

Project Name	Settlers Glen Iron-Enhanced Sand Filter	Date	1/6/2023 Rev. 1/9/2023
To / Contact info	BCWD Board of Managers		
Cc / Contact info	Karen Kill, BCWD Administrator		
From / Contact info	Ryan Fleming, PE		
Regarding	Pump Harvest Pond Maintenance Contractor Recommendation		

The purpose of this memorandum is to provide a recommendation for selecting a contractor to perform maintenance to return the Settlers Glen iron-enhanced sand filter pump harvest pond to the as-built conditions. The work (excavation and disposal of accumulated sediment) is described in Attachment A: Request for Quote Package.

Quote Summary

Based on direction the Board provided at the 8/10/2022 Board Meeting, the following language was included in the RFQ, *“BCWD encourages participation by minority, women, and veteran-owned businesses as prime contractors, and encourages all prime contractors to make a significant commitment to use minority, women, veteran owned and other disadvantaged business entities as subcontractors and suppliers. If applicable, please list any information regarding how these categories of disadvantaged business entities are included in your submission”*.

The request for quote was sent to 89 contractors including 54 from the MN Disadvantaged Business Enterprise Program (DBE) database. The DBE is a program for business owners that are socially and economically disadvantaged. The database is keyword searchable and those that offer services that align with the nature of this work were contacted. The veteran owned business directory was also searched but yielded only two excavation contractors. EOR inquired with a local veteran contractor as well as the Veterans of Foreign Wars organization to find out about more comprehensive directories without success. We will continue to seek other avenues to locate veteran owned contractors in the future.

The request for quote package was distributed to contractors on 12/19/2022; seven contractors submitted quotes as summarized in Table 1.

Table 1. Summary of Quotes

COMPANY	DBE/Veteran Owned Response	TOTAL QUOTE
Dimke Excavating, Inc.	<i>Using MBE Trucking, DBE certified</i>	\$39,471.25
New Look Contracting, Inc.	Willing to consider WBE or MBE trucking if selected	\$44,521.00
Rachel Contracting, LLC	Likely that selected trucking firm used is DBE listed	\$46,884.10
Rock Leaf Water Environmental, LLC*	Woman-owned business	\$49,317.50
Peterson Companies, Inc.	Does not apply to quoted work	\$54,895.00
US SiteWork	Certified Small Business	\$67,643.00
Shoreline Landscaping	Unknown, no response	\$88,258.00
Engineer’s Estimate**		\$32,000.00

*Rock Leaf Water Environmental was selected for a 2-year contract to conduct underground infrastructure maintenance in the BCWD.

**Engineer’s estimate was drafted prior to knowledge of arsenic and PAH concentrations above Soil Reference Values.

Recommendation

EOR recommends the Board consider award of the contract based on the quoted values and the DBE/Veteran owned status shown in Table 1.

Board Action

1. Award the contract for the Settlers Glen Pump Harvest Pond Maintenance at a value of \$____ from Account: 948-0000 and approval of the Administrator to enter into contract upon advice of Legal Counsel.

memo



Project Name	Settlers Glen Pump Harvest Pond	Date	12/19/2022
To / Contact info	Prospective Contractor		
Cc / Contact info	Karen Kill, BCWD Administrator		
From / Contact info	Ryan Fleming, PE		
Regarding	Pond Maintenance (Dredging)		

Request:

Brown's Creek Watershed District (BCWD) is soliciting competitive quotes for dredging of an existing pump harvest & sediment settling pond located in the Settlers Glen Neighborhood in the City of Stillwater, MN. (Emmons & Olivier Resources is the BCWD engineer.)

The project is generally located near Morgan Avenue North, north of Boutwell Road North and west Neal Avenue North as shown in [Figure 1](#). Work will take place on property owned by the City of Stillwater. Access is established within a cooperative agreement between the BCWD and city of Stillwater, attached hereto as [Attachment 1](#). Laboratory analysis was conducted on sediment samples from the pond collected on November 2, 2022. A laboratory report is included in [Attachment 2](#).

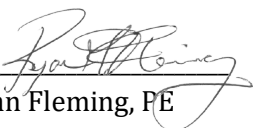
BCWD encourages participation by minority, women, and veteran-owned businesses as prime contractors, and encourages all prime contractors to make a significant commitment to use minority, women, veteran owned and other disadvantaged business entities as subcontractors and suppliers. If applicable, please list any information regarding how these categories apply in your submission.

Quotes must be submitted by email or hand-delivery to Emmons & Olivier Resources at the address below by 5:00 PM January 5, 2023. It is anticipated a contract for the work will be authorized at the BCWD Board meeting on January 11, 2023. The work must be completed by April 30, 2023. The form of the contract to be entered by the selected contractor and the Brown's Creek Watershed District is attached. Respondents must prepare a quote based upon the requirements of the proposed contract and attached site plans, designs and technical specifications. Respondents must furnish a LUMP SUM quote to procure & furnish materials to: mobilize, install erosion & sediment control devices, dewater the pond as necessary to carry out sediment removal, remove sediment in the pond to the specified elevation, dispose of sediment, restore all disturbed areas, and perform all associated work in accordance with the site plans and designs and technical specifications attached as [Exhibit A](#) to the form of contract attached hereto. To be selected for the work, a respondent must have prior experience conducting cleanout of stormwater-management facilities and disposing of sediment removed. The lump sum amount provided in response to this request must represent full payment for all costs associated with removal and disposal of all material, debris, and liquids located in the pond, including, but not limited to, materials, labor, permits, insurance, traffic control, disposal fees, flow diversion, dewatering, erosion & sediment control, and the required site restoration. The contractor will procure all licenses, permits and other rights and approvals required for the work including but not limited to city grading and right-of-way permitting. BCWD will obtain approval for the work under the Department of Natural Resources Work in Waters program, and related to the Wetland Conservation Act and the US Army Corps of Engineers.

Unless a party receiving this RFQ package contacts the individual listed below and requests otherwise, the party's name and contact information (only) may be distributed to other interested parties.

If you have any questions regarding this RFQ, please contact Ryan Fleming, PE at 651.203.6034 or rfleming@eorinc.com.

I hereby certify that this request for quotations was prepared by me or under my direct supervision and that I am a duly registered certified engineer under the laws of the State of Minnesota.





Ryan Fleming, PE

Reg. no. 46211

FIGURE 1:
BCWD Pond Maintenance

Settlers Glen Harvest Pond Dredging
Morgan Avenue North, Stillwater, MN

Legend

-  Access Trail
-  Harvest Pond



Google Earth

© 2018 Google

Boutwell Rd N
700 ft

**Agreement between
Brown's Creek Watershed District and**

Settlers Glen Pump Harvest Pond Dredging

This contract is entered into by the Brown's Creek Watershed District, a public body with powers set forth in Minnesota Statutes chapters 103B and 103D (BCWD), and _____, a private corporation (CONTRACTOR). In consideration of the terms and conditions set forth herein, including mutual consideration, the sufficiency of which is hereby acknowledged, BCWD and CONTRACTOR agree as follows:

1. Scope of Work

CONTRACTOR will procure & furnish materials to: mobilize, install erosion & sediment control devices, dewater the pond as necessary to carry out sediment removal, remove sediment in the pond to the specified elevation, dispose of sediment in accordance with all applicable regulatory requirements, restore all disturbed areas, and perform all associated work in accordance with the site plans and designs and technical specifications attached hereto as Exhibit A (hereinafter, the Work) and the Contract Documents listed below. The Work will be completed in accordance with the Contract Documents, which consist of the following:

Change orders;

Notice to proceed;

This contract;

Addendums;

CONTRACTOR's complete quote form (Exhibit B); and

Exhibit A - Plans and Designs, and the technical specifications titled "Settlers Glen Pump Harvest Pond Dredging" (6 sheets, October 30, 2022); Division II and Division III sections of the 2020 MnDOT Specifications Manual.

In the event of apparent conflict between terms in Contract Documents, interpretive priority will be given to the first-listed document above. Exhibit A is incorporated into this contract and its terms, conditions and schedules are binding on CONTRACTOR as a term hereof. CONTRACTOR will furnish all materials, machinery, equipment, tools, labor and expertise needed to complete the Work. BCWD, at its discretion, in writing may at any time suspend work or amend the contract to delete any task or portion thereof. Authorized work by CONTRACTOR

on a task deleted or modified by BCWD will be compensated in accordance with the terms of this contract generally and paragraph 5 specifically.

2. Independent Contractor

CONTRACTOR is an independent contractor. CONTRACTOR will select the means, method and manner of performing the Work. Nothing herein constitutes CONTRACTOR as the agent, representative or employee of BCWD in any respect. Personnel performing the Work on behalf of CONTRACTOR will not be considered employees of BCWD and will not be entitled to any compensation, rights or benefits of any kind from BCWD.

3. Subcontract and Assignment

CONTRACTOR may not assign, subcontract or transfer any obligation or interest in this contract or any of the Work without the written consent of BCWD and pursuant to any conditions included in that consent. BCWD consent to any subcontracting does not relieve CONTRACTOR of its responsibility to BCWD to perform the Work or any part thereof, nor in any respect affect its warranty, insurance, indemnification, duty to defend or agreement to hold harmless with respect to the Work.

4. Warranty and Indemnification

CONTRACTOR will perform the Work with due care in a proper, workmanlike and good quality manner, and warrants that all materials and labor will be in strict conformity in every respect with the Contract Documents. CONTRACTOR warrants the completed Work, including all site stabilization measures and vegetation, for one year from the date the BCWD determines the Work to be complete. CONTRACTOR warrants that it has examined the site to the extent necessary to agree to the price of the Work and accepts any increased cost resulting from changes to the Work in response to foreseeable site conditions.

CONTRACTOR will defend, indemnify and hold harmless BCWD, its officers, board members, employees and agents from: (a) CONTRACTOR's negligent or otherwise wrongful act or omission, or breach of a specific contractual duty; or (b) a subcontractor's negligent or otherwise wrongful act or omission, or breach of a specific contractual duty owed by CONTRACTOR to BCWD. For any claim subject to indemnification under this paragraph by an employee of CONSULTANT or a subcontractor, the indemnification obligation is not limited by a limitation on the amount or type of damages, compensation or benefits payable by or for CONSULTANT or a subcontractor under workers' compensation acts, disability acts or other employee benefit acts.

BCWD will indemnify, defend and hold harmless CONTRACTOR, its officers, employees and agents, from any and all actions, costs, damages and liabilities of any nature to the degree they are the result of any action or inaction by BCWD that is the basis for BCWD's liability in law or equity.

5. Compensation

BCWD will compensate the CONTRACTOR on a progress-payments basis for completed work and will reimburse direct costs in accordance with Exhibit B. Invoices will be submitted monthly for work performed during the preceding month. BCWD will pay for undisputed work within 35 days of receipt of invoice. Direct costs not specified in Exhibit B will not be reimbursed except with prior written approval of BCWD administrator. In accordance with Minnesota Statutes section 471.425, subdivision 4a, CONTRACTOR will pay any subcontractor within 10 days of CONTRACTOR's receipt of payment from BCWD for undisputed services provided by the subcontractor. CONTRACTOR will pay interest of 1½ percent per month or any part of a month to a subcontractor on any undisputed amount not paid on time to the subcontractor. The minimum monthly interest penalty payment for an unpaid balance of \$100 or more is \$10. For an unpaid balance of less than \$100, CONTRACTOR will pay the actual penalty due to the subcontractor.

Total compensation due under this contract will not exceed \$_____. "Total compensation" means all sums to be paid whatsoever, including but not limited to mobilization, incidental, administrative and overhead costs, subcontract costs and reimbursement of direct costs, whether specified in this contract or subsequently authorized by BCWD administrator.

BCWD will not make final payment until CONTRACTOR has provided proof of compliance with state income tax withholding requirements pursuant to Minnesota Statutes section 270C.66.

CONTRACTOR will maintain all records pertaining to fees or costs incurred in connection with the Work for six years from the date of completion of the Work. Any authorized BCWD representative or representative of the Minnesota State Auditor will have access to and the right to examine, audit or copy any such records during normal business hours.

6. Compliance with Laws; Site Control

CONTRACTOR will comply with the laws and requirements of all federal, state, local and other governmental units in connection with performing the Work, including but not limited to Minnesota Pollution Control Agency permitting and approval requirements for disposition of sediment from stormwater sediment

removal requirements (see <https://www.pca.state.mn.us/water/wastewater-dredged-materials-management#projects>). CONTRACTOR will procure all licenses, permits and other rights and approvals required for the Work, except that BCWD has procured the rights necessary to access the site for purposes of the maintenance via the route and to work within the limits shown in Exhibit A, and except that BCWD will secure approval of the Work under the state Department of Natural Resources work in waters program. CONTRACTOR will not access the site of the Work via a route different from that shown on or exceed the work-area limits shown on Exhibit A. CONTRACTOR will comply with all local requirements as to traffic, staging, site ingress and egress, work hours and site maintenance.

CONTRACTOR is responsible for site conditions relating to worker and public safety, cleanliness and environmental protection and in all other respects. CONTRACTOR will report to Gopher State One Call before any excavation in accordance with Minnesota Statutes chapter 216 as may be applicable to the Work and is responsible to identify and protect all structures and utilities, whether above or below ground, and for any damage or injury resulting from the failure to do so. CONTRACTOR will not injure or destroy any shrub or tree on site except as agreed to by BCWD in writing.

In its performance of the Work, CONTRACTOR will ensure that no person is excluded from full employment rights or participation in or the benefits of any program, service or activity on the ground of race, color, creed, religion, age, sex, disability, marital status, sexual orientation, public assistance status or national origin; and no person who is protected by applicable federal or state laws, rules or regulations against discrimination otherwise will be subjected to discrimination.

7. Termination; Continuation of Obligations

This contract is in force when fully executed by the parties and will remain in force until **August 1, 2023**, unless earlier terminated as set forth herein. BCWD may suspend or terminate this contract with or without cause by a written termination notice stating specifically what prior authorized or additional tasks it requires CONTRACTOR to complete. If the contract is suspended or terminated for convenience, CONTRACTOR will be compensated for all authorized work completed, including reasonable costs for actions directed by BCWD to stabilize the site of the Work. If suspension or termination is for cause, CONTRACTOR will stabilize all disturbed work sites before vacating, without extra compensation. CONTRACTOR will be given a reasonable opportunity to cure before termination for cause.

It is understood and agreed that insurance obligations; warranties and obligations to defend, indemnify and hold harmless; and document-retention requirements survive the completion of the Work and the term of this contract.

8. Waiver

BCWD's failure to insist on CONTRACTOR's strict performance of any obligation, condition or provision of this contract, or to exercise any option, remedy or right herein, will not waive its rights in the future to do so. The waiver of either party on one or more occasion of any provision or obligation of this contract will not be construed as a waiver of any subsequent breach of the same provision or obligation, and the consent or approval by either party to or of any act by the other requiring consent or approval will not render unnecessary such party's consent or approval to any subsequent similar act by the other.

Notwithstanding any other term herein, the contract creates no rights in any third party, and BCWD waives no tort defense, immunity or liability limit with respect to CONTRACTOR or any third party.

9. Insurance

At all times during the term of this contract, CONTRACTOR will have and keep in force the following insurance coverages:

- A. General liability: \$1.5 million each occurrence and aggregate, covering completed operations and contractual liability on an occurrence basis.
- B. Automobile liability: combined single limit each occurrence coverage for bodily injury and property damage covering all vehicles on an occurrence basis, \$1.5 million.
- C. Workers' compensation: in accordance with legal requirements applicable to CONTRACTOR.

CONTRACTOR will not commence work until it has filed with BCWD a certificate of insurance clearly evidencing the required coverage and naming BCWD as an additional insured with primary coverage for general liability on a noncontributory basis, along with a copy of the additional-insured endorsement. The certificate will name BCWD as a holder and will state that BCWD will receive written notice before cancellation, nonrenewal or a change in the limit of any described policy under the same terms as CONTRACTOR.

10. Records

All documents and information obtained or generated by CONTRACTOR or a subcontractor in performing the Work, including hard and electronic copy, software, and in any other forms in which the materials are contained, documented or memorialized, are the property of BCWD.

BCWD may immediately inspect, copy or take possession of any such materials on written request to CONTRACTOR. CONTRACTOR may maintain a copy of any such materials at its expense.

Any document or information supplied to CONTRACTOR by BCWD or deriving from BCWD is given and accepted without representation or warranty including but not limited to a warranty of fitness, merchantability, accuracy or completeness. Absent BCWD written approval, CONTRACTOR will not use any such document or information other than for performance of the Work. CONTRACTOR will not disclose to any third party proprietary material so denominated by BCWD.

11. Data Practices; Confidentiality

If CONTRACTOR receives a request for data pursuant to the Data Practices Act, Minnesota Statutes chapter 13 (DPA), that may encompass data (as that term is defined in the DPA) CONTRACTOR possesses or has created as a result of this contract, CONTRACTOR will inform BCWD immediately and transmit a copy of the request. If the request is addressed to BCWD, CONTRACTOR will not provide any information or documents, but will direct the inquiry to BCWD. If the request is addressed to CONTRACTOR, CONTRACTOR will be responsible to determine whether it is legally required to respond to the request and otherwise what its legal obligations are, but will notify and consult with BCWD and its legal counsel before replying. Nothing in the preceding sentence supersedes CONTRACTOR's obligations under this contract with respect to protection of BCWD data, property rights in data or confidentiality. Nothing in this section constitutes a determination that CONTRACTOR is performing a governmental function within the meaning of Minnesota Statutes section 13.05, subdivision 11, or otherwise expands the applicability of the DPA beyond its scope under governing law.

CONTRACTOR agrees that it will not disclose and will hold in confidence any and all proprietary materials owned or possessed by BCWD and so denominated by BCWD. CONTRACTOR will not use any such materials for any purpose other than performance of the Work without BCWD written consent. This restriction does not apply to materials already possessed by CONTRACTOR or that CONTRACTOR received on a non-confidential basis from BCWD or another party.

15. Completion of Work

The Work must be certified by the CONTRACTOR as substantially complete for the purposes intended on or before April 30, 2023, and all complete and ready for final payment by June 1, 2023.

16. Whole Contract

The entire contract between the parties is contained herein and this contract supersedes all oral contracts and negotiations relating to the subject matter hereof. BCWD may amend this contract by means of a proper work change directive clearly denominated as such. Any other amendment must be signed by both parties.

IN WITNESS WHEREOF, intending to be legally bound, the parties hereto execute and deliver this contract.

[CONTRACTOR]

By _____
Its _____

Date: _____

**BROWN’S CREEK
WATERSHED DISTRICT**

By Karen Kill
Its administrator

Date: _____

Approved as to form and execution

Counsel, Brown’s Creek Watershed District

EXHIBIT A
Site Plans, Design and Specifications

EXHIBIT B
Contractor's Completed Quote Form

BROWN'S CREEK WATERSHED DISTRICT

SETTLERS GLEN PUMP HARVEST POND DREDGING

WASHINGTON, MINNESOTA



Sheet List Table	
Sheet Number	Sheet Title
01	TITLE SHEET
02	SEQ & NOTES
03	EXISTING CONDITIONS
04	PROPOSED GRADING
05	EROSION CONTROL & RESTORATION
06	DETAIL SHEETS

* THIS PLAN SET CONTAINS 06 PLAN SHEETS

GOVERNING SPECIFICATIONS
 THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN
 ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING FIELD MANUAL FOR TEMPORARY CONTROL ZONE LAYOUTS.

EXISTING UTILITIES

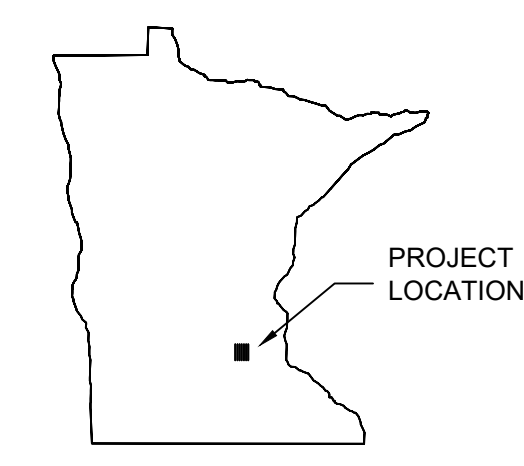
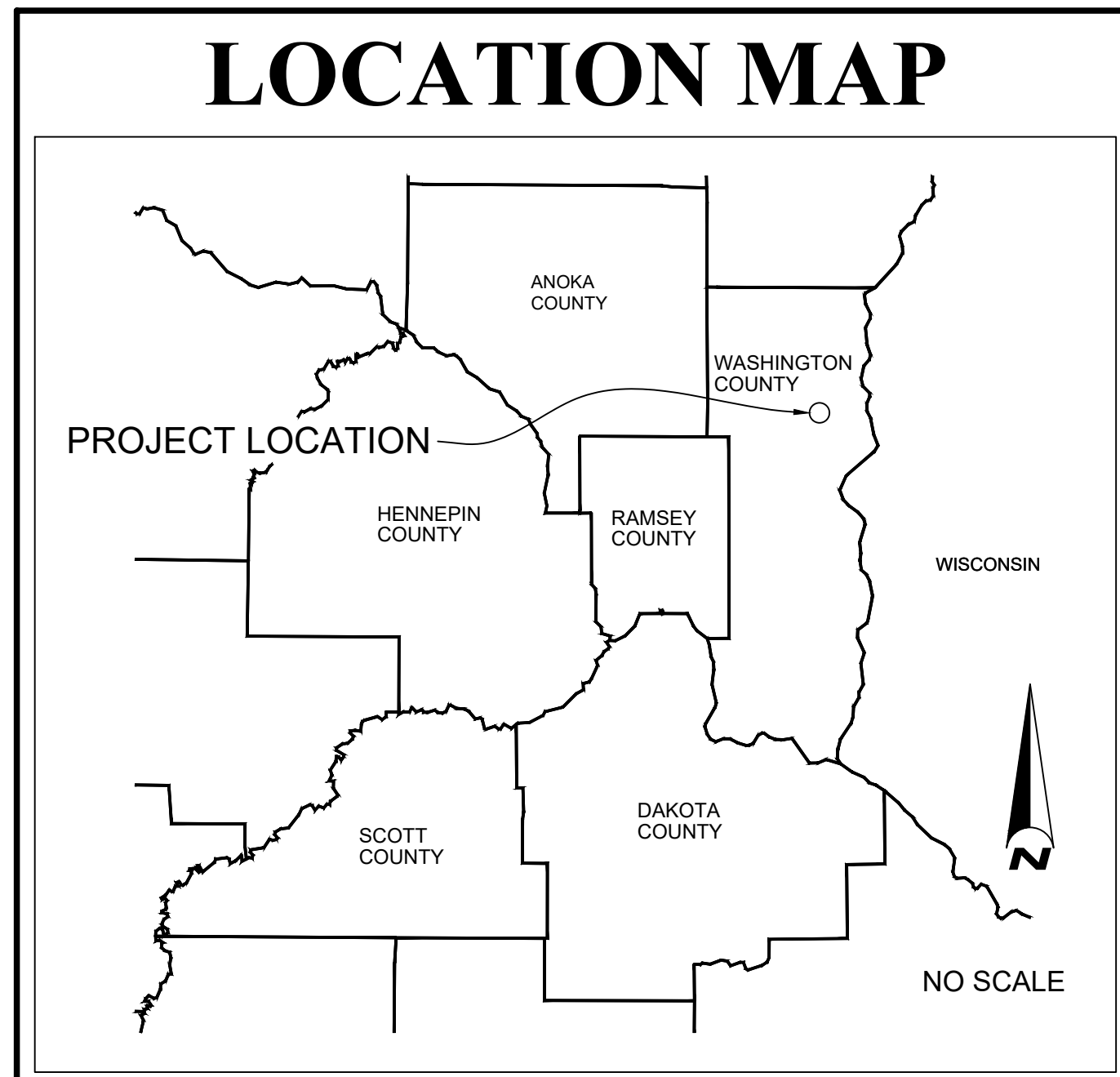
THE LOCATION OF UNDERGROUND FACILITIES AND/OR STRUCTURES AS SHOWN ON THE PLANS ARE BASED ON AVAILABLE RECORD AT THE TIME THE PLANS WERE PREPARED AND ARE NOT GUARANTEED TO BE COMPLETE OR CORRECT. THE SUBSURFACE UTILITY INFORMATION SHOWN IS UTILITY QUALITY LEVEL D, AS DETERMINED USING THE GUIDELINES OF "CI/ASCE 38-02 STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA." THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL UTILITIES 72 HOURS PRIOR TO CONSTRUCTION TO DETERMINE THE EXACT LOCATION OF ALL FACILITIES AND TO PROVIDE ADEQUATE PROTECTION OF SAID UTILITIES DURING THE COURSE OF WORK.

CONSTRUCTION NOTE

CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO MAINTAIN OPERATION OF EXISTING UTILITIES THROUGHOUT THE DURATION OF THE PROJECT. IN THE EVENT THAT AN INTERRUPTION OF SERVICE IS UNAVOIDABLE IN ORDER TO COMPLETE THE WORK, CONTRACTOR SHALL PROVIDE ADEQUATE NOTIFICATION TO ALL AFFECTED BUSINESSES A MINIMUM OF 3 WORKING DAYS IN ADVANCE OF ANY INTERRUPTION.

GOPHER STATE ONE-CALL

IT IS THE LAW THAT ANYONE EXCAVATING AT ANY SITE MUST NOTIFY GOPHER STATE ONE CALL (GSOC) SO THAT UNDERGROUND ELECTRIC, NATURAL GAS, TELEPHONE OR OTHER UTILITY LINES CAN BE MARKED ON OR NEAR YOUR PROPERTY BEFORE ANY DIGGING BEGINS. A 48-HOUR NOTICE, NOT INCLUDING WEEKENDS, IS REQUIRED. CALLS CAN BE MADE TO GSOC AT 1-800-252-1166 OR (651)454-0002, MONDAY THROUGH FRIDAY (EXCEPT HOLIDAYS) FROM 7 A.M. TO 5 P.M.



CLIENT
BROWN'S CREEK WATERSHED DISTRICT
 455 HAYWARD AVE N
 OAKDALE, MN 55128

ENGINEER
 EMMONS & OLIVIER RESOURCES, INC.
 1919 UNIVERSITY AVE W SUITE 300
 ST PAUL, MINNESOTA 55104
 TELEPHONE: (651) 770-8448
 FAX: (651) 770-2552
 EORINC.COM

Plot Date: 11/19/2022
 Drawing Name: X:\clients\w041_BCY\0408_1ref.dwg, 202209_GIMS\wpj\CD-DRAWING.dwg
 Xref: PARCEL2, X-BASE2, X-TR2, P-BASE2, RWF_SIGNATURE

NO	DATE	BY	REVISION
6			
5			
4			
3			
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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.

RYAN FLEMING
 DATE: 10-30-2022 LICENSE # 46211

SUBMISSION DATE:
10-30-2022

DESIGN BY: RF DRAWN BY: BR

EOR PROJECT NO.
00041-0339

EOR Emmons & Olivier Resources, Inc.
 1919 UNIV. AVE W #300
 ST. PAUL, MN 55104
 TELE: 651.770.8448
 www.eor.com

BROWN'S CREEK WATERSHED DISTRICT
 455 HAYWARD AVE N
 OAKDALE, MN 55128

SETTLERS GLEN PUMP HARVEST POND DREDGING
 STILLWATER, WASHINGTON, MINNESOTA

STATE PROJECT NO. ---- CITY PROJECT NO. ---

TITLE SHEET

SHEET 01 OF 06 SHEETS

EXHIBIT A

Item	MnDOT Reference #	Unit	Estimate
Mobilization	2021.501	LS	1.00
Muck Excavation (EV) (Including Disposal)	2105.507	CY	215.00
Stabilized Construction Exit (Install, Maintain & Removal)	2573.501	LS	1.00
Storm Drain Inlet Protection (Install, Maintain & Removal)	2573.501	LS	1.00
Sediment Control Log (Install, Maintain & Removal)	2573.503	LF	390.00
Sediment Filter log	2573.503	EA	1.00
Turf Establishment	2575.501	LS	1.00

GRADING & EROSION CONTROL NOTES

- CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL (1-800-252-1166 OR 651-454-0002) BY AT LEAST TWO (2) BUSINESS DAYS PRIOR TO EXCAVATION/ CONSTRUCTION, FOR UTILITY LOCATIONS.
- CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES AND TOPOGRAPHIC FEATURES PRIOR TO START OF SITE GRADING. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT ENGINEER OF ANY DISCREPANCIES OR VARIATIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL HORIZONTAL AND VERTICAL CONTROL.
- INSTALL EROSION CONTROL AND TREE PROTECTION MEASURES BEFORE BEGINNING SITE GRADING ACTIVITIES. MAINTAIN EROSION CONTROLS THROUGHOUT THE GRADING PROCESS AND REMOVE UPON APPROVAL BY PROJECT ENGINEER.
- ALL EXPOSED SOIL AREAS WITHIN 100 FEET OF A WATER OF THE STATE OR ANY STORMWATER CONVEYANCE SYSTEM WHICH IS CONNECTED TO A WATER OF THE STATE MUST BE STABILIZED WITHIN 24 HOURS.
- SEE PROPOSED GRADING, DRAINAGE, AND EROSION CONTROL PLAN FOR ADDITIONAL REQUIREMENTS.
- ALL CONSTRUCTION ENTRANCES SHALL BE SURFACED WITH CRUSHED ROCK ACROSS FULL WIDTH FROM ENTRANCE POINT TO 50 FEET INTO THE CONSTRUCTION ZONE. SEE DETAIL. ALTERNATIVE DEVICES MAY BE USED AFTER APPROVAL BY ENGINEER.
- INLET PROTECTION IS TO BE USED DURING CONSTRUCTION. SEE MN/DOT SPECIFICATIONS.
- ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH CITY, COUNTY, STATE AND BCWD PERMITS.
- THE CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL MEASURES, INCLUDING THE REMOVAL OF ACCUMULATED SILT IN FRONT OF SILT FENCES OR OTHER DEVICES DURING THE DURATION OF THE CONSTRUCTION.
- CONTRACTOR SHALL PROVIDE ADDITIONAL TEMPORARY EROSION CONTROL MEASURES AS REQUIRED FOR CONSTRUCTION.
- REMOVE ALL EROSION CONTROL MEASURES AT DIRECTION OF ENGINEER.
- THE CONTRACTOR SHALL REMOVE ALL SOILS AND SEDIMENT TRACKED ONTO EXISTING STREETS AND PAVED AREAS WITHIN 24 HOURS OF NOTICE AND, ON A DAILY BASIS AND MORE OFTEN IF DEEMED NECESSARY BY CITY AND PROJECT ENGINEER.
- IF BLOWING DUST BECOMES A NUISANCE, THE CONTRACTOR SHALL APPLY WATER FROM A TANK TRUCK OR OTHER MEANS APPROPRIATE TO ALL CONSTRUCTION AREAS.
- INSPECT EROSION CONTROL DEVICES AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. IMMEDIATELY REPAIR FAILED OR FAILING EROSION CONTROL DEVICES.
- SEDIMENT REMOVAL - SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT.
- ANY SEDIMENT REMAINING IN PLACE AFTER THE EROSION CONTROL DEVICE IS NO LONGER REQUIRED SHALL BE GRADED TO CONFORM WITH THE EXISTING GRADE, PREPARED, AND SEEDED WITH THE APPROPRIATE SEED MIX AND MULCH OR EROSION CONTROL REVEGETATIVE BLNAKET AS DIRECTED BY THE ENGINEER.
- SUITABLE GRADING MATERIAL SHALL CONSIST OF ALL SOIL ENCOUNTERED ON THE SITE WITH EXCEPTION OF TOPSOIL, DEBRIS, ORGANIC MATERIAL AND OTHER UNSTABLE MATERIAL. STOCKPILE TOPSOIL AND GRANULAR FILL AT LOCATIONS DIRECTED BY OWNER.
- FINAL GRADING TOLERANCES ARE ±0.1 FEET OF PLAN GRADES.
- ALL EXCESS MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OFF THE CONSTRUCTION SITE.
- CONTRACTOR IS RESPONSIBLE FOR GRADING AND SLOPING THE FINISHED GROUND SURFACE TO PROVIDE SMOOTH & UNIFORM SLOPES, WHICH PROVIDE POSITIVE DRAINAGE AND PREVENT PONDING IN LOWER AREAS. CONTACT ENGINEER IF FIELD ADJUSTMENTS TO GRADING PLANS ARE REQUIRED.
- TURF RESTORATION IS TO BE SEEDED AND BLANKETED IN ACCORDANCE WITH THE RESTORATION PLAN.
- THE PROJECT IS LOCATED IN WHAT THE OWNER CONSIDERS AN ENVIRONMENTALLY SENSITIVE AREA. DISTURBANCE IS TO BE MINIMIZED TO THE EXTENT POSSIBLE. RESTORATION OF ANY DISTURBED AREA OUTSIDE OF THE CONSTRUCTION LIMITS IS TO BE CONSIDERED INCIDENTAL TO THE PROJECT.

GENERAL SITE WORK NOTES

- REFERENCE TO MN/DOT SPECIFICATIONS SHALL MEAN THE 2020 SPECIFICATIONS FOR CONSTRUCTION.
- ENGINEER WILL PROVIDE 1 BENCHMARK ON TOP OF INTAKE STRUCTURE LOCATED IN POND. ELEVATION OF CONTROL WILL BE PROVIDED TO CONTRACTOR.
- SITE ACCESS IS ONLY OFF MORGAN COURT FROM MORGAN AVENUE N.
- FOLLOW MN/DOT STD. SPECIFICATION 2575 FOR VEGETATION ESTABLISHMENT REQUIREMENTS.
- INSTALL MNDOT SEED MIX 130 AND TYPE 3 MULCH PER SPECIFICATION 3876 FOR TEMPORARY COVER OF GRADED AREAS INCLUDING TOPSOIL STOCKPILES.
- TOPOGRAPHIC INFORMATION PER BOUNDARY AND TOPOGRAPHIC SURVEY BY ORIGINAL MFRA DESIGN AND EOR SUPPLEMENTAL SURVEY.
- CONTRACTOR SHALL INSTALL, INSPECT, MAINTAIN AND REMOVE THE NECESSARY SIGNAGE FOR TRAFFIC CONTROL. ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MN MUTCD.

TRAIL ACCESS NOTES

- CONTRACTOR SHALL COORDINATE TRAIL ACCESS AND PUBLIC CLOSURES, AS NEEDED, WITH THE CITY OF STILLWATER.

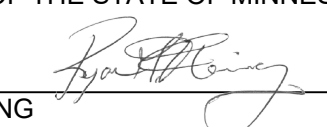
HARVEST POND BYPASS / DEWATERING NOTES

- THE HARVEST POND IS CONSIDERED A PUBLIC WATER FOR WHICH TEMPORARY DRAWDOWN IS REGULATED UNDER MN STATUTE 103G.408. ANY DEWATERING SHALL ADHERE TO THE REQUIREMENTS OF THE CITY, DISTRICT, AND STATE.
- MNDOT SECTIONS 2573 STORMWATER MANAGEMENT AND 3875 WATER TREATMENT APPLY.
- IF DEWATERING IS NEEDED, THE CONTRACTOR MUST SUBMIT A PLAN FOR DEWATERING AND PUMPING THAT SPECIFIES HOW MUCH WATER THEY ANTICIPATE PUMPING, THE METHOD FOR DEWATERING, THE LOCATION OF DISCHARGE, AND PROVISIONS FOR MANAGING DISCHARGE OF TURBID OR SEDIMENT LADEN WATER.
- DEWATERING WORK SHALL INCLUDE ALL WORK ITEMS NECESSARY TO COMPLETE REMOVAL OF POND WATER AS NECESSARY FOR THE WORK, INCLUDING BUT NOT LIMITED TO SEDIMENT CONTROL.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING SITE DISCHARGES, INCLUDING BUT NOT LIMITED TO PUMPING OF SEDIMENT LADEN WATER.
- THE CONTRACTOR MAY DIVERT STREAM INFLOW TO THE HISTORIC CHANNEL ALIGNED ALONG THE WEST SIDE OF THE POND TO ALLOW THE STREAM TO BYPASS THE PUMP HARVEST POND. NOTE THAT USE OF THIS CHANNEL HAS NOT BEEN TESTED. MEANS OF DIVERSION TO BE REVIEWED BY THE PROJECT ENGINEER. DIVERSION OF FLOW IS INCIDENTAL TO DEWATERING (MNDOT 2573.601).
- THE HARVEST PONDS PUMPING SYSTEM MAY BE UTILIZED, UPON REQUEST, TO DRAW THE POND DOWN TO AN ELEVATION OF APPROXIMATELY 872.9 FEET. PUMPED WATER WITH THE IN-PLACE SYSTEM MUST NOT BE SEDIMENT LADEN.

Plot Date: 11/16/2022
 Path: s:\m041_BROWN'S CREEK\10-30-2022\CADD\CD-DRAWING.dwg
 User: RYAN.FLEMING
 Xrefs: PARCELS2, XBASE2, XTR2, PBASE2, RME, SIGNATURE

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NO	DATE	BY	REVISION

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


 RYAN FLEMING
 DATE: 10-30-2022 LICENSE # ----

SUBMISSION DATE:
 10-30-2022

DESIGN BY: RF DRAWN BY: BR

EOR PROJECT NO.
 00041-0339


Emmons & Olivier Resources, Inc.
 1919 UNIV. AVE W #300
 ST. PAUL, MN 55104
 TELE: 651.770.8448
 www.eor.com

BROWN'S CREEK WATERSHED DISTRICT
 455 HAYWARD AVE N
 OAKDALE, MN 55128

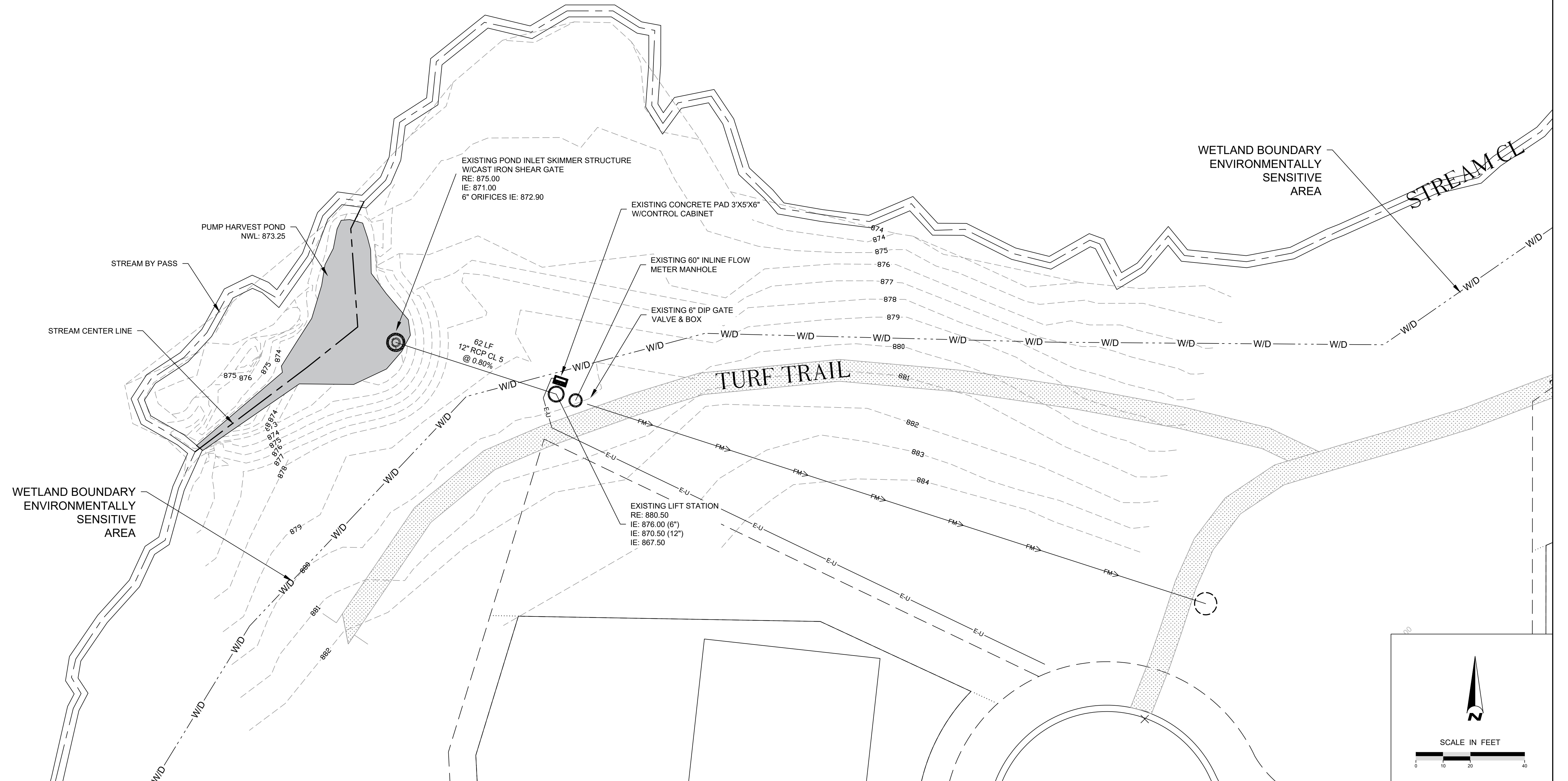
SETTLERS GLEN PUMP HARVEST POND DREDGING STILLWATER, WASHINGTON, MINNESOTA

STATE PROJECT NO. ---- CITY PROJECT NO. ---

SEQ & NOTES

SHEET 02 OF 06 SHEETS

EXHIBIT A



Plot Date: 11/16/2022
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 RYAN FLEMING
 DATE: 10-30-2022
 LICENSE # ----

SUBMISSION DATE:
 10-30-2022
 DESIGN BY: RF
 DRAWN BY: BR
 EOR PROJECT NO.
 00041-0339

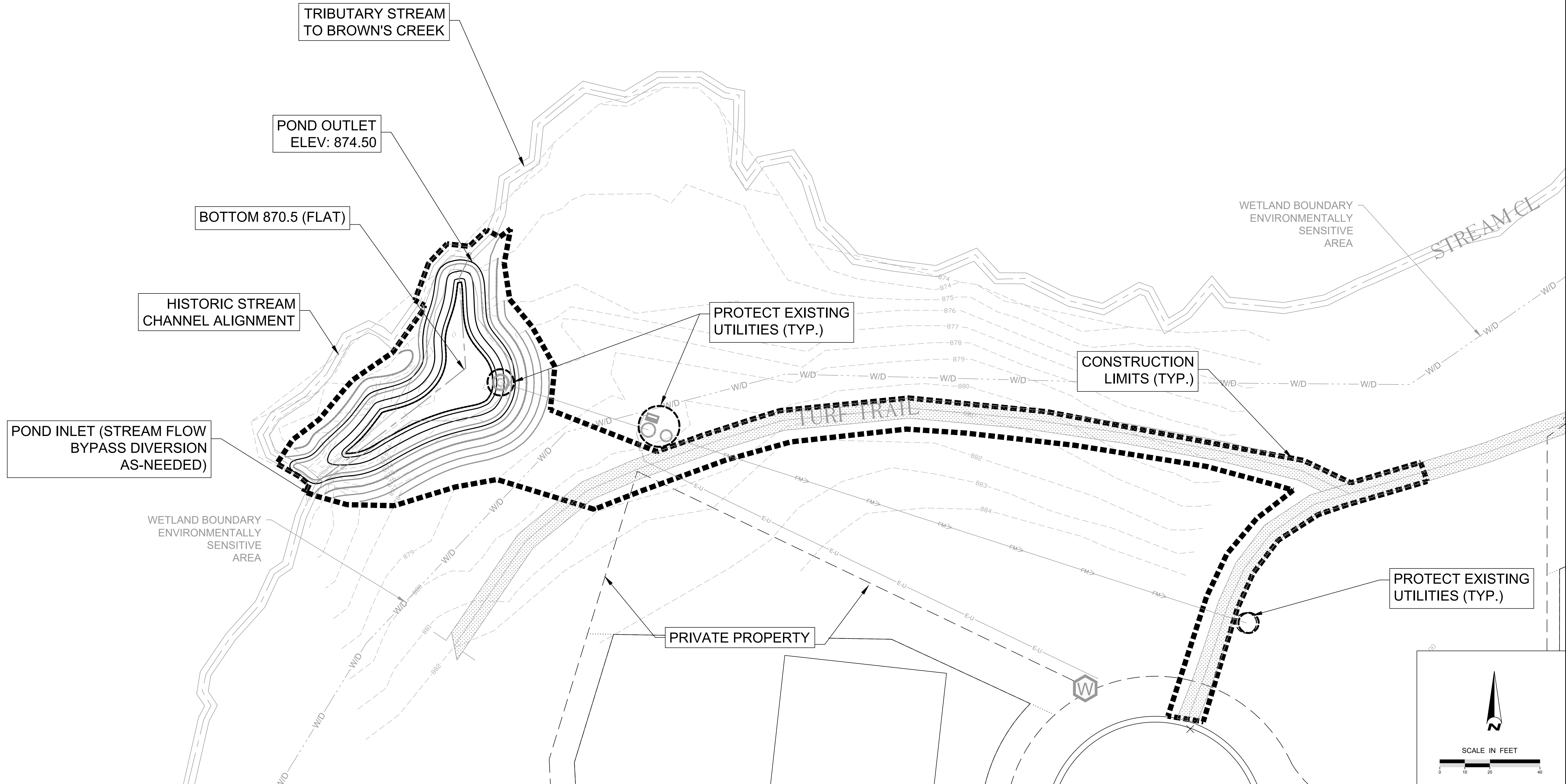
EOE Emmons & Olivier Resources, Inc.
 water ecology community
 1919 UNIV. AVE W #300
 ST. PAUL, MN 55104
 TELE: 651.770.8448
 www.eor.com

BROWN'S CREEK WATERSHED DISTRICT
 455 HAYWARD AVE N
 OAKDALE, MN 55128

SETTLERS GLEN PUMP HARVEST POND
 DREDGING
 STILLWATER, WASHINGTON,
 MINNESOTA
 STATE PROJECT NO. ----
 CITY PROJECT NO. ---

EXISTING CONDITIONS
 SHEET 03 OF 06 SHEETS

EXHIBIT A



Plot Date: 11/16/2022
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 User: RFL

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NO	DATE	BY	REVISION

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 RYAN FLEMING
 DATE: 10-30-2022
 LICENSE # ----

SUBMISSION DATE:
 10-30-2022
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 DRAWN BY: BR
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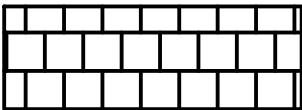
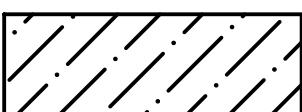

BROWN'S CREEK
 WATERSHED DISTRICT
 455 HAYWARD AVE N
 OAKDALE, MN 55128

SETTLERS GLEN PUMP HARVEST POND
 DREDGING
 STILLWATER, WASHINGTON,
 MINNESOTA
 STATE PROJECT NO. ----
 CITY PROJECT NO. ---

PROPOSED GRADING
 SHEET 04 OF 06 SHEETS

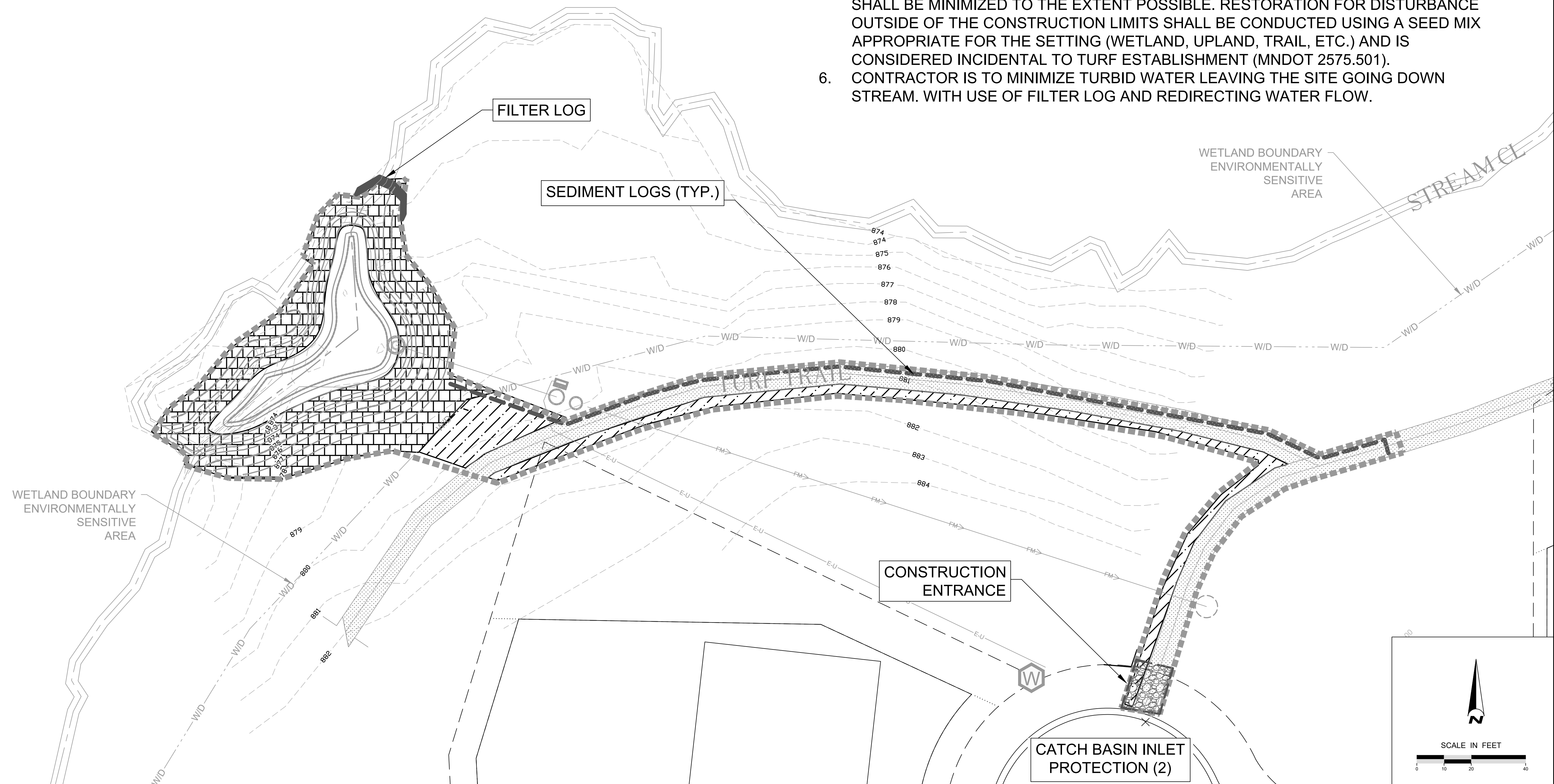
EXHIBIT A

ALL DISTURBED AREAS TO BE RESTORED WITH CORRESPONDING SEED MIX

-  33-261 STORMWATER SOUTH & WEST 35 LB/ACRE WITH CATEGORY 0 NATURAL EROSION CONTROL BLANKET (CURLEX NETFREE OR APPROVED EQUAL) INCIDENTAL,
-  35-241 MESIC PRAIRIE GENERAL 36.5 LB/ACRE WITH CATEGORY 0 NATURAL EROSION CONTROL BLANKET (CURLEX NETFREE OR APPROVED EQUAL) INCIDENTAL.
-  25-131 LOW MAINTENANCE TURF 220 LB/ACRE WITH CATEGORY 0 NATURAL EROSION CONTROL BLANKET (CURLEX NETFREE OR APPROVED EQUAL) INCIDENTAL.

RESTORATION NOTES:

1. RESTORE ALL DISTURBED AREAS WITH SEED MIXES AND EROSION CONTROL BLANKET AS SHOWN ON PLANS.
2. PRIOR TO SEEDING PREPARE THE SEED BED PER Mn-DOT SPEC 2574.A4.
3. ACCEPTABLE SEEDING DATES ARE APRIL 15 - JULY 20 IN THE SPRING, OR SEPTEMBER 20 - OCTOBER 20 IN THE FALL. WRITTEN PERMISSION BY THE ENGINEER TO PERFORM SEEDING OPERATIONS ON ANY OTHER DATES OF THE YEAR.
4. INCLUDE A COVER CROP OF OATS WITHIN NATIVE SEE MIXES (AT A RATE OF 80LB/ACRE) IF SEEDING BETWEEN OCTOBER 15 AND AUGUST 1. IF SEEDING BETWEEN AUGUST 1 AND OCTOBER 15, SUBSTITUTE WINTER WHEAT FOR OATS AT THE SAME RATE.
5. THE SITE IS LOCATED IN AN ENVIRONMENTALLY SENSITIVE AREA. DISTURBANCE SHALL BE MINIMIZED TO THE EXTENT POSSIBLE. RESTORATION FOR DISTURBANCE OUTSIDE OF THE CONSTRUCTION LIMITS SHALL BE CONDUCTED USING A SEED MIX APPROPRIATE FOR THE SETTING (WETLAND, UPLAND, TRAIL, ETC.) AND IS CONSIDERED INCIDENTAL TO TURF ESTABLISHMENT (MNDOT 2575.501).
6. CONTRACTOR IS TO MINIMIZE TURBID WATER LEAVING THE SITE GOING DOWN STREAM. WITH USE OF FILTER LOG AND REDIRECTING WATER FLOW.



Plot Date: 11/16/2022
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NO	DATE	BY	REVISION

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 RYAN FLEMING
 DATE: 10-30-2022
 LICENSE # ----

SUBMISSION DATE:
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 EOR PROJECT NO.
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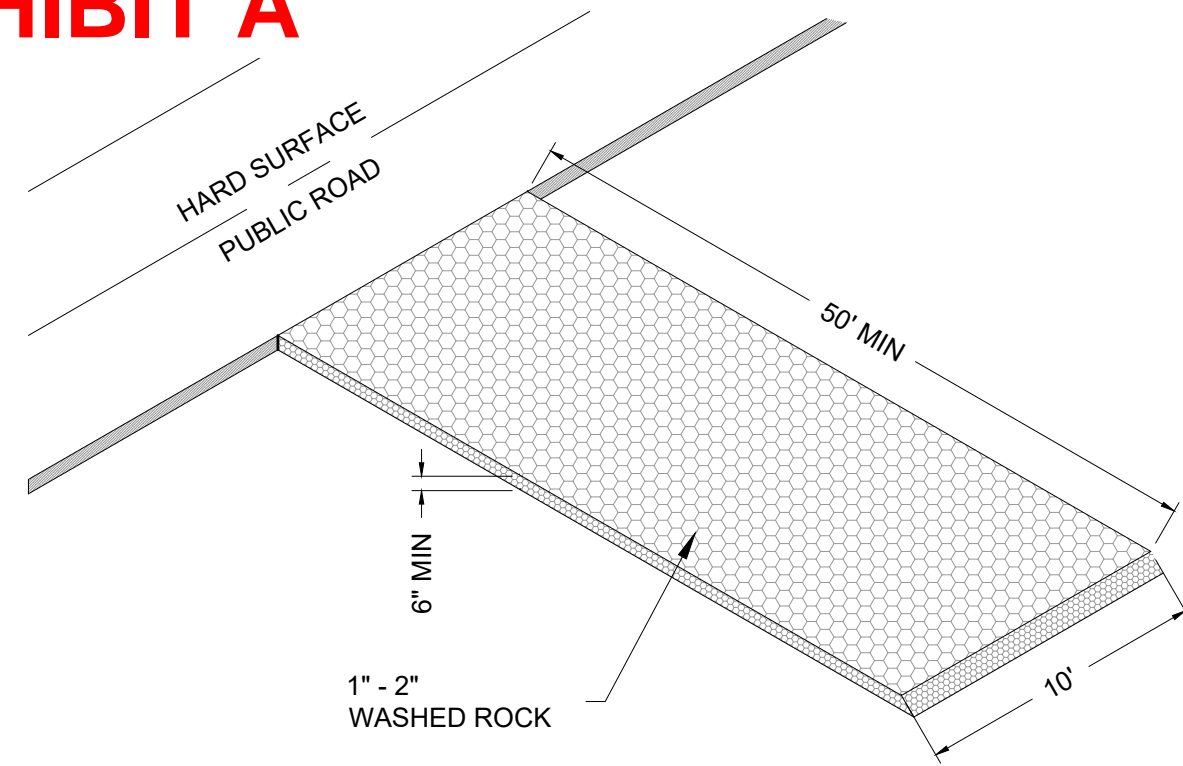
EOR Emmons & Olivier Resources, Inc.
 1919 UNIV. AVE W #300
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BROWN'S CREEK WATERSHED DISTRICT
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SETTLERS GLEN PUMP HARVEST POND DREDGING
 STILLWATER, WASHINGTON, MINNESOTA
 STATE PROJECT NO. ---- CITY PROJECT NO. ---

EROSION CONTROL & RESTORATION
 SHEET 05 OF 06 SHEETS

EXHIBIT A

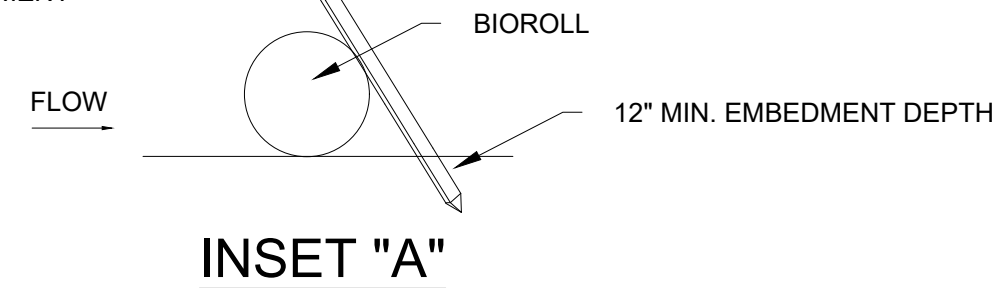


- NOTE:
1. ROCK CONSTRUCTION ENTRANCE SHALL BE MAINTAINED FOR THE DURATION OF THE CONSTRUCTION PROCESS.
 2. ROCK CONSTRUCTION ENTRANCE SHALL BE REMOVED AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED AND AREA SHALL BE RESTORED PER THE RESTORATION PLAN SHEET.
 3. ALTERNATIVE CONSTRUCTION ENTRANCE MAY BE UTILIZED AFTER APPROVAL BY ENGINEER.

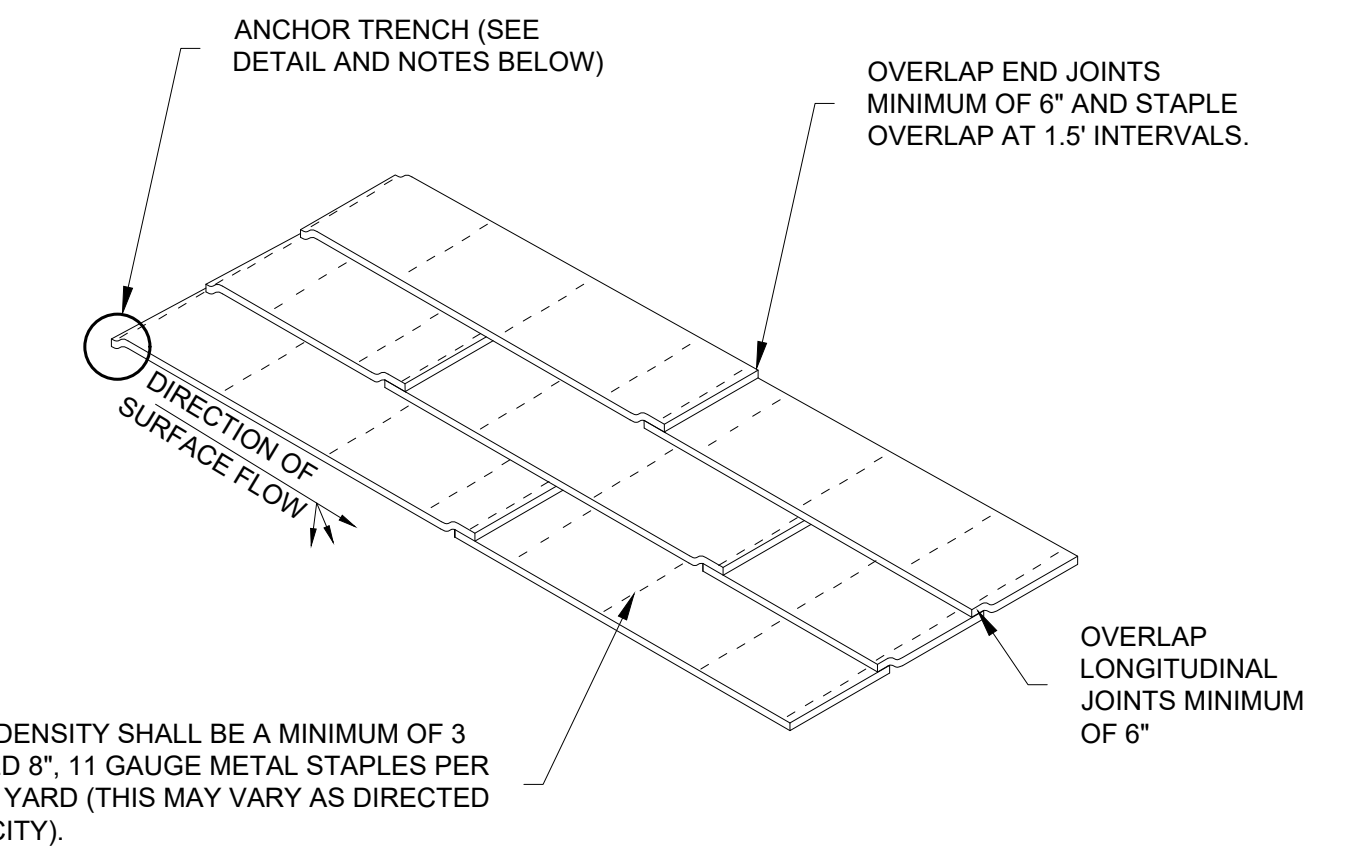
01 ROCK CONSTRUCTION ENTRANCE
06 (No Scale)

WOOD FIBER, 9" DIA. ROLL ENCLOSED IN PLASTIC OR POLYESTER NETTING WITH MAXIMUM OF 3/8" NET OPENINGS.

1" X 2" X 24" LONG WOODEN STAKES AT 5' 0" SPACING MAXIMUM. STAKES SHALL BE DRIVEN ON THE DOWN GRADIENT SIDE OF THE SEDIMENT LOG AT AN ANGLE OF 45 DEGREES WITH THE TOP OF THE STAKE POINTING UPSTREAM. PROVIDE 12" MIN. OF EMBEDMENT DEPTH.

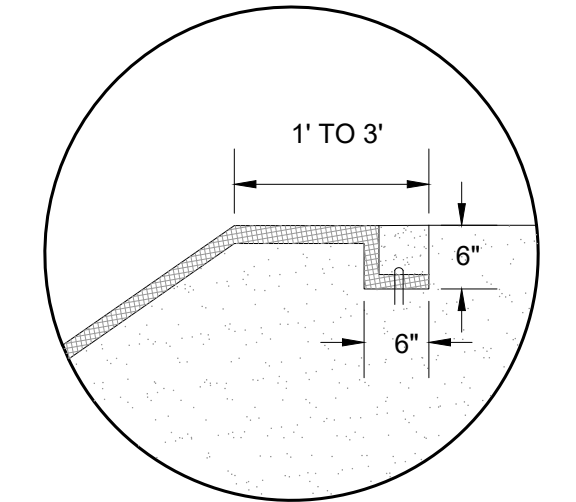


02 SEDIMENT LOG STAKING DETAIL
06 (No Scale)



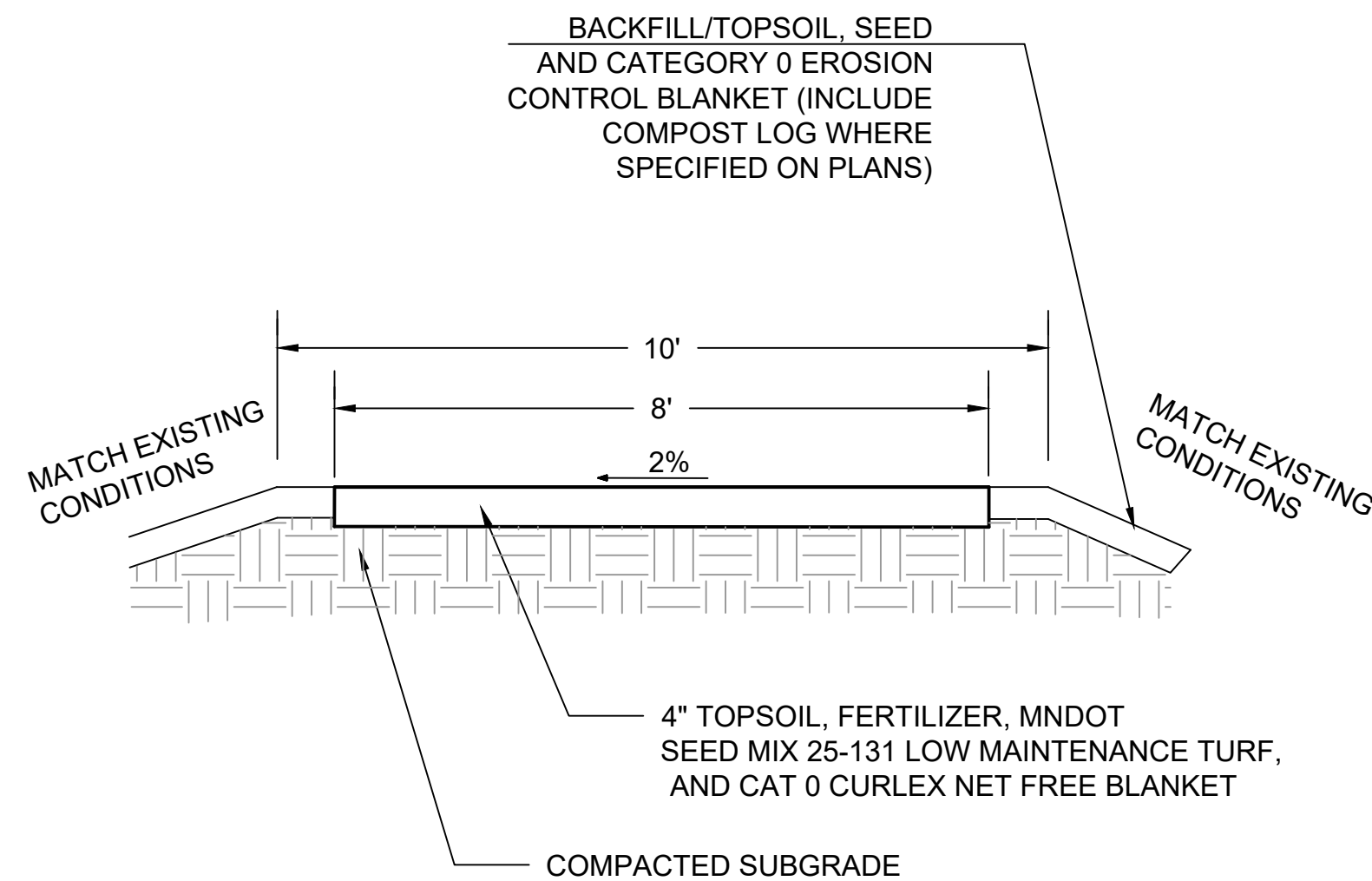
STAPLE DENSITY SHALL BE A MINIMUM OF 3 U-SHAPED 8", 11 GAUGE METAL STAPLES PER SQUARE YARD (THIS MAY VARY AS DIRECTED BY THE CITY).

- ANCHOR TRENCH
1. DIG 6" X 8" TRENCH
 2. LAY BLANKET IN TRENCH
 3. STAPLE AT 1.5' INTERVALS
 4. BACKFILL WITH NATURAL SOIL AND COMPACT
 5. BLANKET LENGTH SHALL NOT EXCEED 100' WITHOUT AN ANCHOR TRENCH



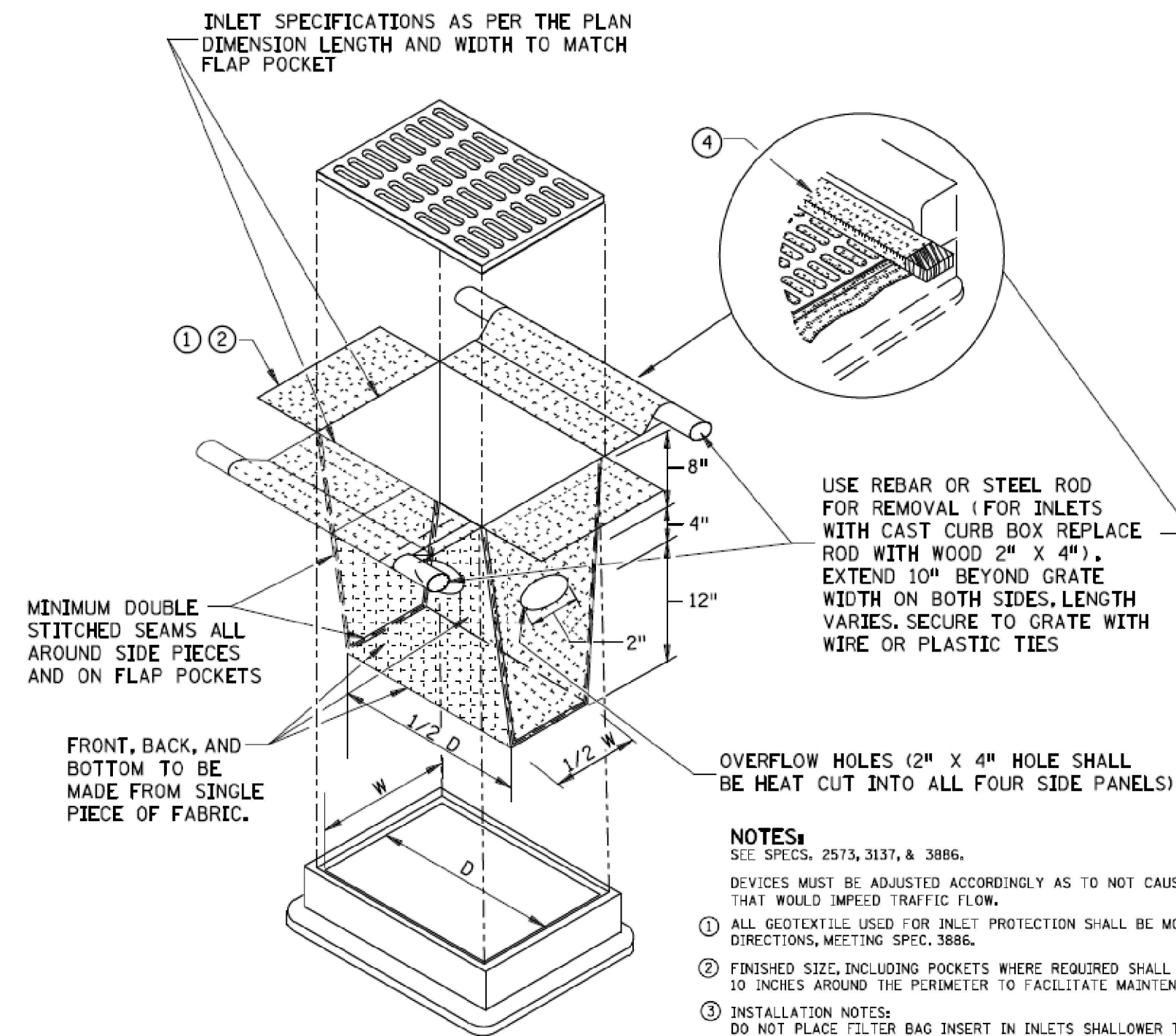
- NOTE:
1. ALL EROSION CONTROL BLANKETS TO BE CAT 0 CURLEX NET FREE BLANKET OR APPROVED EQUAL.

03 EROSION CONTROL BLANKET DETAIL
06 (No Scale)



- NOTES:
1. CONTRACTOR TO RESTORE TRAIL TO ORIGINAL CONDITION.
 2. ALL SEEDING AND RESTORATION SHALL OCCUR WITHIN 7 DAYS OF FINAL GRADING.

04 TRAIL RESTORATION
06 (No Scale)



USE REBAR OR STEEL ROD FOR REMOVAL (FOR INLETS WITH CAST CURB BOX REPLACE ROD WITH WOOD 2" X 4"), EXTEND 10" BEYOND GRATE WIDTH ON BOTH SIDES, LENGTH VARIES, SECURE TO GRATE WITH WIRE OR PLASTIC TIES

- NOTES:
- SEE SPECS. 2573, 3137, & 3886.
- DEVICES MUST BE ADJUSTED ACCORDINGLY AS TO NOT CAUSE FLOODING ON ROADWAY THAT WOULD IMPED TRAFFIC FLOW.
1. ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886.
 2. FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
 3. INSTALLATION NOTES: DO NOT PLACE FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE PLACED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES. WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCH SIDE CLEARANCE.
 4. FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.

05 STORM DRAIN INLET PROTECTION
06 (No Scale)

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.

RYAN FLEMING
DATE: 10-30-2022 LICENSE # ----

SUBMISSION DATE:
10-30-2022

DESIGN BY: RF DRAWN BY: BR

EOR PROJECT NO.
00041-0339

EOR Emmons & Olivier Resources, Inc.
1919 UNIV. AVE W #300
ST. PAUL, MN 55104
TELE: 651.770.8448
www.eor.com

BROWN'S CREEK WATERSHED DISTRICT
455 HAYWARD AVE N
OAKDALE, MN 55128

SETTLERS GLEN PUMP HARVEST POND DREDGING
STILLWATER, WASHINGTON, MINNESOTA

STATE PROJECT NO. ---- CITY PROJECT NO. ----

DETAIL SHEETS

SHEET 06 OF 06 SHEETS

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NO	DATE	BY	REVISION

EXHIBIT B

QUOTE FORM FOR SETTLERS GLEN PUMP HARVEST POND DREDGING

Item No.	Item	MNDOT Ref #	Unit	# Units	Unit Price	Total Price
Division 2: General / Grading						
1	Mobilization	2021.501	LS	1.00		
2	Muck Excavation (EV) (Including Disposal)	2105.507	CY	215.00		
					Subtotal	
Division 2: Miscellaneous Construction						
3	Stabilized Construction Exit (Install, Maintain & Removal)	2573.501	LS	1.00		
4	Storm Drain Inlet Protection (Install, Maintain & Removal)	2573.501	LS	1.00		
5	Sediment Control & Filter Log (Install, Maintain & Removal)	2573.503	LF	390.00		
6	Turf Establishment	2575.501	LS	1.00		
7	Dewatering and Pumping	2573.601	LS	1.00		
					Subtotal	
					Project Total	

ATTACHMENT 1

COOPERATIVE AGREEMENT BETWEEN CITY OF STILLWATER AND BROWN'S CREEK WATERSHED DISTRICT FOR THE SETTLER'S GLEN IRON-SAND FILTRATION PROJECT

THIS AGREEMENT is made by and between the City of Stillwater (City), a Minnesota charter city and body corporate and politic, and the Brown's Creek Watershed District (BCWD), a watershed district with purposes and powers set forth in Minnesota Statutes chapters 103B and 103D (together, the Parties).

RECITALS

WHEREAS BCWD has authority under chapters 103B and 103D to design and implement programs and projects to improve water quality and protect water resources within the Brown's Creek watershed;

WHEREAS BCWD has an approved water-resources management plan pursuant to Minnesota Statutes chapter 103B, and in fulfillment of a goal of the plan, BCWD has completed a management plan for McKusick Lake in collaboration with the City of Stillwater and the Middle St. Croix Watershed Management Organization that calls for the removal of 148 pounds of phosphorous each year from the portion of the Brown's Creek watershed tributary to McKusick Lake;

WHEREAS on April 9, 2012, the BCWD Board of Managers ordered, in accordance with Minnesota Statutes section 103B.251, the construction of an iron-enhanced sand filter on an outlot dedicated to City on the plat for the Settler's Glen addition (the Outlot) and three properties owned by private parties (the Private Properties) to reduce phosphorus in McKusick Lake (the Project). The preliminary site plan for the Project is attached to and incorporated into this agreement as Exhibit A;

WHEREAS City supports the implementation of the McKusick Lake management plan and wishes to facilitate BCWD's construction, operation and maintenance of the Project;

WHEREAS City holds an easement for a trail on two of the Private Properties (the Trail Easement, attached to and incorporated into this agreement as Exhibit B) and maintains an unpaved trail thereon (the Trail), and City holds a drainage and utility easement over each of the Private Properties (the Drainage Easement, as shown in the plat attached to and incorporated into this agreement as Exhibit C) (together, the Easements) and the portions of the Project to be constructed on the Private Properties are entirely within the Drainage Easement, as shown in Exhibit A;

WHEREAS City has constructed and presently maintains stormwater-management ponds on the Outlot and Drainage Easement, as shown in Exhibit A (the Facilities); and

WHEREAS City and BCWD acknowledge that BCWD's ability to achieve Project objectives depends on the Parties' continued cooperation.

NOW, THEREFORE, IT IS AGREED by and between City and BCWD that they enter into this Cooperative Agreement to document their understanding as to the scope of the Project, affirm their commitments as to responsibility for tasks to be undertaken, grant and assign the property rights necessary, establish procedures for performing these tasks and fulfilling responsibilities, and facilitate communication and cooperation to ensure successful completion of the Project to improve water quality in McKusick Lake.

AGREEMENT

1. CITY'S RIGHTS AND COMMITMENTS AND GRANT AND ASSIGNMENT OF RIGHTS FOR ACCESS, CONSTRUCTION AND MAINTENANCE

- A. City has the right to review and comment on the 90 percent-complete plans and specifications for the Project provided in accordance with paragraph 2A of this agreement and, within 30 days of receipt of the plans and specifications from BCWD, provide comments.

- B. BCWD's construction of the Project will entail excavation, grading and filling; alteration of topography, vegetation, hydrology and stormwater treatment systems; construction of an upstream harvesting basin and pump lift station with associated intake unit; integration of an iron-sand filtration system into the Facilities; installation of an under-drain treated-discharge outlet; and trenching for installation of conduit under the Trail. After completion of construction, maintenance of the Project will entail assessment of the effectiveness and maintenance of the Project, and may involve reconstruction of the Project to restore its effectiveness. For these purposes, the City hereby:
 - i. grants to BCWD, its contractors, agents and assigns an easement to access and use the access, construction and maintenance areas of the Outlot, as delineated on Exhibit A;

 - ii. authorizes the BCWD, its contractors, agents and assignees to utilize City's rights under the Easements to access and use the access, construction and maintenance areas of the Easements, as delineated on Exhibit A. City's authorization hereunder is nonexclusive, except that BCWD, on reasonable notice to City, may temporarily restrict or preclude public access to the Trail Easement in the access, construction and maintenance areas to ensure safety while construction or maintenance activities are under way.

- C. City will forbear from any activity that interferes with the BCWD's ability to exercise its rights or meet its obligations under this agreement, including but not limited to City transfer of ownership of the Outlot or vacation of the Easements. City will facilitate BCWD's reasonable exercise of its rights under this agreement with regard to access to and use of the Outlot and Easements. City will not take any action within the Outlot and Easements areas that could reasonably be expected to diminish the effectiveness or function of the Project for the purposes intended, and after notice of completion of construction of the Project from BCWD, City will maintain the Trail in a manner that

avoids altering flow through the conduits constructed under the Trail as part of the Project.

- D. City, as owner of the Outlot and Easements, will cooperate with BCWD's and its contractor's efforts to obtain permits and approvals needed for the Project and will serve as a co-applicant for permits and approvals. City, in its regulatory capacity, will facilitate the proper and efficient processing of any permits and approvals needed for the Project.
- E. On completion of construction of the Project, City will retain ownership of the improved Facilities and will maintain the Facilities in coordination with BCWD's maintenance of the Project as provided in paragraph 2.C.iv of this agreement.
- F. City will cooperate with BCWD in all communications and outreach to property owners affected by the Project.

2. BCWD'S RIGHTS AND COMMITMENTS

- A. BCWD, at its sole expense, will prepare plans and specifications for the Project and submit the 90 percent-complete plans and specifications to City for review in accordance with paragraph 1A of this agreement. BCWD will ensure that plans and specifications and the Project, when constructed, are compatible with the Easements and this agreement.
- B. As between the Parties, BCWD will obtain all necessary permits, licenses and approvals, including approval of a wetland replacement plan as necessary, and will ensure that the Project is completed in accordance with applicable law and regulatory standards and criteria.
- C. BCWD will implement the Project as follows:
 - i. BCWD will prepare or have prepared on its behalf construction documents and will ensure that such documents provide for the restoration of the Outlot and Easements in accordance with the Easements and this agreement;
 - ii. BCWD will contract, in accordance with applicable law, for the construction of the Project. BCWD will require that the contractor for the Project name City as an additional insured for general liability and provide a certificate showing same prior to construction;
 - iii. BCWD, or the BCWD engineer on BCWD's behalf, will oversee the construction of the Project. BCWD may adjust the plans and specifications for the Project during construction, as long as the revised plans do not require BCWD to exceed the scope of the rights granted under this agreement;
 - iv. On completion of construction of the Project, BCWD will restore the access, construction and maintenances areas of the Outlot and Easements to a safe and functional condition, consistent with the Easements. In addition, on completion of construction of the Project and during the effective period of this agreement,

BCWD will operate and maintain the Project, contingent on City's facilitating reasonable access for such purposes as provided herein and in coordination with City's maintenance of the Facilities. On termination of this agreement, BCWD will ensure that the Project site is restored to a condition consistent with the use of the Outlot and Easements.

- D. Until completion of construction, if BCWD, in its judgment, should decide that the Project is infeasible, BCWD, at its option, may declare the agreement rescinded and annulled. If BCWD so declares, all obligations herein, performed or not, will be voided; BCWD will return the Outlot and Easements materially to their prior condition or to a condition agreed on by City and BCWD.

3. COSTS. BCWD will be responsible for all costs of design and construction of the Project and the costs of the production of publicity, education and outreach materials related to the Project. BCWD will be responsible for the costs and fees associated with complying with regulatory requirements applicable to the Project, including the costs of any wetland replacement required by law, except that City will assess no fee to BCWD for City permits required for the Project, if any. BCWD will be responsible for the costs of maintenance – and, if necessary, reconstruction in whole or part – of the Project. City is and will remain responsible for the cost of maintenance of the Facilities during the term of and after termination of this agreement. Each of the Parties will bear its own administrative costs of fulfilling its responsibilities and obligations under this agreement.

4. PUBLICITY AND ENDORSEMENT. BCWD and City will collaborate on the development of educational and informational signage pertinent to the Project, and BCWD, at its cost, may develop, produce and distribute educational, outreach and publicity materials related to the Project, and may install, maintain, replace or remove signage on the Outlot related to the Project. All such signage and materials, whether produced by BCWD or City, will include acknowledgement of the Clean Water Legacy funding provided for the Project in accordance with Laws of Minnesota 2009, Chapter 172, Article 5, Section 10. For purposes of this paragraph, "publicity" includes notices, informational printed materials, press releases, research reports, signs and other public notices prepared by or on behalf of BCWD.

5. INDEPENDENT RELATIONSHIP; LIABILITY. This agreement does not create a joint powers board or organization within the meaning of Minnesota Statutes section 471.59. Each party agrees that it will be responsible only for its own acts and the results thereof to the extent authorized by the law and will not be responsible for the acts or omissions of the other party and the results thereof. This agreement creates no right in and waives no immunity, defense or liability limitation with respect to any third party. As between the Parties, only contract remedies are available for a breach of this agreement.

City and BCWD enter this agreement solely for the purposes of construction and maintenance of the Project to improve water quality in Brown's Creek and McKusick Lake. BCWD does not have, has not had, and will not be deemed to have acquired by entry into or performance under this agreement, any form of interest or ownership in or to any portion of the Outlot or Easements. BCWD does not exercise, has not exercised, and will not by entry into or performance under this agreement be deemed to have exercised, any form of control over the use, operation or

management of any portion of the Outlot or Easements or property adjacent to the Project prior to the commencement of construction of the Project, so as to have rendered BCWD a potentially responsible party for any contamination under state or federal law.

7. TERM AND TERMINATION. This agreement becomes effective when fully executed. The agreement will remain in force for 10 years, and will renew automatically for an additional five-year term and renew again every five years on the anniversary of the first renewal unless terminated by mutual agreement of the Parties or otherwise in accordance with the terms of this agreement. Any responsibility or obligation that has come into being before expiration, specifically including obligations under sections 3 and 5 above, will survive expiration.

8. COMPLETE AGREEMENT. This agreement, as it may be amended in writing, constitutes the entire agreement between the Parties. Any amendment to this agreement must be in writing and will not be effective until it has been executed and approved by the same parties who executed and approved the original agreement or their successors in office.

9. NOTICE; COORDINATION. The Parties designate the following authorized representatives, each to serve as the liaison to the other party for purposes of coordinating inspection, construction oversight and maintenance of the Project as provided in this agreement. Any written communication required under this agreement will be addressed to the other party as follows, except that either party may change its address for notice by so notifying the other party in writing:

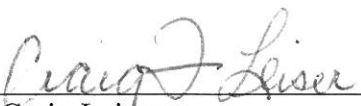
To City: Director
Public Works/Engineering
City of Stillwater
Stillwater MN 55155-4025

To BCWD: Administrator
Brown's Creek Watershed District
1380 West Frontage Road, Hwy 36
Stillwater, MN 55082

10. WAIVERS. The waiver by City or BCWD of any breach or failure to comply with any provision of this agreement by the other party will not be construed as nor will it constitute a continuing waiver of such provision or a waiver of any other breach of or failure to comply with any other provision of this agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement, intending to be legally bound.

BROWN'S CREEK WATERSHED DISTRICT,
a political subdivision of the State of Minnesota


By Craig Leiser
Its President
Dated: 3/11/13

APPROVED AS TO FORM
AND EXECUTION

BCWD Counsel

CITY OF STILLWATER,
a home rule charter city

By Ken Haryeki

Its Mayor

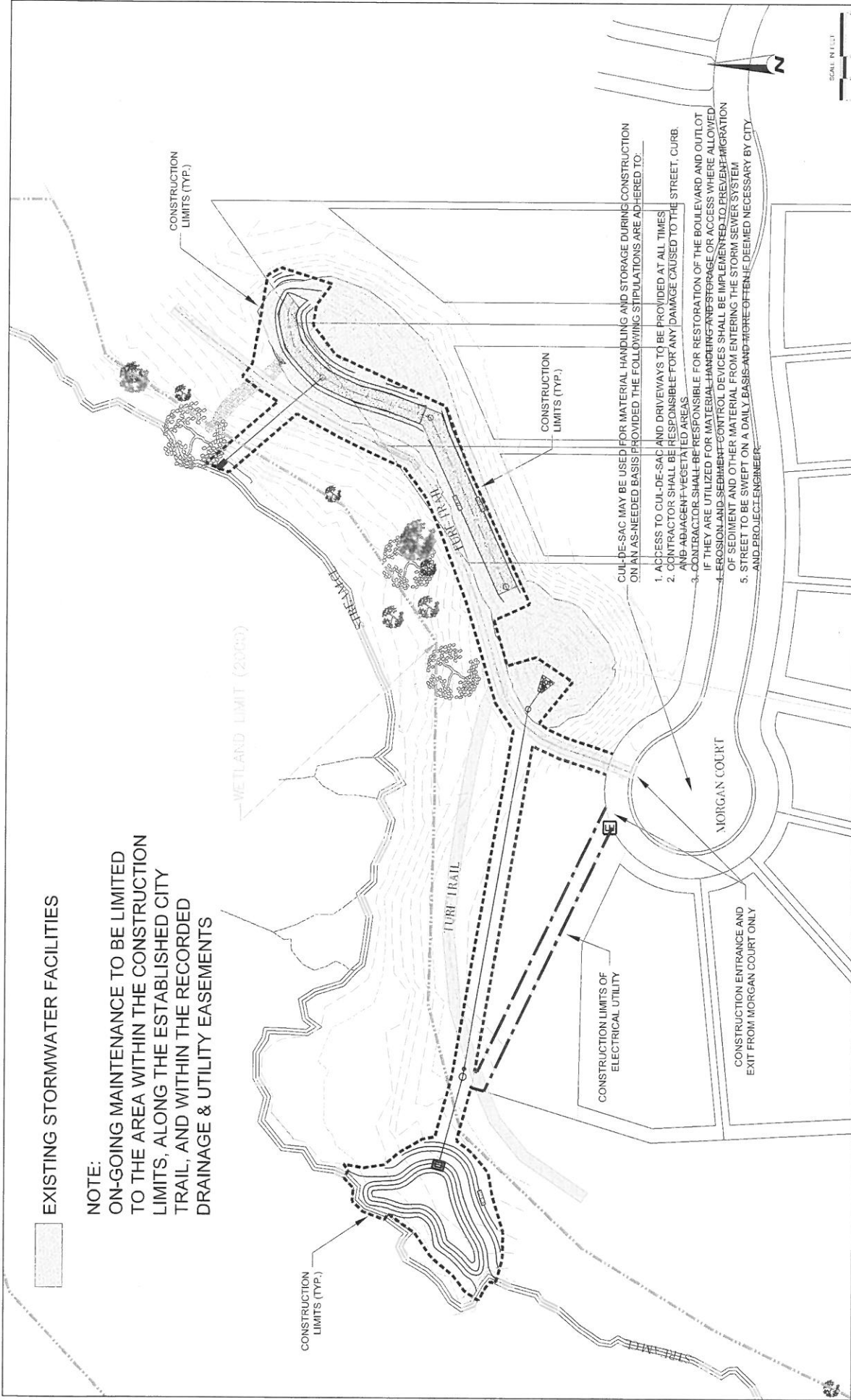
Dated: February 19, 2013

APPROVED AS TO FORM
AND EXECUTION

City Attorney

EXISTING STORMWATER FACILITIES

NOTE:
 ON-GOING MAINTENANCE TO BE LIMITED TO THE AREA WITHIN THE CONSTRUCTION LIMITS, ALONG THE ESTABLISHED CITY TRAIL, AND WITHIN THE RECORDED DRAINAGE & UTILITY EASEMENTS



- CUL-DE-SAC MAY BE USED FOR MATERIAL HANDLING AND STORAGE DURING CONSTRUCTION ON AN AS-NEEDED BASIS PROVIDED THE FOLLOWING STIPULATIONS ARE ADHERED TO:
1. ACCESS TO CUL-DE-SAC AND DRIVEWAYS TO BE PROVIDED AT ALL TIMES
 2. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE STREET, CURB, AND ADJACENT VEGETATED AREAS
 3. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION OF THE BOULEVARD AND OUTLOT IF THEY ARE UTILIZED FOR MATERIAL HANDLING AND STORAGE OR ACCESS WHERE ALLOWED
 4. EROSION AND SEDIMENT CONTROL DEVICES SHALL BE IMPLEMENTED TO PREVENT MIGRATION OF SEDIMENT AND OTHER MATERIAL FROM ENTERING THE STORM SEWER SYSTEM
 5. STREET TO BE SWEEPED ON A DAILY BASIS AND MORE OFTEN IF DEEMED NECESSARY BY CITY AND PROJECT ENGINEER

NO.	DATE	BY	REVISION
1			PRELIMINARY NOT FOR CONSTRUCTION
2			
3			
4			
5			
6			

MUCSD: COPY TO THE PLAN, SPECIFICATION, OR REPORT THAT IS A JULY 1, 2008, OR LATER, EDITION OF THE MINNESOTA ENGINEERING BOARD'S REGULATIONS FOR THE STATE OF MINNESOTA. JENNER, LASH DATE: _____ LICENSE # 6536	SUBMISSION DATE: 08/28/20 DESIGNER: JENNER DUC: JLN LICENSE # 6536	FOR Emmons & Olyver Resources, Inc. 851 Hale Avenue North Oakdale, MN 55128 Phone: 651-770-6448 Website: www.eo1inc.com	BROWN'S CREEK WATERSHED DISTRICT 1380 W FRONTAGE RD HWY 36 STILLWATER, MN 55062	SETTLERS GLEN IRON ENHANCED SAND FILTER STILLWATER, WASHINGTON, MN REF: AND-01-00	GRADING & UTILITY SHEET 06 OF XX SHEETS
---	---	--	---	---	--

ENTERED IN TRANSFER RECORD
WASHINGTON COUNTY, MINNESOTA
November 19, 2004
MOLLY F. O'ROURKE, AUDITOR-TREASURER
BY Kristi McNear
DEPUTY

3480408



Office of the
County Recorder
Washington County, MN

Certified filed and/or recorded on:
2004/11/19 2:34:00 PM

3480408



Cindy Kozmann
County Recorder

Cindy Kozmann

19.50
2.50

DECLARATION FOR CREATION AND MAINTENANCE
OF TRAIL EASEMENT

Return
to STEWART TITLE-JW 105707

This Declaration for Creation and Maintenance of Trail Easement (sometimes hereinafter referred to as "Declaration") is made effective this 18 day of November, 2004, between U.S. Home Corporation, a Delaware corporation (hereinafter referred to as "U.S. Home"), and the City of Stillwater, a Minnesota municipal corporation (hereinafter referred to as "City").

WHEREAS, U.S. Home is the owner of certain real property located in Washington County, Minnesota, legally described on Exhibit A attached hereto and incorporated herein (hereinafter referred to as the "Burdened Property"); and

WHEREAS, U.S. Home and City desire, as of this date, to create the trail easement as hereinafter set forth.

NOW, THEREFORE, the undersigned, U.S. Home Corporation, a Delaware corporation, hereby declares that the Burdened Property shall be held, sold and conveyed subject to the following easements, covenants, conditions, agreements and restrictions which are for the purpose of providing and maintaining certain trail facilities upon the Burdened Property for the benefit of the Benefited Parties. The easement which is hereby created shall run with the land, shall be binding upon and run with the land affected, and shall be binding upon all parties having any right, title or interest in the Burdened Property so described, or any part thereof, their heirs, successors and assigns.

DEFINITIONS

1. Burdened Owner. One or more persons or entities holding a fee simple interest in the Burdened Property described on Exhibit A. As of the date of this Declaration, U.S. Home Corporation, a Delaware corporation, is the owner of the Burdened Property.
2. Benefited Parties. The city and members of the public at large.
3. Trail Easement Area. The real property legally described on Exhibit B and graphically depicted on Exhibit C, both attached hereto and incorporated herein.

4. Trail Easement. The right to construct, reconstruct, maintain and repair the trail facilities over and across the Trail Easement Area for the purposes of pedestrian traffic, specifically excluding motor vehicle traffic and/or parking, except as granted below.

COVENANTS FOR CONSTRUCTION, RECONSTRUCTION, MAINTENANCE AND REPAIR

1. Construction by U.S. Home. U.S. Home agrees to construct the trail facilities as necessary to utilize the Trail Easement and as are required by City upon the Trail Easement Area.

2. Construction and Repair by City. Subject to the initial construction of trail facilities within the Trail Easement Area by U.S. Home, the city shall be responsible for the construction, reconstruction, maintenance and repair of the trail facilities located within the Trail Easement Area. In furtherance thereof and notwithstanding anything contained herein to the contrary, the City, its employees and/or agents shall have the right to enter into the Trail Easement Area with motorized vehicles.

EASEMENT

1. Trail Easement. The Burdened Property shall be subject to and burdened by the right of Benefited Parties to pass over and utilize the trail facilities as may be established by U.S. Home upon the Trail Easement Area. No motor vehicle traffic and/or parking rights are hereby granted, except to the extent necessary to comply with the Construction and Repair covenants above.

2. Interference with Easement. No obstruction which would prevent, restrict or otherwise inhibit the passage of pedestrians or maintenance equipment over any portion of the Trail Easement Area shall be erected, condoned or permitted to endure by the Burdened Owner, nor shall any other conduct, passive or affirmative, be permitted which would in any manner restrict the easement rights granted pursuant hereto.

MISCELLANEOUS

1. Restriction. The Burdened Owner, its successors or assigns, shall not grant any easement for the purpose set forth in this Declaration for the benefit of any other real property or other person or entity upon the Trail Easement Area.

2. Effect. The easements, covenants, conditions, restrictions and other provisions herein contained shall be perpetually binding and enforceable upon the Burdened Property herein described, its respective owners, heirs, successors and assigns forever and shall attach to and run with the land.

3. Severability. Invalidation of any one or more of the provisions herein contained shall not in any way affect the validity of the others, which shall remain in full force and effect.

EXHIBIT A

Burdened Property Legal Description

Lots 1 through 2, inclusive, Block 1;
All in Settlers Glen 5th Addition, Washington County, Minnesota.

EXHIBIT B

Trail Easement Area Legal Description

An easement for trail purposes over, under and across the following described property:

Lots 1 and 2, Block 1, Settlers Glen 5th Addition, according to the recorded plat thereof, Washington County, Minnesota.

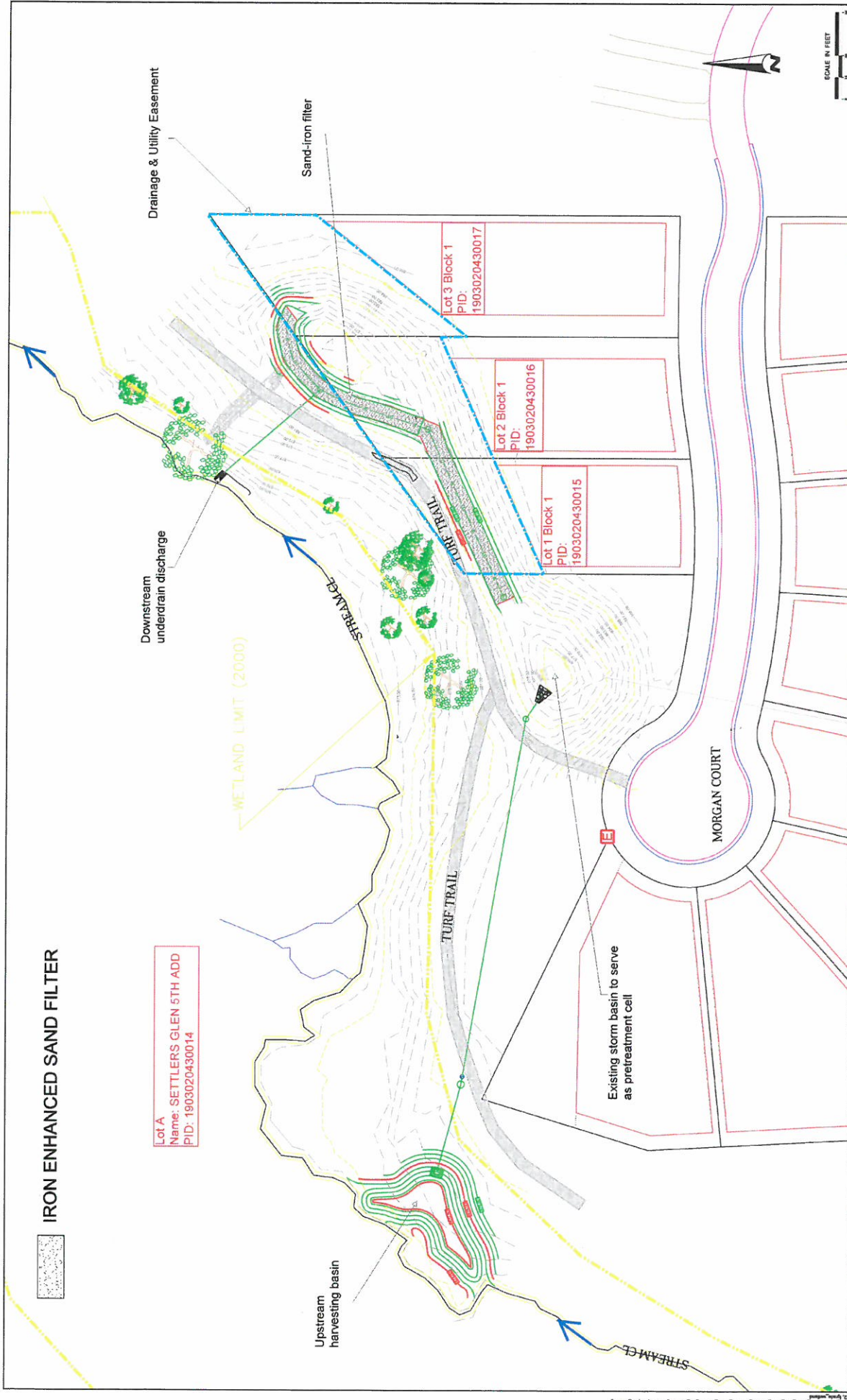
Said easement lies northwesterly of the following described line:

Beginning on a point on the west line of said Lot 1 distant 5 feet south of the northwest corner thereof; thence northeasterly to a point on the east line of said Lot 1 distant 26 feet south of the northeast corner of said Lot 1; thence northeasterly to a point on the northerly line of said Lot 2 distant 36 feet northeasterly of said northeast corner of said Lot 1 and said line there terminating.

EXHIBIT C

Trail Easement Area Graphic Depiction

588645.1



IRON ENHANCED SAND FILTER

Lot A
 Name: SETTLERS GLEN 5TH ADD
 PID: 1903020430014

SUBMISSION DATE: 06-29-2017 DESIGNER: EOR DRAWN BY: [Name] DATE: [Date]		BROWN'S CREEK WATERSHED DISTRICT 1390 W FRONTAGE RD HWY 36 STILLWATER, MN 55082		SETTLERS GLEN IRON ENHANCED SAND FILTER STILLWATER, WASHINGTON, MN STATE PROJECT NO. _____ CITY PROJECT NO. _____	
I HEREBY CERTIFY THAT THE PLAN, SPECIFICATION, OR REPORT THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. DESIGNER: [Name] LICENSE # 4938 DATE: _____		EOR Emons & Oliver Resources, Inc. 851 Hale Avenue North WABUET, Oakdale, MN 55128 TELEPHONE: 651.770.4448 WEBSITE: www.eorinc.com			
NO.	DATE	BY	REVISION		
1				PRELIMINARY NOT FOR CONSTRUCTION	

Project Name | Settlers Glen Iron-Enhanced Sand Filter **Date** | 11/21/2022
To / Contact info | Karen Kill, BCWD Administrator
Cc / Contact info | Ryan Fleming, PE
From / Contact info | Stu Grubb, PG; Matt Hegland, GIT
Regarding | Sediment analysis and disposal options

Background

Sediment removed from stormwater ponds must be analyzed to determine suitable disposal options. EOR collected and analyzed soils samples from the settling pond in accordance with the procedures shown in the MPCA guidance document “Managing Stormwater Sediment Best Management Practices Guidance” (May 2017).

Fieldwork and Lab Analyses

Brian Rucker collected the samples on November 2, 2022. Sample 1 was collected at the inlet to the filter and Sample 2 was collected at the outlet from the filter. Samples were collected with a PVC suction sampler.

Sediment samples were delivered to Pace Analytical Labs for analysis of PAH’s (extended list), copper, and arsenic. Lab reports and analytical results are attached.

Results and Discussion

Laboratory analytical results are shown in Table 1. The results were compared to residential and industrial soil reference values (SRV’s) published by MPCA. The arsenic concentrations of both samples were above the SRV’s, and the PAH Equivalents were well above the SRV for Sample 2. Because the concentrations exceed the residential SRV’s for one or more analyte, the sediment is a regulated solid waste. The MPCA guidance states the material should be sent to a Municipal Solid Waste facility, or a landfill with a liner and leachate collection system.

Phosphorous was analyzed to determine the quantity of phosphorous removed by the sediment basin. Phosphorus is not considered hazardous to human health, so no SRV has been established.

Table 1 – Analytical Concentrations and Residential Soil Reference Values (SRV)

Analyte	Sample 1 (Upstream)	Sample 2 (Downstream)	SRV
Arsenic (mg/kg)	16.9	16.2	9
Copper (mg/kg)	17.1	17.9	100
PAH (BAP Equivalents)	0.842	7.596	2
Phosphorous (mg/kg)	2630	2520	Not applicable

November 07, 2022

Brian Rucker
Emmons & Oliver Resources
1919 University Ave W
Suite 300
Saint Paul, MN 55128

RE: Project: Sediment
Pace Project No.: 10631212

Dear Brian Rucker:

Enclosed are the analytical results for sample(s) received by the laboratory on October 26, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Duluth, MN
- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Yeng Ozawa
yeng.ozawa@pacelabs.com
(612)607-1700
Project Manager

Enclosures

cc: Accounting, Emmons & Oliver Resources
Beth Clubb, Emmons & Olivier Resources



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project: Sediment
Pace Project No.: 10631212

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414
A2LA Certification #: 2926.01*
1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009*
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014*
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605*
Georgia Certification #: 959
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086*
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064*
Maryland Certification #: 322
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137*
Minnesota Dept of Ag Approval: via MN 027-053-137
Minnesota Petrofund Registration #: 1240*
Mississippi Certification #: MN00064

Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081*
New Jersey Certification #: MN002
New York Certification #: 11647*
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification (A2LA) #: R-036
North Dakota Certification (MN) #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification (1700) #: CL101
Ohio VAP Certification (1800) #: CL110*
Oklahoma Certification #: 9507*
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001*
Pennsylvania Certification #: 68-00563*
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192*
Utah Certification #: MN00064*
Vermont Certification #: VT-027053137
Virginia Certification #: 460163*
Washington Certification #: C486*
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01
USDA Permit #: P330-19-00208
Please Note: Applicable air certifications are denoted with an asterisk ().

Pace Analytical Services, LLC - Duluth MN

4730 Oneota Street, Duluth, MN 55807
Minnesota Certification #: 027-137-152
Minnesota Dept of Ag Approval: via Minnesota 027-137-152
Minnesota Petrofund Registration #: 1240
Montana Certification #: CERT0102

Nevada Certification #: MN00037
North Dakota Certification #: R-105
Wisconsin Certification #: 999446800
Wisconsin Dept of Ag Certification: 480341

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Sediment
Pace Project No.: 10631212

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10631212001	Sample 1-(Upstream)	Solid	10/26/22 10:30	10/26/22 12:00
10631212002	Sample 2-(Downstream)	Solid	10/26/22 10:31	10/26/22 12:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Sediment
Pace Project No.: 10631212

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10631212001	Sample 1-(Upstream)	EPA 365.1	DS3	1	PASI-DU
		EPA 6010D	IP	2	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8270E by SIM	SP2	18	PASI-M
		EPA 8270E by SIM	KJ3	39	PASI-M
10631212002	Sample 2-(Downstream)	EPA 365.1	DS3	1	PASI-DU
		EPA 6010D	IP	2	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8270E by SIM	SP2	18	PASI-M
		EPA 8270E by SIM	KJ3	39	PASI-M

PASI-DU = Pace Analytical Services - Duluth, MN
PASI-M = Pace Analytical Services - Minneapolis

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Sediment
Pace Project No.: 10631212

Sample: Sample 1-(Upstream) **Lab ID: 10631212001** Collected: 10/26/22 10:30 Received: 10/26/22 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
365.1 Phos, Total Solids DU								
Analytical Method: EPA 365.1 Preparation Method: SM 4500-P B Pace Analytical Services - Duluth, MN								
Phosphorus	2630	mg/kg	38.0	5	11/02/22 15:10	11/03/22 16:25	7723-14-0	P6
6010D MET ICP								
Analytical Method: EPA 6010D Preparation Method: EPA 3050B Pace Analytical Services - Minneapolis								
Arsenic	16.9	mg/kg	2.8	1	11/02/22 16:58	11/03/22 13:39	7440-38-2	
Copper	17.1	mg/kg	1.4	1	11/02/22 16:58	11/03/22 13:39	7440-50-8	
Dry Weight / %M by ASTM D2974								
Analytical Method: ASTM D2974 Pace Analytical Services - Minneapolis								
Percent Moisture	66.4	%	0.10	1		10/31/22 15:20		N2
8270E MSSV PAH by SIM								
Analytical Method: EPA 8270E by SIM Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
Acenaphthene	ND	ug/kg	29.7	1	10/27/22 09:53	10/28/22 20:56	83-32-9	
Acenaphthylene	ND	ug/kg	29.7	1	10/27/22 09:53	10/28/22 20:56	208-96-8	
Anthracene	35.0	ug/kg	29.7	1	10/27/22 09:53	10/28/22 20:56	120-12-7	
Benzo(a)anthracene	108	ug/kg	29.7	1	10/27/22 09:53	10/28/22 20:56	56-55-3	
Benzo(a)pyrene	117	ug/kg	29.7	1	10/27/22 09:53	10/28/22 20:56	50-32-8	
Benzo(b)fluoranthene	162	ug/kg	29.7	1	10/27/22 09:53	10/28/22 20:56	205-99-2	
Benzo(g,h,i)perylene	89.4	ug/kg	29.7	1	10/27/22 09:53	10/28/22 20:56	191-24-2	
Benzo(k)fluoranthene	66.9	ug/kg	29.7	1	10/27/22 09:53	10/28/22 20:56	207-08-9	
Chrysene	120	ug/kg	29.7	1	10/27/22 09:53	10/28/22 20:56	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	29.7	1	10/27/22 09:53	10/28/22 20:56	53-70-3	
Fluoranthene	236	ug/kg	29.7	1	10/27/22 09:53	10/28/22 20:56	206-44-0	
Fluorene	ND	ug/kg	29.7	1	10/27/22 09:53	10/28/22 20:56	86-73-7	
Indeno(1,2,3-cd)pyrene	95.7	ug/kg	29.7	1	10/27/22 09:53	10/28/22 20:56	193-39-5	
Naphthalene	ND	ug/kg	29.7	1	10/27/22 09:53	10/28/22 20:56	91-20-3	
Phenanthrene	103	ug/kg	29.7	1	10/27/22 09:53	10/28/22 20:56	85-01-8	
Pyrene	174	ug/kg	29.7	1	10/27/22 09:53	10/28/22 20:56	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	77	%	59-125	1	10/27/22 09:53	10/28/22 20:56	321-60-8	
p-Terphenyl-d14 (S)	82	%	65-125	1	10/27/22 09:53	10/28/22 20:56	1718-51-0	
8270E MSSV CPAH by SIM								
Analytical Method: EPA 8270E by SIM Preparation Method: EPA 3550C Pace Analytical Services - Minneapolis								
Acenaphthene	ND	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	83-32-9	
Acenaphthylene	35.9	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	208-96-8	
Anthracene	ND	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	120-12-7	
Benzo(a)anthracene	176	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	56-55-3	
Benzo(a)pyrene	233	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	50-32-8	
Benzo(e)pyrene	146	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	192-97-2	
Benzo(g,h,i)perylene	138	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	191-24-2	
Benzo(a)fluoranthenes (Total)	393	ug/kg	88.7	1	10/28/22 12:48	11/01/22 01:55		N2
Carbazole	ND	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	86-74-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Sediment

Pace Project No.: 10631212

Sample: Sample 1-(Upstream) **Lab ID: 10631212001** Collected: 10/26/22 10:30 Received: 10/26/22 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV CPAH by SIM		Analytical Method: EPA 8270E by SIM Preparation Method: EPA 3550C Pace Analytical Services - Minneapolis						
2-Chloronaphthalene	ND	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	91-58-7	
Chrysene	209	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	218-01-9	
Dibenz(a,h)acridine	ND	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	226-36-8	
Dibenz(a,h)anthracene	33.0	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	53-70-3	
Dibenz(a,j)acridine	ND	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	224-42-0	
Dibenzo(a,e)pyrene	78.9	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	192-65-4	
Dibenzo(a,h)pyrene	43.8	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	189-64-0	
Dibenzo(a,i)pyrene	ND	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	189-55-9	
Dibenzo(a,l)pyrene	ND	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	191-30-0	
7H-Dibenzo(c,g)carbazole	ND	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	194-59-2	
Dibenzofuran	ND	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	132-64-9	
7,12-Dimethylbenz(a)anthracene	ND	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	57-97-6	
Fluoranthene	365	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	206-44-0	
Fluorene	ND	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	86-73-7	
Indeno(1,2,3-cd)pyrene	143	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	193-39-5	
3-Methylcholanthrene	ND	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	56-49-5	
5-Methylchrysene	ND	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	3697-24-3	
1-Methylnaphthalene	ND	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	90-12-0	
2-Methylnaphthalene	ND	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	91-57-6	
Naphthalene	ND	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	91-20-3	
5-Nitroacenaphthene	ND	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	602-87-9	
6-Nitrochrysene	ND	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	7496-02-8	
2-Nitrofluorene	ND	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	607-57-8	N2
1-Nitropyrene	ND	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	5522-43-0	N2
4-Nitropyrene	ND	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	57835-92-4	N2
Perylene	54.8	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	198-55-0	
Phenanthrene	120	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	85-01-8	
Pyrene	331	ug/kg	29.6	1	10/28/22 12:48	11/01/22 01:55	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	44	%	43-125	1	10/28/22 12:48	11/01/22 01:55	321-60-8	
p-Terphenyl-d14 (S)	42	%	40-125	1	10/28/22 12:48	11/01/22 01:55	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Sediment

Pace Project No.: 10631212

Sample: Sample 2-(Downstream) Lab ID: 10631212002 Collected: 10/26/22 10:31 Received: 10/26/22 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
365.1 Phos, Total Solids DU								
Analytical Method: EPA 365.1 Preparation Method: SM 4500-P B								
Pace Analytical Services - Duluth, MN								
Phosphorus	2520	mg/kg	47.2	5	11/02/22 15:10	11/03/22 16:29	7723-14-0	
6010D MET ICP								
Analytical Method: EPA 6010D Preparation Method: EPA 3050B								
Pace Analytical Services - Minneapolis								
Arsenic	16.2	mg/kg	3.8	1	11/02/22 16:58	11/03/22 13:50	7440-38-2	
Copper	17.9	mg/kg	1.9	1	11/02/22 16:58	11/03/22 13:50	7440-50-8	
Dry Weight / %M by ASTM D2974								
Analytical Method: ASTM D2974								
Pace Analytical Services - Minneapolis								
Percent Moisture	74.6	%	0.10	1		10/31/22 15:21		N2
8270E MSSV PAH by SIM								
Analytical Method: EPA 8270E by SIM Preparation Method: EPA 3546								
Pace Analytical Services - Minneapolis								
Acenaphthene	ND	ug/kg	55.5	1	10/27/22 09:53	10/28/22 21:19	83-32-9	
Acenaphthylene	ND	ug/kg	55.5	1	10/27/22 09:53	10/28/22 21:19	208-96-8	
Anthracene	ND	ug/kg	55.5	1	10/27/22 09:53	10/28/22 21:19	120-12-7	
Benzo(a)anthracene	ND	ug/kg	55.5	1	10/27/22 09:53	10/28/22 21:19	56-55-3	
Benzo(a)pyrene	ND	ug/kg	55.5	1	10/27/22 09:53	10/28/22 21:19	50-32-8	
Benzo(b)fluoranthene	65.7	ug/kg	55.5	1	10/27/22 09:53	10/28/22 21:19	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	55.5	1	10/27/22 09:53	10/28/22 21:19	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	55.5	1	10/27/22 09:53	10/28/22 21:19	207-08-9	
Chrysene	ND	ug/kg	55.5	1	10/27/22 09:53	10/28/22 21:19	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	55.5	1	10/27/22 09:53	10/28/22 21:19	53-70-3	
Fluoranthene	161	ug/kg	55.5	1	10/27/22 09:53	10/28/22 21:19	206-44-0	
Fluorene	ND	ug/kg	55.5	1	10/27/22 09:53	10/28/22 21:19	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	55.5	1	10/27/22 09:53	10/28/22 21:19	193-39-5	
Naphthalene	ND	ug/kg	55.5	1	10/27/22 09:53	10/28/22 21:19	91-20-3	
Phenanthrene	121	ug/kg	55.5	1	10/27/22 09:53	10/28/22 21:19	85-01-8	
Pyrene	103	ug/kg	55.5	1	10/27/22 09:53	10/28/22 21:19	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	77	%	59-125	1	10/27/22 09:53	10/28/22 21:19	321-60-8	
p-Terphenyl-d14 (S)	79	%	65-125	1	10/27/22 09:53	10/28/22 21:19	1718-51-0	
8270E MSSV CPAH by SIM								
Analytical Method: EPA 8270E by SIM Preparation Method: EPA 3550C								
Pace Analytical Services - Minneapolis								
Acenaphthene	ND	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	83-32-9	
Acenaphthylene	ND	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	208-96-8	
Anthracene	ND	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	120-12-7	
Benzo(a)anthracene	123	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	56-55-3	
Benzo(a)pyrene	141	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	50-32-8	
Benzo(e)pyrene	92.6	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	192-97-2	
Benzo(g,h,i)perylene	91.1	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	191-24-2	
Benzo(a)fluoranthenes (Total)	245	ug/kg	117	1	10/28/22 12:48	11/04/22 15:05		N2
Carbazole	ND	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	86-74-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Sediment

Pace Project No.: 10631212

Sample: Sample 2-(Downstream) Lab ID: 10631212002 Collected: 10/26/22 10:31 Received: 10/26/22 12:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV CPAH by SIM		Analytical Method: EPA 8270E by SIM Preparation Method: EPA 3550C Pace Analytical Services - Minneapolis						
2-Chloronaphthalene	ND	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	91-58-7	
Chrysene	137	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	218-01-9	
Dibenz(a,h)acridine	ND	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	226-36-8	
Dibenz(a,h)anthracene	ND	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	53-70-3	
Dibenz(a,j)acridine	ND	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	224-42-0	
Dibenzo(a,e)pyrene	296	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	192-65-4	
Dibenzo(a,h)pyrene	417	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	189-64-0	
Dibenzo(a,i)pyrene	211	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	189-55-9	
Dibenzo(a,l)pyrene	83.1	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	191-30-0	
7H-Dibenzo(c,g)carbazole	ND	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	194-59-2	
Dibenzofuran	ND	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	132-64-9	
7,12-Dimethylbenz(a)anthracene	ND	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	57-97-6	
Fluoranthene	269	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	206-44-0	
Fluorene	ND	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	86-73-7	
Indeno(1,2,3-cd)pyrene	93.5	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	193-39-5	
3-Methylcholanthrene	ND	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	56-49-5	
5-Methylchrysene	ND	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	3697-24-3	
1-Methylnaphthalene	ND	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	90-12-0	
2-Methylnaphthalene	ND	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	91-57-6	
Naphthalene	ND	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	91-20-3	
5-Nitroacenaphthene	ND	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	602-87-9	
6-Nitrochrysene	ND	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	7496-02-8	v1
2-Nitrofluorene	ND	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	607-57-8	N2
1-Nitropyrene	ND	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	5522-43-0	N2,v1
4-Nitropyrene	ND	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	57835-92-4	N2,v1
Perylene	ND	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	198-55-0	
Phenanthrene	126	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	85-01-8	
Pyrene	234	ug/kg	39.0	1	10/28/22 12:48	11/04/22 15:05	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	45	%	43-125	1	10/28/22 12:48	11/04/22 15:05	321-60-8	
p-Terphenyl-d14 (S)	42	%	40-125	1	10/28/22 12:48	11/04/22 15:05	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Sediment
Pace Project No.: 10631212

QC Batch: 850971 Analysis Method: EPA 365.1
QC Batch Method: SM 4500-P B Analysis Description: 3651 Phos, Total Solids DU
Laboratory: Pace Analytical Services - Duluth, MN

Associated Lab Samples: 10631212001, 10631212002

METHOD BLANK: 4500182 Matrix: Solid
Associated Lab Samples: 10631212001, 10631212002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphorus	mg/kg	ND	2.5	11/03/22 15:13	

LABORATORY CONTROL SAMPLE: 4500183

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphorus	mg/kg	25	26.9	108	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4500184 4500185

Parameter	Units	10631027003		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec					
Phosphorus	mg/kg	221	1370	1340	1770	1700	113	110	80-120	4	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4500186 4500187

Parameter	Units	10631212001		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec					
Phosphorus	mg/kg	2630	289	301	3050	3030	144	134	80-120	0	10	P6	

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QUALITY CONTROL DATA

Project: Sediment
Pace Project No.: 10631212

QC Batch: 849768 Analysis Method: EPA 6010D
QC Batch Method: EPA 3050B Analysis Description: 6010D Solids
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10631212001, 10631212002

METHOD BLANK: 4494238 Matrix: Solid

Associated Lab Samples: 10631212001, 10631212002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.92	11/03/22 13:35	
Copper	mg/kg	ND	0.46	11/03/22 13:35	

LABORATORY CONTROL SAMPLE: 4494239

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	49.7	45.9	92	80-120	
Copper	mg/kg	49.7	49.1	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4494240 4494241

Parameter	Units	10631212001		4494240		4494241		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec				
Arsenic	mg/kg	16.9	139	147	130	136	81	81	75-125	5	20
Copper	mg/kg	17.1	139	147	149	156	95	95	75-125	5	20

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QUALITY CONTROL DATA

Project: Sediment
Pace Project No.: 10631212

QC Batch: 850300	Analysis Method: ASTM D2974
QC Batch Method: ASTM D2974	Analysis Description: Dry Weight / %M by ASTM D2974
	Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10631212001, 10631212002

SAMPLE DUPLICATE: 4497118

Parameter	Units	10631212001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	66.4	63.9	4	30	N2

SAMPLE DUPLICATE: 4497772

Parameter	Units	10631503001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	32.2	32.1	1	30	N2

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QUALITY CONTROL DATA

Project: Sediment
Pace Project No.: 10631212

QC Batch: 849669 Analysis Method: EPA 8270E by SIM
QC Batch Method: EPA 3546 Analysis Description: 8270E Solid PAH by SIM MSSV
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10631212001, 10631212002

METHOD BLANK: 4493725 Matrix: Solid

Associated Lab Samples: 10631212001, 10631212002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	ug/kg	ND	10.0	10/28/22 11:01	
Acenaphthylene	ug/kg	ND	10.0	10/28/22 11:01	
Anthracene	ug/kg	ND	10.0	10/28/22 11:01	
Benzo(a)anthracene	ug/kg	ND	10.0	10/28/22 11:01	
Benzo(a)pyrene	ug/kg	ND	10.0	10/28/22 11:01	
Benzo(b)fluoranthene	ug/kg	ND	10.0	10/28/22 11:01	
Benzo(g,h,i)perylene	ug/kg	ND	10.0	10/28/22 11:01	
Benzo(k)fluoranthene	ug/kg	ND	10.0	10/28/22 11:01	
Chrysene	ug/kg	ND	10.0	10/28/22 11:01	
Dibenz(a,h)anthracene	ug/kg	ND	10.0	10/28/22 11:01	
Fluoranthene	ug/kg	ND	10.0	10/28/22 11:01	
Fluorene	ug/kg	ND	10.0	10/28/22 11:01	
Indeno(1,2,3-cd)pyrene	ug/kg	ND	10.0	10/28/22 11:01	
Naphthalene	ug/kg	ND	10.0	10/28/22 11:01	
Phenanthrene	ug/kg	ND	10.0	10/28/22 11:01	
Pyrene	ug/kg	ND	10.0	10/28/22 11:01	
2-Fluorobiphenyl (S)	%	70	59-125	10/28/22 11:01	
p-Terphenyl-d14 (S)	%	82	65-125	10/28/22 11:01	

LABORATORY CONTROL SAMPLE: 4493726

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acenaphthene	ug/kg	100	90.0	90	60-125	
Acenaphthylene	ug/kg	100	87.9	88	59-125	
Anthracene	ug/kg	100	91.6	92	62-125	
Benzo(a)anthracene	ug/kg	100	87.4	87	64-125	
Benzo(a)pyrene	ug/kg	100	86.2	86	64-125	
Benzo(b)fluoranthene	ug/kg	100	90.1	90	65-125	
Benzo(g,h,i)perylene	ug/kg	100	102	102	66-125	
Benzo(k)fluoranthene	ug/kg	100	92.5	92	66-125	
Chrysene	ug/kg	100	84.5	85	66-125	
Dibenz(a,h)anthracene	ug/kg	100	103	103	67-125	
Fluoranthene	ug/kg	100	83.5	84	65-125	
Fluorene	ug/kg	100	91.5	92	60-125	
Indeno(1,2,3-cd)pyrene	ug/kg	100	102	102	64-125	
Naphthalene	ug/kg	100	75.3	75	48-125	
Phenanthrene	ug/kg	100	83.9	84	62-125	
Pyrene	ug/kg	100	87.0	87	68-125	
2-Fluorobiphenyl (S)	%			74	59-125	

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QUALITY CONTROL DATA

Project: Sediment

Pace Project No.: 10631212

LABORATORY CONTROL SAMPLE: 4493726

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
p-Terphenyl-d14 (S)	%.			78	65-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4493727 4493728

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		10631245001 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
Acenaphthene	ug/kg	ND	102	102	85.3	74.2	84	73	70-125	14	30	
Acenaphthylene	ug/kg	ND	102	102	83.9	73.2	82	72	30-150	14	30	
Anthracene	ug/kg	ND	102	102	99.3	87.7	98	86	67-125	12	30	
Benzo(a)anthracene	ug/kg	ND	102	102	99.0	88.3	97	86	64-125	11	30	
Benzo(a)pyrene	ug/kg	ND	102	102	102	90.7	100	89	40-137	11	30	
Benzo(b)fluoranthene	ug/kg	ND	102	102	105	94.3	104	92	30-150	11	30	
Benzo(g,h,i)perylene	ug/kg	ND	102	102	119	107	117	104	69-125	11	30	
Benzo(k)fluoranthene	ug/kg	ND	102	102	110	98.0	108	96	48-133	11	30	
Chrysene	ug/kg	ND	102	102	97.7	93.9	96	92	62-125	4	30	
Dibenz(a,h)anthracene	ug/kg	ND	102	102	119	105	117	103	57-125	13	30	
Fluoranthene	ug/kg	ND	102	102	99.8	90.9	98	89	60-125	9	30	
Fluorene	ug/kg	ND	102	102	91.1	80.8	90	79	53-125	12	30	
Indeno(1,2,3-cd)pyrene	ug/kg	ND	102	102	118	106	116	104	49-130	10	30	
Naphthalene	ug/kg	ND	102	102	79.8	65.5	78	64	46-125	20	30	
Phenanthrene	ug/kg	ND	102	102	84.8	73.7	83	72	61-125	14	30	
Pyrene	ug/kg	ND	102	102	97.0	87.2	95	85	58-125	11	30	
2-Fluorobiphenyl (S)	%.						71	60	59-125			
p-Terphenyl-d14 (S)	%.						88	77	65-125			

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QUALITY CONTROL DATA

Project: Sediment
Pace Project No.: 10631212

QC Batch: 850008 Analysis Method: EPA 8270E by SIM
QC Batch Method: EPA 3550C Analysis Description: 8270E CPAH by SIM MSSV
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10631212001, 10631212002

METHOD BLANK: 4495364 Matrix: Solid

Associated Lab Samples: 10631212001, 10631212002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	ug/kg	ND	10.0	11/01/22 00:55	
1-Nitropyrene	ug/kg	ND	10.0	11/01/22 00:55	N2
2-Chloronaphthalene	ug/kg	ND	10.0	11/01/22 00:55	
2-Methylnaphthalene	ug/kg	ND	10.0	11/01/22 00:55	
2-Nitrofluorene	ug/kg	ND	10.0	11/01/22 00:55	N2
3-Methylcholanthrene	ug/kg	ND	10.0	11/01/22 00:55	
4-Nitropyrene	ug/kg	ND	10.0	11/01/22 00:55	N2
5-Methylchrysene	ug/kg	ND	10.0	11/01/22 00:55	
5-Nitroacenaphthene	ug/kg	ND	10.0	11/01/22 00:55	
6-Nitrochrysene	ug/kg	ND	10.0	11/01/22 00:55	
7,12-Dimethylbenz(a)anthracene	ug/kg	ND	10.0	11/01/22 00:55	
7H-Dibenzo(c,g)carbazole	ug/kg	ND	10.0	11/01/22 00:55	
Acenaphthene	ug/kg	ND	10.0	11/01/22 00:55	
Acenaphthylene	ug/kg	ND	10.0	11/01/22 00:55	
Anthracene	ug/kg	ND	10.0	11/01/22 00:55	
Benzo(a)anthracene	ug/kg	ND	10.0	11/01/22 00:55	
Benzo(a)pyrene	ug/kg	ND	10.0	11/01/22 00:55	
Benzo(e)pyrene	ug/kg	ND	10.0	11/01/22 00:55	
Benzo(g,h,i)perylene	ug/kg	ND	10.0	11/01/22 00:55	
Benzofluoranthenes (Total)	ug/kg	ND	30.0	11/01/22 00:55	N2
Carbazole	ug/kg	ND	10.0	11/01/22 00:55	
Chrysene	ug/kg	ND	10.0	11/01/22 00:55	
Dibenz(a,h)acridine	ug/kg	ND	10.0	11/01/22 00:55	
Dibenz(a,h)anthracene	ug/kg	ND	10.0	11/01/22 00:55	
Dibenz(a,i)acridine	ug/kg	ND	10.0	11/01/22 00:55	
Dibenzo(a,e)pyrene	ug/kg	ND	10.0	11/01/22 00:55	
Dibenzo(a,h)pyrene	ug/kg	ND	10.0	11/01/22 00:55	
Dibenzo(a,i)pyrene	ug/kg	ND	10.0	11/01/22 00:55	
Dibenzo(a,l)pyrene	ug/kg	ND	10.0	11/01/22 00:55	
Dibenzofuran	ug/kg	ND	10.0	11/01/22 00:55	
Fluoranthene	ug/kg	ND	10.0	11/01/22 00:55	
Fluorene	ug/kg	ND	10.0	11/01/22 00:55	
Indeno(1,2,3-cd)pyrene	ug/kg	ND	10.0	11/01/22 00:55	
Naphthalene	ug/kg	ND	10.0	11/01/22 00:55	
Perylene	ug/kg	ND	10.0	11/01/22 00:55	
Phenanthrene	ug/kg	ND	10.0	11/01/22 00:55	
Pyrene	ug/kg	ND	10.0	11/01/22 00:55	
2-Fluorobiphenyl (S)	%	70	43-125	11/01/22 00:55	
p-Terphenyl-d14 (S)	%	94	40-125	11/01/22 00:55	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Sediment

Pace Project No.: 10631212

LABORATORY CONTROL SAMPLE: 4495365

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	ug/kg	100	75.9	76	52-125	
1-Nitropyrene	ug/kg	100	83.0	83	30-131	N2
2-Chloronaphthalene	ug/kg	100	82.6	83	54-125	
2-Methylnaphthalene	ug/kg	100	76.7	77	52-125	
2-Nitrofluorene	ug/kg	100	94.0	94	60-132	N2
3-Methylcholanthrene	ug/kg	100	86.5	86	30-131	
4-Nitropyrene	ug/kg	100	87.1	87	42-135	N2
5-Methylchrysene	ug/kg	100	88.2	88	63-125	
5-Nitroacenaphthene	ug/kg	100	77.5	77	60-128	
6-Nitrochrysene	ug/kg	100	98.3	98	30-143	
7,12-Dimethylbenz(a)anthracene	ug/kg	100	108	108	30-125	
7H-Dibenzo(c,g)carbazole	ug/kg	100	90.8	91	69-125	
Acenaphthene	ug/kg	100	79.7	80	59-125	
Acenaphthylene	ug/kg	100	79.3	79	56-125	
Anthracene	ug/kg	100	86.2	86	62-125	
Benzo(a)anthracene	ug/kg	100	84.5	85	60-125	
Benzo(a)pyrene	ug/kg	100	96.7	97	67-125	
Benzo(e)pyrene	ug/kg	100	99.9	100	64-125	
Benzo(g,h,i)perylene	ug/kg	100	94.7	95	39-129	
Benzo(a)fluoranthene (Total)	ug/kg	300	313	104	67-125	N2
Carbazole	ug/kg	100	84.3	84	66-125	
Chrysene	ug/kg	100	90.0	90	60-125	
Dibenz(a,h)acridine	ug/kg	100	90.9	91	66-125	
Dibenz(a,h)anthracene	ug/kg	100	93.9	94	66-125	
Dibenz(a,i)acridine	ug/kg	100	82.6	83	30-133	
Dibenzo(a,e)pyrene	ug/kg	100	85.4	85	57-125	
Dibenzo(a,h)pyrene	ug/kg	100	96.7	97	59-126	
Dibenzo(a,i)pyrene	ug/kg	100	84.2	84	45-125	
Dibenzo(a,l)pyrene	ug/kg	100	71.0	71	30-125	
Dibenzofuran	ug/kg	100	82.7	83	61-125	
Fluoranthene	ug/kg	100	80.7	81	66-125	
Fluorene	ug/kg	100	83.0	83	63-125	
Indeno(1,2,3-cd)pyrene	ug/kg	100	90.2	90	67-125	
Naphthalene	ug/kg	100	74.3	74	50-125	
Perylene	ug/kg	100	94.3	94	69-125	
Phenanthrene	ug/kg	100	85.0	85	67-125	
Pyrene	ug/kg	100	100	100	62-125	
2-Fluorobiphenyl (S)	%				84	43-125
p-Terphenyl-d14 (S)	%				103	40-125

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4495366 4495367

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		10631442001 Result	Spike Conc.	Spike Conc.	Result							
1-Methylnaphthalene	ug/kg	76.7	127	128	228	235	119	124	37-125	3	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Sediment

Pace Project No.: 10631212

Parameter	Units	4495366		4495367		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10631442001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
1-Nitropyrene	ug/kg	<16.5	127	128	151	139	118	109	30-131	8	30	N2	
2-Chloronaphthalene	ug/kg	<10.2	127	128	118	136	93	106	48-125	14	30		
2-Methylnaphthalene	ug/kg	43.6J	127	128	172	182	101	108	40-125	5	30		
2-Nitrofluorene	ug/kg	<6.8	127	128	1400	1570	1100	1230	30-150	11	30	M1,N2	
3-Methylcholanthrene	ug/kg	<9.0	127	128	270	276	212	216	30-131	2	30	M1	
4-Nitropyrene	ug/kg	<15.4	127	128	ND	ND	0	0	30-135		30	M1,N2	
5-Methylchrysene	ug/kg	1220	127	128	1720	1680	392	359	30-150	2	30	M1	
5-Nitroacenaphthene	ug/kg	<21.6	127	128	185	255	145	199	30-150	32	30	M1,R1	
6-Nitrochrysene	ug/kg	<14.3	127	128	ND	ND	0	0	30-143		30	M1	
7,12-Dimethylbenz(a)anthracene	ug/kg	347	127	128	630	718	222	291	30-145	13	30	M1	
7H-Dibenzo(c,g)carbazole	ug/kg	242	127	128	469	501	179	203	30-125	6	30	M1	
Acenaphthene	ug/kg	367	127	128	586	728	172	282	30-139	22	30	M1	
Acenaphthylene	ug/kg	70.6	127	128	230	258	125	147	30-125	11	30	M1	
Anthracene	ug/kg	1200	127	128	1540	2240	264	813	30-150	37	30	M1,R1	
Benzo(a)anthracene	ug/kg	5790	127	128	6480	7810	540	1580	30-150	19	30	M1	
Benzo(a)pyrene	ug/kg	6960	127	128	8490	9130	1200	1700	30-150	7	30	M1	
Benzo(e)pyrene	ug/kg	7490	127	128	8190	8630	549	891	30-150	5	30	M1	
Benzo(g,h,i)perylene	ug/kg	7440	127	128	8120	8770	535	1030	30-150	8	30	M1	
Benzofluoranthenes (Total)	ug/kg	14200	382	384	16800	17000	678	747	30-150	2	30	M1,N2	
Carbazole	ug/kg	846	127	128	1330	1490	381	503	30-150	11	30	M1	
Chrysene	ug/kg	8920	127	128	10300	10700	1070	1420	30-150	4	30	M1	
Dibenz(a,h)acridine	ug/kg	<3.9	127	128	676	736	531	576	30-125	8	30	M1	
Dibenz(a,h)anthracene	ug/kg	1290	127	128	1840	1970	432	527	30-146	6	30	M1	
Dibenz(a,j)acridine	ug/kg	<14.5	127	128	284	322	223	252	30-133	13	30	M1	
Dibenzo(a,e)pyrene	ug/kg	2530	127	128	3620	3790	858	989	30-125	5	30	M1	
Dibenzo(a,h)pyrene	ug/kg	1400	127	128	1980	2020	457	489	30-126	2	30	M1	
Dibenzo(a,i)pyrene	ug/kg	333	127	128	363	341	24	6	30-125	6	30	M1	
Dibenzo(a,l)pyrene	ug/kg	177	127	128	360	367	144	149	30-125	2	30	M1	
Dibenzofuran	ug/kg	69.1	127	128	202	230	104	126	43-125	13	30	M1	
Fluoranthene	ug/kg	13100	127	128	14000	16100	691	2370	30-150	14	30	M1	
Fluorene	ug/kg	575	127	128	814	1090	188	405	30-147	29	30	M1	
Indeno(1,2,3-cd)pyrene	ug/kg	6110	127	128	6920	7110	635	784	30-150	3	30	M1	
Naphthalene	ug/kg	15.3J	127	128	126	133	87	92	37-125	5	30		
Perylene	ug/kg	1540	127	128	2150	2330	482	618	30-150	8	30	M1	
Phenanthrene	ug/kg	10600	127	128	10100	12600	-366	1570	30-150	22	30	M1	
Pyrene	ug/kg	17800	127	128	16900	18900	-687	911	30-150	11	30	M1	
2-Fluorobiphenyl (S)	%						99	109	43-125			P3	
p-Terphenyl-d14 (S)	%						107	108	40-125				

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Sediment
Pace Project No.: 10631212

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

- M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
- P3 Sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.
- P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.
- R1 RPD value was outside control limits.
- v1 The continuing calibration verification was above the method acceptance limit. Any detection for the analyte in the associated samples may have a high bias.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Sediment

Pace Project No.: 10631212

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10631212001	Sample 1-(Upstream)	SM 4500-P B	850971	EPA 365.1	851064
10631212002	Sample 2-(Downstream)	SM 4500-P B	850971	EPA 365.1	851064
10631212001	Sample 1-(Upstream)	EPA 3050B	849768	EPA 6010D	851188
10631212002	Sample 2-(Downstream)	EPA 3050B	849768	EPA 6010D	851188
10631212001	Sample 1-(Upstream)	ASTM D2974	850300		
10631212002	Sample 2-(Downstream)	ASTM D2974	850300		
10631212001	Sample 1-(Upstream)	EPA 3546	849669	EPA 8270E by SIM	849951
10631212002	Sample 2-(Downstream)	EPA 3546	849669	EPA 8270E by SIM	849951
10631212001	Sample 1-(Upstream)	EPA 3550C	850008	EPA 8270E by SIM	850506
10631212002	Sample 2-(Downstream)	EPA 3550C	850008	EPA 8270E by SIM	850506

REPORT OF LABORATORY ANALYSIS

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Effective Date:

Sample Condition Upon Receipt **Client Name:** EOR

Project #:

WO# : 10631212
 PM: Y01 Due Date: 11/09/22
 CLIENT: EOR

Courier: FedEx UPS USPS Client
 Pace Speedee Commercial

See Exceptions
 Tracking Number: ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No
 Packing Material: Bubble Wrap Bubble Bags None Other
 Thermometer: T1 (0461) T2 (1336) T3 (0459) T4 (0254) T5 (0178)
 T6 (0235) T7 (0042) T8 (0775) 01339252/1710
 Biological Tissue Frozen? Yes No N/A
 Temp Blank? Yes No
 Type of Ice: Wet Blue Dry None
 Melted

Did Samples Originate in West Virginia? Yes No Were All Container Temps Taken? Yes No N/A
 Temp should be above freezing to 6 °C Cooler temp Read w/Temp Blank: 14.6 °C
 Average Corrected Temp (no temp blank only): _____ °C
 Correction Factor: TRUE Cooler Temp Corrected w/temp blank: 14.6 °C
 See Exceptions ENV-FRM-MIN4-0142 1 Container

USDA Regulated Soil: N/A, water sample (other: _____) Date/Initials of Person Examining Contents: Jm 10/16/22

Did samples originate in a quarantine zone within the United States: AL, AR, AZ CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

Location (Check one):				COMMENTS
Duluth	<input checked="" type="checkbox"/>	Minneapolis	Virginia	
Chain of Custody Present and Filled Out?	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/> No	1.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/> No	2.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/> No	4. If fecal: <input type="checkbox"/> <8 hrs <input type="checkbox"/> >8 hr, <24 <input type="checkbox"/> No
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/> No	5. <input type="checkbox"/> Fecal Coliform <input type="checkbox"/> HPC <input type="checkbox"/> Total Coliform/E.coli <input type="checkbox"/> BOD/cBOD <input type="checkbox"/> Hex Chrom <input type="checkbox"/> Turbidity <input type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite <input type="checkbox"/> Orthophos <input type="checkbox"/> Other
Rush Turn Around Time Requested?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/> No	6.
Sufficient Sample Volume?	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/> No	7.
Correct Containers Used?	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A	8.
-Pace Containers Used?	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/> No	
Containers Intact?	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/> No	9.
Field Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/>	Yes	<input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	10. Is sediment visible in the dissolved container? <input type="checkbox"/> Yes <input type="checkbox"/> No
Is sufficient information available to reconcile the samples to the COC?	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/> No	11. If no, write ID/Date/Time of container below: <input type="checkbox"/> See Exceptions ENV-FRM-MIN4-0142
Matrix: <input checked="" type="checkbox"/> Water <input type="checkbox"/> Soil <input type="checkbox"/> Oil <input type="checkbox"/> Other				
All containers needing acid/base preservation have been checked?	<input type="checkbox"/>	Yes	<input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12. Sample # <input type="checkbox"/> NaOH <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> Zinc Acetate
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO3, H2SO4, <2pH, NaOH >9 Sulfide, NaOH >10 Cyanide)	<input type="checkbox"/>	Yes	<input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Positive for Residual Chlorine? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> See Exceptions ENV-FRM-MIN4-0142
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxins/PFAS (*If adding preservative to a container, it must be added to associated field and equipment blanks--verify with PM first.)				pH Paper Lot # Residual Chlorine 0-6 Roll 0-6 Strip 0-14 Strip
Headspace in Methyl Mercury Container?	<input type="checkbox"/>	Yes	<input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Extra labels present on soil VOA or WIDRO containers?	<input type="checkbox"/>	Yes	<input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14. <input type="checkbox"/> See Exceptions ENV-FRM-MIN4-0142
Headspace in VOA Vials (greater than 6mm)?	<input type="checkbox"/>	Yes	<input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
3 Trip Blanks Present?	<input type="checkbox"/>	Yes	<input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/>	Yes	<input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION/RESOLUTION Field Data Required? Yes No

Person Contacted: Brian Rucker Date/Time: 10/26/2022

Comments/Resolution: Contacted client to confirm dates/times/requested tests. Tests on Quote all confirmed is needed. Also notified of

Project Manager Review: Yeng Ozawa Date: 10/27/2022 OOT samples.

NOTE: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled By: Jm Line: 2



DC#_ Title: ENV-FRM-MIN4-0142 v02_Sample Condition Upon Receipt (SCUR) Exception Form

Effective Date: 09/22/2022

Workorder #: _____

No Temp Blank		
Read Temp	Corrected Temp	Average temp

PM Notified of Out of Temp Cooler? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, indicate who was contacted, date and time. If no, indicate reason why. _____
Multiple Cooler Project? <input type="checkbox"/> Yes <input type="checkbox"/> No

If anything is OVER 6.0° C, you **MUST** document containers in this section **HERE**



Sample ID not on WOC

Tracking Number	Temperature

Out of Temp Sample ID	Container Type	# of Containers
<i>Sample 1 (Upstream)</i>	<i>6N</i>	<i>1</i>
<i>Sample 2 (Downstream)</i>	<i>6N</i>	<i>1</i>

pH Adjustment Log for Preserved Samples

Sample ID	Type Of Preserve	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance After Addition?		Initials
								<input type="checkbox"/> Yes	<input type="checkbox"/> No	
								<input type="checkbox"/> Yes	<input type="checkbox"/> No	
								<input type="checkbox"/> Yes	<input type="checkbox"/> No	
								<input type="checkbox"/> Yes	<input type="checkbox"/> No	
								<input type="checkbox"/> Yes	<input type="checkbox"/> No	
								<input type="checkbox"/> Yes	<input type="checkbox"/> No	
								<input type="checkbox"/> Yes	<input type="checkbox"/> No	
								<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments:



1700 Elm Street SE
 Minneapolis, MN 55414
 Phone: 612-607-1700
 Fax: 612-607-6444

Quote Prepared for:

EOR
 1919 University Ave W Suite 300
 St. Paul, MN 55104

Stu Grubb
 (651) 351-1614
 grubbss@aol.com

Pace® Contact Information

Account Executive
 Jeff Smith
jeff.smith@pacelabs.com

Project Manager

Project Information

Quote Name	00125007 - EOR_sediment analysis_101822	Created Date	10/18/2022
Quote Number	00125007	Expiration Date	12/30/2022
Standard TAT:	10 Business Days	Report Level	II
Project Location	MN		

Minimum Laboratory Fee

\$200

Quote Details

Quantity	Method	Matrix	Product	Line Item Description	Sales Price	Sub-Total	Total-Price
2.00	EPA 6010B (ICP)	Solid Only	Arsenic (As)-Each addt'l metal		\$20.00	\$40.00	\$40.00
2.00	EPA 6010B/ 200.7 (ICP)	Solid Only	Copper (Cu)-Each addt'l metal		\$20.00	\$40.00	\$40.00
2.00	EPA 8270SIM	Solid Only	Polynuclear Aromatic Hydrocarbons (PAH) (low level) (soil)		\$135.00	\$270.00	\$270.00
2.00	EPA 8270SIM (cPAH)	Solid Only	Polynuclear Aromatic Hydrocarbons (cPAH) (low level) (soil)		\$230.00	\$460.00	\$460.00
2.00	EPA 365.2	Solid Only	Phosphorus, Total (soil)		\$30.00	\$60.00	\$60.00
2.00	SM 2540G	Solid Only	Percent (%) Moisture/Dry Weight		\$5.00	\$10.00	\$10.00
1.00			Environmental Impact Fee (Per Invoice)		\$20.00	\$20.00	\$20.00
2.00	N/A		Sample Disposal	per sample	\$5.00	\$10.00	\$10.00

Grand-Total	\$910.00
Estimated Economic Price Adjustment	\$78.26
Grand Total with Surcharge	\$988.26

Intra-Regional Chain of Custody



W0#: 10631212

PM: Y01
 CLIENT: EOR
 Due Date: 11/09/22

Workorder: 10631212 Workorder Name: Sediment Owner Received Date: 10/26/2022 Due Date: 11/09/22

Received at: Pace Analytical Minnesota
 1700 Elm Street
 Minneapolis, MN 55414
 Phone (612)607-1700

Send To Lab: Pace Analytical Duluth
 4730 Oneota St.
 Duluth, MN 55807
 Phone (218) 727-6380

Report To: Yeng Ozawa

JGFU

Preserved Containers

EPA 365.1

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Other		Requested Analysis	LAB USE ONLY
						Other	Other		
1	Sample 1-(Upstream)	PS	10/26/2022 10:30	10631212001	Solid	1		X	
2	Sample 2-(Downstream)	PS	10/26/2022 10:31	10631212002	Solid	1		X	
3									
4									
5									

Transfers		Released By	Date/Time	Received By	Date/Time	Received on Ice	Samples Intact
1		CSM/Pace	10/27/22 10:30	[Signature]	10/27/22 11:05	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2		[Signature]	10/27/22 1445	[Signature]	10/27/22 1445	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3							
4							

Cooler Temperature on Receipt 1.9 °C Custody Seal or N Received on Ice or N Samples Intact or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
 This chain of custody is considered complete as is since this information is available in the owner laboratory.

Effective Date:

Sample Condition Upon Receipt
 Client Name: Pace

Project #: **WO# : 10631212**

 10631212

Courier: FedEx UPS USPS Client
 Pace SpeedDee Commercial

See Exceptions
 Tracking Number: ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No
 Packing Material: Bubble Wrap Bubble Bags None Other
 Thermometer: T1 (0461) T2 (1336) T3 (0459) T4 (0254) T5 (0178)
 T6 (0235) T7 (0042) T8 (0775) 01339252/1710
 Biological Tissue Frozen? Yes No N/A
 Temp Blank? Yes No
 Type of Ice: Wet Blue Dry None
 Melted

Did Samples Originate in West Virginia? Yes No Were All Container Temps Taken? Yes No N/A
 Temp should be above freezing to 6 °C Cooler temp Read w/Temp Blank: 1.8 °C
 Correction Factor: +0.1 Cooler Temp Corrected w/temp blank: 1.9 °C
 Average Corrected Temp (no temp blank only): _____ °C
 See Exceptions ENV-FRM-MIN4-0142 1 Container

USDA Regulated Soil: N/A, water sample/other: _____ Date/Initials of Person Examining Contents: 10/27/22 KB

Did samples originate in a quarantine zone within the United States: AL, AR, AZ CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check maps)? Yes No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

Location (Check one): <input checked="" type="checkbox"/> Duluth <input type="checkbox"/> Minneapolis <input type="checkbox"/> Virginia	COMMENTS
Chain of Custody Present and Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4. If fecal: <input type="checkbox"/> <8 hrs <input type="checkbox"/> >8 hr, <24 <input type="checkbox"/> No
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. <input type="checkbox"/> Fecal Coliform <input type="checkbox"/> HPC <input type="checkbox"/> Total Coliform/E.coli <input type="checkbox"/> BOD/cBOD <input type="checkbox"/> Hex Chrom <input type="checkbox"/> Turbidity <input type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite <input type="checkbox"/> Orthophos <input type="checkbox"/> Other _____
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Sufficient Sample Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
Field Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	10. Is sediment visible in the dissolved container? <input type="checkbox"/> Yes <input type="checkbox"/> No
Is sufficient information available to reconcile the samples to the COC? Matrix: <input type="checkbox"/> Water <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Oil <input type="checkbox"/> Other	11. If no, write ID/Date/Time of container below: <input type="checkbox"/> See Exceptions ENV-FRM-MIN4-0142
All containers needing acid/base preservation have been checked? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO3, H2SO4, <2pH, NaOH >9 Sulfide, NaOH >10 Cyanide) <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/> NaOH <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxins/PFAS (*If adding preservative to a container, it must be added to associated field and equipment blanks--verify with PM first.) <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Positive for Residual Chlorine? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> See Exceptions ENV-FRM-MIN4-0142
Headspace in Methyl Mercury Container? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	pH Paper Lot # Residual Chlorine 0-6 Roll 0-6 Strip 0-14 Strip
Extra labels present on soil VOA or WIDRO containers? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (greater than 6mm)? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14. <input type="checkbox"/> See Exceptions ENV-FRM-MIN4-0142
3 Trip Blanks Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Yeng Ozawa Date: 10/28/2022

NOTE: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).