



**City of Tukwila
Transportation and
Infrastructure Services
Committee**

- ❖ Armen Papyan, Chair
- ❖ Dennis Martinez
- ❖ Hannah Hedrick

Distribution: D. Martinez A. Papyan H. Hedrick H. Ponnekanti G. Lerner (email)	Clerk File Copy Share pkt pdf on SharePoint to A. Le, A. Youn
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AGENDA

MONDAY, AUGUST 26, 2024 – 5:30 PM
HYBRID MEETING – ONSITE AND VIRTUAL
DUWAMISH CONFERENCE ROOM, 6300 BUILDING, 2ND FLOOR

MS Teams: [CLICK HERE TO JOIN THE MEETING](#)

Virtual Meeting - Members of the public may listen by dialing 1-253-292-9750 and entering conference ID 252508487#

Item	Recommended Action	Page
1. PRESENTATIONS		
2. BUSINESS AGENDA		
a) Cured-In-Place Pipe Sewer Mains Lining Construction Bid Award (A. Altallal)	a) Forward to the 09/16/2024 Regular Consent Agenda	Pg. 1
b) Landslide Risk Assessment and Mgmt Project Phase I Consultant Services (S. Edquid)	b) Forward to the 09/16/2024 Regular Consent Agenda	Pg. 23

Next Scheduled Meeting: 09/23/2024



INFORMATIONAL MEMORANDUM

TO: **Transportation and Infrastructure Services Committee**
 FROM: **Adib Altallal, Utilities Engineer**
 CC: **Mayor Thomas McLeod**
 DATE: **August 23, 2024**
 SUBJECT: **2023 Central Business District Sanitary Sewer Rehabilitation Phase 4B**
Project No. 80040201
Construction Bid Award

ISSUE

Approve construction bid award with Iron Horse LLC for 2023 Central Business District Sanitary Sewer Rehabilitation Phase 4B Project.

BACKGROUND

The City of Tukwila has thousands of feet of aging sewer mains throughout, but especially in the Central Business District (CBD). The City has been conducting regular inspections and assessments of mains at the CBD for the last 15 years. A typical repair includes digging up the road to create a deep trench where the new sewer main will go. It is costly and typically inconvenient to the public. In certain scenarios, an aging sewer main loses some of its structural integrity, but has not started cracking, sagging, or crumbling. In such cases, we are able to utilize a minimally-disruptive technology where a lining is inserted through a manhole and into the existing sewer main to strengthen it and increase its useful life. The aforementioned trenchless technology minimizes disruptions to the public and greatly reduces the damage to the road. The technology is utilized when possible, but it is not applicable in all scenarios.

DISCUSSION

A call for bids was advertised for the 2023 Central Business District Sanitary Sewer Rehabilitation Phase 4B Project on June 26, and July 3, 2024. two bids were opened on July 18, 2024, and the confirmed lowest bidder was Iron Horse LLC with a bid of \$1,339,083.18. The engineer’s estimate was \$1,307,633.22.

FINANCIAL IMPACT

Construction costs associated with the 2023 Central Business District Sanitary Sewer Rehabilitation Phase 4B are within the approved budget and will be funded by the sewer enterprise fund.

	<u>Cost Estimate</u>	<u>Fund Source</u>	<u>2023-24 Construction Budget</u>
Contract	\$1,339,083.18		
Contingency – 15%	<u>200,862.48</u>		
Total	\$1,539,945.66	Sewer Fund	\$1,500,000

RECOMMENDATION

Council is being asked to approve the construction award with Iron Horse LLC in the amount of \$1,339,083.18 for the 2023 Central Business District Sanitary Sewer Rehabilitation Phase 4B Project and consider this item on the Consent Agenda at the September 16, 2024 Regular Meeting.

Attachments: 2023 CIP, Page 65
Iron Horse LLC Construction Contract
Bid Tabulation

CITY OF TUKWILA CAPITAL PROJECT SUMMARY

2023 to 2028

PROJECT: Annual Sewer Repair Program

Project No. 80040201

DESCRIPTION: Reduce sewer line infiltration and inflow (I & I) through groundwater intrusion or storm events as a result of damaged deteriorating systems or illicit connections. Includes small repairs and capital maintenance.

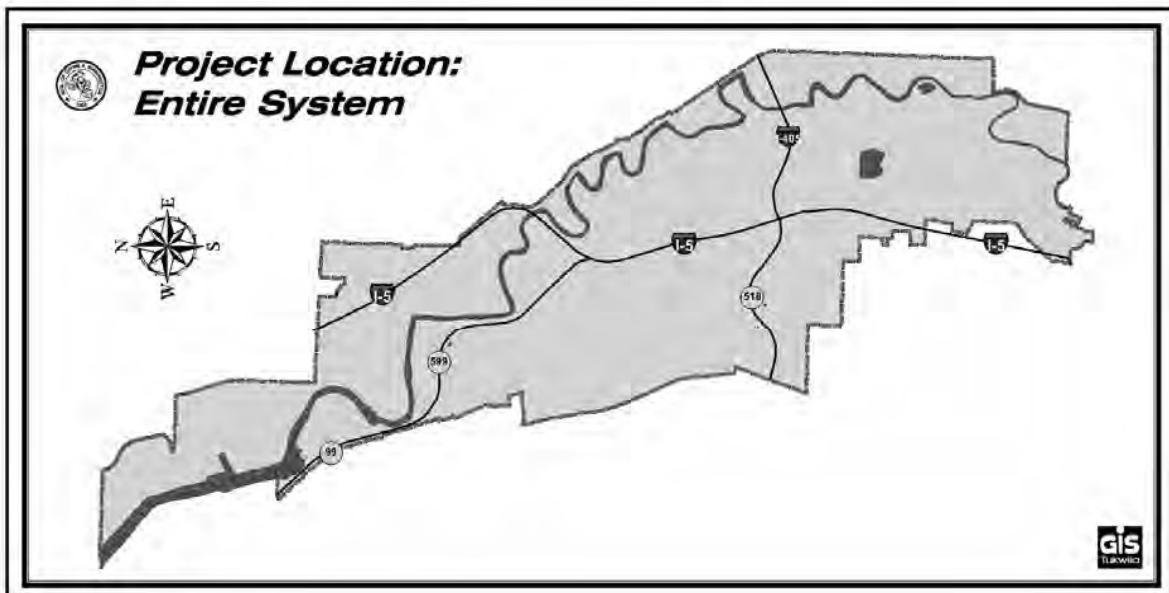
JUSTIFICATION: Decreases treatment, discharge, and pumping costs.

STATUS: Annual program is determined after pipeline TV inspection reports are completed.

MAINT. IMPACT: Less maintenance costs through rehabilitation of aging system.

COMMENT: Ongoing project, only one year actuals shown in first column.

FINANCIAL (in \$000's)	Through Estimated									
	2021	2022	2023	2024	2025	2026	2027	2028	BEYOND	TOTAL
EXPENSES										
Design	15	75	150	150	150	150	150	150	750	1,740
Land (R/W)										0
Const. Mgmt.	10	232	150	200	150	200	150	200	1,200	2,492
Construction	75	1,875	750	750	750	750	500	500	4,500	10,450
TOTAL EXPENSES	100	2,182	1,050	1,100	1,050	1,100	800	850	6,450	14,682
FUND SOURCES										
Awarded Grant										0
Proposed Grant										0
Mitigation Actual										0
Mitigation Expected										0
Utility Revenue	100	2,182	1,050	1,100	1,050	1,100	800	850	6,450	14,682
TOTAL SOURCES	100	2,182	1,050	1,100	1,050	1,100	800	850	6,450	14,682





CITY OF TUKWILA

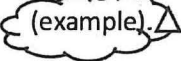
ADDENDUM NO. 1

TO THE PLANS AND SPECIFICATIONS FOR 2023 CENTRAL BUSINESS DISTRICT SANITARY SEWER REHABILITATION – PHASE 4B

TO ALL PLANHOLDERS:

You are hereby notified of the following changes, deletions, additions and corrections to the plans, specifications, and other documents comprising the contract documents.

The following formatting has been used to note deletions (to the original text) and changes/additions to the Contract Documents.

- Deletions are formatted as stricken through (~~example~~).
- Changes/additions to project manual are formatted as underlined (example).
- Changes/additions to plans are denoted with a revision clouded and/or triangle (example). 

I. CALL FOR BIDS

a. THE FIRST FOUR PARAGRAPHS CURRENTLY READ:

NOTICE IS HEREBY GIVEN that clearly marked, sealed bids shall be received by the City of Tukwila, Washington at the Office of the City Clerk, at Tukwila City Hall, 6200 Southcenter Boulevard, Tukwila, Washington 98188, up to the hour of **9:30 a.m. on Thursday, July 11**. Bids will be opened and publicly read aloud at 10:00 a.m. on that same day, Thursday, July 11, 2024.

Bids can be mailed to Tukwila City Hall OR dropped off-person by **9:30 a.m. the day bids are due**. Tukwila City Hall is open to the public Mondays through Thursdays, from 8:30 a.m. – 4:00 p.m. Bids may be dropped off at the front counter at the Office of the City Clerk, located inside Tukwila City Hall. It will be the bidder's responsibility to ensure mailed bids are received by the City before the submittal deadline. Proposals received later than the submittal deadline will not be accepted. The City will not be liable for delays in delivery of proposals due to handling by the U.S. Postal Service or any other type of delivery service. Faxed or emailed submittals will not be accepted.

The public will be able to hear the bids read aloud, via Microsoft Teams or telephone by dialing (253) 292-9750, Conference ID#: 465 116 363# at 10:00 a.m. on Thursday, July 11, 2024 for:



**2023 CENTRAL BUSINESS DISTRICT (CBD) SANITARY SEWER
REHABILITATION – PHASE 4B
PROJECT NO. 9140203**

The Notice to proceed for this project will be given to the Contractor on a date agreed upon with the District between July 22, 2024 and January 22, 2025. The Work is to be performed within **one hundred (100)** calendar days once the Contractor has mobilized their cured-in-place lining equipment to the site consists of furnishing all materials, equipment, tools, labor, and other work or items incidental thereto for:

IS REVISED TO READ:

NOTICE IS HEREBY GIVEN that clearly marked, sealed bids shall be received by the City of Tukwila, Washington at the Office of the City Clerk, at Tukwila City Hall, 6200 Southcenter Boulevard, Tukwila, Washington 98188, up to the hour of **9:30 a.m. on Thursday, July 18**. Bids will be opened and publicly read aloud at 10:00 a.m. on that same day, Thursday, July 18, 2024.

Bids can be mailed to Tukwila City Hall OR dropped off-person by **9:30 a.m. the day bids are due**. Tukwila City Hall is open to the public Mondays through Thursdays, from 8:30 a.m. – 4:00 p.m. Bids may be dropped off at the front counter at the Office of the City Clerk, located inside Tukwila City Hall. It will be the bidder's responsibility to ensure mailed bids are received by the City before the submittal deadline. Proposals received later than the submittal deadline will not be accepted. The City will not be liable for delays in delivery of proposals due to handling by the U.S. Postal Service or any other type of delivery service. Faxed or emailed submittals will not be accepted.

The public will be able to hear the bids read aloud, via Microsoft Teams or telephone by dialing (253) 292-9750, Conference ID#: 465 116 363# at 10:00 a.m. on Thursday, July 18, 2024 for:

**2023 CENTRAL BUSINESS DISTRICT (CBD) SANITARY SEWER
REHABILITATION – PHASE 4B
PROJECT NO. 9140203**

The Notice to proceed for this project will be given to the Contractor on a date agreed upon with the City between July 29, 2024 and January 29, 2025. The Work is to be performed within **one hundred (100)** calendar days once the Contractor has mobilized their cured-in-place lining equipment to the site consists of furnishing all materials, equipment, tools, labor, and other work or items incidental thereto for:



b. THE CONTACT AT THE BOTTOM OF THE CALL FOR BIDS CURRENTLY READS:

Project Manager: Adib.Altallal@tukwila.gov

IS REVISED TO READ:

Project Manager: Adib.Altallal@TukwilaWA.gov

II. SPECIAL PROVISIONS

a. THE FIRST PARAGRAPH OF SECTION 7-10.2(3) CURRENTLY READS:

For UV cured liners, the flexible tube shall be designed as per ASTM F2019, Appendix X1, for each pipe segment with the following additional requirements. For UV cured liners, the finished cured-in-place liner thicknesses shall meet ASTM F2019, and the finished cured-in-place liners shall have the minimum required thicknesses, including the non-structural layers (abrasion layer and outer foil) as shown on the plans.

IS REVISED TO READ:

For UV cured liners, the flexible tube shall be designed as per ASTM F2019, Appendix X1, for each pipe segment with the following additional requirements. For UV cured liners, the finished cured-in-place liner thicknesses shall meet ASTM F2019, and the finished cured-in-place liners shall have the minimum required thicknesses, including the non-structural layers (abrasion layer and outer foil) as shown on the plans. The minimum required thicknesses may be adjusted if the Contractor can justify adjusting the liner thickness based on the flexural modulus and flexural strength of the selected CIPP liner, once the CIPP liner has been approved for use on this project. The flexural modulus and flexural strength of the CIPP liner must be verified by independent third party (hired by the product Manufacturer) test data.



Addendum No. 1 is hereby made a part of these contract documents, and its terms and conditions are fully binding on the planholder and contractor. The contractor shall acknowledge receipt of this Addendum No. 1 by signing in the space provided below and attaching to their proposal.

RH2 ENGINEERING, INC.

By: Kenny Gomez _____

Date: July 10, 2024 _____

Received and acknowledged:

Contractor Iron Horse LLC _____

Name Carlie Moore _____

Title Managing Member _____

Date 07/10/2024 _____

The work on this Contract is to be performed upon lands whose ownership obligates the Contractor to pay State sales tax on portions of the project work and obligates the Contractor to collect State sales tax from the Contracting Agency on other portions of the project, as follows:

- 2. The provisions of State Department of Revenue Rule 170 apply to this project, and the Contractor shall collect retail sales tax from the Contracting Agency.

Note: sales tax for purchase or rental of tools, machinery, equipment, or consumable supplies not integrated into the project, shall be included in the bid item prices.

8. Bidding Checklist

All bids shall be submitted on the exact forms provided in these Bid Documents, and listed below. Failure to submit any of these forms is grounds for rejection of the bid. The only exception is if the bidder follows the directions for Bids Submitted on Computer Printouts, following the bid proposal forms.

Sealed bids for this proposal shall be submitted as specified in the Call for Bids. Each bid must be submitted in a sealed envelope bearing on the outside the name and address of the Bidder, and must be clearly marked with the name and number of the project for which the bid is submitted:

**BID FOR 2023 CENTRAL BUSINESS DISTRICT SANITARY
SEWER REHABILITATION – PHASE 4B**

All bids will remain subject to acceptance for ninety (90) days after the day of the bid opening.

- a. **Proposal** – Bidders must bid on all items contained in the Proposal. The omission or deletion of any bid item will be considered nonresponsive and shall be cause for rejection of the bid.
- b. **Bid Security/Bid Bond** – Bid Bond is to be executed by the Bidder and the surety company unless bid is accompanied by a cash deposit, certified or cashier's check, or postal money order. The amount of this security/bond shall be not less than five percent (5%) of the total bid, including sales tax, if applicable, and may be shown in dollars. Surety must be authorized to do business in the State of Washington, and must be on the current Authorized Insurance List in the State of Washington per Section 1-02.7 of the Standard Specifications.

The Bid Security form included in these Contract Provisions MUST be used; no substitute will be accepted. If an attorney-in-fact signs bond, a certified and effectively dated copy of their Power of Attorney must accompany the bond.

The deposit of the successful Bidder will be returned provided Bidder executes the Agreement, furnishes satisfactory Payment and Performance Bond covering the full amount of work, and provides evidence of insurance coverage, within ten (10) days after Notice of Award. Should Bidder fail or refuse to do so, the Bid Deposit or Bond shall be forfeited to the City of Tukwila as liquidated damages for such failure.

The Owner reserves the right to retain the security of the three (3) lowest bidders until the successful Bidder has executed the Agreement and furnished the bond.

- c. **Non-Collusion Affidavit** – Must be filled in, signed, and notarized.
- d. **Responsible Bidder Determination Form**
- e. **Proposed Equipment and Labor Schedule**
- f. **Proposed Subcontractors, if required**

Regarding forms d, e, and f, the Owner reserves the right to check all statements and to judge the adequacy of the Bidder's qualifications, and to reject Bidder as not responsible based on this information.

9. Contract Checklist

The following forms are to be executed by the successful Bidder after the Contract is awarded. The Agreement and Payment and Performance Bond are included in these Bid Documents and should be carefully examined by the Bidder.

- a. **Agreement** – Two (2) copies to be executed by the successful Bidder.
- b. **Payment and Performance Bond** – Two (2) copies to be executed by the successful Bidder and its surety company. This bond covers successful completion of all work and payment of all laborers, subcontractors, suppliers, etc. The bond continues in effect at ten percent (10%) of the total price bid for one (1) year after final acceptance of the Work.

The bond form included in these Bid Documents MUST be used; no substitute will be accepted. If an Attorney-in-fact signs bond, a certified and effectively dated copy of their Power of Attorney must accompany the bond.

- c. **Certificates of Insurance** – To be executed by an insurance company acceptable to the Owner, on ACORD Forms. Required coverages are listed in Section 1-07.18 of the Special Provisions (APWA GSP). The Owner and Consulting Engineer retained by Owner shall be named as "Additional Insureds" on the insurance policies.

The above Bid and Contract Documents must be executed by the Contractor's President or Vice-President if a corporation, or by a partner if a partnership. In the event another person has been duly authorized to execute contracts, a copy of the resolution or other minutes establishing this authority must be attached to the Proposal and Agreement documents.

PROPOSAL
(unit price)

Contractor's Name Iron Horse LLC

Contractor's State License No. IRONHHL833BF

City of Tukwila Project No. **9140203**

To the Mayor and City Council
City of Tukwila, Washington

The undersigned (Bidder) hereby certifies that he personally examined the location and construction details of Work outlined in the Contract Documents for the City of Tukwila (Owner) project titled **2023 CENTRAL BUSINESS DISTRICT SANITARY SEWER REHABILITATION – PHASE 4B**, which project includes but is not limited to:

Installation of approximately 7,960 linear feet (LF) of ultraviolet-cured (UV) cured-in-place pipe (CIPP) to rehabilitate existing sewer main, and other work necessary to complete the Work as specified and shown in the Contract Documents.

The Bidder has read and thoroughly understands these Documents which govern all Work embraced in this improvement and the methods by which payment will be made for said Work, and thoroughly understands the nature of said Work; and hereby proposes to undertake and complete all Work embraced in this improvement in accordance with these Contract Documents and at the following schedule of rates and prices.

The Bidder understands that the quantities mentioned herein are approximate only and are subject to increase or decrease, and hereby proposes to perform all quantities of work as either increased or decreased in accordance with the Contract Documents.

As evidence of good faith, (*check one*) bid bond or cash, cashier's check, certified check, or postal money order made payable to the City of Tukwila equal to five percent (5%) of the Total Bid Price is attached hereto. Bidder understands that, should this offer be accepted by Owner within ninety (90) calendar days after the day of Bid Opening and the Bidder fails or refuses to enter into an Agreement and furnish the required Payment and Performance Bond and liability insurance within ten (10) calendar days after Notice of Award, the Contract shall be null and void and the Bid Deposit or Bond accompanying this Proposal shall be forfeited and become the property of Owner as liquidated damages, all as provided for in the Bid Documents.

Bidder shall attain Physical Completion of all Work in all respects within **one hundred (100)** calendar days from the date stated in the written Notice to Proceed. If the work is not completed within this time period, Bidder shall pay liquidated damages to Owner as specified in Section 1-08.9 of the Standard Specifications for every calendar day work is not Physically Complete after the expiration of the Contract time stated above. In addition, Bidder shall compensate Owner for actual engineering inspection and supervision costs and any other legal fees incurred by Owner as a result of such delay.

**2023 CENTRAL BUSINESS DISTRICT SANITARY SEWER REHABILITATION – PHASE 4B
(UV-cured CIPP Lining)**

Project No. 9140203

Note: Unit prices for all items, all extensions, and the total amount bid must be shown. Where conflict occurs between the unit price and the total amount specified for any item, the unit price shall prevail, and totals shall be corrected to conform thereto.

Item No.	Item Description	Quantity	Unit	Unit Price	Amount
1.	Mobilization	1	LS	80,000	80,000
2.	Type B Progress Schedule	1	LS	2,000	2,000
3.	Traffic Control – Off-Duty Uniformed Police Officer	1	LS	36,000	36,000
4.	Traffic Control – Temporary Traffic Control and Flagger Labor	1	LS	90,000	90,000
5.	Pre-Cleaning Video Inspection	1	LS	35,000	35,000
6.	Clean and Prep Sewer Prior to Construction	1	LS	42,000	42,000
7.	Video Inspection Prior to Construction	1	LS	32,000	32,000
8.	Provide, Install, and Manage Wastewater Bypasses	1	LS	65,000	65,000
9.	8-inch Main Line CIPP	4,861	LF	69	335,409
10.	12-inch Main Line CIPP	2,635	LF	102	268,770
11.	20-inch Main Line CIPP	421	LF	260	109,460
12.	24-inch Main Line CIPP	45	LF	1000	45,000
13.	Trenchless Lateral Connection Reinstatement and Packer Injection Grouting	27	EA	1,500	40,500
14.	Trenchless Outside Manhole Drop Connection Reinstatement	2	EA	4,500	9,000
15.	Force Account – Minor Changes	1	LS	\$25,000.00	\$25,000.00

Subtotal \$ 1,245,139.00

10.2% Sales Tax \$ 123,944.18

Total Bid (Subtotal w/WSST) \$ 1,339,083.18

Bids Submitted on Computer Printouts

Bidders, at their option, in lieu of hand writing in the unit prices in figures in ink on the Bid forms above, may submit an original computer printout sheet with their bid, as long as the following requirements are met:

1. Each sheet of the computer printout must contain the exact same information as shown on the hard-copy bid form – Project Name, Schedule Name, column headings – in the order shown, totals, etc.
2. The computer printout of the Bid Proposal must have the exact certification language shown below, signed by the appropriate officer of the firm.
3. If a computer printout is used, the Bidder must still execute that portion of the unit price Bid Form which acknowledges the Bid Guaranty, Time of Completion, and all addenda that may have been issued, etc.

If any of these things are missing or out of order, the bid may be rejected by the Owner.

The unit and lump sum prices shown on acceptable printouts will be the unit prices used to tabulate the Bid and used in the Contract if awarded by the City. In the event of conflict between the two, unit Bid prices will prevail over the extended (Total) prices. If the Bid submitted by the bidder contains both the form on these Bid Proposal sheets, and also a computer printout, completed according to the instructions, the unit bid prices shown on the computer printout will be used to determine the bid.

Put this certification on the last sheet of the Bid computer printout, and sign:

(YOUR FIRM'S NAME) certifies that the unit prices shown on this complete computer print-out for all of the bid items contained in this Proposal are the unit and lump sum prices intended and that its Bid will be tabulated using these unit prices and no other information from this print-out. (YOUR FIRM'S NAME) acknowledges and agrees that the total bid amount shown will be read as its total bid and further agrees that the official total Bid amount will be determined by multiplying the unit Bid prices shown in this print-out by the respective estimated quantities shown on the Bid form, then totaling all of the extended amounts.

Signed: Caleb Moore
 Title: Managing Member
 Date: 7/17/2024

By signing below, Bidder acknowledges receipt and understanding of the following Addenda to the Bid Documents:

Addendum No.	Date of Receipt	Addendum No.	Date of Receipt
1	<u>07/10/2024</u>	3	_____
2	_____	4	_____

NOTE: Failure to acknowledge receipt of Addenda may be considered as an irregularity in the Bid Proposal and Owner reserves the right to determine whether the bid will be disqualified.


By signing below, Bidder certifies that Bidder has reviewed the insurance provisions of the Bid Documents and will provide the required coverage.

It is understood that Owner may accept or reject all bids.

The Surety Company which will furnish the required Payment and Performance Bond is

Liberty Mutual of 1717 W 18th Ave. Eugene, OR
(Name) (Address) 97402

Bidder: Iron Horse LLC

Signature of Authorized Official: 

Printed Name and Title: Carlie Moore, Managing Member

Address: PO Box 1472 Fairview, OR 97024

Circle One: Individual Partnership State of Incorporation: OR

Joint Venture / Corporation

Phone No.: (503) 674-0980 Date: 07/16/2024

This address and phone number is the one to which all communications regarding this proposal should be sent.

NOTES:

1. If the Bidder is a co-partnership, give firm name under which business is transacted; proposal must be executed by a partner. If the Bidder is a corporation, proposal must be executed in the corporate name by the president or vice-president (or any other corporate officer accompanied by evidence of authority to sign).
2. A bid must be received on all items. If either a unit price or an extension is left blank (but not both) for a bid item, the Owner will multiply or divide the available entry by the quantity, as applicable, and enter it on the bid form. If there is no unit price or extension for one or more bid item(s), the proposal will be rejected.

BID SECURITY

Bid Deposit: The undersigned Principal hereby deposits a Bid Deposit with the City of Tukwila in the form of a cash deposit, certified or cashier's check, or postal money order in the amount of _____ dollars (\$_____).

-- OR --

Bid Bond: The undersigned, Iron Horse, LLC (Principal), and Liberty Mutual Insurance Company (Surety), are held and firmly bound unto the City of Tukwila (Owner) in the penal sum of Five percent of total amount bid and no/100*** dollars (\$ 5%), which for the payment of which Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally. The liability of Surety under this Bid Bond shall be limited to the penal sum of this Bid Bond.

Conditions: The Bid Deposit or Bid Bond shall be an amount not less than five percent (5%) of the total bid, including sales tax and is submitted by Principal to Owner in connection with a Proposal for **2023 CENTRAL BUSINESS DISTRICT SANITARY SEWER REHABILITATION – PHASE 4B**, Project No. **9140203**, according to the terms of the Proposal and Bid Documents.

Now therefore,

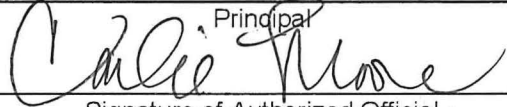
- a. If the Proposal is rejected by Owner, or
- b. If the Proposal is accepted and Principal shall duly make and enter into an Agreement with Owner in accordance with the terms of the Proposal and shall furnish a bond for the faithful performance of said Project and for the payment of all persons performing labor or furnishing materials in connection therewith, with Surety or Sureties approved by Owner,

then this Bid Security shall be released; otherwise it shall remain in full force and effect and Principal shall forfeit the Bid Deposit or Surety shall immediately pay and forfeit to Owner the amount of the Bid Bond, as penalty and liquidated damages.

The obligations of Surety and its Bid Bond shall be in no way impaired or affected by any extension of time within which Owner may accept bids; and Surety does hereby waive notice of any such extension.

Signed and dated this 18th day of July, 2024.

Iron Horse, LLC

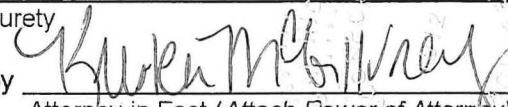
 Principal


 Signature of Authorized Official
Managing Member

 Title

Name and address of local office of agent and/or Surety Company:

Liberty Mutual Insurance Company

 Surety
 By 

 Attorney in Fact (Attach Power of Attorney)
 Kristen McGillvrey

HUB International Northwest, LLC

 PO Box 10167

 Eugene, OR 97440

Surety companies executing bonds must appear on the current Authorized Insurance List in the State of Washington per Section 1-02.7 of the Standard Specifications.



This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

Certificate No: 8211095-969225

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Ashlee Baumgartner; Tina A. Costa; James R Cox; Erik Finrow; David M. Holland; Summer Hugh; Kristen McGillvrey; Dean R. Pollock

all of the city of Eugene state of OR each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 13th day of December, 2023.



Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

By: David M. Carey, Assistant Secretary

State of PENNSYLVANIA ss
County of MONTGOMERY

On this 13th day of December, 2023 before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.



Commonwealth of Pennsylvania - Notary Seal
Teresa Pastella, Notary Public
Montgomery County
My commission expires March 28, 2025
Commission number 1126044
Member, Pennsylvania Association of Notaries

By: Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV - OFFICERS: Section 12. Power of Attorney.

Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII - Execution of Contracts: Section 5. Surety Bonds and Undertakings.

Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation - The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization - By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 18th day of July, 2024.



By: Renee C. Llewellyn, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

For bond and/or Power of Attorney (POA) verification inquiries, please call 610-832-8240 or email HOSUR@libertymutual.com.

NON-COLLUSION DECLARATION

STATE OF ~~WASHINGTON~~ ^{Oregon})
) ss.
COUNTY OF ~~KING~~ ^{Multnomah})

The undersigned, being first duly sworn, on oath states that the person, firm, association, partnership, joint venture, or corporation named in the Bid Proposal has (have) not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with the City of Tukwila project named **2023 CENTRAL BUSINESS DISTRICT SANITARY SEWER REHABILITATION – PHASE 4B**, Project No. **9140203**.

Iron Horse LLC
Name of Firm

[Signature]
Signature of Authorized Official

Managing Member
Title

Signed and sworn to before me on this 17th day of July, 2024.

[Signature]

Signature of Notary Public in and for the State of Washington, residing at Bresham, OR

My appointment expires: 11-27-27



NOTICE TO ALL BIDDERS

To report bid rigging activities call:

1-800-424-9071

The U.S. Department of Transportation (USDOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m., Eastern Time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of USDOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the USDOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

RESPONSIBLE BIDDER DETERMINATION FORM

Attach additional sheets as necessary to fully provide the information required.

Name of Bidder: Iron Horse LLC

Address of Bidder: 5501 NE 223rd Ave, Bldg D
Fairview OR 97024
City State Zip Code

Contractor's License No. IRONHLL833BF WA State UBI No. 604-069-635

License Bond Registration No. 023037927 Dept. of L&I Worker's Comp. Acct. No. SAIF ext. 8107587

Bidder is a(n): Individual Partnership Joint Venture Incorporated in the state of _____

List business names used by Bidder during the past 10 years if different than above:
n/a

Bidder has been in business continuously from 2017 Year

Bank Reference Summit Bank Josh Adams 971-940-1913
Bank Account Officer Officer's Phone No.

No. of regular full-time employees: 38

Number of projects in the past 10 years completed: 187 ahead of schedule ___ on schedule
2 behind schedule

Bidder has had experience in work comparable to that required for this Project:

As a prime contractor for 7+ years.
As a subcontractor for 7+ years.

List the supervisory personnel to be employed by the Bidder and available for work on this project (Project Manager, Principal Foreman, Superintendents, and Engineers):

<u>Name</u>	<u>Title</u>	<u>How Long with Bidder</u>
<u>Brandon Fulton</u>	<u>General Manager</u>	<u>7+</u>
<u>Colby Rios</u>	<u>Superintendent</u>	<u>7+</u>
<u>Riley Madden</u>	<u>Superintendent</u>	<u>5+</u>

Name the Surveyor to be used on this Project, who will directly supervise all surveying activities. Attach a resume outlining the experience and qualifications of the Surveyor. Is the Surveyor licensed in the State of Washington (a PLS)? Yes No

Surveyor's Name: no survey on this project

List all those projects, of similar nature and size, completed by Bidder within the past 10 years. Include a reference for each. Any attached preprinted project listing must include all this information. Bidder must have at least 10 years experience working on projects of similar nature and size.

<u>Project Name</u>	<u>Year Completed</u>	<u>Contract Amount</u>	<u>Owner/Reference Name and Phone</u>
	<u>SEE ATTACHED</u>		

List all projects undertaken in the last 10 years which have resulted in partial or final settlement of the Contract by arbitration or litigation in the courts:

<u>Name of Client and Project</u>	<u>Contract Amount</u>	<u>Total Claims Arbitrated or Litigated</u>	<u>Amount of Settlement of Claims</u>
<u>n/a</u>			

Has Bidder, or any representative or partner thereof, ever failed to complete a contract?
 No Yes If yes, give details: _____

Has Bidder ever had any Payment/Performance Bonds called as a result of its work?
 No Yes If yes, please state: _____

<u>Project Name</u>	<u>Contracting Party</u>	<u>Bond Amount</u>

Project Name	Location	Owner	Owner Contact	Year Completed	6" UV CIPP - LF	8" UV CIPP - LF	9" UV CIPP - LF	10" UV CIPP - LF	12" UV CIPP - LF
Cure-In-Place Pipe (CIPP) 2020	Spokane, WA	City of Spokane	Dan Buller dbuller@spokanecity.org 625-6391	3/31/2023		4427		1976	3557
US-12 Orofino to Greer	Orofino, ID	Idaho Transportation Department	Jesse Webb (208)799-4235	8/2/2023					
Zone A Sewer Rehab FY21	Nampa, ID	City of Nampa	Tom Points pointst@cityofnampa.us (208)468-4520	6/9/2023		2421		362	
2020 Sewer Relining Program	Lynnwood, WA	Alderwood Water & Wastewater District	Don Ranger dranger@awwd.com (425)741-7964	7/15/2022		14730		3872	1820
Hickory St NE Sewer Main Rehab	Salem, OR	City of Salem	Kyler King kking@cityofsalem.net (503)315-2568	8/28/2020					
South 6th Street	Lynden, WA	City of Lynden	Steven Schramm sschramm@jub.com (360)354-3687	2/17/2023					
UPRR 24-inch Interceptor Sewer Rehab Project Ph 2	Kennewick, WA	City of Kennewick	John Cowling john.cowling@ci.kennewick.wa.us (509)585-4301	5/15/2020					
UPRR 24-inch Interceptor Sewer Rehab Project Ph 3	Kennewick, WA	City of Kennewick	Jeremy Lustig jeremy.lustig@ci.kennewick.wa.us (509)585-4413	10/13/2020					
2020-14, Goose Hollow Sewer Rehabilitation	Portland, OR	City of Portland	MacKenzie Isom mackenziei@jwfowler.com (503)623-5373	10/31/2022		3654	250	809	
SE Gresham Stormwater CIPP	Gresham, OR	Gresham Department of Environmental Services	Chris Chambers chris.chambers@greshamoregon.gov	9/5/2018	34				3239
US101: MP332.3 SB Slide Repair	Brookings, OR	ODOT	cfitzhugh@twcontractors.com (541)469-5341	10/17/2019					
PAURSS E11148 to 3 Yamhill-Morrison	Portland, OR	City of Portland	Lacy Dring laceyd@jwfowler.com	7/10/2019				187	

Responsible Bidder Determination Form

P-9

Has Bidder ever been found guilty of violating any State or Federal employment laws?
 No Yes If yes, give details: _____

Has Bidder ever filed for protection under any provision of the federal bankruptcy laws or state insolvency laws? No Yes If yes, give details: _____

Has any adverse legal judgment been rendered against Bidder in the past 5 years?
 No Yes If yes, give details: _____

Has Bidder or any of its employees filed any claims with Washington State Workman's Compensation or other insurance company for accidents resulting in fatal injury or dismemberment in the past 5 years? No Yes If yes, please state:

<u>Date</u>	<u>Type of Injury</u>	<u>Agency Receiving Claim</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

The undersigned warrants under penalty of Perjury that the foregoing information is true and accurate to the best of his/her knowledge. The undersigned authorizes the City of Tukwila to verify all information contained herein.

Signature of Bidder Carlie Moore

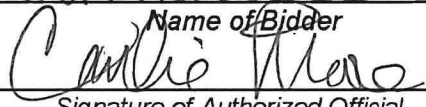
Title: Managing Member Date: 07/16/2024

PROPOSED EQUIPMENT AND LABOR SCHEDULE
(Use additional sheets if required)

Equipment to be used:

DESCRIPTION/TYPE	YEAR	CONDITION	OWN/RENT
vac trucks	2018-2024	Good/new	own
uv curing trucks	2017-2024	Good/new	own
foreman trucks	2018-2022	Good	own
cutter trucks	2012-2022	Good	own
trailers	2015-2024	Good/new	own

Labor to be used: 1 vac truck operator, 1 foreman,
1 cutter operator, laborers

Iron Horse LLC
Name of Bidder

Signature of Authorized Official
Managing Member
Title

City of Tukwila
2023 Central Business District Sanitary Sewer Rehabilitation - Phase 4B

Apparent Low Bidder

Item No.	Item Description	Engineer's Estimate				Iron Horse, LLC				SAK Construction, LLC			
		Quantity	Unit	Unit Price	Total Amount	Quantity	Unit	Unit Price	Total Amount	Quantity	Unit	Unit Price	Total Amount
1	Mobilization	1	LS	\$ 107,900	\$ 107,900	1	LS	\$ 80,000	\$ 80,000	1	LS	\$ 75,000	\$ 75,000
2	Type B Progress Schedule	1	LS	\$ 5,800	\$ 5,800	1	LS	\$ 2,000	\$ 2,000	1	LS	\$ 2,500	\$ 2,500
3	Traffic Control - Off-Duty Uniformed Police Officer	1	LS	\$ 24,900	\$ 24,900	1	LS	\$ 36,000	\$ 36,000	1	LS	\$ 27,158	\$ 27,158
4	Traffic Control - Temporary Traffic Control and Flagger Labor	1	LS	\$ 72,000	\$ 72,000	1	LS	\$ 90,000	\$ 90,000	1	LS	\$ 145,000	\$ 145,000
5	Pre-Cleaning Video Inspection	1	LS	\$ 18,400	\$ 18,400	1	LS	\$ 35,000	\$ 35,000	1	LS	\$ 35,000	\$ 35,000
6	Clean and Prep Sewer Prior to Construction	1	LS	\$ 27,500	\$ 27,500	1	LS	\$ 42,000	\$ 42,000	1	LS	\$ 45,000	\$ 45,000
7	Video Inspection Prior to Construction	1	LS	\$ 18,400	\$ 18,400	1	LS	\$ 32,000	\$ 32,000	1	LS	\$ 1,500	\$ 1,500
8	Provide, Install, and Manage Wastewater Bypasses	1	LS	\$ 74,800	\$ 74,800	1	LS	\$ 65,000	\$ 65,000	1	LS	\$ 125,500	\$ 125,500
9	8-inch Main Line CIPP	4,861	EA	\$ 90	\$ 437,490	4,861	EA	\$ 69	\$ 335,409	4,861	EA	\$ 80	\$ 388,880
10	12-inch Main Line CIPP	2,635	LS	\$ 100	\$ 263,500	2,635	LS	\$ 102	\$ 268,770	2,635	LS	\$ 130	\$ 342,550
11	20-inch Main Line CIPP	421	LF	\$ 130	\$ 54,730	421	LF	\$ 260	\$ 109,460	421	LF	\$ 180	\$ 75,780
12	24-inch Main Line CIPP	45	LF	\$ 520	\$ 23,400	45	LF	\$ 1,000	\$ 45,000	45	LF	\$ 690	\$ 31,050
13	Trenchless Lateral Connection Reinstatement and Packer Injection Grouting	27	EA	\$ 1,150	\$ 31,050	27	EA	\$ 1,500	\$ 40,500	27	EA	\$ 1,200	\$ 32,400
14	Trenchless Outside Manhole Drop Connection Reinstatement	2	VF	\$ 870	\$ 1,740	2	VF	\$ 4,500	\$ 9,000	2	VF	\$ 500	\$ 1,000
15	Force Account - Minor Changes	1	EA	\$ 25,000	\$ 25,000	1	EA	\$ 25,000	\$ 25,000	1	EA	\$ 25,000	\$ 25,000
		Subtotal		\$ 1,186,610.00		Subtotal		\$ 1,215,139.00		Subtotal		\$ 1,353,318.00	
		Washington State Sales Tax 10.2%		\$ 121,034.22		Washington State Sales Tax 10.2%		\$ 123,944.18		Washington State Sales Tax 10.2%		\$ 138,038.44	
		Total		\$ 1,307,644.22		Total		\$ 1,339,083.18		Total		\$ 1,491,356.44	



INFORMATIONAL MEMORANDUM

TO: Transportation and Infrastructure Committee
FROM: Pete Mayer, Interim Public Works Director
BY: Sherry Edquid, Levee and Floodplain Project Manager
CC: Mayor Thomas McLeod
DATE: August 23, 2024
**SUBJECT: Landslide Risk Assessment and Management Project Phase I
Project No.
Consultant Services**

ISSUE

Request to execute a Consultant Agreement for services with BGC Engineering to conduct a landslide study. This work is being done in conjunction with DCD.

BACKGROUND

In 2023, the city received a FEMA's - Cooperating Technical Partners (CTP) grant to fund a landslide study. BGC Engineering will be identifying and understanding landslide hazards with the overall goal of reducing property damage and life loss.

ANALYSIS

BGC Engineering will provide a report that investigates existing and historical landslide information including forestry health and location of critical infrastructure within these areas. The information will then be summarized into a report which will include GIS maps and recommendations. Additional studies and field work could occur in phase II should grant funding become available.

This information can be used by the City in ways to avoid, minimize and/or mitigate future landslide hazards.

FISCAL IMPACT

BGC Engineering has provided a cost not to exceed \$134,500.00 to perform the attached scope of work. This contract will be entirely funded by a FEMA CTP grant the city received which has no cost share.

RECOMMENDATION

Council is being asked to approve the Consultant Agreement with BGC Engineering in the amount of \$134,500.00 and consider this item on the Consent Agenda at the September 16, 2024 Regular Meeting.

City of Tukwila Comprehensive Landslide Assessment Plan - a citywide assessment of landslide hazard and urban forestry health

Table A-1. Summary of Proposed Scope of Work and Estimated Cost

Task	Responsible Firm	Title	Description	Deliverables	Estimated Cost
			<i>*refer to proposal dated June 28, 2024 for detailed descriptions of each BGC task and the attached Revised Approach dated August 12, 2024 for DRG</i>		
1	BGC	Data Compilation	Compile relevant and available public data related to geology and geologic hazard maps, imagery, land use, and reasonably accessible/available consultant reports. Compile reasonably accessible/available built environment information (sources: City of Tukwila and other asset and landowners). Interviews with Tukwila staff to communicate relevant historical knowledge of the area, including known landslide events and histories, ground disturbance activities, mitigations, areas with drainage or groundwater seepage issues, and other relevant site context information.	Provide supporting information for Tasks 3 and 5. Relevant and available data layers will be compiled in Cambio.	\$10,500
2	BGC	LCD Analysis & Data Delivery	LCD analysis for the City of Tukwila to include two LCD comparisons with full-city coverage using datasets from 2005, 2011, 2016, and 2021 Data delivery in Cambio (a web-enabled earth science data platform). Cambio subscription for 1-year with access for up to 10 users.	LCD analysis results delivered in Cambio for review and interrogation by BGC for this analysis and by Tukwila staff. Custom configuration of Cambio workspace. 1-year Cambio subscription.	\$15,000 \$5,500
3	BGC	Landslide Assessment	Review and analysis of data compiled in Task 1 and 2. Landslide inventory validation and additions, as needed. Landslide susceptibility map. Assessment of above with consideration for critical facilities and infrastructure, with the results of the urban forest health assessment (Task 4) integrated as appropriate.	Landslide inventory and susceptibility maps in Cambio, or other format as requested by Tukwila.	\$24,000
4	DRG	Urban Forest Health Assessment	4.1 Forest cover type mapping to include GIS-based Urban Tree Canopy Assessment (UTC) and delineation of Management Units (MU's) polygons with unique designations. 4.2 Field assessment, data collection, and ground proofing to include: - ground validation by ISA-certified arborists. - consideration for common urban forestry metrics.	Delineation of Management Units (MU's) polygons. Results presented in the final report. Relevant data layers and results of this task will be delivered in Cambio (as decided upon by the project team). Cost includes 10% markup.	\$44,000
5	BGC & DRG	Reporting & Final Delivery	Final report and data delivery. Will include collaboration between BGC & DRG.	Draft and final report summarizing methods, findings, and recommendations for prioritization for areas of further study and potential mitigation. Data delivery in Cambio, with access for Tukwila staff, to include results of Task 1, 2, 3, and 4.	\$23,000
6	BGC & DRG	Milestone Meetings & Project Management	Project management, maintaining communication between relevant parties, communicating project progress to Tukwila, maintaining schedule and budget, and planning and facilitating milestone meetings throughout the project (4 estimated meetings, varying from 1 to 2 hours in length). - Kick-off mtg. - Check-in mtg after Task 1 and 4.1. - Review mtg to discuss preliminary findings and draft report. - Final delivery mtg.	Project management and meetings.	\$12,500
Total Estimated Cost: \$134,500					

REVISED APPROACH -Tukwila 2024

DRG will complete a remotely sensed forest health assessment and inventory of forest cover types as well as ground-proofing inspections of priority areas as directed by the City of Tukwila. Priority areas identified with increased risk of slope failure and poor forest health will be field inspected. The data DRG collects can be used for long-range forest health management, prioritizing funding and forest enhancement efforts, and possibly informing slope stability assessments.

Task 4.1: Forest Cover Type Mapping:

After the kickoff meeting, DRG's GIS team will conduct an Urban Tree Canopy Assessment (UTC) to map forest cover types. This cost-effective and accurate analysis of tree canopy and forest composition (deciduous vs conifer forest) will be performed in the project area using remotely sensed and semi-automated feature extraction methods. DRG will use these results, GIS aerial imagery, LiDAR, and boundary data to delineate park/open space areas into Management Units (MU's) polygons. DRG will utilize elevation and contour data to process and record the aspect and slope for each MU.

We will then assign each MU polygon one of the following land cover designations:

- **Forested:** $\geq 25\%$ of the area is covered by forest canopy
- **Natural:** Natural vegetation that has $< 25\%$ forest canopy cover
- **Open Water:** Open water without woody vegetation
- **Hardscape:** Impervious surface
- **Landscape:** Landscaped or has been mechanically maintained within the last year

Once these attributes have been established, DRG will run three years of vegetation health indices using multispectral imagery to determine foliar conditions. These indices will be clipped to the canopy layer to understand tree health conditions and how they have changed over time. Through this distinction by implementing statistical procedures, DRG will identify locations of canopy health that change due to seasonal variances or if they are actual health declines. Areas of moderate or major decline will be further inspected using field assessments by arborists. Additional information provided in Task 4.2.

Ecosystem benefit data for air pollution, carbon storage and sequestration, and avoided runoff will also be calculated to determine the value of forests and any potential threat of potential loss to future canopy.

COST FOR TASK 4.1: \$29,884

Task 4.2: Field Assessment/Data Collection/Ground Proofing

After the forest cover mapping is completed, DRG will deploy ISA-certified arborists to supplement the information about the MUs in priority areas identified through remotely sensed data. Ownership of these management units may be public property parcels, private property parcels, or a combination of both. Ownership will have specific implications for slope stability risk management. Where MU's have private property, the team may need to consider visual evaluations or seek permission to trespass. DRG will consult with the City of Tukwila to finalize field data solutions.

The team will work with City of Tukwila staff to evaluate the vegetation conditions in priority areas with steep slopes, active landslide activity, poor forest health, and/or low canopy. The results of DRG's fieldwork effort will provide the City with a vegetation management strategy for risk mitigation. Field staff will collect information about the management units using a customized approach adapted from [FLAT](#). This could include the identification of hazardous trees, quantifying invasive vegetation, and quantifying tree sapling recruiting. The customizations are intended to provide the City with actionable risk mitigation tactics.

COST FOR TASK 4.2

Preferred budget: \$10,000

Applicable rates:

\$150 per hour (ISA Certified Arborist Consulting)

\$125 per hour (IT support and Customizations)