

**TASK ORDER No. 40- Bluff Creek/Galpin Boulevard Culvert Replacement Analysis  
Pursuant to Agreement for Engineering Services  
Riley Purgatory Bluff Creek Watershed District and BARR Engineering Company.  
November 30, 2022**

This Task Order is issued pursuant to Section 1 of the above-cited engineering services agreement between the Riley Purgatory Bluff Creek Watershed District (District) and BARR Engineering Company (Engineer) and incorporated as a part thereof.

1. Description of Services:

Barr will work with District staff to determine the water resources and ecological benefits of replacing an existing 48-inch reinforced concrete culvert at the Bluff Creek crossing beneath Galpin Boulevard in Chanhassen. The culvert replacement would be completed as part of the City of Chanhassen's Galpin Boulevard reconstruction project. This assessment will consider improvements to fish and wildlife passage, naturalization of the channel, water quality improvements, and downstream impacts. The assessment will be conducted in late 2022 with design and construction determined thereafter, depending on the City's timeline of the road reconstruction project. The feasibility study will evaluate up to two (2) options for the culvert replacement. Concept designs and conceptual level opinions of probable cost ranges will be developed for each option. The results will be summarized in a memorandum to be provided to the Board of Managers at the January 2023 meeting.

Scope of Services:

Engineer's services under this task order shall include:

**PHASE 1. BENEFITS ASSESSMENT AND CONCEPT DESIGN**

The benefits assessment and concept design include multiple tasks in order to ensure the project meets the anticipated fast timeline to complete construction during the City's Galpin Boulevard reconstruction project. These tasks are described below.

**Task 1-1. Kick-off Meeting and Regular Project Meetings**

A kick-off meeting will be held with the District and Barr staff to discuss the project. Key criteria for the project (scope and budget) will be reviewed and used to develop an initial list of culvert replacement options that may be feasible for the project. The meeting will also provide an opportunity to define roles and responsibilities to be filled by District and Barr Staff.

**Task 1-2. Concept Development**

The assessment will include a description and evaluation of the up to 2 options, costs, and goals for the project. The results of this task will include recommendations for project planning decisions and directions to fully implement the project.

The scope of services to develop no more than two culvert replacement alternatives include:

1. Create concept plans.
  - Develop conceptual design schematics of each alternative. The drawings will be GIS based and primarily present a conceptual design to address the issues present and meet overall goals.
  - Attempt to quantify the ecological services improved.

2. Assess preliminary options using the District’s existing hydrologic and hydraulic (H&H) models to ensure no downstream impacts.
  - H&H Modeling with Design Storms – Use the District’s Bluff Creek PCSWMM H&H model to simulate up to four statistically based design events using Atlas 14 median rainfall amounts (1-, 2-, 10-, and 100-year). Below is a summary of the H&H tasks using a portion of the Bluff Creek H&H model to assess the impacts of each alternative:
    - a) Clip the District stormwater model of Bluff Creek so that it only includes the watershed tributary to the Bluff Creek crossing at Galpin Boulevard and any downstream watersheds to ensure any tailwater impacts are included.
    - b) The clipped model will be updated for up to two proposed culverts beneath Galpin Boulevard.
    - c) The four statistically based design events (1-, 2-, 10-, and 100-year) will be simulated in the existing and proposed conditions models.
    - d) The model results will be reviewed to understand anticipated flows, shear stress, and velocities at the crossing and within the upstream and downstream channel
3. Determine the benefits of the culvert replacement alternatives to Bluff Creek (e.g., flood protection, water quality improvements, wildlife habitat benefits, etc.).
4. Create native plant community restoration and culvert replacement opinion of probable cost ranges for each alternative.

Once preliminary concepts have been developed, a stakeholder meeting will be held virtually to finalize the preferred alternative.

#### **Task 1-3. Technical Memorandum**

Following the stakeholder meeting, Barr will incorporate comments into a 2–4-page technical memorandum to document the information gathered and the various components and assumptions that influence the concept design. The memorandum will provide the Managers with information needed to evaluate the merits of the potential project. It will also include a recommendation to allow the Board to make a decision on whether or not to partner with the City on a culvert replacement project.

#### **Task 1-4. Presentation to RPBCWD Board of Managers Assistance**

Barr staff will assist RPBCWD’s Administrator to present the preliminary design to the District Board of Managers at their regularly scheduled meeting.

#### **Task 1-5. Project Management**

Project Management will be required in all phases as careful project management will help to ensure the work meets the expectations of District staff and other stakeholders, and that it is completed in a satisfactory manner, within the project timeline and within the agreed-upon budget.

#### **Assumptions**

We have made several assumptions in preparing the scope of work for each work item in this agreement. Assumptions relating to individual work tasks are listed along with the detailed description. However, additional assumptions that do not correspond with a single work task are listed below:

- No soil borings will be collected for this phase.
- A wetland delineation of the project area will not be completed in this phase but rather the assessment will rely on the best available data.
- A Phase I Cultural and Historical Assessment will not be completed in this phase.
- A Phase I Environmental Assessment will not be completed in this phase.
- The project site is free from contamination as well as historic and cultural resources.
- Topographic data for this phase will be limited to the available LIDAR data or topographic survey provided by the city of Chanhassen and a topographic survey will not be completed in this phase.
- Benefits assessment and concept design will include one kick-off with District staff and one agency meeting to discuss the concept plans and cost estimate.
- One presentation for the District Board prior to approving the project for final design.
- No more than two proposed culvert replacement alternatives will be analyzed. Additional alternatives would be simulated on a time and materials basis.
- This scope does not include any City, DNR, USACE, MPCA, and RPBCWD permitting
- The District will provide all available and applicable GIS and CAD files to Barr in an electronic format.

2. Deliverables:

The following deliverables will be prepared and provided to the RPBCWD:

- Regular email updates about project progress
- Concept drawings of up to two options with summary of ecological benefits
- Concept Opinions of Probable Cost Ranges
- Concept Design Memorandum for District review
- Communications with District staff if unforeseen issues arise with any aspect of the project, including the technical scope of work, project budget, stakeholder involvement, or project schedule.

3. Budget:

Services under this Task Order will be compensated for in accordance with the engineering services agreement and will not exceed \$13,300 without written authorization by the Administrator or Board of Managers. The following table provides a breakdown of the anticipated cost for major tasks associated with scope of services describe above.

Task	Task Description	Anticipated Budget	Anticipated Completion Date
1-1	Kick-off Meeting and Project Meetings	\$1,000	ongoing
1-2a	Concept Design Development	\$6,200	December 2022
1-2b	Stakeholder Meeting	\$800	January 2023
1-3	Technical Memo	\$3,500	January 2023
1-4	Assistance with Presentation to RPBCWD Board	\$800	January 2023
1-5	Project Management	\$1,000	ongoing
<b>Task Order 40 Total</b>		<b>\$13,300</b>	

4. Schedule and Assumptions Upon Which Schedule is Based

The proposed schedule (above) is based on the assumptions that this phase should be completed as quickly as possible in order to provide enough time to complete final design in early 2023 to allow for incorporation into the City of Chanhassen Plan set for Galpin Boulevard.

**IN WITNESS WHEREOF**, intending to be legally bound, the parties hereto execute and deliver Phase 1 of this Agreement.

**CONSULTANT**

**RILEY PURGATORY BLUFF CREEK  
WATERSHED DISTRICT**

By \_\_\_\_\_

By \_\_\_\_\_

Its Vice President \_\_\_\_\_

Its \_\_\_\_\_

Date:

Date:

*APPROVED AS TO FORM & EXECUTION*

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