



# LOWER MINNESOTA RIVER WATERSHED DISTRICT

## Executive Summary for Action

Lower Minnesota River Watershed District Board of Managers Meeting  
Wednesday, December 15, 2021

### Agenda Item

#### Item 8. I. – LMRWD Projects

#### Prepared By

Linda Loomis, Administrator

#### Summary

##### i. Area # 3 Eden Prairie

At the November 2021 Board meeting the Board of Manager was advised that LMRWD staff met with the City Eden Prairie to discuss Area #3. It was decided that the best option was to work together to address the area holistically rather than to only stabilize the riverbank. Inter-Fluve was given an opportunity to continue work on this project considering the change in direction.

Inter-Fluve has provided A Scope Proposal for Concept Design and Rendering – so that the City and the LMRWD can approach the State of Minnesota for financial assistance to stabilize and protect the area. Young Environmental Consulting Group has also provided a Task Order for its work on this project. Both documents are attached for the Board's review.

The LMRWD received a \$127,732 Watershed Based Funding Grant for this project. The district has contacted Steve Christopher, the BWSR Area Hydrologist for the LMRWD. We are working to address the change in the scope of this project in terms of the grant. The workplan that was submitted to BWSR is contained in the workplan information presented under Item 8. F. – Watershed Management Plan.

#### Attachments

Inter-Fluve Area 3 Bluff Concept Design and Rendering – Scope Proposal  
YECG/Barr Engineering Task Order Form for Consultant Agreement – Task 2021-10

#### Recommended Action

Motion to approve Inter-Fluve Scope Proposal and authorize a contract for services as proposed  
Motion to approve YECG/Barr Engineering Task Order and authorize a contract for services as proposed



December 3, 2021

Ms. Linda Loomis  
Lower Minnesota River Watershed District  
112 E. 5<sup>th</sup> Street, #102  
Chaska, Minnesota 55318

**RE: Area 3 Bluff Concept Design and Rendering - Scope Proposal**

Dear Linda:

Inter-Fluve, Inc (Inter-Fluve) is grateful for the opportunity to provide the Lower Minnesota River Watershed District (LMRWD) with this proposed scope of services for the conceptual design and rendering development for the Area 3 Bluff and downstream “pond” area. The following scope provides an efficient approach to delivering the desired rendering that will effectively communicate the conceptual design to legislators, potential funders, and the public.

Per our meeting on November 23, 2021 Inter-Fluve understands that LMRWD is seeking to develop a high-level conceptual design for the Area 3 Bluff and downstream area that includes the removal of the City of Eden Prairie stormwater pond. We understand that Barr will be providing a bluff protection concept for inclusion in our rendering that complements the removal of the pond, and we have included coordination with Barr’s team in our scope of services outlined below.

Please let us know if you would like to see revisions or additions to the scope of services outlined below. We are excited about the opportunity to reengage with LMRWD on this interesting project.

**PROPOSED SCOPE OF WORK**

The following tasks outline Inter-Fluve’s proposed scope of work. All deliverables will be provided to LMRWD in electronic form unless noted otherwise.

**1. Project Management and Meetings**

Throughout the project, Inter-Fluve will coordinate with Young Environmental and Barr Engineering to coordinate the conceptual design and rendering deliverable. This scope includes a total of four virtual meetings: 1) one kickoff meeting with Young Environmental, 2) one check in meeting with Young Environmental, and 3) two project coordination meetings with Barr Engineering. Inter-Fluve is available to host these

meetings via Zoom and provide meeting agendas (with input from Young Environmental and Barr Engineering, as appropriate) and notes for each meeting.

Inter-Fluve's project manager, Maren Hancock, will manage communications, coordination, the project schedule, invoicing, and the project budget. We assume that two invoices will be submitted during the duration of this project.

## **2. Conceptual Design and Graphics**

Inter-Fluve will develop a conceptual design for removal of the City's stormwater pond and adjacent bank protection structures. The concept design will include appropriate treatment recommendations for the reconstructed pond bank segment. We do not plan on revising the design for a launchable toe within Area 3 as developed by Inter-Fluve during the previous conceptual design phase. Concept design of the upper slope protection for the whole project area will be designed by Barr Engineering. This conceptual design will be documented in an artist-produced graphic comprised of 3 renderings: 1) a plan view that includes Area 3, the City Stormwater Pond and the upper bluff, 2) an oblique view of the City Stormwater Pond area, and 3) an oblique view of the Area 3 bluff. We can also include up to two insets or close ups that portray process or specific detail. This graphic will be produced at a scale at which the graphic is legible and can be used within a PowerPoint presentation, printed as a tabloid (11"x17") sheet, and produced as a 24"x36" poster board. The rendering will be developed for use by the intended audience (legislators, potential funders, the public, etc.) and will be non-technical in nature. We understand that the rendering will need to communicate the proposed concept design to gain funding support for the project.

Our team will also provide an Engineer's Opinion of Probable Construction Cost (EOPCC) for the work that will include an AACE cost range commensurate with the level of design. The EOPCC will include the estimates provided previously for Area 3 as well as the proposed pond removal and bank reconstruction. This cost estimate is anticipated to be blended with Barr's recommendation for slope stability.

The basis of the conceptual design will be documented in a brief memorandum that will serve as Addendum #2 to the Technical Memorandum entitled *Area 3 Findings and Alternative Review Memorandum* dated May 18, 2021.

### Deliverables

- Artist-rendered graphic as an electronic file (.pdf) for LMRWD's use and printing. If desired, Inter-Fluve can include production and printing of the rendering via addendum or revised proposal.
- The EOPCC as an electronic file (.pdf)
- Addendum #2 as an electronic file (.pdf)

## SCHEDULE

The deliverables will be provided to LMRWD within nine weeks of authorization to proceed. The schedule is based on an assumption that Barr's conceptual design can be provided within five weeks of authorization to proceed, and that meetings and review schedules with LMRWD can be coordinated to accommodate this schedule.

## FEE

The fee for Inter-Fluve's scope of work for this project is \$29,500<sup>i</sup>. A fee table is provided below.



Area 3 Concept Design and Rendering

### ESTIMATED HOURS

BY RESOURCE

	Engineering Principal \$260	Geo./Eco. Principal \$260	Senior Staff \$185	Staff \$150	Admin \$81	Artistic Rendering \$138	Total
	J. Kusa	M. Melchior	M. Hancock	N. Jordan	A. Cole	M. Richards	
1.1	-	-	8	-	2	-	\$ 1,642
1.2	4	-	10	2	-	-	\$ 3,190
1.3	1	1	4	-	-	-	\$ 1,260
	<b>SUB TOTAL</b>	<b>5</b>	<b>1</b>	<b>22</b>	<b>2</b>	<b>2</b>	<b>-</b>

#### Task 1: Project Management and Meetings

**TASK 1 TOTAL ESTIMATE \$ 6,092**

**Hours Total 32 27 Labor Total \$ 6,092**

#### Task 2: Conceptual Design

2.1	Design Analysis and Sketching	1	2	5	8	-	2	\$ 3,180
2.2	Artistic Rendering	1	1	4	-	-	95	\$ 14,323
2.3	Internal Meetings, Review and QAQC	2	2	2	2	-	2	\$ 1,985
2.4	Addendum	1	1	4	8	1.5	-	\$ 2,582
2.5	EOPCC	1	1	2	3	-	-	\$ 1,340
	<b>SUB TOTAL</b>	<b>6</b>	<b>7</b>	<b>17</b>	<b>21</b>	<b>2</b>	<b>99</b>	

**TASK 2 TOTAL ESTIMATE \$ 23,409**

**Hours Total 152 146 Labor Total \$ 23,409**

**TOTAL ESTIMATE \$ 29,501**

**LABOR TOTAL \$ 29,501**

Thank you,

Maren Hancock, PE  
Project Manager  
651-295-4656  
[mhancock@interfluve.com](mailto:mhancock@interfluve.com)

Jonathon Kusa, PE, LEED AP  
CEO  
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<sup>i</sup> This does not include Barr Engineering's fee.

**TASK ORDER FORM FOR  
CONSULTANT AGREEMENT  
Task 2021-10**

This Task Order is entered into and authorized by PRIME this 3rd day of December 2021, by and between **Young Environmental Consulting Group, LLC** (hereinafter called Young Environmental) and **Barr Engineering Co.** (hereinafter called Barr).

The parties agree that the Barr shall perform the following Services in accordance with the terms of the Agreement dated August 1, 2020:

**1. Scope of Services for the Area 3 Bluff Preliminary Concept Analysis Project:**

This Task Order is for technical services related to Task Order 2021-10, Area 3 Bluff Preliminary Concept Analysis. In November 2021, Young Environmental requested Inter-Fluve to develop an illustration depicting toe protection (at Area 3) and removal of a City of Eden Prairie pond (downstream of Area 3). Young Environmental also requested that Barr coordinate with Inter-Fluve to provide them with a concept of bluff protection (at Area 3) for inclusion in their illustration. No specific concept preference related to bluff protection performance requirements was provided to Barr.

Because the last detailed analysis of Area 3 slopes was performed over 10 years ago (by Wenck Associates), Barr recommends performing some preliminary engineering analyses as part of this Task Order. We will use results of the preliminary analyses to establish feasible performance expectations such that the bluff protection concept(s) can be developed for inclusion in Inter-Fluve's illustration. In general, potential bluff protection concepts consist of leaving bluff as-is (Concept 1), grading bluff back to a gentler slope (Concept 2), and implementing a geotechnical-structural solution (Concept 3). Results of the preliminary analyses will be summarized in a technical memorandum. Depending on the results of the preliminary engineering analyses, concept sketches of Concepts 2 and/or 3 will be included in the memorandum, which can then be incorporated into Inter-Fluve's illustration.

This Task Order assumes coordination with Young Environmental and Inter-Fluve and will include one kickoff meeting, two project meetings, and one round reviewing the Inter-Fluve draft illustration prior to finalizing. All meetings are assumed to be virtual.

The proposed technical services will occur in two phases:

- Task A – Preliminary Concept Analyses: Barr will perform preliminary engineering analyses on a cross section through the bluff.
  - Preliminary analyses will be based on information and/or data that is currently available from Young Environmental and Inter-Fluve
  - Preliminary analyses may include slope stability and seepage analysis (using Geo-Studio software by Geo-Slope, Ltd.) to assess factors of safety and piezometric impacts
  - Three general concepts will be analyzed:
    1. Existing bluff left as-is
    2. Grading bluff to gentler slope
    3. Constructing geotechnical-structural system (for example reinforced soil slope, retaining wall, ground anchors, etc.)
  - Results of preliminary analysis will be summarized in a technical memorandum
- Task B – Coordinating Inter-Fluve Illustration: Barr will develop concept sketches of Concepts 2 and 3.
  - Concept sketches of bluff protection will be provided to Inter-Fluve for incorporation into a comprehensive illustration
  - Barr will review draft of illustration prior to finalizing

- Task C – Project Management and Team Meetings: Barr will perform project management and attend team meetings.
  - Barr will participate in 1 virtual kickoff meeting with Young Environmental and Inter-Fluve
  - Barr will participate in 2 virtual project meetings with Young Environmental and Inter-Fluve

Deliverables: Technical memorandum summarizing preliminary analyses (Task A) and including bluff protection concept sketches (Task B)

Cost estimate: \$22,005 (see attached table for staff hours, billing rates and costs for each task)

**Assumptions**

- 1) Inter-Fluve will provide a CADD files of Area 3 surfaces to assist preliminary analyses.
- 2) Where necessary, CADD information will be supplemented with simplified assumptions and/or publicly available topo information.
- 3) All meetings will be virtual.
- 4) Young Environmental will coordinate and schedule meetings with Inter-Fluve and Barr.

**2. Compensation:**

The basis of compensation for the above Services shall be the hourly rate per the Barr’s rate sheet, subject to a not-to-exceed cap of \$22,005 without further authorization.

**3. Schedule:**

Technical memorandum (end of Task A) will be provided within 5 weeks of notice-to-proceed.

IN WITNESS WHEREOF, the parties have made and executed this Task Order as of the day and year first above written.

**PRIME: Young Environmental Consulting Group, LLC**

**CONSULTANT: Barr Engineering Co.**

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

By: Karen L. Chandler

Name: Della Nyondi Schall Young

Name: Karen Chandler

Title: Owner/Principal

Title: Vice President



Project Name: Area 3 Bluff Preliminary Concept Analysis Project  
 Client Name: Young Environmental  
 Date: 12/3/2021  
 Approved by: KLC

Name (Last, First)	Chandler, Karen	Turpin-Nagel, Katelyn	Theroux, Brent	Sharpe, Jacob	Grosser, Aaron	Joupe, Max					
Billing Rate	\$ 185.00	\$ 120.00	\$ 180.00	\$ 115.00	\$ 210.00	\$ 135.00	Subtotal Hours	Subtotal Costs	Expenses	Project Total	Percentage of Total
Project Role	Vice President	Project Manager	Senior Geotechnical Engineer	Geotechnical Engineer	Vice President	Engineering Technician/Designer					
<b>Preliminary Concept Analysis</b>											
Review available data/information			4.0	4.0			8.0	\$ 1,180.00	\$ -	\$ 1,180.00	
Develop assumed analysis parameters			4.0	4.0	1.0		9.0	\$ 1,390.00	\$ -	\$ 1,390.00	
Analyze existing bluff slope (Concept 1)			4.0	6.0	1.0	8.0	19.0	\$ 2,700.00	\$ -	\$ 2,700.00	
Analyze shallower bluff slope (Concept 2)			4.0	6.0	1.0		11.0	\$ 1,620.00	\$ -	\$ 1,620.00	
Analyze structural solution (Concept 3)			4.0	8.0	1.0		13.0	\$ 1,850.00	\$ -	\$ 1,850.00	
Summarize preliminary analysis in memo			8.0	12.0	2.0		22.0	\$ 3,240.00	\$ -	\$ 3,240.00	
<b>Subtotal</b>	0.0	0.0	28.0	40.0	6.0	8.0	82.0	\$ 11,980.00	\$ -	\$ 11,980.00	<b>54%</b>
<b>Coordinating Inter-Fluve Illustration</b>											
Provide sketch of Concept 2 to Inter-Fluve			4.0	6.0		8.0	18.0	\$ 2,490.00	\$ -	\$ 2,490.00	
Provide sketch of Concept 3 to Inter-Fluve			4.0	6.0		8.0	18.0	\$ 2,490.00	\$ -	\$ 2,490.00	
Review draft of Inter-Fluve illustration			4.0	4.0	1.0		9.0	\$ 1,390.00	\$ -	\$ 1,390.00	
<b>Subtotal</b>	0.0	0.0	12.0	16.0	1.0	16.0	45.0	\$ 6,370.00	\$ -	\$ 6,370.00	<b>29%</b>
<b>Project Management &amp; Team Meetings</b>											
Project management	2.0	10.0					12.0	\$ 1,570.00	\$ -	\$ 1,570.00	
Kick off meeting	2.0	2.0	2.0	2.0			8.0	\$ 1,200.00	\$ -	\$ 1,200.00	
Project meetings (assume two)			3.0	3.0			6.0	\$ 885.00	\$ -	\$ 885.00	
<b>Subtotal</b>	4.0	12.0	5.0	5.0	0.0	0.0	26.0	\$ 3,655.00	\$ -	\$ 3,655.00	<b>17%</b>
<b>Project Total</b>	4.0	12.0	45.0	61.0	7.0	24.0	153.0	\$ 22,005.00	\$ -	\$ 22,005.00	

<b>Assumptions:</b>	Inter-Fluve to provide CADD surface file of bluff slope to assist preliminary analyses.
	CADD information will be supplemented with MntOPO information or simplified assumptions.
	All meetings will be virtual.