

**NOTICE OF CALL FOR BID FOR
WHISKEY CREEK BURIED STRUCTURE PROCUREMENT**

NOTICE IS HEREBY GIVEN by **CITY OF FERNDALE** that sealed bid proposals will be received by the City of Ferndale at Ferndale City Hall, 2095 Main Street, Ferndale, Washington, 98248, (360) 384-4006, until **Wednesday, May 25, 2022, at 2:00 p.m.**, and will then and there be opened and publicly read for the following construction work:

PROJECT DESCRIPTION: This contract calls for the purchase, supply and delivery of a precast reinforced concrete buried structure for Whiskey Creek.

To view the full bid packet, please go to: <https://www.cityofferndale.org/public-works-department/capital-projects/malloy-avenue-whiskey-creek-culvert-replacement-project/>

All bid and project related questions must be directed in writing; and other work in accordance with the Contract Documents issued for this bid, including the amendments and addenda thereto. Additional information, copies of maps, plans, specifications, and addenda for this project will be sent via e-mail. All technical questions regarding this project are to be submitted by e-mail to KatyRadder@cityofferndale.org and Kevin.Axt@tetrattech.com, with the subject line reading, “Whiskey Creek Buried Structure Procurement Bid”.

All bid envelopes must be plainly marked on the outside, “**WHISKEY CREEK BURIED STRUCTURE PROCUREMENT SEALED BID**”. Sealed bids shall be received by one of the following delivery methods before Wednesday, May 25, 2012, at 2:00 p.m. Any bids received after the due date and time will not be considered.

1. Hand delivered: Bids delivered in person shall be received only at the office of the City of Ferndale Public Works Department, Second Floor of City Hall, located at 2095 Main Street, Ferndale, WA 98248.
2. Via mail: Bids shall be mailed to the City of Ferndale, Attn: Katy Radder, P.O. Box 936, Ferndale, WA 98248.

In addition, an electronic copy of your bid (in pdf format) shall be emailed to PublicWorks@cityofferndale.org no later than the bid opening date and time designated as the bid opening.

The City reserves the right to reject any or all bids if such action is in the best interest of the City. The City of Ferndale is an equal opportunity and affirmative action employer.

The City of Ferndale in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 USC 2000d to 2000d-4 and Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-Assisted Programs of the Department of Transportation issued pursuant to such Act, hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises as defined at 49 CFR Part 26 will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin, or sex in consideration for an award. The City of Ferndale is an Equal Opportunity and Affirmative Action Employer. Minority and Women-Owned firms are encouraged to submit bids.

CONTRACT DOCUMENTS

**For:
WHISKEY CREEK BURIED STRUCTURE
PROCUREMENT**

PUBLIC WORKS PROJECT SW2020-03

<https://www.cityofferndale.org/public-works-department/capital-projects/malloy-avenue-whiskey-creek-culvert-replacement-project/>



**WHISKEY CREEK BURIED STRUCTURE PROCUREMENT
FERNDALE, WASHINGTON**

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BID PROPOSAL INFORMATION

**City of Ferndale
Public Works Department
P.O. Box 936
2095 Main Street
Ferndale, WA 98248**

**WHISKEY CREEK BURIED STRUCTURE PROCUREMENT
Whatcom County, Washington
2022**

All bid envelopes must be plainly marked on the outside, "WHISKEY CREEK BURIED STRUCTURE PROCUREMENT SEALED BID".

Sealed Bids will be received at the following location before the specified time:

Bids may be hand delivered to: City of Ferndale, Public Works Department, second floor of City hall, located at 2095 Main Street, Ferndale, WA.

Bids may be mailed to: City of Ferndale - Public Works Department
Attn: Katy Radder
P.O. Box 936
2095 Main Street
Ferndale, WA 98248

In addition, an electronic copy of your bid (in pdf format) shall be emailed to Public-Works@cityofferndale.org no later than the bid opening date and time indicated below:

The bid opening date for this project will be **Wednesday, May 25, 2022**. The bids will be opened and read after **2:00 p.m.** on this date.

ALL PAGES NOTED WITH "BID PROPOSAL" IN THE LOWER RIGHT HAND CORNER TO BE RETURNED AS YOUR BID PACKAGE

FAILURE TO SIGN OR COMPLETE ALL INFORMATION CAN RESULT IN REJECTION OF THE PROPOSAL AS NON-RESPONSIVE

SUPPLEMENTAL INSTRUCTIONS TO BIDDERS

PREPARATION OF PROPOSAL

Each bid proposal shall be submitted on the forms included in the "Bid Proposal Forms" section following. All blank spaces on the forms shall be completed in ink or be typewritten. Any omission of prices for items included on the Bid form, or any addition in writing to the form of the bid proposal or any condition, limitation or provision not officially invited in these contract documents may render the proposal as being incomplete or modified and may become cause for rejection of the bid.

All bid prices shall be shown in the designated locations under the corresponding headings on the "Bid" form. The unit, extended unit, or lump sum price for each bid item shall include, as shown on the "Bid" form complete under each heading, all costs for labor, materials, tools, equipment, overhead, profit, and all taxes. No additional compensation for these items shall be allowed except through an approved change order as provided for in these contract documents.

The sum shown for the Bid "Total" (total bid price) shall be the amount for which the Bidder offers to perform and which the bidder agrees to accept for the work described in these documents. At the option and direction of City of Ferndale, work may be added or deleted in accordance with the contract provisions hereunder.

Bidders shall fill in and complete the information requested on the "Bidder Identification" form. Include in the form the legal name under which the firm or bidder is registered.

SUBMITTAL OF PROPOSAL

The completed Bid Proposal Forms and any other documents required in accordance with the Special Provisions shall be submitted to the office of City of Ferndale in an opaque envelope marked:

WHISKEY CREEK BURIED STRUCTURE PROCUREMENT SEALED BID
Bid Opening 2:00PM, Wednesday, May 25, 2022
City of Ferndale, Washington

Hand delivered: Bids delivered in person shall be received only at the office of the City of Ferndale Public Works Department, Second Floor of City Hall, located at 2095 Main Street, Ferndale, WA 98248.

Via mail: Bids shall be mailed to the City of Ferndale, Attn: Katy Radder, P.O. Box 936, 2095 Main Street Ferndale, WA 98248.

In addition, an electronic copy of your bid (in pdf format) shall be emailed to Public-Works@cityofferndale.org no later than the bid opening date and time designated for the bid opening.

Bid proposals shall be deposited at the designated location prior to the date and time for receipt of bid proposals as indicated in the "Invitation to Bid," or such revised date as may be specified by an addendum.

No oral, telephone or electronically submitted bids or modifications will be considered.

All responses, received on time and at the correct place, will be opened in a public format, both in person in the Main Conference Room, located on the first floor of Ferndale City Hall at 2095 Main Street, Ferndale, WA 98248, and via Microsoft Teams immediately following collection of all submittals received by the deadline time. All interested people are invited to attend the live solicitation opening via Microsoft Teams as follows:

Microsoft Teams meeting

Join on your computer or mobile app:

Click here to join the meeting or https://teams.microsoft.com/l/meetup-join/19%3ameeting_NzcxZDg5NDgtNjk3NS00M2NjLWJjZTUtNTkyNmVIMTM4M2Q2%40thead.v2/0?context=%7b%22Tid%22%3a%2234e51373-fdc5-4a29-a035-e73c7e5c58b8%22%2c%22Oid%22%3a%2209a3e0cc-a792-42d8-8602-a0626c85603b%22%7d

Or call in (audio only)

+1 253-220-4085.,458382904# United States
Phone Conference ID: 458 382 904#

INTERPRETATIONS AND CORRECTIONS

If the Bidder finds any discrepancy in, or omission from the specifications or plans, or if there is any doubt as to their meaning, the Bidder shall promptly notify the City Design Engineer. Written addenda to clarify questions that arise will then be issued. All interpretation or explanations of the Contract Documents shall be in the form of an addendum and no oral statements by the Owner, Engineer, or other representative of the Owner shall, in any way, modify the Contract Documents, whether made before or after letting the Contract.

Any addenda issued during the time of bidding will be numbered consecutively and will be incorporated into these contract documents. The Bidder shall be responsible to ascertain, prior to submittal of a bid proposal that all addenda issued have been received and are acknowledged on the "Bid Proposal Signature and Addendum Acknowledgment" form. Addendums will only be issued to those suppliers appearing on the Plan Holders List at City of Ferndale - Public Works Department. It will be the responsibility of the supplier to ensure their name appears on the Plan Holders List.

BID PROPOSAL FORMS

FOR

WHISKEY CREEK BURIED STRUCTURE PROCUREMENT

Date: _____

TO: City of Ferndale

Gentlepersons:

This certifies that the Undersigned: has examined the location of the project site and the conditions of work; and has carefully read and thoroughly understands the contract documents entitled: " **WHISKEY CREEK BURIED STRUCTURE PROCUREMENT** ", in Ferndale, including the "Bid Procedures and Conditions", "Specifications and Conditions", "Contract Forms", and "Plans" governing the work embraced in this project and the method by which payment will be made for said work. The Undersigned hereby proposes to undertake and complete the work embraced in this project in accordance with said contract documents, and agrees to accept as payment for said work, the schedule of lump sum and unit prices as set forth in the "Bid" below.

The Undersigned acknowledges that payment will be based on the actual work performed and material used as measured or provided for in accordance with the said contract documents, and that no additional compensation will be allowed for any taxes not included in each lump sum or unit price, and that the basis for payment will be the actual work performed and measured or provided for in accordance with the said contract documents.

BID PROPOSAL

BID RESPONSE FORM

The bidder is hereby advised that by signature of this proposal he/she is deemed to have acknowledged all requirements and signed all certificates contained herein. The bidder hereby acknowledges that they have read and understand all the equipment specifications and bidding requirements. The bidder also acknowledges that any bid submitted which does not meet the minimum specifications shall be deemed unresponsive and rejected on that basis.

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE IN FIGURES	EXTENDED PRICE IN FIGURES
Whiskey Creek Buried Structure Procurement	1.0	LS	\$ per LUMP SUM	\$
Sales Tax @ <u>8.8%</u> \$ _____				
TOTAL BID AMOUNT \$ _____				

BID PROPOSAL

NON-COLLUSION DECLARATION

I, by signing the proposal, hereby declare, under penalty of perjury under the laws of the United States that the following statements are true and correct:

That the undersigned person(s), firm, association or corporation 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 project for which this proposal is submitted.

That by signing the signature page of this proposal, I am deemed to have signed and have agreed to the provisions of this declaration.

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.

BID PROPOSAL

Whiskey Creek Buried Structure Procurement
Bid Documents

Page 8

BIDDER IDENTIFICATION

The name of the Bidder submitting this proposal, the address and phone number to which all communications concerned with this proposal shall be made and the number which has been assigned indicating the Bidder is licensed to do business in the State of Washington are as follows:

Firm Name: _____

Address: _____

Telephone: _____ Fax: _____

Contractor's Number: _____

The Firm submitting this proposal is a _____ Sole Proprietorship
_____ Partnership
_____ Corporation

The names and titles of the principal officers of the corporation submitting this proposal, or of the partnership, or of all persons interested in this proposal as principals are as follows:

NOTE: Signatures of this proposal must be identified above. Failure to identify the Signatories will be cause for considering the proposal irregular and for subsequent rejection of the bid.

BID PROPOSAL

BID PROPOSAL SIGNATURE AND ADDENDUM ACKNOWLEDGMENT

Receipt is hereby acknowledged by addendum(s) No.(s) _____, _____, & _____

SIGNATURE OF AUTHORIZED OFFICIAL(S)

(PROPOSAL MUST BE SIGNED) _____

SIGNATURE

FIRM NAME

STATE OF WASHINGTON)
) ss.
COUNTY OF WHATCOM)

On this _____ day of _____, 2022, before me personally
appeared _____ to me personally known to be the person
described in and who executed the above instrument and who acknowledged to me the act of
signing thereof.

NOTARY PUBLIC, in and for the
State of Washington, residing at:

My Commission Expires: _____

**This proposal form is not transferable and any alteration of the firm's name entered hereon
without prior permission from the City of Ferndale will be cause for considering the
proposal irregular and for subsequent rejection of the bid.**

BID PROPOSAL

GENERAL PROVISIONS

The 2022 WSDOT Standard Specifications for Road, Bridge and Municipal Construction, except as may be modified or superseded by these contract documents, shall govern all phases of the work. Any reference therein to the State of Washington or to an officer thereof, shall be construed to mean City of Ferndale or the appropriate equivalent official of City of Ferndale. Any reference to the Contractor shall be construed to mean Bidder/Supplier.

DESCRIPTION OF WORK

This Contract provides for the supply and delivery of a precast reinforced concrete split box culvert to the Malloy Avenue Whiskey Creek Culvert Replacement project location.

SALES TAX

The Bidder shall include Washington State sales tax as a separate line item on the bid response sheet, at the rate of 8.8%. The City will pay sales tax directly to the State of Washington at a rate of 8.8% on purchases made from out-of-state vendors who do not have a Washington State sales tax number. In determining the low bid, sales tax is considered part of the total bid.

All other applicable taxes, except Washington State sales tax, as well as any other permits or fees required by compliance with federal, state, provincial, or local rules or regulations must be included in bid prices offered.

PROSECUTION OF WORK

Upon creation of a purchase order, the Contracting Agency will issue the Supplier a Notice to Proceed. The Notice to Proceed is anticipated to be issued by June 7, 2022. The Supplier shall diligently pursue the work to the required completion date. Voluntary shutdown or slowing of operations by the Supplier shall not relieve the Supplier of the responsibility to complete the work within the time(s) specified.

TIME FOR COMPLETION

The precast reinforced concrete split box culvert shall be manufactured and delivered to the project location no later than August 1, 2022, or as mutually agreed upon in writing by City of Ferndale and the Supplier.

DELIVERY

Bid prices for the precast reinforced concrete split box culvert shall include delivery to the project location at the 6300 block of Malloy Avenue, Ferndale, WA 98248. Hauling permits and freight charges are the responsibility of the Supplier. Project location is along Malloy Avenue just north of the intersection with Kona Court.

The exact delivery date shall be as agreed to by the Contracting Agency and the Supplier. Delivery shall be coordinated with Katy Radder, City of Ferndale Public Works, (360) 778-6400.

The Supplier will advise the City of the actual lifting weights and all necessary information for unloading of the precast reinforced concrete split box culvert. Unloading, assembling,

installation, and lifting equipment are the responsibility of the Malloy Avenue Whiskey Creek Culvert Replacement project.

All deliveries shall comply with all applicable current Washington State and/or Federal government COVID- 19 recommendations.

TECHNICAL SPECIFICATIONS

This work shall include fabricating, delivering, and furnishing all necessary assembly materials required for a complete precast reinforced concrete split box culvert, including but not limited to joint connection and joint sealing materials, all in accordance with these documents.

DIMENSIONS AND CONFIGURATION

The precast reinforced concrete split box culvert shall meet the requirements shown on the Whiskey Creek Buried Structure Exhibit.

SHOP DRAWINGS

The Supplier shall submit working drawings to the Engineer in accordance with Section 6 20.3(2)A of the WSDOT Standard Specifications. Approval of the Shop Drawings by the Engineer shall be required before fabrication of the precast reinforced concrete split box culvert. In approving the shop plans, the Contracting Agency accepts only the nature and scope of the details without validating any dimensions.

Submittals shall be sent electronically to Katy Radder at KatyRadder@cityofferndale.org

MANUFACTURER'S INSTALLATION INSTRUCTIONS

The Supplier shall submit manufacturer's materials, equipment and installation methods and instructions for the precast reinforced concrete split box culvert with the shop drawings submittal.

CONSTRUCTION SUPPORT

The Supplier shall make available a representative for guidance and support if needed during assembly of the precast reinforced concrete split box culvert by the Malloy Avenue Whiskey Creek Culvert Replacement project. To provide a common proposal for all Bidders, the Contracting Agency has estimated one (1) day of on-site support and up to 4 hours support via phone or email.

MEASUREMENT

No specific unit of measurement shall apply to the lump sum item for the Whiskey Creek Buried Structure Procurement.

PAYMENT

Payment will be made only for the actual quantities of material delivered and accepted in conformance with this bid.

“Whiskey Creek Buried Structure Procurement”, lump sum.

The lump sum Contract price for “Whiskey Creek Buried Structure Procurement” shall be full payment to perform the Work as specified in this Technical Specification.

CONTRACT FORMS
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City of Ferndale

2095 MAIN STREET / P.O. BOX 936
FERNDALE, WA 98248
(360) 384-4006

**NOTICE OF AWARD
WHISKEY CREEK BURIED STRUCTURE PROCUREMENT
FERNDALE, WASHINGTON**

DATE: _____

BIDDER: _____

The purpose of this letter is to provide you notice that your firm has been awarded the contract for the above-referenced project, for your bid price of _____.

Two copies of the contract are enclosed. Please sign both copies and return them to this office with the following required documents within five (5) calendar days after the date of this letter, and a preconstruction conference will be scheduled:

If you have comments, questions or require further information regarding any of the above, please do not hesitate to contact the Public Works Department at (360) 384-4006.

Sincerely,

Katy Radder
Public Works Project Manager

**CONTRACT
FOR:
WHISKEY CREEK BURIED STRUCTURE PROCUREMENT
FERNDALE, WASHINGTON**

This Contract, made and entered into this ____ day of _____, 2022 by and between the City of Ferndale, hereinafter called the "Owner" and _____, hereinafter called the "Contractor".

WITNESSETH:

That in consideration of the terms and conditions contained herein and attached and made a part of this Contract, the parties hereto covenant and agree as follows:

1. The Contractor shall do all of the work and furnish all of the labor, materials, tools and equipment for the construction of the improvements and shall perform any changes in the work, all in full compliance with the contract documents entitled "WHISKEY CREEK BURIED STRUCTURE PROCUREMENT, FERNDALE, WASHINGTON".

2. The "Bid Proposal", "Specifications and Conditions", "Contract Forms", and the "Plans" sections contained in said contract documents are hereby referred to and by reference made a part hereof.

3. The Owner hereby promises and agrees with the Contractor to employ, and does employ the Contractor to furnish the labor, materials, tools and equipment, and to and cause to be done the above-described work, and to complete and finish the same in accordance with the said contract documents and the terms and conditions herein contained, and hereby contracts to pay for the same, according to the said contract documents, including the schedule of estimated quantities, and unit and lump sum prices in the Bid Proposal, the approximate sum of _____, the total amount of bid, subject to the actual quantity of work performed, at the time and in the manner and upon the conditions provided for in this contract.

4. The Contractor for himself, and for his agents, successors, assigns, subcontractors and/or employees, does hereby agree to the full performance of all the covenants herein contained upon the part of the Contractor.

5. The Owner hereby appoints and the Contractor hereby accepts _____, hereinafter referred to as the Engineer, as the City's representative for the purpose of administering the provisions of this Contract, including the Owner's right to receive and act on all reports and documents related to this Contract, to request and receive additional information from the Contractor, to assess the general performance of the Contractor under this Contract, to determine if the contracted services are being performed in accordance with Federal, State or local laws, and to administer any other right granted to the Owner under this Contract. The Owner expressly reserves the right to terminate this Contract as provided in the contract documents, and also expressly reserves the right to commence civil action for the enforcement of this contract.

6. This Contract contains terms and conditions agreed upon by the parties. The parties agree that there are no other understandings, oral or otherwise, regarding the subject matter of this Contract.

7. The Contractor agrees to comply with all applicable Federal, State, City or municipal standards for the licensing, certification, operation of facilities and programs, and accreditation and licensing of individuals.

8. The Contractor shall not assign or subcontract any portion of the work provided for under the terms of this Contract without obtaining prior written approval of the Engineer. All terms and conditions of this Contract shall apply to any approved subcontract or assignment related to this Contract.

9. The parties intend that an independent Contractor-Owner relationship will be created by this Contract. The Owner is interested only in the results to be achieved, the implementation of the work will lie solely with the Contractor. The Contractor will be solely and entirely responsible for its acts and for the acts of its agents, employees, servants, subcontractors, or otherwise during the performance of this Contract. In the performance of the work herein contemplated, the Contractor is an independent Contractor with regard to the performance of the details of the work; however, the components of and the results of the work contemplated herein must meet the approval of the Engineer and shall be subject to the Engineer's general rights of inspection and review to secure the satisfactory completion thereof.

10. The Contractor agrees and covenants to indemnify, defend, and save harmless, the Owner and the City of Ferndale and those persons who were, now are, or shall be duly elected or appointed officials or members of employees thereof, hereinafter referred to as the "Owner" or "City" against and from any loss, damage, costs, charge, expense, liability, claims, demands or judgments, of whatsoever kind or nature, whether to persons or to property, arising wholly or partially out of any act, action, neglect, omission, or default on the part of the Contractor, his agents, successors, assignees, subcontractors and/or employees, except only such injury or damage as shall have been caused by or resulted from the sole negligence of the City. In case any suit or cause of action shall be brought against the Owner or the City on account of any act, action, neglect, omission, or default on the part of the Contractor, his agents, successors, assignees, subcontractors and/or employees the Contractor hereby agrees and covenants to assume the defense thereof and to pay any and all costs, charges, attorney's fees and other expenses and any and all judgments that may be incurred or obtained against the City.

In the event the Owner is required to institute legal action and/or participate in the legal action to enforce this Indemnification and Hold Harmless Clause, the Contractor agrees to pay the Owner or City's legal fees, costs and disbursements incurred in establishing the right to indemnification. If the claim, suit, or action for injuries, death, or damages as provided for in the preceding paragraphs of this specification is caused by or results from the concurrent negligence of (a) the indemnitee or the indemnitee's agents or employees and (b) the indemnitor or the indemnitor's agents for employees the indemnity provisions provided for in the preceding paragraphs of this specification shall be valid and enforceable only to the extent of the indemnitor's negligence.

Contractor hereby specifically and expressly waives any immunity under Industrial Insurance, Title 51 RCW and acknowledges that this waiver was mutually negotiated by the parties herein. In the event of litigation between the parties to enforce the rights under this paragraph, reasonable attorney's fees shall be allowed to the prevailing party.

11. This Contract has been and shall be construed as having been made and delivered within the State of Washington, and it is mutually understood and agreed by each party hereto that this Contract shall be governed by the laws of the State of Washington, both as to interpretation and performance. Any action in law, suit and equity or judicial proceedings for the enforcement of this contract, or any provisions thereof, shall be instituted and maintained in the courts of competent jurisdiction located in City of Ferndale, Washington.

12. The failure of the Owner to insist upon strict performance of any of the covenants and agreements of this Contract or to exercise any option herein conferred in any one or more instances shall not be construed to be a waiver or relinquishment of any such, or any other covenants or agreements, but the same shall be and remain in full force and effect.

13. It is understood and agreed by the parties hereto that if any part of this agreement is determined to be illegal, the validity of the remaining portions shall be construed as if the agreement did not contain the particular illegal part.

14. No change or addition to this Contract shall be valid or binding upon either party unless such change or addition shall be in writing, executed by both parties.

15. In the event that funding from State, Federal, or other sources is withdrawn, reduced, or limited in any way after the effective date of this Agreement, and prior to its normal completion, the Owner may summarily terminate this Agreement as to the funds withdrawn, reduced, or limited notwithstanding any other termination provisions of this Agreement. If the level of funding withdrawn, reduced or limited is so great that the Owner deems that the continuation of the programs covered by this Agreement is no longer in the best interest of the City, the Owner may summarily terminate this Agreement in whole notwithstanding any other termination of this Agreement. Termination under this section shall be effective upon receipt of written notice as specified herein.

IN WITNESS WHEREOF, the Contractor has executed this instrument, on the day and year first below written and the Owner has caused this instrument to be executed by and in the name of the said County, the day and year first above written.

Executed by the Contractor this _____ day of _____, 2022.

CITY OF FERNDALE:

By: _____
City Administrator / Mayor

STATE OF WASHINGTON)
) ss.
COUNTY OF WHATCOM)

On this ____ day of _____, 2022, before me personally appeared _
to me personally known to be the person described in and who executed the above instrument
and who acknowledged to me the act of signing thereof.

NOTARY PUBLIC, in and for the
State of Washington, residing at:

My Commission Expires: _____

CONTRACTOR:

By: _____

Title: _____

STATE OF WASHINGTON)
) ss.
COUNTY OF WHATCOM)

On this ____ day of _____, 2022, before me personally appeared
to me personally known to be the person described in and who executed the above instrument
and who acknowledged to me the act of signing thereof.

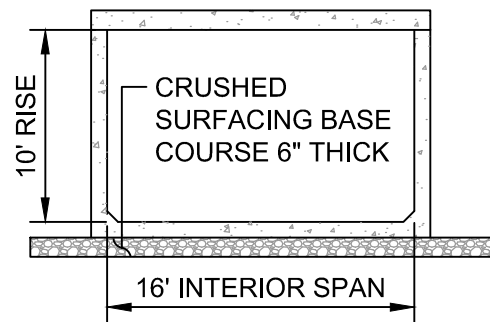
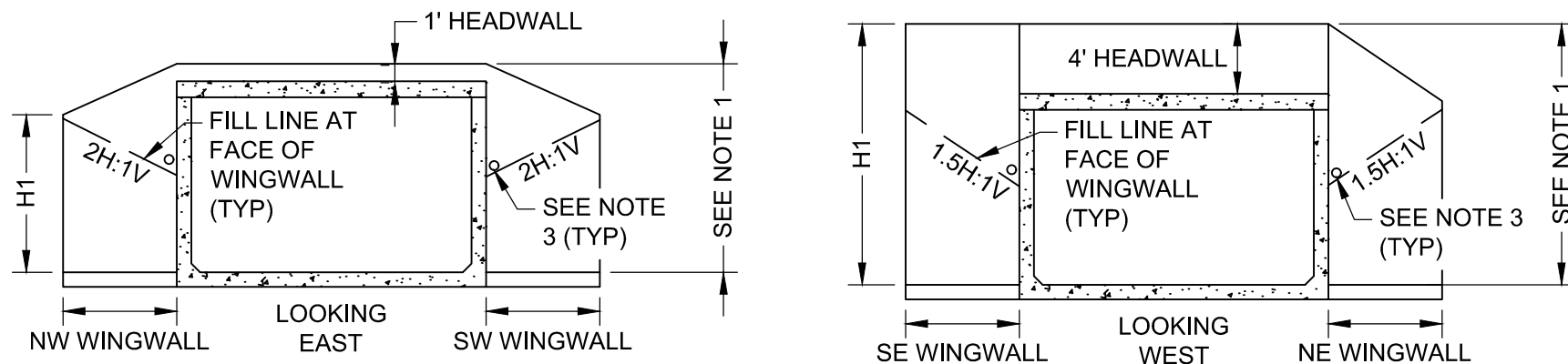
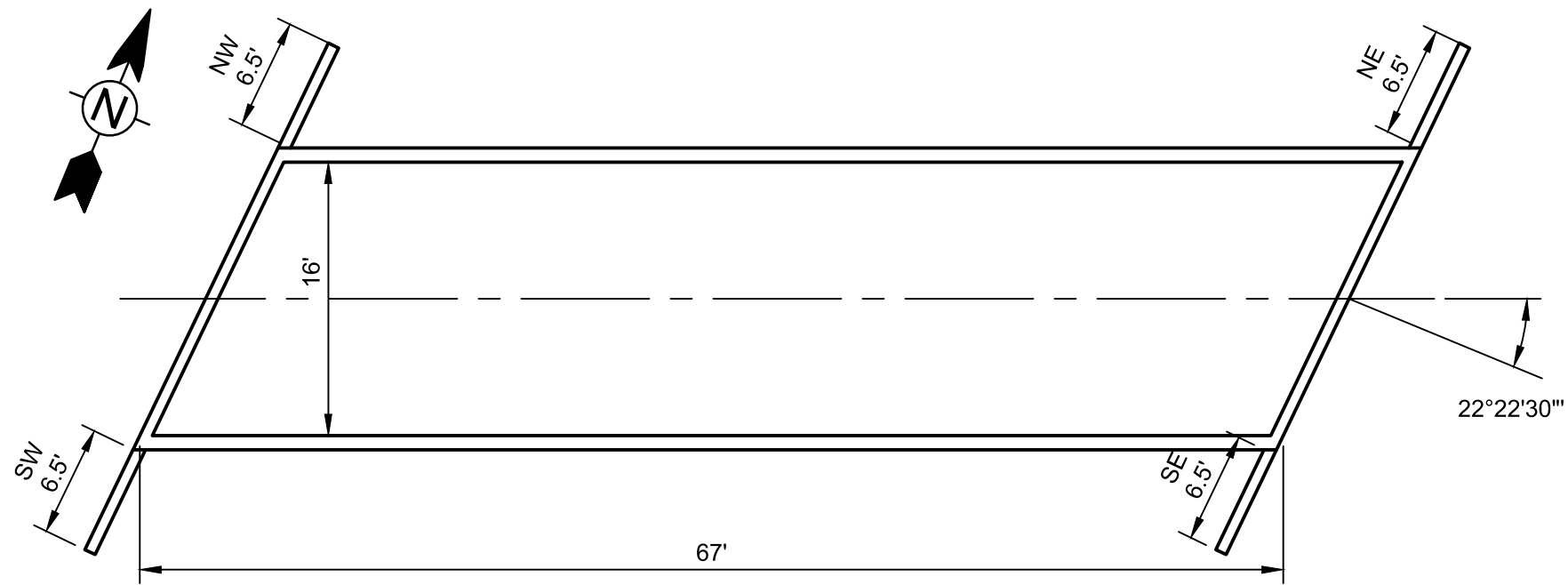
NOTARY PUBLIC, in and for the
State of Washington, residing at:

My Commission Expires: _____

PLAN SHEETS

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4/12/2022 2:29:45 PM - P:\21-02 FERNDAL MALLOY - WHISKEY CREEK\CAD\EXHIBITS\WHISKEY BOX CULVERT.DWG - AXT, KEVIN



**BURIED STRUCTURE DESIGN PARAMETERS:
SEE GEOTECH RECOMMENDATIONS**

BURIED STRUCTURE DESIGN IN ACCORDANCE WITH 2022 WSDOT SPECIFICATIONS SECTIONS 6-20.3(1)C, 6-20.3(1)D, 6-20.3(1)H. ALL SUBMITTAL REQUIREMENTS OF SECTION 6-20.3(2) SHALL APPLY.

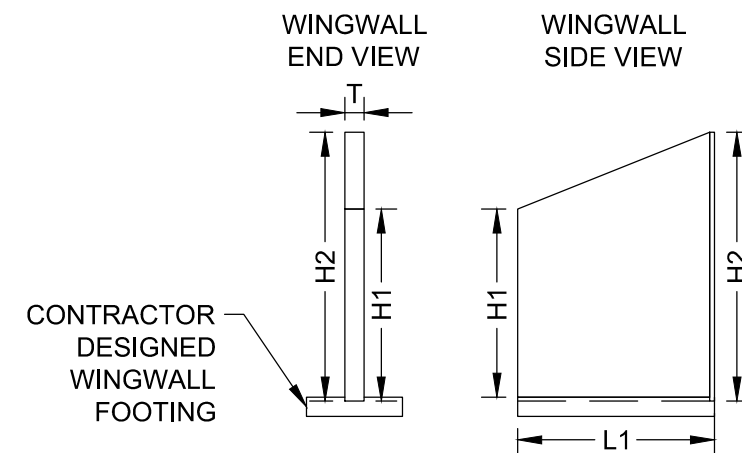
BURIED STRUCTURE DEPTH OF COVER APPROXIMATELY 12 FEET UNDER ROADWAY.

WINGWALL, HEADWALL, AND FALL PROTECTION NOTES

1. WINGWALL HEIGHT FABRICATED TO MATCH TOP OF HEADWALL.
2. WINGWALL FOOTING RECEIVES THE SAME FOUNDATION SUPPORT MATERIALS AND THICKNESS AS THE BURIED STRUCTURE FOUNDATION.
3. MANUFACTURER DESIGNED WEEP HOLE.
4. BURIED STRUCTURE, WINGWALL, AND WINGWALL FOOTING (THICKNESS & WIDTH) TO BE DESIGNED BY MANUFACTURER.
5. FALL PROTECTION CHAIN LINK FENCE MOUNTED ON HEADWALL AND WINGWALL. FALL PROTECTION FENCE AND CONNECTION NOT PART OF BURIED STRUCTURE MANUFACTURE.
6. BURIED STRUCTURE SHALL BE PRECAST REINFORCED CONCRETE SPLIT BOX CULVERT.

WINGWALL SCHEDULE					
BURIED STRUCTURE CORNER	L1 (FT)	H1 (FT)	H2* (FT)	T (IN)	CONTACT ANGLE
NW	6.5	9.0	11.9	SEE NOTE 4	0
SW	6.5	9.0	11.9	SEE NOTE 4	0
NE	6.5	10.5	14.9	SEE NOTE 4	0
SE	6.5	14.9	14.9	SEE NOTE 4	0

* HEIGHT ASSUMES AN 11" THICK TOP SLAB. ADJUST HEIGHT IF CONTRACTOR DESIGNED BURIED STRUCTURE TOP SLAB THICKNESS DIFFERS.



<p>TETRA TECH www.tetrattech.com 1420 FIFTH AVENUE, SUITE 650 SEATTLE, WA 98101</p>	CITY OF FERNDAL WHISKEY CREEK BURIED STRUCTURE	PROJ: DATE: 04-12-2022 DESN:
	Bar Measures 1 inch	

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WHISKEY CREEK BURIED STRUCTURE DESIGN PARAMETERS
EXCERPT FROM "WHISKEY CREEK CULVERT REPLACEMENT
GEOTECHNICAL ENGINEERING REPORT"



Geotechnical Engineering Report

Whiskey Creek Culvert Replacement
Ferndale, Washington
Project # PS21204710

Prepared for:

Tetra Tech, Inc.

1420 Fifth Avenue, Suite 650, Seattle, Washington 98101

March 22, 2022

lagging. Soil parameters for design of a temporary shoring system was not included within our scope of work but could be provided upon request.

Site Excavations: We understand that excavation depths on the order of 20 feet with an approximate width of 22 feet at the base of the cut would be required to accommodate the proposed split box culvert which allows for a 3-foot-wide buffer on either side of the culvert for worker access. Assuming an average temporary cut slope of 1H:1V, this results in an excavation approximately 62 feet wide at the surface of the road cut to remove the existing culvert and construct the replacement culvert. Based on our explorations, we anticipate that the excavations will mostly encounter medium stiff to stiff embankment fill composed of clayey silt. These soils can be readily excavated with conventional earthwork equipment.

Site Cutting and Filling: We anticipate that mostly excavation, with minor amounts of backfill around and underneath foundations will be required for the culvert replacement. Imported clean granular fill is recommended for backfilling to avoid potential delays during construction. The on-site fine-grained soils are wet and could only be considered for re-use if time is allowed to spread out, rototill and aerate during hot dry weather. Regardless of soil type, all fill should be placed and compacted according to the recommendations presented in the *Structural Fill* section of this report.

4.2 Split Box Concrete Culvert Support

It is our understanding that precast concrete split box culverts do not require footings, but instead are directly supported by the subgrade soils. However, the split box culverts do require a bedding layer placed over a properly prepared subgrade as described below. We offer the following comments and recommendations for purposes of culvert support and construction.

Subgrade Excavations: Excavation on the order of 20 feet below the roadway are planned for the split box concrete culvert. Our test boring encountered hard silty clay at this depth which would provide adequate subgrade support for the proposed split box culvert.

Subgrade Verification: Structures should never be constructed atop soft, loose, organic, or frozen soils, nor atop subgrades covered by standing water. The use of a smooth-bladed bucket should be considered for final excavation to design subgrade to minimize disturbance to the subgrade soils. A Wood geotechnical engineer or their representative should be retained to observe all subgrades before placement of the bedding material to verify that soils are suitable for providing subgrade support and have been adequately prepared.

Bedding Materials: To provide adequate and uniform bearing conditions for the split box concrete culvert, we recommend placing a minimum 6-inch layer of bedding in accordance with WSDOT 6-20.3(6)A over suitable subgrade soils. The bedding should be a crushed surfacing base course or crushed surfacing top course which meets 9-03.9(3) that has been leveled and compacted to a firm and unyielding condition.

Vertical Overexcavations: Our exploration encountered hard silty clay native soils at the planned excavation depth. However, if soft or loose soils are encountered at the base of the excavation, such soil should be overexcavated. A maximum overexcavation of 2 feet below the design subgrade elevation is considered adequate to support the anticipated loads imparted by the split box culvert. These overexcavated soils should be replaced with either additional bedding material, or Gravel Backfill for Foundations Class A per WSDOT 9-03.12(1)A. As discussed in relation to temporary dewatering, if seepage is encountered at the base of the excavation, Permeable Ballast per WSDOT 9-03.9(2) or Quarry Spalls per WSDOT 9-13.1(5) should be used for the initial backfill of the overexcavation.

Lateral Overexcavations: Because loading stresses are transferred outward as well as downward into the bearing soils, all over-excavations should extend horizontally outward from the edges of outside edge of the culvert structure. This horizontal distance should be at least 75 percent of the overexcavation depth.

The subgrade of the overexcavated areas should be observed prior to placement of any bedding materials in order to verify that they have been adequately prepared.

4.3 Culvert Design Parameters

We offer the following parameters for culvert design in accordance with AASHTO LRFD Bridge Design Specifications. Based on our review of subsurface conditions, the box culvert foundations will bear on at least very stiff to hard soils, or compacted structural fill placed above firm native soils (if overexcavation is required). As currently envisioned the box culvert headwalls and wing walls would be pre-cast concrete walls on the order of 4 feet high, with 2H:1V to 1.5H:1V slopes of limited height above. We have assumed imported backfill with properties at least comparable to WSDOT Gravel Borrow 9-03.14(1) will be used. If higher quality granular backfill soils are used, higher strength properties would be attained. Based on guidance in the WSDOT Geotechnical Design Manual (2019b) Table 5-2, conservative values for Gravel Borrow would be a friction angle of 36 degrees and a total unit weight of 130 pounds per cubic foot. Using these strength properties for backfill, the following soil design parameters are recommended for design of the box culvert and culvert headwalls and wingwalls:

- Depth of water table = 15.5 feet
- Backfill soil density = 130 pounds per cubic foot
- Active earth pressure coefficient K_a (level back slope) = 0.26
- At rest earth pressure coefficient K_o (level back slope) = 0.41
- Active earth pressure coefficient K_a (2H:1V back slope) = 0.36
- At rest earth pressure coefficient K_o (2H:1V back slope) = 0.60
- Active earth pressure coefficient K_a (1.5H:1V back slope) = 0.52
- At rest earth pressure coefficient K_o (1.5H:1V back slope) = 0.64
- Passive earth pressure coefficient K_p (level ground) = 3.85
- Ultimate (nominal) soil bearing resistance = 30,000 pounds per square foot (psf); (see Note 1)
- Service limit state bearing resistance (assuming 1-inch settlement) = 1,300 psf; (see Note 2)
- Resistance factor; bearing = 0.45 (see Note 3)
- Resistance factor; sliding = 0.90 (see Note 3)

Note 1: Assumes split box culvert (16 feet wide). Use 3,000 pounds per square foot if a bottomless culvert (3 feet width) is used.

Note 2: For 16-foot-wide "footing" of a box culvert. Use 3,000 psf for bottomless culvert (3 feet width footing). The 1300 psf represents any additional loading above existing vertical pressure imposed by the soil embankment, estimated to be (20 feet x 100 pcf = 2,000 psf).

Note 3: Assumes strength limit state. Use 1.0 for service limit state.