C&G Demolition	60	LF	Full remove and replace to install box culverts
Culvert Pipe	132	LF	Two (2) 4'Wx2' Precast Concrete Box Culvert
Class II RipRap	16	CY	Three (3) Outfalls (Culvert Ends & Gervais Creek Connection)
Erosion Control Blanket	8500	SY	Ditch side slopes
Restoration Seeding	2.55	AC	MN-DOT Native Seed Mix TBD

Earthwork	Cut Factor	Fill Factor	2d Area (Sq. Ft.)	Cut (Cu. Yd.)	Fill (Cu. Yd.)	Net (Cu. Yd.)
Ditch Volume	1	1	101103	9092	73	9019<Cut>
Culvert Excavation	1	1	1620	240	N/A	240<Cut>



2 PROFILE: WEST INDUSTRIAL PARK DIVERSION CHANNEL (100+00.00 - 106+25.00)



3 PROFILE: DITCH CROSS SECTION

PRELIMINARY DRAFT

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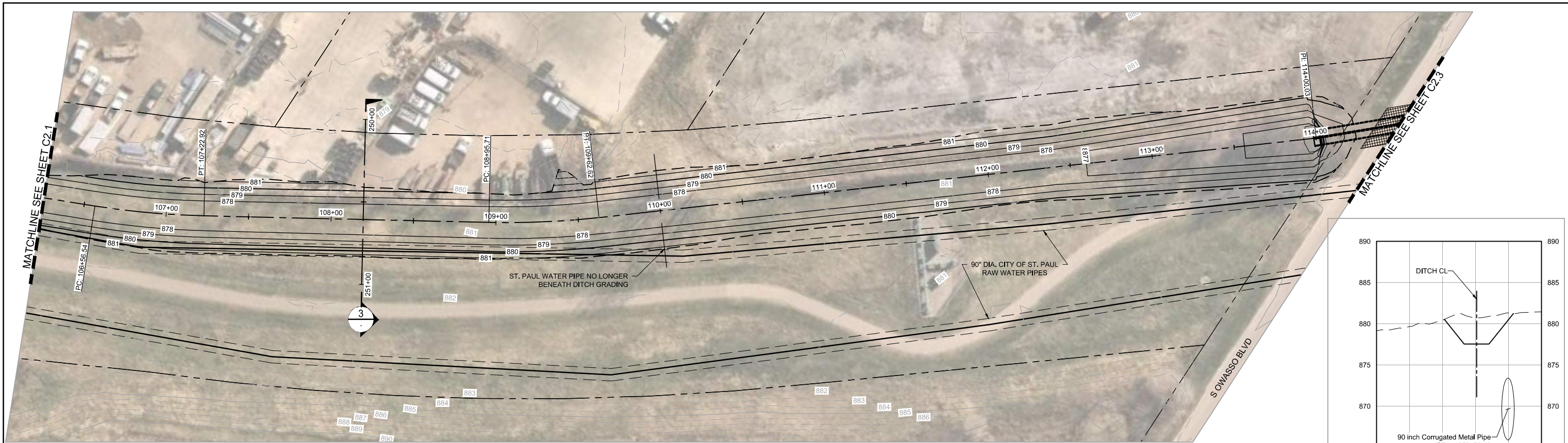
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Scale: AS SHOWN  
 Date: 10/26/2022  
 Drawn: DJS2  
 Checked: SOR  
 Designed: BARR  
 Approved: BJL

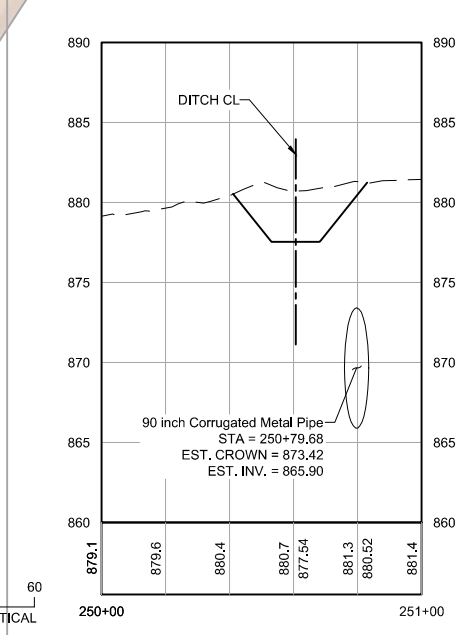
NORTH STAR ESTATES / OWASSO BASIN  
 LITTLE CANADA, MN

GRADING PLAN & PROFILE  
 WEST INDUSTRIAL PARK DIVERSION CHANNEL

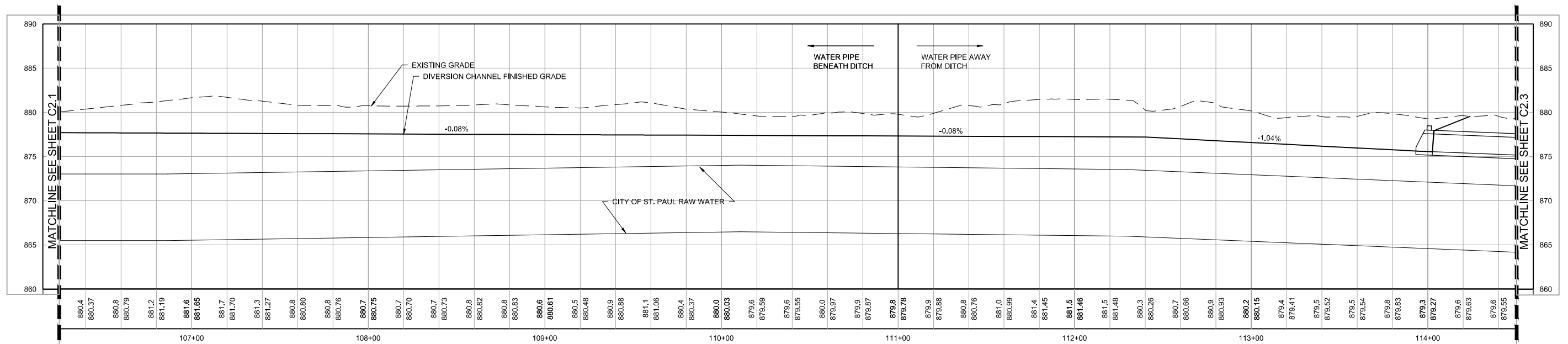
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DWG. No. C2.1	REV. No. -



1 PLAN: WEST INDUSTRIAL PARK DIVERSION CHANNEL (106+25.00 - 114+50.00)



3 SECTION: DITCH CROSS SECTION (@ 108+20.00)



2 PROFILE: WEST INDUSTRIAL PARK DIVERSION CHANNEL (106+25.00 - 114+50.00)

PRELIMINARY DRAFT

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Date	10/26/2022
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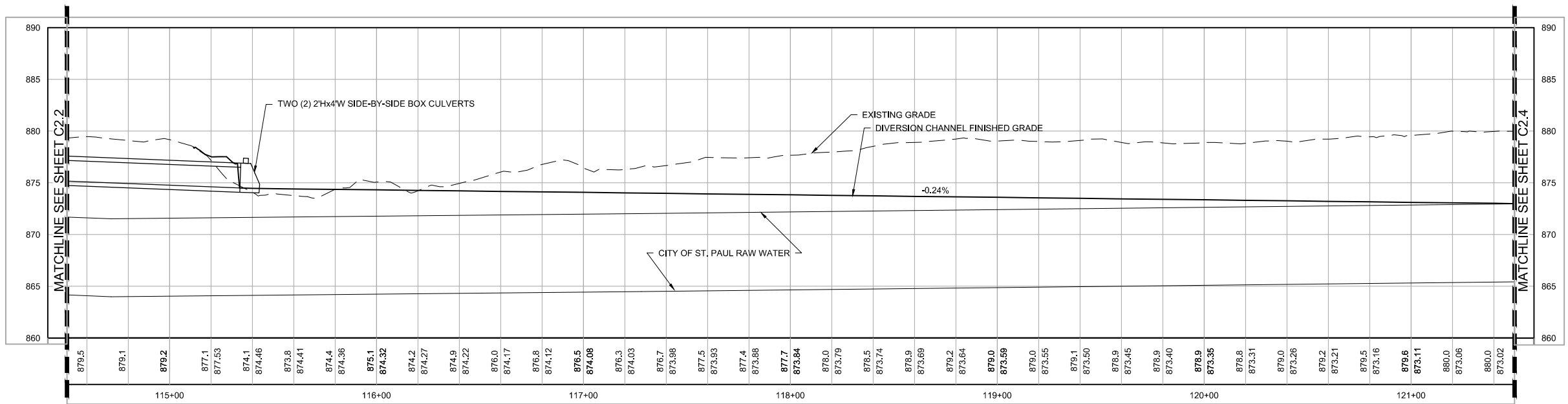


NORTH STAR ESTATES / OWASSO BASIN  
 LITTLE CANADA, MN  
 GRADING PLAN & PROFILE  
 WEST INDUSTRIAL PARK DIVERSION CHANNEL

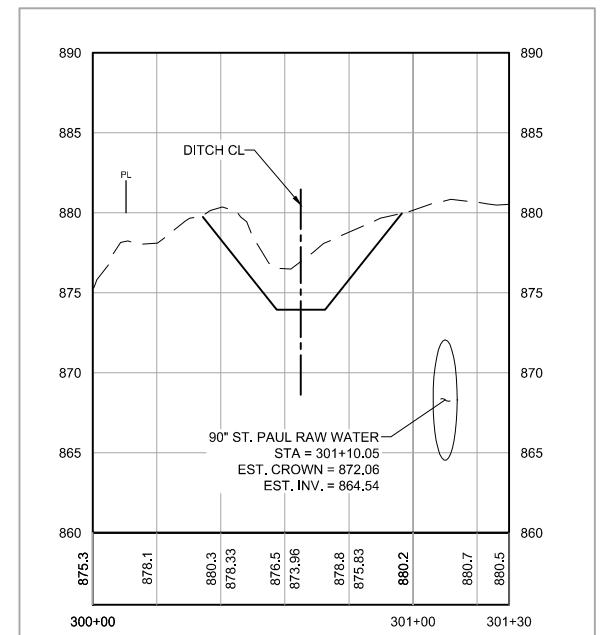
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CLIENT PROJECT No.	
DWG. No. C2.2	REV. No. -



1 PLAN: WEST INDUSTRIAL PARK DIVERSION CHANNEL (114+50.00 - 121+50.00) SCALE IN FEET



2 PROFILE: WEST INDUSTRIAL PARK DIVERSION CHANNEL (106+25.00 - 114+50.00) SCALE IN FEET - 5X VERTICAL



3 SECTION: DITCH CROSS SECTION (@ 108+20.00) SCALE IN FEET - 5X VERTICAL

PRELIMINARY DRAFT

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NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION

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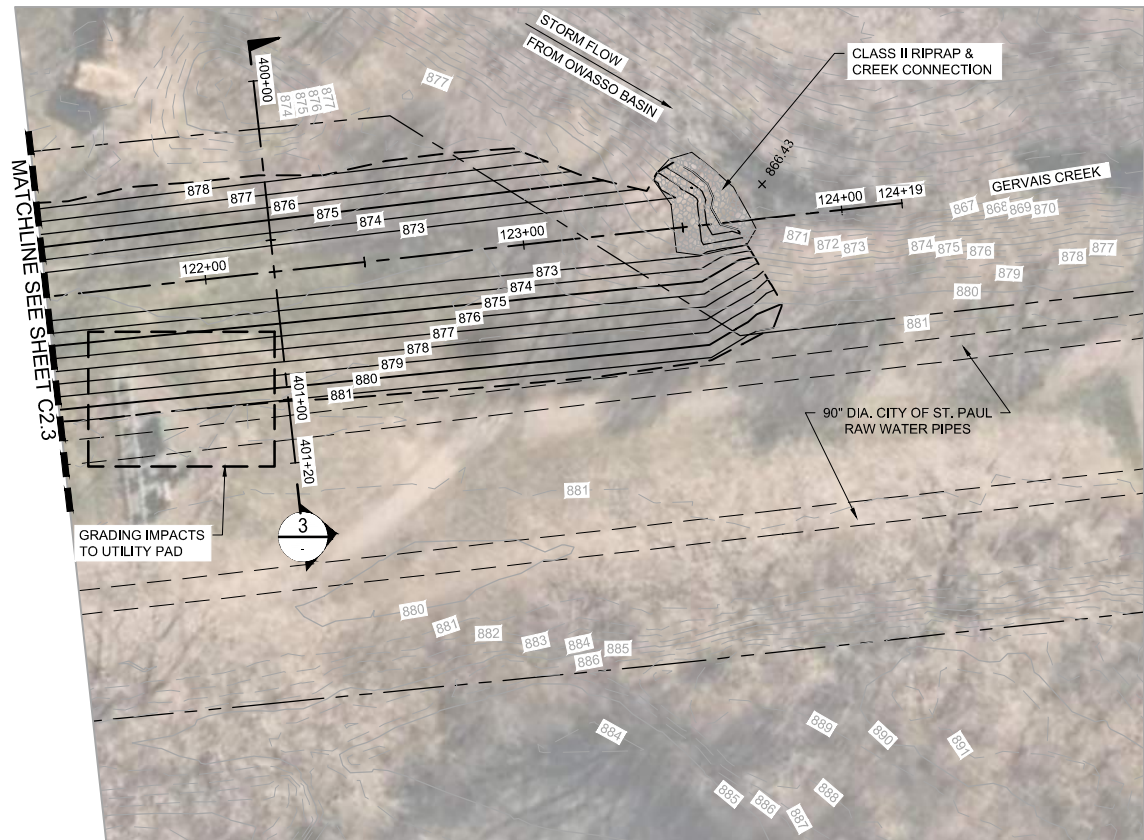
**BARR** Project Office:  
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Date	10/05/2022
Drawn	DJS2
Checked	SOR
Designed	BARR
Approved	BJL

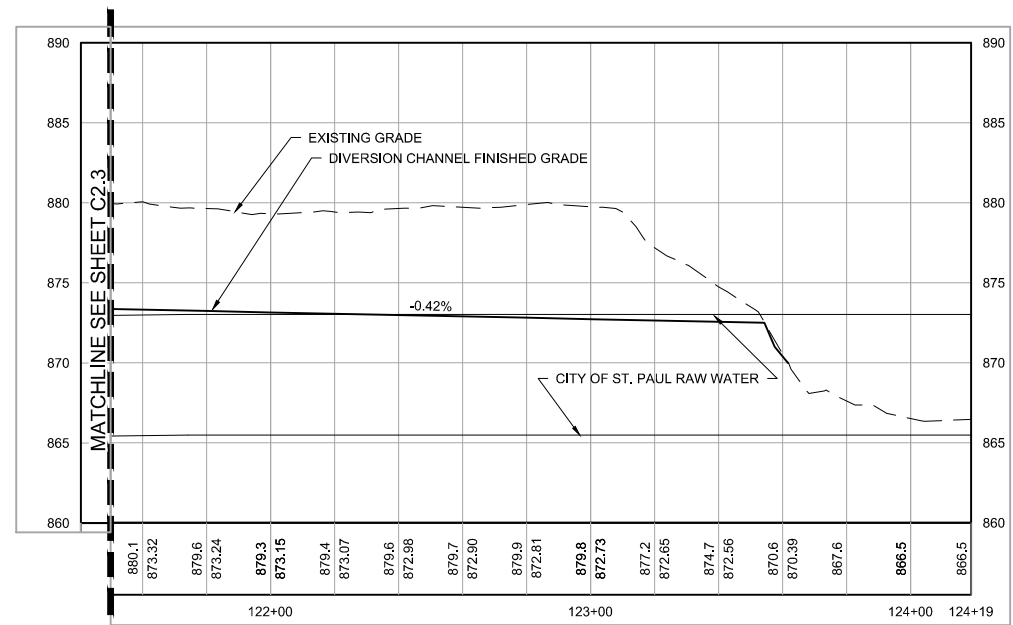


NORTH STAR ESTATES / OWASSO BASIN  
 LITTLE CANADA, MN  
 GRADING PLAN & PROFILE  
 WEST INDUSTRIAL PARK DIVERSION CHANNEL

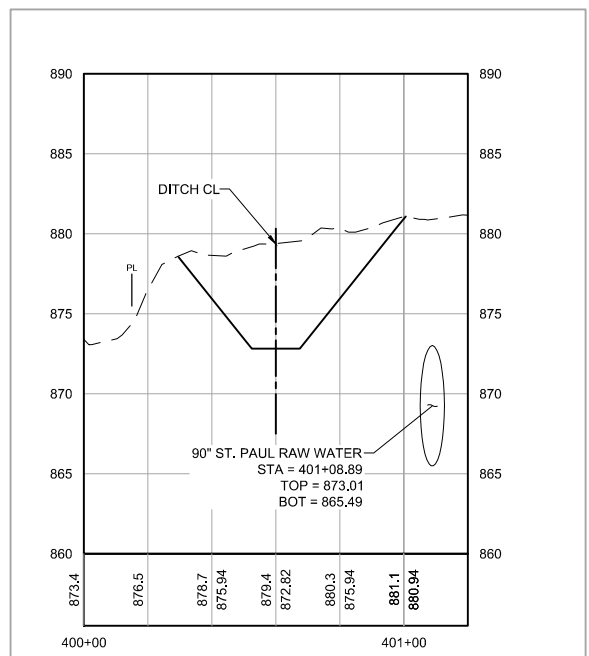
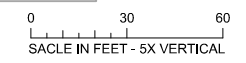
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REV. No.	-



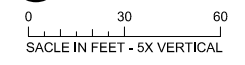
1 PLAN: WEST INDUSTRIAL PARK DIVERSION CHANNEL (121+50.00 - 124+19.00)



2 PROFILE: WEST INDUSTRIAL PARK DIVERSION CHANNEL (114+50.00 - 124+19.00)



3 SECTION: DITCH CROSS SECTION (@ 122+21.00)



PRELIMINARY DRAFT

CADD USER: DEREK J. SEIFERT FILE: M:\DESIGN\23621200.22\C2.4.DWG PLOT SCALE: 1:2 PLOT DATE: 10/26/2022 3:03 PM

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Designed	BARR
Approved	BJL



NORTH STAR ESTATES / OWASSO BASIN  
 LITTLE CANADA, MN

GRADING PLAN & PROFILE  
 WEST INDUSTRIAL PARK DIVERSION CHANNEL

BARR PROJECT No. 23621200.22	
CLIENT PROJECT No.	
DWG. No. C2.4	REV. No. -



## Project Work Plan

Date: March 28, 2023

**Project:** Targeted Stormwater Retrofits – Roosevelt Homes, St. Paul / 23621172.00

### Project Team

District Staff: Paige Ahlborg

Barr Staff: Brandon Barnes, Matt Metzger, Marcy Bean, Andrew Papke-Larson, Greg Nelson

### Barr Team Roles

Principal-in-charge	Brandon Barnes
Project Management:	Marcy Bean
Design Engineer:	Matt Metzger
Design Technician:	Greg Nelson
Landscape Architecture:	Andrew Papke-Larson
Communications:	Marcy Bean

### District Staff

Project Manager: Paige Ahlborg

Thank you for the opportunity to assist Ramsey-Washington Metro Watershed District (RWMWD) and Roosevelt Homes in completing stormwater, civil engineering and landscape design for proposed multi-use housing property improvements in Saint Paul, MN. Barr's project understanding, proposed scope of work, schedule, and budget are described in this letter.

### Scope of Work Summary

Barr understands RWMWD is interested in assisting Roosevelt Homes mitigate frequent flooding at parts of their property in Saint Paul, MN. In summer 2022, Barr and RWMWD staff visited Roosevelt Homes, a multi-family public housing facility owned and operated by St. Paul Public Housing Agency. The area experiences significant flooding, impacting the maintenance facility located on the lower level of the Roosevelt Community Center as well as public spaces and some individual housing units across the property.

In fall 2022, a topographic survey was conducted to establish existing grades and how the private storm system interfaces with the public infrastructure in the regional stormwater model managed by the District. Existing-conditions models were updated based on this increased resolution and cross-checked with assumptions about how flood areas function.

Preliminary concepts were developed to present to the owner to determine interest in various solutions and consider how projects could be phased in over time. The stormwater retrofits may create additional runoff storage or alter existing flood basins, upsize infrastructure, provide opportunities for overland flow improvements, and convert areas vegetated in turf to native habitat. Conceptual stormwater improvements were presented to Roosevelt Homes management in February, 2023 during a working meeting.

A concurrent project by Roosevelt Homes is planned to perform significant Ash or dying tree removal (~170 trees) that may open opportunities to improve site conditions without negative impacts to healthy trees.

A concurrent project by the City of St. Paul at adjacent Sackett Park may have implications on improvements at Roosevelt Homes. An existing pond in the park provides rate control and may be improved as early as 2024, possibly increasing capacity and improving flood management at the Ames Avenue intersection. Any proposed improvements for the Roosevelt Homes property would document implications for the City system and efforts will be made to coordinate construction timing. This coordination will likely be defined by the city project timeline and should be considered as complementary to other proposed improvements, as drainage between the two sites is interdependent.

### Project Implementation Summary

To accommodate the owner's budget and proposed plans for other site improvements, the construction will be split into two or more phases and phased across multiple construction years. The stormwater improvement features included in each Phase is summarized in **Table 1** below and the **attached Figures**.

**Table 1. Work Phase Feature Summary**

Phase	Stormwater Improvement Features Included	notes
<b>Phase 1</b>	Overall conceptual design (all features)	<b>30% Design</b>
<b>Phase 2</b>	Detailed Design & Construction: Basin #1, Basin #2, North Restoration Area	<b>100% Design</b>
<b>Phase 3</b>	Detailed Design & Construction: Ames Avenue and driveway improvements, Playground Area Swale TBD Veg. establishment and maintenance	<b>100% Design</b>

The phased approach and implementation status are summarized in **Table 2** below.

**Table 2. Project Implementation Summary**

<b>Phase</b>	<b>Deliverables and Milestones</b>	<b>Estimated Completion Schedule</b>	<b>Estimated Hours</b>	<b>Estimated Planning, Engineering &amp; Design Cost</b>	<b>Estimated Spent to Date</b>
<b>Phase 1</b>	Task 1.1 Topographic Survey	<b>Nov. 2022 (complete)</b>	<b>0</b>	<b>\$13,500</b>	<b>\$13,500 (complete)</b>
	Task 1.2 Conceptual Design Improvements	<b>Oct. 2022 – Feb. 2023</b>	<b>40</b>	<b>\$6,000</b>	<b>\$6,000 (complete)</b>
	Task 1.3 Design Development and Conceptual Opinion of Cost. Deliverable: 30% Drawings and OPC	<b>Mar. 2023 – Apr. 2023</b>	<b>90</b>	<b>\$14,000</b>	<b>\$0,000 (underway)</b>
	Phase 1 Deliverables Presented to RWMWD Managers for Review	<b>Apr. 2023</b>			
<b>Phase 2</b>	Task 2.1 Soil Borings	<b>Apr. 2023</b>	<b>6</b>	<b>\$10,000</b>	<b>\$0,000 (underway)</b>
	Task 2.2 Engineering & Design Deliverable: 100% final plans, specifications, OPC, bids	<b>Apr. 2023 – Jul. 2023</b>	<b>90</b>	<b>\$14,000</b>	<b>\$0,000</b>
	Phase 2 Deliverables Presented to RWMWD Managers for Review	<b>Jul. 2023 – Aug. 2023</b>			
	Task 2.3 Project Bidding	<b>Aug. 2023</b>	<b>10</b>	<b>\$1,700</b>	<b>\$0,000</b>
	Task 2.4 Construction Observation Deliverables: weekly construction updates and reviewed payment	<b>Oct. 2023 – Nov. 2023</b>	<b>20</b>	<b>\$3,100</b>	<b>\$0,000</b>
<b>Phase 3</b>	Task 3.1 Engineering & Design Deliverable: 100% final plans, specifications, OPC, bids	<b>Dec. 2023 – Feb. 2024</b>	<b>70</b>	<b>\$10,000</b>	<b>\$0,000</b>
	Phase 3 Deliverables Presented to RWMWD Managers for Review	<b>Feb. 2024</b>			
	Task 3.2 Project Bidding	<b>Mar. 2024</b>	<b>10</b>	<b>\$1,700</b>	<b>\$0,000</b>
	Task 3.3 Construction Observation	<b>Jun. 2024 – Aug. 2024</b>	<b>20</b>	<b>\$3,100</b>	<b>\$0,000</b>
	Vegetation Establishment & Maintenance	<b>2024</b>	<b>TBD</b>	<b>not incl.</b>	<b>not incl.</b>
<b>TOTAL</b>	<b>ALL PHASES</b>		<b>356</b>	<b>\$77,100</b>	<b>\$19,500 (26%)</b>

Additional details about the scope of work for each Phase and Task is presented below.

### **Phase 1 Tasks Completed:**

**Task 1 (November 2022): Topographic Survey.** A topographic survey was conducted to establish existing grades and elevations and locations of existing infrastructure and utilities. The survey was conducted using a total station and/or survey grade GPS with horizontal and vertical accuracy of +/- 0.2 feet.

**Task 2 (October - February 2023): Conceptual Designs.** Conceptual design options were developed and presented to district staff and property owners to determine scope of work as defined in this document.

**Task 3 (March – April 2023): Design Development + conceptual cost estimates.** Conceptual design will be further defined to inform project phasing based on available budget and alignment with planned site improvements by the owner.

The deliverables for Phase 1 of the project will be conceptual plans and planning level opinions of cost. After Phase 1 is complete, Barr will present the concept design and planning level opinion of cost to the RWMWD managers for their review .

### **Phase 2 Tasks:**

**Task 1 (April 2023): Soil Borings.** Soil borings will be done at prospective BMP locations to evaluate infiltration capacity of the existing soils. Soil borings could be scheduled as early as April 2023.

**Task 2 (April – July 2023): Engineering and Design.** After approval by RWMWD Board, all contract documents and bidding documents will be completed. This task includes all hydrologic and hydraulic modeling and calculations, design development, and opinion of probable construction costs. Intermediate milestones will include 50% and 100% design approval from RWMWD Board. We assume this will be developed as two bid packages, one for 2023 Construction and one for 2024 Construction as described in the attached graphic exhibit. Includes coordination with City of St. Paul. We may consider bidding the landscape restoration components separately to allow for contracting of plant installation and maintenance for both the prairie restoration and basin plantings separately from the construction.

**Task 3 (August 2023): Project Bidding.** The 2023 Construction project will be publicly bid and a contractor will be recommended to the board.

**Task 4 (October-November 2023): Construction Observation.** Construction oversight and administration will be provided during construction of the 2023 Construction project.

Phase 2 of this project will proceed after Board approval and will consist of preparing final plans, specifications, and an engineer's opinion of cost, conducting project bidding, and assisting with construction observation. Phase 2 deliverables will consist of final plans and specifications, presentation of bids, weekly construction updates, and submittal of monthly payment applications during active construction.

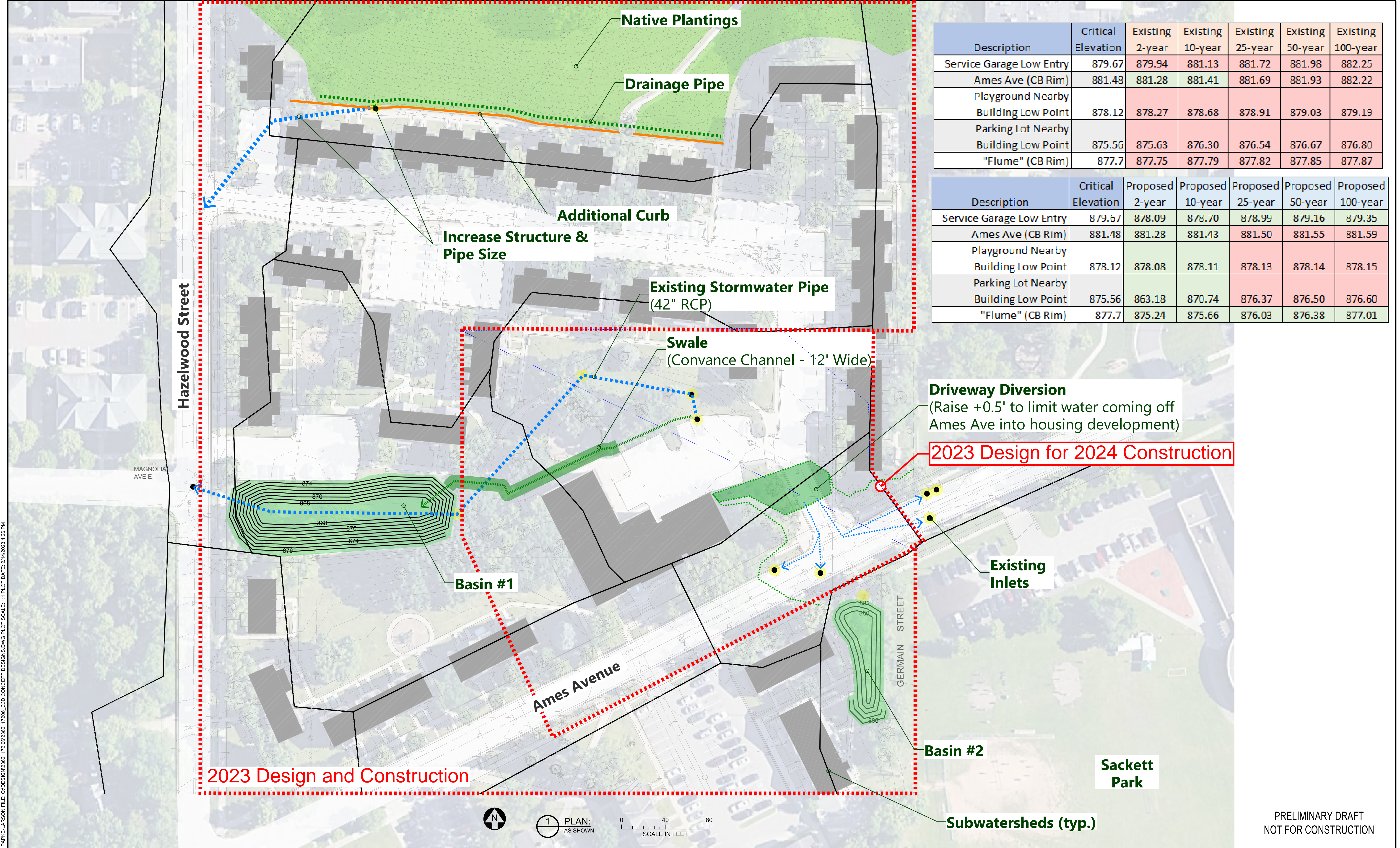
**Phase 3 Tasks:**

**Task 1 (Winter 2023-24): 100% Design for 2024 Construction project.** Required due to coordination with City of St. Paul

**Task 2 (March 2024) Project Bidding.** The 2024 Construction project will be publicly bid and a contractor will be recommended to the board.

**Task 3 (Summer 2024): Construction Observation.** Construction oversight and administration will be provided during construction of the 2024 Construction project.

CADD USER: ANDREW.M. PAPERLARSON FILE: O:\DESIGN\2621172\_06\CONCEPT DESIGNS.DWG PLOT SCALE: 1:1 PLOT DATE: 2/14/2023 4:26 PM



Description	Critical Elevation	Existing 2-year	Existing 10-year	Existing 25-year	Existing 50-year	Existing 100-year
Service Garage Low Entry	879.67	879.94	881.13	881.72	881.98	882.25
Ames Ave (CB Rim)	881.48	881.28	881.41	881.69	881.93	882.22
Playground Nearby Building Low Point	878.12	878.27	878.68	878.91	879.03	879.19
Parking Lot Nearby Building Low Point	875.56	875.63	876.30	876.54	876.67	876.80
"Flume" (CB Rim)	877.7	877.75	877.79	877.82	877.85	877.87

Description	Critical Elevation	Proposed 2-year	Proposed 10-year	Proposed 25-year	Proposed 50-year	Proposed 100-year
Service Garage Low Entry	879.67	878.09	878.70	878.99	879.16	879.35
Ames Ave (CB Rim)	881.48	881.28	881.43	881.50	881.55	881.59
Playground Nearby Building Low Point	878.12	878.08	878.11	878.13	878.14	878.15
Parking Lot Nearby Building Low Point	875.56	863.18	870.74	876.37	876.50	876.60
"Flume" (CB Rim)	877.7	875.24	875.66	876.03	876.38	877.01

**Driveway Diversion**  
 (Raise +0.5' to limit water coming off Ames Ave into housing development)

**2023 Design for 2024 Construction**

**Existing Inlets**

**Basin #2**

**Sackett Park**

**Subwatersheds (typ.)**

**2023 Design and Construction**

PRELIMINARY DRAFT  
 NOT FOR CONSTRUCTION

				CLIENT PERMIT					Project Office: BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE SUITE 200 MINNEAPOLIS, MN 55435		Scale: AS SHOWN	ROOSEVELT HOMES SAINT PAUL, MINNESOTA		BARR PROJECT No. 26621172.06		
				BID					Corporate Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277 Ph: 1-800-632-2277		Date: 01/30/2023	STORMWATER MANAGEMENT CONCEPT IMPROVEMENTS		CLIENT PROJECT No.		
				CONSTRUCTION							Drawn: MRM	DWG. No. C-01		REV. No. A		
				RECORD							Checked: ---					
NO.	BY	CHK	APP	DATE	RELEASED TO/FOR	A	B	C	0	1	2	3	RAMSEY-WASHINGTON METRO WD LITTLE CANADA, MN			
					DATE RELEASED											

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# Administrator's Report

\* \* \* \* \*

# MEMO

**TO:** Board of Managers and Staff  
**FROM:** Tina Carstens, Administrator  
**SUBJECT:** March Administrator's Report  
**DATE:** March 30, 2023

## A. Meetings Attended

Monday, February 27	3:00 PM	New Manager Orientation
Tuesday, February 28	12:30 PM	Meet with Manager Eisele
Wednesday, March 1	6:30 PM	Board Meeting
Monday, March 6	9:30 AM	Staffing discussions
Tuesday, March 7	10:00 AM	MAWA Executive Committee
	2:00 PM	MW Events-Education Committee
Wednesday, March 8	1:00 PM	Adopt-a-Drain Program Discussion
Thursday, March 9	10:30 AM	Integration of CWA and Hazard Mitigation
Friday, March 10	10:00 AM	Woodbury 2023 Road Improvement Project
Wednesday, March 15	10:00 AM	Water Resources Conference Abstract Planning
Monday, March 20	9:00 AM	Minnesota Watersheds Board Meeting
Wednesday, March 22	Various	Administrative Assistant Interviews
Thursday, March 23	Various	Administrative Assistant Interviews
Friday, March 24	10:30 AM	Lake Level Station Planning
	2:00 PM	Meet with Manager Eisele
Monday, March 27	9:30 AM	Staff DEIA Workgroup
	1:00 PM	Kohlman Project Planning
Tuesday, March 28	10:00 AM	Meet with Manager Eisele
Thursday, March 30	2:00 PM	MW Handbook Committee

## B. Upcoming Meetings and Dates

CAC Meeting	April 11, 2023
Metro Watersheds	April 18, 2023
May Board Meeting	May 3, 2023
WaterFest	June 3, 2023
June Board Meeting	June 7, 2023
CAC Meeting	June 13, 2023
July Board Meeting	June 28, 2023



**C. Board Action Log and Updates**

This month's board action log is attached.

This item has been removed from the end of the meeting agenda and will now be included in my administrator's report for your information and review. I have also included the ongoing updates in this format to keep it consistent. Each month, I review this list and add anything that was suggested in the previous meeting. If you have anything you'd like to add, this would be the time for board discussion.

**Board of Managers Action Log**  
Wednesday, April 5, 2023

<b>Item</b>	<b>Anticipated Action Date</b>	<b>Means of Action</b>	<b>Completed</b>
West Vadnais Lake Boundary Change	June 2023	Board review and approval.	
Governance Manual	June 2023	Board review and approval.	
Land Acquisition and Use Policy	June 2023	Board discussion and approval.	
Adopt-A-Drain Program Evaluation and Promotion	May 2023	Presentation and discussion.	
Review of Equity Areas Definition	June 2023	Presentation, discussion, and approval.	
Alum Use Policy	Summer 2023	Proposed policy discussion.	
Planting of Edible Plants in Restoration Areas	Winter 2022/2023	Barr new technology report	Feb 2023
PFAS (Per- and polyfluoroalyl substances) in MN and RWMWD's role.	Winter 2022/2023	Presentation	Feb 2023
Miyawaki Mini-Forest Assessment	Fall 2022	Barr new technology report	Oct 2022
Alum use for internal load control along with information on alternative solutions.	Fall/Winter 2022	Memo/Presentation	Nov 2022

**D. Minnesota Watersheds (formally MAWD) Updates**

This is a standing item to keep you informed of what our watershed association is working on and events that you could be a part of. You should also receive direct communications from Metro Watersheds and their executive director, Jan Voit. Please let me know if you don't believe you are receiving those at your district email.

For information on legislative updates you can go to their website:

<https://www.mnwatersheds.com/leg-updates>

For the monthly newsletters go here: <https://www.mnwatersheds.com/news-letters>

**E. Staff Changes and Draft Organizational Chart**

We are a watershed that prides itself on staff longevity. We haven't had a full-time staff member choose to leave our office since 2007 except for a couple of retirements. This year of 2023 is bringing some big changes for our office. And while it is hard to see staff retire or move on, it also can bring some great opportunities in the future!

For some background, Debbie was our administrative assistant who retired in the fall of 2021. At that time we hired our NR intern, Emily S, to fulfill the admin assistant position until Simba's retirement at the beginning of 2023. Now that Simba has retired and we have hired a new administrative assistant, Emily S will begin working as our BMP Maintenance Specialist. Just this past week, we hired Emily F to be our new administrative assistant. Emily F will start part time in April and begin full time in May. Emily F brings over ten years of administrative assistant and office manager experience. We are excited to welcome here to RWMWD.

In addition, Matt, our natural resources technician, announced that he would be moving to Duluth with his partner. His last day at the watershed is in mid-April. Matt has been with the watershed full-time for 4 years and was an intern prior. He is responsible for managing our NR interns as well as assisting the NR program with restoration and maintenance. I recently hired Joe Tillotson to replace Matt as our NR technician. Joe has been an intern with us over the last year. He is a great addition to our staff and will be a great mentor for our next year of interns.

And lastly, few weeks ago, Bill, our natural resources specialist, announced he would be retiring from the watershed in May. Bill has been with the watershed for over 25 years! He was hired by Cliff as one of our first full time staff and really built our natural resources program from the ground up. We have to compile the stats but he is responsible for many, many acres and miles of restoration work throughout the watershed. He also spearheaded the carp program as well as many other research projects that have directly turned into management programs. I am in the process of determining the best route forward for hiring to replace Bill as the NR program lead. We've had twenty plus years of interns that have gone on to have successful natural resources careers. I am starting with that list to look at bringing in someone with experience with our watershed area and our staff as well as our partners.

As I have shared in the past, I have developed a draft organizational chart that would change up the structure of our staff and provide opportunities for our staff to grow professionally. I have attached the current draft chart here.

If you look specifically at the Natural Resources program you will see that I have a Program Manager, Specialist, and Technician listed as well as the annual interns. This proposed structure would add a position to the program area. I think it would be wise to consider hiring both a program manager and a specialist this year and have the NR program be the first one under this new structure. That is an opportunity we have right now. I am currently working to develop position descriptions for those three jobs to be able to do a job posting for the top two jobs. I hope to have that done and at least have someone identified and hired before Bill leaves in May. I will keep you updated on this process.



Ramsey & Washington  
County Commissioners

Board of Managers

# DRAFT ORGANIZATION CHART MARCH 2023

Administrator



■ Full Time Staff   
 ■ Temporary Staff   
 ■ New Managers   
  New Position

\* \* \* \* \*

# Project and Program Status Reports

\* \* \* \* \*

## Memorandum

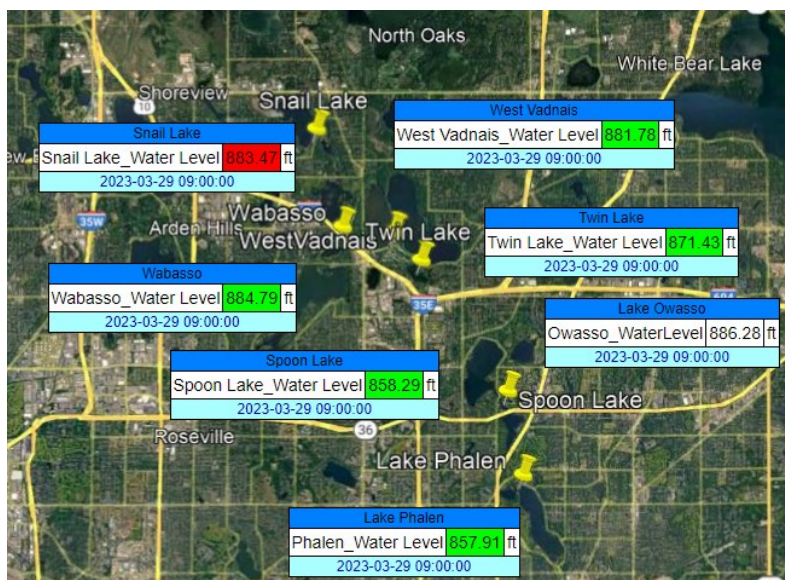
**To:** Board of Managers and Staff  
**From:** Tina Carstens and Brad Lindaman  
**Subject:** Project and Program Status Report – March 2023  
**Date:** March 30, 2023

**Note:** The location, brief description, and current status of each project described below can be found on the [2023 RWMWD engineering services story map](#).

### A. Barr’s approach to assessing the risk of spring flooding

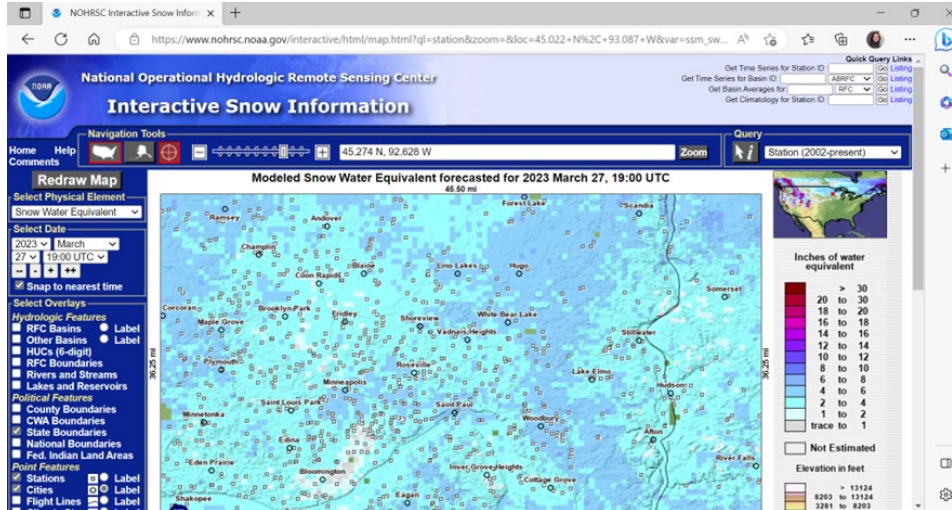
The Twin Cities region has had one of the snowiest seasons on record. As of March 12, the Minneapolis-Saint Paul International Airport recorded 80.0 inches of snow, the eighth snowiest season on record. The average Twin Cities snowfall total is 51 inches. In addition to high snow tallies this winter, cold temperatures have resulted in a snowpack with relatively high moisture content. High moisture content combined with warmer spring temperatures can result in a risk of flooding in lakes, creeks, and other RWMWD-managed water bodies. In response, every spring Barr and RWMWD staff monitor conditions, track changing water levels, and regularly communicate with municipalities, counties, and MnDOT staff as necessary throughout the snowmelt to inform stakeholders of changing conditions and risk for spring flooding. Several of the actions Barr and RWMD staff take include the following:

1. We monitor the water levels (see screenshot of lake levels) using the stations installed by the district. The lakes are currently near their outlet elevations. Water levels in RWMWD-managed lakes are below or near the lake outlet elevations.

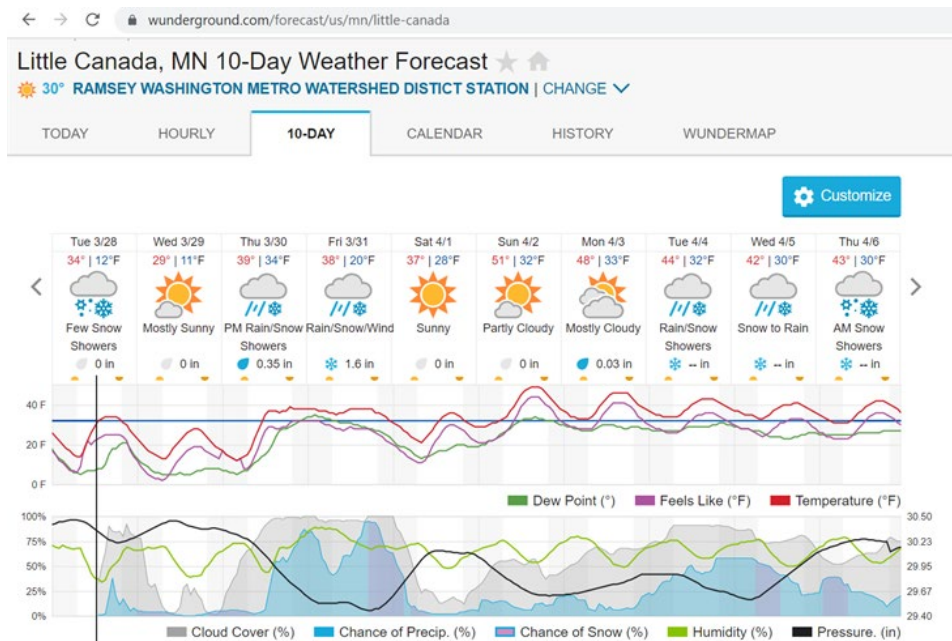


2. We watch the moisture content of the snow per local data sources.

Current water content is approximately 2–4 inches, according to NOAA’s Remote Sensing Center (Interactive Snow Information website): <https://www.nohrsc.noaa.gov/interactive/html/map.html>



3. We monitor the weather forecasts and overnight temperatures (lows). Freezing at night allows melt to “pulse,” which extends the spring snowmelt, typically reducing the flood risk. An extended snowmelt allows water to be conveyed through the system, where as a shorter snowmelt allows for more volume to be conveyed into lakes and water bodies over a shorter period of time, which increases the risk of flooding.



4. We take action based on approved operation plans for adjustable outlets (Keller, Phalen, Twin). Earlier this spring, lake levels in the Phalen Chain were at the outlet elevation, and per the approved



operation plan, adjustments to the lake outlets were not required. The water surface elevation in Twin Lake is lower than the outlet to the MnDOT system. Barr and RWMWD staff continue to monitor water levels throughout the spring and summer and will adjust outlet elevations based on the approved operational plans.

If we are concerned about the trajectory of water levels, we run the RWMWD stormwater model to estimate how lake levels may respond given the anticipated snowmelt duration (based on weather forecasts and overnight low temperatures) and water content in the snowpack to simulate what could happen during the snowmelt. Simulation results are then shared with cities, counties, and MnDOT as appropriate.

If you have questions or comments regarding our approach, please contact Brandon, Erin, or Brad.

## Project feasibility studies

### **B. Interim emergency response planning for district areas at risk of flooding (Barr project manager: Gareth Becker; RWMWD project manager: Tina Carstens)**

*The purpose of this project is to provide information and guidance to cities throughout the district about how to protect low-lying habitable structures from flooding during the 100-year storm event. These emergency response plans address areas for which there is 1) not currently a feasible project that has been identified to protect structures or 2) a project that cannot be implemented in the near future due to logistical and/or budgeting reasons. This effort is an outcome of the Beltline resiliency study. This project will extend into 2022.*

Barr has created plan sheets for placing emergency flood risk mitigation measures and has met with the district to present the set of figures. In April, we will split figures by municipality and develop a memo for each to present to each city's staff. Barr will make any needed edits to the designs/figures after their review. Barr will begin working directly with city representatives to communicate the plans to potentially impacted individuals and answer questions about implementation.

### **C. Kohlman Creek flood risk reduction feasibility study (Barr project manager: Tyler Olsen; RWMWD project manager: Tina Carstens)**

*The purpose of this study is to complete a feasibility evaluation of modifications to reduce flood risk along Kohlman Creek to remove structures from the 100-year floodplain. Work includes coordination with the cities of Maplewood and North Saint Paul, evaluation of alternatives to reduce flood risk, preparation of cost estimates for each alternative, and identification of permitting requirements. This project focused primarily on areas surrounding PCU Pond and the wetland complex west of White Bear Avenue. This feasibility study is a follow-up study of flood-prone areas identified in the Beltline resiliency study.*

The Kohlman Creek flood-risk-reduction feasibility study focuses on developing concepts for system improvements near PCU Pond that the City of North Saint Paul would support and would complement its other ongoing efforts.

Barr has provided the district's stormwater model to the City of North Saint Paul for reference in its flood-risk-reduction study. After learning about the city's planned approach for flood risk mitigation in

these areas, Barr will begin evaluating potential options for PCU Pond and the wetland complex west of White Bear Avenue.

This month, Barr reviewed system improvement concepts, began coordinating data requests in the form of a field survey, and requested as-built data from partner cities. The survey will be completed in April 2024 once weather conditions allow. Additionally, Barr coordinated with RWMWD staff and City of North Saint Paul staff on the ongoing resiliency study efforts in other parts of the Lake Phalen subwatershed.

**D. Kohlman Creek/Wakefield Lake diversion feasibility study (Barr project manager: Brandon Barnes; RWMWD project manager: Tina Carstens)**

*The purpose of this study is to complete a feasibility evaluation of modifications to reduce flood risk on Kohlman Creek by diverting high flows to the historic County Ditch 17. Work includes coordination with stakeholders, evaluation of alternatives to reduce flood risk, preparation of cost estimates for each alternative, and identification of permitting requirements. This feasibility study is a follow-up study of a flood-prone area identified in the Beltline resiliency study.*

This month, Barr and RWMWD staff met with Ramsey County staff to review opportunities for water quality treatment and volume reduction on Goodrich Golf Course that the County could pursue as part of golf course improvements independent of the Kohlman Creek Diversion.

**E. County Ditch 17 improvements feasibility study (Barr project manager: Brandon Barnes; RWMWD project manager: Tina Carstens)**

*The purpose of this study is to complete a feasibility evaluation of modifications to reduce flood risk northeast of Wakefield Lake along historic County Ditch 17 to remove structures from the 100-year floodplain. Work includes coordination with the City of Maplewood, evaluation of alternatives to reduce flood risk, preparation of cost estimates for each alternative, and identification of permitting requirements. This feasibility study is a follow-up study of a flood-prone area identified in the Beltline resiliency study.*

Minimal new activity this month. As a reminder, the feasibility study was presented to the RWMWD managers at the January 2023 meeting. Later in 2023, Barr will work with the City of Maplewood to communicate flood risk to property owners.

**F. Phalen Village feasibility study (Barr project manager: Brandon Barnes; RWMWD project manager: Tina Carstens)**

*The purpose of this study is to complete a feasibility evaluation of modifications to reduce flood risk near Phalen Village north of Lake Phalen to remove structures from the 100-year floodplain. Work includes coordination with the City of Maplewood, evaluation of alternatives to reduce flood risk, preparation of cost estimates for each alternative, and identification of permitting requirements. This feasibility study is a follow-up study of a flood-prone area identified in the Beltline resiliency study.*

Minimal new activity this month. As a reminder, the feasibility study was presented to the RWMWD managers at the January 2023 meeting. In 2023, Barr and the RWMWD will work with the City of Maplewood to incorporate system modifications in the city's street improvement project that mitigate flood risk.

**G. Ames Lake area flood risk reduction planning study (Barr project manager: Brandon Barnes; RWMWD project manager: Tina Carstens)**

*The purpose is to complete a planning-level evaluation of modifications to reduce flood risk near Ames Lake, supported by the City of Saint Paul. Work includes coordination discussions with Saint Paul; review of potential pipe alignments, land acquisition costs, utility conflicts, and permitting issues; and related design. If the planning study identifies projects that impact regional drainage, a feasibility study will be completed in 2023. This planning study is a follow-up study that was identified in the Beltline resiliency study.*

Minimal new activity this month. Barr notified the Saint Paul Housing and Redevelopment Authority (HRA) that RWMWD would complete a detailed feasibility study to evaluate system modifications to reduce flood risk. Barr and RWMWD staff will schedule a project kickoff meeting with the Saint Paul HRA next month.

**H. Owasso Basin area/North Star Estates improvements (Barr project manager: Sam Redinger; RWMWD project manager: Tina Carstens)**

*The purpose of this study is to evaluate the benefit-cost of flood risk reduction strategies in the Owasso Basin/North Star Estates area by reviewing potential pipe and berm alignments, land acquisition costs, utility conflicts, permitting issues, and related design as well as construction and long-term maintenance costs associated with each alternative that achieves the project objective of removing habitable structures from the floodplain in this area. Stakeholder outreach with the City of Little Canada is an important part of this effort. This study is a continuation of the Owasso Basin bypass study, which laid out several phases of implementation and areas of further study.*

Barr drafted a technical memorandum summarizing the flood-risk-reduction alternatives evaluated in and around North Star Estates and Owasso Basin. The memorandum is included in this month's board packet for RWMWD manager review. On January 11, 2023, Barr and the RWMWD presented the information in the draft memo to the City of Little Canada at the city's January council workshop meeting. The council was supportive of the efforts and appreciated the information. The memo will serve as the basis for the preliminary design of improvements to the area. This month, a project scope summary is attached for informational purposes. The next phases of this project will proceed according to that scope unless the board requests a change in direction.

**I. Carver Ponds improvements study (Barr project manager: Tyler Olsen; RWMWD project manager: Tina Carstens)**

*The purpose of this study is to characterize the water quality in the Carver Ponds in the Fish Creek subwatershed and to evaluate the benefit-cost of water quality improvements to the ponds. These improvements will be targeted at internal loading of nutrients in the pond, as well as potential external sediment and nutrient loading. The goal will be to inform design solutions to be implemented in the ponds.*

There was no new activity this period. Barr will work with the RWMWD staff in April to determine monitoring needs in 2023.

**J. Evaluation of compliance with South Metro Mississippi River total suspended solids (TSS) total maximum daily load (TMDL) (Barr project manager: Tyler Olsen; RWMWD project managers: Eric Korte, Nicole Soderholm)**

*The purpose of this study is to evaluate the RWMWD's compliance with the South Metro Mississippi River TSS TMDL. As a regulated municipal separate storm sewer system (MS4), the district is required to meet the waste load allocations (WLA) of 154 pounds of TSS per acre per year. The WLA is applicable to the RWMWD for the Saint Paul Beltline Interceptor and its contributing drainage area, as the district owns and operates the infrastructure.*

The MPCA announced that, due to an update with its reporting system, no reporting will be required in 2023. Barr will continue to monitor reporting requirements for 2024.

**K. Resiliency study for non-Beltline tributary areas (pre-planning study and evaluation of existing data) (Barr project managers: Jay Hawley, Lulu Fang; RWMWD project manager: Tina Carstens)**

*The purpose of this project is to evaluate system-scale modifications to reduce flood risk within the portion of the RWMWD that was not evaluated as part of the Beltline resiliency evaluation. This portion of the watershed includes the Tanners Lake, Battle Creek Lake, Battle Creek, Carver Lake, Fish Creek, and Snake Creek subwatersheds. The evaluation will identify modifications to the drainage system to reduce flood risk to habitable structures located within the 100-year floodplain of District-managed water bodies, including evaluating actively managing outlet control structures on Tanners Lake, Battle Creek Lake, and Carver Lake. This evaluation will allow RWMWD to identify potential system-wide strategies for mitigating flood risk that are consistent with the portion of the district that is tributary to the Beltline, which was studied as part of the Beltline resiliency evaluation.*

This month, Barr staff continued organizing GIS files and survey information for potentially flood-prone structures in the Tanners Lake, Battle Creek Lake, Battle Creek, Carver Lake, Fish Creek, and Snake Creek subwatersheds. GIS files will be reviewed to identify the lowest structure adjacent to each district-managed water body and previous district projects in these areas. As part of the review, staff started compiling available topographic information. Next month, staff will evaluate potential system modifications to reduce flood risk and remove habitable structures from the floodplain. The study is expected to continue through 2023.

**L. Street sweeping study (Barr project managers: Michael B. McKinney; RWMWD project manager: Paige Ahlborg)**

*The purpose of this study is to provide general support related to implementing a pilot program to incorporate grant-funding support into the District's Stewardship Grant program for enhanced street-sweeping efforts.*

Barr and RWMWD staff held one-on-one meetings with engineer and operator staff from seven member cities. The purpose of these meetings was to learn more about each city's street-sweeping program and to gauge their interest in participating in the 2023 street-sweeping grant funding pilot program (via the Stewardship Grant program). Barr and RWMWD will meet in the upcoming weeks to review meeting notes and determine a path forward for 2023 pilot program funding support.

## Research projects

**M. Kohlman Lake aquatic plants and nutrients: phase I and II (Barr project manager: Keith Pilgrim; RWMWD project manager: Bill Bartodziej)**

*The objective of this preliminary investigation is to determine the effect of intensive aquatic-plant management on Kohlman Lake water quality.*

As mentioned last month, the water quality of Kohlman Lake has declined significantly in recent years. During this time, the lake has had intensive aquatic plant management (not conducted by RWMWD). It is suspected that declining water quality is linked to the loss of aquatic plants. In the first project phase, existing data and modeling will be used to see if any preliminary conclusions can be drawn about the effect of current aquatic plant management activities on water quality. This project phase will commence in April, with preliminary conclusions likely developed in early May.

The second project phase will include collecting detailed data on Kohlman Lake and Beaver Lake (a control lake without significant aquatic plant management) and modeling to conclusively determine the effect of intensive aquatic plant management on nutrient concentrations in Kohlman Lake. After determining the level of aquatic plant management that can occur without adverse effects on water quality, management guidelines will be developed.

## Capital improvements

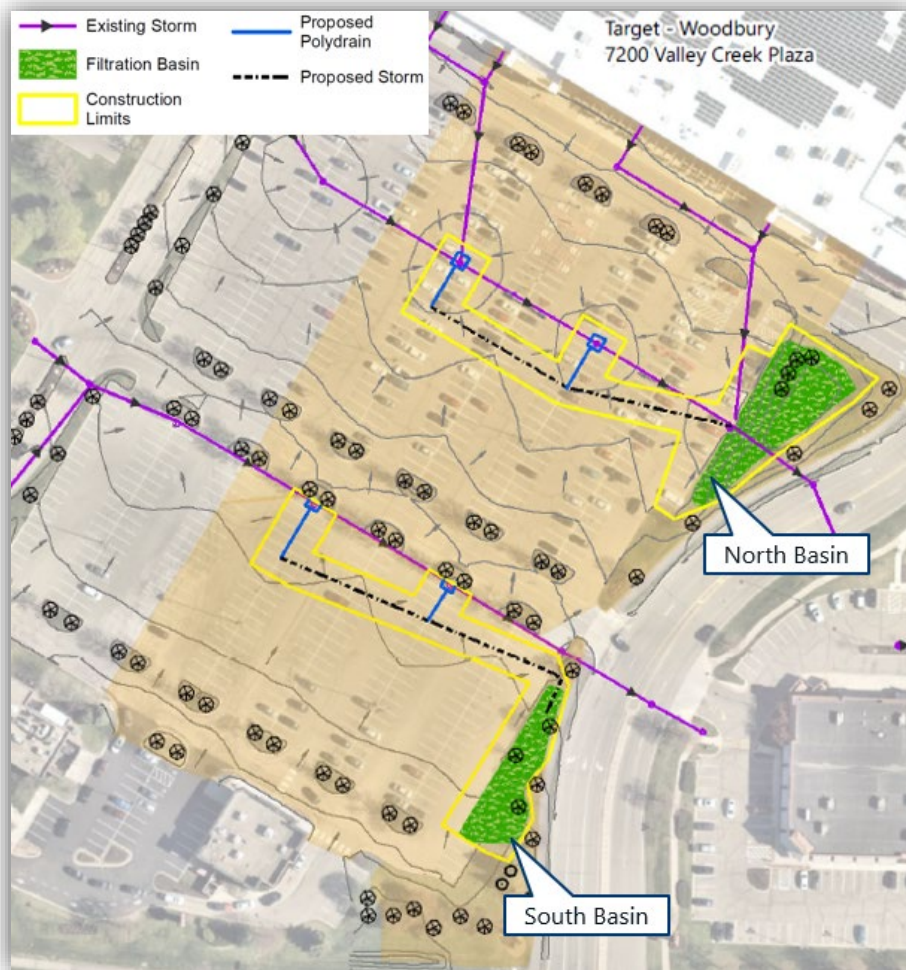
### **N. Woodbury Target store stormwater retrofit projects (Barr project manager: Katie Turpin-Nagel; RWMWD project manager: Paige Ahlborg)**

*The purpose of this project is to design, provide bid assistance for, and oversee construction of BMP retrofits at two Target retail stores.*

On March 1, Barr and RWMWD met with three Target representatives to present the Woodbury Target store a concept-design layout and anticipated water quality benefits. The meeting went well, and the Target staff looks forward to seeing how the stormwater retrofit designs develop in the next phases. RWMWD and Barr continue to coordinate with the City of Woodbury and Muir Property management to receive comments,

Over the next month, Barr will summarize the selected concept –design layout and the estimated costs and benefits (e.g., total suspended solids and total phosphorus removals) for the RWMWD board to review. With board approval, Barr can start the final design process and the geotechnical investigation in June 2023. Below is a figure showing the selected concept-design layout for the Woodbury Target store. The stormwater retrofit includes the following:

- (1) Removing eight existing parking spaces to reduce impervious area and create more space for treating runoff.
- (2) Installing trench drains and new storm sewer to collect runoff from the parking lot.
- (3) Installing two filtration basins (rain gardens). As conceptualized, the infiltration basins will treat approximately 4.3 acres of impervious parking lot (area shaded in orange in the figure), which represents treating about 60% of the total Target store pavement area.



**O. Targeted retrofit projects (Barr project manager: Marcy Bean; RWMWD project manager: Paige Ahlborg)**

*The purpose of this project is to design, provide bid assistance for, and oversee construction of BMP retrofits on previously identified commercial, school, and faith-based properties throughout the district.*

Roosevelt Homes is a multi-family housing area owned by the Saint Paul Public Housing Authority (SPHA). Barr recently updated existing conditions models to show more detailed resolution, and preliminary concepts were developed to provide the owner with options to consider. SPHA is interested in moving forward with 1–2 year phased retrofits. Barr and the RWMWD anticipate coordinating with the City of Saint Paul to help inform improvements.

Included in this month’s invoicing were the Alliant Engineering fees for the site survey completed in late November 2022. A new scope summary for this project is included in this month’s board packet that highlights the specifics of the upcoming work.

**P. Stewardship grant program support (Barr project manager: Marcy Bean and Michael McKinney; RWMWD project manager: Paige Ahlborg)**

*The purpose of this project is to provide BMP design and review services to cost-share applicants throughout the RWMWD on as-needed basis and b) support development of the stewardship grant program.*

As mentioned last month, Woodland Hills Church in Maplewood is partnering with Settled to build and temporarily locate “tiny homes” in an underutilized parking lot, using the space as a model for tiny-home communities. Barr has developed preliminary concepts for stormwater management alongside pavement removal in the parking lot. Preliminary stormwater calculations and spatial diagrams have been developed to help determine the potential for grant funding in 2023, pending owner review. Barr and district staff met to discuss this on March 17 and will likely proceed with further design development this spring.

**Q. Arbogast Stormwater Filtration BMP (Barr project manager: Leslie DellAngelo; RWMWD project manager: Paige Ahlborg)**

*The purpose of this project is to complete final design, plans, and specifications for a regional stormwater BMP in the Lake Emily subwatershed with the purpose of decreasing phosphorus loads to Lake Emily, which is deemed to be at risk of impairment from excess nutrients.*

During the last period, Barr completed the final design of the Arbogast filtration BMP. Ninety-five percent construction drawings and the corresponding Engineer’s opinion of probable cost were completed. Drafting of the contract documents for bidding and construction is also nearly complete. Pending approval from the board at the April meeting, Barr will solicit bids for the project in April for construction later in the year. Pending the managers’ approval, the bids will be presented at the May meeting.

**R. Pioneer Park stormwater reuse (Barr project manager: Jennifer Koehler; RWMWD project manager: Paige Ahlborg)**

*The purpose of this project is to design and implement a stormwater reuse irrigation system in Pioneer Park to conserve groundwater and reduce phosphorus loading to downstream water bodies, in partnership with the City of Little Canada.*

Barr developed the draft 60% plan set for review by district and city staff, including follow-up coordination with City staff regarding outstanding information on the existing irrigation system and pavilion needed for design. This also included development for the 60% cost estimate, including coordinating design/quotes with WaterTronics. A 60% design meeting with district and city staff was coordinated (held on 3/20/2023). Finally, the joint wetland application was revised and resubmitted based on comments from the TEP (Technical Evaluation Panel).

**S. Double Driveway Pond and Fish Creek tributary improvements (Barr project manager: Tyler Olsen; RWMWD project manager: Tina Carstens)**

*The purpose of this project is to design and implement vegetation improvements around Double Driveway Pond, as well as stream-stabilization improvements in the Fish Creek tributary upstream of Double Driveway Pond.*

During this period, Barr coordinated the site survey, where staff will collect topographic and utility information for the final design. Additionally, Barr met with the RWMWD staff to discuss project goals—specifically, a coordinated restoration effort through the entire tributary corridor from Bailey Nursey property to the outfall to Fish Creek near Carver Avenue. Finally, Barr staff created an access agreement

for property owners, which informed them of the upcoming survey on their property and potential outcomes from the study.

After completing the survey, Barr will begin developing 30% designs for the stream restoration. Due to laboratory analysis delays, Double Driveway Pond's dredging will not occur until 2024. Barr will continue to coordinate with the Bailey Nursery team.

## CIP project repair and maintenance

### **T. 2023 CIP maintenance and repair project (Barr project manager: Gareth Becker; RWMWD project manager: Dave Vlasin)**

*The purpose of this project is to maintain existing systems and infrastructure owned and operated by the RWMWD and to assist and facilitate stormwater pond cleanouts to allow other public entities to meet their MS4 requirements.*

In recent weeks, Miller Excavating has been making good progress. All pond muck-cleanout sites for the Cities of Woodbury and Little Canada have been completed. Fifth and Seventh Street weir sites, Lower Afton Road, and Gervais Beach sites have all been completed.

With warming temperatures and thawing conditions expected soon, Miller may complete the Tamarack Swamp pavers in Woodbury and the rock-filter berm and slope repair at Gervais Creek in Little Canada. The final site for the project will likely be at Kohlman Basin near Beam Ave. The work there can begin after April 1, according to a DNR permit to protect turtles. This project is on schedule.

Progress payment application # 2 has been prepared and is included in this board packet for consideration at the April 5 meeting. This project is currently over 60 percent completed.

### **U. 2023-2025 BMP maintenance program (Barr project manager: Marcy Bean; RWMWD project manager: Paige Ahlborg)**

*The purpose of this project is to maintain the RWMWD's existing vegetated BMPs.*

Barr and district staff developed a Request for Qualifications to form a pool of qualified landscape maintenance contractors to provide maintenance services for the existing vegetated BMPs in the district. This effort was initiated in 2015 as a pilot program to support grantees and project partners with vegetation maintenance for up to 2 years post-construction. School-based BMPs are maintained on a longer-term basis. In 2023, 23 sites will be maintained as part of this program.

The RFQ went out to contractors during this period, with responses due March 24. This month, the board will review the recommendations of Barr and District staff to award contracts to select contractors within the pool of applicants.

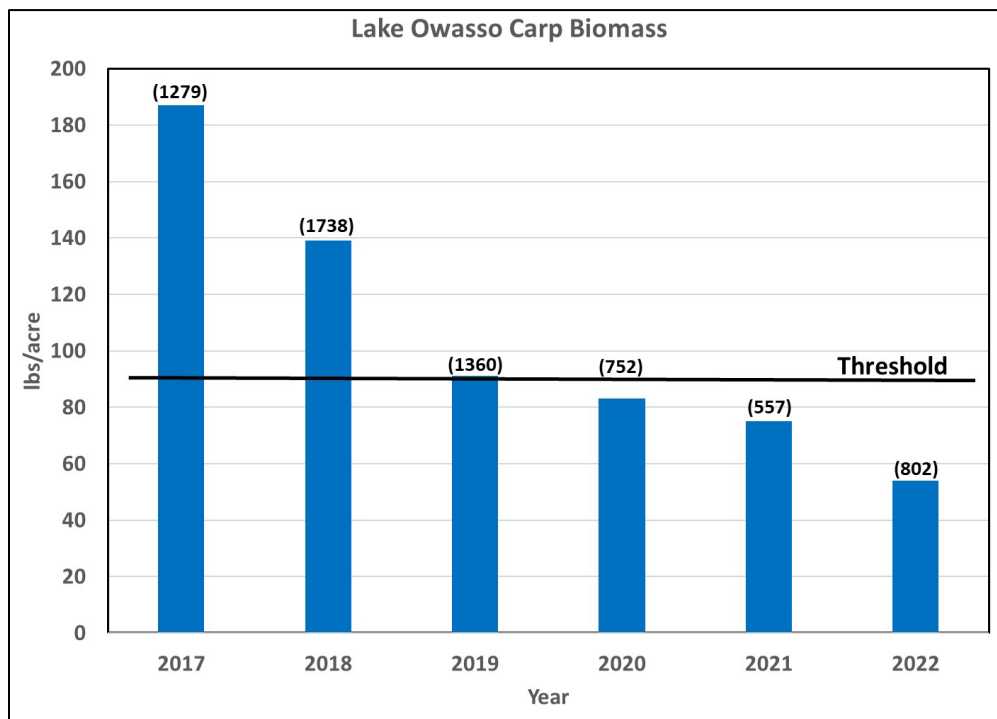


## V. Natural Resources Update – Bill Bartodziej and Matt Doneux

### Update: Carp management in the Owasso Chain of Lakes

#### Key Highlights

We are quite pleased to report that we have had a dramatic impact on the common carp population in the Owasso Chain. Over five years of intensive management, we were able to decrease the carp biomass in Owasso from 187 lbs/acre to 54 lbs/acre (see graph below). The carp biomass has been below the critical 90 lbs/acre water quality threshold since 2020. Additionally, netting and electrofishing surveys have not detected any substantial young carp, which suggests that carp barriers to block off prime spawning grounds have been effective.



**Carp biomass in Lake Owasso. The number of carp removed for each year are in parentheses. The threshold where water quality impacts are evident is at 90 lbs/acre. The biomass in Owasso has been below that level since 2020.**

We are also making progress in managing carp in other connected lakes. In Wabasso, we were able to remove 2,006 adult carp (8,500 lbs) over five years of management. Although we do not have a solid population estimate for this lake, it is suspected that biomass is much lower than the 90 lbs/acre threshold. In Bennet Lake and Frog Pond, a total of 662 carp were removed (2,900 lbs). This is a substantial number of carp, considering these systems total less than 30 acres; so removal equates to around 100 lbs/acre. This effort works to improve the water quality in these systems, but also prevents these fish from making it into the Victoria Wetland Complex, which is likely the prime spawning area for the Owasso Chain of Lakes system.

## ***2023 Workplan Synopsis***

### **Owasso-Wabasso-Bennett**

Main project elements:

- Continue maintaining and removing carp from barriers in Owasso, Wabasso, and Frog Pond. This is currently the most cost-effective means by which to remove carp in the system.
- Use a PIT (Passive Integrated Transponder) antenna system at the Owasso barriers to track carp movement for effective trapping. This basically identifies when tagged fish are in the area so we can then mobilize staff for netting.
- Conduct electrofishing surveys in Owasso and Wabasso to re-assess carp populations.

### **Grass – West Vadnais Lakes**

Data collected to date suggest that Grass and West Vadnais Lakes function as carp nurseries for connected lakes (possibly the Owasso and Phalen Chains). Both Grass and West Vadnais are relatively shallow and winterkill-prone, and fit the conditions found in carp nurseries. In both, juvenile carp were found present over the last several years and anecdotal observations of juvenile carp migrations from those systems downstream have been observed by Watershed staff. Overall, eliminating or reducing downstream carp movement is important for sustainable carp management in the Phalen Chain of Lakes.

In 2021, a low-voltage electric barrier for carp was installed in the outlet of West Vadnais Lake. To test its performance, a Passive Integrated Transponder (PIT) antenna was used on either side of the barrier. This system was operational in the spring and summer of 2021 and 2022. To date, no PIT tagged carp were detected at either side of the barrier, likely due to low water both years. Fish were not able to actively swim in the channel.

Main project elements:

- Continue to test the electric barrier. With the heavy snow pack, there is the possibility of higher water and fish movement in the outlet channel. Hopefully, the electric barrier will be adequately assessed this year.
- If large aggregations of carp do take place at the barrier, we will take advantage of this and remove as many carp as possible.
- Comprehensive fish surveys (gamefish and carp) will be conducted in both Grass and West Vadnais Lakes by using trap nets and electrofishing. Carp will be PIT tagged and released.
- A PIT antenna system will be installed between Grass and West Vadnais to assess carp movement between the lakes.
- A report will be written with finding and recommendations on effective carp management strategies for this unique surface water system.



**Carp harvesting at the Wabasso outlet barrier (black PVC pipe in the background) during the spawning run, 2022.**

## W. Public Involvement and Education Program – Sage Passi

### Plants and Pollinators Are Our Teachers in Twenty-Two Classes at Ten Schools



**Left: American Indian Magnet fifth graders transplant native plants. Middle: Dozens of trays of native seedlings were transplanted in classes all over our Watershed in late winter/early spring. Right: Nour Sinada's Environmental Club at Woodbury High School transplant rattlesnake master on March 15.**

We are back up to full capacity teaching the process of growing native plants in classrooms after cutting back on our planting operations during the first years of Covid. This winter we have been engaged in a partnership with the Ramsey County Master Gardener program and the Minnesota Water Stewards at ten schools to support the growing of and researching about native plants. Seeds gathered at sites in our watershed district in the fall were stratified by students in December and January, then planted in February with the help of Master Gardeners. Then with two dozen classes, we began transplanting these trays in late February and extending this activity through late March. We still have seven more classes to do in April!

A big thank you goes to our school recruiter Ed Shinbach and the 27 Ramsey County Master Gardeners he recruited and to five of our Water Stewards, Lee Bauer, Stuart Knapmiller, Rachel Hanks, Stephanie Wang and Bette Danielsen who signed up to help with this huge endeavor. As the saying goes, "It takes a village." The schools involved in this process include Woodbury High School, Farnsworth Aerospace, Hazel Park Preparatory Academy, L'Etoile du Nord, American Indian Magnet, Weaver Elementary, Mounds Park Academy, Battle Creek Middle School, Woodbury High School and Lionsgate Academy. Many of these native seedlings will be shared with the community at WaterFest on June 3 and used in projects in our watershed.



## Lawns to Legumes: A “Growing” Influence at the Local Level and Throughout Minnesota



More than 10,000 people have applied for Minnesota’s Lawns to Legumes Individual Support reimbursement grants across the state to create gardens that support the rusty patched bumblebee and other pollinators since the program launched in 2019. Initiated by the Minnesota Board of Water and Soil Resources this grant program supports projects to provide habitat for the endangered rusty-patched bumblebee. In the first two years of the program alone, individual grant participants spent many thousands of hours on at-home planting projects to protect pollinators.

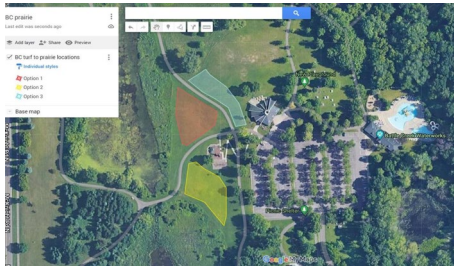
They also created more than 1.2 million sq. ft. of pollinator habitat and planted more than 1000 pollinator-friendly trees and shrubs. Lawns to Legumes is taking applications for cost-share grants of up to \$350 to create pollinator habitat for the 2023 fall cohort through a lottery system for those that apply. Since this program began, Sage Passi, our education consultant Cathy Troendle and Master Gardeners and Water Stewards and many others have provided coaching for Lawns to Legumes grant recipients.

In late March 2023, Sage began coaching three new grant recipient residents who live within the boundaries of RWMWD in the cities of east St. Paul, Oakdale and Woodbury. This round of the grant opened this fall and award recipients were notified in early March. It’s been a learning curve and helpful to see what “recipients” of the grants need in terms of support to create demonstration sites that inspire the rest of their neighborhood to join in the efforts. Through these projects, citizens become familiar with growing and establishing a diversity of local native plants in their yards that are watershed friendly. The program empowers them to learn techniques in design and encourages residents to create habitats that support this endangered bee and other pollinators as well as make connections in their own neighborhoods that inspire others who also want to enhance and create more sustainable ecologically supportive environments.

Kathy Sidles, (see below in the middle photo) is one of our first Watershed District Stewardship grantees and an East St. Paul resident in RWMWD. She is a volunteer rusty-patched bumblebee champion and monitor who has identified and documented over 100 rusty-patched bumblebees in our area with sightings at Ames Lake and locations around Lake Phalen and Maplewood. In late March, Sage invited her to engage three classes at L’Etoile du Nord in a hands-on play-acting session about the rusty patched bee life cycle. The classes loved it! She will also do this with five classes at Lionsgate Academy and Weaver in April. (See photos below).



## Wilderness in the City: Project Installation Plans in County Regional Parks



**Battle Creek Regional Park**



**Keller Regional Park**

Three St. Paul classes will be involved in a large Wilderness in the City planting project in Battle Creek Regional Park this spring coordinated by watershed education staff and Blue Thumb/Metro Blooms. Another large scale Wilderness in the City project, up to a quarter of an acre will also be installed in Keller Regional Park in the fall of 2023. These projects will engage multiple schools from our Watershed District, Water Stewards, Master Gardeners, residents and other volunteers near those locations. Mike Goodnature, Ramsey County Parks Nature Resources Manager worked with us to secure permission for these projects to be installed in these parks in our watershed. This initiative's goal across the metro area is to transition ecologically degrading turf into pollinator friendly habitat in the form of models for residential size resilient native gardens. The gardens will serve to engage, educate and inspire people of all backgrounds to take on similar projects in their own yards or local parks. Each of the ten gardens across the metro area will be "seeds" for future gardens outside regional park boundaries, resulting in increased high quality pollinator habitat throughout the metro region.

### **Our Water Stewards in Action this Winter and Spring**

Our Minnesota Water Stewards were called into action in a number of arenas to support activities with RWMWD this winter and early spring. Bette Danielsen, Stephanie Wang, Stuart Knappmiller, Lee Bauer and Rachel Hanks have been assisting with seed starting and transplanting at L'Etoile du Nord French Immersion, Weaver, Hazel Park Academy and Woodbury High Schools.

Linda Neilsen, Stuart Knappmiller, Bette Danielsen and Stephanie Wang have been proactive on salt education and citizen engagement related to over-use of chlorides and the impact on our water resources. Stephanie Wang and Randee Edmundson have been organizing an Earth Day Clean-Up event at Ames Lake and Sackett Park on April 20. They connected with St. Paul Parks & Recreation, the East Side Boys & Girls Club, Roosevelt Homes, Realife Co-op Senior Living and have e-mailed the Greater East Side Community Council & Council Member.

Lee Bauer, Stuart Knappmiller, Rachel Hanks, Bill Cranford and Stephanie Wang participated in the "Engaging with People" in person class for the 2023 Water Stewards-in-training cohort with Sage Passi, education specialist and Capitol Region Watershed District's community engagement coordinator, Maricella Xiong at Capitol Region Watershed District's office. We had a great discussion with both teams that afternoon!

**To:** Board of Managers and Staff  
**From:** Tina Carstens and Brad Lindaman  
**Subject:** Project and Program Status Report March 2023  
**Date:** March 30, 2023

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On March 9, Watershed District Education Specialist Sage Passi, Watershed Project Manager, Paige Ahlborg, education consultant Tracy Leavenworth and Becky Rice, Director of Blue Thumb were invited to participate in a Zoom meeting coordinated by Betsy Christensen, Health Improvement Programs Coordinator with St. Paul Public Housing Agency. Water Stewards Stuart Knappmiller, Stephanie Wang and Bette Danielsen were also invited to attend that meeting. Other representatives from St. Paul Public Housing Authority and Roosevelt Homes participated in this discussion about a potential equity-focused pollinator planting project with Roosevelt Homes residents onsite that could be funded through a grant provided to Blue Thumb by the US Fish and Wildlife Service. Further discussion on this proposal is anticipated.