



June 29, 2022

Mr. Darrin Raines, City Administrator
City of Cosmopolis
P.O. Box 2007
Cosmopolis, WA 98537

RE: Revised Proposal for Professional Services
Mill Creek Multi-Objective Improvements Plan

Dear Mr. Raines,

This proposal for professional engineering services includes the activities required to develop a Mill Creek Multi-objective Improvements Plan (MOIP) within the City of Cosmopolis (City). It will provide a master plan for Mill Creek culvert crossing improvements and adjacent channel tie-in improvements to achieve flood reduction, and improved fish passage in Mill Creek between its Chehalis River outfall, the restored Mill Creek dam, and recently installed fishway. For this Project, HDR proposes to evaluate improvements needed to retrofit multiple roadway culvert crossings downstream of the dam.

Figure 1 illustrates the existing channel and culverts improvements reach, consisting of approximately 4,500 feet of existing and improved stream channel, inclusive of eight roadway culvert crossings that tie downstream to the existing Chehalis River outfall tide gate. The Project will evaluate opportunities to improve hydraulic capacities and fish passage conditions within the Mill Creek channel corridor. This includes a high-level assessment of an alternative route for a possible bypass channel around the existing constrained channel and culvert(s) corridor. That opportunity would be subject to available right-of-way (ROW) and selected parcels acquisition needs. One potential concept for this bypass channel option is illustrated in Figure 1 inclusive of new road crossing culvert addition needs for that option.

The HDR scope of services for this Project is described below. It includes:

- Development and documentation of the alternative improvement concepts
- Feasibility assessment of their expected function and benefits
- Preparation of planning-level cost opinions
- Screening of alternatives through community outreach

- Documentation of a preferred set of Project improvements that will maximize community benefits.

The findings of these activities will be summarized in an MOIP including a prioritized list of recommended improvements, their anticipated cost and phasing. HDR will provide project management, progress/coordination meetings, and quality control review for all services provided.

We understand that this work will be funded under City 2021-2023 CBS PROJECTS grant funding, with a biennium funding end date of June 2023.

Scope of Services

HDR will perform the following specific task services as part of this work program.

Task 100: Project Management and Administration

100.1 Project Work Plan

Prepare a brief project work plan inclusive of scope of work, deliverables, budget, schedule, project team assignments, communications plan, and quality control review components; review with the project team and City for required implementation actions

100.2 Project Management and Coordination

Provide ongoing project management communications and coordination with the City, project team, and outside agencies throughout the project duration including brief (half-hour) bi-weekly (two-week interval) calls with the City's Project Manager for progress updates, and ongoing project team coordination to efficiently advance Project activities for successful project execution.

100.3 Project Administration and Quality Control Review

This subtask will include:

- Complete project setup in HDR project documentation and financial management information system
- Prepare monthly Project invoices and accompanying status report
- Participate in internal reviews of project status and progress updates
- Complete on-going quality control (QC) oversight and deliverables review for the duration of Project activities
- Complete project closeout at the completion of project activities

City Responsibilities

- Attendance at meetings to provide input, feedback, and direction.
- Review and provide comments to meeting minutes in relation to accuracy.
- Prompt processing and payment of compliant invoices. The City will make one progress payment each month provided they are complete and accurate from the consultant and in the format requested by the City.

Assumptions

- The project duration for Tasks 100 through 500 will be 10 consecutive months and is assumed to occur between July 2022 and April 2022.
- Project team meetings will include the following: biweekly meetings with the City with up to a total of 20. Each meeting will be with one HDR consultant staff for a total of 1 hour in duration. A maximum of 1.5 total hours of management time will be required (preparation and follow-up email notes) per meeting.
- HDR will not be held responsible for delays occasioned by factors beyond its control, which could not reasonably have been foreseen at the time of execution of the Agreement.

Deliverables

Task 100 deliverable products will include:

- Kickoff meeting notes (pdf format)
- Monthly progress reports and invoices (one copy with invoice)

Task 200: Data Collection and Site Reconnaissance

200.1 Project Kickoff Meeting and Goals/Objectives

Prepare for and attend a virtual kickoff meeting between City staff and project team staff to:

- Prepare agenda and meeting minutes.
- Identify and document project goals and key objectives'
- Review the work plan for the scope of services including the Project schedule and deliverables to be provided
- Discuss and document needs and schedule for City-provided Project data including parcel/ROW information and right-of-entry (ROE for private parcels)

- Discuss culvert/channel improvements, site constraints, and the proposed technical/cost feasibility evaluation approach
- Review evaluation criteria to be considered for assessment of Project improvements flood reduction and d fish passage benefits
- Discuss community outreach and communications plan to be implemented with Project activities

200.2 Project Database Review and Data Gaps Identification, Survey Requirements

Conduct a review of the available project database including prior BSA surveys of the project corridor as the basis for services to be conducted and identify data gaps to be filled by additional data collection including:

- Available topographic and LiDAR mapping
- Available critical areas mapping
- Prior stream and crossings field inventory data
- Available geotechnical subsurface soils and groundwater data
- Existing City-documented utilities from City GIS
- City ROW and parcel boundaries GIS mapping

Identify supplemental survey data needs along the channel and at the crossings that are needed for planning level assessment of improvements options. Provide a supplemental survey pickups and mapping data request that is expected to include:

- Section and elevations at the Mill Creek Chehalis River outfall tide gate
- Sections and elevations at the 1st Street and 2nd Street crossings of the Mill Creek estuary channel (supplemental to prior BSA survey)
- Streambed and top of bank profiles extending from the Burns Street Mill Creek channel outfall through C Street.
- Supplemental typical channel sections for stream corridor reaches
- Culvert crossing types, opening geometries, crown, invert, streambed elevations, channel transitions, and roadway overflow sections (supplemental to prior BSA survey)

200.3 Site Reconnaissance Review

Conduct a one-day (2 staff) project corridor site reconnaissance review to build on prior field data collection efforts. For this field work, the City will provide prior communications with community residents to gain required right-of-entry access (where acceptable) for the site review team along/within the channel corridor. The site reconnaissance will include assessment of:

- Stream crossings conditions and site constraints to the installation of larger capacity, fish-passable culvert improvements
- Channel bankfull width measurements upstream and downstream of existing culverts
- Channel and crossing improvement limitations associated with adjacent private parcel structures/features in close proximity to the channel
- Hydraulic controls imposed by existing stream channel, and ability to modify those
- Streambed substrate materials and consistency with culvert crossings
- Roadway crossing overflow path
- Alternative bypass channel route feasibility and implementation constraints

200.4 Survey and Base Mapping

HDR will subcontract with Berglund, Schmidt & Associates (BSA) to provide supplemental surveying and base mapping services and products consistent with Task 200.2 identified needs to supplement the available project database. The extent of these services will be limited by the assigned budget allocation for this subtask (see appended fee estimate).

City Responsibilities

- Review site reconnaissance findings email from HDR.
- Provide rights of entry to parcels as requested.
- Review and provide consolidated comments to kickoff meeting minutes in relation to accuracy.
- Provide existing data information requested per Task 200.2.

Assumptions

- Project kickoff meeting will be attended by up to three HDR consultant staff. The kickoff meeting will be a maximum of 1 hour in duration. The meeting will held virtually. A maximum of 2 hours of management time will be required for (agenda, preparation and follow-up meetingnotes). Total of 5 hours.
- Site reconnaissance per 200.3 will be attended by 2 HDR staff and will be a total of 10 hours total (includes 2 hours of travel). This includes another 16 hours of data review by HDR staff. (Total hours for this task is 36),
- Provide requested available data required for HDR's execution of the Project scope of work including information identified and requested through data gaps analysis

- Provide required right of entry on selected parcels for consultant's site investigation services.
- Required survey is estimated to be approximately \$15,000 for BSA for required data gaps required for analysis. Any additional dollars required for additional survey will require an amendment with the City.
- Survey and base map materials will be from the subconsultant within 2 months from consultant request of that data, and that other requested parcel and ROW data will be provided within that same timeline from the City.
- Survey file will be in Autcad Civil 3Dformat (dwg). Survey file will include a Digital Terrain Model surface (DTM).
- The HDR project team will utilize existing information furnished by the City and prior site reconnaissance data collected for the Mill Creek Dam restoration and fishway improvements project.
- HDR will only perform a one-day site reconnaissance, HDR is not responsible for collecting additional requested data or filling data gaps for information needed for the tasks within this scope of services.

Deliverables

Task 200 deliverable products will include:

- Data request memorandum to the City (pdf format via email).
- Survey subconsultant products to include survey data in Autocad drawing file format and survey notes (e.g., sketches of stream crossing hydraulic structures)

Task 300: Community Outreach and City, Agency Communications

300.1 Community Outreach Meetings

City staff will lead this task including meetings setup, preparations, and follow-up documentation. HDR will prepare selected materials for the meetings (e.g., PowerPoint presentation), coordinate with the City staff in preparation for, and virtually attend these anticipated meetings as follows:

- Public Meeting 1 - Project goals/objectives presentation; plan development approach and steps; receive community/stakeholder input on existing flooding problems and improvement considerations
- Public Meeting 2 - Draft plan presentation; community/stakeholder feedback on alternative/recommended solutions and draft improvement plan findings

300.2 City Coordination Milestone Meetings

Prepare for and attend (2 staff) two (2) progress virtual meetings with City staff (beyond the Project Kickoff Meeting under Task 200.1):

- City Meeting 1 – Alternative improvements evaluation and preliminary technical/cost feasibility findings
- City Meeting 2 – Recommended improvements including draft implementation plan and phasing priorities

300.3 Agency Coordination Communications (Optional Task)

Provide initial coordination calls with state agencies (e.g., WDFW, Ecology) and City permitting staff to gather input to allow implementation plan adjustments to best align with potential regulatory/permitting requirements for Project improvements; identify potential implementation grant funding opportunities.

City Responsibilities

- Provide comments on power point presentation.
- Organize and lead community outreach meeting.
- Organize and attend City coordination milestone meeting.
- Perform agency coordination as described in Task 300.3

Assumptions

- The two Community outreach meetings (Task 300.1) will be held virtually. Each meeting will include up to 2 HDR consultant staff and be two hours in duration maximum. An additional 22 hours will be needed to prepare power point presentation and modify per City comments. (Total of 30 hours for this task 300.1).
- The two City meetings will be held virtually. Each meeting will include up to 2 HDR consultant staff and be two hours in duration maximum. An additional 2 hours will be required by HDR for preparation. (Total of 10 hours for Task 300.2).
- The City will schedule, organize, lead, and prepare follow-up notes to all Task 300 project meetings to present the plan progress and findings.
- The City will provide direction to HDR to approve Task 300.3 as required.

Deliverables

Task 300 deliverable products will include:

- Two PowerPoint presentations as inputs to City staff presentations for community outreach meetings as part of Task 300.1.
- In-progress work materials for City coordination milestone meetings. (pdf format)
- E-mail summaries of agency communications and grant funding opportunities (Optional Task 300.3 as requested by the City.)

Task 400: Alternative Improvement Solutions Development and Evaluation

400.1 Identify and Document Improvement Alternatives

This subtask will include:

- Define flood reduction and fish passage evaluation criteria for improvements
- Develop a matrix evaluation of two improvement alternatives including their components and implementation constraints.
- Prepare brief narratives and conceptual layout figures for two composite improvement alternatives.

400.2 Flood Reduction Hydraulic Capacity Assessment of Improvement Alternatives

This subtask will include:

- Using prior hydrologic analyses previously completed for the Mill Creek dam restoration project, update those analyses to extend downstream from the dam and incorporate runoff tributary to the various road crossings and to the Mill Creek tidal estuary at the tide gate outlet at the Chehalis River; summarize resulting peak flow recurrence interval flows for each roadway crossing.
- Update prior hydraulic model developed for the Mill Creek dam restoration project, to extend downstream within the Project corridor as a HEC-RAS steady-state, step-backwater hydraulic model; use updated survey data and available topography/LiDAR data; run up to 3 simulations within the expected water surface elevations range at the Chehalis River Mill Creek confluence established from available FEMA flood elevation data; summarize results as existing hydraulic profiles and flood levels (no mapping of those is included).
- Complete preliminary sizing of alternative improvements for targeted flood reduction benefits; develop hydraulic model simulations for up to two alternative improvement conditions, simulate hydraulic profiles that compare with existing

conditions; summarize expected community flood reduction benefits in Task 400 technical memorandum.

400.3 Fish Passage and Habitat Enhancement Assessment of Improvement Alternatives (Optional Task)

- Evaluate Mill Creek crossing improvements sizing needs under WDFW Fish Passage Water Crossings Guidelines (using stream simulation method); integrate findings with Subtask 400.2 hydraulic capacity analysis; summarize resulting crossing flow velocities and consistency with targeted fish passage velocity criteria in Task 400 technical memorandum (only if optional task work is authorized).
- Assess fish and terrestrial habitat enhancement opportunities for preferred alternatives, expected to be achieved through placement of large woody debris (LWD) in the improved channel; identify potential constraints and potential effects on flood profiles; summarize suggested habitat enhancement features in Task 400 technical memorandum (only if optional task work is authorized).
- Summarize expected fish passage and stream habitat benefits for the preferred improvements in Task 400 technical memorandum (only if optional task work is authorized).

400.4 Siting Assessment of Improvement Alternatives (Optional Task)

This subtask will include:

- Evaluate potential right-of-way and parcel effects on improvement alternatives; identify potential parcel acquisition and/or easement needs to construct and operate the proposed improvements.

400.5 Cost Opinions for Improvement Alternatives

Develop preliminary quantity and planning-level engineer opinion of probable construction costs (OPCC); summarize expected construction and implementation costs for up to two improvement alternatives.

City Responsibilities

- Provide research and feedback on City rights-of-ways, existing easements, and affected private parcels determined to be needed for project improvements evaluation for Task 400.

Assumptions

- Figure illustrations of conceptual improvement solutions will be preliminary in nature and will be prepared using GIS and/or AutoCAD formats.
- No geotechnical, structural, mechanical, landscape, or other technical disciplines are included for alternatives evaluation and conceptual design development.
- The OPCC is based on the AACE 18R-97 cost estimation classification. Estimate class for this project is assumed to be Class 5
- The summary memorandum for this task is estimated to be up to 5 pages in length and include up to four figures and two additional attachments.

Deliverables

Task 400 deliverable products will include:

- Summary Alternative Development and Evaluation technical memorandum of task products (single submittal, no City comments response to be included for this deliverable); this will include improvements narratives, figures, matrix evaluation table, hydrologic/hydraulic models, and planning level OPCC cost opinion.

Task 500: Improvements Implementation Plan

500.1 Feasibility Evaluation of Improvement Alternatives

This subtask will include:

- Develop a qualitative evaluation which compares the two improvement alternatives against technical and cost feasibility criteria such as flood reduction benefit, fish passage metrics, and planning-level estimates of the OPCC for improvements
- Review matrix with City staff for comment and inputs, and for preferences on selection of recommended improvement components

500.2 Recommend Project Improvements for Phased Implementation Plan

This subtask will include:

- Document recommended improvements components from Subtask 500.1 for inclusion in the implementation plan
- Identify phasing of recommended improvements
- Package improvements as a recommended, phased implementation plan; develop illustrated figures (2 figures assumed) to summarize the recommended plan

500.3 MOIP Report and Target Implementation Schedule

This subtask will include:

- Prepare Draft MOIP report (estimated 20 pages) based on Project services completed to summarize the improvement recommendations
- Develop targeted implementation plan schedule for recommended improvements
- Review with City staff
- Prepare final MOIP report with appended figures, drawings, and technical documentation.

City Responsibilities

- Participate in alternative improvements reviews, and provide comments, inputs, and preferences for selection of Task 500 recommended plan improvement components.
- Provide a single consolidated set of review comments.

Assumptions

- The level of effort for the implementation plan summary report is consistent with an estimated narrative report length of approximately 20 pages exclusive of figures, drawings, and appended technical analysis documentation
- The City comments provided on the alternative improvements will be consolidated and conflict resolved.

Deliverables

Task 500 deliverable products will include:

- Feasibility evaluation matrix table for improvement alternatives. (Excel and PDF formats).
- Recommended improvements plan as illustrated with up to two figures. (PDF format)
- Electronic files for Draft and Final MOIP report for Task 500 documentation (MS Word and PDF formats).

Fee Estimate

The estimated total contract amount to complete the professional services identified in this Scope of Services is offered on a time-and-materials basis not-to-exceed \$142,009 with 3 additional optional tasks totaling \$17,824. Expenses and Subconsultants will be billed at a 5% Markup. Following are estimated professional services costs for the tasks provided in

LABOR ESTIMATE, HDR ENGINEERING STAFF

City of Cosmopolis: Mill Creek Multi-objective Improvements Plan

	Total Labor Dollars	2023 Escalation	HDR Expenses*	Subconsultants*	Total
100 Project Management and Administration	\$ 20,608	\$ 165	\$ -	\$ -	\$ 20,773
100.1 Project Work Plan	\$ 1,050				
100.2 Project Management and Coordination	\$ 7,445				
100.3 Project Administration and Quality Control Review	\$ 12,113				
200 Data Collection and Site Reconnaissance	\$ 13,856	\$ 111	\$ 485	\$ 15,750	\$ 30,202
200.1 Project Kickoff Meeting and Goals/Objectives	\$ 1,047				
200.2 Project Database Review, Data Gaps ID, Survey Reqmts	\$ 6,504				
200.3 Site Reconnaissance Review	\$ 6,305				
300 Community Outreach and City/Agency Communications	\$ 13,497	\$ 108	\$ 74	\$ -	\$ 13,679
300.1 Community Outreach Meetings	\$ 6,340				
300.2 City Coordination Milestone Meetings	\$ 2,395				
300.3 Agency Coordination Communications (Optional Task)	\$ 4,762				
400 Alternative Solutions Development and Evaluation	\$ 46,242	\$ 370	\$ -	\$ -	\$ 46,612
400.1 Identify and Document Improvement Alternatives	\$ 14,704				
400.2 Flood Reduction Hydraulic Capacity Assessment of Improvement Alternatives	\$ 15,099				
400.3 Fish Passage/Habitat Enhance Assessment (Optional Task)	\$ 10,664				
400.4 Siting Assessment of Improvement Alts (Optional Task)	\$ 2,398				
400.5 Cost Opinions for Improvement Alternatives	\$ 3,377				
500 Improvements Implementation Plan	\$ 48,057	\$ 384	\$ 126	\$ -	\$ 48,567
500.1 Feasibility Evaluation of Improvement Alternatives	\$ 12,225				
500.2 Recommended Improvements for Phased Implementation Plan	\$ 16,234				
500.3 MOIIP Report and Target Implementation Schedule	\$ 19,598				
Task Total Fee	\$ 142,260	\$ 1,138	\$ 685	\$ 15,750	\$ 159,833
*Billing Rates are Subject to Actual Escalation. Expenses & Subconsultants will be Billed at a 5% Markup					