

Cross Valley



DEVELOPER EXTENSION AGREEMENT AND TECHNICAL SPECIFICATIONS

for

SEWER MAIN CONSTRUCTION

Revised 2023

EXTENSION: _____

PROJECT # : _____

DEVELOPER: _____

DATE: _____



Snohomish County, Washington

Commissioners

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DEVELOPER EXTENSION CONTACT INFORMATION

Name of Extension: _____

Plat

Section

Township

Range

Owner, a Corporation: _____

Name: _____

Partnership: _____

Address: _____

Sole Proprietorship: _____

LLC: _____

Phone: _____

Emerg. Phone: _____

Email: _____

CONTRACTOR:

Name: _____

Address: _____

Phone: _____

Emerg. Phone: _____

Email: _____

SUPERINTENDENT:

Name: _____

Address: _____

Phone: _____

Emerg. Phone: _____

Email: _____

ENGINEERING FIRM:

Name: _____

Address: _____

Phone: _____

Emerg. Phone: _____

Email: _____



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DEVELOP PROCESS CHECK LISTS

Project Name and Number

Phase 1 - Design and Approval

Date and Initials of District Representative

_____	1.	Developer agreement received and completed.	(Developer)
_____	2.	Basic engineering and legal fees paid.	(Developer)
_____	3.	Legal description and ownership checked.	(District)
_____	4.	Preliminary Connection Fee Charges calculated	(District)
_____	5.	Developer agreement approved by Resolution.	(District)
_____	6.	Approved Developer Extension Agreement returned to Developer.	(District)
_____	7.	Plans submitted for approval or for design, on CAD if available.	(Developer)
_____	7.1	Final plat map (scale 1" = 50').	(Developer)
_____	7.2	Existing and proposed contour maps with 5' contour interval scaled 1" = 50'..	(Developer)
_____	7.3	Road profiles showing all proposed and existing utilities and datum noted.	(Developer)
_____	7.4	Storm drainage plans.	(Developer)
_____	7.5	Water plans if serviced by other District	(Developer)
_____	7.6	Architectural plans and building elevations.	(Developer)
_____	7.7	Number of units per building.	(Developer)
_____	7.8	All utility plans, i.e., Gas, Power, Telephone, Cable	(Developer)
_____	7.9	Plat and utility coordinates plan	(Developer)
_____	7.10	Determine flow capacity and other facilities required:	(Developer/ District)
_____	7.10.1	Oil / Sand / Water / Separator	
_____	7.10.2	Grease Trap	
_____	7.10.3	Industrial Waste monitoring / Flow Control	
_____	7.10.4	Other	
_____	8.	Plans Reviewed	(District)
_____	9.	Application made for State or Federal Permits, etc.	(District)

10.	Necessary approvals received	(Developer)
10.1	Snohomish County	
10.2	Department of Ecology	
10.3	State or Federal Agencies	
10.4	King County Department of Natural Resources – Wastewater Treatment Division	
11.	Necessary easements acquired and filed.	(Developer/District)
12.	CAD drawing file if available and Full Set of Plans min Two Sets submitted to the District.	(Developer)
13.	Plans submitted to Snohomish County/WSDOT for street cut permit	(District)
14.	Right-of-Way Permit Bond	(Developer/Contractor)
15.	Permit received	(District)
16.	Preliminary Connection Fee Charges Paid	(Developer)
17.	Plans approved: Notice to Proceed to Developer and Contractor	(District)

Phase 2 – Construction

Date and Initials of District Representative

1.	Construction engineering fee paid.	(Developer)
2.	Performance Bond or Cash Bond received.	(Developer)
3.	Certificate of Insurance	(Developer)
4.	Requirements met for approval of Contractor	(District)
5.	Pre-Construction conference attended by Developer, Developer's Engineer and Contractor.	(Contractor/ District)
6.	Copies of all permits to Contractor and Developer.	(District)
7.	Property boundary and lot corner stakes in place.	(Developer)
8.	Sewer main staking.	(Developer)
9.	72 hours' advance notice of starting date by Contractor.	(Contractor)
10.	Affected agencies, property owners, schools, etc., notified	(Contractor)
11.	System tested.	(District)
12.	TV Sewer Line/ Flush Sewer Lines/ Possibly ReTv any repaired lines	(Developer)
13.	Semi-final inspection for acceptance.	(District)

14.	Deficient items lit mailed - if required.	(Developer/Contractor / District)
15.	Final inspection.	(District)
16.	As-Built Drawings completed	(District)

Phase 3 - Service Connection

Date and Initials of District Representative

1.	Preliminary connection fee re-calculated	(District)
2.	Necessary easements verified correct and filed.	(Developer)
3.	Executed Bill of Sale submitted to the District.	(Developer)
4.	Affidavit of No Lien.	(Developer)
5.	Certification of construction costs received by District (Local, Major, etc.)	(Contractor/ District)
6.	Verify all Developer Extension fees and all the following accounts paid	(Developer)
	Developer Extension Fees	
	A account - Additional Services	
	B account - Basic Engineering	
	C account – Construction	
	L account - Legal	
	M account - Connection Fee Charges (CFC)	
7.	Maintenance Bond received in the amount of ten per cent (10%) of cost of the extension, an amount of \$	(Developer)
8.	Resolution accepting facilities	(District)
9.	Recorded documents Received	(Developer)
10.	Recorded plat map	(Developer)
11.	Side Sewer Application	(District/Developer)
12.	Lot tracking Sheet Filled out prior to Meter/Side Sewer Sale	(Developer)
13.	Final inspection prior to end of 2 -year minimum or established warranty after acceptance.	(District)
14.	Release of maintenance bond.	(District)
15.	Refund any deposits made check water/sewer DDP or Fire Flow	(District)

PROJECT COMPLETE

Developer Extension Financial Summary Estimated / Preliminary Cross Valley Water District						
WATER				SEWER		
NAME OF DEVELOPMENT						
DE#						
DATE						Trans CODE
	PRE-APPLICATION DEPOSIT	DEPOSIT		DDP		
ENGINEERING						
	FIRE FLOW DEPOSIT	DEPOSIT		FFWtr		
	REVIEW and or DESIGN DEPOSIT	DEPOSIT		DDPWTR/SEWER		
	INSPECTION	DEPOSIT		DDPWTR/SEWER		
LEGAL (Review)						
	SERVICES	DEPOSIT		DDPLgWTR		
	SERVICES	DEPOSIT		DDPLgSEWER		
PERMITS (County WSDOT)						
	PERMITS	DEPOSIT		DDPWTR		
	PERMITS	DEPOSIT		DDPSEWER		
DISTRICT COSTS						
	REVIEW	DEPOSIT		DDPWTR		
	REVIEW	DEPOSIT		DDPSEWER		
OTHER						
	METER	SIZE	#	DEPOSIT		MTRINSTAL
	DE Water Book	(2 needed)		DEPOSIT		DEBkWTR
	DE Sewer Book	(2 needed)		DEPOSIT		DEBkSEWER
Additional Deposits may be required.						
CONNECTION FEE CHARGES - (Paid at the time of the water meter application - * increase Sept 1st annually)						
<u>LOCAL</u> - per connection						
	Single Family Unit		DEPOSIT		ConnLoc / (X)	
	Multi-Family Unit		DEPOSIT		ConnLoc / (X)	
	Industry or Commercial		DEPOSIT		ConnLoc / (X)	
<u>GENERAL</u> - per connection						
	5/8" Single Family Unit		DEPOSIT		ConnGen / (X)	
	3/4" Single Family Unit		DEPOSIT		ConnGen / (X)	
	Multi-Family Unit		DEPOSIT		ConnGen / (X)	
	Industry or Commercial		DEPOSIT		ConnGen / (X)	
* Connection fee charges do NOT include Meter and Service Line costs.						
Performance Bond is the estimated project cost. Maintenance Bond is 10% for 2 years.						



**CROSS VALLEY WATER DISTRICT
APPLICATION AND AGREEMENT FOR PERMISSION TO CONSTRUCT
EXTENSION TO SEWER DISTRIBUTION SYSTEM**

1. Location of Extension	Application and Agreement - 1
2. Description of Extension	Application and Agreement - 2
3. Connection Fee Charge	Application and Agreement - 2
4. Extension Fee – Design by the District’s Engineer	Application and Agreement - 2
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CROSS VALLEY WATER DISTRICT
APPLICATION AND AGREEMENT FOR PERMISSION TO CONSTRUCT EXTENSION
TO SEWER DISTRIBUTION SYSTEM

Project Name and Number

The undersigned, (the "Developer"), makes application to the Cross Valley Water District, ("the District"), for permission to construct and install an extension in the easement and franchise areas of the Water District and/or on easements which are subject to the District's approval and to connect the extension to the sewer collection system of the District and makes the following representations and agreements,

1. LOCATION OF EXTENSION.

The proposed extension, described in Section 2 below, will be installed in road franchise areas, easements and/or on other approved rights-of-way and shall be for the use and benefit of the property described below, which property is owned by the Developer and/or other persons who are contributing to the costs of said extension; and who join in this application ("Additional Owners"); The extension shall be extended to the furthest edge of the Developer's property and/or through the property to the furthest boundary to provide for future extensions of the sewer collection system and developments; The Developer's property is described as follows: (if the legal description is not set forth or is incorrect, then, at the option of the District, the District may cause the legal description or corrected legal description to be inserted below or attached to, to this Application and Agreement .)

Description of Property

2. DESCRIPTION OF EXTENSION.

The proposed extension shall consist of approximately _____ lineal feet of sewer pipe and appurtenances and shall be installed in accordance with plans and specifications provided or approved by the District's Engineer and the Standards and Conditions for Constructing Extensions to the Sewer System adopted by the District which include, but are not limited to, resolutions, general conditions, engineering specifications, standard plans and other instruments or documents which are on file in the District's office and in the office of the District's Engineer, or detailed plans and specifications as prepared and/or approved by the District and/or its Engineer pursuant to this Application, the terms and conditions of which are, by this reference, made a part hereof, as though set forth in full herein.

3. CONNECTION FEE CHARGE.

The District presently has a connection fee charge for all property in its boundary. Payment of the connection charges will be required to be made at the time of the side sewer permit application and water meter installation.

4. EXTENSION FEE - DESIGN BY THE DISTRICT'S ENGINEER.

If the Developer elects to have the District's Engineer design the extension, extension fees shall be paid by the Developer in consideration of the District providing the following services:

a. Basic Engineering and Administrative Services.

1. General consultation with the Developer regarding the District's requirements and procedures for the Developer to make a sewer system extension, and the administration of this Developer Extension Agreement.
2. Preliminary review of the proposed development and preliminary layout of the required sewer main extension in accordance with the District's Sewer Comprehensive Plan.
3. Preparation of the contract plans, specifications, and bill of sale forms.
4. Submittal of contract plans and specifications to the regulatory agencies for approval.
5. Application for State and County permits, but not to include Corps of Engineers, Shoreline Management or SEPA applications or requirements.
6. Consultation with the Developer during the period of this extension Agreement regarding the extension design, District specifications, and other District requirements.

The fee for basic engineering and sewer administering services shall be as identified on the estimated financial summary sheet.

b. Construction Engineering Services.

1. Provide one complete set of construction stakes, including cut sheet preparation.
2. Revision of drawings to conform to construction records.

The fee for construction Engineering services shall be on an actual time and expense basis. A deposit shall be made to cover the actual time and expense cost of providing Construction Engineering services, if required. Additional charges or credits will be made depending on the final costs of the additional services provided.

c. Construction Observation Services.

1. Observation of the construction in progress as required.
2. Observation of the testing required by the specifications, and any re-testing which may be necessary.
3. Final review of the complete sewer main extension and preparation of a report setting forth any deficiencies that may exist.
4. Review of deficient work as corrected and final two-year review.
5. Final review of the completed sewer extension and examination of require documents to assure that the District has legal title to the necessary easements and/or rights-of-way, review and approval of the Developer's warranty and bill of sale and preparation of a final recommendation of acceptance of the sewer system by the Water District.

The fee for Construction Observation Services shall be on an actual time and expense basis. An estimated deposit shall be made to cover the actual time and expense cost of providing Construction Observation Services, for Construction Observation Services, if required. Additional charges or credits will be made depending on the final costs of the additional services provided.

d. Legal Services.

1. Amendment of the comprehensive plan.
2. Review of Developer Extension Agreement and any special agreements required by the District for the extension.
3. Resolution accepting developer extension agreement.
4. Review of easements as required.
5. Resolution of acceptance of use and operation.
6. Resolution accepting title, review of the bill of sale and performance/maintenance bonds.

The minimal deposit fee for legal services shall be \$300.

e. Additional Professional Services.

1. Revision of the contract plans, and specifications and work occasioned by the need, request or act of the Developer related thereto.
2. Obstruction, delay or prevention of construction staking, replacement of stakes and additional staking.

3. Reinspection of deficient work.
4. Additional legal fees may be charged on a time and expense basis where a special contract is required and/or special problems arise with such third parties as Snohomish County, the Boundary Review Board, Department of Health, State Highway Commission, and others, in order for the District to enter into the developer extension and which requires the representation of District's legal counsel.
5. Engineering design of sewage lift stations, force mains, generators or other special facilities, including review of shop drawing.
6. Review and comment for industrial waste discharge facilities.
7. In the event this agreement is referred or placed with the hands of attorneys by the District for enforcement of any portion, or if suit is instituted with respect to this agreement, then, in either event, the Developer and additional owner shall pay reasonable attorney's fees as may be incurred by the District or awarded by the court, court costs, all expenses in connection therewith, as may be incurred by the District.
8. Additional services such as design surveys and easement preparation shall be provided on an actual time and expenses basis.

The fee for Additional Professional Services shall be on an actual time and expense basis. An estimated deposit shall be made for Additional Professional Services, if required. Additional charges or credits will be made depending on the final costs of the additional services provided.

e. Other Costs.

1. All fees and additional charges as required by governmental agencies such as: any permits and fees, connection fee charges, publication notifications, and other such additional costs shall be based on actual invoice amounts of each such fee or charge.
2. In the event the Developer fails to pay any of the extension fees and charges required by this Agreement when due as determined by the District, the charge shall then be delinquent and shall accrue interest at the rate of TWELVE percent (12%) per annum until paid. In addition, the District shall be entitled to file a lien against the property described in Section 1 above in the event of non-payment, and to foreclose such lien pursuant to RCW 57.08.081, as such statutes now exists or may be revised, amended, or superseded in the future.

5. EXTENSION FEE - DESIGN BY THE DEVELOPER'S ENGINEER.

If the Developer's engineer designs the extension, extension fees shall be paid by the Developer in consideration of District providing the following services:

a. Basic Engineering and Administrative Services.

1. General consultation with the Developer regarding requirements of the District, the procedure for the Developer to make a sewer system extension and administration of the developer extension agreement.

2. Preliminary review of the proposed development and preliminary layout of the required sewer main extension in accordance with the District's Sewer Comprehensive Plan.
3. One review and comment of design drawings, standards and specifications prepared for the sanitary sewer construction.
4. Consultation with the Developer during the period of the extension agreement regarding the extension design, District's Specifications, and other District requirements.

Developer shall pay with the submission of their application an amount equal to that identified on the estimated Financial Summary sheet.

b. Construction Engineering Services.

1. Observation of the construction in progress as required.
2. License surveyor shall provide invert elevations, pipe lengths, and slopes prior to air test and TVing of the extension.
3. Observation of the pressure test and TVing required by the specifications and of any re-testing and TVing which may be necessary.
4. Final review of the completed sewer main extension and preparation of a report setting forth any deficiencies that may exist.
5. Review of deficient work as corrected and final two-year review.
6. Final review of the completed Sewer main extension and examination of required documents to assure that the District has legal title to the necessary easements and/or rights-of-way, review and approval of the Developer's warranty and bill of sale and preparation of a final recommendation of acceptance of the sewer system by the District.
7. Revision of drawings to conform with construction records.

The fee for construction Engineering services shall be on an actual time and expense basis. An estimated deposit shall be made to cover the actual time and expense cost of providing construction Engineering & Inspection services.

c. Legal Services.

1. Amendment of the comprehensive plan.
2. Review of developer extension agreement and any special agreements required by the District for the extension and revision of comprehensive plan.
3. Resolution accepting developer extension agreement.
4. Review of easements as required.
5. Resolution of acceptance for use and operation.

6. Resolution accepting title, review of the bill of sale and performance/maintenance bonds.

The minimal deposit fee for legal services shall be \$300.

d. Additional Professional Services.

1. Revision of the contract plans, and specifications and work occasioned by the need, request, or act of the Developer related thereto.
2. Obstruction, delay or prevention of construction staking, replacement of stakes and additional staking.
3. Re-inspection of deficient work.
4. Additional legal fees may be charged on a time and expense basis where a special contract is required and/or special problems arise with such third parties as Snohomish County, the Boundary Review Board, Department of Health, State Highway Commission, and others, in order for the District to enter into the developer extension and which requires the representation of District's legal counsel.
5. Engineering review of grinder pumps, lift stations or other special facilities.
6. In the event this agreement is referred or placed with the hands of attorneys by the District for enforcement of any portion, or if suit is instituted with respect to this agreement, then, in either event, the Developer and additional owner shall pay reasonable attorneys' fees as may be incurred by the District or awarded by the Court, court costs, all expenses in connection therewith, as may be incurred by the District.
7. Additional services such as design surveys and easement preparation shall be provided on a time and expense basis.
8. Costs to prepare a developer reimbursement agreement spreading of the costs to other benefited properties and filing with Snohomish County.

e. Other Costs.

1. All fees and additional charges as required by governmental agencies, such as: any permits and fees, connection fee charges, publication notifications, and other such additional costs, shall be based on actual invoice amounts of each such fee or charge.
2. In the event the Developer fails to pay any of the extension fees and charges required by this Agreement when due as determined by the District, the charge shall then be delinquent and shall accrue interest at the rate of TWELVE percent (12%) per annum until paid. In addition, the District shall be entitled to file a lien against the property described in Section 1 above in the event of non-payment, and to foreclose such lien pursuant to RCW 57.08.081 or as such statute now exists or may be revised, amended, or superseded in the future.

6. PREPARATION OF CONSTRUCTION PLANS.

a. By the District's Engineer.

The Developer shall furnish two (2) copies of the final plat map, contour map, and proposed road profile and drainage sheets prior to the District's ordering of the engineering plans from its Engineer. The contour elevation and road profile elevations shall be referenced to NAVO 88 vertical datum. The drawings shall be provided in electronic format.

The final plat map shall be to the scale of 1 inch = 50 feet or 1 inch = 100 feet. The contour map shall have a scale of 1 inch = 50 feet and contour intervals of 5 feet or less. The road profile sheets may be to any suitable scale as selected by the Developer.

The Developer shall provide a minimum of one benchmark, data being NAVO 88, on the project site and the elevation and location of the benchmark shall be indicated on the maps furnished by the Developer.

The Developer shall submit all additional information required and listed by the Check List, Developer's Extension, paragraph 7.

b. By the Developer's Engineer.

The plans may be prepared by the Developer through a licensed Engineer and plan checked by the District's Engineer in accordance with the Developer's Agreement. Should the Developer choose to have the plans prepared by their own Engineer, then the following requirements must be met.

1. General Drawing Requirements

- a. Original drawings will be on 22"x34" sheets. If drawings exceed one (1) sheet, a cover sheet shall be provided.
- b. No combined water and sewer plans will be accepted. Water and Sewer plans may be in the same set but must be on separate sheets.
- c. Plan scale : Water and Sewer DE plans are to include an overall view of the entire property at 1" = 40' or 1" = 50' scale. Subsequent sheets are to include "plan above profile" viewports (with alignment stationing logically corresponding between viewports) at 1" = 20' or 1" = 30' scale. Final scales are to be determined at the District's discretion.
- d. Plan shall clearly show right-of-way line, centerline of right-of-way, lot lines, lot numbers, and street names.
- e. Manholes to be drawn.
- f. Complete description of each manhole to be called out on the construction plans.
- g. Size, type of pipe, distance between manholes, invert into manhole, and invert out, shall be shown.
- h. Location of line, bends, manholes, etc., shall be shown and dimensioned in such a manner that the system can be staked for construction.
- i. The title block shall be located in the lower right corner of the sheet to be read from the bottom of the sheet. The sheet shall have a 1/2" margin all around with an extra 1" on the left side for binding.
- j. Plan view will normally be oriented so that north is either to the left or up on the sheet.
- k. Scale of viewpoints: All horizontal and vertical scales are to be written out and accurately shown in bar scale.

- l. Drawings shall contain a vicinity map, name of the District, an approval block for the District, Engineer's seal and signature, name of the engineering firm, Developer's name; date and north arrow(s), list of required construction notes, Section, Township, Range and SCAS datum.
- m. All relevant existing and proposed easements shall be shown.
- n. All existing utilities, structures and features, as well as all proposed improvements, shall be shown on plans, An existing conditions plan is preferred.
- o. A legend, including symbols and line types of all relevant existing and proposed infrastructure, shall be included on the first or second sheet in the set. Symbols displayed on subsequent plan above profile sheets shall appear consistent with those in the legend. See posted example for sample line weights.

2. General Notes

The general notes shall be placed on at least one sheet of the plans.

3. As-Builts

The Developer/Contractor shall maintain on the jobsite project plans and drawings marked to indicate District-approved plan revisions made in the field and other details of construction. Also, all water and sewer features, such as valves, hydrants, meters, manholes, rim, and invert elevations, etc. shall be surveyed upon completion of construction and the resulting information included on the drawings. The drawings shall be made available upon completion of the project to the District for use in preparation of "as built" records by the District Engineer. The Developer shall be responsible for the cost of any required "as built" drawings as prepared by the District Engineer.

Hard Copies: The Developer/engineer at their cost shall submit a clear and legible copy of the as-built of the project either as copy or as a PDF and as an AutoCAD file prior to final acceptance of the extension improvements.

Electronic data: All relevant structures shall be survey located. The survey location of the points shall be based on the Washington State Plane North coordinate system, NAD 83/91 horizontal datum and NAVO 88 vertical datum.

The as-built submittal shall include a text document identifying the method of collection: RTK, GPS, or conventional survey and the published survey grade reference points used to establish the coordinate datum. Alternately, projects surveyed using RTK constrained to the Washington Reference Station Network as the method of establishing the coordinate datum, will be accepted.

The survey data can be included as point blocks in a digital ACAD file, may be submitted as an ESRI shape file, or may be submitted as an ASCII point file. All points must be attributed to include the type of structure and the following items (in addition to geographic location):

<u>Component</u>	<u>Location Point</u>	<u>Attributes</u>
Manhole Frame and Lid	Center of Lid	size, type, elevation, mfg,
Manhole Invert	Invert of Pipe	size, type, mfg
Lamphole	Center of Lid & Invert of pipe	size, elevation, mfg,
Cleanouts	Center of Lid	size, type, mfg,

GENERAL NOTES:

1. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS SPECIFIED IN THE CROSS VALLEY WATER DISTRICT STANDARD SPECIFICATIONS AND STANDARD DETAILS FOR SANITARY SEWER CONSTRUCTION.
2. ALL WORK IN ROAD RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH SNOHOMISH COUNTY DESIGN STANDARDS AND SPECIFICATIONS.
3. EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE CORRECT LOCATIONS BEFORE DIGGING. THIS MAY BE DONE BY CALLING 1-800-424-5555 or 811 FOR THOSE UTILITIES PARTICIPATING IN ONE-CALL AND BY DIRECT CONTACT OF ALL OTHER AFFECTED UTILITY COMPANIES OR MUNICIPALITIES.
4. THE CONTRACTOR SHALL LOCATE AND VERIFY OTHER UNDERGROUND IMPROVEMENTS PRIOR TO CONSTRUCTION.
5. WHERE THE PROPOSED SANITARY SEWER PIPE CROSSES EXISTING ASBESTOS CEMENT (AC) WATER MAIN, THE WATER MAIN SHALL BE REPLACED WITH DUCTILE IRON PIPE, CLASS 52, IN ACCORDANCE WITH THE STANDARD DETAIL.
6. ALL PIPE SHALL BE INSTALLED WITH IMPORT PIPE BEDDING PER THE ENGINEERING SPECIFICATIONS.
7. ALL SIDE SEWER SERVICES SHALL BE SINGLE WITH 6" MINIMUM DIAMETER PIPE PER STANDARD DETAILS.
8. ALL MANHOLES SHALL BE PER THE ENGINEERING SPECIFICATIONS AND STANDARD DETAILS.
9. THE CONTRACTOR SHALL GIVE CROSS VALLEY WATER DISTRICT A **MINIMUM** OF 72 HOURS' NOTICE PRIOR TO CONNECTING TO THE EXISTING SYSTEM. DEPENDING ON WEATHER OR INSPECTORS AVAILABILITY.
10. CONSTRUCTION SHALL NOT BEGIN WITHOUT WRITTEN APPROVAL OF CROSS VALLEY WATER DISTRICT.
11. THE CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES IN CONFORMANCE WITH SNOHOMISH COUNTY REQUIREMENTS, INDUSTRY STANDARD BEST MANAGEMENT PRACTICES AND REQUIREMENTS INCLUDED IN PROJECT GRADING, STORM DRAINAGE AND T.E.S.C. PLANS AND SPECIFICATIONS.

OWNER UPON COMPLETION:

CROSS VALLEY WATER DISTRICT
8802 180th STREET SE
SNOHOMISH, WASHINGTON 98296-4804

4. Approval Signatures

All plans shall have provisions for approval signatures of the Cross Valley Water District as indicated below.

APPROVED__FOR
CONSTRUCTION_____

Cross Valley Water District	Date
-----------------------------	------

5. Submittal of Approved Plans to District

After the plans have been approved by the District, the Developer shall furnish the District with an electronic copy and three full size sets of paper copy. After the Developer has provided the District with the approved electronic copy required above, the District will obtain the right-of-way permit from the appropriate governmental agency.

7. EVIDENCE OF INSURANCE.

The Developer shall provide the District with written evidence of insurance covering public liability and property damage. The District and the Engineer shall be named as additional insureds. The coverage limits shall be not less than the amounts provided in Paragraph 4b of the General Construction Provisions.

8. HOLD HARMLESS PROVISION.

The Developer shall indemnify, defend and hold the District and the District's officials, employees, agents and engineers ("Indemnitees") harmless from and against all losses and claims, injuries, demands, payments, suits, actions, recoveries, costs, expenses and judgments of every nature and description, including attorney's fees, brought or recovered against the Indemnitees arising out of or in connection with the performance of any work relating to the extension, or any act or omission of the Developer, and for any cost or expense incurred by any Indemnitee in connection therewith, including overhead expense and reasonable attorney's fees and costs attributable thereto; except for damages caused by the sole negligence of an Indemnitee. If suit in respect to the foregoing is filed, then the Developer shall appear and defend the same at its own cost and expense, and if judgment is rendered or settlement made requiring payment of damages by the District, then the Developer shall pay the same.

The Developer shall indemnify, defend and hold the Indemnitees harmless from any liability or expense, including reasonable attorney's fees, by reason of the Developer's (or Developer's employees or contractors) breach of any covenant contained in any franchise or permit granted by state, city, or public or private utility to the District for the purpose of enabling the Developer to undertake construction within any right-of-way or on any off-site property.

Should a court of competent jurisdiction determine that this Agreement is subject to RCW 4.24.115, then, in the event of liability for damages arising out of bodily injury to persons or damages to property caused by or resulting from the concurrent negligence of the Developer, or the Developer's agents, and the District, the Developer's liability under this Section shall be only to the extent of the Developer's or the Developer's agent's negligence. It is further specifically and expressly understood that the indemnification provided in this Section constitutes the Developer's waiver of immunity under Title 51 RCW, relating to Industrial Insurance, solely for the purposed of this indemnification. THIS WAIVER HAS BEEN MUTUALLY NEGOTIATED BY THE PARTIES

In any claim against an Indemnitee by any employees of the Developer, its contractor, or any subcontractor, or anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation contained herein shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Developer, Contractor, or any subcontractor under Workmen's Compensation Acts, Disability Benefit Acts, or other employee benefit acts. THIS WAIVER HAS BEEN MUTUALLY NEGOTIATED BY THE PARTIES.

The provisions of this Section 8 shall survive the expiration or termination of this Agreement.

9. CONTRACTORS, SUBCONTRACTORS, LABORMEN AND MATERIALMEN.

The District has a substantial interest in determining that the extension is to be constructed and connected to the existing system of the District in a good, workmanlike manner and, therefore, the Developer and/or additional owners agree to submit the names of all contractors, subcontractors, materialmen and suppliers, or in the event that the owner or additional owners are contractors, then a statement that the Developer or additional owners will perform the improvement, and the District reserves the right to approve or disapprove of the same, which approval the District will not unreasonably withhold. However, in determining whether the Developer, additional owner, contractor, subcontractor, materialmen, or laborer is or is not satisfactory, the District can take into consideration said parties' prior experience in said improvements, available manpower and equipment, financial ability, prior work performed by said party for or on behalf of the District, and the recommendation of the District's engineer. The names shall be submitted to the District no later than 14 days prior to any construction being performed pursuant to this Agreement and, if the party is not acceptable to the District, the District will so notify the Developer within five business days after notification is given to the District whereupon the Developer and/or additional owner shall re-submit alternates and said alternates shall likewise be subject to the same approval, upon the same criteria as the original party submitted, and notification will be given by the District within the same period of time specified. Work shall be done only by contractors experienced with installing sanitary sewer mains.

10. NO THIRD PERSON SHALL HAVE ANY RIGHTS HEREUNDER.

This Agreement is made entirely for the benefit of the District and the Developer and successors in interest and no third person or party shall have any rights hereunder whether by agency or as a third-party beneficiary or otherwise.

11. PERFORMANCE BOND/MAINTENANCE BOND.

The Developer shall furnish to the District an assurance device (cash or performance bond) of a type and in a form approved by the District in an amount equal to the District Engineer's estimated cost of the project, or actual cost, if known, whichever is less, prior to the staking of the extension for construction. The assurance device shall require completion of all work within a period of two years from the date of this Application with the District in accordance with the provisions of this Application and that any defective work or material discovered by the District within two years after the extension has been accepted shall be corrected or replaced by the Developer in accordance with this Application.

The assurance device shall also secure payment by the Developer of all persons furnishing labor and materials and shall hold the District harmless from any claims thereof, whether any such claim should arise under the public works lien statutes, or the mechanics lien statutes of the State of Washington, and compliance with the formal requirements of either or both of said statutes shall not be a condition to recovery under said assurance device.

The District shall not be obligated to provide sewer service to the property described in this Agreement if construction by third parties of facilities to be deeded to the District has not been completed and title accepted by the District if such third-party facilities are necessary to provide sewer service to the property.

Such acceptance by the District shall not relieve the Developer of the obligation to correct defects in labor and/or materials as provided in this Agreement and/or the obligations set forth in applicable paragraphs hereof. After acceptance of the extension by the District and the transferring of title to such extension to the District, the Developer shall furnish to the District a maintenance bond (cash or bond) which shall continue in force from the date of acceptance Application and Agreement 2023

of said extension for a period of two years. The bond shall be in a form as contained herein and shall require the Developer and/or the bonding company to correct defects in labor and materials which arise in said system for a period of two years from the date of acceptance of the system and transfer of title.

12. STATE AND/OR SNOHOMISH COUNTY BOND.

The Developer shall furnish bonds required for work in State or County rights-of-way.

13. EASEMENTS.

Any required easements, including off-site easements, shall be obtained by the Developer at their sole cost and expense and a true copy of such easement, on the standard Cross Valley Water District form, shall be delivered to the District prior to the time the Developer commences construction under this Agreement. All easements shall be reviewed and approved by the District's Engineer prior to obtaining signatures and approvals for recording. Upon completion of construction and prior to acceptance of said extension by the District, the original easement shall be delivered to the District. The Developer shall provide all necessary easement(s) at their sole cost regardless of changes in the Contract Plans, together with evidence of title. A title insurance policy in sum not less than \$1,000 per 500 feet of easement may be required by the District for any off-site easements establishing clear title in grantor.

In the event that legal services are required incident to easements beyond review of the form thereof, the costs of such services shall be paid by Developer in the amount as billed to the District before acceptance of the proposed extension.

14. PERMITS.

All the necessary permits from any governmental agency shall be obtained by the Developer directly or, if required, the District will obtain the same, but at Developer's expense; and the District shall be provided with a copy of all such permits before construction commences. The Developer shall reimburse the District for all District costs incurred on the Developer's behalf for permits, inspection fees and other charges imposed by any governmental authority.

If the development work occurs within the Right-of-Way of unincorporated Snohomish County or the Washington State Department of Transportation (WSDOT), a utility permit is required from the County or WSDOT for the Developer Extension. The District shall apply for the utility permit and provide a copy to the Developer upon approval.

15. GRADING OF ROADS.

The Developer shall grade all roads to the design subgrade elevation prior to the start of construction and shall advise the District in writing of any changes which may be contemplated during construction. If the Developer changes the subgrade elevation of the road after completion of the extension, or any part thereof, the Developer shall be responsible for all costs incurred to raise or lower the sewer lines and/or sewer services as required to return sewer line to design depth, as a result of said change in subgrade elevation. This obligation shall remain in full force until Snohomish County or other applicable agency having jurisdiction over the streets and roadways releases the right- of-way or road construction bond or bond of other description in connection with the Developer's obligation to the County for restoration of the roads and streets on which construction has been performed or affected.

16. MAINTENANCE OF CORRECT ALIGNMENT AND GRADE.

The Developer and their Contractor shall maintain the correct alignment and grade in accordance with the tolerances shown in paragraph 20, General Engineering Specifications.

17. CONNECTION TO THE DISTRICT'S SYSTEM.

Not less than 72 hours prior to the time that said extension is partially or fully completed and connection to the District's system is desired, written application for permission to make the actual connection to the District's system at a specified time shall be made by the Developer or their Contractor. All connections to the existing system and all testing of the new line shall require authorization of the District and its Engineer and/or their authorized representatives.

18. CONDITION PRECEDENT.

Compliance with the terms and conditions of this Agreement and all applicable resolutions of the District shall be a condition precedent to the District's obligation to accept a bill of sale and a condition precedent to the District's agreement to maintain and operate the sewer system and to provide sewer service to the real property that is the subject of this Agreement and, particularly, without limiting the generality of the aforesaid, the District shall be under no obligation to allow connections to the sewer system of any portion of the property described in this Agreement if there are any fees or costs due and owing to the District arising from this Agreement or from regulations, resolutions, or ordinances of any governmental agency.

The District shall not be obligated to provide sewer service to the property described in this Agreement if construction by third parties of facilities to be deeded to the District have not been completed and title accepted by the District if said thirty party facilities are necessary to provide sewer service to the property described in this Agreement.

19. ACCEPTANCE FOR USE AND OPERATION.

SUBDIVISIONS. At such time as the extension is partially completed or it is not ready for acceptance of title by District by reason of other uncompleted plat improvements, and one or more residences therein are in need of sewer service, the District may, in its absolute discretion, accept the extension or any portion of the extension in a platted subdivision for use and operation only and authorize temporary sewer service to designated residences. In order to ensure that the Developer will complete the extension in the entire subdivision or specific phase thereof for which this Application is filed, the District reserves the right to designate the number of residences or other structures which can be connected to the facilities for temporary services upon acceptance of a partially completed extension for use and operation by the District. The District also reserves the right to refuse to connect all residences or other structures to the sewer system as installed until the District can be assured that the extension will be completed in accordance with this Application.

OTHER EARLY/CONDITIONAL ACCEPTANCE. The Developer may request a conditional acceptance if all final acceptance documentation, excluding the maintenance bond, and all work is completed, but before the final paving, facility raising, and other related work has been completed.

If the Developer requests conditional acceptance of the sewer facilities under this provision, the District will grant conditional acceptance of the sewer facilities for use and operation on the condition that the Developer furnishes the District with a performance guarantee to guarantee installation and completion of all required work and improvements in accordance with this Agreement and all District resolutions, policies and standards, and the performance of all of the Developer's obligations under this Agreement. The Developer shall furnish the District with cash in lieu of a corporate surety maintenance bond as the required performance guarantee.

The request for conditional acceptance of the extension will be brought before the Board of Commissioners for approval of the request by motion. After the Developer notifies the District that the final paving or other remaining work is complete and the work is to District standards and specifications, the extension will move to final acceptance.

20. FINAL ACCEPTANCE.

The District agrees to accept title to the extension at such time as all work which may, in any way, affect the extension has been completed, any damage to any portion of the District's sewer system which may have been caused by the Developer or the extension has been repaired and District's Engineer has made final inspection and given approval of the extension as having been completed in accordance with the plans and Specifications.

The Developer shall execute and deliver to the District a Certificate of Cost, Bill of Sale and Affidavit of No Liens in the form approved or furnished by the District containing the warranty set forth in the General Construction Provisions, entitled, "Contractor Responsibility for Work". Upon acceptance of title by the District, the extension shall be subject to the control, use and operation of the District and all regulations applicable to service and charges for service as established by the District from time to time. All District fees and costs must be paid, and all required easements provided prior to acceptance.

All work in County or State rights-of-way must be approved in writing by those entities having jurisdiction.

The District's acceptance of the extension shall not relieve the Developer of the obligations to correct defects in labor and/or materials as provided in the Agreement and/or any other obligation stated in this Agreement. After acceptance of the extension by District and the transferring of title to the extension to the District, the Developer shall provide the District a maintenance bond in the form required by the District, which shall continue in force from the date of acceptance and transfer of title for a period of two (2) years. The bond shall require the Developer and the bonding company to correct defects in labor and material which arise in the extension for a period of two (2) years from the date of acceptance and transfer of title.

The date of acceptance shall be the date the Board of Commissioners accept the extension by resolution.

21. LIMITATION OF PERIOD FOR ACCEPTANCE.

The extension shall be completed and finally accepted within two years of date of acceptance of this Application and Agreement by the District. If the extension is not completed and finally accepted within the two-year period, then the Developer's rights under this Agreement shall cease and no additional service shall be connected to such extension unless and until Developer shall make a new Application or the District consents to the renewal of the existing Application and the Developer shall pay the additional administrative, legal, engineering, and inspection costs involved, all as determined by the District.

If an extension is not completed within the two-year period, the District may require that it be made to comply with any new or amended resolutions of policies, including those related to any increased fees or connection charges, which have taken effect since execution of the original Application and Agreement before the District accepts the extension. Any required new Application or renewed Application shall be subject to any new or amended resolutions of policy which have been adopted by the Board since execution of the original Application.

If District determines, in its absolute discretion, that it is necessary that the extension be completed in order that the District can provide sewer service to other property and completion of the extension is necessary to provide sewer service to other property, then, in such event, the District may give the Developer or additional owners notice that construction of the sewer improvements must be commenced within sixty (60) calendar days of the notice by the District, provided that plans have been prepared by the District and submitted to the Developer and/or additional owners

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and, if construction is not commenced within the time specified, then the District may, at its discretion, determine that this Agreement is terminated and the District shall retain all payments made by the Developer to the District and the District shall be free to proceed with construction of the sewer improvements within the area described in this Agreement. If delay in plans is occasioned by failure of the Developer to provide necessary data to the District's Engineers for a period of thirty (30) days after notice, then this Agreement likewise can be terminated and the District may proceed with construction of the improvements as described above.

22. WARRANTY OF AUTHORITY.

The undersigned Developer and additional owners warrant that they constitute the owners of all of the real property that is the subject of this Agreement and, upon request of the District, agree to provide title insurance or preliminary title report, at the District's option, establishing to the satisfaction of the District that the parties executing this Application and Agreement constitute the owners of all the real property described and have the authority to execute this Agreement with respect to said real property.

23. NO ASSIGNMENT/SUBCONTRACTING WITHOUT DISTRICT APPROVAL.

The Developer shall not assign this Application and Agreement to another person or entity WITHOUT the prior, written consent of the District. The District may require, as a condition of its approval of said assignment, that the assignee shall be subject to any new or amended resolutions or policy which have taken effect since execution of the original Application and Agreement. The form of assignment shall be in a form approved by the District.

The Developer shall not sublet this Agreement or any part thereof, without the prior written consent of the District which shall be obtained at least five days prior to start of a proposed subcontractor's work.

No subcontractor will be recognized as such, and all persons engaged in the work will be considered by the District as employees of the Developer, and their work shall be fully subject to the provisions of this Agreement. The Developer shall be fully responsible to the District for all work, and all acts and omissions of the subcontractors and persons either directly or indirectly employed by the subcontractors.

The District's consent to subcontracting any part of the work shall not relieve the Developer of any of their obligations under this Agreement, nor from any responsibility for performance of the work.

24. GOVERNING LAW/FORM.

This Application and Agreement shall be construed and enforced in accordance with, and the validity and performance hereof shall be governed by the laws of the State of Washington. Any suit to enforce the provisions of this Application and Agreement shall be brought in Superior Court, Snohomish County, Washington.

25. ATTORNEY'S FEES AND COSTS.

In the event either the District or the Developer employs an attorney to enforce or defend any claim or cause of action arising out of or relating to this Application and Agreement, or any appeal therefrom, then in any such event, the prevailing party shall be entitled to recover from the losing party, and the losing party shall pay, all of the prevailing party's reasonable cost and attorney's fees therein incurred.

DATED at _____, Washington, this date of _____ 20_____.

Name of Developer/Company

Address

Owner/Representative

City/State

Owner/Representative

Email

Owner/Representative

Telephone

26. NOTARY

STATE OF WASHINGTON)
) ss
COUNTY OF SNOHOMISH)

I certify that I know or have satisfactory evidence that _____ and
_____ signed this instrument, on oath stated that
they were authorized to execute said instrument as President and Secretary of
_____ and acknowledges said instrument at
the President and Secretary of _____ to be free and
voluntary act of said corporation for the uses and purposes mentioned in said instrument.

Dated _____

Notary Public in and for the State
of Washington, residing at _____

My Appointment Expires: _____

STATE OF WASHINGTON)
) ss
COUNTY OF SNOHOMISH)

I certify that I know or have satisfactory evidence that _____ and
_____ signed this instrument and acknowledged it to be their
free and voluntary act for the uses and purposes mentioned in the instrument.

Dated _____

Notary Public in and for the State
of Washington, residing at _____

My Appointment Expires: _____

Accepted by Board of Commissioners at their _____, 20____, meeting.

Cross Valley Water District



**GENERAL CONDITIONS
FOR JOBS CONSTRUCTED BY DEVELOPERS**

- | | | |
|----|-------------------------------|-------|
| 1. | Scope | GC -1 |
| 2. | Definitions | GC -1 |
| 3. | Certificate of Extension Cost | GC -3 |
| 4. | Reimbursement Agreement | GC -3 |
| 5. | Conditional Use | GC -3 |

GENERAL CONDITIONS
FOR JOBS CONSTRUCTED BY DEVELOPERS

1. SCOPE

These are general conditions to all contracts for extension of the District's sewer system by Developers. Reference to, or requirements for, non-applicable conditions for any particular contract will be construed to have no meaning relative to the performance of such work.

2. DEFINITIONS

The following terms as used in this contract shall be defined and interpreted as follows:

- a. "Agreement," "This Agreement," "Contract" or "This Contract": The application for permission to construct an extension to the water distribution system executed by the Developer and the District of which these general conditions are an integral part.
- b. "Contract Documents": All of the documents and information hereafter set forth in subparagraph (t).
- c. "District": Cross Valley Water District of Snohomish County, Washington.
- d. "Developer": The person, partnership, firm or corporation having an agreement with the District to cause the installation of sewer improvements to become a part of the District sewer system upon completion and acceptance. The term shall also include the Developer's agents, employees, and subcontractors.
- e. "Contractor": The person or firm that actually constructs the sewer system improvements. This may be the same party as the Developer.
- f. "District Engineer": The District's Engineer or their duly authorized personnel, acting as Engineer for the District in the administration of this Contract, for the benefit of the District in accordance with the Contract Documents.
- g. "Developer Engineer": The engineering firm, and that firm's representatives, which may be retained by the Developer at its option, to design and prepare the plans for the work to be performed under this Agreement in accordance with District Specifications.
- h. "Extension": The system of sewer mains and appurtenances or other sewer system improvements to be constructed in whole or in part through the performance of this Contract.
- i. "Plans": The plans shall mean all official drawings or reproductions of drawings made or to be made pertaining to the work provided for in this Contract or to any structure that will be connected to the District's system under this Contract.
- j. "Specifications": The specifications shall mean the prescribed directions, requirements, explanations, terms and provisions pertaining to the various features of work to be done or manner and method of performance and the manner and method of measurement and payment. They also include directions, requirements and explanations as set forth in the plans.
- k. "Reference Specifications": Reference specifications shall mean the technical specifications of other agencies incorporated or referred to herein.

- l. "Work": The work necessary to manufacture and deliver the machinery, equipment, and material and/or furnish all labor, tools, materials, equipment, construction equipment, working drawings, where required, and other necessities for the construction or erection of the structures shown and called for in the plans, specifications, and Contract and the act of constructing or erecting such structures complete.
- m. "Material or Materials": These words shall be construed to embrace machinery, manufactured articles, materials or construction (fabricated or otherwise) and any other classes of material to be furnished in connection with the Contract.
- n. "Equipment": The machinery, accessories, appurtenances, and manufactured articles to be furnished and/or installed under the Contract.
- o. "Developer's Equipment": The phrase "Developer's Equipment" shall include all items of materials or equipment remaining in the Developer's ownership and removed from the site upon completion of the project.
- p. "Or Equal": Any manufactured article, materials, method of work which, in the opinion of the District's Engineer, is equally desirable or suitable for the purposes intended in these specifications and contract as compared with similar articles specifically mentioned herein.
- q. "Contract Drawings" or "Drawings": All details or drawings prepared and issued by the Engineer subsequent to the signing of the Contract for future explanation of amplification of the Contract Drawings or for revision of same.
- r. "Supplemental Drawings and Instructions": Engineer may furnish, as their sole discretion, upon written request by the Developer, with reasonable promptness, additional instructions by means of drawings or documents necessary, in the opinion of the Engineer, for the proper execution of the work. All such drawings and instructions shall be consistent with the Contract Documents.
- s. "Shop Drawings": All shop details, structural steel pipe, machinery, equipment, schedules, bending diagrams, reinforcing steel, and other detail drawings furnished by the Developer as required and provided for in the Specifications.
- t. "Words and Phrases": Wherever the words, "as directed", "as required", "as permitted", or words of like effect are used, it shall be understood that the direction, requirement or permission of the District and the Engineer is intended. The words, "sufficient", "necessary", "proper", and the like shall mean sufficient, necessary or proper in the judgment of the District and the Engineer. The words "approved", "acceptable", "satisfactory", and words of like import shall mean approval of or acceptable to the District and the Engineer.
- u. "Surety": Any firm or corporation executing a surety bond or bonds payable to the District securing the performance of the Contract, either in whole or in part.
- v. "Points": Wherever reference is made to the Engineer's points, this shall mean all marks, benchmarks, reference points, stakes, hubs, tacks, etc., established by the Engineer for maintaining horizontal and vertical control of the Work.
- w. "Contract Document": The Contract Documents shall consist of the following and in the case of conflicting provisions, the first mentioned shall have precedence:
 - 1) Applications for permission to construct extension to sewer system.
 - 2) Change orders after application is signed.
 - 3) Detail drawings and written instructions.
 - 4) Addenda

- 5) Plans
- 6) General Conditions
- 7) Special Provisions
- 8) General Specifications
- 9) Reference Specifications
- 10) Performance Bond

3. CERTIFICATE OF EXTENSION COST

The Developer shall provide the District a Certificate of Cost for all sewer system improvements installed under this Agreement. The format shall be as shown on the Certificate form herein.

4. REIMBURSEMENT AGREEMENT

The District shall, upon request, enter into an agreement for reimbursement with the Developer for those properties that can be served from the construction of a sewer extension that are not a party to this Agreement. Application for reimbursement shall be made prior to final acceptance of the extension improvements under this Agreement. The reimbursement will be in accordance with current policies of the District.

The Developer shall pay the costs of preparing the reimbursement agreement; spreading of the costs to benefited properties and filing with Snohomish County.

The Developer shall provide copies of invoices for certification of costs.

5. CONDITIONAL USE

A conditional use prior to final acceptance by the District for operation and maintenance may be granted when a septic system has been compromised due to the developer installation and connection to the sewer system. The sewer extension may be activated prior to final acceptance for early use approved by the District when connection to the District's water system has been completed per district standards. The Developer may request and receive approval to activate such sewer service after a successful pressure test of the sewer extension and an approved TVing has been received and reviewed. All charges for sewer including but not limited to the side sewer permit and connection charges shall be paid prior to connection.

In granting this approval, the District is in no way indicating acceptance of the extension improvements in their entirety. No additional service shall be provided to any building, structure, or the site until after acceptance of the extension by the Board of Commissioners.



GENERAL CONSTRUCTION PROVISIONS

- | | |
|--|---------|
| 1. Plans, Specification; Omissions and Discrepancies | GCP -1 |
| 2. Preparations for Construction | GCP -1 |
| 3. Status of District's Engineer | GCP -1 |
| 4. Permits, Licenses, Performance and Guarantee Bond | GCP -2 |
| 5. Construction Staking | GCP -3 |
| 6. Easements | GCP -4 |
| 7. Interferences and Obstructions | GCP -4 |
| 8. Existing Facilities | GCP -5 |
| 9. Safety Standards | GCP -6 |
| 10. Preventative Street Cleaning | GCP -8 |
| 11. Water Supply | GCP -8 |
| 12. Sanitary Provisions | GCP -8 |
| 13. Observation of Work and Materials | GCP -9 |
| 14. Plans and Specifications Accessible | GCP -9 |
| 15. Ownership of Drawings | GCP -10 |
| 16. Shop Drawings | GCP -10 |
| 17. Determination for "Or Equal" | GCP -10 |
| 18. Royalties and Patents | GCP -10 |

GENERAL CONSTRUCTION PROVISIONS

1. PLANS AND SPECIFICATIONS; OMISSIONS AND DISCREPANCIES.

The Developer shall carefully study and compare all drawings and specifications and other instructions and shall, prior to ordering materials or performing work, report in writing to the Engineer any error, if inconsistency or omission in respect to design, mode of construction or cost which they may discover. If the Developer in the course of this study or in the accomplishment of the work, finds any discrepancy between the drawings and the physical condition of the locality as represented in the drawings or any such errors or omissions in respect to design, mode of construction or cost in drawings or in the layout as given by points and instructions, it shall be their duty to inform the Engineer immediately in writing, and the Engineer shall promptly check the same. Any work done after such discovery will be done at the Developer's risk.

2. PREPARATIONS FOR CONSTRUCTION.

Prior to beginning work, arrangements shall be made for a preconstruction conference to be attended by the Developer, the Contractor, District representatives, and other representatives of interested utilities and agencies. The pertinent points to be discussed at this conference shall include work schedules, safety, traffic control, other utilities involved, method of construction, bond requirements, restoration, observation, easements, and other related items.

a. Commencement of Work on Public and Private Right-of-Way.

The Contractor shall apply for and obtain a construction permit to work within the Snohomish County rights-of-way or WSDOT right-of-way from the Cross Valley Water District prior to commencement of any work.

Application to the District shall be made in ample time in advance of construction so that the construction permit is approved by the local governing authority and in the Contractor's possession at least 72 hours prior to start of construction.

Work shall not be started on any public or private right-of-way until clearance is given to the Contractor by the District. Unless otherwise directed in writing by the District, the Contractor shall limit their working hours to the governing authority's standards.

b. Construction Schedule.

The Contractor shall coordinate their schedule with the District and with other public agencies concerned, including, but not limited to, the Snohomish County Engineering, U.S. Post Office, fire departments, schools, water and/or sewer districts, power companies, Puget Sound Energy, Williams Pipeline, Cable TV, local phone companies and Olympic Pipeline.

c. Complaints.

Whenever the Contractor fails to repair or restore existing improvements damaged by their operations within twenty-four (24) hours of written notice of complaint from the District, the District may order said work done by others and all costs incurred shall be paid by the Developer.

3. STATUS OF ENGINEER.

- a. The Engineer shall have general administration and observation of the work; provided, however, nothing contained herein or elsewhere in the Contract Documents shall be construed as requiring the Engineer to direct

the method or manner or safety of performing any work by the Developer under this Contract. The Engineer has the authority to stop work whenever, in their opinion, such stoppage may be necessary to insure proper execution of the Contract. The Engineer may also reject all work and materials which, in their opinion, do not conform to the Contract.

- b. It is understood and agreed by and between the parties that the work included in the Contract is to be done under the general observation and to the complete satisfaction of the Engineer or their duly authorized representative and the decision of the Engineer, as to the true interpretation and meaning of the contract plan, specifications and estimates and as to all questions arising as to proper performance of the work, shall be final.
- c. The Engineer shall decide any and all questions which may arise as to the quality or acceptability of materials furnished and work performed and all questions as to the acceptable fulfillment and performance of the Contract on the part of the Developer. The decision of the Engineer in such matters shall be final.
- d. The Engineer may direct the sequence of conducting work when it is in locations where the District is doing work either by contract or by its own forces or where such other works may be affected by the Contract, in order that conflict may be avoided and the work under these specifications be harmonized with that under other Contracts, or with other work being done in connection with, or growing out of, operations of the District.

Nothing herein contained, however, shall be taken to relieve the Developer of their obligations or liabilities under the Contract.

- e. Neither the Engineer nor their representatives have the authority to waive the obligation of the Developer to perform work in accordance with the Contract Documents. Failure or omission on the part of the Engineer or their representatives to condemn unsuitable, inferior, or defective work and/or labor or materials or equipment furnished under the contract shall not release the Developer or the bond for performing the work in accordance with the Contract Documents.

4. PERMITS, LICENSES, PERFORMANCE AND GUARANTEE BOND.

a. Contractor Responsibility for Work.

The Developer shall be responsible for all work until its acceptance by the District and will not be released from responsibility for any part of the work until two (2) years after written acceptance by the District. The Developer guarantees that all of the work, materials, or equipment furnished by him under these specifications will meet fully all requirements for quality of workmanship, materials, strength and any and all other requirements whatsoever prescribed in the specifications.

The Developer further agrees that, upon notice given by the District at any time within a period of two years after the date of final written acceptance by the District of said work, structure or equipment, they will promptly, and with the least possible delay and inconvenience to the District, replace, ready for operation and without expense to the District, any part or parts of same which may give evidence of undue strain or undue depreciation or which may prove defective in material or inefficient or otherwise unsatisfactory in operation through faulty construction or workmanship or through any fault of design or detail arising with Contractor or manufacturer. Such items shall be replaced in accordance with designs and of material satisfactory to the District. Should the Developer fail to act promptly in accordance with this Agreement or should the exigencies of the case require repairs or replacements to be made before the Developer can be notified or can respond to the notification, the District reserves the right to make the necessary repairs or replacement at the expense of the Developer.

The Developer shall be responsible for the full expense incidental to implementing any and all of the above guarantees and agreements, including transportation charges and cost of dismantling and reassembling equipment.

b. Insurance.

The Contractor shall carry Public Liability Insurance for bodily injury and property damage liability, including without limitation, coverage of explosion, blasting, collapse, and destruction of underground utilities (X.C.U.) and contingent liability, including products and complete operations and blanket contractual liability, covering all work under this Contract including that done by subcontractors. This insurance shall name the District and the Engineer as additional insured and shall be primary coverage with any insurance carried by the District classified as additional coverage. The amount of such insurance shall be as follows: Bodily injury liability insurance and property damage liability insurance in an amount not less than \$1,000,000 for injuries, including wrongful death, to any one person and subject to the same limit for each person, in an amount not less than \$1,000,000 on account of any one occurrence, \$1,000,000 for each occurrence or equivalent single limit. Alternatively, the aforementioned bodily injury and property damage liability insurance furnished under a combined single limit, or an umbrella excess liability limit in an amount of not less than \$2,000,000 combined single limit per occurrence, will be acceptable.

Asbestos pipe removal insurance requirements for asbestos pipe removal shall be in accordance with Paragraph 9c., General Construction Provisions.

c. Federal, State and Local Regulatory Agencies.

The Developer and Contractor shall be responsible for investigating and complying with the requirements of the several Federal, State and local agencies, including, but not limited to, the Federal Environmental Protection Agency, the State Department of Ecology, the Department of Fisheries and Game and Snohomish County for the types of work included in the work. This shall include requirements and provisions relating to the Endangered Species Act, such as Snohomish County Habitat Management Planning, Title 24 Drainage requirements, wetland and stream mitigation and downstream drainage analyses.

The Developer or Contractor shall contact the above-mentioned departments and secure such permits and bonds as may be necessary for their operations and to approve the proposed method of operation. Copies of all permits and bonds shall be submitted to the District prior to construction. The Developer or Contractor shall provide notice to the District in the event said departments waive jurisdiction in the area of construction.

Foreign materials, including silt, gasoline, wet concrete and debris, shall not be allowed to enter any stream. Water pumped from the construction area shall be filtered to remove silt before being discharged to any stream. Filtering shall be provided as required by local jurisdiction.

5. CONSTRUCTION STAKING.

All construction staking shall be provided by the Developer's engineer. Should construction staking be required of the District Engineer, the following shall apply:

- a. Developer shall provide reasonable and necessary opportunities and facilities for setting point and making measurements by Engineer as set forth in the Special Provisions.
- b. Construction staking shall be provided by the District's Engineer upon 72 hours' notice. No construction shall commence until staking has been completed.
- c. Once construction staking has been requested and scheduled, the staking shall proceed on a continuous basis, without interruption until completed.
- d. Construction staking covered under the basic extension fee will consist of one complete set of offset stakes for sewer line location and manhole location, and one set of cut sheets. Cut sheets will be prepared in the engineer's

office and provided to the District for distribution in the field. No cut information will be provided in the field during offset staking.

- e. Developer shall provide a minimum of three (3) horizontal control points and a minimum of three (3) vertical control points in the form of either road center line stakes, property stakes, or easement center line stakes to be utilized by the Engineer in providing construction staking. Construction staking will not begin until adequate horizontal control is in place in the field and at the time construction taking is to be commenced.
- f. Construction staking covered under additional fees shall include:
 - 1) Location of easements, property lines, and road centerlines.
 - 2) Additional offset stakes and offset stakes other than those specified in paragraph (d) above.
 - 3) Replacement of stakes for any reason.
 - 4) Additional work occasioned by obstruction, delay or prevention of staking by the Developer.

The additional fee shall be computed in accordance with the schedule contained in the Application and shall be paid by the Developer to the District prior to acceptance of the extension.

6. EASEMENTS.

When necessary for construction, both temporary and permanent sewer easements shall be obtained and filed on the standard Cross Valley Water District form with Snohomish County Auditor by the District, at the Developer's cost **prior to construction.**

Before final acceptance and transfer of title of the extension improvements to the District, the Developer must provide the District with a plat map showing all water/sewer easements, and the authorization for granting or transferring such easements to the District.

Work on railroad' rights-of-way, State Highways' rights-of-way, County rights-of-way, or any other public rights-of-way, other than the District's, shall be in conformance with the requirement of the authority having jurisdiction over such right-of-way. It shall be the Contractor's responsibility to notify said authority before beginning work on the right-of-way and to ascertain the restoration requirements and determine that the schedule of operations proposed is satisfactory to the authority.

7. INTERFERENCES AND OBSTRUCTIONS.

For the convenience of the Contractor, the plans may show approximate location of various existing utilities such as gas lines, telephone, cable, water lines, sewer lines, storm drains, and other obstructions based on information obtained from various sources.

This information, if shown, is not guaranteed to be accurate and the Contractor shall check for interferences and obstructions by inquiry from the different utilities and by exploration ahead of his regular excavation. Incompleteness or errors in this information shall not be the basis of claim against the District or the District's engineer nor shall it relieve the Developer of responsibility for repairing any damage its activities may cause to such utilities or other improvements. The Contractor shall excavate around and under service pipes with special care and shall support and maintain them. Where it is necessary to cut, move or reconnect any existing pipe, the Contractor shall make necessary arrangement with the utility for such removal and the Contractor shall bear all costs which may be involved.

8. EXISTING FACILITIES.

a. Protection and Maintenance of Public and Private Property.

The Contractor shall protect and maintain all underground and above-ground utilities and structures affected by the work and all lawns, shrubs, fences, rockeries, and other landscaped areas., and parking strips or private property crossed by or adjacent to their operation, and any damage shall be repaired and restored by the Contractor to the satisfaction of the District.

The Contractor shall protect and maintain any natural water course which exists prior to construction.

Whenever construction work is undertaken on easements or public or private right-o-way, all work shall be confined to the limits of such easements, or right-of- way, and accomplished so as to cause the least amount of disturbance and a minimum amount of damage.

Completion of work across private property shall be carried out in one continuous operation of construction of the facilities with the immediate restoration and cleanup of the construction area. If the Contractor fails to perform such construction and restoration continuously, the District may give the Contractor a written notice to so perform and, in the event of failure by the Contractor to complete such construction and restoration within two weeks of such notice, the District may complete the installation and restoration on such private property to the extent the District deems advisable and the cost of all work, labor, material and expenses incurred by the District in so doing shall be paid by the Developer.

Particular care shall be exercised to see that the topsoil from the trench is preserved and replaced in its original location. It shall be the Contractor's responsibility to strip such topsoil from the trench, or construction area, and stockpile it in such a manner that it may be replaced by him, upon completion of construction. Ornamental trees and shrubbery shall be carefully removed with the earth surrounding their roots, wrapped in burlap and replanted in their original positions within 48 hours. Ornamental trees or shrubbery destroyed or damaged by the Contractor, whether in public or private property, shall be replaced by the Contractor with material of equal quality. Wherever it may be necessary for the Contractor to trench through any lawn areas, the sod shall be carefully cut and rolled and replaced after ditches have been water settled or otherwise properly compacted to the satisfaction of the District and/or the District's Engineers. All work shall be done in a manner calculated to leave the lawn area clean of earth and debris and in a condition as near as possible to that which existed before the work was started.

The Contractor shall not remove, even temporarily, any trees or shrubs which exist on easements across private property or in parking strips without first having notified the property owners or authorities maintaining same.

It is expressly understood that the Contractor shall in particular restore all such easements and rights-of-way to a condition equal to its original condition, or superior, and in a condition satisfactory to the property owners and the District and/or the District's Engineers. It is also understood that any private improvements made within the public right-of- way are included in the above category.

Where the work is done on easements, the Contractor may be required to obtain a written statement of satisfactory restoration from each property owner involved and furnish a copy of said statement to the District. The statement will be required before the work will be accepted by the District.

b. Maintaining Postal Service.

Postal service shall be maintained in accordance with the instructions of the U. S. Post Office Department. The Contractor shall be responsible for moving mail boxes to temporary locations designated by the Post Office-Department, in such position that their usefulness will not be impaired and, at the completion of the work, the Developer/Contractor shall replace them in location and in condition satisfactory to the Post Office Department.

It will be the Contractor's responsibility to contact the U. S. Post Office Department for their requirements in maintenance of postal service and to follow the requirements.

In cases where the posts upon which the box or boxes are fastened in such condition that they cannot be reset, the Contractor shall furnish new posts for this purpose at their own expense.

c. Damaging Existing Utilities.

If any damage is done to an existing utility, the Contractor shall notify the particular utility company involved for repairs and shall be responsible for the cost of repairs.

9. SAFETY STANDARDS.

a. General.

In accordance with generally accepted construction practices, the Contractor will be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the work. This requirement will apply continuously and not be limited to normal working hours.

The duty of the District to conduct construction review of the Contractor's performance is not intended to include review of the adequacy of the Contractor's safety measures in, on or near the construction site.

The Contractor and all subcontractors shall adhere to the requirements of the Occupational Safety and Health Act (OSHA), Washington Industrial Safety and Health Act, and all other Federal, State and local safety and health statutes which may apply.

These construction documents and the joint and several phases of construction contemplated in the Agreement shall be governed at all times by applicable provisions of the Federal law(s) including, but not limited to, the latest amendments of the following:

Williams-Steiger Occupational Safety and Health Act of 1970, Public Law 91-596.

Part 1980 - Occupational Safety and Health Standards, Chapter XVII of Title 29, Code of Federal Regulations.

Part 1518 - Safety and Health Regulations for Construction, Chapter XIII of Title 29, Code of Federal Regulations.

This project, its prime contractor and their subcontractors shall, at all times, be governed by Chapter XIII of Title 29, Code of Federal Regulations, Part 1518 Safety and Health Regulations for Construction (36 FR 75) as amended to date.

The Contractor, at their expense, shall be required to maintain sufficient warning lights and adequate barricades on all trenches and open excavation to protect moving traffic and pedestrians. This shall include not only open trenches but also recently-closed trenches that have not been returned to full and safe operating surface for normal use.

All the necessary flagmen, barricade and detour signs must be furnished by the Contractor, both during working hours and also when the work is suspended during the construction period. The Contractor shall provide such additional barricades and protective devices as will be required to reasonably protect workers and others, as well as animals from deep excavation during the construction period.

Upon failure of the Contractor to provide immediately and maintain adequate suitable barricades, lights and detour signs when ordered to do so, the District shall be at liberty, without further notice to the Contractor or the surety, to provide the same at Developer expense and the District assumes no liability connected therewith.

Signs used for posting shall be consistent with the provisions found in the State of Washington, "Manual on Uniform Traffic Control Devices for Streets and Highways".

Where the location of the work is in proximity to overhead wires and power lines, the Contractor shall coordinate all work with the utility and shall provide for such measures as may be necessary for the protection of the work and workers.

Care must be taken to prevent contamination of the pipeline during construction. Open pipe of fitting ends shall be plugged with a temporary watertight plug overnight or when work is stopped, to prevent contamination of the pipeline.

b. Traffic to be Maintained.

The Contractor shall make suitable, safe, and adequate provision of necessary traffic around, over, or across work in progress.

The Contractor shall conduct their work so as to interfere at little as possible with public travel and shall, at their own expense, provide and maintain suitable bridges, detours, or other temporary facilities for the accommodation of public or private travel, including mail delivery, and shall give reasonable notice to the owners of private drives before interfering with them; provided, however, that such maintenance of traffic will not be required where the Developer has obtained permission from the owners or tenants of private property, or the proper public authority, or both, to obstruct traffic within the said limits and time agreed upon. Access for fire-fighting equipment shall be provided at all times and the Contractor and/or Developer shall keep the local fire protection authorities informed at all times of the location of construction operations and fire lanes.

The Contractor shall also notify the authorities in charge of any municipal, private, or school transportation systems at least 48 hours in advance of road closures that will force a change in the regular routing of the transportation system.

Roadway crossings shall be made in such a way that no more than half of the roadway is closed to traffic at any time except when suitable detours or other arrangements are agreed to.

c. Asbestos Pipe Removal.

The Contractor (person or organization removing asbestos with certified asbestos workers) shall assume ALL risk and all liability for the removal and disposal of the asbestos and the Contractor shall comply with all federal, state and local laws, statutes and regulatory agency regulations and requirements including but not limited to the requirements relating to environmental pollutants and the requirements relating to the removal and disposal of asbestos. The Contractor shall insure that the asbestos removal is pursuant to all state and federal laws and regulations. The Contractor shall be responsible for any and all fines or penalties which may be levied due to the Contractor's violation of any of the aforementioned laws and regulations.

In addition to the other insurance requirements in this Contract, the Contractor shall provide liability insurance for Bodily Injury and Property Damage coverage for asbestos removal and disposal as follows protecting the District, its officers, consulting engineer, and employees from any and all liability rising from the removal and disposal of the asbestos and all work and efforts done incidental and as a consequence to such removal.

The limits of such coverage shall be as follows:

Occurrence Basis

Bodily Injury	\$1,000,000 per occurrence including wrongful death	
Property Damage	\$1,000,000 per occurrence	\$2,000,000 aggregate

Combined Single Limit \$2,000,000 per occurrence \$2,000,000 aggregate

Claims Made Basis

Bodily Injury \$1,000,000 per claim including wrongful death
Property Damage \$1,000,000 per claim \$2,000,000 aggregate all claims one year

Policy shall contain extended reporting of claims for 3 years from completion of the project.

10. PREVENTATIVE STREET CLEANING.

Contractors working dump trucks and/or other equipment on paved streets from the excavation site to the disposal site shall be required to clean said streets at conclusion of each day's operation to the satisfaction of the roadway agency involved.

If the streets are not properly cleaned and/or the condition of the excavation warrants, the District and/or the District's Engineer shall direct the Developer to provide facilities to remove clay or other deposits from tires or between dual wheels before trucks and/or other equipment will be allowed to travel over paved streets. Open type brooms shall not be allowed for street cleaning.

a. Dust Control.

The Developer shall furnish all labor, equipment and means required and shall carry out protective measures wherever and so often as necessary to prevent their operations from producing dust in amounts damaging to property owners. The Developer shall be responsible for any damage resulting from dust originating from their operations. The dust abatement measures shall be continued until all required resurfacing is completed or until the Developer has completed arrangements with the proper authorities whereby is relieved of further responsibility.

b. Water for Streets.

Water upon streets shall be applied by sprinkling with tank trucks equipped with spray bars and control apparatus of suitable design to ensure uniform application of water in the amounts as required.

11. WATER SUPPLY.

Upon request, a construction meter will be provided to accommodate the needs of the Developer for water use during the construction phase. The Developer shall pay the District for this service.

The Developer shall comply with all state, local and District rules and regulations prohibiting cross-connections. Developer shall install and maintain backflow prevention devices as required by the District in its absolute discretion as a condition of receiving final acceptance of the extension improvements and utility service from the District.

12. SANITARY PROVISIONS.

The Developer shall provide and maintain in a neat and sanitary condition such accommodations for the use of their employees as may be necessary to comply with the requirements and regulations of the State Department of Health and of other bodies or officers having jurisdiction thereover. The Developer/Contractor shall permit no public nuisance.

13. OBSERVATION OF WORK AND MATERIALS.

District observers are present on the work site to observe the progress of the work and the manner in which it is being accomplished. Failure of the observer to call to the attention of the Contractor faulty work or deviations from the plans or specifications shall not constitute acceptance of the work or create any liability on the part of the District.

All work performed and all materials and equipment furnished, and the manufacture and preparation thereof shall be subject to review by the District and Engineer. The District and Engineer shall, at all times, have access to all parts of the work or the shops where any part of the work or equipment may begin preparation or the factories where any materials for use in the work are being, or are to be, manufactured for the purpose of inspection. The Contractor shall, at all times, maintain proper facilities and provide safe access for such review. The District may reject or accept material and equipment to be incorporated in the work. However, the failure of the District to reject defective material or any other work involving deviations will not constitute acceptance of such work. The presence or absence of an observer on the job shall not relieve the Contractor of their obligation to furnish satisfactory materials and workmanship.

No work shall be backfilled without timely notice to the District of its readiness for review. Should any work be backfilled without approval or consent of the District it must be **uncovered** for examination at the Contractor's expense.

The Contractor shall regard and obey the directions and instructions of the District with reference to correcting any defective work or replacing any materials found to be not in accordance with the specifications and plans and, in case of dispute, the Contractor may appeal to the District whose decision shall be final; but, pending such decision, the instructions shall be followed and the Contractor shall make no claims on this account.

The Contractor is entitled to inspection of materials upon application to the District provided that, should the Contractor request the special inspection of materials not yet delivered to the site of work, Contractor shall, if such inspection be granted, pay all costs and expenses of the District and Engineer in making such inspection.

The inspection of pipe may be performed by the District's Engineer at the manufacturer's plant. The cost of pipe inspection shall be paid to the District by the Contractor as specified on an actual time and expense basis at current rates. When inspection is required, at least two (2) days' notice shall be given; otherwise, inspection shall be at the convenience of the Engineer.

However, in the event the manufacturer of said pipe has, in the opinion of the Engineer, previously furnished acceptable, tested pipe on work under the jurisdiction of the Engineer, the District and/or Engineer shall request a certification of the pipe by the manufacturer. Said certification shall certify that material supplied, and for which the certification was requested, is in full compliance and conformance with the drawings and specifications. In the event the pipe so certified does not meet with the requirements set forth. Material testing and inspection shall be done in an independent testing laboratory located in the Puget Sound area. Inspection time shall also include any Engineer's time involved in evaluating the pipe. Certification of the resulting of the tests shall be furnished by the laboratory or agency which performs the tests. Suitability of the pipe shall be based upon conformance to the test requirements.

A complete list of project observation fees is available from the District upon request.

14. PLANS AND SPECIFICATIONS ACCESSIBLE.

- a. The Contractor shall be furnished two copies of plans and specifications and **shall keep at least one copy of the same constantly accessible at the construction site.**
- b. Where shop drawings are required to be submitted for acceptance, one copy of the approved shop drawings shall; be kept constantly accessible at the construction site.

15. OWNERSHIP OF DRAWINGS.

All drawings, specifications and copies thereof prepared or furnished by the Engineer are the property of the District. Neither Developer nor Developer's Engineer shall have any rights of ownership, copyright, trademark or patent to the construction drawings or specifications.

The original construction drawing(s), whether prepared by the District's Engineer or the Developer's Engineer, shall be furnished to the District for revision to conform to construction records and shall become the District's property.

16. SHOP DRAWINGS.

The Developer shall check and verify all field measurements. The Developer shall submit with such promptness, as to cause no delay in their own work or in that of any other contractor, three (3) copies, checked and approved by the Developer, of all shop or setting drawings and schedules (all collectively herein referred to as "shop drawings") required for the work of the various trades in the performance of the work or where requested by the Engineer and shall verify all field measurements or conditions to which the shop drawings are applicable. The Engineer shall review them with reasonable promptness making required corrections, including those related to design and artistic effect. The Developer shall make any corrections required by the Engineer and, within one week after receipt of the required corrections, shall file with the Engineer two (2) corrected copies and furnish such other copies as may be needed by the Engineer. The Engineer's acceptance of such drawings or schedules shall not relieve Developer from responsibility for deviations from drawings or specifications, unless the Developer has, in writing, called the Engineer's attention to such deviation at the time of submission and secured the Engineer's written approval nor shall it relieve the Developer from responsibility for errors in shop drawings or schedules.

17. DETERMINATION FOR "OR EQUAL."

The Engineer shall be the sole judge of the question of "or equal" of any supplies or materials proposed by the Developer. The Developer shall pay to the District the cost of tests and evaluations by the Engineer to determine acceptability of alternates proposed by the Developer in accordance with the established rates of the Engineer for time and expense work.

18. ROYALTIES AND PATENTS.

The Developer shall be liable for all suits brought against the District by reason of infringement of patent rights or license on any material, machine, appliance, or process that they may use on the work or incorporate into the finished job except where specifically exempted by Special Provisions. The Developer shall defend and hold the District harmless from any such suit, costs of defense and any judgment which may be made or entered against District thereon.



ENGINEERING SPECIFICATIONS – SEWER MATERIALS AND METHODS

MATERIALS OF CONSTRUCTION

- | | | |
|----|------------------|--------|
| 1. | General | ES – 1 |
| 2. | Sewer Pipe | ES – 1 |
| 3. | Manholes | ES – 3 |
| 4. | Frame and Covers | ES – 5 |

METHODS OF CONSTRUCTION

- | | | |
|-----|--|---------|
| 1. | General | ES – 6 |
| 2. | Clearing and Grubbing | ES – 6 |
| 3. | Dewatering and Control of Water | ES – 7 |
| 4. | Erosion Control | ES – 8 |
| 5. | Excavation, Trenching, and Shoring | ES – 9 |
| 6. | Foundation Gravel | ES – 9 |
| 7. | Pipe Bedding | ES – 9 |
| 8. | Backfill Gravel | ES – 10 |
| 9. | Sewer Pipe Installation | ES – 11 |
| 10. | Side Sewer Stubs | ES – 12 |
| 11. | Highway, Stream, or Railroad Crossings | ES – 13 |
| 12. | Re-Design of Lines | ES – 13 |
| 13. | Hazard of Asbestos Cement Pipe Removal | ES – 14 |
| 14. | Testing Gravity Sewers for Acceptance | ES – 14 |
| 15. | Testing Force Main | ES – 18 |
| 16. | Landscaping, Lawn Removal, and Replacement | ES – 19 |
| 17. | Road Restoration | ES – 20 |
| 18. | Adjustment of New and Existing Utility Structures to Grade | ES – 22 |
| 19. | Finishing and Cleanup | ES – 23 |
| 20. | Erosion Control Blanket | ES – 24 |

ENGINEERING SPECIFICATIONS - SEWER

MATERIALS OF CONSTRUCTION

1. GENERAL

The type and class of materials to be used shall be as shown on the project plans approved by the District. Where no specific reference is shown, the following specifications shall govern the materials used. All materials shall be new and undamaged of a known brand, with replacement parts readily available from the general Seattle area. All materials shall have a manufactured date within one year of installation.

Prior to the installation of any of the facilities required on the project, all materials shall be approved by the District.

All reference specifications herein shall be of the latest revision.

2. SEWER PIPE

Sewer pipe material shall be of the following type unless otherwise specified or directed:

Locations with less than five(5) feet of cover from top of pipe to finished grade

Class 52 Ductile Iron Pipe ANSI/AWWA C116 ceramic epoxy lined.

Locations with between five(5) feet and sixteen (16) feet of cover from finished grade

PVC Pipe, ASTM 3034 SDR 35

Locations with more than sixteen (16) feet of cover from finished grade

Class 52 Ductile Iron Pipe, or PVC C900 Pipe ANSI/AWWA DR 18 or as directed by District

Where Directed

High Density Polyethylene (HDPE) Pipe ASTM D3350 SDR 11 Gravity Sewer

a. PVC Pipe and Fittings - ASTM 3034

Pipe and fittings shall be integral wall bell and spigot, rubber gasket joint, unplasticized polyvinyl chloride (PVC) pipe. All PVC pipe shall have a minimum "pipe stiffness" of 46 at 5 per cent deflection and 73° F when tested in accordance with ASTM Designation D 2412, external loading properties of plastic pipe; and a minimum impact strength of 210 feet-pounds based on ASTM D 3034 at 73° F using a 20 pound Tup A.

All ASTM 3034 PVC sewer pipe and fittings manufacture, and installation shall conform with ASTM recommended specifications D 3034, current revisions, and all installation shall be in strict compliance with the manufacturer's directions. All pipe shall be clearly marked with the date of manufacture. There shall be

no reduction in pipe wall thickness at the bell as a result of bell formation. All pipe shall be provided with a reference mark for proper spigot insertion. Joint gaskets shall be fabricated from a compound of which the basic polymer shall be a synthetic rubber consisting of styrene, butadiene, poly-isoprene, or any combination thereof and shall meet the requirements of ASTM 1869, latest revisions.

b. Class 52 Ductile Iron Pipe and Fittings

Class 52 ductile iron pipe shall be new, epoxy-lined, conforming to ANSI Standard A21.51 (AWWA C-151).

Ductile iron pipe shall be push-on joint or mechanical joint. Pipe with push-on joints shall be furnished with a single rubber ring gasket. All gaskets, including MJ, shall be lubricated to affect the seal. Pipe with mechanical joints shall be furnished with a mechanical joint of the stuffing box type, including rubber gasket, cast-iron gland, and tee-head bolts and nuts to affect the seal. All joints shall conform to ANSI Standard A21.11 (AWWA C-111).

Where restrained joints are required, may be manufactured with U.S. Pipe TR Flex, Griffin "Snap Lok" or Pacific States Restrained Joint. In addition, Mega-Lugs may be used.

Bell and socket joints shall be in accordance with ANSI A21.10 and equal to U.S. Pipe "Uniflex".

Standard thickness, epoxy mortar-lined pipe shall be in accordance with ANSI Standard A21.4 (AWWA C-104).

Ductile iron pipe shall be encased in polyethylene encasement. Material and installation shall be in accordance with AWWA C105. Installation shall be in accordance with Method A or Method C.

The Contractor shall furnish certification from the manufacturer of the pipe and gasket being supplied that the inspection and all of the specified tests have been made and the results thereof comply with the requirements of this standard.

c. PVC Pipe and Fittings - AWWA C900

All AWWA C900 PVC pipe and fittings manufacture, and installation shall conform with AWWA recommended specifications C900, current revisions, and all installation shall be in strict compliance with the manufacturer's directions. Pipe and fittings shall be integral wall bell and spigot, gasketed pipe, extruded from virgin PVC compounds with cell classification 12454 B or better, as defined in ASTM D1784. Gaskets shall be elastomeric meeting requirements of ASTM F477. Fittings shall be in accordance with AWWA C907. PVC C900 pipe shall have a minimum pressure class rating of 100 (DR25) with cast iron pipe outside diameter conforming to ASTM D2122.

d. Tees and Wyes

Connections for side sewer stubs shall be six (6) inch inside diameter tee fittings fabricated in the manufacturer's plant. Wye branches shall be used where the sewer main size is less than eight (8) inch inside

diameter. No field cut-in tees or wyes will be allowed under these specifications without written approval of the District.

e. High Density Polyethylene (HDPE) Pipe and Fittings

The material shall comply with the requirements for Type III C5 P34 as tabulated in ASTM D 1248 and have PPI recommended designation of PE 4710 SDR-17 (125 psi). A melt flow (condition F) of less than 5.0 GMS./10 min. shall be required as determined by ASTM D 1238-65T and exceed 5,000 hours of Environmental stress crack resistance with no failure and no indication of stress crack initiation as determined by ASTM D 1693, Condition C.

The workmanship shall be of the highest level compatible with current commercial practice. The PE pipe shall be homogeneous throughout and free of visible cracks, holes, foreign inclusions, or other injurious defects. It shall be uniform in color, opacity, density and other physical properties.

The pipe shall be non-pressure rated. Butt fusion of pipes and fittings shall be performed in accordance with the pipe manufacturer's recommendations as to equipment and technique. The pipe shall be fused by an individual who has a demonstrated ability to fuse polyethylene pipe in the manner recommended by the pipe supplier and/or the fusion manufacturer.

In direct burial applications, the trench and trench bottom, embedment materials and bedding installation practices shall be as specified in ASTM 2321, Sections 6,7,8, and 9. The pipe shall be Phillips 66 Driscopipe 1000 or equal.

Provide special anchor block at each end of the HOPE section as noted on the construction drawing and detailed in the Sewer Standard detail.

3. MANHOLES

Manholes shall be of the offset type and shall be precast concrete sections with either a cast in place base or a precast base made from a three-thousand (3,000) psi structural concrete. Joints between precast wall sections shall be confined O ring. They shall be constructed in full compliance with the details shown on Standard Sewer Detail SD-1, Precast Manhole, and as further specified herein.

a. Manhole Sections

Manhole sections shall be placed and aligned so as to provide vertical sides and vertical alignment of the ladder steps. The ladder shall be rigidly attached to the side of the manhole. The completed manhole shall be rigid, true to dimension, and be watertight. Rough, uneven surfaces will not be permitted.

Masonry units (manhole adjusting brick) shall conform to ASTM C 32, Grade MM. The outside and inside of manhole adjusting bricks and the joints of precast concrete sections shall be plastered and troweled smooth with one-half (1/2) inch (minimum) of mortar in order to attain a watertight surface.

The mortar used between the joints in the precast sections and for laying manhole adjusting bricks shall be composed of one part cement to two parts plaster sand. All joints shall be thoroughly wetted and completely filled with mortar, smoothed both inside and out to insure watertightness.

b. Manhole Steps

Manhole steps shall be made of Copolymer Polypropylene Plastic coated 1/2 (one half) inch Grade 60 Steel reinforcing bars, M.A. Industries PS2-PF Manhole step or equal. See the Standard Detail for the special step in adjusting ring area.

c. Grade Adjustment

Manhole necks that are not less than eight (8) inches nor more than twenty (20) inches shall be provided between the top of the cone or slab, and the top of the manhole frame.

d. Channels

Channels shall be made to conform accurately to the sewer grade and shall be brought together smoothly, with well-rounded junctions, satisfactory to the District Engineer.

The channels shall be field poured after the inlet and outlet pipes have been laid and firmly grouted into place at the proper elevation. Pre-cast may be allowed if pre-approved by the District Engineer. Allowances shall be made for a minimum of one-tenth (0.1) foot drop in elevation across the manhole in the direction of flow. The maximum allowable drop in inlet elevation across the manhole in the direction of flow shall be one (1.0) foot. Channel sides shall be carried up vertically from the invert to three-quarters of the diameter of the various pipes. The concrete shelf shall be warped evenly and sloped two percent (2%) to drain. Rough, uneven surfaces will not be permitted. Channels shall be constructed to allow the installation and use of a mechanical plug of the appropriate size in the incoming and outgoing pipes.

e. Pipe Connections

All rigid pipe entering or leaving the manhole shall be provided with flexible joints within twelve (12) inches of the manhole structure and shall be placed on firmly compacted bedding. Special care shall be taken to see that the openings through which pipes enter the structure are completely and firmly filled with mortar from the outside to insure watertightness. All PVC pipe connections to manholes shall be made with approved Kor-N-Seal boots.

All stubbed out sewer pipes placed through manhole walls for future connections shall be suitably plugged and blocked in a manner acceptable to the District.

f. Drop Manholes

If pre-approved by the District Engineer, drop manholes shall, in all respects, be constructed as a standard manhole with the exception of the outside drop connection, as shown on the Standard Sewer Detail SD-3, Drop Manhole.

g. Lift Holes and Steel Loops

All lift holes shall be completely filled with expanding mortar, smoothed both inside and out, to insure watertightness. All steel loops must be removed flush with the manhole wall. The stubs shall be covered with mortar and smoothed. Rough, uneven surfaces will not be permitted.

h. Heat Shrinkable Wraparound Sleeves

All manholes shall be installed with heat shrinkable wraparound sleeves from the manhole ring flange to below the adjustment rings and blocks. Heat shrinkable wraparound sleeves shall be "Wrapid Seal" as manufactured by Canusa or approved equal.

4. FRAME AND COVERS

Frames and covers shall be cast iron and conform to the Standard Sewer Details SD-4, SD-4A and SD-4B. Materials are ductile iron cover ASTM A536, and Gray Iron Frame ASTM A48 CL35B Product # 3715ZPT Manufactured in the USA by East Jordan Iron Works Manufacturing Company. Heavy Duty Manhole Assembly (H20 and HS20 Loading). Locking lids are required. Rings and covers shall be adjusted to conform to the final finished surface grade of the street and to the satisfaction of the District per District's Standard Details.

ENGINEERING SPECIFICATIONS – SEWER - METHODS OF CONSTRUCTION

1. GENERAL

A pre-construction conference will be held at the District office prior to the start of construction.

The Contractor shall notify the District and the District's Engineer at least seventy-two (72) hours in advance of contemplated construction to allow for field staking the pipeline and checking of materials to be used on the job.

Except as otherwise noted herein, all work shall be accomplished with adopted standards of Cross Valley Water District and as recommended in applicable DOT/APWA Standard Specifications and according to the recommendations of the manufacturer of the material or equipment used. The Contractor performing the actual construction shall have a copy of the specifications on the jobsite at all times.

2. CLEARING AND GRUBBING

Clearing and grubbing shall consist of the removal of trees, stumps, brush, and debris, and shall be confined within the limits of the easements obtained for the construction of this project and/or existing public rights-of-way. Removal of clearing and grubbing debris shall be subject to the approval of the District Engineer and shall, in no way, constitute a hazard to the continuous operation of any existing utilities. Any damage to the existing utilities shall be repaired by the respective utility company, at the expense of the Contractor.

Within the limits described above, all vegetable growth, such as trees, shrubs, brush, logs, fences, upturned stumps and roots of downed trees and other similar items, shall be removed and disposed of. All trees shall be felled within the area to be cleared. Where the tree limb structure interferes with utility wires, or where the trees to be felled are in close proximity to utility wires, the tree shall be taken down in sections to eliminate the possibility of damage to the utility. Any damage which does occur shall be the responsibility of the Contractor.

All fences adjoining any excavation or embankment that may be damaged or buried shall be carefully removed and temporarily erected on the adjoining property or stored for reinstallation as directed by the District Engineers.

No debris of any kind shall be deposited in any stream, body of water, street, or alley.

Trees, shrubbery, and flower beds designated by the District shall be left in place and care shall be taken by the Contractor not to damage or injure such trees, shrubbery, or flower beds by any of their operations.

Where ornamental trees exist in planting areas and are not to be removed, it shall be the Contractor's responsibility to trim low limbs which would interfere with the normal operation of their equipment. Pruned areas must be sealed with an approved pruning tar or paint.

The trimming shall be performed in a professional manner, by competent personnel, prior to machine operations, and in such a manner as the District and/or the property owner may direct.

The refuse resulting from the clearing operation shall be hauled to a waste site secured by the Contractor. The refuse shall be disposed of in such a manner as to meet all requirements of State, County, and municipal regulations regarding health, safety and public welfare. Disposal of such refuse by burning on the site of the project shall not be allowed.

In no case, shall any material be left on the project, shoved onto abutting private properties, or be buried in embankments or sewer trenches on the project.

Clearing operations shall be carried out well in advance of the construction operations so as to permit a well-planned schedule of work.

The Contractor shall be responsible for all damage to existing improvements resulting from their operations.

3. DEWATERING AND CONTROL OF WATER

The Contractor shall dewater and dispose of the water so as not to cause injury to public or private property or to cause a nuisance or a menace to the public.

The control of groundwater shall be such that softening of the bottom of excavations or formation of "quick" conditions or "boils" shall be prevented. Dewatering systems shall be designed and operated so as to prevent the removal of the natural soils.

During excavation, installation of pipelines and sewers, placement of trench backfill, and placement and curing of concrete, excavations shall be kept free of water. The static water level shall be drawn down below the bottom of the excavation, so as to maintain the undisturbed state of the natural soils and allow the placement of backfill to the required density. The dewatering system shall be installed and operated so that the ground water level outside the excavation is not reduced to the extent that would damage or endanger adjacent structures or property.

The release of groundwater to its static level shall be performed in such a manner as to maintain the undisturbed state of the natural foundation soils, prevent disturbance of compacted backfill, and prevent flotation or movement of structures, pipelines, and sewers.

In carrying out the work within the limits of streams or an area that will drain into a stream during a rain, the Contractor is required to comply with the regulations of the appropriate local, State and Federal agencies. Any isolated potholes remaining from the Contractor's operations shall be provided with open water channels in such a manner that there will be a direct drainage outlet at the lowest elevation of the pothole.

The Contractor shall contact the above referenced departments and secure such permits as may be necessary to cover their proposed method of operation within the areas described above. If no permit is necessary and if directed by the District Engineer, he should submit a letter from the appropriate agency stating that no permit is necessary.

4. EROSION CONTROL

The detrimental effects of erosion and sedimentation are to be minimized in conformance with the following general principles:

- a. Leave soil exposed for the shortest possible time.
- b. Reduce the velocity and control the flow of runoff.
- c. Detain runoff on the site to trap sediment.
- d. Release runoff safely to downstream areas.

In applying these principles, the Contractor shall provide for erosion control by:

- a. Conducting work in workable units.
- b. Minimizing the disturbance to cover crop material.
- c. Providing mulch and/or temporary cover crops.
- d. Providing sedimentation basins, and/or diversions in critical areas during construction.
- e. Properly controlling and conveying runoff.
- f. Establishing permanent vegetation as soon as possible.
- g. Installing erosion control structures as soon as possible.

a. Trench Mulching

Where, in the opinion of the District Engineer and/or the Developer Engineer or record, there is danger of backfill material being washed away due to steepness of the slope along the direction of the trench, trench mulching shall be used. Backfill material shall be held in place by covering the disturbed area with straw. The straw shall be held in place with a covering of jute matting or wire mesh anchored down with wooden stakes, or as directed by the District Engineer and/or the Developer Engineer of record.

b. Cover Cropping

A cover crop shall be in place in all areas excavated or disturbed during construction that were not paved, landscaped, and/or covered prior to construction. Areas landscaped prior to construction shall be restored to their original condition in accordance with Paragraph 16, Landscaping, Lawn Removal and Replacement.

The Contractor shall be responsible for protecting all areas from erosion until the cover is in place and affords such protection.

5. EXCAVATION, TRENCHING, AND SHORING

All excavation, trenching and shoring shall comply with Chapter 296-155 of the Washington Administrative Code (WAC) and these specifications. It is the Contractor's responsibility to comply with all Department of Labor and Industry standards, specifically in regard to industrial safety and health.

For deep excavations, the Contractor shall provide shoring designed by a Structural Engineer registered in the State of Washington, as required by the Department of Labor and Industries Standards.

6. FOUNDATION GRAVEL

When required in areas of unsuitable trench bottom as directed, foundation gravel shall consist of clean, granular material free from objectionable materials such as vegetable matter or other deleterious substances, shall follow the District's Standard detail for Unsuitable Foundation Excavation.. At locations directed by the Engineer during construction, quarry spalls conforming to WSDOT Standard 9.13.6 shall be installed as sewer and manhole foundation material.

Approval of material and pit will be required by the District prior to construction.

7. PIPE BEDDING

Bedding material shall be carefully placed and firmly compacted to provide a firm, uniform cradle for the pipe. To provide a firm, continuous support for the pipe, it is necessary to hand tamp or "slice" bedding material solidly under the pipe.

All sewer pipe shall be completely bedded with imported pipe bedding gravel from 4" below the pipe bell to 12" over the pipe as shown on the Standard Detail.

Bedding material shall be 3/4" minus Crushed Surfacing Top Course per Section 9-03.9(3) of the State of Washington Standard Specifications for Road and Bridge Construction.

Bedding shall be placed in six (6) inch lifts compacted to 90% of maximum density from four (4) inches below the pipe to the crown of the pipe. Additional bedding material shall be placed and compacted by hand to approximately 90% of maximum density for the full width of the trench to a height of 12" above the top of the pipe. Care shall be taken to avoid contact between the pipe and compaction equipment.

Approval of material and pit will be required by the District prior to construction.

8. BACKFILL GRAVEL

Where excavated material is not approved for backfill, Gravel Base, conforming to the requirements of Section 9-03.10 of the State of Washington Standard Specifications for Road and Bridge Construction, or granular material commonly known as bank run gravel, shall be used as directed by the District and/or Engineer.

Bank run gravel shall be free from wood, roots, bark or other extraneous material. It shall have such characteristics of particle size and shape that it will compact readily to a firm, stable base.

Approval of material and pit will be required by the District prior to construction.

Trench backfill shall be performed in accordance with the requirements of the agency having jurisdiction. Please note that Snohomish County may require the use of Controlled Density Fill in transverse crossings of roads with high traffic volume or other situations where even a small amount of trench settlement cannot be tolerated. Generally, the requirements for trench backfill are as listed below:

a. Street and Paved Areas - Longitudinal Installations

Native trench materials are assumed suitable for backfill if 95 percent compaction can be obtained. All compaction tests must be done the same day as compaction.

If 95 percent cannot be obtained in trenches 8' deep or less, the entire trench must be replaced with imported pit run gravel and compacted to meet 95 percent modified proctor.

If 95 percent cannot be obtained in trenches greater than 8' deep, the upper 4' must be replaced with imported pit run gravel and compacted to meet 95 percent modified proctor.

b. Street and Paved Areas - Transverse Installations

In trenches 8' deep or less, the entire trench must be replaced with imported pit run gravel or imported crushed surfacing top course and compacted to meet 95 percent modified proctor.

In trenches 8' deep or more, the upper 8' must be replaced with imported pit run gravel or imported crushed surfacing top course and compacted to meet 95 percent modified proctor.

c. Easements

Backfill on easements can use native materials if 90 percent compaction can be met where there are no structures or pavement. Compaction must meet 90 percent of optimum density. If 90 percent compaction cannot be obtained, imported pit run gravel shall be used as directed.

The developer is responsible for providing in-place density tests necessary to demonstrate that the compaction is as required. In-place density tests shall be conducted in accordance with section 2-03.3(14) D of the State of Washington Standard Specifications for Road and Bridge Construction, latest edition.

Backfilling and surface restoration shall closely follow installation and testing of the pipe, so that no more than four-hundred (400) feet of pipe trench is left unrestored without express approval of the District Engineer. Care shall be taken to insure that the pipe and its protective coating are not damaged. No rocks or stones shall be permitted within twelve (12) inches of the pipe.

9. SEWER PIPE INSTALLATION

A ten (10) foot horizontal separation must be maintained between all sanitary sewer lines and water lines. A five (5) foot minimum horizontal separation shall be maintained between all water facilities and underground power and telephone facilities, unless otherwise approved. See Standard Water Detail WD-9A.

a. Pipe Laying

The sewer pipe, unless otherwise approved by the District Engineer, shall be installed upgrade from point of connection on the existing sewer, or from a designated starting point to line and grade, per approved plans. The sewer pipe shall be installed with the bell end forward or upgrade. When pipe laying is not in progress, the forward end of the pipe shall be kept tightly closed with an approved temporary plug. Wherever movable shoring (steel box) is used in the ditch, pipe shall be restrained by use of a winch mounted in the downstream manhole and a line of sufficient strength threaded through the pipe and set tight before each move. Any indication that joints are not being adequately held shall be sufficient reason for the District Engineer to require restraints, whether or not movable shoring is being used.

b. Pipe Jointing

All extensions, additions, and revisions on the sewer system, unless otherwise indicated, shall be made with sewer pipe joined by means of a flexible gasket which shall be fabricated and installed in accordance with these specifications.

All joints shall be made up in strict compliance with the manufacturer's directions and all sewer pipe manufacture and handling shall meet or exceed the ASTM and CPAW recommended specifications, current revisions.

Pipe handling after the gasket has been affixed shall be carefully controlled to avoid disturbing the gasket and knocking it out of position or loading it with dirt or other foreign material. Any gaskets so disturbed shall be removed, cleaned, re-lubricated if required, and replaced, before the re-joining is attempted.

Care shall be taken to properly align the pipe before joints are entirely forced home. During insertion of the tongue or spigot, the pipe shall be partially supported by hand, sling, or crane, to minimize unequal lateral pressure on the gasket and to maintain concentricity until the gasket is properly positioned. Since most flexible gasketed joints tend to creep apart when the end pipe is deflected and straightened, such movement shall be held to a minimum once the joint is home.

Sufficient pressure shall be applied in making the joint to assure that it is home, as described in the installation instructions provided by the pipe manufacturer. Sufficient restraint, as specified earlier, shall be applied to the line to assure that joints once home are held so, until fill material under and alongside the pipe has been sufficiently compacted. At the end of the workday, the last pipe laid shall be blocked in an effective way to prevent creep during "down time".

10. SIDE SEWER STUBS

A side sewer stub is considered to be that portion of a sewer line that will be constructed between a main sewer line and a property line or easement limit.

All applicable specifications given herein for sewer construction shall apply to side sewer stubs.

Three (3) inch wide, green plastic side sewer detector tape shall be laid three (3) feet above the pipe in accordance with the Standard Sewer Details SD-8 or SD-8A.

Side sewers shall be single and installed according to Standard Side Sewer Detail SS-1. In no case may the specified side sewers be changed without the approval of the District Engineer.

Side sewers shall be connected to the tee provided in the sewer mains where such is available, utilizing approved fittings or adaptors. Side sewers shall rise at a maximum of forty-five (45) degrees and a minimum of two (2) percent slope, from the sewer main.

Where there are no basements, the minimum side sewer depth shall be six (6) feet below final ground at the property line, except where the property owner may require additional depth. The Contractor shall provide for each six (6) inch outlet a two (2) inch by four (4) inch wooden post which extends from the invert of the six (6) inch outlet to a point eighteen (18) inches (minimum) and two (2) feet (maximum) above the existing ground. The exposed area of this post shall be painted white and shall have marked thereon the letters SIS. (See Standard Details) The elevations of the side sewer connections shall be of sufficient depth to serve all existing and possible future basements.

a. Rigid Pipe:

Where no tee or wye is provided or available, connection shall be made by machine-made tap and suitable saddle, or otherwise as approved by the District Engineer.

b. Flexible Pipe:

Where no tee or wye is provided or available, a cut-in tee or wye will be installed with two (2) PVC couplings as approved by the District Engineer.

The maximum bend permissible at any one fitting shall not exceed a forty-five (45) degree bend. Bends exceeding forty-five (45) degrees with any combination of two fittings shall have a straight pipe of not less than three (3) feet in length installed between such adjacent fittings, unless one of such fittings be a wye branch with a cleanout provided on the straight leg. The maximum length of six (6) inch sewer line shall be one- hundred (100) feet; minimum length shall be five (5) feet unless otherwise approved by the District.

Clean-outs shall be locking lid type East Jordan MFG. Company or equal. Clean-outs shall be installed as shown on the Standard Sewer Details per the size of pipe,

11. HIGHWAY, STREAM, OR RAILROAD CROSSINGS

The Contractor may use any method which provides satisfactory results and is acceptable to the Engineer and the governmental agency having control of the highway, stream, or railroad, provided that the Contractor restores the area to its original condition. Normally, crossings require the placing of a steel pipe casing by jacking or tunneling and laying the sewer main within this casing.

All jacked highway, stream, or railroad crossings shall be encased with steel casing. Steel casing shall be of sufficient diameter, size, and strength to enclose the sewer pipe and to withstand maximum highway, stream, or railroad loading.

Sizing and wall thickness of casing is to be approved by the District Engineer.

The pipe within the casing shall be braced with casing spacers as manufactured by Cascade Manufacturing Company, Yorkville, Illinois, or approved equal. The spacers shall be 8 inches wide and placed at 6-foot intervals with a spacer within 2 feet of each end of the casing pipe. Spacers shall be designed to prevent movement of the pipe within the casing in any direction (See Standard Water Detail WD-9C, Water or Sewer Main Casing).

Casing spacers shall be bolt-on style with a two-piece shell made from T.A.304 stainless steel of a minimum 14-gauge thickness. Each shell section shall have bolt flanges formed with ribs for added strength. Each connecting flange shall have a minimum of three 5/16" T-304 bolts. The shell shall be lined with a ribbed PVC extrusion with a retaining section that overlaps the edge of the shell and prevents slippage. Bearing surfaces (runners) made from UHMW polymer with a static coefficient of friction of 0.11 - 0.13 shall be attached to support structures (risers) at appropriate positions to properly support the carrier within the casing and to ease installation. The runners shall be attached mechanically by T-304 threaded fasteners that are inserted through the punched riser section and TIG welded for strength. Risers shall be made of T-304 stainless steel of a minimum 14 gauge. All risers over 2" in height shall be reinforced. Risers shall be MIG welded to the shell. All metal surfaces shall be fully passivated.

Casing spacers for the sewer main shall be as required, including custom fit if necessary, in order to provide the necessary line and grade.

The casing ends shall be sealed by approved methods after carrier pipe installation, testing and TV inspection, if required, is complete.

12. RE-DESIGN OF LINES

Should interferences or obstructions create construction difficulties that the District Engineer determines shall require redesign or relocation of the lines, the Developer's Engineer will prepare the necessary revised drawings. Revised drawings shall be approved by the District Engineer.

13. HAZARD OF ASBESTOS CEMENT PIPE REMOVAL

To remove existing asbestos cement pipe from the trench, a fee and permit is required from the Puget Sound Air Pollution Control Agency. In addition, Washington State Department of Labor and Industries requires the operators removing asbestos be certified.

The projects shall be completed by carefully disassembling existing AC pipe without saw cutting and the disassembled pipe left in the trench.

If the AC pipe is sawcut or removed from the trench, the Contractor shall be responsible for all fees and permits. The work shall be performed in accordance with requirements of the various agencies.

Where it is necessary to cross an existing asbestos-cement water line, a minimum of twenty-six (26) feet of the asbestos-cement pipe must be removed and replaced with ductile iron pipe or C-900 DR-18 of the same diameter. See detail SD-10

14. TESTING GRAVITY SEWERS FOR ACCEPTANCE

After backfilling the sewer main between joints with sufficient gravel to prevent movement of the pipeline and allowing sufficient time for any concrete blocking to set, the Contractor shall furnish all facilities and personnel for conducting tests under the observation of the District Engineer. The equipment and personnel shall be subject to the approval of the District Engineer.

a. Preparation for Testing

The Contractor shall be required, prior to testing, to clean and flush with an approved cleaning ball and clean water, all gravity sewer lines. After completion of backfill and cleaning, the completed gravity sewer, including side sewer stubs, shall be tested by the low-pressure air test method.

The first section of pipe not less than three hundred (300) feet in length installed by each crew shall be tested, in order to qualify the crew and/or the material. A successful installation of this first section shall be a prerequisite to further pipe installation by the crew. At the Contractor's option, crew and/or material qualification testing may be performed at any time during the construction process after at least two (2) feet of backfill has been placed over the pipe.

Before the test is performed, the pipe installation shall be cleaned. The Contractor shall furnish an inflatable, diagonally ribbed rubber ball of a size that will inflate to fit snugly into the pipe to be tested. The ball may, at the option of the Contractor, be used without a tag line, or a rope or cord may be fastened to the ball to enable the Contractor to know and control its position at all times. The ball shall be placed in the last cleanout, or manhole, in the pipe to be cleaned, and water shall be introduced behind it. The ball shall pass through the pipe with only the pressure of the water propelling it. All debris flushed out ahead of the ball shall be removed at the first manhole where its presence is noted. In the event cemented or wedged debris or a damaged pipe

shall stop the ball, the Contractor shall remove the obstructions and/or repair any damaged pipe. All visible leaks showing flowing water from the pipeline or manholes shall be stopped, even if the test results fall within the allowable leakage. The cleaning shall be carried out in such a manner as to not infiltrate existing facilities.

Precautions shall be taken to prevent any damage caused by cleaning and testing. Any Damage resulting from cleaning and testing shall be repaired by the Contractor at their own expense.

The manner and time of testing shall be subject to approval of the District Engineer.

b. Low Pressure Air Test

Gravity sewers shall be tested with low pressure air, by the pressure drop method. The procedures, as set forth in the following paragraphs, shall be used in conducting the low-pressure air test. The Contractor shall furnish all facilities and personnel for conducting the air test under the supervision of the District Engineer. The Contractor may desire to make an air test prior to backfilling for their own purposes. However, the acceptance air test shall be made after backfilling has been completed and compacted. In addition to the pressure test requirements, the pipeline shall be free of all visible leakage prior to acceptance.

Low Pressure Air Test - Pressure Drop Method:

All wyes, tees, or the end of the side sewer stubs, shall be plugged with flexible joint caps or acceptable alternative, securely fastened to withstand the internal test pressures. Such plugs or caps shall be readily removable, and their removal shall provide a socket suitable for making a flexible, jointed lateral connection or extension. No double plugs shall be allowed.

Immediately following the pipe cleaning, the pipe installation shall be tested with low pressure air, using the pressure drop method. A maximum reach to be tested shall be the reach between two consecutive manholes. Air shall be slowly supplied to the plugged pipe installation until the internal air pressure reaches four (4.0) pounds per square inch greater than the average back pressure of any groundwater above the center of the pipe being tested. At least two (2) minutes shall be allowed for temperature stabilization before proceeding further.

For air permeable pipe, the requirements of this specification shall be considered satisfied if the time required in seconds for the pressure to decrease from three and one half (3.5) to two and one half (2.5) pounds per square inch greater than the average back pressure of any groundwater that may submerge the pipe is not less than the listed values for the corresponding size pipe in Table 1. For non-air permeable pipe, the requirements of this specification shall be considered satisfied if the time required in seconds for the pressure to decrease from three and one-half (3.5) to three (3.0) pounds per square inch greater than the average back pressure of any groundwater that may submerge the pipe is not less than the listed values for the corresponding sizes of pipe in Table 1.

Surveyed, as-constructed inverts shall be submitted to the District and approved by the District prior to scheduling the air test and TVing with the District.

TABLE 1				
Allowable Time for Pressure Drop Method Air Permeable and NON-Air Permeable Pipe				
	<u>Air Permeable Pipe</u>		<u>NON-Air Permeable Pipe</u>	
Size of Pipe (Inches)	Seconds per LF of Pipe	Maximum Seconds per Reach of Pipe	Seconds per LF of Pipe	Maximum Seconds per Reach of Pipe
4	0.176	113.3	0.352	226.6
6	0.396	170.0	0.792	170.0
8	0.704	226.7	1.408	453.4
10	1.100	283.3	2.200	566.6
12	1.584	340.0	3.168	680.0
15	2.475	425.0	4.950	850.0
18	3.564	510.0	7.128	1020.0
21	4.851	595.0	9.702	1190.0
24	6.336	680.0	12.672	1360.0
30	9.900	850.0	19.800	1700.0

The use of air pressure for testing sewer lines creates hazards that must be recognized. The Contractor shall be certain that all plugs are securely blocked to prevent blowouts. The air testing apparatus shall be equipped with a pressure release device such as a rupture disc or a pressure relief valve designed to relieve pressure in the pipe under test at six (6) pounds per square inch.

c. Deflection Test

All 8" or larger pipe laid shall be deflection tested in accordance with section 7- 17.3(2)G of the State of Washington Standard Specifications for Road and Bridge Construction, latest edition. For acceptance, pipe shall not have any diameter decreased by 5 per cent or more.

The Contractor shall be required, at no additional expense to the District, to locate and uncover any sections of pipe failing to pass the test and, if not damaged, reinstall the pipe. The Contractor shall retest the pipe after replacement of the pipe.

d. Line and Grade Inspection

Before sewer lines are accepted, all lines shall be inspected for line and grade by checking each section between manholes for alignment. A full circle of light shall be seen by looking through the pipe at a light held in the manhole at the opposite end of the section of sewer line being inspected.

Any corrections required in the line and grade shall be made by removing and replacing pipe as required. Corrections required shall be completed by the Contractor at the expense of the Contractor.

Variance from established line and grade shall not be greater than one thirty- second ($1/32$) of an inch per inch of pipe diameter and not to exceed one-half ($1/2$) inch, provided that such variation does not result in a level or reverse sloping invert; provided, also, that variation in the invert elevation between adjoining ends of pipe, due to non-concentricity of joining surface and pipe interior surfaces, does not exceed one sixty-fourth ($1/64$) of an inch per inch of pipe diameter, or one-half ($1/2$) inch maximum.

e. Television Inspection

All sanitary sewers shall be inspected by the use of a television camera and two video recordings provided to the District before final acceptance.

The video recording shall be in digital format. The replay shall be free of electrical interference and provide a clear, stable image.

The television camera used shall be color format specifically designed and constructed for such inspections.

Audio narrative shall be recorded by the operating technician on the videos as they are being produced and shall include the location of the sewer, manhole numbers, direction of travel, and a description of the conditions in the sewer line and an estimation of flow from any leaks encountered.

Continuously displayed on the monitors, or as directed, in the lower right corner, as part of the video presentation, shall be the number designation of the sewer section being surveyed and a continues reference distance from the departing manhole.

Water with non-toxic red dye shall be poured into the system immediately preceding the inspection as directed by the Engineer.

Inspection shall be performed on a manhole-to-manhole basis. The inspection shall be performed by pulling the television camera through the line along the axis of the pipe. A 1-inch steel ball shall be attached to the camera harness immediately ahead of the camera to act as a visual aid in determining low spots in the pipe. Water shall be run through the pipe to aid in visually identifying any low spots. At the Contractor's discretion or as directed by the Engineer, the camera shall be stopped or backed up to view and analyze conditions that appear unusual or uncommon to a good, sound sewer.

A TV inspection log shall be kept by the Contractor which will contain the date and time, clearly show the exact location in relation to adjacent manholes of each pipe defect or infiltration point, cracks, shears, pulled gaskets, changes in grade or alignment, and other discernible features. The log will be provided in duplicate to the District in typewritten report, broken-down from manhole to manhole. Each manhole-to-manhole pipe run shall be on a separate sheet.

Prior to TV inspection, the Contractor shall submit to the District a brief description of relevant experience and a sample video which illustrates the quality of their work.

In the District's opinion, the video and audio quality of all tapes made shall meet or exceed that of the sample tape provided and accepted by the District.

The District shall be notified seventy-two(72) hours prior to any TV inspection.

The Contractor shall bear all costs incurred in correcting any deficiencies found during television inspection including the cost of any additional television inspection that may be required by the District to verify the correction of said deficiency.

15. TESTING FORCE MAIN

a. Test Specifications

The pressure tests shall be performed in the following manner:

Water shall be pumped into the main, bringing the pressure in the main up to the required test pressure. After a period of fifteen (15) minutes, water shall again be pumped into the main to bring the pressure up to the required test pressure and the quantity of water used during the test shall be accurately measured through a standard water service meter with a sweep unit hand that registers one gallon per revolution. The meter shall be approved by the District Engineer prior to any testing. The allowable water consumption shall not exceed the quantities as shown in the following table.

All force main piping shall, upon completion, be subjected to a minimum hydrostatic test pressure of at least fifty (50) percent above the design operating pressure for at least thirty (30) minutes. Leakage shall not exceed the amount given by the following formula:

$$L = \frac{N \times D \times P}{1,850}$$

Where:

- L is allowable leakage in gallons per hour
- N is the number of pipe joints
- D is the pipe diameter in inches
- P is the test pressure in psi

A positive displacement type pump shall be furnished by the Contractor for the testing. Feed for the pump shall be from a container wherein the actual amount of "make-up" water can be measured.

Any leakage caused by defective workmanship or materials shall be repaired, and the main shall again be tested to full compliance at the Contractor's expense. Concrete thrust blocking for fittings shall be in place and the concrete "set" sufficiently to withstand the test pressure before starting the test. Where permanent blocking is not required, the Contractor shall furnish and install temporary blocking and remove it after testing. The test pressure shall be applied at the low end of the section of pipe being tested. Air in the pipe shall be vented at all high points. All field equipment for testing, as above described, shall be furnished and operated by the Contractor, and subject to approval by District Engineer.

b. Preliminary Tests

The Contractor shall conduct preliminary tests and assure himself that the section to be tested is in an acceptable condition before requesting the District Engineer to witness the test.

c. Thrust Blocks

All fittings, such as elbows, shall be blocked with concrete in order to prevent movement and separation of pipe joints. Timber used as permanent blocking will not be permitted. Sufficient time shall be allowed for concrete to set before commencement of pressure tests. See Standard Water Details WD-8 and WD-8A.

16. LANDSCAPING, LAWN REMOVAL, AND REPLACEMENT

In the event construction is to be carried out in areas which are landscaped, appropriate measures shall be taken to restore such areas to conditions existing prior to construction. Such measures shall include, but shall not be limited to, sod removal, replacement, and replanting, subject to the approval of the property owner and/or the District.

a. Lawn Removal and Replacement

The area of sod to be removed shall be laid out in squares or strips of such size as to provide easy handling and matching. The sod shall then be carefully cut along these lines to a depth of four (4) inches, taking care to keep all cuts straight and cut all strips to the same width. After the sod has been cut vertically, it shall be removed to a uniform depth of approximately three (3) inches with an approved type of sod cutter. This operation shall be performed in such a manner as to insure uniform thickness of sod throughout the operation.

As the sod stripping proceeds, the sod strip shall be placed in neat piles at convenient locations and, from then on, they shall be maintained in a damp condition continuously until the sod strips are replaced on the lawn. In no case shall the sod remain in piles longer than ten (10) days before replacement on the lawn.

Prior to replacing the strips of sod, the stripped area shall be carefully shaped to proper grade and be thoroughly compacted. Wherever the construction operations have resulted in the placement of unsuitable or poorer soils in the area to be re-sodded, the surface shall be left low and covered with a minimum of four (4) inches of topsoil.

All tools used shall be of the type specially designed for the work and be satisfactory to the District Engineer.

Water shall be furnished by the Contractor. The Contractor shall be responsible for providing a finished grass area which meets the approval of the owner.

b. Hydroseeding

All areas disturbed by construction which do not receive a specific type of restoration, such as paving, rock, sod, or bark, shall be hydroseeded according to section 8-01.3(2)B of the WSDOT Standard Specifications. Prior to beginning hydroseeding operations, the contractor shall submit seed mix and rate of application to the Engineer for approval. Prior to seeding, all areas to be seeded shall be raked smooth and all debris removed and disposed.

17. ROAD RESTORATION

The Contractor shall restore all roadway and driveway surfaces, excavated or disturbed, to a condition acceptable to the District and the governmental agency having control of the road.

All work in rights-of-way shall be subject to the approval of the permitting agency and/or Snohomish County, and/or the State of Washington Department of Transportation.

All work in County right-of-way shall be subject to the approval of the Snohomish County Engineer.

Paving restoration consists of two steps. The first step is installation of a temporary cold mix patch to be maintained until all work and other restoration is complete. The second step is installation and sealing of the permanent pavement trench patch.

Paving restoration shall consist of the preparation, placing, and compaction of subgrade, the patching of various types of pavement cuts, and/or the complete resurfacing of roadways, the performance of which shall be in accordance with the requirements outlined herein. Roadway surface restoration and patching shall be in accordance with the WSDOT Standard Specifications, unless specifically directed otherwise by the District, permitting agency and/or the Engineer. See Standard Trench Backfill and Restoration Details.

Before patching material is placed, all pavement cuts shall be trued so that marginal lines of the patch will form a rectangle with straight edges and vertical faces a minimum of one (1) foot back from the maximum trench width.

Proper signs, barricades, lights, and other warning devices shall be maintained twenty- four (24) hours of the day, until the patch is completed and ready for traffic.

a. Crushed Surfacing

Crushed surfacing material shall be one and one- quarter (1-1/4) inch and five- eighths (5/8) inch minus crushed gravel and shall be manufactured from ledge rock, talus, or gravel, in accordance with the provisions of Section 9- 03.9(3) of the WSDOT Standard Specifications.

All crushed surfacing top course shall be placed in accordance with the requirements of Sections 4-04.1 through 4-04.4 of the WSDOT Standard Specifications.

b. Gravel Base

All gravel base shall conform to the requirements of Section 9-03.10 of the WSDOT Standard Specifications. Gravel base shall be spread as directed by the Engineer during construction. It shall be compacted in accordance with the requirements of the WSDOT Standard Specifications before material for any succeeding course is spread. Gravel base shall be used for a base material and for the select backfill of trenches in the event that the excavated material is unsuitable for backfill.

Gravel base shall be used as shown on the plans and as directed by the District and/or the Engineer.

c. Asphalt Concrete Surfacing

Asphalt concrete surfacing or repair shall be asphalt concrete pavement, Class "B", and shall conform to Section 5-04.1 through 5-04.4 of the WSDOT Standard Specifications, and the Standard Specification Drawing for Permanent Asphalt Concrete Patch. All edges and joints of asphalt concrete pavement repair shall be sealed with asphalt cement. After pavement is in place, all joints shall be sealed with SS-1, or approved equal.

d. Cement Concrete Pavement

Concrete shall conform with, and shall be placed, in accordance with Sections 5-05.1 through 5-05.4, and Sections 5-05.5(1) of the WSDOT Standard Specifications and shall be Class "B" and shall be furnished only by manufacturers who are members of the Portland Cement Association. Concrete cylinder samples will be taken by the District Engineer for the purpose of testing the compressive strength of the concrete. The concrete shall be five (5) sack "High Early" cement mix. Subgrades shall be prepared as shown on the plans and in compliance with the WSDOT Standard Specifications.

All reinforcing steel shall conform with and be placed in accordance with Sections 5-05.3(10) and 9-07 of the WSDOT Standard Specifications. All reinforcing steel shall also conform to the requirements of ASTM A-615, A-616, and A-617.

e. Rigid-Type Pavements Resurfaced with Asphalt Concrete

Those areas that now have a Portland cement concrete base and are surfaced with an asphalt concrete mat shall be replaced in kind. The base shall be a five (5) sack mix using "High Early" cement. The surface of the cement concrete portion of the patch shall be left low enough to accommodate the asphalt portion of the patch. Brush finishing will not be required. Joints shall be placed if directed by the District and/or Engineer. The asphalt concrete surface mat to be placed over the Portland cement concrete base shall be Class "B", as designated by the WSDOT Standard Specifications; both the base and the surface mat shall be carefully prepared, placed, and cured, in full compliance with Section 5-04.3 of the WSDOT Standard Specifications.

Asphalt concrete or bituminous plant mix shall not be placed until the day after the cement concrete has been placed, unless otherwise permitted by the District and/or the Engineer. The edges of the existing asphalt

pavements and castings shall be painted with hot asphalt cement or asphalt emulsion immediately before placing the asphalt patching material. The asphalt concrete pavement shall then be placed, leveled, and compacted, to conform to the adjacent paved surface. Immediately thereafter, all joints between the new and original asphalt pavement shall be painted with hot asphalt or asphalt emulsion and be covered with dry paving sand before the asphalt solidifies.

f. Shoulder, Gravel Surfaces

Shoulders, gravel driveways, and all other gravel surfaced areas shall be repaired as detailed on the plans, with a two (2) inch lift of five-eighths (5/8) inch minus crushed rock. Immediately prior to placement of the gravel, the drainage ditch, shoulders, and/or driveways, shall be graded to the original smooth contours existing prior to the construction of sewer lines in the area. The gravel shall then be placed and compacted in accordance with the applicable WSDOT Standard Specifications.

18. ADJUSTMENT OF NEW AND EXISTING UTILITY STRUCTURES TO GRADE

This work consists of constructing and/or adjusting all new and existing utility structures encountered on the project to finished grade.

a. Asphalt concrete paving projects

The manholes shall not be adjusted until the pavement is completed; at which time the center of each manhole lid shall be relocated from references previously established by the Contractor. The pavement shall be cut as further described and base material removed to permit removal of the cover. The manhole shall then be brought to proper grade.

Prior to commencing adjustment, a plywood and visqueen cover, as approved by the District Engineer, shall be placed over the manhole base and channel to protect them from debris.

The asphalt concrete pavement shall be cut and removed to a neat circle, the diameter of which shall not exceed twelve (12) inches from the outside diameter of the cast iron frame, or forty-eight (48) inches, whichever is smaller. The cast iron frame shall be brought up to desired grade, which shall conform to surrounding road surface. Adjustment to desired grade shall be made with the use of concrete leveling rings. No cast iron adjustment rings will be allowed. An approved class of mortar (one part cement to two parts of plaster sand) shall be placed between manhole sections; adjustment rings, and cast-iron frame, shall be placed to completely fill all voids and to provide a watertight seal. No rough or uneven surfaces will be permitted inside or out. Adjustment rings shall be placed and aligned so as to provide vertical sides and vertical alignment of ladder steps (if steps are necessary).

Check manhole specifications for minimum and maximum manhole adjustment and step requirements. (See Standard Sewer Detail SD-1.) Special care shall be exercised in all operations in order not to damage the manhole, frames and lids, or other existing facilities.

The annular spaces of the manhole frames shall be filled with five-eighths (5/8) inch minus crushed gravel and compacted with hand tamper to within two (2) inches of the top of the frame. Asphalt concrete patching shall not be carried out during wet ground conditions or when air temperature is below fifty (50) degrees. Asphalt concrete mix must be at required temperature when placed. Before making the asphalt concrete repair, the edges of the existing asphalt concrete pavement and the outer edge of the casting shall be tack coated with hot asphalt cement. The remaining two (2) inches shall then be filled with Class B asphalt concrete and compacted with hand tampers and a patching roller.

The completed patch shall match the existing paved surface for texture, density, and uniformity of grade. The joint between the patch and the existing pavement shall then be carefully painted with hot asphalt cement or asphalt emulsion and shall be immediately covered with dry paving sand before the asphalt cement solidifies. All debris, such as asphalt pavement, cement bags, etc., shall be removed and disposed of by the Contractor. Before acceptance of a job, manholes shall be cleaned of all debris and foreign material. All ladders must be cleaned free of grout. Any damage occurring to the existing facilities due to the Contractor's operations shall be repaired at their own expense.

b. Adjustment of Monuments and Cast Iron Frames and Covers

Monuments and monument castings shall be adjusted to grade in the same manner as for manholes.

c. Adjustment of Valve Box Castings

Adjustment of valve box castings shall be made in the same manner as for manholes.

19. FINISHING AND CLEANUP

Before acceptance of sewer line construction, all pipes, manholes, catch basins, and other appurtenances shall be cleaned of all debris and foreign material. After all other work on this project is completed, and before final acceptance, the entire roadway shall be neatly finished to the lines, grades and cross-sections shown on the plans and as hereinafter specified. The entire roadway, as referred to above, includes the roadbed, planting, sidewalk areas, shoulders, driveways, alley and side street approaches, slopes, ditches, utility trenches, and construction areas.

On sewer construction where all or portions of the construction is in undeveloped areas, the entire area which has been disturbed by the construction shall be shaped so that, upon completion, the area will present a uniform appearance, blending into the contour of the adjacent properties. All other requirements outlined

previously shall be met. Slopes, sidewalk areas, planting areas and roadway shall be smoothed and finished to the required cross-section and grade by means of a grading machine insofar as it is possible to do so without damaging existing improvements, trees, and shrubs. Machine dressing shall be supplemented by hand work to meet requirements outlined herein, to the satisfaction of the District Engineer.

Upon completion of the cleaning and dressing, the project shall appear uniform in all respects. All graded areas shall be true to line and grade as shown on the typical sections, and as required by the District Engineer. Where the existing planting is below sidewalk and curb, the area shall be filled and dressed out to the walk, regardless of the limits shown on the plans. Wherever fill material is required in the planting area, it shall be left high enough to allow for final settlement, and the raised surface shall present a uniform appearance.

All rocks in excess of one (1) inch diameter shall be removed from the entire construction area and shall be disposed of the same as required for other waste material. In no instance, shall the rock be thrown onto private property. Overhangs on slopes shall be removed, and slopes dressed neatly, so as to present a uniform, well sloped, surface.

All excavated material at the outer lateral limits of the project shall be removed entirely. Trash of all kinds, including that resulting from clearing and grubbing or grading operations, shall be removed. No trash of any kind shall be placed in areas adjacent to the project. Where machine operations have broken down brush and trees beyond the lateral limits of the project, the Contractor shall remove and dispose of same at their own expense.

Drainage facilities, such as inlets, catch basins, culverts, and open ditches, shall be cleaned of all debris which is the result of the Contractor's operations.

All pavements and oil mat surfaces, whether new or old, shall be thoroughly cleaned. Existing improvements, such as Portland cement concrete curbs, curb and gutters, walls, sidewalks, and other facilities which have been sprayed by the asphalt cement shall be cleaned to the satisfaction of the District Engineer.

Castings for manholes, monuments, water valves, lamp poles, vaults, and other similar installations which have been covered with the asphalt material shall be cleaned to the satisfaction of the District Engineer.

20. EROSION CONTROL BLANKET

Erosion control blanket shall be installed at locations shown on the contract plans, if required by the Engineer, immediately after seeding operations have been completed.

Erosion control blanket may be either jute matting or a manufactured biodegradable mesh/excelsior composite fabric.

Jute matting shall be of uniform open plain weave of undyed and unbleached single jute yarn. The yarn shall be of a loosely twisted construction and shall not vary in thickness by more than one-half of its normal diameter. Jute matting shall be furnished in 50-yard long rolled strips with a width of 48 inches and an average

weight of 0.92 pounds per square yard. A tolerance of plus or minus one inch in width and five per cent in weight will be allowed.

The mesh excelsior composite fabric shall consist of a machine-produced mat of curled wood excelsior having a consistent thickness and even distribution of fibers. The top side of each blanket shall be covered with a biodegradable extruded plastic mesh. The blankets shall be equal or better than curlex blankets as manufactured by the American Excelsior Company.

The erosion control blanket shall be installed and handled in accordance with the manufacturers' recommendations.

STANDARD DETAILS

SEWER STANDARD DETAILS

TRENCH BACKFLOW & RESTORATION DETAILS

Cross Valley



WATER DISTRICT

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SEWER DETAILS

SHEET #	SHEET TITLE
SD-1	STANDARD PRECAST MANHOLE
SD-2	SHALLOW MANHOLE
SD-3	DROP MANHOLE CONNECTION
SD-4	WATERTIGHT LOCKING FRAME AND COVER
SD-4A	WATERTIGHT HEAVY DUTY LOCKING FRAME AND COVER
SD-5	LAMPHOLE (CLEANOUT)
SD-6	LOCKING C.O. FRAME & COVER
SD-7	CASTING ADJUSTMENTS
SD-8	SEWER LATERAL NEW CONSTRUCTION
SD-8A	SEWER LATERAL EXISTING MAINS
SD-8B	SEWER LATERAL PLAN VIEW
SD-9	POLYETHYLENE PIPE - MANHOLE CONNECTION AND ANCHORAGE DETAIL
SD-10	CROSSING AC PIPE
SD-11	PIPE ANCHOR
SD-12	DEEP SEWER MANHOLE
SD-12A	DEEP SEWER MANHOLE

TRENCH BACKFILL & RESTORATION DETAILS

SHEET #	SHEET TITLE
TBR-1	TRENCH SECTION - PIPE BEDDING AND TRENCH BACKFILL
TBR-2	TRENCH SURFACE RESTORATION
TBR-3	UNSUITABLE FOUNDATION EXCAVATION
TBR-4	TRENCH DAMS
TBR-5	TIMBER BACKFILL SUPPORTS
TBR-6	EROSION CONTROL BLANKET
TBR-7	ZONE OF INFLUENCE
TBR-8	GALVANIC ANODE INSTALLATION

SIDE SEWER DETAILS

SHEET #	SHEET TITLE
SS-1	STANDARD SIDE SEWER
SS-2	PRIVATE SIDE SEWER INSTALLATION
SS-3	ALTERNATE SIDE SEWER INSTALLATION
SS-4	GREASE INTERCEPTOR
SS-5	OIL WATER SEPARATOR
SS-5A	OIL WATER SEAPARATOR COVER OPTION DETAILS
SS-6	SINGLE RESIDENTIAL CONNECTION GRINDER PUMP
SS-7	PRIVATE BACKWATER VALVE INSTALLATION TO SANITARY SEWER
SS-7A	PRIVATE BACKWATER VALVE ASSEMBLY OUTSIDE INSTALLATION
SS-8	PRIVATE COMMERCIAL DUPLEX GRINDER PUMP STATION
SS-8A	PRIVATE COMMERCIAL DUPLEX GRINDER PUMP STATION
SS-9	PRIVATE PRESSURE LINE CONNECTION TO GRAVITY SEWER

WATER DETAILS

SHEET #	SHEET TITLE
WD-1	TYPICAL 1-INCH WATER SERVICE
WD-2	WATER SERVICE INSTALLATION
WD-3	3 INCH AND 4 INCH WATER SERVICE
WD-3A	3 INCH SERVICE MATERIALS LIST
WD-4	6 INCH WATER SERVICE
WD-5	METER BOXES AND LIDS
WD-5A	BLOCK OUT FOR METER BOXES IN CONCRETE DRIVEWAYS
WD-6	RESIDENTIAL DOMESTIC AND FIRE SPRINKLER SYSTEMS
WD-7	FIRE HYDRANT ASSEMBLY
WD-7A	FIRE HYDRANT GUARD POSTS
WD-7B	FIRE HYDRANT REQUIREMENTS
WD-8	THRUST BLOCKING
WD-8A	CONCRETE BLOCKING FOR VERTICAL BENDS
WD-9	MINIMUM STANDARD DEPTH REQUIREMENTS
WD-9A	MINIMUM SEPARATION STANDARDS
WD-9B	WATER AND SEPTIC LINE CROSSING DETAIL
WD-9C	WATER OR SEWER MAIN CASING DETAIL
WD-10	TAPPING TEE AND VALVE
WD-11	CAST IRON VALVE AND BOX
WD-11A	VALVE BOX COVER
WD-11B	VALVE BOX ADJUSTMENT
WD-11C	BYPASS VALVE
WD-11D	VALVE BOX PROTECTIVE PAD
WD-11E	VALVE STEM EXTENSION
WD-12	2 INCH BLOWOFFASSEMBLY
WD-13	1 INCH AIR AND VACUUM RELEASE VALVE ASSEMBLY
WD-14	2 INCH AIR AND VACUUM RELEASE VALVE ASSEMBLY
WD-15	3 INCH - 8 INCH DOUBLE CHECK DETECTOR ASSEMBLY
WD-15A	3 INCH - 8 INCH DOUBLE CHECK DETECTOR ASSEMBLY
WD-16	DOUBLE CHECK VALVE ASSEMBLY
WD-17	REDUCED PRESSURE BACKFLOW ASSEMBLY
WD-18	REDUCED PRESSURE BACKFLOW ASSEMBLY
WD-19	PRESSURE REDUCING VALVE

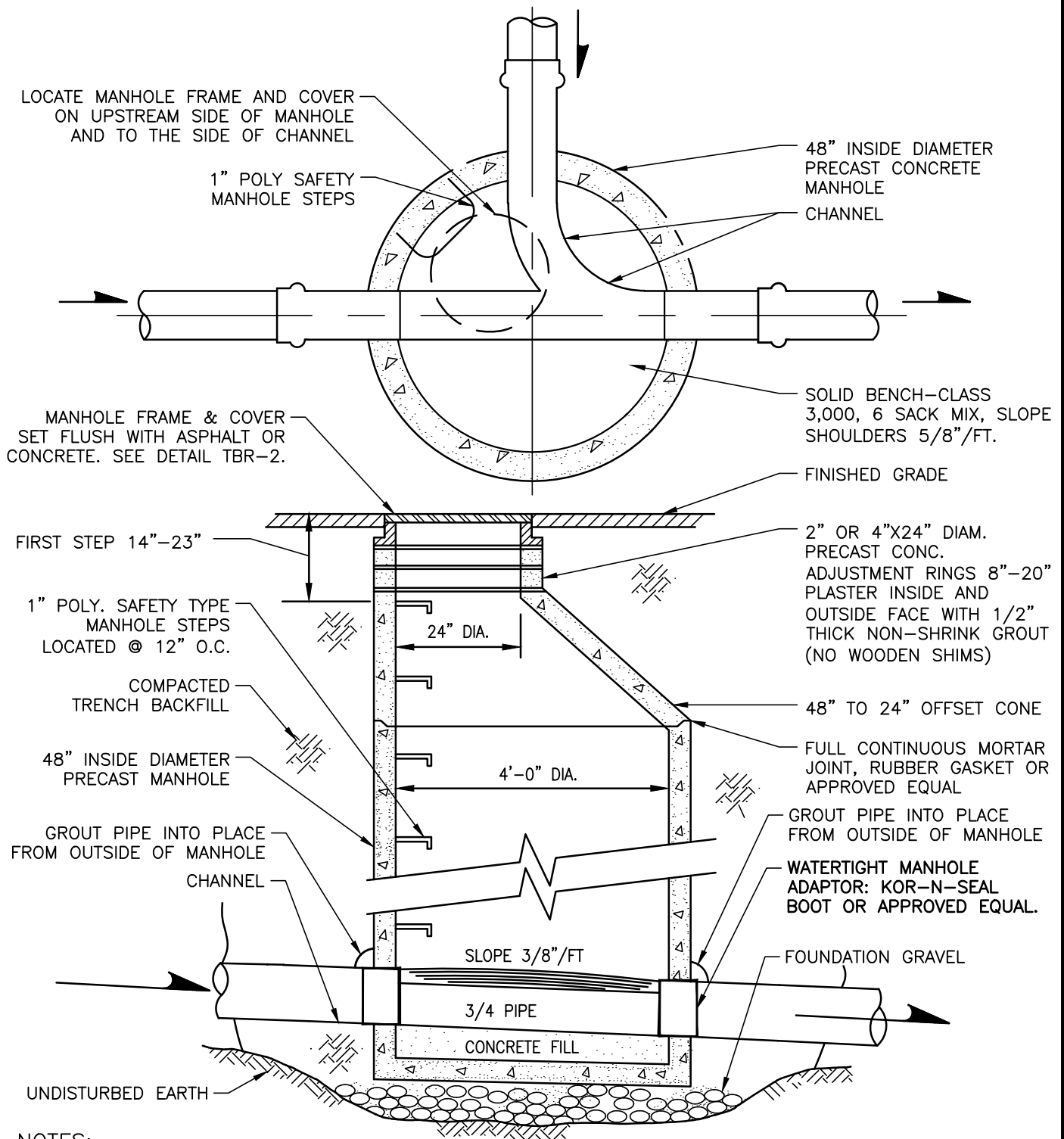
CROSS VALLEY WATER DISTRICT STANDARD DETAILS

SHEET INDEX

NOT TO SCALE

JULY 2023

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NOTES:

1. MANHOLES SHALL BE WATERTIGHT. GROUT PICK HOLES INSIDE AND OUT WITH NON-SHRINK GROUT.
2. SURFACE RESTORATION IN ACCORDANCE WITH STANDARD SPECIFICATIONS AND LOCAL REGULATORY AUTHORITY.
3. IN NON-PAVED AREAS, INSTALL 6 FT. DIAMETER CONCRETE PAD 6 INCHES THICK AROUND FRAME AND COVER — UNLESS OTHERWISE DIRECTED BY THE DISTRICT.

**CROSS VALLEY WATER DISTRICT
STANDARD SEWER DETAILS**

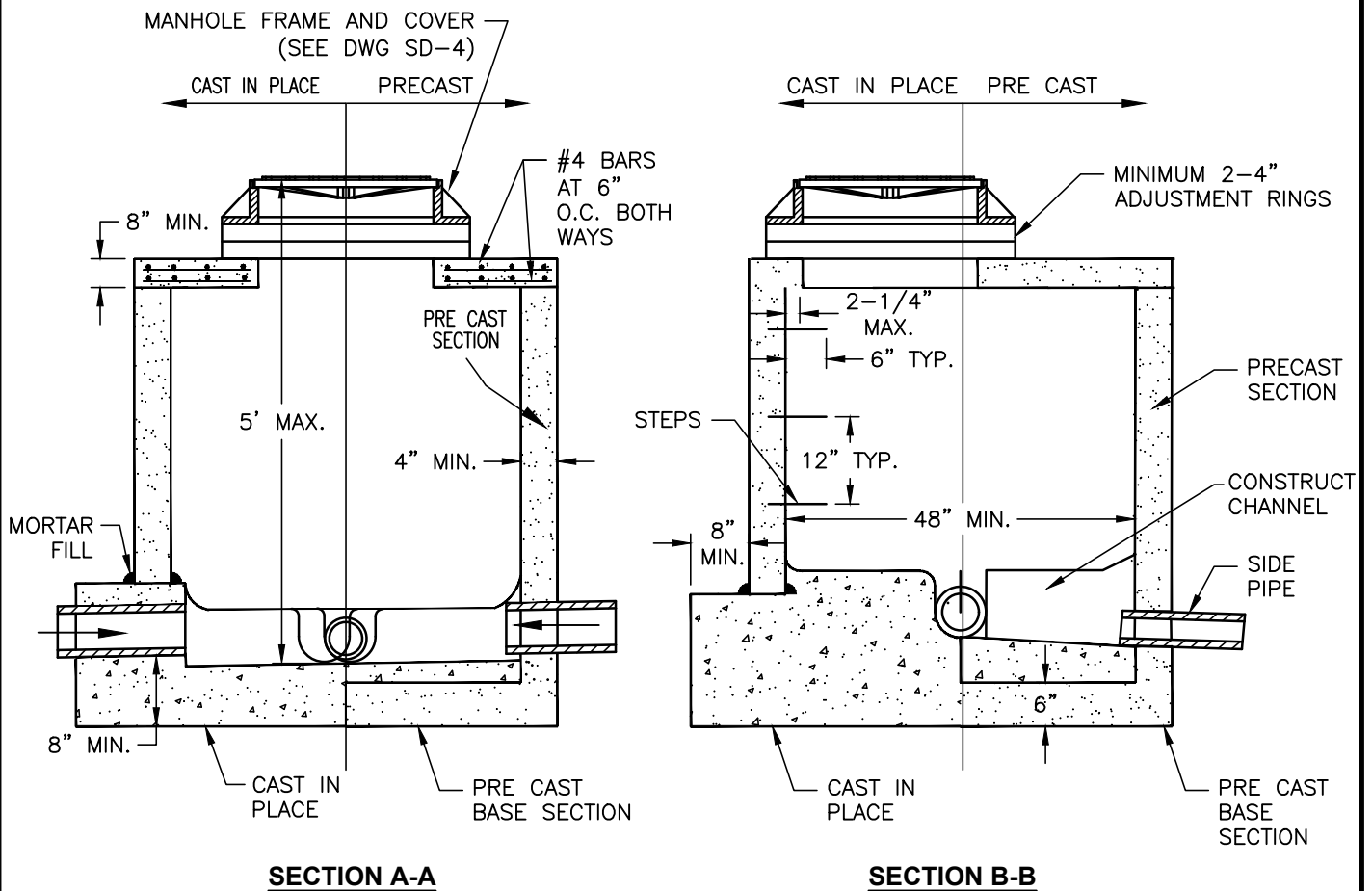
STANDARD PRECAST MANHOLE

SD-1

NOT TO SCALE

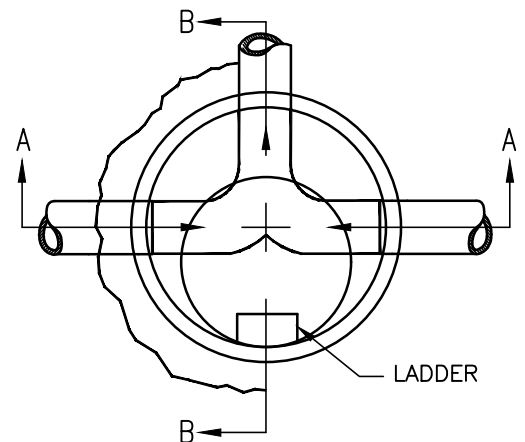
FEB 2022

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NOTES:

1. ONLY USED WITH SPECIAL WRITTEN APPROVAL FROM THE DISTRICT.
2. PRE CAST MANHOLE SECTION AND FLAT SLAB COVER SHALL CONFORM TO WSDOT STD DWG B-15.60-02.
3. ALL MANHOLE JOINTS AND PICK HOLES SHALL BE GROUTED WITH NON-SHRINK GROUT TO ENSURE A WATER TIGHT SEAL. GROUTS SHALL BE TRAWLED TO A BROOM FINISH INSIDE AND OUT.
4. ALL CHANNELIZATION OF MANHOLE BASES SHALL BE COVERED BY A RIGID MATERIAL DURING CONSTRUCTION OF ROAD SURFACES TO PREVENT FOREIGN MATERIALS FROM ENTERING SYSTEM.
5. MANHOLE ADAPTORS SHALL BE KOR-N-SEAL BOOTS OR APPROVED EQUAL.



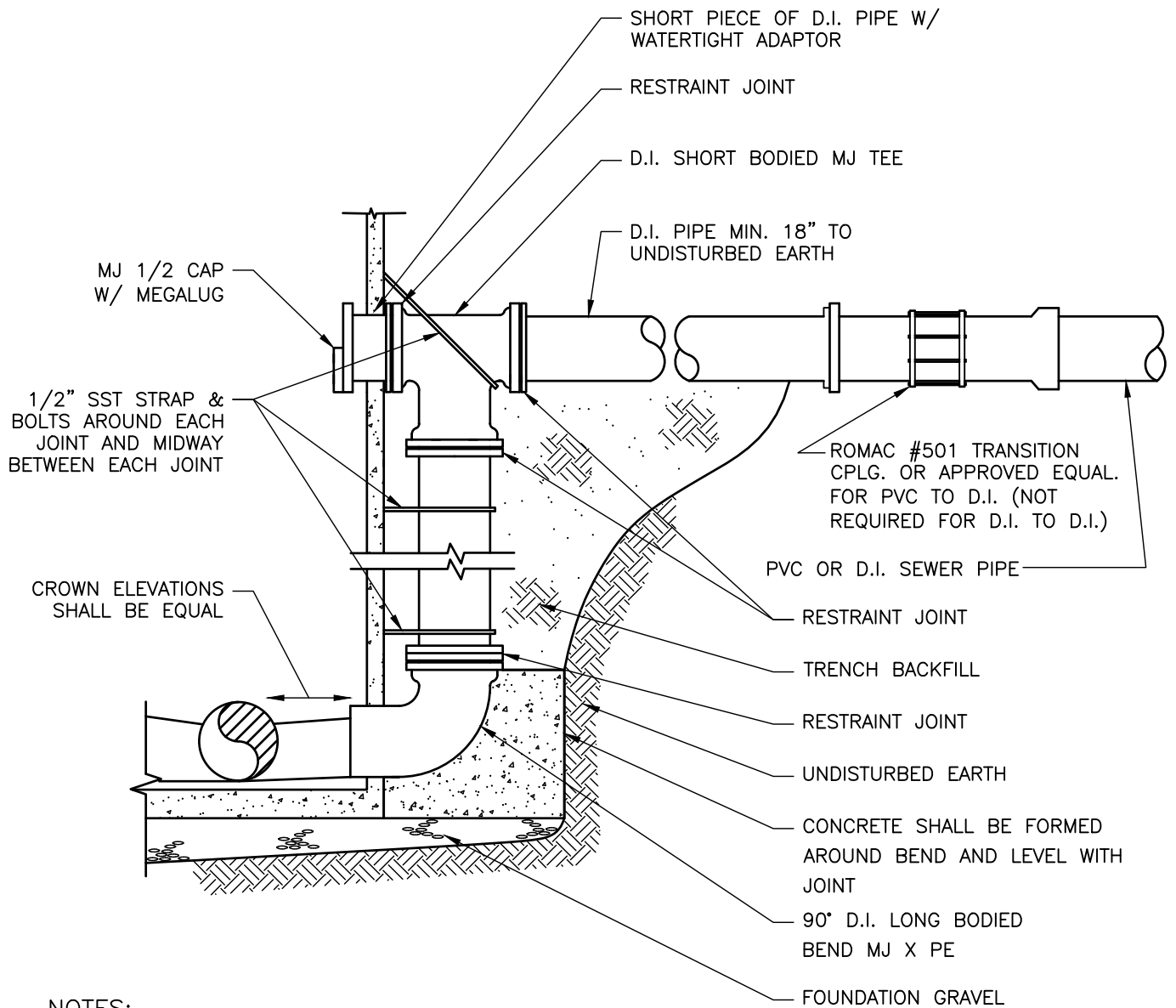
**CROSS VALLEY WATER DISTRICT
STANDARD SEWER DETAILS**

SHALLOW MANHOLE

SD-2

NOT TO SCALE

FEB 2022



NOTES:

1. ALL D.I. JOINTS TO BE RESTRAINED WITH MEGALUG TYPE DEVICES OR APPROVED EQUAL.
2. ALL D.I. PIPE AND FITTINGS TO BE EPOXY LINED.
3. ENTIRE MANHOLE INTERIOR TO BE COATED WITH RAVEN 400 OR EQUAL, UNLESS APPROVED OTHERWISE BY THE DISTRICT.

**CROSS VALLEY WATER DISTRICT
STANDARD SEWER DETAILS**

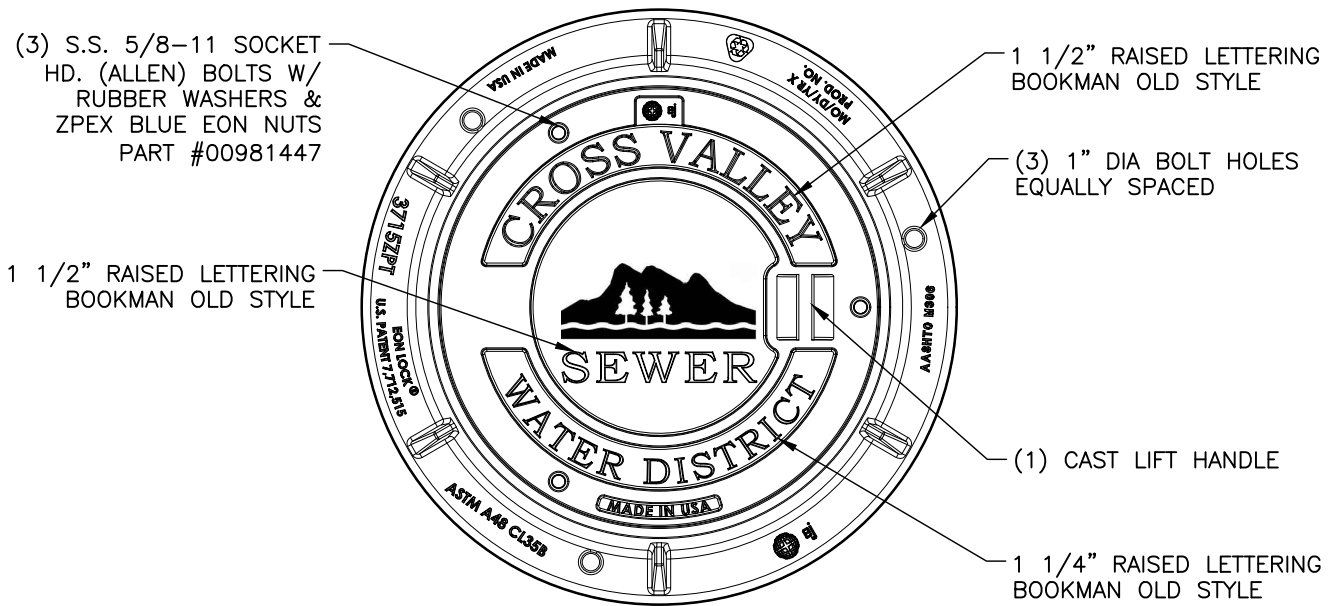
DROP MANHOLE CONNECTION

SD-3

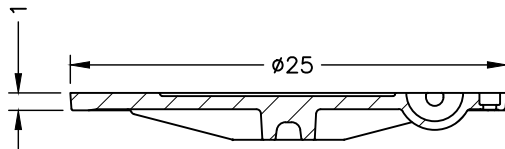
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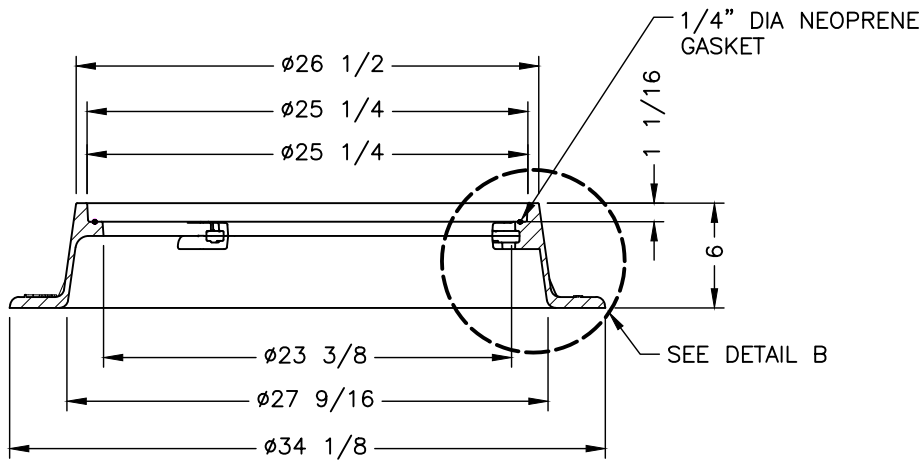
DI Assembly - EJIW PRODUCT NO. 003705017W01



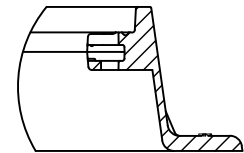
PLAN VIEW



COVER SECTION



FRAME SECTION



EON LOCK®

DETAIL B

NOTES:

1. PROVIDE 3 EACH 5/8", 11N.C. SOCKET HEAD SCREWS 1-1/4" LONG.
2. ALL HOLES FOR LOCKING COVER SHALL BE IN ALIGNMENT AND INTERCHANGEABLE.
3. TOTAL WEIGHT OF FRAME AND COVER SHALL BE 380 LBS. MINIMUM.
4. COVER SHALL BE AS PER STANDARD DETAIL AND PROVIDED WITH 3 HOLES FOR LOCK DOWN PURPOSE.

CROSS VALLEY WATER DISTRICT
STANDARD SEWER DETAILS

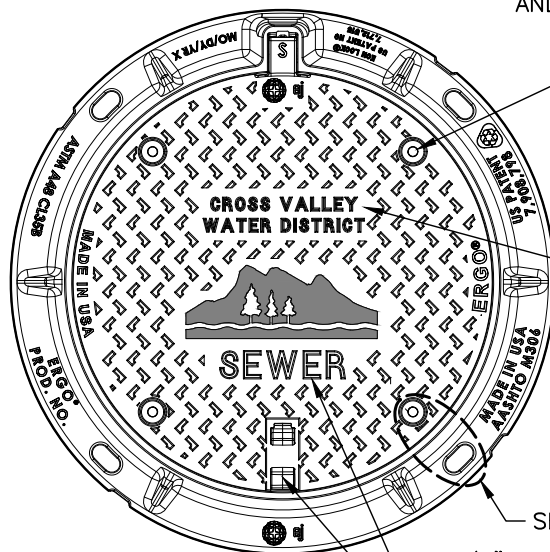
WATERTIGHT LOCKING FRAME AND
COVER

SD-4

NOT TO SCALE

JULY 2023

ERGO Assembly



LIFT COVER SLIGHTLY AT 90 DEG
AND GENTLY ROLL FORWARD TO
RELEASE SAFETY LOCK

(4) 5/8" DIA.
THRU HOLES FOR
1/2"-13 SS BOLTS
ON A 23.00 DIA
B.C. WITH SS AND
RUBBER WASHERS

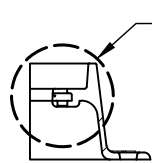
- 3/4" FLAT
FACE GOTHIC

- SEE DETAIL B

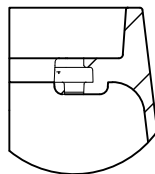
1 1/2" FLAT FACE GOTHIC

- MPIC®MULTI-TOOL PICKBAR

PLAN VIEW



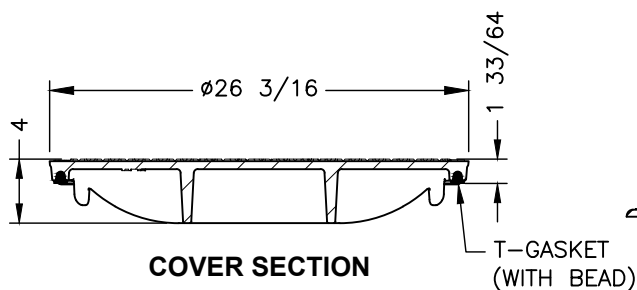
DETAIL B
EON



DETAIL E
EON

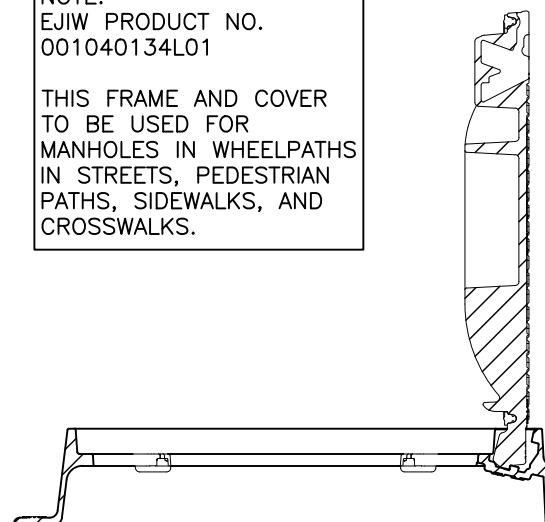
NOTE:
EJIW PRODUCT NO.
001040134L01

THIS FRAME AND COVER
TO BE USED FOR
MANHOLES IN WHEELPATHS
IN STREETS, PEDESTRIAN
PATHS, SIDEWALKS, AND
CROSSWALKS.

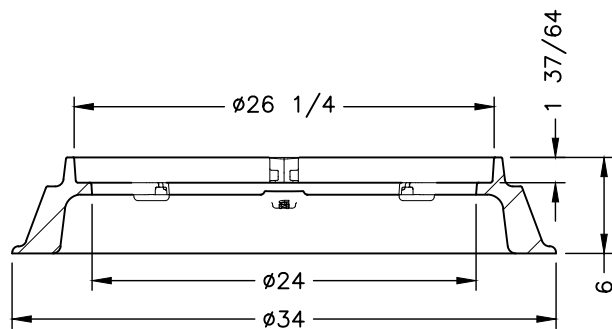


COVER SECTION

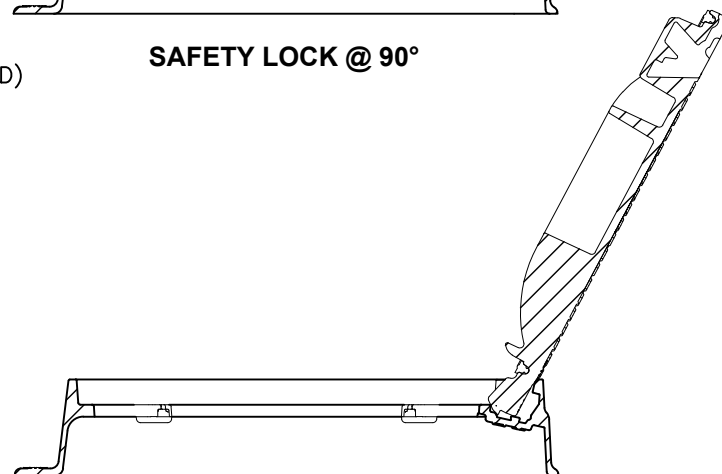
T-GASKET
(WITH BEAD)



SAFETY LOCK @ 90°



FRAME SECTION



FULLY OPENED @ 120°

CROSS VALLEY WATER DISTRICT STANDARD SEWER DETAILS

WATERTIGHT HEAVY DUTY LOCKING
MANHOLE FRAME AND COVER

SD-4A

NOT TO SCALE

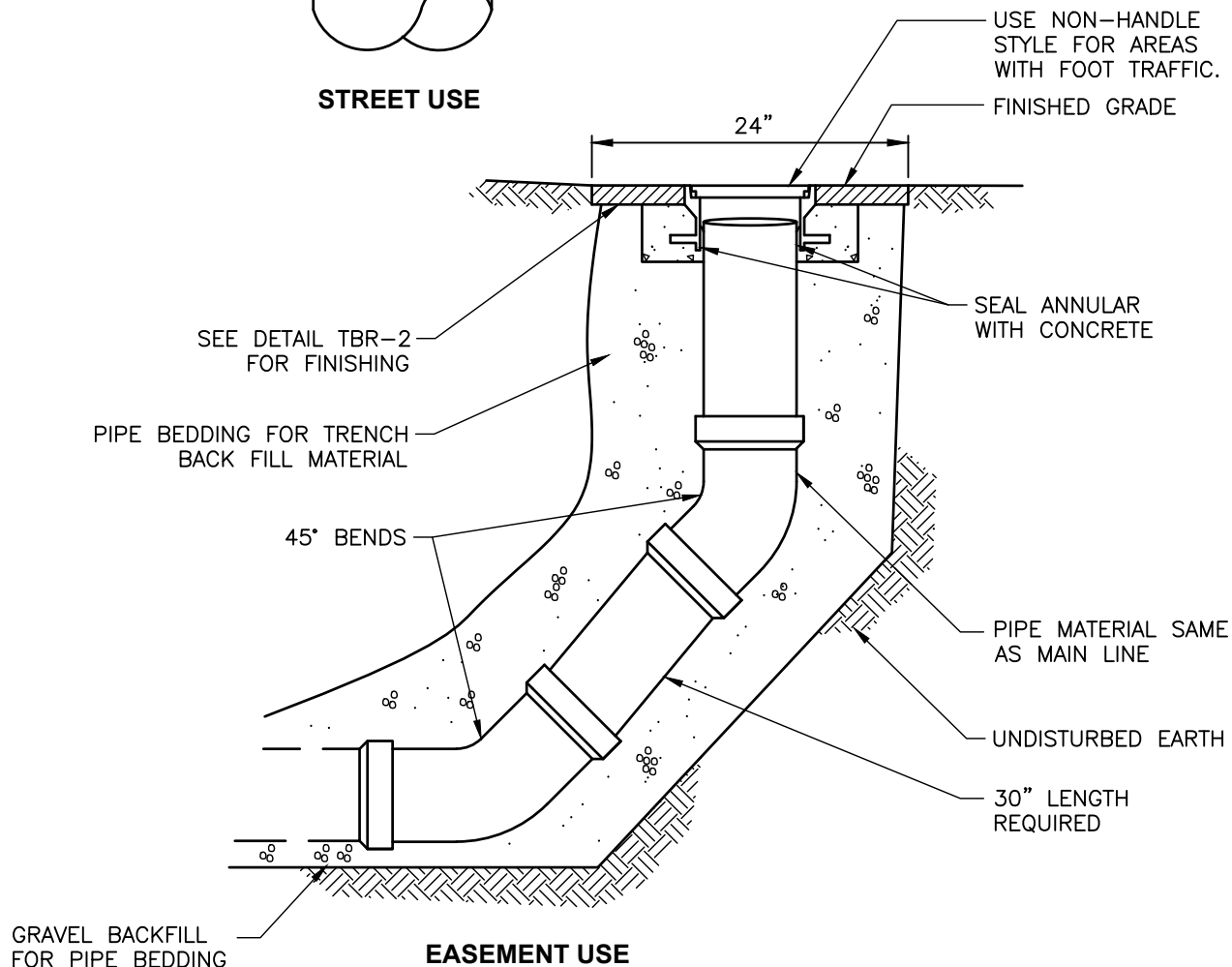
JULY 2023

- ASPHALT PAVEMENT
(SEE DETAIL TBR-2)

- POURED IN PLACE 3000
PSI CONCRETE COLLAR

- SEAL ANNULAR SPACE WITH CONCRETE

STREET USE



- FINISHED GRADE

SEE DETAIL TBR-2
FOR FINISHING

PIPE BEDDING FOR TRENCH BACK FILL MATERIAL

45° BENDS

- SEAL ANNULAR WITH CONCRETE

- PIPE MATERIAL SAME
AS MAIN LINE

- UNDISTURBED EARTH

- 30" LENGTH
REQUIRED

GRAVEL BACKFILL
FOR PIPE BEDDING

EASEMENT USE

NOTES:

1. RESTORATION SHALL BE IN ACCORDANCE WITH DETAIL TBR-2.
2. TRENCH BACKFILL SHALL BE COMPACTED AND TESTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS AND LOCAL REGULATORY REQUIREMENTS.
3. RING AND COVER SHALL BE EJIW MFG. CO. MODEL NO. 00366107.

2. TRENCH BACKFILL SHALL BE COMPACTED AND TESTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS AND LOCAL REGULATORY REQUIREMENTS.

3. RING AND COVER SHALL BE EJIW MFG. CO. MODEL NO. 00366107.

CROSS VALLEY WATER DISTRICT STANDARD SEWER DETAILS

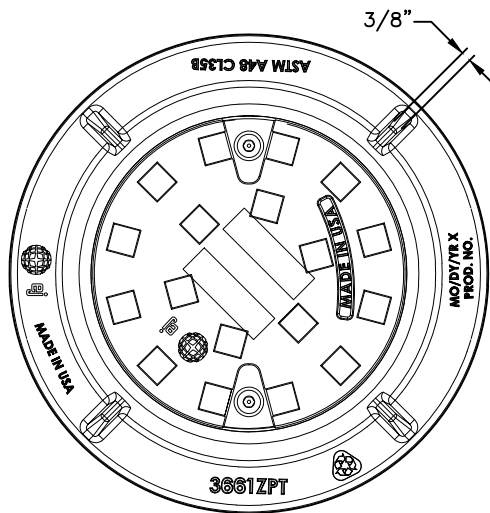
STANDARD SEWER DETAILS

LAMPHOLE / CLEANOUT

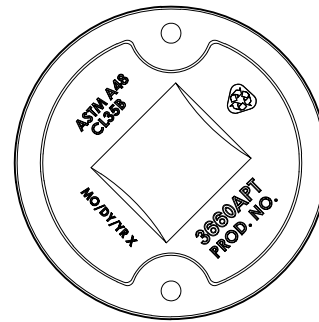
SD-5

NOT TO SCALE

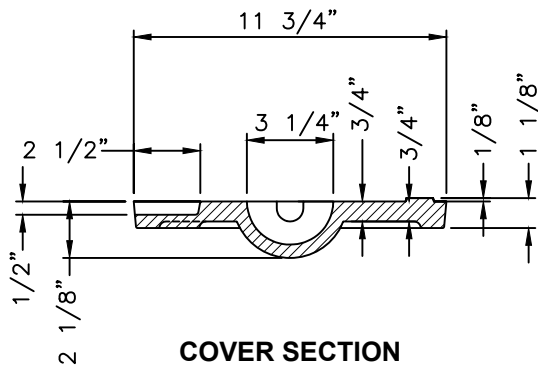
JULY 2023



PLAN VIEW

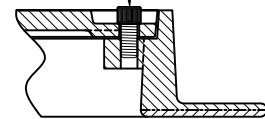


COVER BACK

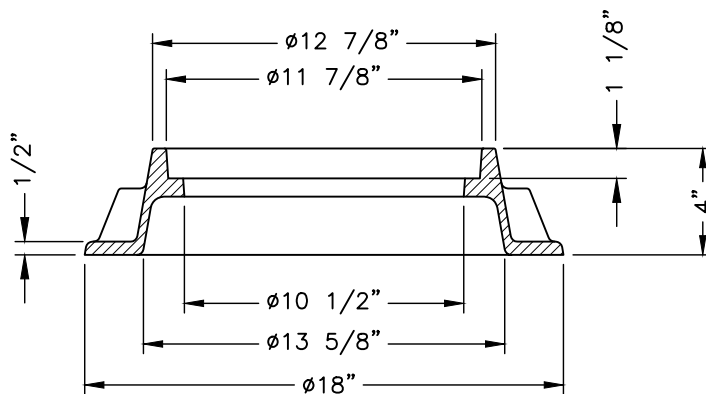


COVER SECTION

- (2) BLT SOC. (ALLEN HEAD)
5/8"-11 x 1-1/2" SS
(PART #00981177)



BOLTING DETAIL



FRAME SECTION

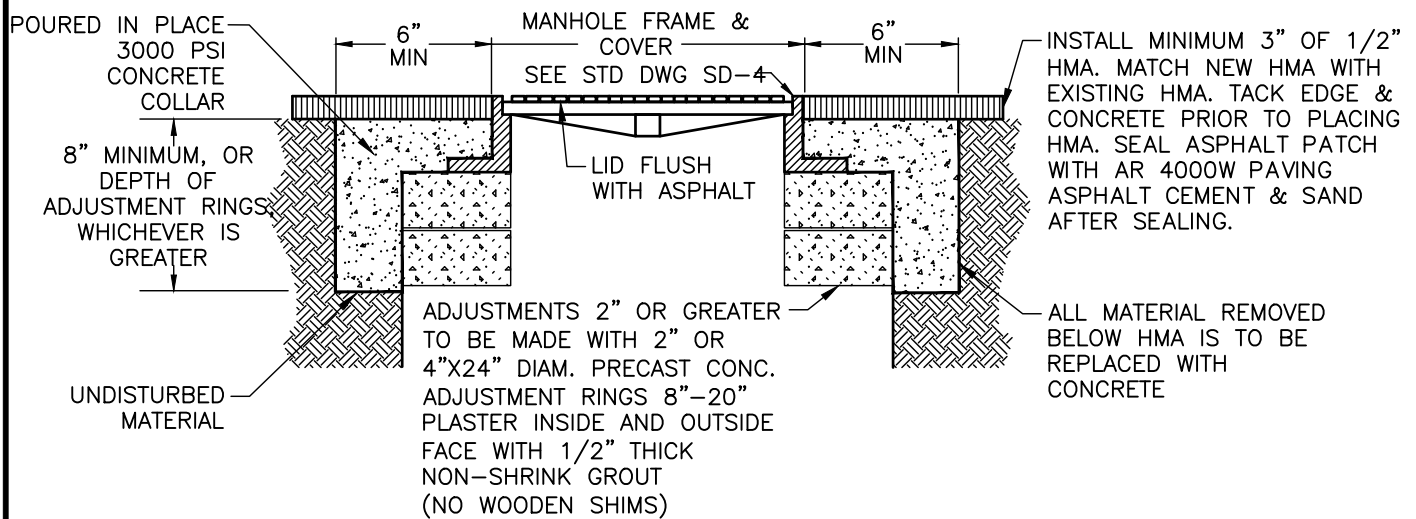
CROSS VALLEY WATER DISTRICT
STANDARD SEWER DETAILS

LOCKING C.O. FRAME & COVER

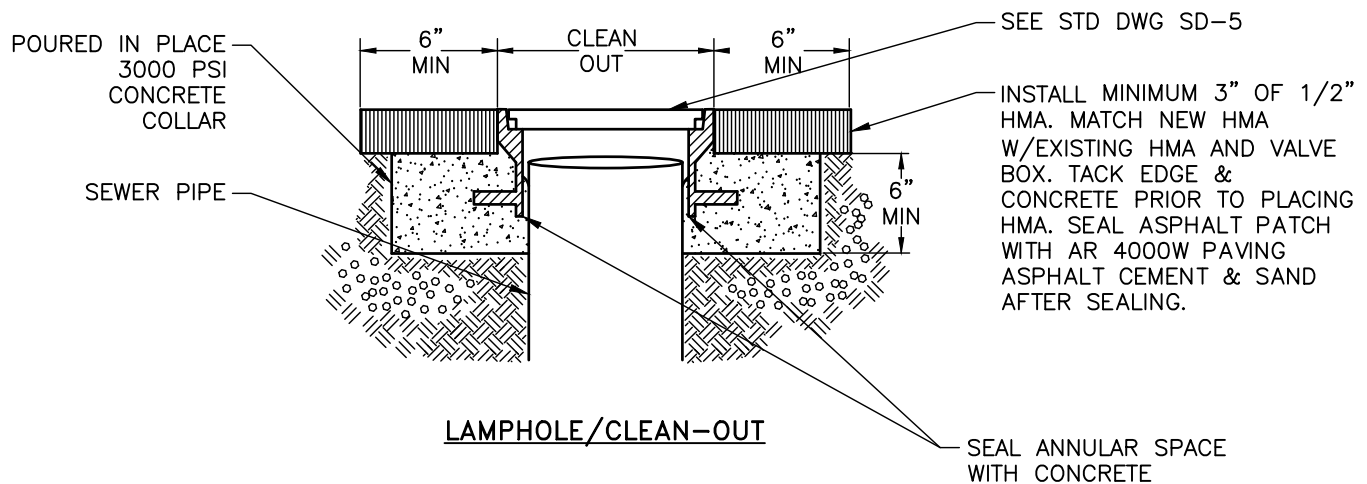
SD-6

NOT TO SCALE

FEB 2022



MANHOLE FRAME & COVER



LAMPHOLE/CLEAN-OUT

NOTES:

1. A CONCRETE COLLAR IS REQUIRED ON ALL INSTALLATIONS. IN UNIMPROVED OR UNPAVED AREAS, INSTALL THE CONCRETE COLLAR TO FINISH GRADE AS FOLLOWS:

MANHOLE: 6 FT DIA. 6 IN THICK
 WATER VALVE BOX: SEE DETAIL WD-11A
 LAMPHOLE/CLEAN-OUT: 2 FT DIA. 6 IN THICK

UNLESS OTHERWISE DIRECTED BY THE DISTRICT.

2. IF MARKER POST IS REQUIRED, SEE DETAIL WD-11C.

**CROSS VALLEY WATER DISTRICT
 STANDARD SEWER DETAILS**

CASTING ADJUSTMENTS

SD-7

NOT TO SCALE

JULY 2023

WRAP METALLIC MARKER TAPE AROUND SERVICE MARKER BOARD. 4 WRAPS MINIMUM. RUN UP BOARD TO SURFACE. MIN 4 WRAPS AT TOP ALSO.

INSTALL BURIED METALLIC MARKER TAPE 3' ABOVE PIPE. TAPE SHOULD READ "CAUTION BURIED SEWER BELOW". CARLTON IND., BLACKBURN MFG. CO. OR EQUAL.

6" SEWER LATERAL SHALL BE THE SAME MATERIAL AS THE MAIN LINE (PVC, EPOXY LINED D.I., C900 OR HDPE)

6" TEE ON SEWER MAIN

SEWER MAIN

FINISHED GRADE

PROPERTY LINE
PERMANENT EASEMENT LINE

2" X 4" BOARD SERVICE MARKER

4' MIN.

6' MINIMUM
VARIES

APPROVED WATERTIGHT PLUG ON CAP WITH "SEWER" IN BLACK PERMANENT MARKER

MINIMUM SLOPE 2% OR 0.02 FT./FT.

45 DEGREES (100%) MAXIMUM SLOPE FOR PVC (2% MINIMUM SLOPE)

CONCRETE POURED IN PLACE FOR SEWER LATERAL OVER 15% SLOPE

NOTES:

1. 2" X 4" BOARD - LENGTH AS REQUIRED IN EVEN FOOT INCREMENTS. PAINT TOP 4' ABOVE GROUND WITH WHITE PAINT. STENCIL IN BLOCK LETTERS THE WORD "SEWER" & TOTAL LENGTH OF THE 2" X 4" BOARD. LETTERING TO BE 3" IN HEIGHT. TOP OF 2" X 4" SHALL BE 4' ABOVE GROUND LEVEL.
2. FOR DUCTILE IRON PIPE IN RIGHT-OF-WAY & EASEMENTS, USE RESTRAINING DEVICE AS SPECIFIED BY THE DISTRICT.
3. PROVIDE DISTANCE IN FEET FROM TEE TO DOWNSTREAM MANHOLE TO THE DISTRICT.

**CROSS VALLEY WATER DISTRICT
STANDARD SEWER DETAILS**

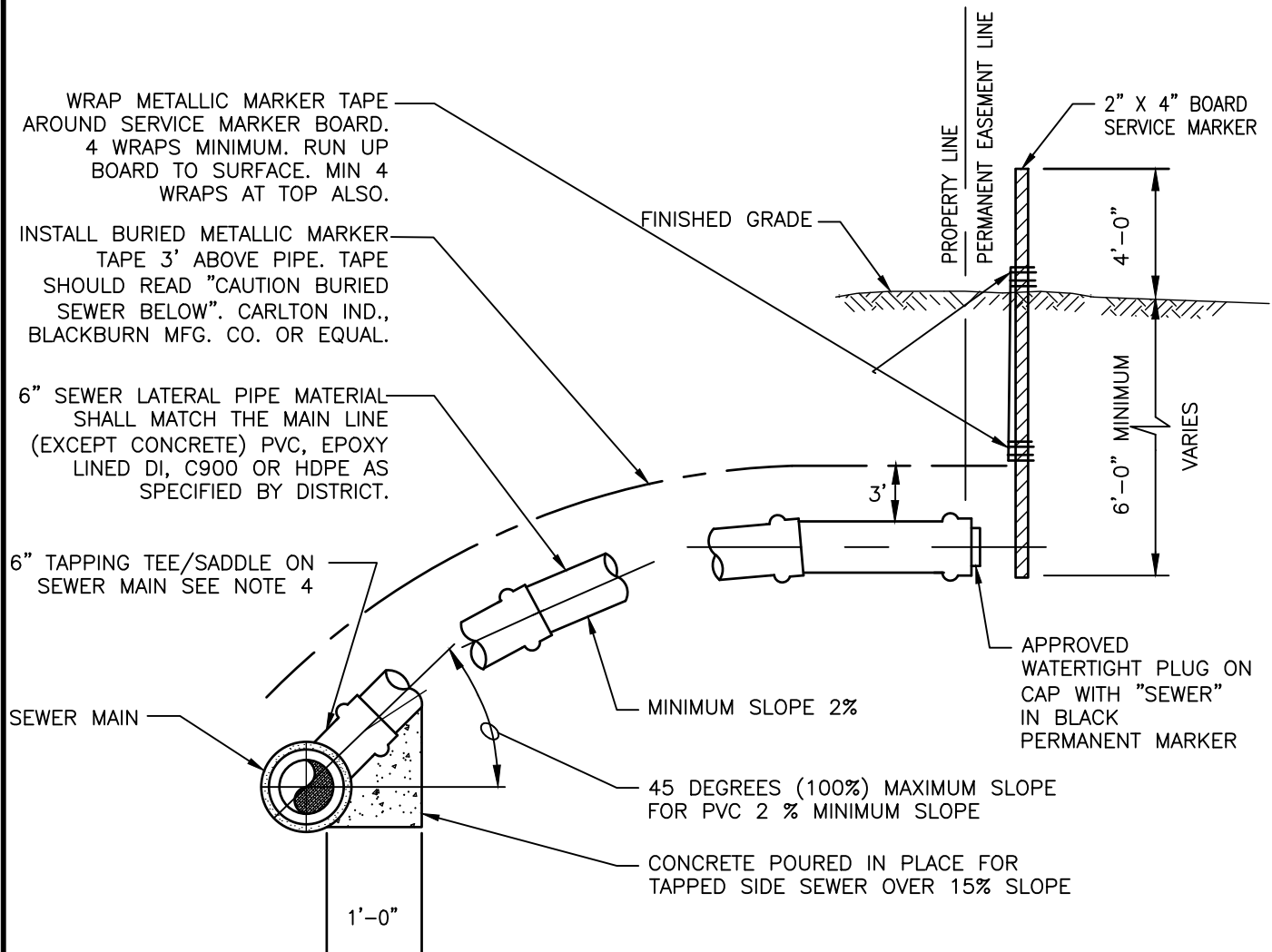
SEWER LATERAL NEW CONSTRUCTION

SD-8

NOT TO SCALE

FEB 2022

FILE NAME: L:\CAD\DETAILS\DISTRICTS\CROSS VALLEY WATER DISTRICT\SD-8A.DWG



NOTES:

1. 2" X 4" BOARD – LENGTH AS REQUIRED IN EVEN FOOT INCREMENTS. PAINT TOP 5' WITH WHITE PAINT. STENCIL IN BLOCK LETTERS THE WORD "SEWER" & TOTAL LENGTH OF THE 2" X 4" BOARD. LETTERING TO BE 3" IN HEIGHT. TOP OF 2" X 4" SHALL BE 4' ABOVE GROUND LEVEL.
2. CONTRACTOR TO PROVIDE ALL MATERIALS, TRAFFIC CONTROL, PERMITS, FLAGGING, SHORING AND MISCELLANEOUS WORK TO TAP THE MAIN AND INSTALL THE SIDE SERVICE.
3. FOR DUCTILE IRON PIPE IN RIGHT- OF-WAY & EASEMENTS, USE RESTRAINING DEVICE AS SPECIFIED BY THE DISTRICT.
4. FOR TAPS ON:
DI USE SST ROMAC, SMITH BLAIR, OR FORD TAPPING TEE. PVC OR CONCRETE, USE ROMAC CB TEE W/SST CLAMP, HDPE CONSULT THE DISTRICT.
5. PROVIDE DISTANCE IN FEET FROM TEE/SADDLE TO DOWNSTREAM MANHOLE TO THE DISTRICT.

**CROSS VALLEY WATER DISTRICT
STANDARD SEWER DETAILS**

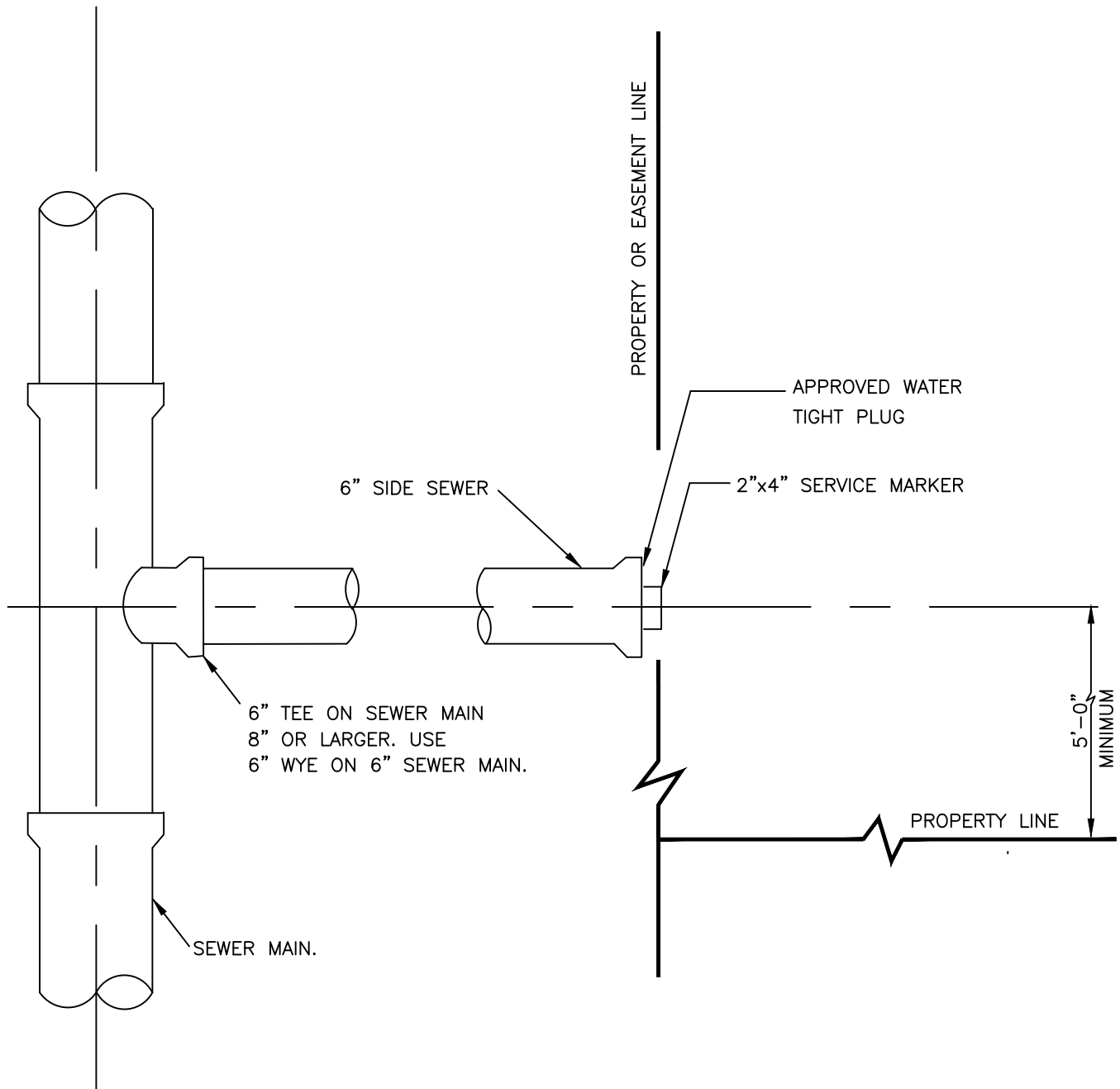
SEWER LATERAL EXISTING MAINS

SD-8A

NOT TO SCALE

FEB 2022

FILE NAME: L:\CAD\DETAILS\DISTRICTS\CROSS VALLEY WATER DISTRICT\SD-8B.DWG



PLAN

SEE STANDARD DETAIL SD-8

**CROSS VALLEY WATER DISTRICT
STANDARD SEWER DETAILS**

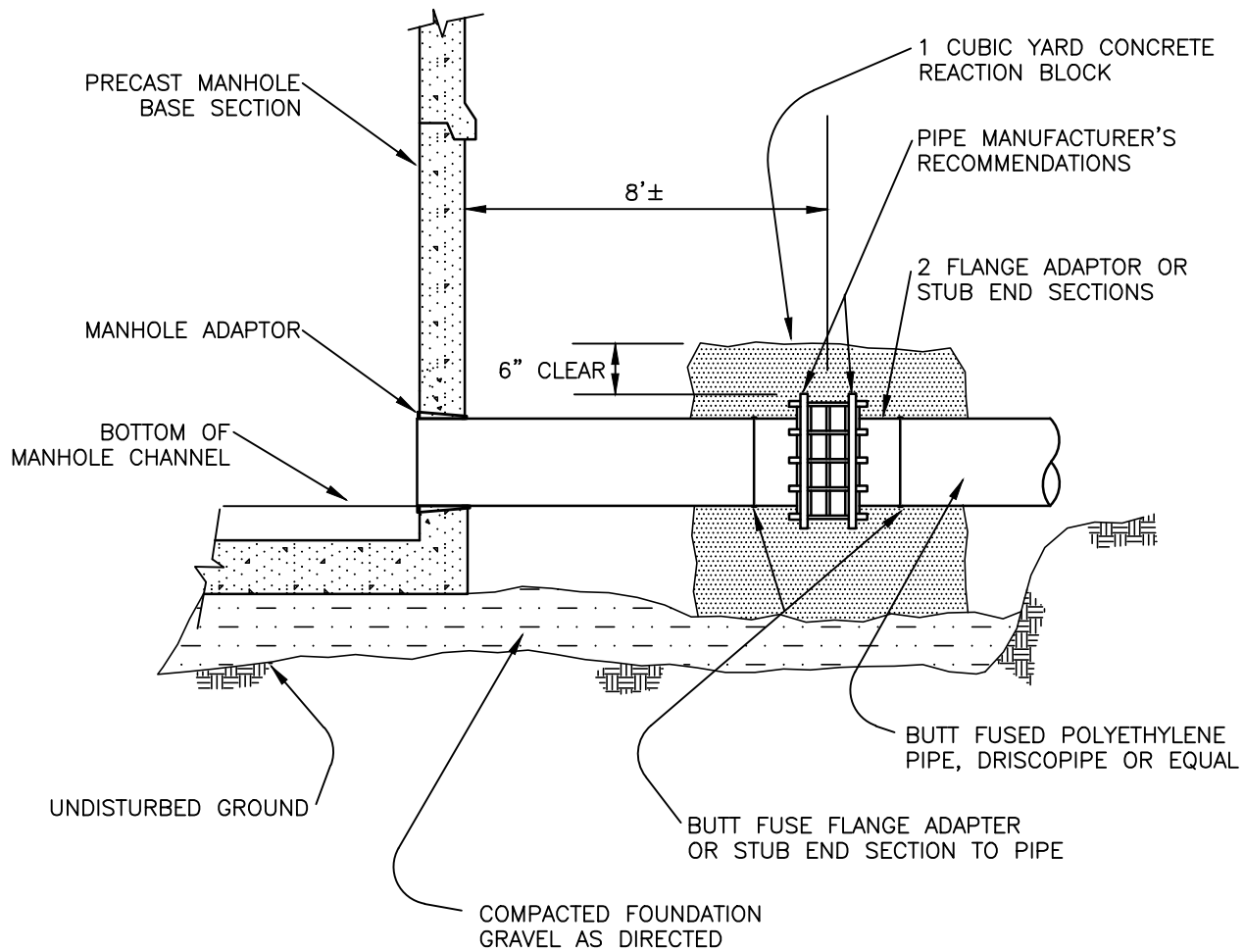
SEWER LATERAL PLAN VIEW

SD-8B

NOT TO SCALE

FEB 2022

FILE NAME: L:\CAD\DETAILS\DISTRICTS\CROSS VALLEY WATER DISTRICT\SD-9.DWG



NOTES:

1. ANCHOR BLOCKS REQUIRED AT OUTLET OF UP-STREAM MANHOLE AND INLET OF DOWN-STREAM MANHOLE.
2. MANHOLE ADAPTORS ARE TO BE KOR-N-SEAL BOOTS OR APPROVED EQUAL.

**CROSS VALLEY WATER DISTRICT
STANDARD SEWER DETAILS**

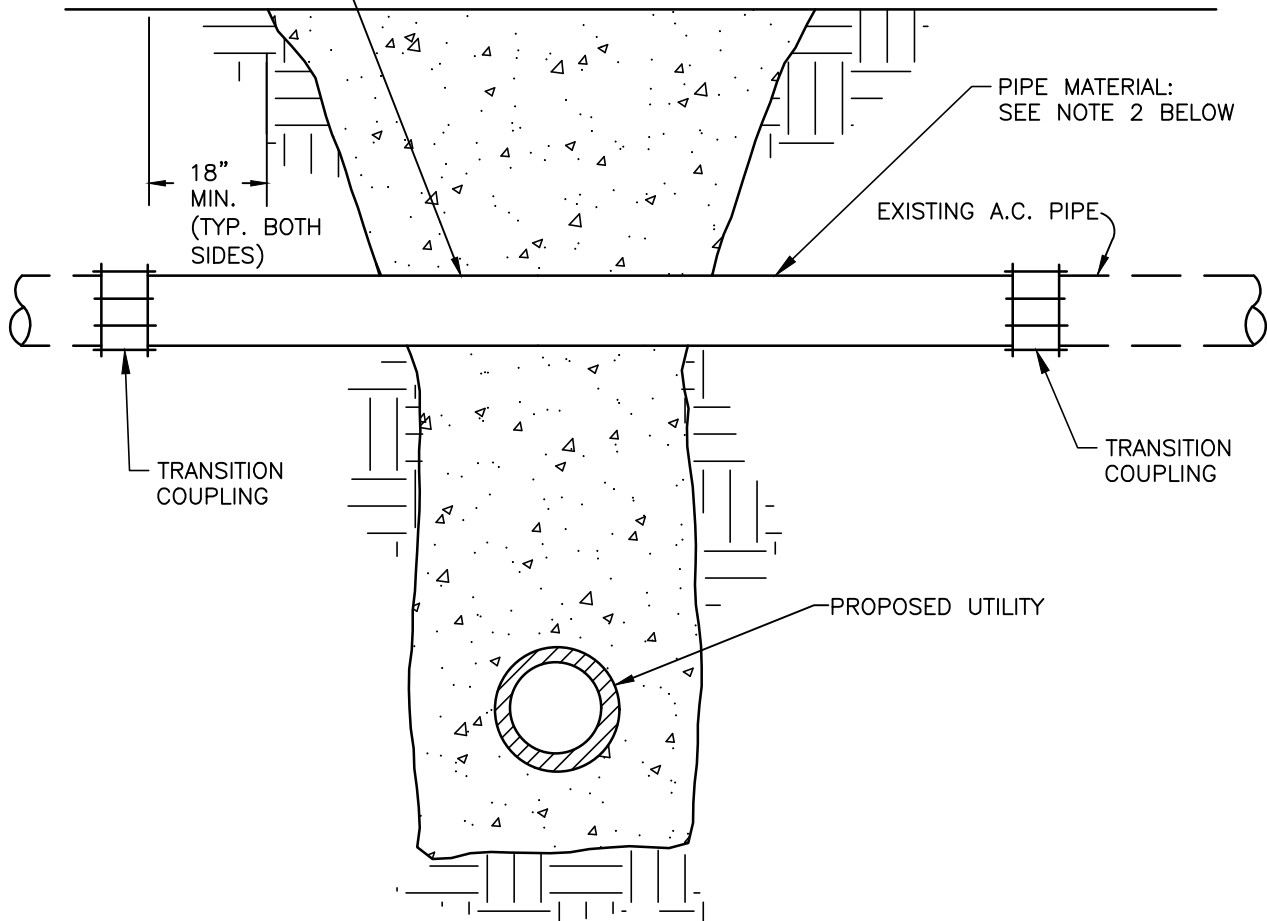
**POLYETHYLENE PIPE – MANHOLE
CONNECTION AND ANCHORAGE
DETAIL**

SD-9

NOT TO SCALE

FEB 2022

WHERE PROPOSED UTILITY LINE CROSSES UNDER A.C. PIPE, A SECTION OR SECTIONS OF A.C. PIPE MUST BE REPLACED WITH A SINGLE SECTION OF DUCTILE IRON PIPE, CEMENT LINED, CLASS 52, OR C-900 DR 18, OF SIZE REMOVED.
PIPE TO BE P.E. x P.E. WITH TRANSITION COUPLINGS ON EACH END. DUCTILE IRON OR C-900 PIPE AND COUPLINGS TO BE POLY-WRAPPED.



CROSSING A.C. PIPE

NOTES:

1. IF A.C. PIPE IS TO BE SAWCUT OR REMOVED, THE CONTRACTOR SHALL ADHERE TO ALL REGULATIONS OF THE ENVIRONMENTAL PROTECTION AGENCY, PUGET SOUND AIR POLLUTION CONTROL AGENCY, LABOR AND INDUSTRY AND ANY OTHER AGENCY WITH JURISDICTION.
2. PIPE MATERIAL SHALL BE DUCTILE IRON CL. 52 IF COVER IS 2 FEET OR LESS, OR IF VERTICAL SEPARATION FROM PROPOSED UTILITY BENEATH IT IS LESS THAN 18 INCHES. IN ALL OTHER SITUATIONS, C-900, DR 18 MAY BE USED.

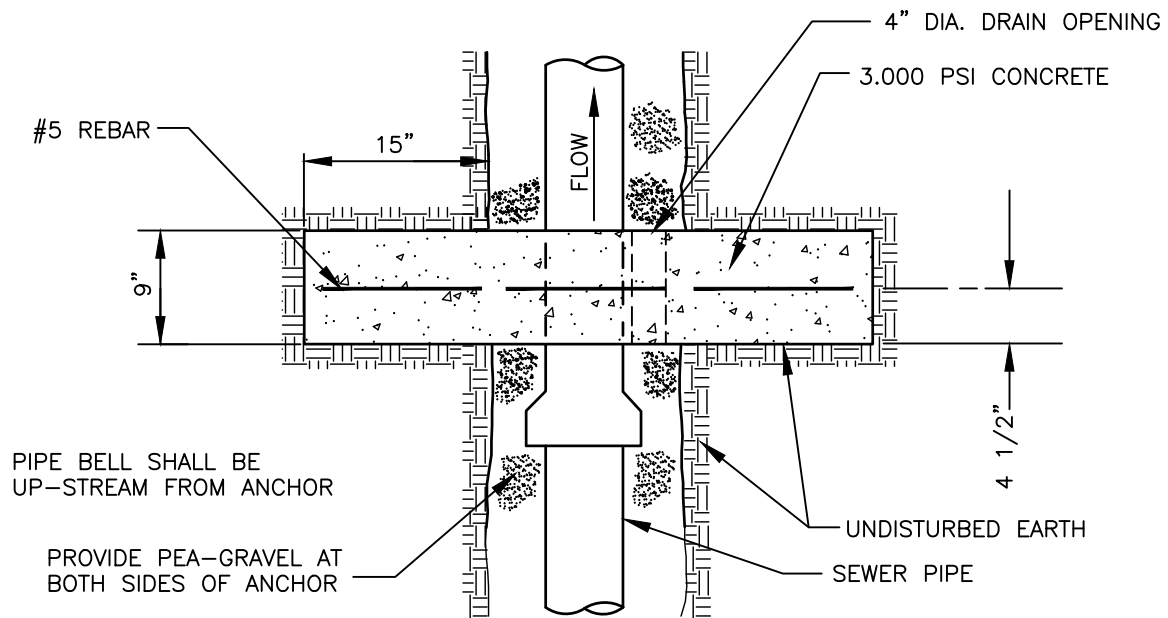
**CROSS VALLEY WATER DISTRICT
STANDARD SEWER DETAILS**

CROSSING AC PIPE

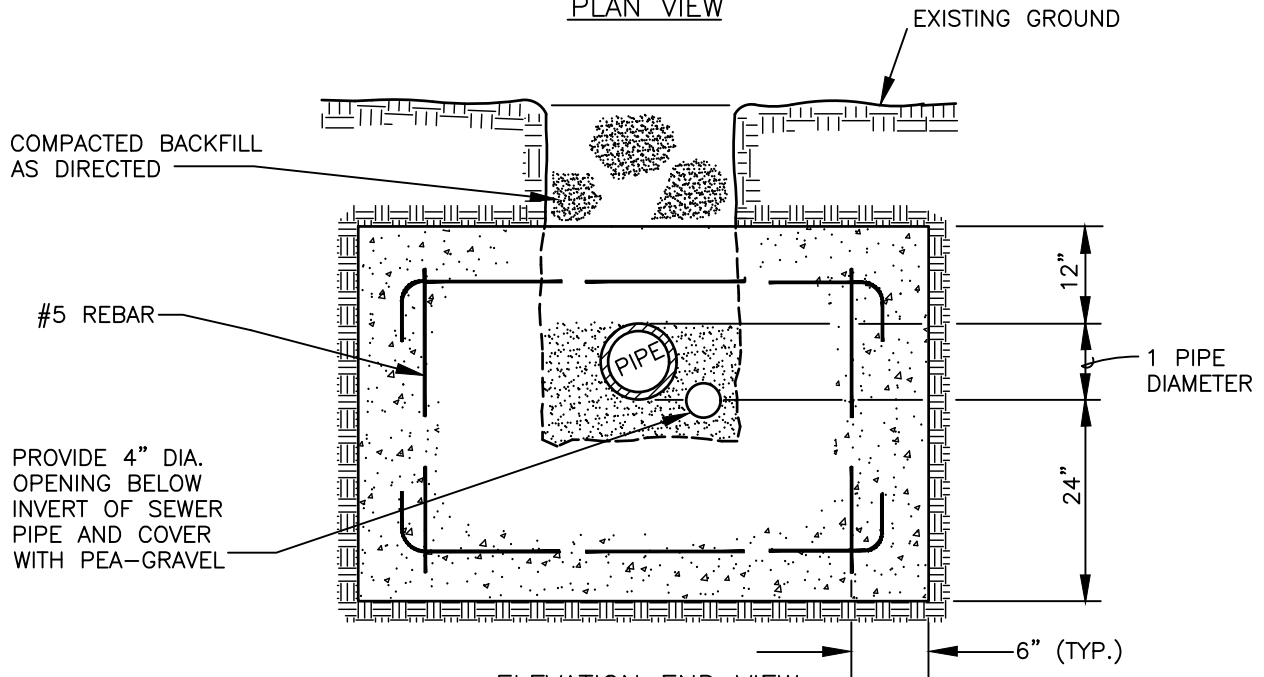
SD-10

NOT TO SCALE

JULY 2023



PLAN VIEW



ELEVATION END VIEW

MINIMUM ANCHORAGE SPACING

PIPE ANCHORS ARE TO BE INSTALLED ON ALL SLOPES GREATER THAN 20% AS FOLLOWS:

1. NOT OVER 36 FEET CENTER TO CENTER ON GRADES 20% & UP TO 35%.
2. NOT OVER 24 FEET CENTER TO CENTER ON GRADES 35% & UP TO 50%.
3. NOT OVER 16 FEET CENTER TO CENTER ON GRADES 50% & OVER.

THIS ANCHOR BLOCK DETAIL REPRESENTS MINIMUM REQUIREMENTS FOR MATERIALS AND INSTALLATION.

GENERAL NOTES:

1. PROVIDE EROSION CONTROL AS REQUIRED BY JURISDICTIONAL AUTHORITY.
2. DO NOT USE ANCHORS IN SANDY MATERIAL UNLESS DIRECTED OTHERWISE BY THE DISTRICT.
3. TIGHT WRAP PIPE WITH 8 MIL. PLASTIC ON DI.
4. ANCHOR PLACED ON THE LOWER SIDE OF THE BELL.
5. FOR HDPE, BUTT FUSE RING TO OUTSIDE OF PIPE DIRECTLY ABOVE ANCHOR LOCATION. FOR C-900, INSTALL A UNIFLANGE DIRECTLY ABOVE OR IN ANCHOR.

CROSS VALLEY WATER DISTRICT STANDARD SEWER DETAILS

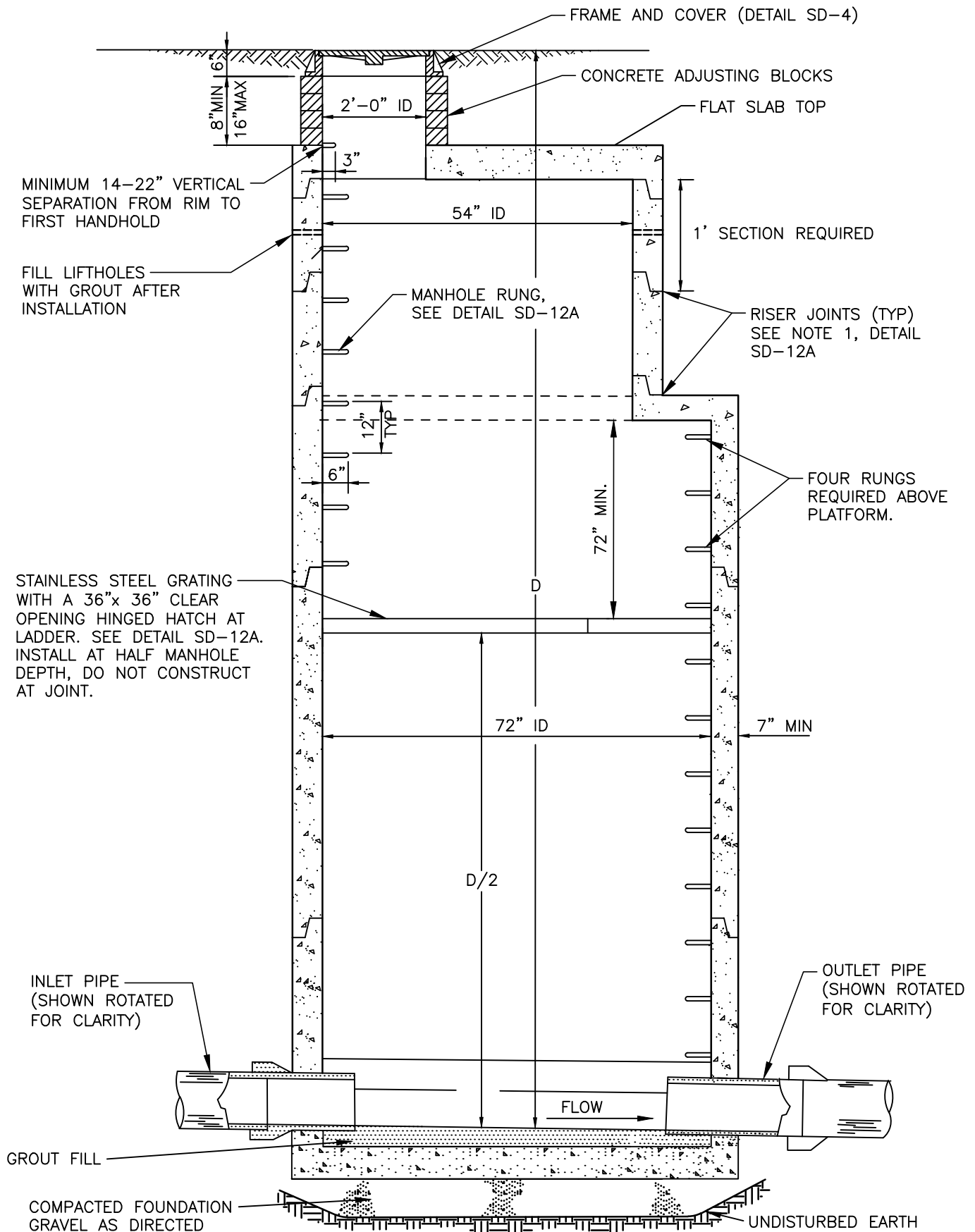
PIPE ANCHOR

SD-11

NOT TO SCALE

FEB 2022

FILE NAME: L:\CAD\DETAILS\DISTRICTS\CROSS VALLEY WATER DISTRICT\SD-12.DWG



NOTE: THIS CONFIGURATION REQUIRED FOR
MANHOLES GREATER THAN 20 FEET DEEP

CROSS VALLEY WATER DISTRICT STANDARD SEWER DETAILS

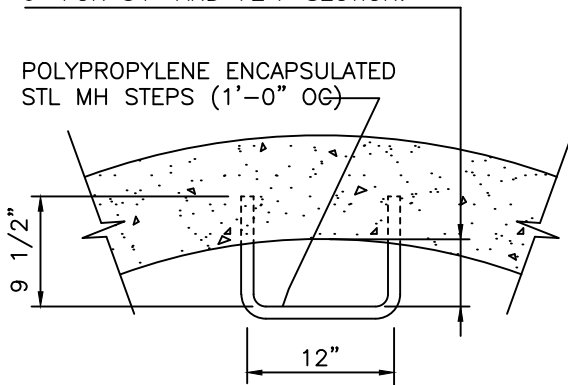
DEEP MANHOLE DETAIL

SD-12

NOT TO SCALE

MARCH 2023

3" FOR 24"Ø SECTION
6" FOR 54" AND 72"Ø SECTION.



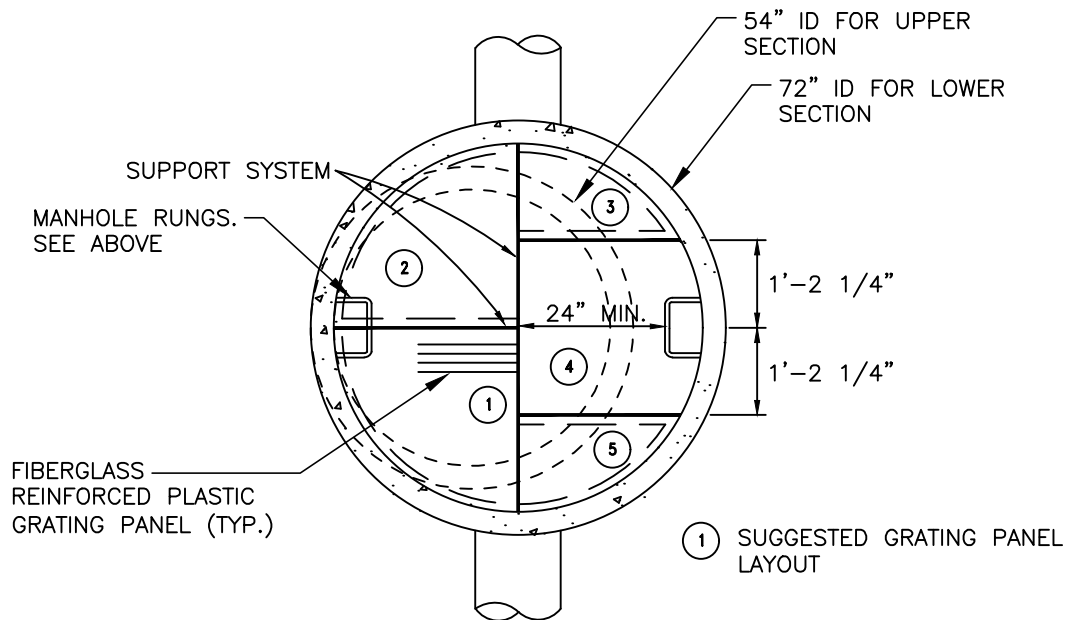
NOTE:

TOP RUNG SHALL BE INSTALLED BETWEEN TOP AND SECOND COURSE OF ADJUSTING BLOCKS AND EXTEND 3" INTO RISER.

TYPICAL MANHOLE RUNG DETAIL
NOT TO SCALE

STANDARD MANHOLE NOTES:

1. ALL MANHOLE RISER JOINTS SHALL BE A RUBBER GASKET TYPE, CONFORMING WITH ASTM C-443. DETAILS OF JOINTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
2. CONCRETE FOR MANHOLE CHANNELS SHALL BE 4000 PSI, 1"-2" SLUMP, 2.5" MAXIMUM AGGREGATE SIZE, 445 POUNDS PER CUBIC YARD MINIMUM.
3. PER CVWD STANDARD SPECIFICATIONS, THE MINIMUM DROP ACROSS THE MANHOLE IS ONE-TENTH (0.1) FOOT IN DIRECTION OF FLOW. THE MAXIMUM ALLOWABLE DROP SHALL BE ONE (1.0) FOOT.
4. AN EXTERIOR WATERPROOF MANHOLE LINER SHALL BE INSTALLED TO PROTECT FROM GROUNDWATER FLOWS ON AN AS-NEEDED BASIS AS DETERMINED BY CVWD.



SAFETY PLATFORM
NOT TO SCALE

NOTES:

1. MAXIMUM LENGTH OF PANEL SHALL BE 36"
2. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR GRATING, PANEL LAYOUT AND SUPPORT SYSTEM FOR APPROVAL PRIOR TO FABRICATION.
3. STAINLESS STEEL FOR THE GRATING AND ALL ASSOCIATED HARDWARE SHALL BE A316.

CROSS VALLEY WATER DISTRICT
STANDARD SEWER DETAILS

DEEP MANHOLE DETAIL

SD-12A

NOT TO SCALE

MARCH 2023

TRENCH BACKFILL AND RESTORATION DETAILS

Cross Valley



WATER DISTRICT

FILE NAME: \\K-FS1\LIBRARY\CAD\DETAILS\DISTRICTS\CROSS VALLEY WATER DISTRICT\TBR-1.DWG

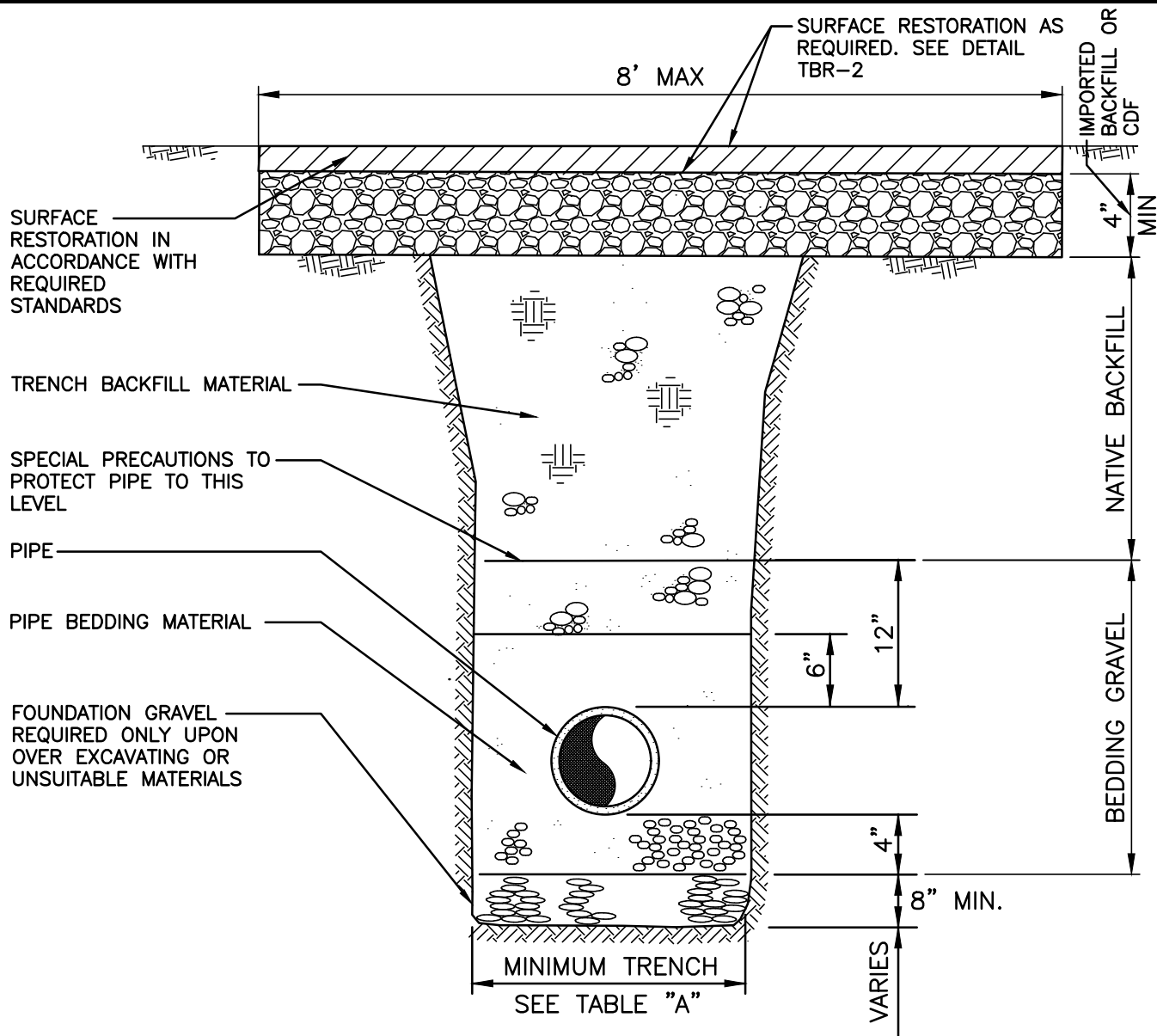
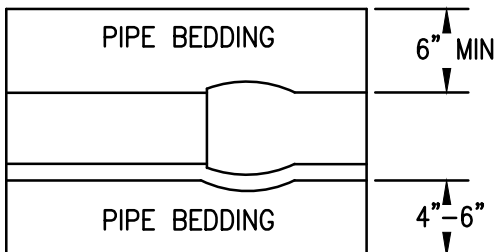


TABLE "A"

6" PIPE	-2'-6"
8" PIPE	-2'-6"
10" PIPE	-3'-0"
12" PIPE	-3'-0"
16" PIPE	-3'-6"
18" PIPE	-4'-0"
24" PIPE	-4'-0"

TRENCH BOTTOM DETAIL



KEEP TRENCH BOTTOM COMPACTED WITH UNIFORM GRADE. NO TEMPORARY SUPPORTS I.E. BLOCKS, ALLOWED TO SUPPORT PIPE. TRENCH BOTTOM SHALL BE TO GRADE PRIOR TO PIPE INSTALLATION.

NOTES:

1. REFERENCE SNOHOMISH COUNTY ENGINEERING DESIGN AND DEVELOPMENT STANDARDS, SECTION 8.
2. SURFACE RESTORATION IN ACCORDANCE WITH SNOHOMISH COUNTY REQUIREMENTS.
3. MAXIMUM TRENCH WIDTH:
15" DIAMETER PIPE AND SMALLER = 40"
16" DIAMETER PIPE AND SMALLER = $1-1/2 \times \text{I.D.} + 18"$

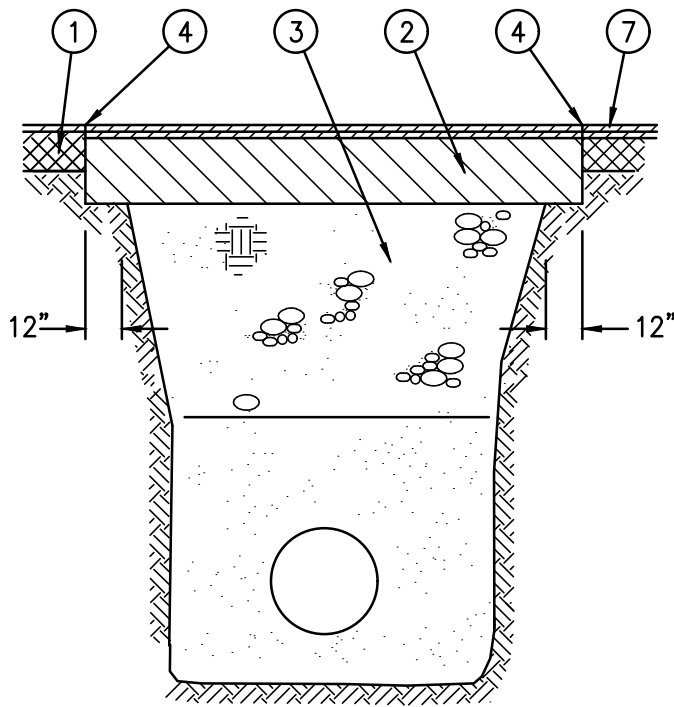
CROSS VALLEY WATER DISTRICT
TRENCH BACKFILL AND RESTORATION

TRENCH SECTION - PIPE
BEDDING AND TRENCH BACKFILL

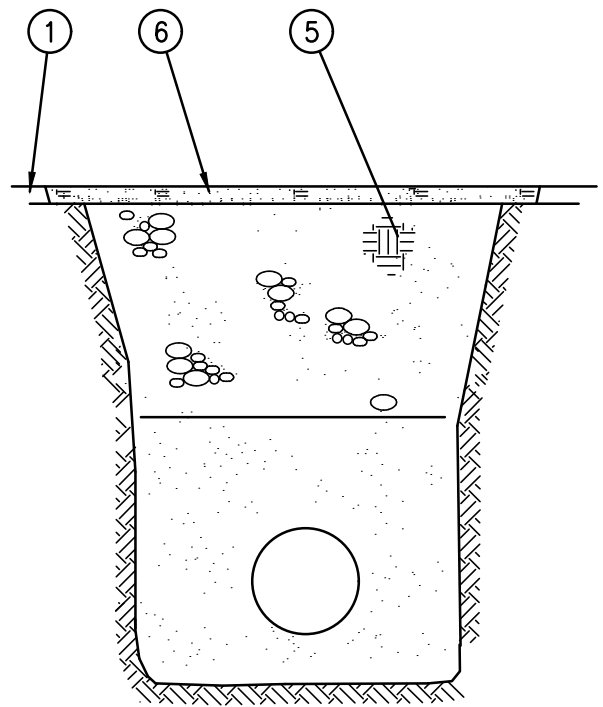
TBR-1

NOT TO SCALE

FEB 2022



ACP RESTORATION



UNPAVED SHOULDER
AND PRIVATE EASEMENT

- ① EXISTING SURFACE
- ② LONGITUDINAL TRENCH – 6" HMA CLASS 1/2" OR 2" HMA CLASS 1/2" + 4" HMA CLASS 1"
TRANSVERSE TRENCH – 8" HMA CLASS 1/2" OR 2" HMA CLASS 1/2" + 6" HMA CLASS 1"
- ③ TRENCH BACKFILL OR CONTROL DENSITY FILL
PER LOCAL JURISDICTIONAL REQUIREMENTS.
- ④ NEAT LINE ACP CUT. TACK EDGES WITH AR
4000 ASPHALT CEMENT. SEAL EDGES WITH
AR 4000 ASPHALT CEMENT.
- ⑤ TRENCH BACKFILL.
- ⑥ RESTORE EXISTING SURFACE. TOP SOIL, CSTC
(2" MINIMUM) OR AS NOTED ON PLANS.
- ⑦ 2" HMA CLASS 1/2" OVERLAY WHEN SPECIFIED ON
PLANS OR REQUIRED BY THE JURISDICTIONAL
AUTHORITY.

HMA= HOT MIX ASPHALT
AR= ASPHALT RUBBER
CSTC= CRUSHED SURFACE TOP COURSE
ACP= ASPHALT CONCRETE PAVEMENT

NOTES:

1. RESTORATION TO BE EXISTING CONDITION OR BETTER.
2. ALL WORK TO COMPLY WITH SNOHOMISH COUNTY REQUIREMENTS.
3. IF PERMEABLE SURFACE IS REQUIRED, INSTALL OR REPLACE IN KIND
ACCORDING TO JURISDICTIONAL REQUIREMENTS.

FILE NAME: \\K-FS1\LIBRARY\CAD\DETAILS\DISTRICTS\CROSS VALLEY WATER DISTRICT\TBR-2.DWG

**CROSS VALLEY WATER DISTRICT
TRENCH BACKFILL AND RESTORATION**

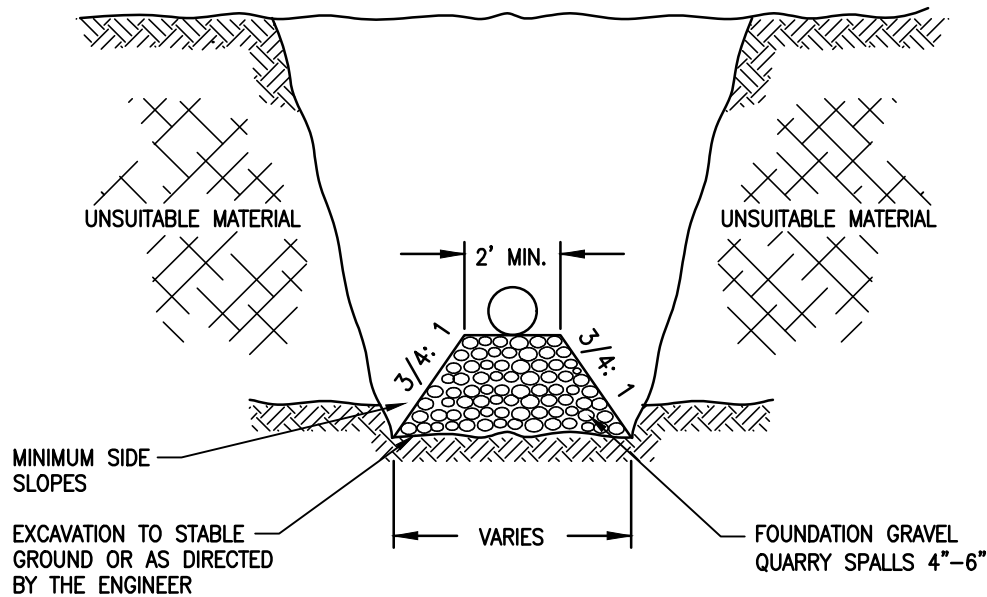
TRENCH SURFACE RESTORATION

TBR-2

NOT TO SCALE

FEB 2022

FILE NAME: \\K-FS1\LIBRARY\CAD\DETAILS\DISTRICTS\CROSS VALLEY WATER DISTRICT\TBR-3.DWG



NOTES:

1. OVER EXCAVATION REQUIRED WHEN UNSUITABLE FOUNDATION MATERIALS ENCOUNTERED.
2. STRICTLY COMPLY WITH ALL TRENCH SAFETY SYSTEM REQUIREMENTS.
3. RESTRAINED JOINT PIPE MAY BE REQUIRED AS DIRECTED BY THE DISTRICT.
4. BACKFILL TRENCH IN ACCORDANCE WITH SNOHOMISH COUNTY ENGINEERING DESIGN AND DEVELOPMENT STANDARDS AND CVWD STANDARD DETAIL TBR-1.

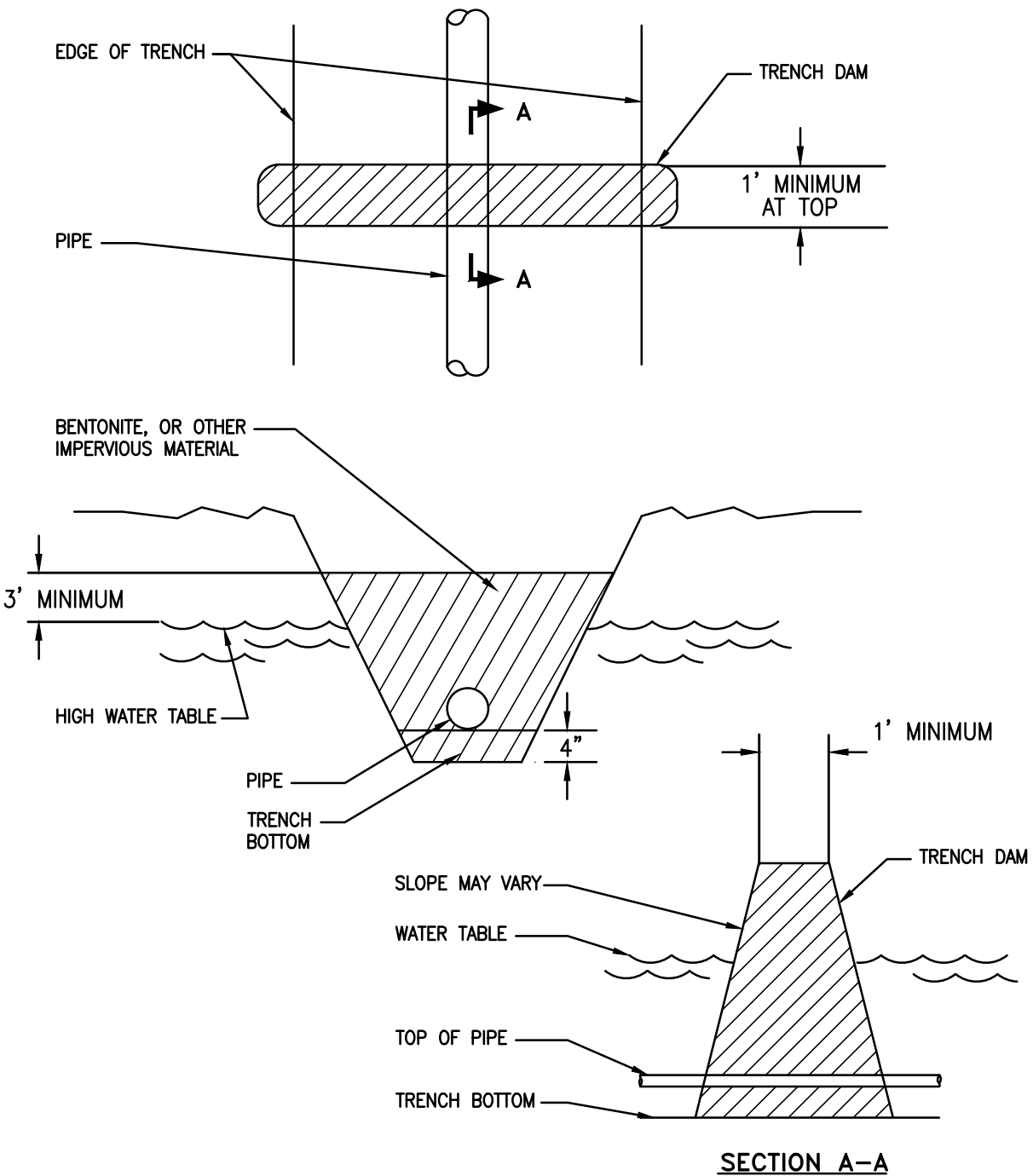
**CROSS VALLEY WATER DISTRICT
TRENCH BACKFILL AND RESTORATION**

**UNSUITABLE FOUNDATION
EXCAVATION**

TBR-3

NOT TO SCALE

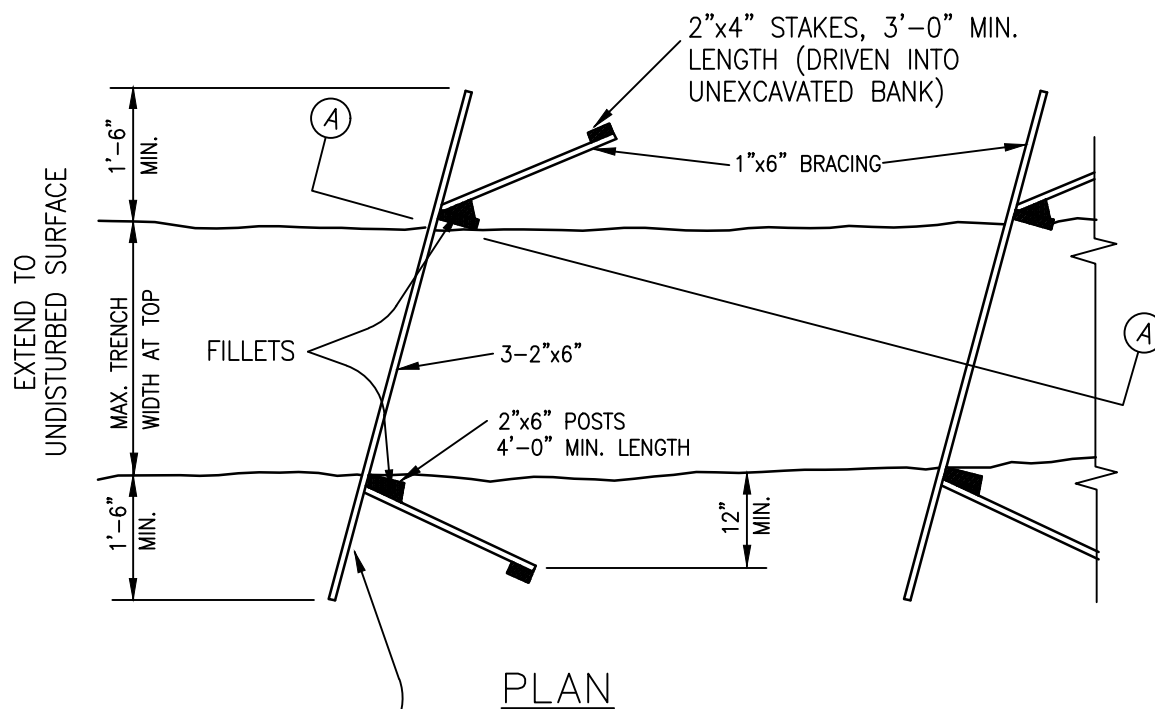
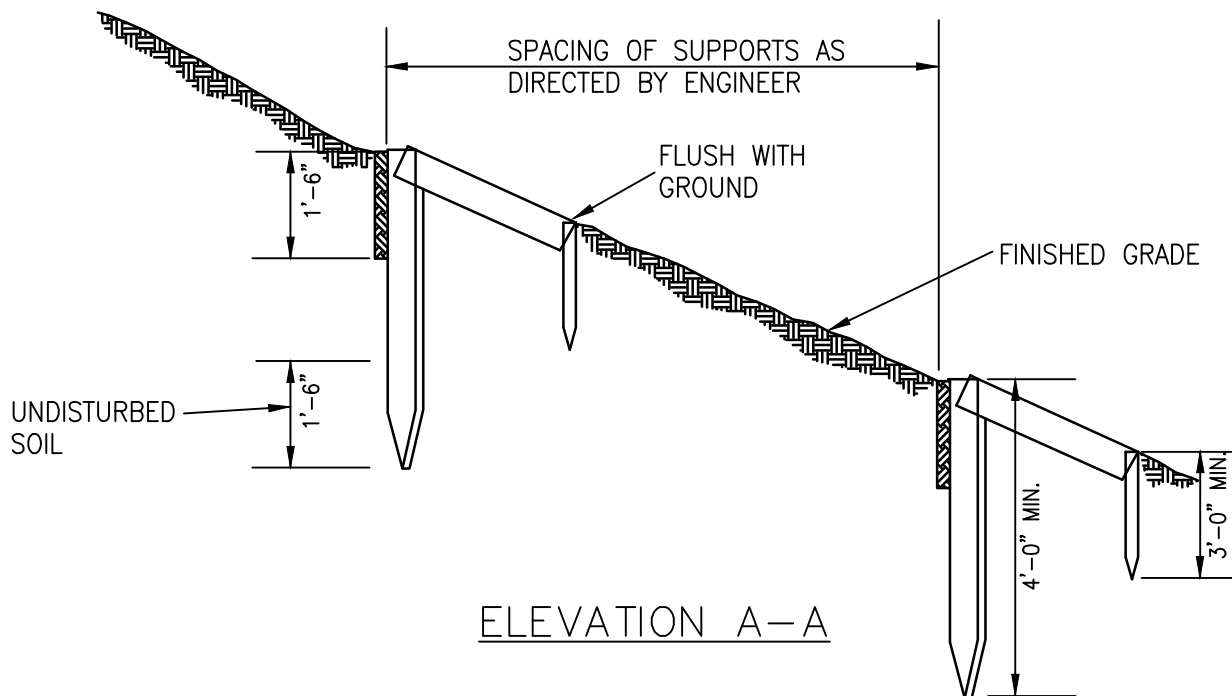
FEB 2022



NOTES:

1. INSTALL IN HIGH GROUND WATER AREAS, ADJACENT TO WETLANDS AND STREAM CROSSINGS OR AS SHOWN ON PLANS OR AS DIRECTED BY THE DISTRICT.
2. ELEVATION AT TOP OF TRENCH DAM TO VARY BASED ON WATER TABLE AS DIRECTED BY THE DISTRICT.

FILE NAME: \\K-FSI\LIBRARY\CAD\DETAILS\DISTRICTS\CROSS VALLEY WATER DISTRICT\TBR-5.DWG



ONLY TOP 2"x6" BOARD EXTENDS FULL DISTANCE AS SHOWN. ALL OTHER BOARDS EXTEND TO FULL WIDTH OF TRENCH.

NOTE:

1" CROSS BOARDS AND BRACING TO BE SECURELY NAILED TO STAKES.

**CROSS VALLEY WATER DISTRICT
TRENCH BACKFILL AND RESTORATION**

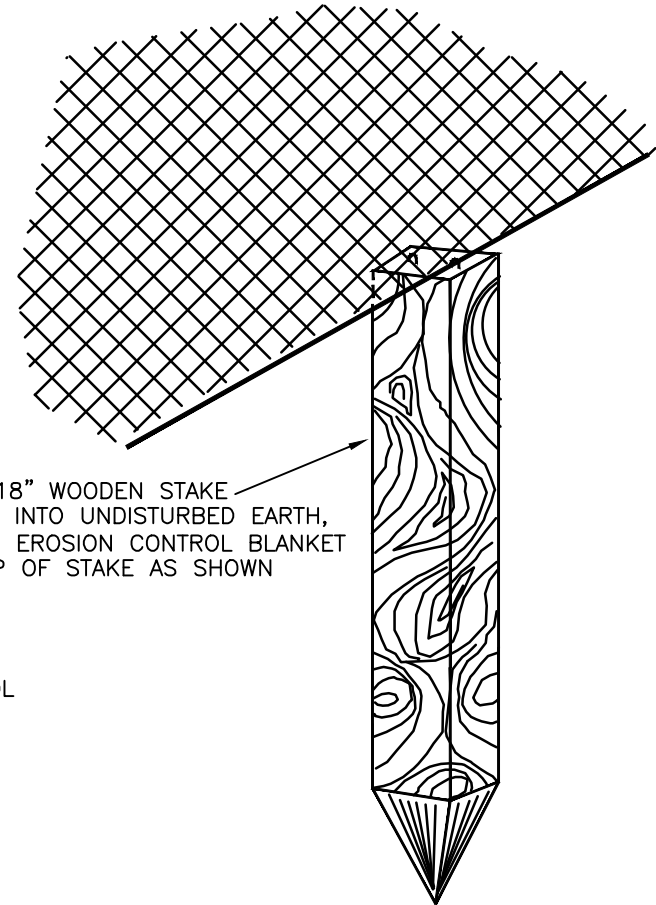
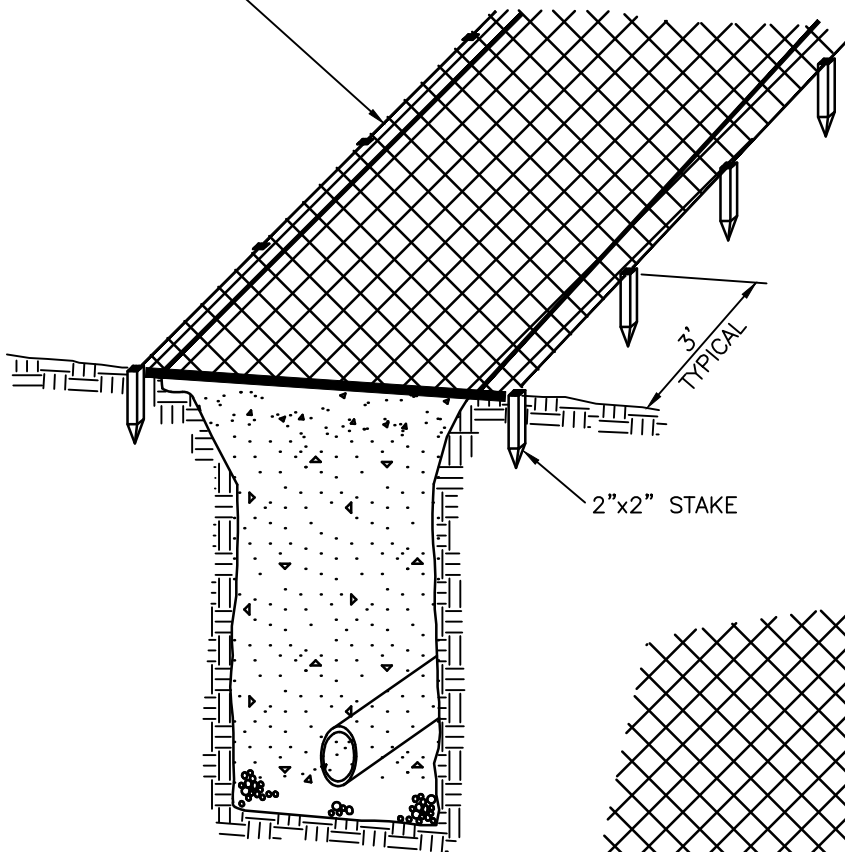
TIMBER BACKFILL SUPPORTS

TBR-5

NOT TO SCALE

FEB 2022

EROSION CONTROL BLANKET
4" MINIMUM OVERLAP AT
STAPLED JOINTS.



2"x2"x18" WOODEN STAKE
DRIVEN INTO UNDISTURBED EARTH,
STAPLE EROSION CONTROL BLANKET
TO TOP OF STAKE AS SHOWN

NOTE:

AFTER TRENCH HAS BEEN COMPLETELY
BACKFILLED AND COMPACTED, EROSION CONTROL
BLANKET SHALL BE INSTALLED LONGITUDINALLY
OVER ENTIRE WIDTH OF BACKFILLED TRENCH.

EROSION CONTROL BLANKET FOR SLOPE
PROTECTION SHALL BE USED AS DIRECTED
BY THE DISTRICT AND/OR ENGINEER.

THIS SLOPE PROTECTION DETAIL REPRESENTS
MINIMUM REQUIREMENTS FOR MATERIALS AND
INSTALLATIONS.

FILE NAME: \\K-FS1\LIBRARY\CAD\DETAILS\DISTRICTS\CROSS VALLEY WATER DISTRICT\TBR-6.DWG

CROSS VALLEY WATER DISTRICT TRENCH BACKFILL AND RESTORATION

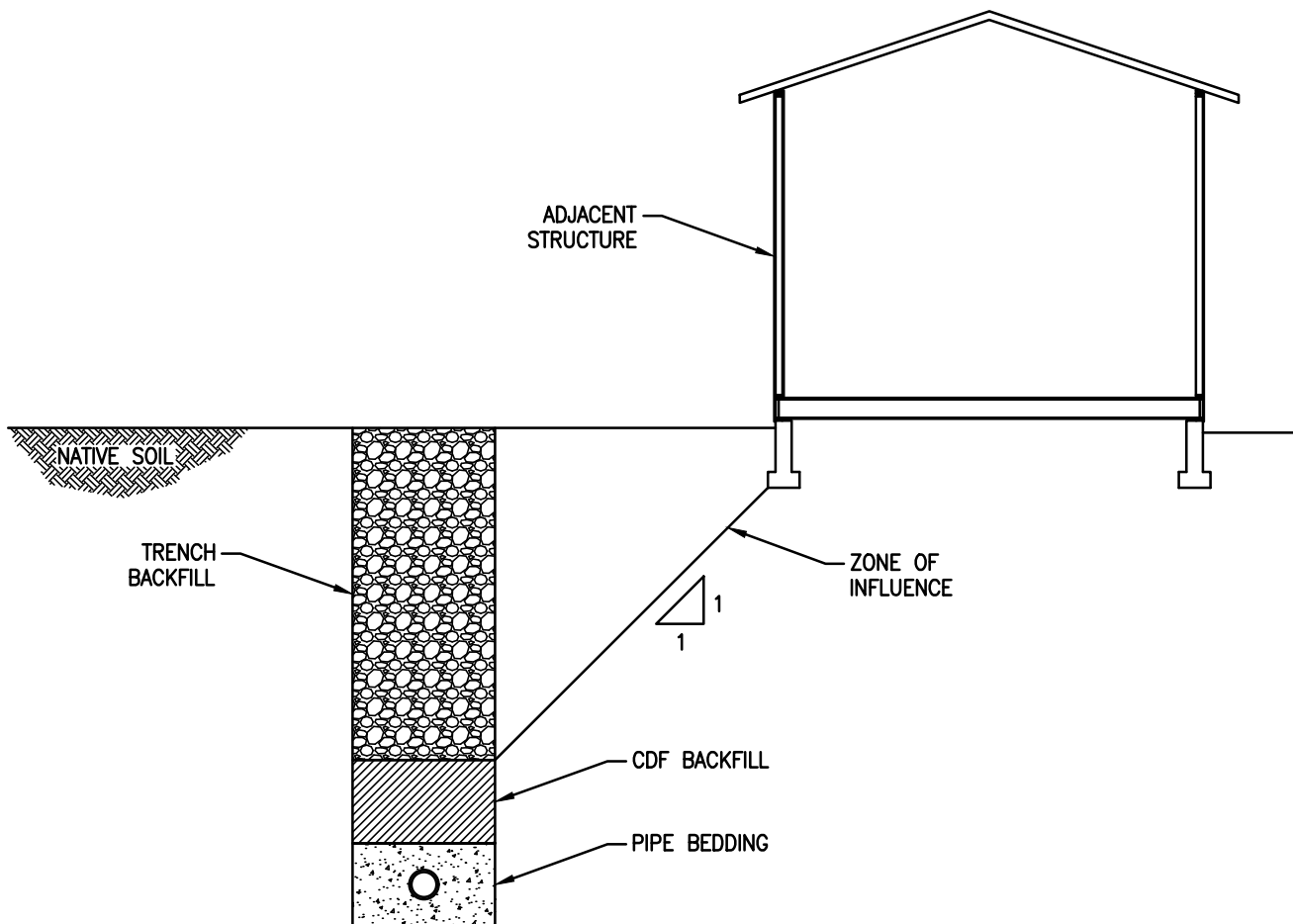
EROSION CONTROL BLANKET

TBR-6

NOT TO SCALE

FEB 2022

FILE NAME: \\K-FS1\LIBRARY\CAD\DETAILS\DISTRICTS\CROSS VALLEY WATER DISTRICT\TBR-7.DWG



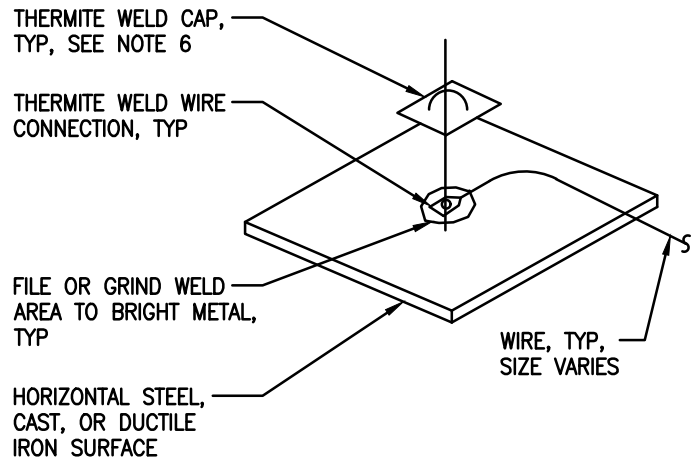
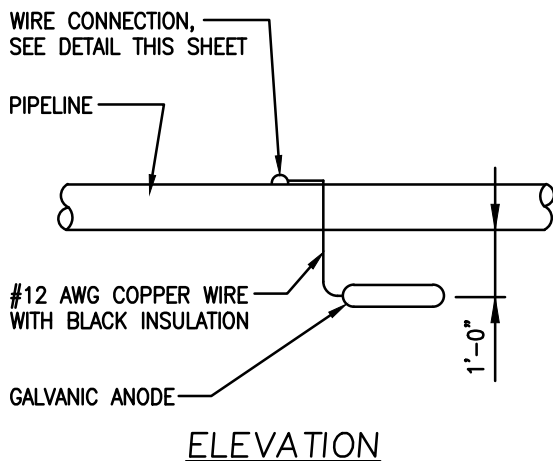
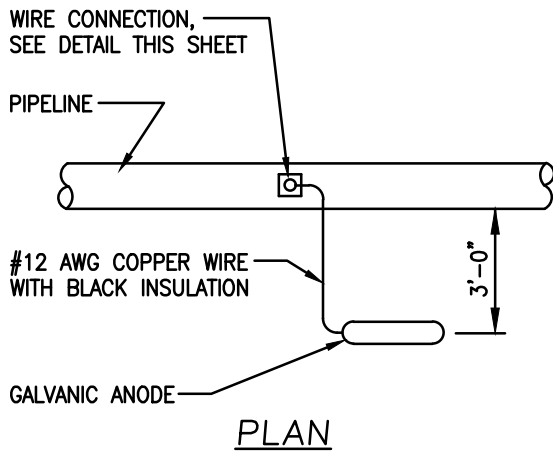
CROSS VALLEY WATER DISTRICT TRENCH BACKFILL AND RESTORATION

ZONE OF INFLUENCE

TBR-7

NOT TO SCALE

FEB 2022



WIRE CONNECTION FOR HORIZONTAL SURFACES
NTS

GALVANIC ANODE INSTALLATION FOR METALLIC PIPE
NTS

NOTES:

1. COPPER SLEEVE REQUIRED FOR THERMITE WELDING OF #10 AWG AND SMALLER WIRE.
2. USE COPPER SLEEVE FOR THERMITE WELDING OF #4 AND #2 AWG JOINT BONDING WIRES.
3. WELDER AND CARTRIDGE SIZE VARIES ACCORDING TO SURFACE SHAPE, MATERIAL, AND HORIZONTAL OR VERTICAL SURFACE. CONSULT WELDER MANUFACTURER FOR RECOMMENDED WELDER AND CARTRIDGE.
4. FOR MULTIPLE WIRE CONNECTIONS TO PIPE SEPARATE THERMITE WELD WIRE CONNECTIONS BY ONE PIPE DIAMETER MINIMUM, 2'-0" MAXIMUM.
5. USE 15 GRAM MAXIMUM SIZE WELD CARTRIDGES FOR CONNECTIONS TO PETROLEUM AND NATURAL GAS PIPELINES OR STRUCTURES. WIRE CONNECTIONS SHALL BE AS SPECIFIED AND APPROVED BY THE OWNER.
6. COAT COMPLETED THERMITE WELD CONNECTIONS WITH ROYSTON HANDY CAP AND 747 PRIMER OR HEAT SHRINK AS SPECIFIED.

CERTIFICATE OF COST FOR SEWER DISTRIBUTION SYSTEM

Cross Valley



WATER DISTRICT

CERTIFICATE OF COST FOR SEWER DISTRIBUTION SYSTEM

<u>Item</u>	<u>Size</u>	<u>Description</u>	<u>Qty</u>	<u>Unit Price</u>	<u>Amount</u>
1.		Sewer Pipe	_____ LF	\$ _____	\$ _____
2.		Sewer Pipe	_____ LF	\$ _____	\$ _____
3.		Sewer Pipe	_____ LF	\$ _____	\$ _____
4.		Sewer Pipe	_____ LF	\$ _____	\$ _____
5.		Fabricated Fittings	_____ EA	\$ _____	\$ _____
6.		Manhole	_____ EA	\$ _____	\$ _____
7.		Manhole	_____ EA	\$ _____	\$ _____
8.	Manhole Lining		_____ LF	\$ _____	\$ _____
9.	Manhole, extra depth		_____ LF	\$ _____	\$ _____
10.	Cleanout, if Required		_____ EA	\$ _____	\$ _____
11.	Clay Trench Dams, if Required		_____ EA	\$ _____	\$ _____
12.	Connect to Exist. Sewer		_____ EA	\$ _____	\$ _____
13.	Foundation Gravel, if Required		_____ TN	\$ _____	\$ _____
14.	Imported Backfill, if Required		_____ TN	\$ _____	\$ _____
15.	5/8" Crushed Rock		_____ TN	\$ _____	\$ _____
16.	Quarry Spalls, if Required		_____ TN	\$ _____	\$ _____
17.	CDF Backfill, if Required		_____ CY	\$ _____	\$ _____
18.	Paving Restoration		_____ LS	\$ _____	\$ _____
19.	Trench Safety Systems		_____ SF	\$ _____	\$ _____
20.	Erosion and Sediment Control		_____ LS	\$ _____	\$ _____
21.	General Restoration		_____ LS	\$ _____	\$ _____
22.	TV Inspection		_____ LF	\$ _____	\$ _____
23.	Air and Vacuum Release Valve Assembly		_____ EA	\$ _____	\$ _____

SUBTOTAL \$ _____

SALES TAX, _____% \$ _____

TOTAL CONSTRUCTION COST \$ _____

From previous page .TOTAL CONSTRUCTION COST \$

- 24. Sewer Design Cost \$
- 25. Sewer Staking Cost \$
- 26. Sewer Inspection Cost \$
- 27. Other (Identify and Attach) \$

*TOTAL PROJECT COST \$

*Attach all supporting documents, invoices, etc.

Date

CERTIFIED BY DEVELOPER

**APPLICATION FOR REIMBURSEMENT
AGREEMENT FOR SEWER FACILITIES**

Cross Valley



WATER DISTRICT

APPLICATION FOR REIMBURSEMENT

AGREEMENT FOR SEWER FACILITIES

The undersigned, _____ ("Applicant") hereby applies to Cross Valley Water District ("District") for a Reimbursement Agreement pursuant to Resolution No. _____, or as hereinafter amended, and pursuant to the Developer Extension Agreement executed by Applicant and District on _____, 20____ ("Agreement").

THIS APPLICATION MUST BE SUBMITTED TO THE DISTRICT PRIOR TO DISTRICT'S ACCEPTANCE OF THE EXTENSION FACILITIES CONSTRUCTED PURSUANT TO THE ABOVE-REFERENCED AGREEMENT.

Name of Applicant: _____

Name of Project: _____

Description of Project or Project Portion for which reimbursement is requested:

Tax Identification Numbers for properties which reimbursement is requested:

APPLICANT:

Date: _____ Signature: _____

Name: _____

Address: _____

Email: _____

Telephone: _____

BILL OF SALE

Cross Valley



WATER DISTRICT

SEWER BILL OF SALE

(Project Name and Number)

_____, the undersigned ("Vendor"), for value received and other consideration, receipt of which is hereby acknowledged, hereby sells, conveys, transfers, and assigns, to **CROSS VALLEY WATER DISTRICT OF SNOHOMISH COUNTY, WASHINGTON**, a municipal corporation ("Vendee"), the personal property described on Exhibit A, attached hereto and incorporated herein by this reference (the "Sewer Facilities"), situated in Snohomish County, Washington.

In making the conveyance, Vendor warrants to Vendee that the Sewer Facilities as installed are fit for the intended purpose; i.e., for use as a sewer collection system including collection lines adequate for the service intended, and that they have been constructed in accordance with the conditions and standards of the District and in compliance with all laws, regulations, resolutions or policies regarding construction of the Sewer Facilities. Vendor further warrants that all claims for labor, material, taxes, or other indebtedness, which might be a lien against said Sewer Facilities, have been paid.

Vendor guarantees for a period of two (2) years from the date of this instrument that the Sewer Facilities will be free of defects in labor and materials, and Vendor covenants and agrees to repair, replace, or correct, any defect in work or materials which is discovered during said two (2) year period, without cost to District. In addition, if any corrections of defects occurring within the two year guarantee period are made, the Vendor shall further warrant the corrected work or materials for two years after the District's acceptance of the corrected work or materials.

The condition of this conveyance is the adoption of a resolution by District accepting the Sewer Facilities and the agreement of District to operate and maintain the Sewer Facilities and provide sewer service from and after the date of said acceptance.

The Vendor warrants to the District that said Vendor owns said Sewer Facilities free and clear of all encumbrances and has full right and title to dispose of the same and will defend the title of the Vendee against the claims of all third parties claiming to own, or claiming any interest in or encumbrance on, the Sewer Facilities.

DATED at _____, Washington, this ____ day of _____, 20____.

STATE OF WASHINGTON)
) ss
COUNTY OF SNOHOMISH)

I certify that I know or have satisfactory evidence that _____ is the person who appeared before me, and said person acknowledged that he/she signed this instrument and acknowledged it to be his/her free and voluntary act for the uses and purposes mentioned in the instrument.

Dated _____

Notary Public in and of the State
of Washington, residing at _____
My Appointment Expires _____

STATE OF WASHINGTON)
) ss
COUNTY OF SNOHOMISH)

I certify that I know or have satisfactory evidence that _____ is the person who appeared before me, and said person acknowledged that he/she signed this instrument, on oath stated that he/she was authorized to execute the instrument and acknowledged it as the _____ of _____ to be the free and voluntary act of such corporation for the uses and purposes mentioned in the instrument.

Dated _____

Notary Public in and for the State
of Washington, residing at _____
My Appointment Expires _____

PERFORMANCE BOND

MAINTENANCE BOND

Cross Valley



WATER DISTRICT

PERFORMANCE BOND

PROJECT NAME & PROJECT NUMBER: _____

KNOW ALL MEN BY THESE PRESENTS THAT: _____ (the "Principal") has entered into a developer extension agreement with Cross Valley Water District, Snohomish County, Washington (the "District") for the installation of water and/or sanitary sewer improvements necessary for the provision of water and/or sanitary sewer service to the Principal's _____ development project by extension agreement dated _____, 20____, (the "Agreement") as is more fully described in the Agreement on file with the District; and

WHEREAS, said extension improvements shall be completed within twenty-four (24) months from the date of the signing of the Agreement, unless the Agreement is extended as provided in the Agreement; and

WHEREAS, the Principal is required by the terms of the Agreement to furnish a bond for the faithful performance of said Agreement in accordance with the conditions stated below;

NOW, THEREFORE, we, _____, as Principal, and _____ (the "Surety"), authorized to transact business in the State of Washington, as Surety, having its principal office and place of business at _____, are held and firmly bound unto the District in the sum of _____ Dollars (\$_____), lawful money of the United States of America, for which payment we and each of us bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITIONS OF THE ABOVE OBLIGATION ARE SUCH THAT: If the Principal, or the Principal's representatives, heirs, successors or assigns, shall well and truly, and in a good, sufficient and workmanlike manner, keep and observe all of the covenants, conditions and agreements in the Agreement, and faithfully perform all the provisions of the Agreement, and pay all laborers, mechanics, subcontractors, and all persons who supply such persons or subcontractors with provisions and supplies for carrying on the work under the Agreement, and for all materials, equipment or other supplies, used in connection with the performance of the Agreement, and shall indemnify and save harmless the District, its officers, employees and agents, from any pecuniary loss resulting from the breach of any of said covenants, conditions and agreements to be performed by the Principal;

AND, if the Principal corrects or replaces any defective work or materials discovered by the District within a period of two years from the date of acceptance of such work by the District, then this obligation shall be void and shall be promptly released by the District; otherwise, this obligation shall be and remain in full force and effect;

AND FURTHER, no change, extension of time, alteration or addition to the work to be performed under the Agreement shall in any way affect the Principal's or Surety's obligation on this Bond and Surety does hereby waive notice of any change, extension of time, alteration or addition under the Agreement;

AND FURTHER, it is understood and agreed that this obligation shall continue in effect until released in writing by Cross Valley Water District, Snohomish County, Washington.

IN WITNESS WHEREOF, the above referenced parties have executed this instrument under their separate seals this ____ day of _____, 20____, the name and corporate seal of each corporate party hereto affixed, and these presents duly signed by its undersigned representatives pursuant to authority of its governing body.

PRINCIPAL

By _____
Title _____

Attest: (if corporation)

SURETY

TWO WITNESSES

By _____
Title _____

By _____
Title _____

Address

Corporate Seal:

Certificate as to Corporate Seal

I hereby certify that I am the (Assistant) Secretary of the Corporation named as Principal in the within Bond; that _____, who signed the said Bond on behalf of the Principal, was _____ of said Corporation; that I know his signature thereto is genuine and that said Bond was duly signed, sealed, and attested for and in behalf of said Corporation by authority of its governing body.

Secretary or Assistant Secretary

MAINTENANCE BOND

KNOW ALL MEN BY THESE PRESENTS: That we, _____, as Principal, and _____, authorized to transact business in the State of Washington, as Surety, having its principal office and place of business at _____, are held and firmly bound unto Cross Valley Water District, Snohomish County, Washington (the "District"), as Oblige, in the sum of _____ Dollars (\$_____), lawful money of the United States of America, for which payment we and each of us bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the Principal entered into a developer extension agreement with the Oblige, dated _____, 20____, for construction and installation of an extension to the water and/or sewer system of the District and connection to the District's water and/or sewer system, in Snohomish County, Washington (the "Agreement").

NOW, THEREFORE, the condition of this obligation is such that the Principal shall maintain and remedy said work under the Agreement free from defects in materials and faulty workmanship for a period of two years following the acceptance of the extension to the water and/or sewer system by the District. If the Principal shall maintain and remedy said work under the Agreement free from defects in materials and workmanship, for a period of two (2) years following completion and acceptance by the District, then this obligation shall be void; otherwise it shall remain in full force and effect.

IN WITNESS WHEREOF, the above referenced parties have executed this instrument under their separate seals this _____ day of _____ 20____, the name and corporate seal of each corporate party hereto affixed, and these presents duly signed by its undersigned representatives pursuant to authority of its governing body.

PRINCIPAL

By _____
Title _____

Attest: (if corporation)

SURETY

TWO WITNESSES

By _____
Title _____

By _____
Title _____

Address

Corporate Seal:

Certificate as to Corporate Seal

I hereby certify that I am the (Assistant) Secretary of the Corporation named as Principal in the within Bond; that _____, who signed the said Bond on behalf of the Principal, was _____ of said Corporation; that I know his signature thereto is genuine and that said Bond was duly signed, sealed, and attested for and in behalf of said Corporation by authority of its governing body.

Secretary or Assistant Secretary

CASH PERFORMANCE AND PLEDGE AGREEMENT
CASH MAINTENANCE AND PLEDGE AGREEMENT

Cross Valley



CASH PERFORMANCE AND PLEDGE OF MONIES AGREEMENT

THIS AGREEMENT is made this ____ day of _____, 20____ between Cross Valley Water District, a municipal corporation ("District"), and _____, ("Developer").

I. RECITALS

1.1 The District and the Developer are parties to a _____ (Water/Sewer) Developer Extension Agreement dated _____, 20__ ("Extension Agreement"), regarding the construction, and acceptance by and conveyance to the District, of certain extension improvements for the project known as _____ ("Project") referenced therein.

1.2 Pursuant to paragraph 11, "Performance Bond/Maintenance Bond", of the Extension Agreement, the Developer is required to furnish the District with a performance guarantee to guarantee the completion and acceptance of the extension improvements within twenty-four (24) months of the date of the District's acceptance of the Developer's application for the Extension Agreement in accordance with the provisions of the Extension Agreement, and shall also secure payment by the Developer of all persons furnishing labor or materials. Pursuant to such provision, the Developer desires to furnish the District a cash bond in lieu of a corporate surety performance bond as the required performance guarantee.

1.3 The District will accept, hold, and disburse such cash bond as set forth below.

1.4 Therefore, the parties, in consideration of the terms and conditions herein stated, now agree as follows:

II. CASH PERFORMANCE BOND

2.1 The Developer shall provide the District cash funds ("Funds") in the amount of U.S. _____ Dollars (\$_____) to guarantee the Developer's performance of the Extension Agreement referenced in paragraph 1.1 above and to secure payment by the Developer of all persons furnishing labor or materials for said work.

2.2 The District shall hold and deposit such funds in an interest-bearing account in the _____ Bank ("Bank"), such account to be in the sole name of the District.

2.3 The conditions under which the District will disburse or utilize such Funds for the completion of the Developer's obligation under the Extension Agreement are such that:

a. If the extension improvements which are the subject to the Extension Agreement are completed and are given final acceptance by the District within twenty-four (24) months of the date of the Extension Agreement, and all persons furnishing labor or materials for said work have been paid, the District shall disburse the Funds together with interest thereon, less charges for District administrative and other costs referenced in this Agreement, to the Developer within thirty (30) days of such acceptance; or

b. If the extension improvements which are the subject of the Extension Agreement are not completed and accepted by the District within twenty-four (24) months of the date of the Extension Agreement, or all persons furnishing labor or materials for said work have not been paid, the District shall have the right to use the Funds, including any interest thereon, to complete such Extension improvement to the District's satisfaction and specifications referenced in the Extension Agreement or pay such persons furnishing labor or materials for the work; in such event,

the District shall return any unused Funds and/or interest thereon to the Developer within thirty (30) days of the completion and acceptance of the extension improvement by the District.

III. PLEDGE AND SECURITY AGREEMENT

3.1 Developer hereby grants to the District, its successors and assigns, a security interest in the Funds, which Funds will be delivered to the District and placed in the District's possession and control. The Developer further grants to the District a security interest in all proceeds of the Funds, whether in the form of profits, dividends, accrued interest, or otherwise.

3.2 For purposes of the security interest granted herein, the Bank shall be the agent of the District for possession of the Funds such that possession of the Funds by the Bank shall be deemed to be possession of the Funds by the District.

3.3 The Developer warrants that, except as provided for herein, the Developer has full title to the Funds and the Funds are free and clear of any other security interest, encumbrance, or claim of right, title, or ownership. "The Developer will not create or permit the existence of any lien or security interest other than that hereby created in the Funds without the express written consent of the District nor shall Developer assign any interest in the Funds without said written consent, such consent to be in the District's sole discretion.

3.4 The Developer agrees to repay to the District all sums which the District may expend or incur in conserving or protecting the Funds, or in enforcing its security interest herein, including without limitation such sums as may be charged by Bank or any governmental entity with respect to the Funds. The sums agreed to be paid herein shall be secured by this Agreement.

3.5 The District shall have the right to enforce and collect on its security interest in the Funds in accordance with the terms and provisions contained in this Agreement. Enforcement and collection of the District's security interest in the Funds shall be in addition to all other rights and remedies granted by law, equity, or contract to the District to seek reimbursement of additional damages incurred and/or to enforce the provisions of the Extension Agreement and this Agreement, should the Funds be insufficient to discharge the Developer's obligations to the District.

IV. GENERAL PROVISIONS

4.1 This Agreement shall serve as an addendum to the Extension Agreement and shall supersede and amend such Extension Agreement to the extent provided herein.

4.2 All time limits set forth herein are of the essence. All parties agree to perform all obligations under this Agreement with due diligence.

4.3 In the event that this Agreement or any obligation secured by it is referred to an attorney for protecting or defending the priority of the District's interest in the Funds, or for collection or realization procedures, Developer agrees to pay a reasonable attorneys' fee, including fees incurred in both trial and appellate courts or fees incurred without suit, and all court costs and costs of the public officials. The sums agreed to be paid herein shall be secured by this Agreement.

4.4 The District will cause to be performed certain services by its legal counsel, engineers, and District personnel to carry out the foregoing purposes, including but not limited to, the preparation and administration of this and any related agreements and documents. The Developer agrees to pay the cost of such services as a condition of the District's agreement herein.

CROSS VALLEY WATER DISTRICT
("District")

By _____

Its _____

("Developer")

By _____

Its _____

FIRST FINANCIAL NORTHWEST BANK hereby consents and agrees that it is the agent of CROSS VALLEY WATER DISTRICT ("District") for purposes of possession by CROSS VALLEY WATER DISTRICT of cash funds in the amount of (\$ _____), which funds the District has a security interest in pursuant to this Agreement and pursuant to RCW 62A.9-304.

DATED this _____ day of _____, 20_____.

FIRST FINANCIAL NORTHWEST BANK ("BANK")

Clearview Branch

By _____

Its _____

STATE OF WASHINGTON)

) ss

COUNTY OF SNOHOMISH)

I certify that I know or have satisfactory evidence that _____ is the person who appeared before me, and said person acknowledged that _____ signed this instrument, on oath stated that _____ was authorized to execute the instrument and acknowledged it as the _____ of the _____ **BANK** to be the free and voluntary act of such corporation for the uses and purposes mentioned in the instrument.

Dated _____

Notary Public in and for the State of
Washington, residing at _____

My appointment Expires: _____

STATE OF WASHINGTON)
) ss
COUNTY OF SNOHOMISH)

I certify that I know or have satisfactory evidence that _____ is the person who appeared before me, and said person acknowledged that he/she signed this instrument, on oath stated that he/she was authorized to execute the instrument and acknowledged it as the **Cross Valley Water DISTRICT**, a municipal corporation, to be the free and voluntary act of such corporation for the uses and purposes mentioned in the instrument.

Dated _____

Notary Public in and for the State
of Washington, residing at _____

My Appointment Expires: _____

STATE OF WASHINGTON)
) ss
COUNTY OF SNOHOMISH)

I certify that I know or have satisfactory evidence that _____ is the person who appeared before me, and said person acknowledged that he/she signed this instrument, on oath stated that he/she was authorized to execute the instrument and acknowledge it as the _____ to be the free and voluntary act of such corporation for the uses and purposes mentioned in the instrument.

Dated _____

Notary Public in and for the State of

Washington, residing at _____

My Appointment Expires: _____