

**FY 2023 STATE OF MINNESOTA  
BOARD OF WATER and SOIL RESOURCES  
WATERSHED-BASED IMPLEMENTATION FUNDING  
GRANT AGREEMENT**

<b>Vendor:</b>	0000291877
<b>PO#:</b>	3000015586

This Grant Agreement is between the State of Minnesota, acting through its Board of Water and Soil Resources (Board) and **Elm Creek WMC, 3235 Fernbrook Lane Plymouth Minnesota 55447** (Grantee).

<i>This grant is for the following Grant Programs :</i>		
C23-8533	SWA Implementation	\$175,000
C23-7172	Priority Assessments	\$92,774
<b>Total Grant Awarded: \$267,774</b>		

**Recitals**

1. The Laws of Minnesota 2019, 1<sup>st</sup> Special Session, Chapter 2, Article 2, Section 7(a), and the Laws of Minnesota, 2021, 1<sup>st</sup> Special Session, Chapter 1, Article 2, Sec. 6(a) appropriated Clean Water Funds (CWF) to the Board for the FY 2022-2023 Watershed-based Implementation Funding Program.
2. The Board adopted the FY 2022-2023 Clean Water Fund Watershed-based Implementation Funding Program Policy and authorized the allocation of funds for the FY 2022-2023 Watershed-based Implementation Funding Program. through Board Order #21-51.
3. The Grantee has submitted a Board-approved work plan for this Program which is incorporated into this Grant Agreement by reference.
4. The Grantee represents that it is duly qualified and agrees to perform all services described in this Grant Agreement to the satisfaction of the Board.
5. As a condition of the grant, Grantee agrees to minimize administration costs.

**Authorized Representative**

The State's Authorized Representative is James Adkinson, Grants Coordinator, BWSR, 520 Lafayette Road North, Saint Paul, MN 55155, 651-539-2588, or his successor, and has the responsibility to monitor the Grantee's performance and the authority to accept the services and performance provided under this Grant Agreement.

The Grantee's Authorized Representative is:

**TITLE**  
**ADDRESS**  
**CITY**  
**TELEPHONE NUMBER**

If the Grantee's Authorized Representative changes at any time during this Grant Agreement, the Grantee must immediately notify the Board.

**Grant Agreement**

1. **Terms of the Grant Agreement.**
  - 1.1. **Effective date:** The date the Board obtains all required signatures under Minn. Stat. § 16B.98, Subd. 5. **The Board will notify the Grantee when this Grant Agreement has been executed. The Grantee must not begin work under this Grant Agreement until it is executed.**
  - 1.2. **Expiration date:** **December 31, 2025**, or until all obligations have been satisfactorily fulfilled, whichever comes first.

- 1.3. **Survival of Terms:** The following clauses survive the expiration date or cancellation of this Grant Agreement: 7. Liability; 8. State Audits; 9. Government Data Practices; 11. Publicity and Endorsement; 12. Governing Law, Jurisdiction, and Venue; 14. Data Disclosure; and 19. Intellectual Property Rights.

## 2. **Grantee's Duties.**

The Grantee will comply with required grants management policies and procedures set forth through Minn. Stat. § 16B.97, Subd. 4(a)(1). The Grantee is responsible for the specific duties for the Program as follows:

- 2.1. **Implementation:** The Grantee will implement their work plan, which is incorporated into this Grant Agreement by reference and abide by the FY2022-23 Watershed-based Implementation Funding policy.
- 2.2. **Reporting:** All data and information provided in a Grantee's report shall be considered public.
  - 2.2.1. The Grantee will submit an annual progress report to the Board by February 1 of each year on the status of Program implementation by the Grantee. Information provided must conform to the requirements and formats set by the Board. All individual grants over \$500,000 will also require a reporting expenditure by June 30 of each year.
  - 2.2.2. The Grantee will prominently display on its website the Clean Water Legacy Logo and a link to the Legislative Coordinating Commission website.
  - 2.2.3. Final Progress Report: The Grantee will submit a final progress report to the Board by February 1, 2026 or within 30 days of completion of the project, whichever occurs sooner. Information provided must conform to the requirements and formats set by the Board.
- 2.3. **Match:** The Grantee will ensure any local match requirement will be provided as stated in Grantee's approved work plan.

## 3. **Time.**

The Grantee must comply with all the time requirements described in this Grant Agreement. In the performance of this Grant Agreement, time is of the essence.

## 4. **Terms of Payment.**

- 4.1. Grant funds will be distributed in three installments: 1) The first payment of 50% will be distributed after the execution of the Grant Agreement. 2) The second payment of 40% will be distributed after the first payment of 50% has been expended and reporting requirements have been met. An eLINK Interim Financial Report that summarizes expenditures of the first 50% must be signed by the Grantee and approved by the Board. Selected grantees may be required at this point to submit documentation of the expenditures reported on the Interim Financial Report for verification. 3) The third payment of 10% will be distributed after the grant has been fully expended and reporting requirements are met. The final, 10% payment must be requested within 30 days of the expiration date of the Grant Agreement. An eLINK Final Financial Report that summarizes final expenditures for the grant must be signed by the Grantee and approved by the Board.
- 4.2. All costs must be incurred within the grant period.
- 4.3. All incurred costs must be paid before the amount of unspent funds is determined. Unspent grant funds must be returned within 30 days of the expiration date of the Grant Agreement.
- 4.4. The obligation of the State under this Grant Agreement will not exceed the amount listed above.
- 4.5. This grant includes an advance payment of 50 % of the grant's total amount. Advance payments allow the grantee to have adequate operating capital for start-up costs, ensure their financial commitment to landowners and contractors, and to better schedule work into the future.

## 5. **Conditions of Payment.**

- 5.1. All services provided by the Grantee under this Grant Agreement must be performed to the Board's satisfaction, as set forth in this Grant Agreement and in the Board-approved work plan for this Program. Compliance will be determined at the sole discretion of the State's Authorized Representative and in accordance with all applicable federal, State, and local laws, policies, ordinances, rules, FY 2022-2023 Clean Water Fund Watershed-based Implementation Funding Program Policy, and regulations. The Grantee will not receive payment for work found by the Board to be unsatisfactory or performed in violation of federal, State, or local law.
- 5.2. Minnesota Statutes § 103C.401 establishes the Board's obligation to assure Program compliance. If the noncompliance is severe, or if work under the Grant Agreement is found by the Board to be unsatisfactory or performed in violation of federal, State, or local law, the Board has the authority to require the repayment of grant funds or withhold payment on grants from other programs.

## 6. **Assignment, Amendments, and Waiver**

- 6.1. **Assignment.** The Grantee may neither assign nor transfer any rights or obligations under this Grant Agreement without the prior consent of the Board and a fully executed Assignment Agreement, executed and approved by the same parties who executed and approved this Grant Agreement, or their successors in office.

- 6.2. **Amendments.** Any amendments to this Grant Agreement must be in writing and will not be effective until it has been approved and executed by the same parties who approved and executed the original Grant Agreement, or their successors in office. Amendments must be executed prior to the expiration of the original Grant Agreement or any amendments thereto.
- 6.3. **Waiver.** If the Board fails to enforce any provision of this Grant Agreement, that failure does not waive the provision or its right to enforce it.

7. **Liability.**

The Grantee must indemnify, save, and hold the State, its agents, and employees harmless from any claims or causes of action, including attorney's fees incurred by the State, arising from the performance of this Grant Agreement by the Grantee or the Grantee's agents or employees. This clause will not be construed to bar any legal remedies the Grantee may have for the State's failure to fulfill its obligations under this Grant Agreement.

8. **State Audits.**

Under Minn. Stat. § 16B.98, Subd. 8, the Grantee's books, records, documents, and accounting procedures and practices of the Grantee or other party relevant to this Grant Agreement or transaction are subject to examination by the Board and/or the State Auditor or Legislative Auditor, as appropriate, for a minimum of six years from the end of this Grant Agreement, receipt and approval of all final reports, or the required period of time to satisfy all State and program retention requirements, whichever is later.

- 8.1. The books, records, documents, accounting procedures and practices of the Grantee and its designated local units of government and contractors relevant to this grant, may be examined at any time by the Board or Board's designee and are subject to verification. The Grantee or delegated local unit of government will maintain records relating to the receipt and expenditure of grant funds.

9. **Government Data Practices.**

The Grantee and the Board must comply with the Minnesota Government Data Practices Act, Minn. Stat. Ch. 13, as it applies to all data provided by the Board under this Grant Agreement, and as it applies to all data created, collected, received, stored, used, maintained, or disseminated by the Grantee under this Grant Agreement. The civil remedies of Minn. Stat. § 13.08 apply to the release of the data referred to in this clause by either the Grantee or the State.

10. **Workers' Compensation.**

The Grantee certifies that it is in compliance with Minn. Stat. § 176.181, Subd. 2, pertaining to workers' compensation insurance coverage. The Grantee's employees and agents will not be considered State employees. Any claims that may arise under the Minnesota Workers' Compensation Act on behalf of these employees and any claims made by any third party as a consequence of any act or omission on the part of these employees are in no way the State's obligation or responsibility.

11. **Publicity and Endorsement.**

- 11.1. **Publicity.** Any publicity regarding the subject matter of this Grant Agreement must identify the Board as the sponsoring agency. For purposes of this provision, publicity includes notices, informational pamphlets, press releases, research, reports, signs, and similar public notices prepared by or for the Grantee individually or jointly with others, or any subcontractors, with respect to the program, publications, or services provided resulting from this Grant Agreement.

- 11.2. **Endorsement.** The Grantee must not claim that the State endorses its products or services

12. **Governing Law, Jurisdiction, and Venue.**

Minnesota law, without regard to its choice-of-law provisions, governs this Grant Agreement. Venue for all legal proceedings out of this Grant Agreement, or its breach, must be in the appropriate State or federal court with competent jurisdiction in Ramsey County, Minnesota.

13. **Termination.**

- 13.1. The Board may cancel this Grant Agreement at any time, with or without cause, upon 30 days' written notice to the Grantee. Upon termination, the Grantee will be entitled to payment, determined on a pro rata basis, for services satisfactorily performed.
- 13.2. In the event of a lawsuit, an appropriation from a Clean Water Fund is canceled to the extent that a court determines that the appropriation unconstitutionally substitutes for a traditional source of funding.
- 13.3. The Board may immediately terminate this Grant Agreement if the Board finds that there has been a failure to comply with the provisions of this Grant Agreement, that reasonable progress has not been made or that the purposes for which the funds were granted have not been or will not be fulfilled. The Board may take action to protect the interests of the State of

Minnesota, including the refusal to disburse additional funds and requiring the return of all or part of the funds already disbursed.

**14. Data Disclosure.**

Under Minn. Stat. § 270C.65, Subd. 3, and other applicable law, the Grantee consents to disclosure of its social security number, federal employer tax identification number, and/or Minnesota tax identification number, already provided to the State, to federal and State tax agencies and State personnel involved in the payment of State obligations. These identification numbers may be used in the enforcement of federal and State tax laws which could result in action requiring the Grantee to file State tax returns and pay delinquent State tax liabilities, if any.

**15. Prevailing Wage.**

It is the responsibility of the Grantee or contractor to pay prevailing wage for projects that include construction work of \$25,000 or more, prevailing wage rules apply per Minn. Stat. §§ 177.41 through 177.44. All laborers and mechanics employed by grant recipients and subcontractors funded in whole or in part with these State funds shall be paid wages at a rate not less than those prevailing on projects of a character similar in the locality. Bid requests must state the project is subject to prevailing wage.

**16. Municipal Contracting Law.**

Per Minn. Stat. § 471.345, grantees that are municipalities as defined in Subd. 1 of this statute must follow the Uniform Municipal Contracting Law. Supporting documentation of the bidding process utilized to contract services must be included in the Grantee's financial records, including support documentation justifying a single/sole source bid, if applicable.

**17. Constitutional Compliance.**

It is the responsibility of the Grantee to comply with requirements of the Minnesota Constitution regarding the use of Clean Water Funds to supplement traditional sources of funding.

**18. Signage.**

It is the responsibility of the Grantee to comply with requirements for project signage as provided in Minnesota Laws 2010, Chapter 361, Article 3, Section 5(b) for Clean Water Fund projects.

**19. Intellectual Property Rights.**

The State owns all rights, title, and interest in all of the intellectual property rights, including copyrights, patents, trade secrets, trademarks, and service marks in the Works and Documents *created and paid for under this grant*. Works means all inventions, improvements, discoveries, (whether or not patentable), databases, computer programs, reports, notes, studies, photographs, negatives, designs, drawings, specifications, materials, tapes, and disks conceived, reduced to practice, created or originated by the Grantee, its employees, agents, and subcontractors, either individually or jointly with others in the performance of this grant. Work includes "Documents." Documents are the originals of any databases, computer programs, reports, notes, studies, photographs, negatives, designs, drawings, specifications, materials, tapes, disks, or other materials, whether in tangible or electronic forms, prepared by the Grantee, its employees, agents or subcontractors, in the performance of this grant. The Documents will be the exclusive property of the State and all such Documents must be immediately returned to the State by the Grantee upon completion or cancellation of this grant at the State's request. To the extent possible, those Works eligible for copyright protection under the United States Copyright Act will be deemed to be "works made for hire." The Grantee assigns all right, title, and interest it may have in the Works and the Documents to the State. The Grantee must, at the request of the State, execute all papers and perform all other acts necessary to transfer or record the State's ownership interest in the Works and Documents.

**IN WITNESS WHEREOF**, the parties have caused this Grant Agreement to be duly executed intending to be bound thereby.

**Approved:**

## Elm Creek WMC

## Board of Water and Soil Resources

By: \_\_\_\_\_  
(print)

\_\_\_\_\_  
(signature)

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

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

**By:** \_\_\_\_\_

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

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

# elm creek

## Watershed Management Commission

ADMINISTRATIVE OFFICE  
3235 Fernbrook Lane  
Plymouth, MN 55447  
PH: 763.553.1144  
email: judie@jass.biz  
www.elmcreekwatershed.org

### Karineimi Meadows Corcoran Project #2022-040

#### Project Overview:

**Location:** A large agriculture parcel (124.5 acres) in the southeast quadrant of the intersection of CR 10 and 19. Hennepin County PID 1811923110002.

**Purpose:** Subdivide the parcel into nine single family residential lots and an outlot. Nine lots are east of Rush Creek and range from 2.5 to 14.5 acres in size . One outlot west of Rush Creek is 71.4 acres. The project will consist of constructing Chaparral Lane into the site, the associated drainage and stormwater basins needed for the project and lot grading on four lots. The remaining five lots to be custom grading at the time the homes are built.

<b>WMC Rules</b>	X	Rule D	Stormwater Management
<b>Triggered:</b>	X	Rule E	Erosion and Sediment Control
	X	Rule F	Floodplain Alterations
	X	Rule G	Wetland Alteration
		Rule H	Bridge and Culvert Crossings
	X	Rule I	Buffer Strips

<b>Applicant:</b>	Nathan Kariniemi	<b>Attention:</b>	N/A
<b>Address:</b>	19927 Larkin Road Hamel, MN 55340	<b>Phone:</b>	763-300-6618
		<b>Email:</b>	N/A
<b>Agent:</b>	Otto Associates	<b>Attention:</b>	Paul Otto
<b>Address:</b>	9 West Division Street Buffalo, MN 55313	<b>Phone:</b>	763-682-4727
		<b>Email:</b>	paul@ottoassociates.com

Exhibits:	Description	Date Received
Application	<input checked="" type="checkbox"/> Complete ECWMC Application	August 5, 2022
	<input checked="" type="checkbox"/> ECWMC Request for Review and Approval	August 3, 2022
	<input checked="" type="checkbox"/> City authorization: Corcoran, MN	August 3, 2022
	<input checked="" type="checkbox"/> Review fee: \$4,725 & \$675	August 3 & 5, 2022
	<input checked="" type="checkbox"/> Project Documents (site plans, reports, models, etc.)	August 3, 2022

#### Submittals

1. Stormwater Report, Karineimi Meadows, dated January 15, 2022, with updates provided and dated June 29, 2022, September 7, 2022, and December 8, 2022, prepared by Otto Associates.
  - a. Summary Narrative
  - b. NRCS Soil Survey Geographic Database (SSURGO) Information for Parcel.
  - c. Event Mean Concentration information for TP and TSS from National Stormwater Quality Database

- d. Existing and Proposed HydroCAD models
  - e. Ponds 1 through 4 Stage-Area-Storage HydroCAD tables and NURP volume calculation.
  - f. Pre and post development MIDS model analysis. (pdf summaries and electronic versions)
  - g. Storm sewer skimmer structure details on ponds 1,2 & 3.
  - h. Existing and proposed drainage maps.
2. Wetland Information
  - a. 23185 County Road 10 Wetland Delineation Report by Kjolhaug Environmental dated October 27, 2020.
  - b. Figure 2 (Existing Conditions map) dated October 27, 2021, and revised Figure 2, (Existing Conditions map) dated December 16, 2021.
  - c. MN WCA Notice of Decision, approved wetland boundary/type from City of Corcoran (LGU) dated December 16, 2021.
  - d. MN WCA Notice of Decision, approved wetland replacement plan from City of Corcoran (LGU) dated November 21, 2022.
3. Kariniemi Meadows Site Plans by Otto and Associates dated December 9, 2022.
  - a. Sheet 1 of 16, Cover Sheet
  - b. Sheets 2, & 3 of 16, Grading Plans
  - c. Sheets 4 to 7 of 16, Stormwater Pollution Prevention Plan
  - d. Sheets 8 & 9 of 16, Street and Storm Sewer Plan., Preliminary Street & Storm Sewer
  - e. Sheets 10 & 11 of 16, CR 10 Road Plans
  - f. Sheets 12 and 13 of 16, Wetland Buffer and Tree Preservation Plan
  - g. Sheet 14 of 16, Pond Filtration Bench
  - h. Sheets 15 & 16 of 16, Details.
4. Septic primary and alternate site soil logs for Lots 1 to 5, Block 1 Kariniemi Meadows by Homestead Septic. No date or signature.

## Findings

### General

1. A complete application was received August 5, 2022. The initial 60-day decision period per MN Statute 15.99 expired October 4, 2022. The applicant has extended the deadline to February 8, 2022.
2. The existing 125 acres drains into Rush Creek which is located through the middle of this parcel.
  - a. Land use for the 71 acres west of Rush Creek will remain the same after development. No ECWMC review for this area is necessary currently.
  - b. The remaining 54 acres of the development east of Rush Creek will be reviewed in this report.
  - c. A future trail between CR 10 and CR 19 is proposed. It will run north and south from CR 10 and then east/west along the south property line between CR 19 and Rush Creek.
    - i. No trail construction or grading is proposed at this time.
    - ii. The trail easement is within the floodplain and floodway of Rush Creek. Any grading on this trail will have to be reviewed in the future as part of a separate project.
3. 5.16 acres of new impervious areas are being created from this development.
4. Four ponds are proposed for stormwater management. Two ponds will be designed with sand filter benches for abstraction volume controls.
5. The site areas east of Rush Creek flows in three directions,
  - a. Westerly Runoff (~37 acres) flows directly into Rush Creek
  - b. Northerly runoff (~6 acres) that flows under CR 10.

- c. Runoff to the southeast (~3 acres).
6. The proposed development will limit the grading disturbance to four principal areas.
  - a. Chaparral Lane ROW and drainage ditches,
  - b. Stormwater management ponds and swales,
  - c. CR 10 road widening and drainage upgrade.
  - d. Rough grading on four of the home sites.
  - e. The rest of the home sites will be custom graded at the time of home construction.
7. The development of 9 large rural residential lots and Chaparral Lane will create 5.16 acres of new, net impervious areas. Stormwater management is designed to treat 3.6 acres of impervious areas including 95% of Chaparral Road.
8. Existing and proposed conditions HydroCAD models were created to model flow rates through this site for the 2-, 10-, and 100-year storm events.
9. There are 13 wetlands within the project extents.
  - a. One wetland basin, 2,477 sq ft. in size is proposed to be filled.
  - b. Mitigation credits for 4,954 sq. ft. from BWSR wetland bank account 1697 is proposed.
10. Rush Creek jurisdictional floodplains runs through this parcel. Minimal floodplain impacts are proposed.
11. There are no bridge/culvert crossings across jurisdictional stream from this project.
12. Drainage and utility easements encompass all buffer, wetlands, floodplains and stormwater systems.

## **Rule D – Stormwater Management**

### **General**

1. The project will disturb approximately 17 acres and create 5.16 acres of new, net impervious areas.
2. NRCS soils information indicate the on-site soils are Hydrologic Soil Group Type C/D (low infiltration capacity) with low infiltration capabilities. Septic system soil borings determined on site soils have loam textures to approximately 15" and then clay loam soil textures below 16" Redox features indicating high water tables occur in all borings at 16"-18" and lower. Based on these indicators, infiltration is not a feasible option on this site.
3. Stormwater flow rates and quality controls will be managed on the site via four NURP ponds. Two of the ponds are proposed to have filter benches to meet abstraction volume requirements.
4. Ponds 1, 2, and 3 will have outlet control structure pipes submerged to prevent migration of floatables and oil downstream. Pond 4 overflows via a culvert under Chaparral Road into pond 3.
5. An operation and maintenance agreement implementing those conditions that bind current and future owners of the project must be recorded on this property

### **Low Floor Elevations**

1. Each home site will be custom built. Home elevations proposed on the site plans will meet the Commission's requirements for low floor and low openings. The low floor elevations as they relate to the adjacent water body are as follows.
  - a. L9/B1 is an existing farmstead with a first-floor elevation of 1005.65.
    - i. Adjacent Rush Creek BFE=992.0, CR 10 overflow is 994.3
    - ii. Pond 1 HWL = 998.5, NWL = 996. 2
    - iii. Culvert under CR 10 =997.8 after development. 999.9 before development. Better condition.
  - b. L8/B1 low floors= 996.7.
    - i. Storm Basin #2 HWL =994.7, EOF=995.7.
    - ii. Adjacent Rush Creek BFE=992.1, CR 10 overflow is 994.3
  - c. L7/B1 low floor =997.8



- i. Storm Basin #2 HWL =994.7, EOF=995.7.
- ii. Adjacent Rush Creek BFE=992.2, CR 10 overflow is 994.3
- d. L6 & L5/B1 low floors = 995.3
  - i. Adjacent Rush Creek BFE=992.2, CR 10 overflow is 994.3
- e. L4/B1 low floor =998.8
  - i. Adjacent Rush Creek BFE=993.00, CR 10 overflow is 994.3
  - ii. Pond 3, HWL=996.8, EOF=997.8
- f. L3/B1 low floor=995.5
  - i. Adjacent Rush Creek BFE=993.5, CR 10 overflow is 994.3
- g. L2/B1 low floor =1000.0
  - i. Adjacent Rush Creek BFE=992.75, CR 10 overflow is 994.3
  - ii. Pond 4 HWL=998.95, EOF=999.0- pond 4 is greater than 200' from proposed home
- h. L1/B2 low floor = 1003.5
  - i. Pond 4 HWL=998.95, EOF=999.0.

### Abstraction Controls

1. Abstraction controls will **meet** Commission requirements.
2. New impervious areas will be 5.16 acres. Abstraction requirement for filtration/biofiltration is 20,604 cubic feet.
3. Full infiltration of 1.1 inches of runoff from impervious areas is not feasible due to low infiltration capacity soils and high seasonal ground water conditions.
4. Abstraction credits from the filter benches on ponds 3 and 4 will provide 24,013 cubic feet of water volume filtered through the filter media in the bench/drain tiles. This volume is calculated between the filter bench elevations and the overflow weirs on each pond.
5. Filter media mixes meet the 48-hour drawdown requirements. The hydraulic filtration rates used for ponds 3 and 4 with filtration benches are 1.8"/hour per sq. ft. of filter media surface area.
  - a. Pond 3 filter media surface area = 1,965 sq. ft.  $1.8"/12 \times 1,965 \text{ sq. ft.} = 294.75 \text{ cubic feet per hour}$ .  $14,167/294.75 = 48 \text{ hours}$
  - b. Pond 4 filter media surface area = 1,400 sq. ft.  $1.8"/12 \times 1,400 = 210.0 \text{ cubic feet per hour}$ .  $9,846/210 = 47 \text{ hours}$ .
6. Ponds 3 and 4 filter bench and drain tile detail are consistent with MPCA and ECWMC requirements. Media mix C is proposed for the filtration bench areas. Water will flow through a minimum of 1.5' of filter media.

### Water Quality

1. Water quality will **meet** Commission requirements.
2. Table 2 shows the applicants pre and post development water quality summary on this site. The applicant used the MPCA MIDS model to determine pre and post development TP and TSS loads.
  - a. Pre-development loads were determined by using the National Stormwater Quality Database Event Mean Concentration tables for TP and TSS. Post development load concentrations used the MPCA default values.
    - i. Pro-rated pre-development TP concentration = 0.480 mg/l, TSS= 129.7 mg/l
    - ii. Post-development loads = 0.30 mg/l for TP and 54.5 mg/l for TSS
3. Table 2 also provides an ECWMC analysis using MIDS with default concentrations with NURP and user defined BMP's for the sand filters on ponds 3 and 4 (~20% PP, 10% DP and 25% TSS reduction).

**Table 1 Water Quality Summary<sup>1</sup>**

	<b>Annual Runoff Vol. (ac-ft)</b>	<b>Abstraction Vol. (cubic feet)</b>	<b>TP (lbs/year)</b>	<b>TSS (lbs/year)</b>
Pre-Project	21.1 (21.2)	N/A	27.5 (21.2)	7,435 (3,852)
Proposed (w/o BMP's) <sup>1</sup>	27.4 (32.6)	20,604 (required)	22.4 (26.6)	4,056 (4,836)
Proposed (w/ BMP's) <sup>1</sup>	27.4 (32.6)	24,013 (provided)	21.1 (21.2)	3,295 (3,150)
<b>Change</b>	<b>+6.3 (+11.4)</b>	<b>+3,409.0 (excess)</b>	<b>-6.4 (0.0)</b>	<b>-4,140 (-702)</b>

Parentheses are Commission estimates using pre-development default concentrations and NURP pond with sand filters BMP's.

### Rate Controls

1. Rate control **meets** Commission requirements.
2. Post development rate control for the site is provided by 4 stormwater basins and culvert drainage under Chaparral Lane.
  - a. The stormwater basins and road ditch construction are situated to accommodate runoff from 95% of the new impervious area from Chaparral Lane.
  - b. Culvert drainage under Chaparral Lane is designed to replicate or improve the natural drainage that runs from east to west under it.
3. The applicant provided a pre- and post-development HydroCAD model for the 2-year, 10-year, and 100-year storm events, Atlas 14, point precipitation and an MSE 24-hour type 3 rainfall distribution.
4. Table 1 compares before and after flow rates at three main discharge points from this property.
  - a. To the west draining directly into the Rush Creek and its floodplain/wetland areas.
  - b. To the northeast to the existing culvert draining north under CR 10.
  - c. To the southeast into existing wetland 2 which naturally flows south then west where it enters wetland 1 then flow via ditch to the northwest into Rush Creek on site.

**Table 2 Rate of Discharge Leaving Site**

<b>Direction</b>	<b>Condition (Drainage area)</b>	<b>2-year (cfs)</b>	<b>10-year (cfs)</b>	<b>100-year (cfs)</b>
<b>West</b> (Directly into Rush Creek wetlands/floodplain)	Pre-Project (37.3 ac.)	39.8	73.9	148.3
	Proposed <sup>1</sup> (35.8 ac.)	33.6	69.0	146.5
	<b>Change</b>	<b>-6.2</b>	<b>-4.9</b>	<b>-1.8</b>
<b>Northeast</b> (Flows under CR 10)	Pre-Project (5.7 ac.)	9.0	12.7	14.9
	Proposed <sup>1</sup> (7.2 ac.)	1.7	4.0	7.9
	<b>Change</b>	<b>-7.3</b>	<b>-8.7</b>	<b>-7.0</b>
<b>Southeast</b> (Flows into wetland 2)	Pre-Project (3.2 ac.)	3.8	8.0	17.6
	Proposed <sup>1</sup> (3.2 ac.)	3.6	7.7	17.3
	<b>Change</b>	<b>-0.2</b>	<b>-0.3</b>	<b>-0.3</b>

### **Rule E – Erosion and Sediment Control (plans)**

1. Site Plans **meet** the Commission requirements for erosion and sediment control.
2. Erosion control and SWPPP plans include.
  - a. Perimeter sediment protection measures including
    - i. Silt fence with double rows of silt fence adjacent to wetlands.
    - ii. Natural vegetative buffers strips
  - b. Temporary and permanent stabilization for disturbed soil areas.
  - c. Temporary and permanent sediment control sequencing construction, cleanout, and post construction protection.

### **Rule I– Buffer Strips**

1. Site Plans **meet** Commission requirements for buffer strips.
2. The buffer vegetation narrative submitted as part of the plan, will meet the Commission requirements for native vegetation establishment and maintenance.
3. Wetland buffers widths adjacent to Rush Creek are 50' average/25' minimum.
4. All other buffer widths are 25' average
5. The wetland buffer monumentation meet the Commission's requirements.

### **Rule G– Wetland Alteration**

1. Wetland replacement plans meet the Commission's wetland alteration requirements.
2. Wetland boundaries and types were approved and noticed per MN WCA requirements on December 16, 2021.
3. A wetland replacement plan has been submitted and approved by Corcoran (WCA LGU)
  - a. One wetland basin, 2,477 sq ft. in size is proposed to be filled.
  - b. Mitigation credits for 4,954 sq. ft. from BWSR wetland bank account 1697 is proposed.

### **Rule F– Floodplain Alteration**

1. Floodplain alterations **meet** the Commission's requirements
2. Rush Creek and its jurisdictional floodplains runs from the south to the north through the middle of this property.
3. The base flood elevations along the creek corridor varies from 993.5 near the south property line (upstream portion of Rush Creek) to 991.75 on the north end of the property near CR 10 (downstream)
4. Floodplain fill will occur outside of the floodway corridor and only within the flood fringe area near Pond 2. The FEMA and ECWMC base flood elevation is 992.25 along this area.
  - a. Floodplain fill of 188 cubic yards will occur from the construction of the berm for pond 2.
  - b. Mitigation of 214 cubic yards will occur adjacent to pond 2 for mitigation of the fill for the berm construction.

### **Recommendation**

Approve with the following conditions

1. Ponds 3 and 4 filter volume drawdown rates must be designed for a 1.0"/hour drawdown rate, or if the existing rate of 1.8"/hour is used, the 48-hour drawdown must be field verified after construction.
2. An approved and recorded operation and maintenance agreement for the stormwater ponds must be recorded on the property. .
3. ECWMC escrow balance must be rectified to the satisfaction of the Commission Administrator.

Project review on behalf of the Elm Creek Watershed Management Commission



James C. Kujawa  
Surface Water Solutions  
Advisor to the Commission

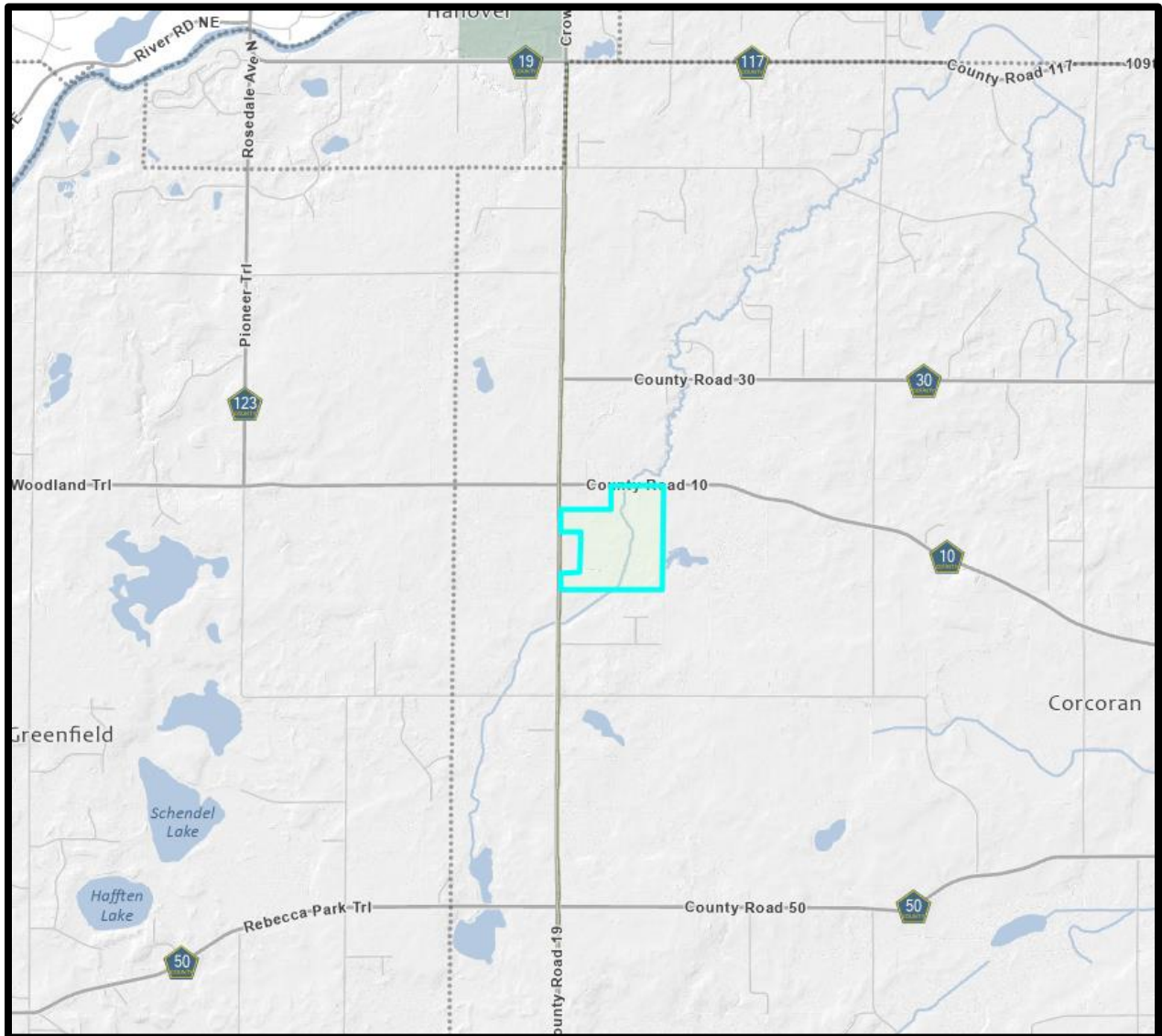
December 13, 2022

Date

### **Attachments**

- |          |  |
|----------|--|
| Figure 1 | Project Location Street View             |
| Figure 2 | Project Location Aerial View             |
| Figure 3 | Grading Plan                             |
| Figure 4 | Pre- and Post-Development Drainage Maps. |

**Figure 1 Project Location Street View**





**Figure 2 Project Location Aerial View**

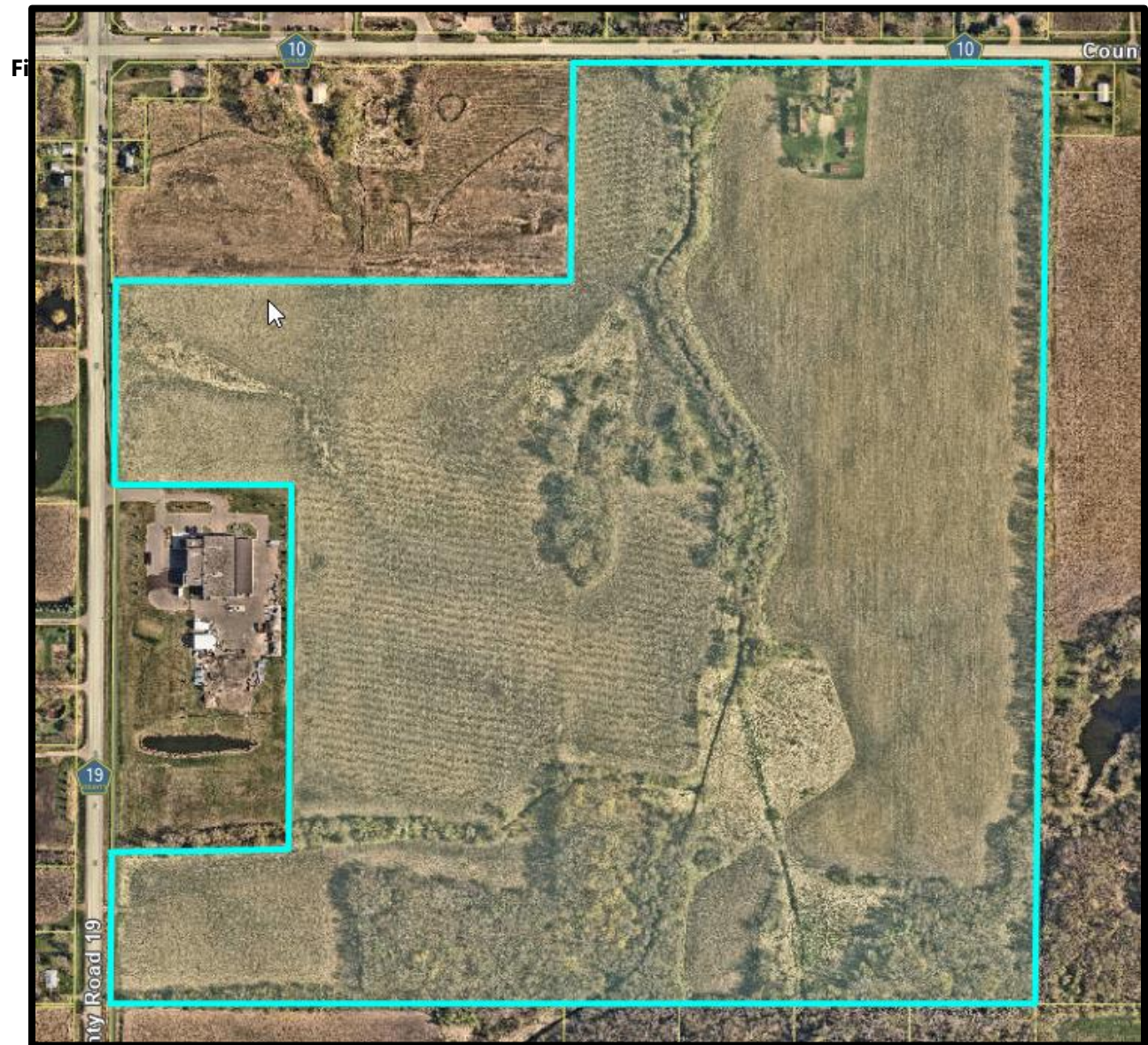
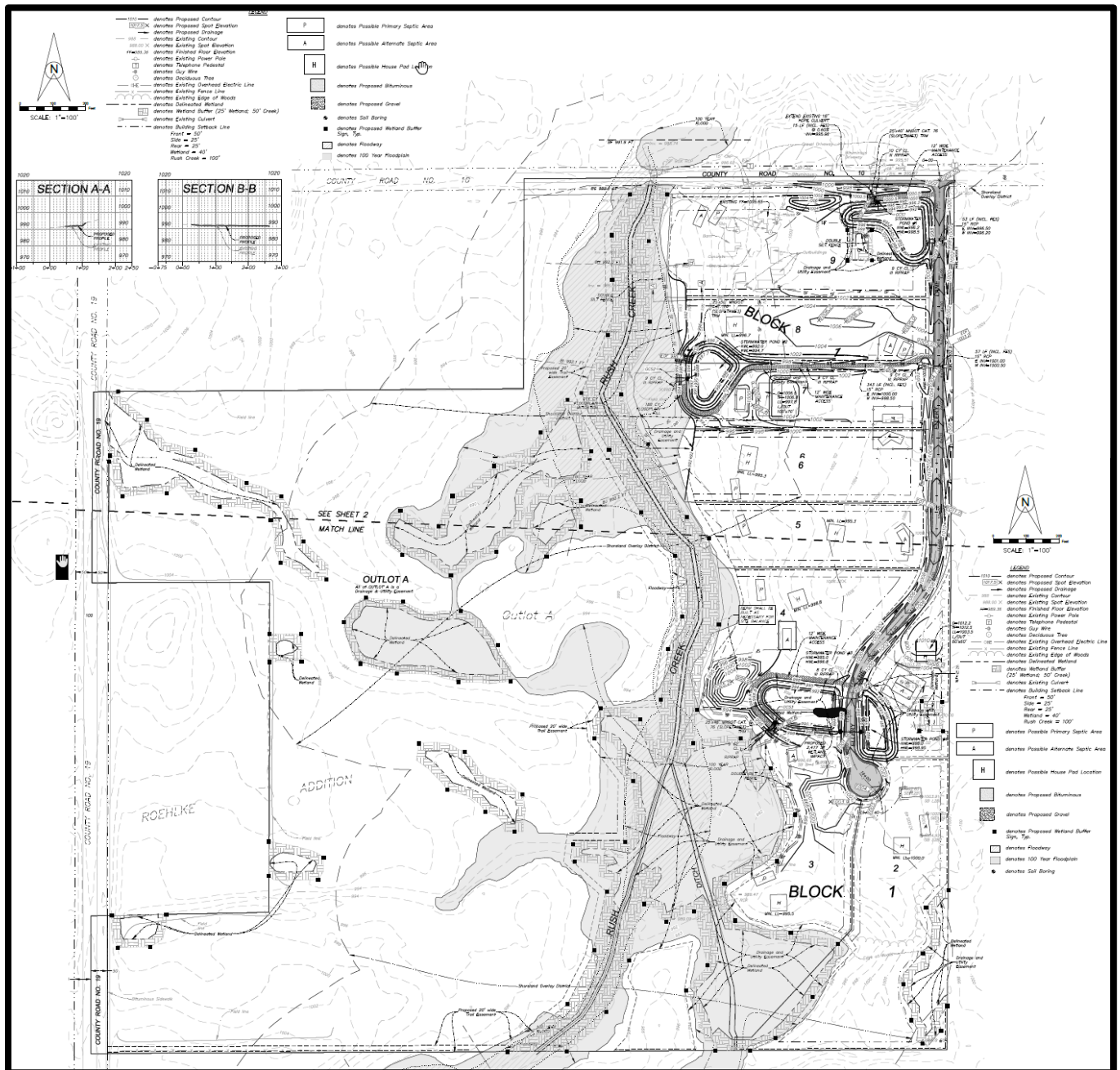


Figure 3 Grading Plan

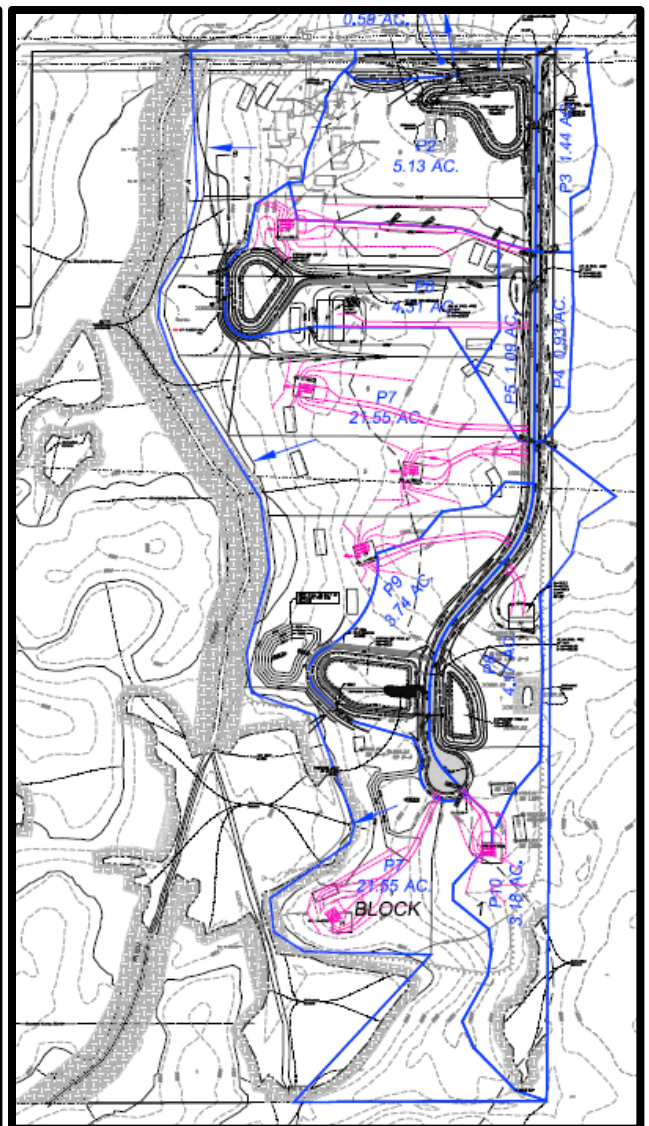




**Figure 4 Pre- and post-development drainage maps**



**Pre-Development Drainage Map**



**Post-Development Drainage Map**