

## Riley Purgatory Bluff Creek Watershed District Permit Application Review

**Permit No:** 2021-078

**Considered at Board of Managers Meeting:** May 4, 2022

**Received complete:** April 26, 2022

**Applicant:** Paul & Julie Mattson

**Consultant:** C. Johnson Landscape Design Group LLC, Cori Johnson

**Project:** Shoreline Stabilization – The applicant proposes maintenance of existing stabilization elements along about 90 feet of Lotus Lake shoreline.

**Location:** 469 Pleasant View, Chanhassen, MN

**Reviewer:** Scott Sobiech, PE, Barr Engineering

### Proposed Board Action

Manager \_\_\_\_\_ moved and Manager \_\_\_\_\_ seconded adoption of the following resolutions based on the permit report that follows and the presentation of the matter at the May 4, 2022 meeting of the managers. Resolved that the application for Permit 2021-078 is approved, subject to the conditions and stipulations set forth in the Recommendations section of the attached report;

Resolved that on determination by the RPBCWD administrator that the conditions of approval have been met, the RPBCWD president or administrator is authorized and directed to sign and deliver Permit 2021-078 to the applicant on behalf of RPBCWD.

Upon vote, the resolutions were adopted, \_\_\_\_\_ [VOTE TALLY].

### Rule Conformance Summary

Rule	Issue	Conforms to RBPCWD Rules?	Comments
B	Floodplain Management and Drainage Alterations	See Comment	See Rule Specific Permit Condition B1 related to prevention of aquatic invasive species transfer during construction.
C	Erosion Prevention and Sediment Control	See Comment	See Rule Specific Permit Condition C1 related to identification of the contractor responsible for erosion control.
F	Shoreline and Streambank Stabilization	Yes	
L	Permit Fee	See Comment	See Rule Specific Permit Condition L1 providing the \$200 permit fee deposit and replenishing as needed.
M	Financial Assurance	See Comment	The financial assurance is calculated at \$10,808

**Project Background**

The project is located on a single-family home property at 946 Pleasantview Road in Chanhassen riparian to Lotus Lake. The proposed project includes maintenance of existing shoreline stabilization elements shoreline by reinstalling riprap along 90 feet of shoreline to stabilize the property shoreline along Lotus Lake. The applicant also proposes installation of numerous landscape plantings adjacent to the riprap and at other locations on the site. The project site information is summarized below:

Description	Area
Total Site Area	0.83 acres
Length of Shoreline impacted	90 feet
New (Increase) in Site Impervious Area	0
Disturbed impervious surface	0
Total Disturbed Area	0.05 acres

The following materials were reviewed in support of the permit request:

1. Permit application received October, 2021; incomplete notice was sent on October 15, 2021; materials submitted to complete application on April 26, 2022.
2. Aerial Map depicting project location dated October 1, 2021
3. Landscape Plan (1 sheet) dated August 21, 2021 (revised April 19, 2022)
4. Shoreline Rehabilitation Plan dated April 14, 2022
5. Property Survey (1 sheet) dated April 6, 2009
6. Riprap Cross section drawing received October 1, 2021
7. Photo of existing riprap received October 1, 2021

**Rule Specific Permit Conditions**

**Rule B: Floodplain Management and Drainage Alterations**

Because the project will involve land-disturbing activities below the 100-year flood elevation of Lotus Lake (890.44 msl) to repair existing riprap along 90 feet of shoreline, the project must conform to the requirements in the RPBCWD Floodplain Management and Drainage Alteration rule (Rule B, Subsection 2.1).

Rule B, Subsections 3.1 and 3.4 are not relevant because no buildings will be constructed or reconstructed as part of the project, and no impervious surface will be created or re-created within 50 feet of a watercourse. Placement of fill below the 100-year flood elevation is prohibited unless fully compensatory flood storage at or below the same elevation and within the floodplain of the same water basin is provided (Rule B, Subsection 3.2). The supporting materials demonstrate, and the RPBCWD

Engineer concurs, that 9.7 cubic feet of fill will be placed to facilitate riprap placement, and 63 cubic feet of excavation to create the compensatory storage below the 100-year floodplain of Lotus Lake, thus the project provides a net increase in floodplain storage and conforms to Rule B, Subsection 3.2. Because the applicant has demonstrated and the engineer concurs that the project will preserve the existing 100-year flood level, the project will not alter surface flows, complying with subsection 3.3.

To conform to the RPBCWD Rule B requirements the following revisions are needed:

- B1. The Applicant must provide updated plans requiring activities be conducted so as to minimize the potential transfer of aquatic invasive species (e.g., zebra mussels, Eurasian watermilfoil, etc.) to the maximum extent possible..

### **Rule C: Erosion and Sediment Control**

Because the project will alter more than 50 cubic yards of earth, the project must conform to the requirements in the RPBCWD Erosion and Sediment Control rule (Rule C, Subsection 2.1).

The drawing prepared by C. Johnson Landscape Design Group LLC includes installation of floating silt curtain, installation of a construction entrance, placement of a minimum of 6 inches of topsoil, and decompaction of areas compacted during construction. To conform to the RPBCWD Rule C requirements the following revisions are needed:

- C1. The Applicant must provide the name and contact information of the general contractor (i.e., specific individual) responsible for erosion and sediment control at the site. RPBCWD must be notified if the responsible party changes during the permit term.

### **Rule F: Shoreline and Streambank Stabilization**

Because the proposed project will maintain existing stabilization elements Lotus Lake shoreline, the project must conform to the requirements in the RPBCWD Shoreline and Streambank Stabilization rule (Rule F, Subsection 2). Because the applicant provided site photographs and construction drawings documenting that the maintenance work will not increase the length of the existing stabilization along the shoreline, the proposed activities qualify as maintenance under Rule F Subsection 3.4 and issuance of a permit is subject to documentation of compliance with all applicable criteria of subsection 3.3. The proposed work falls within the scope of Minnesota Department of Natural Resources General Permit #2015-1192.

Because the proposed activities qualify as maintenance under Rule F Subsection 3.4, Rule F subsections 3.1 and 3.2 do not impose requirements on the proposed maintenance activities.

The design plans, which are certified by a registered engineer, call for fieldstone riprap along 90 feet of shoreline. Because the proposed slope shown on the design plan is 3:1 (horizontal to vertical) or flatter waterward of the ordinary high water level, the project conforms to Rule F, Subsection 3.3.a.ii. The drawings show the proposed stabilization will follow the configuration of the existing shoreline. The

design plan indicates no riprap or filter material will be placed more than six (6) feet waterward of the ordinary high water level (OHW) of elevation 896.3. As a result the proposed project conforms to Rule F, Subsection 3.3.a.iii.

The design of the shoreline erosion protection reflects the engineering properties of the underlying soils. The riprap to be used in the shoreline erosion protection has been sized in accordance with the MnDNR guidelines for riprap placement along shorelines and will be natural stone averaging 9 inches in diameter to disperse wave energy and resist movement to meet the requirements of Rule F, Subsection 3.3.b.i. The shoreline rehabilitation plan and shoreline protection section indicate that the riprap will be placed to conform to the natural alignment of the shoreline to meet the criteria in Rule F, Subsection 3.3.b.ii. Consistent with the requirements in Rule F, Subsection 3.3.b.iii, a filter fabric conforming to Minnesota Department of Transportation (MnDOT) specification 3733 and 6 inches of granular fill conforming to MnDOT specification 3601 will be provided as a transitional layer between the existing shoreline and the riprap. The riprap section on shoreline rehabilitation plan shows the toe boulders will be at least 50 percent buried. In addition, riprap will not cover emergent vegetation as required by Rule F, Subsection 3.3iv and riprap will extend to approximately the top of bank elevation which conforms to Rule F, Subsection 3.3.b.v. Rule F, Subsection 3.3.b.vi, is not applicable to this project because it is considered maintenance under subsection 3.4. The shoreline rehabilitation plan also includes a baseline parallel to the shoreline with 20-foot station and perpendicular offsets, including measurements to the starting and ending points of the baseline (Rule F, subsection 4.2d).

The RPBCWD Engineer finds that the proposed project conforms to the applicable design criteria in Rule F.

**Rule L: Permit Fee Deposit:**

The RPBCWD permit fee schedule adopted in February 2020 requires permit applicants to deposit \$200 for land-disturbing activities on single family home lots to be held in escrow and applied to cover the \$10 permit-processing fee and reimburse RPBCWD for permit review and inspection-related costs and when a permit application is approved, the deposit must be replenished to the applicable deposit amount by the applicant before the permit will be issued to cover actual costs incurred to monitor compliance with permit conditions and the RPBCWD Rules. Subsequently, if the costs of review, administration, inspections and closeout-related or other regulatory activities exceed the fee deposit amount, the applicant will be required to replenish the deposit to the original amount or such lesser amount as the RPBCWD administrator deems sufficient within 30 days of receiving notice that such deposit is due. The administrator will close out the relevant application or permit and revoke prior approvals, if any, if the permit-fee deposit is not timely replenished

- L1. The applicant must replenish the permit fee deposit to the original amount due before the permit will be issued.

**Rule M: Financial Assurance:**

Rules C: Floating silt curtain & erosion log: 180 L.F. x \$2.50/L.F. = .....\$450

Rock Entrance: 1.0 x \$250 = .....	\$250
Restoration: 0.05 acres x \$2,500/acre = .....	\$125
Rule F: Shoreline or Streambank Stabilization: 90 L.F. x \$100/L.F. = .....	\$9,000
Contingency (10%) .....	<u>\$983</u>
Total Financial Assurance.....	\$10,808

**Applicable General Requirements:**

1. The RPBCWD Administrator and Engineer shall be notified at least three days prior to commencement of work.
2. Construction shall be consistent with the plans and specifications approved by the District as a part of the permitting process. The date of the approved plans and specifications is listed on the permit.
3. Construction must be consistent with the plans, specifications, and models that were submitted by the applicant that were the basis of permit approval. The date(s) of the approved plans, specifications, and modeling are listed on the permit. The grant of the permit does not in any way relieve the permittee, its engineer, or other professional consultants of responsibility for the permitted work.
4. The grant of the permit does not relieve the permittee of any responsibility to obtain approval of any other regulatory body with authority, except as may be provided under Minnesota Department of Natural Resources General Permit 2015-1192, compliance with which, including payment of any applicable fee, is entirely the responsibility of the permittee.
5. The issuance of this permit does not convey any rights to either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.
6. In all cases where the doing by the permittee of anything authorized by this permit involves the taking, using or damaging of any property, rights or interests of any other person or persons, or of any publicly owned lands or improvements or interests, the permittee, before proceeding therewith, must acquire all necessary property rights and interest.
7. RPBCWD's determination to issue this permit was made in reliance on the information provided by the applicant. Any substantive change in the work affecting the nature and extent of applicability of RPBCWD regulatory requirements or substantive changes in the methods or means of compliance with RPBCWD regulatory requirements must be the subject of an application for a permit modification to the RPBCWD.
8. If the conditions herein are met and the permit is issued by RPBCWD, the applicant, by accepting the permit, grants access to the site of the work at all reasonable times during and after construction to authorized representatives of the RPBCWD for inspection of the work.

## **Findings**

1. The proposed project includes the information necessary, plan sheets and erosion control plan for review.
2. The proposed project conforms to Rule F. The proposed project will conform to Rules B and C if the Rule Specific Permit Conditions listed above are met.
3. Under Minnesota Department of Natural Resources General Permit 2015-1192 (attached to this report), approval of work under RPBCWD rule(s) F constitutes approval under applicable DNR work in waters rules. Compliance with conditions in the general permit and payment of applicable fees, if any, are necessary to benefit from general permit approval and are the responsibility of the applicants.

## **Recommendation:**

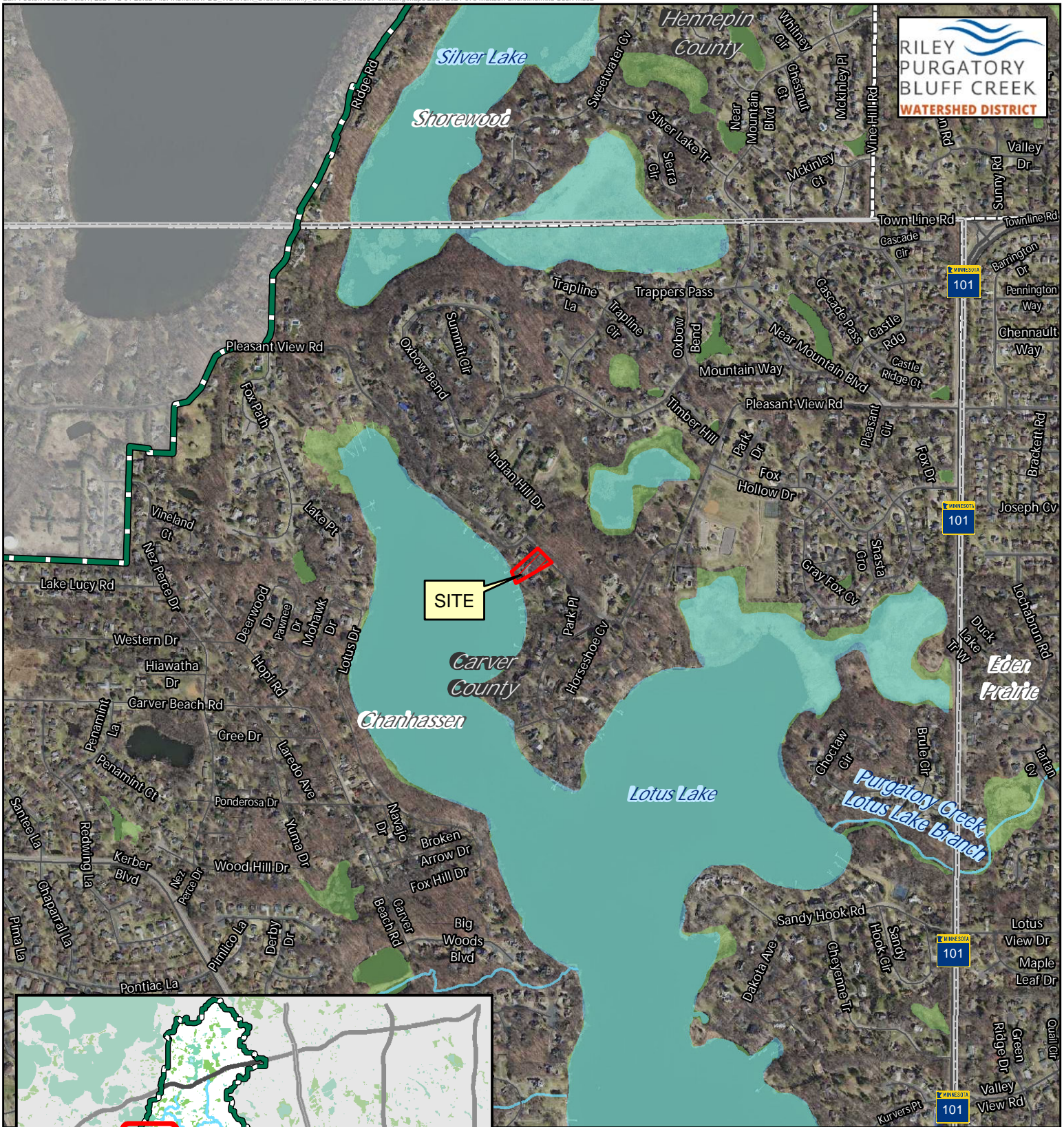
Approval of the permit contingent upon:

1. The applicant must provide the name and contact information of the individual responsible for erosion prevention and sediment control at the site. RPBCWD must be notified if the responsible party changes during the permit term.
2. The applicant must provide the permit fee deposit to the original amount due before the permit will be issued.
3. Receipt of a financial assurance in the amount of \$10,808.

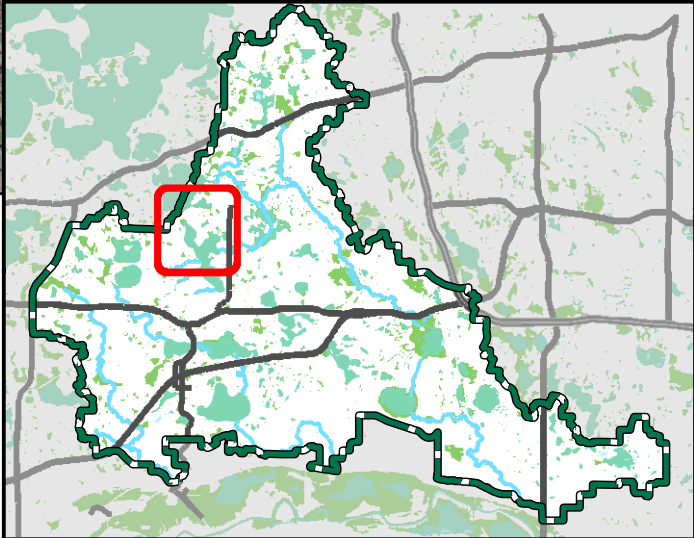
By accepting the permit, when issued, the applicant agrees to the following stipulations:

1. Continued compliance with General Requirements.

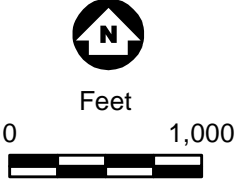




SITE



Permit Location Map

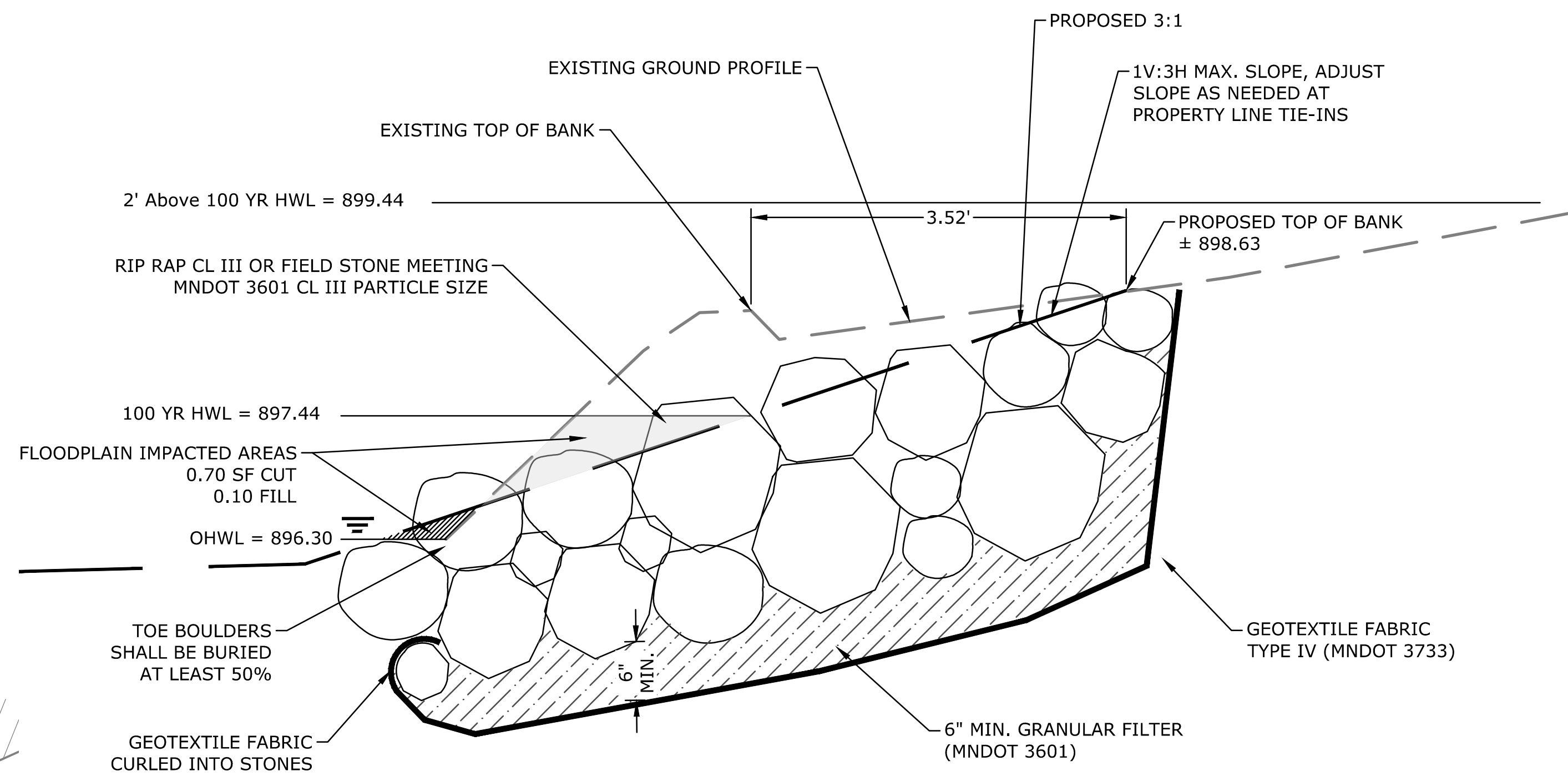


MATTSON SHORELINE  
Permit 2021-078  
Riley Purgatory Bluff Creek  
Watershed District



RIP RAP DETAIL / SECTION A-AA

SCALE: 1" = 1'



NOTE:

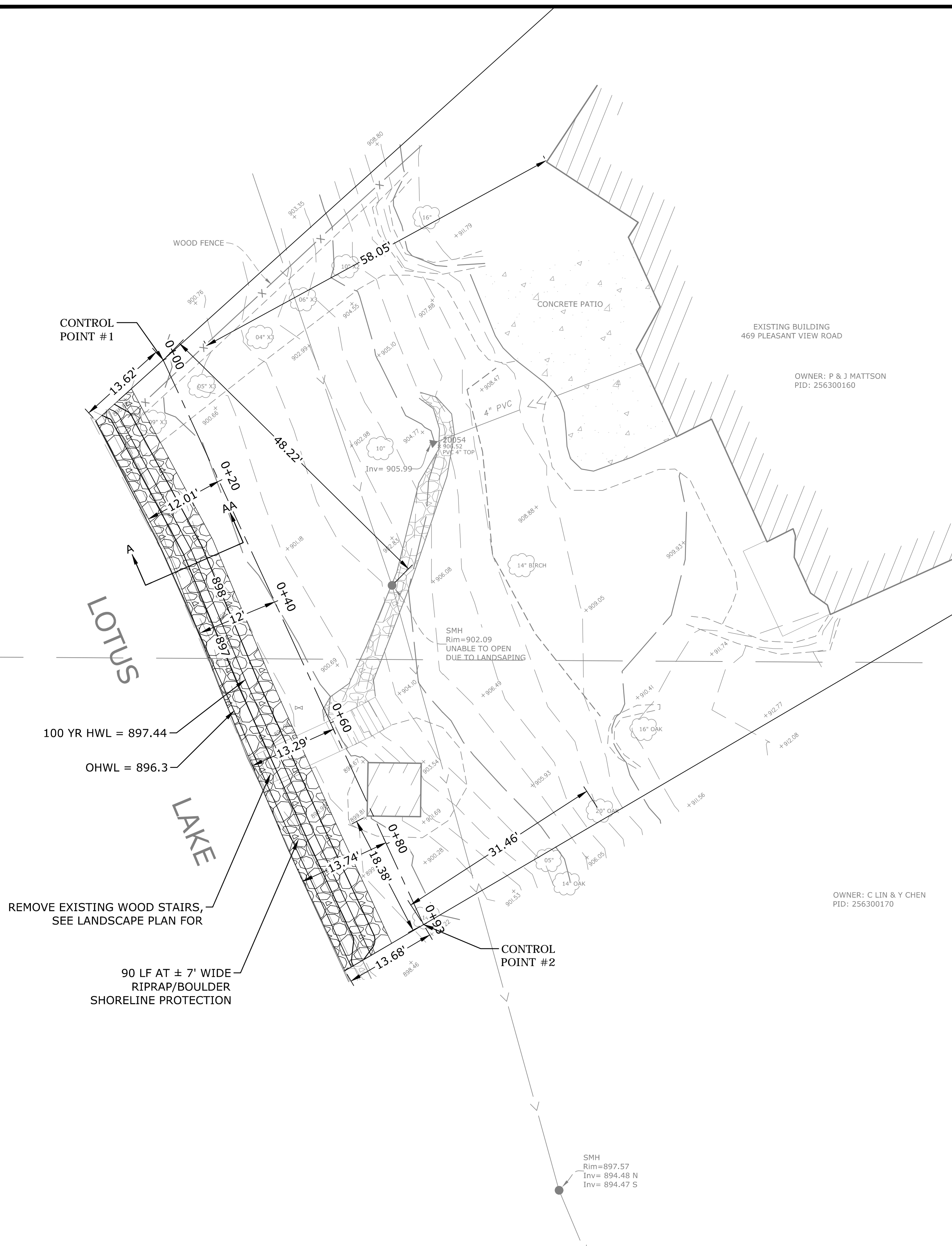
- BOULDER TOE PROTECTION SHALL BE PLACED TO CONFORM TO THE NATURAL ALIGNMENT OF THE SHORELINE.
- THE THICKNESS OF THE BOULDER LAYERS SHALL BE **AT LEAST 1.25 TIMES** THE MAXIMUM BOULDER DIAMETER.
- BOULDER TOE PROTECTION SHALL NOT COVER EMERGENT VEGETATION AND SHALL NOT EXTEND HIGHER THAN THE TOP OF BANK.
- THE FINISHED, STABILIZED SLOPE OF ANY SHORELINE SHALL NOT BE STEEPER THAN 1V:3H.
- HORIZONTAL ENCROACHMENT FROM A SHORELINE SHALL BE THE MINIMAL AMOUNT NECESSARY TO PERMANENTLY STABILIZE THE SHORELINE AND WILL NOT UNDUPLY INTERFERE WITH WATER FLOW OR NAVIGATION. NO BOULDERS OR FILTER MATERIAL SHALL BE PLACED MORE THAN 6 FEET WATERWARD OF THE ORDINARY WATER LEVEL (OHW). BOULDER TOE PROTECTION SHALL NOT REDUCE THE CROSS-SECTIONAL AREA OF THE CREEK OR RESULT IN A STAGE INCREASE AT OR UPSTREAM OF THE INSTALLATION.
- ESTIMATE FLOODPLAIN IMPACT BELOW 100 YR HWL:**  
 CUT = 63 CY  
 FILL = 9 CY  
 NET = 54 CY CUT
- BASED ON USGS SOIL DATA, UNDERLYING SOILS ARE ANTICIPATED TO BE SANDY LOAM.

SITE LEGEND

- PROPOSED CONTOUR
- PROPOSED RIPRAP



**Minnesota**  
 CALL BEFORE YOU DIG!  
 MINNESOTA LAW REQUIRES EXCAVATORS TO NOTIFY THE REGIONAL NOTIFICATION CENTER AT LEAST TWO (2) BUSINESS DAYS BUT NOT MORE THAN FOURTEEN (14) CALENDAR DAYS PRIOR TO EXCAVATION.  
**GOPHER STATE ONE CALL**  
 www.gopherstateonecall.org  
 1-800-252-1166



FILE: P:\2022\22-011 - 469 Pleasant View Rd Shoreline\CAD\DWG\PLANS\SHORES\CHUL22-011\_CIV\_SEC.dwg LAYOUT: 001  
 DATE/TIME: Apr 14, 2022 9:29am  
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NO.	DATE	DRAWN	DESIGN	CHECKED	ISSUES / REVISIONS
	04-14-22	ANO	ANO	AKC	WATERSHED SUBMITTAL

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.

*Aaron Carrell*  
 AARON CARRELL  
 L.I.C. NO. 47494 DATE: 04-14-22

**Hansen Thorp Pellinen Olson, Inc.**  
 Engineering • Surveying  
 Landscape Architecture  
 7510 Market Place Drive • Eden Prairie, MN 55344  
 952-829-0700 • 952-829-7806 fax  
 PROJECT NO. 22-011.1

HORIZONTAL SCALE IN FEET  
 0 10 20 30

RPBCWD PERMIT # 2021-078

OWNERS: PAUL & JULIE MATTSON

**SHORELINE REHABILITATION PLAN**

**469 PLEASANT VIEW ROAD**  
 CHANHASSEN, MINNESOTA

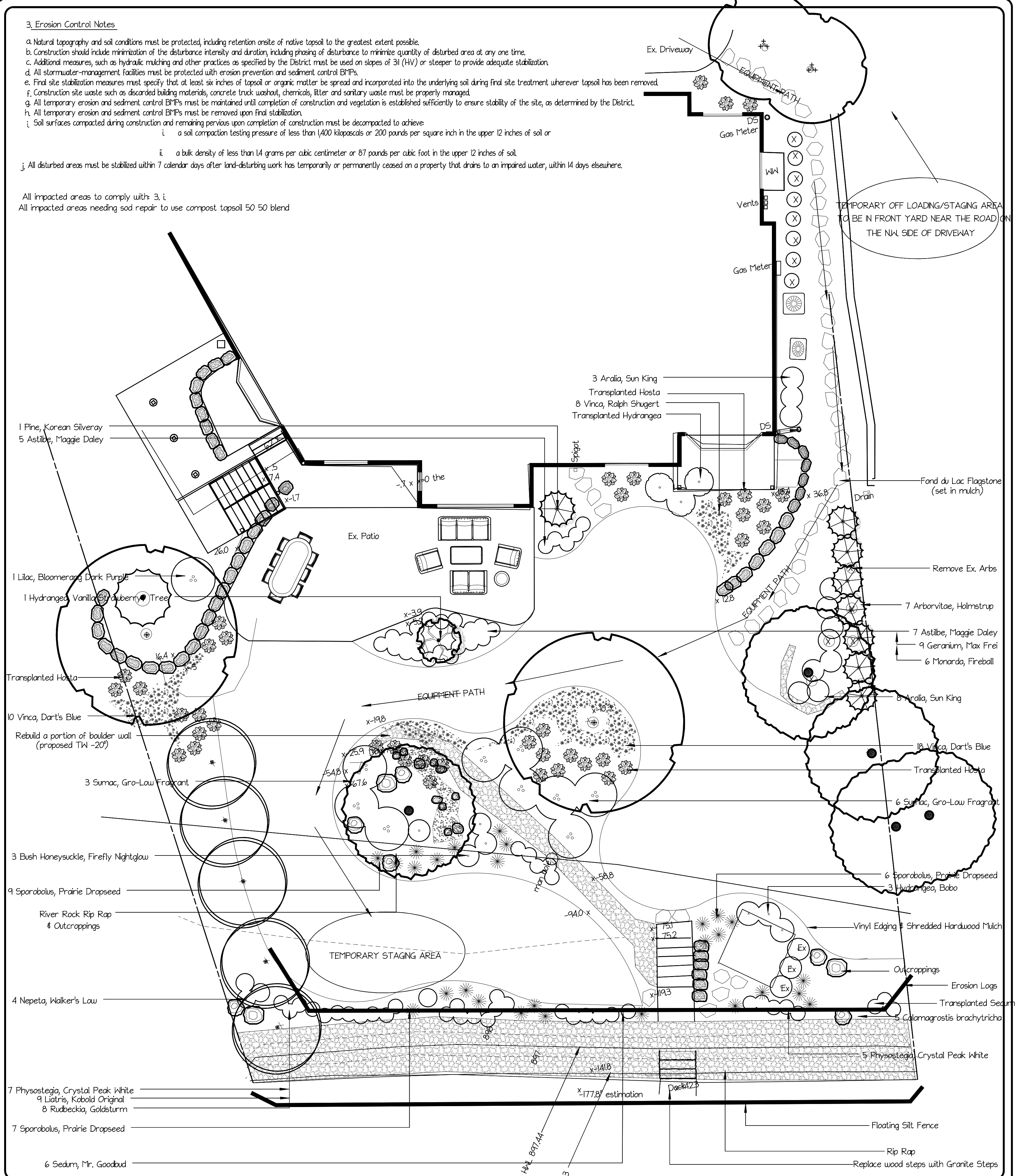
SHEET  
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3. Erosion Control Notes

- a. Natural topography and soil conditions must be protected, including retention onsite of native topsoil to the greatest extent possible.
- b. Construction should include minimization of the disturbance intensity and duration, including phasing of disturbance to minimize quantity of disturbed area at any one time.
- c. Additional measures, such as hydraulic mulching and other practices as specified by the District must be used on slopes of 3:1 (H:V) or steeper to provide adequate stabilization.
- d. All stormwater-management facilities must be protected with erosion prevention and sediment control BMPs.
- e. Final site stabilization measures must specify that at least six inches of topsoil or organic matter be spread and incorporated into the underlying soil during final site treatment wherever topsoil has been removed.
- f. Construction site waste such as discarded building materials, concrete truck washout, chemicals, litter and sanitary waste must be properly managed.
- g. All temporary erosion and sediment control BMPs must be maintained until completion of construction and vegetation is established sufficiently to ensure stability of the site, as determined by the District.
- h. All temporary erosion and sediment control BMPs must be removed upon final stabilization.
- i. Soil surfaces compacted during construction and remaining pervious upon completion of construction must be decompacted to achieve:
  - i. a soil compaction testing pressure of less than 1,400 kilopascals or 200 pounds per square inch in the upper 12 inches of soil or
  - ii. a bulk density of less than 1.4 grams per cubic centimeter or 87 pounds per cubic foot in the upper 12 inches of soil.
- j. All disturbed areas must be stabilized within 7 calendar days after land-disturbing work has temporarily or permanently ceased on a property that drains to an impaired water, within 14 days elsewhere.

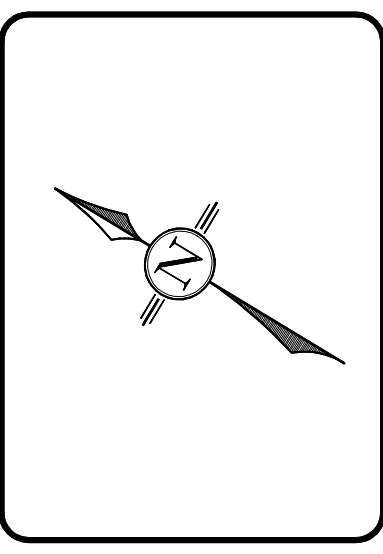
All impacted areas to comply with: 3. i  
 All impacted areas needing sod repair to use compost topsoil 50/50 blend



DATE OF REV.	DATE	BY	REVISION
	Aug 2021		

MATTSON RESIDENCE  
 469 Pleasant View Rd  
 Chanhassen

Master Backyard



NO.	DATE	DESCRIPTION
1	Revised 9-8-21	
2	Revised 2-23-22	
3	Revised 4-11-22	
4	Revised 4-19-22	

C. JOHNSON  
 LANDSCAPE DESIGN GROUP

Cori Johnson  
 C. Johnson Landscape Design Group LLC  
 P.O. Box 390534  
 Edina, MN 55439  
 612-601-0090  
 MN License #BC647358

NOTES