

Reviewed By:

City Manager _____ Finance Director _____ City Clerk _____
(Digital Signature) (Digital Signature) (Digital Signature)

City of Blaine
SOUTH BLAINE RR CROSSING GRADE SEPARATION FEASIBILITY STUDY
Task Order #2022-04

This Task Order is authorized under the Agreement for Professional Services between City of Blaine and CHS Engineers, LLC effective May 14, 2020, and thereafter assigned to David Evans and Associates, Inc. effective June 27, 2020, as amended effective January 18, 2021, as amended effective April 11, 2022.

(A) Scope of Work

November 30, 2022

The City Public Works Department has requested a Feasibility Study (Study) to support future grant applications for funding to complete the design and construction of an overpass grade separation to replace an existing at-grade BNSF railroad (RR) crossing at the intersection of Bell Road and Peace Portal Drive and related improvements, within the City of Blaine. The scope of the proposed project is outlined below. The Study will identify the preliminary design aspects of the project including roadway alignment, section, grade, utility additions or re-alignments, traffic impacts, work over RR right-of-way, mitigation measures required, cost estimate, and schedule. The City is separately contracting for services to evaluate the environmental and cultural resources impacts of the proposed project, in support of this Study.

The scope of the proposed project is understood to include the following:

- Realign State Route (SR) 548 to include the following:
 - An intersection at Bell Road just north of Dakota Creek for access to local area.
 - An overpass over the BNSF RR right-of-way.
 - A raised elevation new intersection for a re-aligned segment of Peace Portal Drive with connections from SR 548 to re-aligned ramps at the I-5/Peace Portal Drive interchange.
- Replacement of SR 548 bridge over Dakota Creek.
- Design of new roadway and bridge sections consistent with current WSDOT standards, including bike lanes, curbs, and sidewalks. The RR overpass shall also be consistent with BNSF requirements and standards and the WSDOT Local Agency Guidelines Manual.
- Closure of existing at-grade RR crossing/intersection at Bell Road and Peace Portal Drive. This intersection is presently a 4-way stop.
- Extensive walls and fill work is anticipated to create the grade separation and approach embankments.
- Complete associated City-owned utility adjustments and stormwater management systems.
- Complete environmental mitigation, where appropriate or required.
- Additional right of way will be necessary.

The proposed Scope of Work for completion of the Study is presented below.

1. Project Management

- 1.1. Project Planning – including coordination and meeting with City staff prior to date of this task order in support of planning this Scope of Work.
- 1.2. Project Monitoring and Control – monthly monitoring and invoices preparation.
- 1.3. Coordination Meetings – one kick-off meeting for the DEA team as well as an allowance for attendance by two DEA team members at up to six weekly meetings via Zoom with Client and other stakeholders.
- 1.4. Quality Control/Quality Assurance Review – complete review of draft and final deliverables for clarity and consistency.
- 1.5. Project Closeout – closeout project files and reporting.

2. Resources

- 2.1. Review resources provided by the City as prepared for prior project proposals related to the grade separation project or improvements to the existing at-grade RR crossing.
- 2.2. Gather information from utility companies to identify any buried or overhead utilities within the project area.
- 2.3. Complete a field visit of the project area

3. Feasibility Study

- 3.1. **Feasibility Study** - prepare draft and final Feasibility Study including the following elements:
 - 3.1.1. Introduction and Executive Summary: Provide summary of background and identify key goals and findings for the design and primary design elements and criteria.
 - 3.1.2. Proposed Project Elements – summarize in narrative and graphic formats the proposed scope of the project and key elements.
 - 3.1.3. Bridges: Identify preliminary lengths, widths, and type of structures for two bridges.
 - 3.1.4. Retaining Walls: Identify preliminary lengths, heights and type of retaining walls to support the approaches for the overpass structure and, if necessary, the replacement bridge over Dakota Creek. Additional wall segments are also anticipated at select locations to minimize the extent of approach embankment area.
 - 3.1.5. Roadways: Identify preliminary dimensions and routing of proposed asphalt surfaces including discussion of approximate slopes, cross sections, connections to existing surfaces, and elevations, including associated embankment areas. Proposed roadways will include bike lanes, sidewalks, and other elements to meet WSDOT standards.
 - 3.1.6. Stormwater Management: Identify preliminary concept for stormwater collection, conveyance, treatment, retention and discharge for improvements on each side of the RR right-of-way. Preliminary Concept Figures will be markups on pdf print of plans. Preliminary calculations will be prepared regarding sizing of retention and treatment.

- 3.1.7. Utilities: Identify preliminary impact analysis, sizing, and locations of new and existing utilities and discuss required re-alignments (including grade adjustment) and other improvements required to facilitate the construction of the proposed roadways, walls and bridges.
- 3.1.8. Right-of-Way: Identify preliminary areas where land acquisition for additional right-of-way will be required, including an allowance for construction staging area.
- 3.1.9. Environmental: Provide preliminary project impact area summary to City's environmental consultant and integrate information from the City's environmental consultant regarding wetlands, the creek, shoreline areas and other critical areas that would be the subject of NEPA review.
- 3.1.10. Summary of preliminary and estimated construction and project cost and project schedule, per the respective tasks below.
- 3.1.11. Recommendations – Provide a summary of the recommended improvements with cost analysis including identification of potential risks impacting feasibility, cost and/or schedule, and recommended next steps toward mitigation of risks.
- 3.2. **Cost Estimate** - prepare preliminary construction and project cost estimate forecasted for the likely year of construction including the following:
 - 3.2.1. General and Special Provisions Work – e.g., Mobilization/Demobilization, Traffic Control, Erosion and Sediment Control
 - 3.2.2. Dakota Creek Bridge and RR Overpass Bridge
 - 3.2.3. Retaining Walls
 - 3.2.4. Roadways including embankments
 - 3.2.5. Stormwater improvements including treatment and flow control measures
 - 3.2.6. Utility Improvements – City owned utilities only
 - 3.2.7. Land Acquisition including estimated acquisition costs (to be based on market value at the time of writing plus contingency estimated from market conditions).
 - 3.2.8. Project management, survey, geotechnical analysis, environmental and cultural resources evaluations, permitting, design and construction support services.
 - 3.2.9. Sales tax, as applicable
 - 3.2.10. Project contingency
- 3.3. **Project Schedule** – Provide a preliminary project schedule starting that the presumed time for securing funding through to final completion presuming reasonable allowances for time to secure additional right-of-way.

4. Management Reserve

- 4.1. Services not included in the scope but that may be authorized by the Public Works Director or the City's Project Lead on a time and expense basis, up to the limit established for this task.

The City will provide the following information (as available) relevant to the project area in support of completion of this Feasibility Study:

- Prior studies by the City or others as available for the proposed project or existing at grade RR crossing and alternative improvements.
- Mapping of any City-owned utilities.
- Geotechnical information from past explorations.
- Survey information from past evaluations.
- Information regarding intersection traffic control such as ICE approval for a specific approach (e.g., signalized intersection vs. roundabout).
- Preliminary profiles along proposed roadways, if available from WSDOT.

The schedule available for this Study is very limited and therefore the Study will be based on limited information and conceptual development of the proposed project elements and impacts. In particular there are many variables that will impact the design and construction of the replacement SR 548 Dakota Creek Bridge, including anticipated poor geotechnical conditions and environmental impacts. The Study will be developed based on information available and provided by the City, in a timely manner to inform the development of the feasibility study. The following analyses are not included in this Scope of Work:

- Traffic modeling, signalization analysis, or other similar efforts
- Geotechnical evaluation
- Estimating cost of relocation or adjustment of utilities not owned by the City (presumed to be the responsibility of the third-party utility owner per franchise agreement)

Due to the compressed schedule, DEA assumes the City will be able to review and provide comments on the draft report within seven business days after it is received. DEA will then incorporate those comments into the final Study.

(B) Deliverables

The Feasibility Study will be documented with the following deliverables:

- Draft and final Feasibility Study organized per Task 3 of the Scope of Work. Deliverables to be provided in electronic (*.pdf) format.
- Exhibits, tables, or figures supporting Task 3, as well as a summary of information and resources relied upon for the Study; with material provided in electronic (*.pdf) format.

(C) Schedule

The final Feasibility Study will be completed by January 30, 2023. This is based on the anticipation that DEA will receive a signed authorization on or prior to December 13, 2022.

(D) Fee Basis

The Services indicated above are to be billed on a time and expense basis, not to exceed \$80,000. The City may authorize additional supporting or subsequent services on a time and expense basis as confirmed by email to the DEA Project Manager.

DAVID EVANS AND ASSOCIATES, INC.

Rodney Langer, P.E., Senior Associate

Date

CITY OF BLAINE:

David Wilbrecht, City Manager

Date

DEPARTMENTAL APPROVAL:

Gary McSpadden, Public Works Director

Date

ATTEST:

Samuel Crawford, City Clerk

Date

Attachment #1

David Evans and Associates, Inc.

Project Fee Estimate
South Blaine RR Grade Separation Feasibility Study TO #22-04
City of Blaine

Project Number COBL0PWD-###

Date 11/30/2022

Prepared By APSE/RCLA

Task/Subtask (1)		Estimated DEA Labor - Civil Engineering and Land Surveying Services										DEA Labor		Total - w/ Subs., Exp. & Rounding
		Personnel Positions and Hourly Billing Rates										Total Hours	Total Est. Fee	
		Project Manager	Project Engineer	Design Engineer	CAD/GIS Technician	Roadway Lead	Roadway Designer	Drainage Lead	Bridge Lead	Drainage Engineer	Construction Manager			
\$240.00	\$175.00	\$134.00	\$128.00	\$265.00	\$145.00	\$265.00	\$250.00	\$150.00	\$190.00	\$100.00				
1	Project Management											68	\$13,860.00	\$13,854.73
1.1	Project Planning	8	8			1		1	2		1	2	23	\$4,740.00
1.2	Project Monitoring/Control	4											4	\$1,360.00
1.3	Coordination Meetings	6	8			4		4					22	\$4,960.00
1.4	QA/QC	4	6										10	\$2,010.00
1.5	Project Closeout	1	2								2	5	5	\$790.00
2	Resources											79	\$15,302.00	\$15,896.50
2.1	Review resources	2	10			1	2	1	4	2	2	24	24	\$4,730.00
2.2	Utility records research		2	8		1	2					13	13	\$1,977.00
2.3	Field visit	9	9			6	6		6	6		42	42	\$8,595.00
3	Feasibility Study											230	\$45,266.00	\$45,248.78
3.1	Feasibility Study													
	Intro/Exec Study	4	6									10	10	\$2,010.00
	Proposed Elements	1	4		8	1	2		2			18	18	\$3,019.00
	Bridges					1	2		6			9	9	\$2,055.00
	Retaining Walls					1	2		4			7	7	\$1,555.00
	Roadways					1	2					3	3	\$555.00
	Stormwater Management		1							4	18	23	23	\$3,935.00
	Utilities	4	10		16	2						32	32	\$5,288.00
	Right of Way	2	2			3	2					9	9	\$1,915.00
	Environmental	2	4									6	6	\$1,180.00
	Cost and Schedule Summary	2	4			2	2		2			12	12	\$2,500.00
	Recommendations	2	4		8				2			16	16	\$2,704.00
3.2	Cost Estimate													
	General/Special Provisions	1				2			2		1	6	6	\$1,460.00
	Bridges	1				2			4		4	11	11	\$2,530.00
	Retaining Walls	2				2	2		4		1	11	11	\$2,490.00
	Roadways & Embankments	1				2	2				2	7	7	\$1,440.00
	Stormwater Management	1				2			2		4	11	11	\$2,280.00
	Utilities	2	4			2					2	10	10	\$2,090.00
	Land Acquisition	1				2					2	5	5	\$1,150.00
	Project Management, etc.	4				2					2	8	8	\$1,870.00
3.3	Schedule	4	8						2		2	16	16	\$3,240.00
4	Management Reserve													
4.1	Management Reserve													\$5,000.00
														\$5,000.00
	Total	68	92	8	32	40	26	12	40	30	21	8	377	\$79,428.00
														\$80,000.00

Estimated Direct Expenses	
Mileage	\$600
Total	\$600

Project Fee Estimate Summary and Total	
Total Estimated Labor	\$79,428
Total Estimated Expenses	\$600
Total Fee Estimate (Rounded)	\$80,000

Notes and Assumptions:

- (1) See Scope of Work dated November 30, 2022.
- (2) All hours and expenses are estimated, and may be increased or decreased within the total budget limit at the discretion of DEA's project manager. The DEA project manager may transfer budget from estimated expenses to labor and vice versa, as the project manager may determine as appropriate. Work will be billed on a time and expense basis, subject to the limit of the not-to-exceed Total Fee Estimate (Rounded) value.
- (3) Client shall be responsible for direct payment of all permit, agency review, advertisement, service or other project expenses not expressly included in the Project Fee Estimate and/or Scope of Work.