

DEVELOPER EXTENSION MANUAL

Three Lakes Water Association

17503 – 58th Street SE

Snohomish, WA 98290

P.O. Box 24 | Snohomish, WA 98291

Telephone: 360-568-8022

Engineers:

David Evans and Associates, Inc.

14432 SE Eastgate Way, Suite 400

Bellevue, WA 98007 | Telephone: 425-586-9751

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REVISION HISTORY

Revision Date	Description	Board Action
August 2025	Original Issue	—
July 2026	Full revision: fee schedule references updated; ERU framework added; staff references updated	Pending Approval

WAC 246-290

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THREE LAKES WATER ASSOCIATION

DEVELOPER EXTENSION MANUAL

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SECTION A

ADMINISTRATION

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THREE LAKES WATER ASSOCIATION DEVELOPER EXTENSION MANUAL

DEFINITIONS

(a) **"Approved Equal"** means materials or equipment that has been approved by the Association as an acceptable alternative to materials or equipment specified in detail or called specifically by manufacturer name and/or model.

(b) **"Association"** means Three Lakes Water Association, its Board of Trustees and/or authorized representatives.

(c) **"Association's engineer"** means the engineering firm, and that firm's representatives, which may be retained and assigned by the Association Board of Trustees to act as the engineer for the Association for the work to be performed under this agreement.

(d) **"Association Staff"** means the General Manager and all other employees and authorized agents of the Association.

(e) **"Developer"** means the owner or owners of property to be benefited by the proposed extension, including the Developer's agents.

(f) **"Developer's engineer"** means 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 for the Developer under this agreement in accordance with Association specifications.

(g) **"Contractor"** means the person or firms employed by the Developer to do any part of the work, all of whom shall be considered agents of the Developer.

(h) **"ERU (Equivalent Residential Unit)"** means the standard unit of water demand used by the Association to assess connection charges, capacity impacts, and system fees. One ERU represents the average water demand of one single-family residential unit as defined in the Association's current Fee Schedule. All charges including General Facility Charges (GFC), Special Facility Charges (SFC), and Membership Shares are assessed on a per-ERU basis.

(i) **"Work"** means the labor, materials, superintendence, equipment, transportation, supplies and other facilities necessary or convenient to the completion of the proposed extension described in the application contained herein.

(j) **"Design"** means the preparation of the Plans for the extension to the Association's water distribution system.

(k) **"Plans"** means drawings, including reproductions thereof, of the work to be done as an extension to the Association's water system, prepared or approved by the Association's engineers, and approved by the Association Board of Trustees.

(l) **"Specifications"** means the directions, provisions, standards and requirements established by the Association's engineers and as approved by the Association Board of Trustees for the performance of the work and for the quantity and quality of materials.

(m) **"Developer Extension Improvements," "extension improvements," "extension," or "improvement"** mean the water improvements referenced in the application to construct extensions to the Association's water system contained in this Developer Extension Agreement.

(n) "**Manager**" means the Association's General Manager or their authorized designee.

(o) "**Final Acceptance**" means the formal written acceptance by the Association of the completed extension improvements following all required inspections, testing, documentation submittals, and payment of all fees and charges as set forth in this Agreement.

A-1

DEVELOPER EXTENSION PROCESS

INTRODUCTION

This manual is a guide through the necessary steps required to obtain water service from the Three Lakes Water Association by an extension of or modification to the existing water system. The cost of this manual is established by the current Association Fee Schedule (non-refundable). In the case where an outside entity requests or requires a modification to the existing water system, this manual and its processes may be slightly modified at the sole discretion of the Association. The intent shall remain the same: to make the involved parties accountable and to define the requirements for a successful modification.

The developer extension process includes submitting an application, determination of conditions by the Association, signing an agreement for service, preparing and reviewing of plans, submittals to agencies, certification of construction costs, project inspection, revising plans of construction (as-builts), recording of easements, bill of sale and conveyance of facilities, two (2) year warranty, and final acceptance.

FEES AND CHARGES

Prior to entering into an agreement with the Association, the applicant shall complete an application form with attachments and submit with the application a non-refundable review fee in the amount established by the current Association Fee Schedule as adopted by the Board of Trustees. All fees are subject to change by Board of Trustees action without notice; fees in effect at the time of payment shall govern.

Upon acceptance of the project as “feasible” and confirmation of the conditions of service as determined by the Association, the Developer may request a Letter of Water Availability. The fee for the Letter of Water Availability is established by the current Fee Schedule (letter is valid for six months). The fee for a one-time six-month extension is also established by the current Fee Schedule.

The Developer shall pay an assessment to Three Lakes Water Association if required, and shall deposit with the Association an estimated amount of money for work to be done by the Association and its consultants with regard to the project. Fees to be paid to the Association are further outlined in this manual.

A Developer requiring special provisions in their agreement or their facilities can expect that the total charges to be billed by the Association and/or its consultants will be increased beyond that of a similar development without the special provisions. Additional charges will be incurred by the Developer when additional research, developer support, documentation or review is required.

Connection charges (GFC, SFC, and Membership Share) are assessed on a per-ERU basis as defined in the Association's current Fee Schedule. The Developer shall state the total number of proposed ERUs in the Application and shall pay all connection charges prior to construction as specified in the Developer Extension Agreement.

OUTLINE OF DEVELOPER EXTENSION PROCESS

To initiate the developer extension process, the Developer shall complete the Application form contained in this manual and then submit it with the application review fee and required attachments to the Association. Application shall be required prior to issuance of a letter of availability except where service is for one single family residential unit on a single parcel that is served and abutted by an existing 6-inch or larger water main.

The application shall include a preliminary plan as described in the Application.

The Association, with the support of its engineer, will review the application and proposed improvements and determine the conditions of approval for provision of water service to the subject property, and the primary requirements for the developer extension and related work to be completed by the Developer. Factors to be considered by the Association in determining such conditions and requirements include, but are not limited to, the following:

- Does the existing water system serve and abut the subject property, as exists and as proposed following subdivision or development?
- Does the existing water system, adjacent to and away from the subject property, have adequate pressure and flow to serve the water supply and fire flow demands of the proposed development?
- Does the proposed water main extension support the recommendations of the Association's Comprehensive Water System Plan?
- Does the proposed water main extension meet the General Design and Construction Standards included in Section B of this manual?
- Will extension of the water system support service to an adjacent property without service, that is more readily served by an extension through or along the frontage of the subject property (i.e. the build-thru requirement)?
- Is the existing water system presently serving the subject property less than 6-inches in diameter and/or constructed of pipe material other than ductile or cast iron, PVC or asbestos cement?
- In the existing water system abutting or in near proximity of the subject property, has the Association experienced more than three main breaks within the past 60 months?
- Is any proposed or potential work of any nature associated with the development of the subject property likely to impact or change the loading of any part of the existing water system abutting the subject property?
- Is the application for water service to more than one unit per parcel or for a proposed subdivision where the existing water main abutting the parcel is less than 8 inches in diameter?
- Does the Association have adequate water rights and system capacity to serve the proposed number of ERUs? (See WAC 246-290-120(7) and WAC 246-290-100.)

After the application has been submitted, the Association will:

- Review the project information for serviceability and capacity
- Determine the number of ERUs proposed and calculate applicable connection charges
- Verify water rights and system capacity in accordance with WAC 246-290-120(7)
- Notify the Developer as to the required fees and conditions of service

At this point the Developer may request a Letter of Water Availability.

Upon notification by the Developer that he/she is ready to proceed with the project, a Developer Extension Agreement shall be prepared by the Association for signature by the Developer and the Association. This Agreement must be signed and the appropriate fees paid prior to the initiation of design and/or review of the project plans.

The Developer shall then submit plans to the Association to be reviewed, or the Developer can have the Association's engineer prepare the plans.

Once the Association approves the construction plans, all other pre-construction conditions are satisfied, and the project receives approval from all necessary agencies, the Developer may start construction. A pre-construction conference must be held and all appropriate and required permits and insurance must be obtained prior to the Association issuing the notice to proceed with construction. During construction the Association will have an inspector present to ensure that the system is installed to Association standards.

As construction progresses to a point that all the pipe is in place, easements covering those portions of the system outside the public right-of-way and plan revisions to indicate as-built construction records shall be prepared and submitted to the Association. The Developer is also responsible for submitting copies of final plat approval by Snohomish County to the Association and recording easements (returning the original to the Association).

When easements, revised plans, and construction of the system are approved by the Association, a Bill of Sale form shall be prepared and executed by the Developer whereby the completed system shall be turned over to the Association. The Developer shall also provide a bond warranting the system and the work for two years from the date of acceptance of the system and its conveyance. Prior to the end of the two-year period, the project shall be inspected and the Developer shall rectify any items needing repair before the bond is released.

The Developer Extension Checklist in Section A presents the Association requirements in more detail.

The Association reserves the right to adopt updated standards, details and policies regarding developer extensions or modifications to the water systems, including adoption of an updated Developer Extension Manual, without notice to Developers or Owners that have previously applied for and received approval for service, but have not entered into a Developer Extension Agreement with the Association.

INFORMATION FOR DEVELOPER'S ENGINEER AND CONTRACTOR

The Developer is responsible to inform its consultants, its contractor, and all subcontractors of the Association's requirements. It is recommended that the Developer provide its consultants and contractor with a copy of this manual.

Contractors working for the Developer shall be licensed and bonded in the State of Washington for water system construction.

SELECTION OF ENGINEER

The Developer may have his/her own engineer prepare the construction plans and have them reviewed by the Association's engineer, or the Developer may request the Association to have its engineer prepare them. Standards for plan preparation are included in this Developer Extension Manual.

If prepared by the Association's engineer: The Association's engineer will provide a cost estimate for the preparation of the plans related to the extension of the Association's water system. Upon approval of the cost estimate the Association's engineer will prepare the construction plans on a time and material basis.

If prepared by the Developer's engineer: Plans prepared by the Developer's engineer shall be reviewed by the Association's engineer to determine that they conform to the Association's standards. The costs of the Association's engineer's efforts in reviewing and approving the plans shall be paid by the Developer.

VARIANCES

Any material deviation or variance from the requirements and standards contained herein shall be reviewed and approved by the Association. All requests for variances and appeals shall be scheduled through the Association's Manager.

PERMITS AND OTHER APPROVALS

If required, plans of the water system will be submitted by the Association to Snohomish County or other appropriate jurisdictions for review. Plans may also be submitted to the Washington State Department of Health (for water storage, supply, pumping or transmission projects) for review and approval prior to construction, in accordance with WAC 246-290-120. Right-of-way permits shall be applied for by the Association for work within the public right-of-way. The cost of plan reviews and right-of-way permits herein described shall be paid for by the Developer.

All other permits shall be obtained by the Developer as required by law and applicable regulations. Copies of all permits and/or approvals shall be furnished to the Association. These could include, but not be limited to, wetlands (local, state and/or federal), fishery agencies, highway department, state land agencies, gas or oil pipeline companies, etc. All rights shall be granted to or transferred to the Association.

SECTION B

ASSOCIATION STANDARDS

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THREE LAKES WATER ASSOCIATION GENERAL DESIGN AND CONSTRUCTION STANDARDS

1. GENERAL

All extensions to the water system must conform to the standards of the Association, the requirements of Snohomish County and the requirements of the Washington State Department of Health (WAC 246-290). In general, the Developer is required to construct the water lines through his/her property in order to allow for future extension, expansion and continuation of the Association's distribution system and/or in conformance with the Association's Comprehensive Water System Plan. The following items are necessary to meet the conditions.

The Association and its consultants do not insure the accuracy of the information supplied to the Developer from the Association's records. The Developer shall verify by survey any information provided by the Association prior to using the information in design or construction.

1.1 Plans and Specifications

The installation of water extensions shall be made in accordance with these Standards. The scale shall be a minimum horizontal scale of 1" = 50' or other larger scale as appropriate for the specific project, subject to the approval of the Association; on 22" x 34" reproducible drawings. The minimum text height shall be 0.12 inch. The plans shall be sealed by a Professional Engineer licensed in Washington State.

All construction plans and specifications shall bear the seal, date, and signature of a professional engineer licensed in the State of Washington (WAC 246-290-120). The water extension shall be shown on a sheet separate from the sewer, storm drainage and roadway plans. The plans shall indicate the distance from the point of connection to the nearest existing isolation valves. If the project is part of a phased development, a plan of the entire development shall be included, with the current phase clearly indicated. Association Standard Details are not required on the plans.

When prepared by the Developer's engineer, the Developer shall submit two (2) sets of plans for each review by the Association and the Association's engineer. When the plans have been determined to meet Association standards, a final set of reproducible plans shall be submitted to the Association for signature. The Association shall approve the plans by signature and will return the plans to the Developer with a request for additional plan sets.

When prepared by the Association's engineer, the Developer will be provided 5 sets of plans stamped "Issued for Construction" after receipt of all approvals.

When the Developer completes the water line work, the water plans shall be revised to conform to construction records. Final as-built record drawings shall be submitted to the Association in AutoCAD (.dwg) format and PDF. Two (2) hard copy sets may also be required at the discretion of the Association.

1.2 Right-of-Way and Monuments

All rights-of-way in which the water extension is to be made shall be improved and sub-grade raised prior to preparation of construction plans and installation of the water mains. Permanent private easements shall be not less than fifteen feet (15') in width. Public rights-of-way shall be cleared, grubbed and graded in accordance with the requirements of Snohomish County. Monuments disturbed or destroyed shall be replaced at the Developer's expense.

2. DESIGN STANDARDS

2.1 Water System Routing

The water system extension shall be routed as necessary to meet the following criteria:

- Provide water line to serve all the frontage of all lots or structures in the proposed development.
- Connect between the water system in the proposed development and the Association's existing water distribution system at the location and in the manner indicated by the Association.
- Extend water line to the farthest corner of the property or through the property for potential future connection in accordance with the Association's Comprehensive Water System Plan or as required by the Association.
- Loop the water system within the proposed development and/or with multiple connections to the existing water distribution system in accordance with the Association's Comprehensive Water System Plan or as required to provide the required flow to the most remote fire hydrant in the proposed water extension.
- Locate the water system in the public right-of-way to the maximum extent feasible.
- Locate valves on all three branches of tee connections, at changes in pipe diameter, and at intervals of no more than 500 feet along the water main.

2.2 Water Line Sizing

Water line size shall be determined as necessary to meet all of the following criteria, subject to approval by the Association:

- In accordance with size indicated in the Association's Comprehensive Water System Plan.
- As necessary to allow minimum required fire flow and/or peak hour demand, whichever is greater, with maximum velocity of 8 feet per second, minimum pressure of 20 psi during fire flow conditions and 30 psi during maximum day demand conditions, maximum pressure of 80 psi.
- Minimum mainline pipe diameter shall be 8 inches in diameter depending on the site conditions and the required fire flows by zoning code.
- Fire hydrant laterals of 6-inch diameter shall be a maximum of 50 feet in length, measured from the distribution main. Fire hydrant laterals of 8-inch diameter shall be a maximum of 150 feet in length, measured from the distribution main.

2.3 Fire Flow Requirements

Water system extensions shall be sized for the minimum fire flows according to the current Snohomish County Zoning Designation as established by Snohomish County Fire Marshal requirements and/or the applicable fire district, or as indicated in the Association's Comprehensive Water System Plan, whichever is more stringent. The Developer is responsible for obtaining fire flow documentation from the applicable fire authority and submitting it with the application.

2.4 – 2.17 Materials and Equipment Standards

2.4 Gate valves shall conform to AWWA C-509 or C515 Resilient Seat and shall be furnished with a concrete valve marker. Valve markers shall be painted and stenciled to Association requirements.

2.5 Valve boxes shall be located with valve markers as required.

2.6 The minimum cover on water mains shall be three feet unless otherwise approved by the Association, or as required by the Local Road Agency.

2.7 Water service lines shall be 1" (minimum) HDPE SDR 9 CTS service pipe (ADS Polyflex or approved equal) with 12 gauge tracer wire. The service line shall be installed per the standard detail. All saddles and corp stops shall be minimum 1".

2.8 Meter boxes shall be Association Standard and shall be furnished and installed by the Developer.

2.9 Casings under roadway for far side services may be required by other jurisdictions (material and size/depth per agency).

2.10 Fire hydrants shall conform to AWWA C-502 and shall be American Darling or approved equal with a 5¼ inch main valve opening, a 4½ steamer port with 4"x4-1/2" Female Storz adapter and two (2) 2-1/2" Hose Connections (all N.S.T.). Hydrants shall be spaced at distances appropriate for the type of development as approved by the local fire authority or a maximum distance of 500 feet between any new hydrants or from any existing hydrants.

2.11 A two (2) inch blow-off assembly as required by the details shall be installed at all dead end water mains (temporary or permanent). For dead end pipes 6 inch in diameter or larger a fire hydrant is required at the end instead of a blowoff.

2.12 Water line marker posts shall be installed at changes of direction, at terminations and every 300 feet along water lines on easements.

2.13 Galvanized pipe shall not be used underground.

2.14 Valves on dedicated fire sprinkler or other fire protection service lines shall be installed with post-indicator assemblies. Maximum height for the post indicator shall be 36 inches above the adjacent grade.

2.15 A double detector check valve assembly is required between the potable water system and private fire sprinkler and/or standpipe connections. The use of fire retardants, anti-freeze or other hazardous additives in the fire sprinkler system is prohibited.

2.16 Sample stations shall be provided per Association standards.

2.17 Water system extensions shall also comply with the current edition of the DOH Water System Design Manual (currently the 2020 edition). If there is a conflict between the requirements of this document and the Design Manual, the stricter requirements shall govern.

3. EASEMENTS

Legal descriptions and drawings for easements to be dedicated to the Association for all portions of the water system which lie outside of public street right-of-ways shall be signed and stamped by a professional land surveyor and transmitted to the Association. Easements shall be a minimum of fifteen (15) feet in width, or as required by the Association. An easement may coincide with another utility easement, except that all sanitary sewer lines must be ten feet or more from water lines and other utilities must be a minimum of five feet from the waterlines.

Water lines shall be located no closer than seven and a half (7.5) feet from the easement edge. At the discretion of the Association, there shall be a separate easement provided for each lot that a waterline crosses. These easements are required by the Association regardless of easements recorded with property deeds or plats.

4. CONSTRUCTION AND INSPECTION

4.1 Installation and Inspection

No work on the water system shall be performed without the Association staff being present or having been notified of the work to be performed. The Association may refuse acceptance of any portion of the work installed without the Inspector having reviewed the work. Association staff must be notified a minimum of two full work days in advance of a firm starting date and time to arrange for and schedule the observation of work. Work must proceed in a continuous manner. If there are breaks in construction, there must be two working days notice before beginning work again.

The approved construction plans and specifications shall be followed. No deviations will be allowed without request for change and approval received from the Association. The Association reserves the right to order changes in the event of conditions or circumstances discovered during construction.

The entire water system shall be hydrostatically pressure tested in accordance with AWWA Standards. The Developer shall provide all testing equipment. The final testing shall be performed in the presence of the Association's Inspector.

Before being placed into service, all new water mains and repaired portions of or extensions to existing mains shall be disinfected in accordance with AWWA Standards. Cross-connection control methods shall be performed per DOH/AWWA Standards.

Discharge of hypochlorinated water to surface waters is strictly prohibited. A reducing agent shall be applied to the water to be wasted to neutralize the chlorine residual remaining in the water.

4.2 As-Built Drawings

When the Developer completes the water system work, final as-built record drawings shall be submitted to the Association. As-built drawings shall be submitted in AutoCAD (.dwg) format compatible with a version no more than three years old, and in PDF format. Two (2) hard copy sets may be required at the Association's discretion. The location and type of all installed fittings, including fire hydrants, meters and sample stations, shall be shown relative to monuments, lot corners, etc. As-built drawings become the property of the Association.

A construction completion report shall be submitted to the Washington State Department of Health within sixty (60) days of project completion, in accordance with WAC 246-290-120(5). The Developer's engineer shall prepare and submit this report through the Association.

THREE LAKES WATER ASSOCIATION STANDARD GENERAL NOTES

1. ALL WORK SHALL CONFORM TO THE RULES, REGULATIONS, AND SPECIFICATIONS OF THE THREE LAKES WATER ASSOCIATION AND SNOHOMISH COUNTY.
2. ASSOCIATION STAFF SHALL BE NOTIFIED A MINIMUM OF TWO FULL WORKING DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE THREE LAKES WATER ASSOCIATION SHALL INSPECT ALL TESTING AND CONSTRUCTION.
3. ALL CUSTOMERS AFFECTED BY A SYSTEM SHUT DOWN SHALL BE NOTIFIED BY THE CONTRACTOR A MINIMUM OF FIVE (5) BUSINESS DAYS IN ADVANCE OF THE PLANNED SHUT DOWN. CUSTOMERS SHALL ALSO BE NOTIFIED OF THE ANTICIPATED DURATION OF THE SHUT DOWN AND SHALL RECEIVE A WRITTEN DOOR-HANGER NOTICE AT LEAST THREE (3) BUSINESS DAYS PRIOR TO THE INTERRUPTION. SERVICE INTERRUPTIONS SHALL NOT BE SCHEDULED ON MONDAYS, FRIDAYS, OR FEDERALLY-RECOGNIZED HOLIDAYS.
4. ALL WORK WITHIN THE COUNTY RIGHT-OF-WAY SHALL CONFORM WITH ALL APPLICABLE REQUIREMENTS AS SET FORTH BY THE COUNTY. EXISTING ASPHALT SHALL BE NEAT-LINE CUT PRIOR TO EXCAVATION. ALL WORK AND RESTORATION SHALL COMPLY WITH PROJECT-SPECIFIC RIGHT-OF-WAY PERMIT REQUIREMENTS.
5. TYPICAL WATER SERVICE TO BE HDPE SDR 9 CTS (ADS POLYFLEX OR APPROVED EQUAL) WITH 12 GAUGE TRACER WIRE (1" AT THE DISCRETION OF THE MANAGER OR AS APPROVED ON THE PLANS). SADDLES AND CORP STOPS SHALL BE MINIMUM 1".
6. WATER MAINS ARE TO BE THICKNESS CLASS 52 CEMENT MORTAR LINED DUCTILE IRON PER ANSI STANDARD A21.51 AND AWWA SPECIFICATIONS C151, WITH SIZE NOTED ON PLANS.
7. ALL VALVES ADJACENT TO TEE OR CROSS SHALL BE FLANGE CONNECTED.
8. ALL VALVES SHALL BE FURNISHED WITH A CONCRETE VALVE MARKER PER ASSOCIATION'S DIRECTION.
9. AN ASSOCIATION APPROVED BACKFLOW PREVENTION DEVICE WITH CURRENT CERTIFICATION SHALL BE USED FOR ALL TEMPORARY CONNECTIONS TO THE ASSOCIATION'S SYSTEM. THE CURRENT CERTIFICATION DOCUMENTS SHALL BE PROVIDED TO THE ASSOCIATION PRIOR TO CONNECTION. ALL CROSS-CONNECTION CONTROL MEASURES SHALL COMPLY WITH WAC 246-290-490 AND THE ASSOCIATION'S CROSS-CONNECTION CONTROL PROGRAM.
10. LOCATIONS SHOWN FOR EXISTING UTILITIES ARE APPROXIMATE. IDENTIFICATION, LOCATION, MARKING AND RESPONSIBILITY FOR UNDERGROUND FACILITIES OR UTILITIES ARE GOVERNED BY THE PROVISIONS OF CHAPTER 19.122, REVISED CODE OF WASHINGTON. CALL 811 (WASHINGTON ONE-CALL) AT LEAST TWO BUSINESS DAYS BEFORE YOU DIG.
11. PLAN AND PROFILE INFORMATION AS FURNISHED BY THE DEVELOPER'S ENGINEER.

12. FLUSHING OF ANY AND ALL WATER FROM EXISTING, MODIFIED OR NEW WATER PIPING SHALL BE PERFORMED BY THE CONTRACTOR AND IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS. DISCHARGE OF HYPOCHLORINATED WATER TO SURFACE WATERS IS STRICTLY PROHIBITED.
13. MINIMUM SEPARATION OF POTABLE WATER MAINS AND SANITARY SEWER LINES SHALL BE TEN (10) FEET HORIZONTALLY FOR PARALLEL PIPE, AND THREE (3) FEET VERTICALLY FOR PERPENDICULAR OR OBLIQUE CROSSINGS, MEASURED FROM OUTSIDE EDGE TO OUTSIDE EDGE. SITUATIONS OCCURRING WITH LESS THAN MINIMUM SEPARATION WILL REQUIRE CONSTRUCTION IN ACCORDANCE WITH SECTION C1-9.1 OF THE "CRITERIA FOR SEWAGE WORKS DESIGN" PUBLISHED BY THE WASHINGTON STATE DEPARTMENT OF ECOLOGY, LATEST REVISION.
14. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS WHILE WORKING WITH OR IN NEAR PROXIMITY OF ASBESTOS CEMENT PIPE. REFER TO WAC 296-65 AND THE CURRENT EDITION OF THE PACIFIC NORTHWEST SECTION AWWA RECOMMENDED PRACTICES FOR ASBESTOS/CEMENT PIPE WORK.

B-8 through B-10

SAMPLE PLAN FORMAT REQUIREMENTS

NOTE: A generic sample plan is provided below to illustrate the required plan format and title block elements. This sample is for illustrative purposes only and is not for construction. Developer's engineers shall prepare site-specific plans conforming to the standards described in this section.

All water extension plans submitted to the Association shall include the following elements:

- Title block showing: Project Name, Developer/Owner name and contact, Engineer name, firm, address, phone, WA PE license number, date, revision history, sheet number, and the Association's approval block.
- Scale: Minimum 1" = 50' horizontal, or larger as approved. North arrow and bar scale required.
- Property boundary lines, tax parcel numbers, and legal description reference.
- All existing and proposed water mains with pipe diameter, material, and class labeled.
- All valves, hydrants, fittings, service connections, and appurtenances labeled with size and type.
- Existing utilities within 20 feet of proposed water main (per utility locates — call 811).
- Contour lines at 5-foot intervals or less, based on current USGS datum with benchmark shown.
- Road profiles for all roads where water main is proposed.
- Easement boundaries with widths shown.
- Standard general notes (see B-8 through B-10) included on each plan sheet.
- Hydrant color code table per Association Specification M-13 and Snohomish County Code 30.53A.520(13).
- Association Approval title block: "APPROVED BY THREE LAKES WATER ASSOCIATION" with signature line, date, and "ISSUED FOR CONSTRUCTION" notation.

SAMPLE PLAN TITLE BLOCK FORMAT

PROJECT NAME: [Development Name]	SHEET: W-1 of __
OWNER/DEVELOPER: [Name, Address, Phone]	SCALE: 1" = 50'
ENGINEER: [Name, Firm, Address, Phone, PE # WA]	DATE: _____
APPROVED BY THREE LAKES WATER ASSOCIATION	ISSUED FOR CONSTRUCTION
Signature: _____ Date: _____	<i>Example Only — Not for Construction</i>

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SECTION C

CONSTRUCTION CONDITIONS/STANDARDS

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**Three Lakes Water Association
Snohomish County, Washington**

DEVELOPER EXTENSION CHECKLIST

Name of Development _____

DEVELOPER

Name: _____

Designate Developer Status:

- ☐ corporation;
☐ partnership;
☐ joint venture;
☐ limited liability company;
☐ sole proprietorship

Address: _____

Telephone: _____

CONTRACTOR

Name: _____

Address: _____

Telephone: _____

Contractor's Registration No.: _____

DEVELOPER'S ENGINEER

Name: _____

Address: _____

Telephone: _____

A.	APPLICATION REVIEW	DATE	AMOUNT
1.	Preliminary/ conceptual plans submitted to Association.	_____	
2.	Developer Project Manual obtained by Developer. (\$50.00 non-refundable)	_____	_____
3.	Application submitted to Association.	_____	
4.	Fees Paid: \$750.00 Non-refundable Application Review Fee	_____	_____
5.	Association Board & Association's engineer review		

	and approval of Preliminary Application.	_____	
6.	Applicant notified of acceptance or rejection of Application and conditions.	_____	
B.	LETTER OF WATER AVAILABILITY & AGREEMENT	DATE	AMOUNT
1.	Application for Service (required for service to more than one unit per parcel, to a proposed subdivision where existing main abutting the property is less than 8" in diameter)	_____	_____
2.	Application for Letter of Water Availability, \$100.00 fee per lot. (\$25.00 for one-time 6 month extension)	_____	_____
3.	Payment of \$750.00 non-refundable Administration Fee	_____	_____
4.	Payment of one half of Developer Extension Fee (amount as provided by Association's engineer)	_____	_____
5.	Letter of Water Availability response	_____	
6.	Agreement prepared by Association and completed by Developer.	_____	
7.	Preliminary plan submitted to Association by Developer.	_____	
8.	Agreement approved by Board of Directors.	_____	
C.	BEFORE PLAN REVIEW OR DESIGN	DATE	AMOUNT
1.	Preliminary plat provided by Developer.	_____	
2.	Contour map submitted to Association: Scale 1" = 50' or other as approved by Association.	_____	
3.	Road profiles provided by Developer.	_____	
4.	2 sets of plans submitted to Association for review	_____	

5.	Notice to proceed to Association's engineer.	_____	
D.	REQUIRED BEFORE CONSTRUCTION BEGINS	DATE	AMOUNT
1.	Plans and specifications approved by Manager and approval letter sent to Developer.	_____	
2.	Purchase Membership Shares and pay General Facility Charges	_____	_____
3.	When applicable - Plans and specifications sent to Snohomish County Public Works Department by Association (Right-of-way permit)	_____	
4.	When applicable - Plans and specifications sent to DOH by Association (DOH review - transmission, storage or supply projects only).	_____	
5.	Approval of Contractor by Manager.	_____	
6.	Performance Security submitted by Developer.	_____	_____
7.	Certificate of Insurance, Insurance Questionnaire and all endorsements submitted by Developer. (Asbestos Insurance required/provided?)	_____	
8.	Right-of-Way Permits obtained by Association.	_____	_____
9.	Other State, County and/or Federal permits acquired by Developer.	_____	
10.	DOH approval received (see #4 above).	_____	
11.	Payment of remaining one-half of Developer Extension Fee	_____	
12.	Pre-construction meeting held by Developer. (Minimum 7 days' notice required for scheduling)	_____	
13.	Construction stakes in place by Developer a minimum of 2 days prior to construction.	_____	
14.	Property boundary stakes in place by Developer.	_____	

	15.	All third-party easements secured and submitted to Association by Developer.	_____	
	16.	Developer pays remaining Developer Extension Fee	_____	
E.	CONSTRUCTION		DATE	AMOUNT
	1.	Manager approves construction start.	_____	
	2.	Manager inspects project. Developer pays estimated		
	3.	inspection on time and materials basis.	_____	_____
	4.	Pressure test, disinfection and bacteria tests completed, witnessed by Manager and passed.	_____	
	5.	Satisfactory purity test conducted by Association.	_____	
	6.	Punch list submitted to Developer including requirements of Snohomish County	_____	
	7.	Punch list items inspected and revised punch list submitted to Developer if necessary.	_____	
	8.	Final inspections and approval.	_____	

THE FOLLOWING SECTION (F) MUST BE COMPLETED BEFORE THE EXTENSION IS ACCEPTED AND BEFORE SERVICE WILL BE PROVIDED

F. AFTER CONSTRUCTION

	1.	Easement restoration releases sent to third-party property owner.	_____
	2.	Developer performs additional work on easement restoration, if necessary.	_____
	3.	Easement restoration releases signed and submitted to Association.	_____

4. Reproducible as-built construction drawings submitted to Association for review. _____
5. As-builts returned to Developer's engineer for revisions, if necessary. _____
6. Executed Bill of Sale and Certification of Costs delivered to Association along with copy of construction contract _____
7. All easements recorded by Developer and. Originals returned to Association. _____
8. Project cost submitted to Association _____
9. As-builts approved _____
10. All Developer expenses brought current _____
11. All Fees and Charges paid: _____
12. Association pays payback reimbursement to proper parties, if necessary. _____
14. Engineer completes Construction Report for Public Water System Projects to Association file. _____
15. Execution and recording of payback agreement by Association. _____
16. Lien release provided to Association. _____
17. Release of Performance Security (or Assignment of Savings) by Association – 90 days following acceptance _____
18. Begin two-year warranty period. _____

19. Maintenance Bond submitted by Developer.

<u>Cost of Extension</u>	<u>Bond</u>
\$ 0.00 - \$10,000.00	\$3,000.00
\$10,001.00 - \$25,000.00	\$5,000.00
\$25,001.00 – Total Cost	\$10,000 min or 10% of contract, Whichever is

greater

G. FINAL ACCEPTANCE

DATE

AMOUNT

1. 23-month warranty inspection completed by Manager.
2. Developer makes warranty corrections, if necessary.
3. Manager makes final acceptance.
4. Release of maintenance bond by Manager
5. Letter sent to Developer stating project has been completed.

PROJECT COMPLETE

MANAGER

PERFORMANCE AND PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, That we, _____, the Developer named in the Developer Extension Agreement hereinafter referred to as PRINCIPAL, and _____ as SURETY, are held and firmly bound unto the State of Washington, and unto the **Three Lakes Water Association**, hereinafter called the Association named in said Developer Extension Agreement, _____ in the penal sum of _____ DOLLARS (\$_____), lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, assigns, administrators and successors jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that Whereas, the Principal entered into a contract with the Association, dated _____, 20____, for providing such Work in connection with the _____ Developer Extension Project located in Snohomish County, State of Washington.

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform all of the provisions and fulfill all of the undertakings covenants, terms, conditions and agreements of said Developer Extension Agreement during the period of the original contract and any extensions thereof that may be granted by the Association, with or without notices to the surety; and during the life of any guarantee required under the Developer Extension Agreement; and shall also well and truly perform and fulfill all of the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of said Developer Extension Agreement that may hereafter be made; notice of which modifications to the surety being hereby waives; and furthermore shall pay all laborers, mechanics, and subcontractors and material men, and all persons who shall supply such person or persons and such principal or subcontractors with provisions and supplies for the carrying on of such work, shall indemnify and safe harmless Association from all costs and damage by reason of the principal's default of failure to do so, and shall pay the State of Washington sales and use taxes, and amounts due said state pursuant to Titles 50 and 51 of the Revised Code of Washington then this obligation to be void, otherwise to remain in full force and effect.

IN WITNESS WHEREOF, the above bonded 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

TWO WITNESSES:

ATTEST (If Corporation)

By: _____

Title: _____

Corporate Seal:

SURETY

By: _____

Title: _____

CERTIFICATES 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

A copy of this bond shall be filed with the County Auditor

MAINTENANCE BOND

Bond No. _____

KNOW ALL MEN BY THESE PRESENTS:

That we, _____, as Principal, and _____, a corporation organized and doing business under and by virtue of the laws of the State of Washington, and duly licensed to conduct a general surety business in the State of Washington as Surety, are bound unto Three Lakes Water Association as Obligee in the sum of _____ (\$_____) Dollars for which payment, well and truly to be made; we bind ourselves, our heirs, executors, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THE OBLIGATION is that the above named Principal has caused to be constructed water systems in that subdivision known as _____ located in Section _____, Township _____, Range _____, of W.M., Snohomish County, Washington; and

THE FURTHER CONDITION is that the undersigned warrants the performance and guarantees the workmanship and materials used in the construction of the water systems and will make repairs, correct deficiencies, and perform other than routine maintenance for a period of two years from the acceptance of said water systems as constructed to Association Standards, by the Association.

IN ADDITION, if the water systems require repairs or maintenance within the two-year period, the parties agree to reimbursement as follows:

1. The Association shall perform all emergency repairs. If damage was caused because of faulty workmanship, materials, or design, then the Association shall be reimbursed for its efforts. If the emergency did not relate to the workmanship, materials, or design, then the Association shall bear the costs of repair.
2. If the repair or maintenance is not of an emergency nature but still is the result of faulty workmanship, materials, or design, then the Association shall give the undersigned a seven (7) day written notice to repair the damage which will be repaired by the undersigned at their expense. If, after seven (7) days, the repairs are not done or efforts to rectify the situation are not agreed to, the Association shall then do the work at the expense of the undersigned.
3. If it is routine maintenance or repair not related to the workmanship, materials, or design of the water systems, then the Association shall perform the work at its own expense.

At the end of the two-year period, the undersigned shall request the Association to cause an inspection of the water system and, if found to be in condition satisfactory to the Association, then this obligation shall become null and void, and any remaining funds shall be returned to the undersigned; otherwise this bond shall remain in full force and effect until the water systems are placed in satisfactory condition.

IN WITNESS WHEREOF, the seal and signature of the said Principal is hereto affixed and the corporate seal and the name of the Surety is hereto affixed and attested by its duly authorized attorney-in-fact at _____, Washington, this _____ day of _____, 20____.

PRINCIPAL

SURETY

Address: _____

Address: _____

**BILL OF SALE
FOR WATER MAIN EXTENSION IN
ACCORDANCE WITH CONDITIONS AND
STANDARDS FOR DEVELOPER OF WATER EXTENSIONS**

THIS BILL OF SALE is made this _____ day of _____, 20____, by and between the developers of _____, known as _____, a Washington corporation, hereinafter referred to as "Developer", and the **Three Lakes Water Association**, a non-profit water purveyor, hereinafter referred to as "Association".

In consideration of the Association agreeing to the Developer's extension of the Association's water system, the Developer, by this Bill of Sale, hereby transfers and conveys in all respects the extended water main as described herein to the Association as follows:

1. Transfer and Description of Water Main Extensions. The Developer does hereby transfer, convey and assign all right, interest and title to the Association by way of this Bill of Sale to that property described on Exhibit A attached hereto and incorporated fully herein by this reference.
2. Costs. The total cost, including administration, legal engineering and construction for the water main extensions is outlined on Exhibit B, and further detailed on Exhibit C, attached hereto and incorporated fully herein by this reference.
3. Representations. The Developer hereby warrants:
 - a) Developer is the owner of the extension improvements, the same are free and clear of all encumbrances and Developer has good right and authority to transfer title thereto to the Association and will defend the title of the Association against the claims of all third parties claiming to own the same or claiming any interest therein or encumbrance thereon; and
 - b) The extension improvements are in proper working condition, order and repair, and are adequate and fit for the intended purpose of use as a water system and as an integral part of the water system of the Association; and
 - c) For a period of two years from the date of final acceptance of the extension improvements by the Association, the extension improvements and all parts thereof shall remain in proper working condition, order and repair; and Developer shall repair or replace, at its expense, any work or material which may prove to be defective during the period of the warranty.

DATED the day and year first written above.

By _____
President

By _____
Secretary

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 the instrument, and acknowledged it as the President and Secretary of _____, a Washington corporation, to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

Dated: _____

NOTARY PUBLIC in and for the State of
Washington. My commission expires _____

EXHIBIT A

Approximately:

1. _____ lineal feet of _____ inch water line

Beginning _____ and extending there from approximately
_____ feet along _____.

EXHIBIT B

**CERTIFICATION OF COSTS OF CONSTRUCTION
OF DEVELOPER EXTENSION (WATER) CONVEYED TO
THREE LAKES WATER ASSOCIATION**

The undersigned is the Developer of the plat of _____ and has, pursuant to an agreement with **Three Lakes Water Association** dated the _____ day of _____, 20____, constructed certain water facilities which after connection to the water system of the Three Lakes Water Association are to be conveyed to the Association by the Developer.

In accordance with the terms of the said Developer Extension Agreement between the undersigned and Three Lakes Water Association, the undersigned hereby certifies that the costs of construction of the facility being conveyed to the Association pursuant to said Developer Extension Agreement are as follows:

A.	Materials, Labor and Equipment (see Exhibit C)	\$ _____
B.	Engineering	\$ _____
C.	Permits & Fees	\$ _____
D.	Other Costs	\$ _____
	_____	\$ _____
	_____	\$ _____
	_____	\$ _____

TOTAL COSTS OF CONSTRUCTION
OF FACILITY \$ _____

CERTIFIED TO THE THREE LAKES WATER ASSOCIATION BY _____
(insert name of developer if an individual or corporation if a corporate
developer)

BY _____, President

Corporate Seal
(if required)

BY _____, Secretary

INDIVIDUAL ACKNOWLEDGEMENT:

STATE OF WASHINGTON)
)ss
COUNTY OF SNOHOMISH)

On this day, personally appeared before me _____, to me known to be the individual described in and who executed the within and foregoing instrument and acknowledged to me that he signed the same as his free and voluntary act and deed for the uses and purposes therein mentioned.

WITNESS my hand and official seal this _____ day of _____, 20____.

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

EXHIBIT C
THREE LAKES WATER ASSOCIATION
DEVELOPER'S CERTIFICATE OF COST
WATER MAIN FACILITY

Item No.	Description	Quantity	Unit	Price	Amount
1.	Furnish and Install _____-inch Water Main		LF		
2.	Furnish and Install _____-inch Water Main		LF		
3.	Furnish and Install _____-inch Water Main		LF		
4.	Furnish and Install _____-inch Water Main		LF		
5.	Furnish and Install Pit Run Backfill		CY		
6.	Furnish and Install _____-inch Valves		Each		
7.	Furnish and Install _____-inch Valves		Each		
8.	Furnish and Install _____-inch Valves		Each		
9.	Furnish and Place Concrete Blocking		CY		
10.	Furnish and Install Water Main Fittings		Lbs		
11.	Furnish and Install Fire Hydrants		Each		
12.	Furnish and Install Sample Stations		Each		
13.	Furnish and Install Water Services		Each		
14.	Connect to Existing Mains		Each		

DE# _____

- | | | |
|-----|---|-----|
| 15. | Sterilize, Flush and Test Mains | LS |
| 16. | Furnish and Place Pavement Restoration | SY |
| 17. | Furnish and Place 5/8" Minus Crushed Rock | Ton |
| 18. | Final Clean-Up and Restoration | LS |

Total Cost \$ _____

Three Lakes Water Association
P.O. Box 24
Snohomish, Washington 98291

Document Title(s): Water Easement

Reference Number(s) of Documents Assigned or Released: _____ N/A

☐ Additional on page _____ of document.

Grantor(s): (Print Last name, First name, and Initials)

1. _____

2. _____

3. _____

☐ Additional on page _____ of document.

Grantee(s): Three Lakes Water Association

Legal Description (abbreviated: i.e. lot, block, plat of section, township, range):

☒ Additional legal description is on page two of document.

Assessor's Property Tax Parcel / Account Number: _____

EASEMENT FOR WATER UTILITIES
(INDIVIDUAL)

THIS AGREEMENT, made this _____ day of _____, 20__ by
and between the Three Lakes Water Association, a private water purveyor of
Snohomish County, Washington, herein termed "Grantee", and
_____, hereinafter termed "Grantors".

WITNESSETH:

That the said Grantor for valuable consideration does by these presents grant unto the Grantee a perpetual right-of-way or easement for water mains with the necessary appurtenances through, over and across the following described property situated in Snohomish County, Washington:

(LEGAL DESCRIPTION)

Grantor further grants to Grantee:

- a. The right to grade the strip of land for the full width thereof and to extend the cuts and fills for such grading into and on the land along and outside of the strip to such extent as Grantee may find reasonably necessary.
- b. The right to enter upon the said property at time as may be necessary for the purpose of constructing, repairing, altering, or reconstructing said water main, or making any connections therewith, without incurring any legal obligation or liability therefore at times as may be necessary; provided that such constructing, repairing, altering, or reconstructing of said water main shall be accomplished in such a manner that the private improvements existing in this right-of-way shall not be disturbed or destroyed, or in the event they are disturbed or destroyed, they will be replaced in as good a condition as they were immediately before the property was entered upon by the Grantee;
- c. The right of grading for constructing, maintaining and using such roads on and across the lands as Grantee may deem necessary in the exercise of the right of ingress and egress or to provide access to property adjacent to the land.

Grantor reserves the right to use the strip for purposes which will not interfere with Grantee's full enjoyment of the rights hereby granted; provided that Grantor shall not erect any permanent buildings, fences, entry monuments or similar permanent structures or facilities that will impair access to the water main, and further provided that Grantor shall not plant or maintain any trees or shrubs on or across said property, except where authorized in writing by the Association.

The Grantor does hereby and the Association, by accepting and recording this easement, mutually covenant and agree as follows:

1. *Costs of Construction and Maintenance.* Grantee shall bear and promptly pay all costs and expenses of construction and maintenance of the water line.
2. *Compliance with Laws and Rules.* Grantee shall at all times exercise its rights herein in accordance with the requirements (as from time to time amended) and

all applicable statutes, orders, rules and regulations of any public authority having jurisdiction.

3. *Work Standards.* All work to be performed by Grantee on Grantor's property shall be in accordance with the plans submitted to and approved by Grantor and shall be completed in a careful and workmanlike manner to Grantor's satisfaction, free of claims or liens. Upon completion of construction of the portion of the water line on Grantor's property, and upon completion of any subsequent work performed by Grantee on Grantor's property, Grantee shall remove all debris and restore the surface of the property as nearly as possible to the condition in which it was at the commencement of such work, and shall replace any property corner monuments, survey references or hubs which were disturbed or destroyed during construction.

4. *Release and Indemnity.* Grantee does hereby release, indemnify and promise to defend and save harmless Grantor from and against any and all liability, loss, damage, expense, actions and claims, including costs and reasonable attorneys' fees incurred by Grantor in defense thereof, asserted or arising directly or indirectly on account of or out of acts or omissions of Grantee and Grantee's servants, agents, employees and contractors in the exercise of the rights granted herein; PROVIDED, HOWEVER, this paragraph does not purport to indemnify Grantor against liability for damages arising out of bodily injury to persons or damage to property caused by or resulting from the sole negligence of Grantor or Grantor's agents or employees.

5. *Taxes.* Grantee shall promptly pay or reimburse Grantor for any taxes levied as a result of this Agreement or relating to Grantee's improvements constructed pursuant to this Agreement.

6. *Successors.* Subject to the preceding paragraph, the rights and obligations of the parties shall inure to the benefit of and be binding upon their respective successors and assigns.

This easement shall be a covenant running with the land and shall be binding on the successors, heirs, and assigns of both parties hereto.

DATED this _____ day of _____, 20____.

By:_____

Attest:_____

COUNTY OF SNOHOMISH)

_____ to me known to be the individual(s)
above described, who executed the foregoing instrument and acknowledged to me that
said instrument was signed as the free and voluntary act and deed of said individual(s),
for the uses and purposes therein mentioned.

Witness my hand and seal this _____ day of _____, 20____.

Washington, residing at _____

Three Lakes Water Association
P.O. Box 24
Snohomish, Washington 98291

Document Title(s): Water Easement

Reference Number(s) of Documents Assigned or Released: _____ N/A

☐ Additional on page _____ of document.

Grantor(s): (Print Last name, First name, and Initials)

1. _____

2. _____

3. _____

☐ Additional on page _____ of document.

Grantee(s): Three Lakes Water Association

Legal Description (abbreviated: i.e. lot, block, plat of section, township, range):

☒ Additional legal description is on page two of document.

Assessor's Property Tax Parcel / Account Number: _____

EASEMENT FOR WATER UTILITIES
(CORPORATE)

THIS AGREEMENT, made this _____ day of _____, 20__ by
and between the Three Lakes Water Association, a private water purveyor of
Snohomish County, Washington, herein termed "Grantee", and
_____, hereinafter termed "Grantors".

WITNESSETH:

That the said Grantor for valuable consideration does by these presents grant unto the Grantee a perpetual right-of-way or easement for water mains with the necessary appurtenances through, over and across the following described property situated in Snohomish County, Washington:

(LEGAL DESCRIPTION)

Grantor further grants to Grantee:

- a. The right to grade the strip of land for the full width thereof and to extend the cuts and fills for such grading into and on the land along and outside of the strip to such extent as Grantee may find reasonably necessary.
- b. The right to enter upon the said property at time as may be necessary for the purpose of constructing, repairing, altering, or reconstructing said water main, or making any connections therewith, without incurring any legal obligation or liability therefore at times as may be necessary; provided that such constructing, repairing, altering, or reconstructing of said water main shall be accomplished in such a manner that the private improvements existing in this right-of-way shall not be disturbed or destroyed, or in the event they are disturbed or destroyed, they will be replaced in as good a condition as they were immediately before the property was entered upon by the Grantee;
- c. The right of grading for constructing, maintaining and using such roads on and across the lands as Grantee may deem necessary in the exercise of the right of ingress and egress or to provide access to property adjacent to the land.

Grantor reserves the right to use the strip for purposes which will not interfere with Grantee's full enjoyment of the rights hereby granted; provided that Grantor shall not erect any permanent buildings, fences, entry monuments or similar permanent structures or facilities that will impair access to the water main, and further provided that Grantor shall not plant or maintain any trees or shrubs on or across said property, except where authorized in writing by the Association.

The Grantor does hereby and the Association, by accepting and recording this easement, mutually covenant and agree as follows:

1. *Costs of Construction and Maintenance.* Grantee shall bear and promptly pay all costs and expenses of construction and maintenance of the water line.
2. *Compliance with Laws and Rules.* Grantee shall at all times exercise its rights herein in accordance with the requirements (as from time to time amended) and

all applicable statutes, orders, rules and regulations of any public authority having jurisdiction.

3. *Work Standards.* All work to be performed by Grantee on Grantor's property shall be in accordance with the plans submitted to and approved by Grantor and shall be completed in a careful and workmanlike manner to Grantor's satisfaction, free of claims or liens. Upon completion of construction of the portion of the water line on Grantor's property, and upon completion of any subsequent work performed by Grantee on Grantor's property, Grantee shall remove all debris and restore the surface of the property as nearly as possible to the condition in which it was at the commencement of such work, and shall replace any property corner monuments, survey references or hubs which were disturbed or destroyed during construction.

4. *Release and Indemnity.* Grantee does hereby release, indemnify and promise to defend and save harmless Grantor from and against any and all liability, loss, damage, expense, actions and claims, including costs and reasonable attorneys' fees incurred by Grantor in defense thereof, asserted or arising directly or indirectly on account of or out of acts or omissions of Grantee and Grantee's servants, agents, employees and contractors in the exercise of the rights granted herein; PROVIDED, HOWEVER, this paragraph does not purport to indemnify Grantor against liability for damages arising out of bodily injury to persons or damage to property caused by or resulting from the sole negligence of Grantor or Grantor's agents or employees.

5. *Taxes.* Grantee shall promptly pay or reimburse Grantor for any taxes levied as a result of this Agreement or relating to Grantee's improvements constructed pursuant to this Agreement.

6. *Successors.* Subject to the preceding paragraph, the rights and obligations of the parties shall inure to the benefit of and be binding upon their respective successors and assigns.

This easement shall be a covenant running with the land and shall be binding on the successors, heirs, and assigns of both parties hereto.

DATED this _____ day of _____, 20____.

Corporation: _____

By: _____

Attest: _____

COUNTY OF SNOHOMISH)

On this day personally appeared to me, _____ and _____, known to me to be the President and Secretary respectively of _____, the corporation that executed the within and foregoing instrument and acknowledged the same to be the free act of the corporation for the purposes therein stated and on oath stated that such representatives are authorized to execute the said instrument.

Witness my hand and seal this _____ day of _____, 20____.

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

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**THREE LAKES WATER ASSOCIATION
SNOHOMISH COUNTY, WASHINGTON**

APPLICATION FOR WATER SYSTEM DEVELOPER EXTENSION

Revised: July 1, 2026 | Form A-6

1.

The undersigned applies to the Three Lakes Water Association ("Association"), Snohomish County, Washington, for permission to construct and install an extension of or modification to the Association's water system located in public rights-of-way under the Association's franchise, and/or on easements over private property to connect to the Association's water system, all of which are subject to the approval of the Association and applicable requirements of WAC 246-290, the North Snohomish County Coordinated Water System Plan, and the Association's Developer Extension Manual.

2.

The current non-refundable application review fee, as established by the Board of Trustees in the Association's Fee Schedule, is attached with this application. **Fees are non-refundable regardless of the outcome of the review.** Contact the Association's office to confirm the current fee amount prior to submission.

3.

The proposed extension will be installed in roads and/or easements and/or on other approved public rights-of-way and shall be for the use and benefit of the real property described as follows:

Common Street Address: _____

Legal Description of Property:

Tax Parcel Number(s): _____

4.

(a) Equivalent Residential Units (ERUs): State the total number of ERUs proposed for this development. ERUs are the basis for determining General Facility Charges (GFC), Special Facility Charges (SFC), Membership Share fees, and system capacity impacts.

Total Proposed ERUs: _____

(b) Description of Improvements: Describe the type of improvements planned for the above-described property (e.g., single family residences, other individual residential units, commercial usage), the proposed number of units, and any special water use considerations.

(c) Availability of Service Confirmation: Has the applicant requested or received written confirmation from the Association that adequate system capacity exists to serve the proposed development consistent with the Association's approved Water System Plan (WAC 246-290-100)?

Yes ____ No ____

If yes, attach copy of written confirmation. If no, applicant acknowledges that Association approval is contingent upon capacity verification.

(d) Attachments Required — Two (2) copies of each of the following shall be attached to this application:

- A preliminary plan setting forth the proposed development, including property boundary lines, type of development, location of existing/proposed roads, building and/or other important features, type of building construction, and the proposed number of units. A single PDF copy of the plans shall also be provided.
- The preliminary plan shall specifically identify any proposed or potential work (e.g., clearing, grading, public or private utility systems, onsite sewage disposal systems, drainage systems, construction access roads, permanent structures, etc.) within 20 feet of an existing Association water main or appurtenance.
- A final or preliminary plat map or property map of the property to be developed.
- A contour map of the area with a five-foot contour interval or less. Datum shall be based on the most recent U.S.G.S. with benchmark locations shown.
- Existing and proposed roadway profiles.
- Fire Flow documentation — see Section 6 below for details.
- A final record drawing AutoCAD file depicting the project as constructed (required prior to final acceptance by the Association).

5. Set forth the proposed construction schedule for the project:

Estimated Start of Construction: _____

Estimated Completion of Construction: _____

6.

Fire Flow Requirements. Provide the fire flow demand analysis for the proposed project as required by Snohomish County Fire Marshal and/or the applicable fire district. Attach the following:

- Documentation of required fire flow rate (gpm) and duration (minutes) as determined by Snohomish County or the applicable fire district.
- Confirmation from Snohomish County or the applicable fire district of the required fire flow for the proposed development type.
- Any hydrant location requirements or fire access road conditions imposed by the fire authority having jurisdiction.

Has fire flow documentation been obtained? Yes ____ No ____

If no, applicant acknowledges that fire flow documentation must be provided prior to final approval of this application.

7. Developer Contact Information:

Developer Name: _____

Company/Firm: _____

Mailing Address: _____

City / State / Zip: _____

Telephone Number: _____

Email Address: _____

8.

(a) Has an application been made to Snohomish County or any other municipality having jurisdiction over the project for a building permit, plat approval, short plat, rezone, or planned unit development? If yes, list the agency or agencies and type of action requested:

<u>Name of Agency</u>	<u>Type of Action</u>	<u>Date(s) Applied</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

(b) Has a SEPA environmental checklist, negative declaration, or Environmental Impact Statement (EIS) been prepared for this project? (Note: A SEPA determination is required as part of DOH project reporting under WAC 246-290-110.)

Yes ____ **No** ____

If yes, identify lead agency and attach a copy:

Lead Agency: _____

Date of SEPA Determination: _____

9.

Cross-Connection Control. The Association maintains a Cross-Connection Control Program in accordance with WAC 246-290-490. All service connections are subject to this program.

(a) Will the proposed development include any use, process, or equipment that may create a cross-connection hazard (e.g., irrigation systems, chemical injection, fire suppression with non-potable water, commercial/industrial processes)?

Yes ____ **No** ____

(b) If yes, the applicant acknowledges that premise isolation (backflow prevention assembly) will be required prior to service connection, as determined by the Association's Cross-Connection Control Specialist. Describe any known cross-connection hazards:

10.

Water Rights Acknowledgment (WAC 246-290-120(7)). The applicant acknowledges that if the proposed extension results in an increase in the Association's physical system capacity, the Association is required to submit a water right self-assessment to the Washington State Department of Health. The applicant agrees to cooperate with and provide any documentation necessary for the Association to complete this assessment.

11.

Developer Extension Agreement. Upon approval of this application, the Association will prepare a Developer Extension Agreement (DEA) that must be fully executed by the applicant prior to commencement of any construction. The DEA will incorporate, among other requirements, all conditions of approval, charge obligations (GFC, SFC, Membership Share), inspection rights, warranty provisions, and transfer of infrastructure to the Association upon acceptance.

12.

Construction and Inspection Requirements. The applicant acknowledges the following construction requirements in accordance with WAC 246-290-120:

- All construction plans and specifications must bear the seal, date, and signature of a professional engineer licensed in the State of Washington.
- The Association, or its designated engineer, reserves the right to inspect all construction activities at any time during the project.
- A construction completion report must be submitted to the Washington State Department of Health (via the Association) within sixty (60) days of project completion.
- Final as-built record drawings (AutoCAD file) must be submitted to the Association prior to final acceptance and activation of service connections.
- Department of Health construction document approval is in effect for two (2) years from date of approval. Extensions require a status report and written schedule.

13.

Within the Developer Extension Manual is a Developer Extension Checklist. Are there any items on the checklist with which you have a question or cannot comply? If yes, describe:

14.

Do you request that the Association's engineer prepare an estimate for the preparation of plans for the proposed project?

Yes ____ No ____

15. Provide the following project information:

Project Name: _____

Developer / Applicant: _____

Name: _____

Firm: _____

Address: _____

Telephone No.: _____

Engineer of Record:

Name: _____

Firm: _____

Address: _____

Telephone No.: _____

WA PE License No.: _____

Architect (if applicable):

Name: _____

Firm: _____

Address: _____

Telephone No.: _____

Primary Contact Person:

Name: _____

Address: _____

Telephone No.: _____

Email: _____

General Contractor (if known):

Name: _____

Address: _____

Telephone No.: _____

**WA Contractor License
No.:** _____

Subcontractor(s) (if known):

Name: _____

Address: _____

Telephone No.: _____

16.

Association Contact. Direct all questions and correspondence regarding this application to:

Three Lakes Water Association | General Manager

Mailing Address: PO Box [], Snohomish, WA 98290

Office Phone: (360) [] | Email: []

APPLICANT CERTIFICATION AND ACKNOWLEDGMENT

By signing below, the applicant certifies, represents, and agrees as follows:

- All information provided in this application and in all attachments is true, complete, and accurate to the best of the applicant's knowledge, and the applicant will promptly notify the Association in writing of any changes.
- The applicant understands that approval of this application does not guarantee water service, and that a Developer Extension Agreement must be fully executed prior to commencement of construction.
- The applicant agrees to comply with all requirements of the Three Lakes Water Association Developer Extension Manual, the Association's Rules and Regulations, WAC 246-290, applicable Snohomish County requirements, and all conditions of approval established by the Association or the Washington State Department of Health.
- The applicant acknowledges that the application review fee is non-refundable and that additional fees (GFC, SFC, Membership Share, and other charges) will be assessed in accordance with the Association's current fee schedule at the time charges are due.
- The applicant agrees to indemnify, defend, and hold harmless the Three Lakes Water Association, its Board of Trustees, officers, employees, and agents from and against any and all claims, damages, losses, costs, or expenses (including reasonable attorney's fees) arising out of or related to the proposed developer extension project, including but not limited to delays in approval, denial of service due to insufficient system capacity or water rights, or any failure of the applicant to comply with applicable regulatory requirements.
- The applicant acknowledges that construction documents submitted for approval by the Association will not be considered unless a current, approved Water System Plan adequately addressing the project is on file with the Washington State Department of Health (WAC 246-290-120(3)).

**Signature of Applicant / Authorized
Representative**

Date

Printed Name

Title

Company / Organization

FOR ASSOCIATION USE ONLY

Date Application Received:

Application Number:

Fee Amount Received: \$

Check / Receipt No.:

Received By:

Assigned to (Engineer):

Notes:

THREE LAKES WATER ASSOCIATION
Snohomish County, Washington

DEVELOPER EXTENSION AGREEMENT

DEA No.: _____

Date of Agreement: _____

The undersigned, as the Developer, hereby makes application to Three Lakes Water Association (the "Association") for permission to construct and connect an extension to the Association's existing water system as herein provided. If this application is accepted, the undersigned, in consideration of the mutual promises and covenants herein contained, agrees to the terms and conditions of this Developer Extension Agreement, the Association's conditions of approval for service, and as follows:

1. LOCATION OF WATER SYSTEM EXTENSION

The proposed water system extension (the "extension") will be installed in streets and other approved rights-of-way and/or easements and shall be for the use and benefit of the real property hereinafter described, which real property is owned by the Developer and/or other owners for whom the Developer is acting as agent. Any such owners have joined in this application and are designated on the signature page hereof as "Property Owner." A legal description of the real property including the Tax Lot Number; a common address, if applicable; and a Parcel Number is attached hereto.

2. DESCRIPTION OF EXTENSION

The proposed extension will consist of approximately _____ lineal feet of _____ inch water pipe and appurtenances and shall be installed in accordance with this Agreement and with the Plans and Specifications provided by the Association at the cost of the Developer as hereinafter provided, or in accordance with such Plans as Developer's engineer may prepare in conformity with Association specifications and approved by the Association.

3. FEES TO BE PAID BY THE DEVELOPER

All costs incurred by the Association in association with this Developer Extension shall be borne by the Developer.

The Developer/Owner shall deposit a fee (the "Developer Extension Fee") which shall be determined by the Association after review of application. The Developer Extension Fee shall include:

- An Administration Fee for general services provided by the Association for administration of the developer extension agreement, in the amount established by the current Association Fee Schedule as adopted by the Board of Trustees; and
- A construction observation fee of \$10.00 per lineal foot of the extension (length as indicated above), or such other rate as established by the Board of Trustees in the current Fee Schedule. The Board of Trustees reserves the right to modify this rate at any time by formal Board action, with the rate in effect at the time of Agreement execution governing this project.

The Developer Extension Fee shall be the minimum payment towards all costs to be incurred by the Association including but not limited to, application review, engineering, legal, financial, inspection or other services performed by or for the Association relating to this project. The

Developer shall be responsible for the payment of all actual costs incurred by the Association prior to Final Acceptance by the Association. The meaning of "Final Acceptance" as used in this Agreement is set forth in Section 6 herein.

Should actual expenses exceed the minimum initial payment, the difference shall be paid by the Developer to the Association. If the Association determines after the project is completed and accepted that expenses were less than the minimum initial payment, then the balance of the fee shall be refunded to the Developer.

The minimum initial payment does not include allowance for any unusual costs incurred by the Association for property surveys, hydraulic modeling, changes in design, necessary construction inspection, project coordination, errors or omissions by the Developer, its Contractor or Agents, unusual negotiations, legal expenses or any other project related costs. The Association will bill the Developer for any unusual costs which shall be paid promptly by the Developer. The Association may stop work until payment is made.

The Developer Extension Fee as described above shall be paid by the Developer to the Association as follows:

- The Developer shall pay one half of the Developer Extension Fee prior to preparation of the Agreement.
- The Developer shall pay the remaining one half of the Developer Extension Fee prior to construction of the water system extension.
- General Facilities Charges, Special Facility Charges, and Membership Shares shall be paid in full prior to construction of the water system extension, in amounts established by the current Association Fee Schedule.
- Final costs not covered by the initial Developer Extension Fee shall be paid before the water system extension is accepted and service is activated by the Association.

4. PREPARATION OF PLANS BY DEVELOPER'S ENGINEER

The Developer may have his/her own Washington-registered professional engineer prepare plans and specifications for water mains and related appurtenances, or the Developer may have the Association's engineer prepare said plans.

When prepared by the Developer's engineer, the Developer shall furnish two (2) copies of the proposed plans in a legible scale with a minimum horizontal scale of 1" = 50' or larger scale as appropriate for the specific project. Plans shall have contour intervals of 5 feet or less, and shall include proposed road profile sheets. Plans shall be submitted to the Association prior to the Association's ordering of engineering plan review from its engineer. Final plat map shall be furnished as soon as possible. The Developer shall also provide the description, location and elevation of all bench mark data available on the project site and this information, wherever possible, shall be indicated on the maps furnished by the Developer. The datum used shall be the Association's datum and not an assumed datum.

The Association's engineer will provide review comments for the plans and the Developer's engineer shall amend the plans as requested. Two (2) copies of the amended plans shall then be submitted to the Association engineer for review. When the plans have been determined to meet Association standards, a final set of reproducible plans shall be submitted to the Association for signature. These reproducible plans shall have an appropriate "Association Approval" title block as shown in the Sample Plan. The Association shall approve the plans by signature and will return the plans to the Developer with a request for additional plan sets, the amount of which will

be determined by the extent of the project. Upon receipt of the requested copies the Association shall submit the plans to the appropriate regulatory agencies for approval.

All construction plans and specifications must bear the seal, date, and signature of a professional engineer licensed in the State of Washington, in accordance with WAC 246-290-120.

Should the Developer's development proposal change from the proposal as presented in the Application for service, the Developer shall notify the Association of such changes. Following review of such changes and their potential impact on the existing water system, the Association reserves the right to impose additional or modified conditions for service and the extension improvements.

5. PERFORMANCE GUARANTEE

Developer shall furnish to the Association prior to the pre-construction conference a performance guarantee of a type and in a form as determined by the Association, in its sole discretion, in an amount equal to the Association engineer's estimated cost of the extension or contractor bid price. The performance guarantee shall require completion of all work within a period of eighteen (18) months from the date of the Agreement with the Association in accordance with the Agreement, the Plans and Specifications and other requirements of the Association.

The Association in its sole discretion may also require a payment bond of a type and in a form as determined by the Association requiring the payment by the Developer of all persons furnishing labor and materials in connection with the work performed under the Agreement, and shall hold the Association harmless from any claims therefrom. Any payment bond required by the Association shall be provided to the Association prior to the pre-construction conference. No third person or party shall have any rights under any performance or payment guarantee the Association may require from the Developer and such are provided entirely for the benefit of the Association and the Developer and their successors in interest. The Developer may choose to provide an Assignment of Savings as an alternative to the performance and/or payment bond.

6. FINAL ACCEPTANCE — CONDITIONS PRECEDENT

Compliance with all terms and conditions of this Agreement, the Plans and Specifications prepared hereunder and other Association requirements shall be a condition precedent to the Association's obligation to accept the Bill of Sale to the extension improvements and to the Association's agreement to maintain and operate the extension improvements and to provide water service to the real property described in this Agreement.

The Association shall not be required to allow any connection to the Association's water system of any portion of the real property described in this Agreement if there are any fees or costs unpaid to the Association under this Agreement or there are other fees or charges owing the Association by the Developer pursuant to other Association requirements.

The Association shall not be obligated to provide water service to the real property described in this Agreement if construction by third parties of facilities to be conveyed to the Association has not been completed and title accepted by the Association.

All work and restoration, including testing, within the Snohomish County right-of-way must be completed to the satisfaction, as evidenced by written approval, of the County, prior to acceptance of the extension improvements by the Association. Any outstanding fees or charges

levied by the County against the Association relative to the subject work shall be paid in full prior to acceptance of the extension improvements by the Association.

The Association will accept title to the extension improvements at such time as all work on the extension improvements has been completed, and the Association has made final inspection and given its approval to the extension improvements as having been completed in accordance with this Agreement, the Plans and Specifications and other requirements of the Association.

Such acceptance by the Association shall not relieve the Developer of the obligation to correct defects in labor and/or materials as herein provided and/or the obligations set forth in applicable paragraphs hereof. After acceptance of the extension improvements by the Association and the transferring of title to such extension improvements as set forth herein, the Developer shall furnish to the Association a maintenance bond (or use an Assignment of Savings as an alternative) which shall continue in force from the date of acceptance of said extension for a period of two years. The bond (or Assignment of Savings) shall be in a form as contained herein and shall require the Developer and/or the bonding company to correct the 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 to the Association. The maintenance bond (or Assignment of Savings) shall be in an amount equal to the following schedule:

Cost of Extension	Bond Amount
\$0.00 – \$10,000.00	\$3,000.00
\$10,001.00 – \$25,000.00	\$5,000.00
\$25,001.00 and above	\$10,000.00 minimum, or 10% of extension cost, whichever is greater

Prior to the release of such maintenance bond the Association shall be notified and shall inspect the extension improvements at the Developer's sole cost and expense to confirm that such improvements are free from defects in labor and materials.

7. PROCEDURE FOR ACCEPTANCE

An executed Bill of Sale of the extension improvements in a form approved by the Association and containing the warranties required by this Agreement shall be executed by the Developer and any additional owners and delivered to the Association. Prior to Final Acceptance, the Developer shall also deliver to the Association: (a) final as-built record drawings in AutoCAD (.dwg) format and PDF; (b) a construction completion report for submission to the Washington State Department of Health in accordance with WAC 246-290-120(5); (c) executed and recorded easements; (d) lien releases; and (e) the maintenance bond or Assignment of Savings.

8. WARRANTIES OF DEVELOPER

The Bill of Sale to be provided by the Developer to the Association shall contain the following warranties with the Association as beneficiary:

- (a) Developer is the owner of the extension improvements, the same are free and clear of all encumbrances and Developer has good right and authority to transfer title thereto to the Association and will defend the title of the Association against the claims of all third parties claiming to own the same or claiming any interest therein or encumbrance thereon; and
- (b) The extension improvements are in proper working condition, order and repair, and are adequate and fit for the intended purpose of use as a water system and as an integral part of the water system of the Association; and
- (c) For a period of two years from the date of Final Acceptance of the extension improvements by the Association, the extension improvements and all parts thereof shall remain in proper working condition, order and repair; and Developer shall repair or replace, at its expense, any work or material which may prove to be defective during the period of the warranty.

In addition, Developer shall obtain warranties and guaranties from its contractor and/or suppliers where such warranties or guaranties are specifically required in this Agreement. When corrections of defects occurring within the warranty period are made, Developer shall further warrant corrected work for one year after acceptance of the corrected work by the Association.

9. REIMBURSEMENT AGREEMENT EXECUTION AND RECORDING

Following completion of Project construction, execution and receipt of a bill of sale, maintenance bond, necessary easements and all other required documents, and payment in full of all fees and charges, and Final Acceptance of the Project extension by the Association, the parties will, if applicable, enter into a Reimbursement Agreement. The Association will record the Reimbursement Agreement with the county auditor at the Developer's expense.

10. EFFECT OF ACCEPTANCE

Acceptance by the Association shall cause the extension improvements to be subject to the control, use and operation of the Association and all regulations and conditions of service and service charges as the Association determines to be reasonable and proper.

11. PHASED CONSTRUCTION

The extension improvements may be constructed in phases with prior Association approval as conditioned and as specifically designated in the Plans and Specifications. Acceptance may also be on a phased basis when all requirements have been met. There will be no conditional acceptance or acceptance for use and operation.

12. CORRECTION OF DEFECTS OCCURRING WITHIN WARRANTY PERIOD

The Association shall perform all emergency repairs. If damage was caused because of faulty workmanship, materials, or design, then the Association shall be reimbursed for its efforts. The Developer shall be responsible for any expenses incurred by the Association resulting from defects in the Developer's work, including actual damages, costs of materials and labor expended by the Association in making repairs and the cost of engineering, inspection and supervision by the Association or the Association's engineer. If the emergency did not relate to the workmanship, materials, or design, then the Association shall bear the costs of repair.

If the repair or maintenance is not of an emergency nature but still is the result of faulty workmanship, materials, or design, then the Association shall give the Developer a seven (7) day written notice to repair the damage which will be repaired by the Developer at their expense. If,

after seven (7) days, the repairs are not done or efforts to rectify the situation are not agreed to, the Association shall then do the work at the expense of the Developer.

If it is routine maintenance or repair not related to the workmanship, materials, or design of the water systems, then the Association shall perform the work at its own expense.

13. LIMITATION OF PERIOD OF ACCEPTANCE

The extension improvements shall be completed and accepted within eighteen (18) months of the date of this Agreement. In the event completion is not achieved within the eighteen (18) month period, this Agreement and all of the Developer's rights herein shall terminate, unless the Board of Trustees grants a written extension of time upon good cause shown by the Developer. Any request for extension of time must be submitted in writing to the Association at least thirty (30) days prior to the expiration of the Agreement period.

In the event the Agreement terminates without extension, the Developer shall be required to make a new application for a developer extension agreement to the Association. Any such new agreement entered into between the Association and the Developer pursuant to a new application shall be subject to any new or amended resolutions, fee schedules, or policies which have taken effect since the execution of the terminated agreement.

14. WARRANTY OF AUTHORITY

The Developer and any additional owners warrant that they are the owners of the real property described in this Agreement. Developer shall also, upon request, provide a title report to the Association establishing that the parties executing this Agreement are the owners of all the real property to be served by the extension improvements described herein.

15. RATES AND CHARGES

The real property described in this Agreement shall be subject to all rates and charges established by the Association's current Fee Schedule, as adopted and amended from time to time by the Board of Trustees. All fees and charges, including General Facility Charges (GFC), Special Facility Charges (SFC), and Membership Shares, shall be assessed at the rates in effect at the time payment is due.

16. SUBLETTING AND SUBCONTRACTING

Developer is fully responsible for the acts and omissions of its contractors and persons employed, directly or indirectly by its contractors, as well as the acts and omissions of persons directly or indirectly employed or retained by the Developer.

17. NO ASSIGNMENT WITHOUT ASSOCIATION APPROVAL

The Developer's rights and responsibilities arising out of this Agreement are not assignable unless Association written consent is obtained, as conditioned by the Association, prior to any proposed assignment. Written documents as required by the Association of any Association-approved assignment shall be filed with the Association by the Developer at the time of any assignment.

18. WATER RIGHTS ACKNOWLEDGMENT (WAC 246-290-120(7))

The Developer acknowledges that if the proposed extension results in an increase in the Association's physical system capacity, the Association is required to submit a water right self-assessment to the Washington State Department of Health. The Developer agrees to cooperate with and provide any documentation necessary for the Association to complete this assessment. Any follow-up action required by the Department of Health shall be completed prior to Final Acceptance of the extension improvements.

19. TECHNICAL DETAILS AND SPECIFICATIONS

Refer to Section B and Section C of the Developer Extension Manual, which are attached hereto and made a part of this Agreement for design, plan preparation and construction standards, and standard details and technical specifications. The Developer acknowledges receipt of the current Developer Extension Manual and agrees to be bound by all requirements contained therein.

20. GOVERNING LAW / FORUM

This 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, including WAC 246-290 and applicable provisions of Title 70A RCW. Any suit to enforce the provisions of this Agreement shall be brought in the Snohomish County Superior Court.

21. NO THIRD PERSON SHALL HAVE ANY RIGHTS HEREUNDER

This Agreement is made entirely for the benefit of the Association and the Developer and their 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.

ACCEPTANCE OF THIS APPLICATION BY THE ASSOCIATION CONSTITUTES A CONTRACT WITH THE APPLICANT, THE TERMS OF WHICH ARE EACH PARAGRAPH OF THIS AGREEMENT, THE ASSOCIATION'S DESIGN, PLAN PREPARATION AND CONSTRUCTION STANDARDS AND STANDARD DETAILS AND TECHNICAL SPECIFICATIONS, THE EXTENSION IMPROVEMENT PLANS AND DESIGN APPROVED BY THE ASSOCIATION BOARD OF TRUSTEES, AND ALL OTHER APPLICABLE ASSOCIATION REGULATIONS AND WASHINGTON LAW.

DEVELOPER SIGNATURE PAGE

DEVELOPER: _____, a ____ corporation ____ partnership
____ joint venture ____ limited liability company ____ sole proprietorship

NOTE:

- If the Developer is a corporation, this Agreement must be executed by its duly authorized representative.
- If the Developer is a partnership, at least one of the general partners must sign this Agreement and indicate his/her capacity as such.
- If the Developer is a limited liability company, this Agreement must be executed by its duly authorized manager.

Signature

Date

Printed Name

Title / Capacity

Company / Entity Name:

Address:

City / State / Zip:

Telephone:

Email:

STATE OF WASHINGTON)

) ss:

COUNTY OF _____)

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

DATED: _____

Signature of Notary Public

Commission Expires

Print Name: _____

Notary Public in and for the State of Washington.

PROPERTY OWNER SIGNATURE PAGE

(Complete if Property Owner is different from Developer)

PROPERTY OWNER: _____, a _____ corporation _____
partnership _____ joint venture _____ limited liability company _____ sole proprietorship _____ individual

Signature

Date

Printed Name

Title / Capacity

**Company / Entity Name (if
applicable):**

Address:

City / State / Zip:

STATE OF WASHINGTON)

) ss:

COUNTY OF _____)

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

DATED: _____

Signature of Notary Public

Commission Expires

Print Name: _____

Notary Public in and for the State of Washington.

ASSOCIATION ACCEPTANCE

THE FOREGOING APPLICATION OF _____ accepted this
____ day of _____, 20____.

THREE LAKES WATER ASSOCIATION

Authorized Signature	Date
_____	_____

Printed Name	Title
_____	_____

CONDITIONS OF APPROVAL FOR SERVICE:

The following conditions of service have been determined by the Association and are incorporated into this Agreement:

TECHNICAL SPECIFICATIONS

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STANDARD DETAILS

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MATERIALS

M-1 GENERAL

The Contractors and Developer shall furnish all materials. All construction of water mains and related appurtenances shall conform to these Standards, applicable American Water Works Association (AWWA) Specifications. The general requirements of AWWA Standard Specifications shall apply unless they are inconsistent with any of the provisions of this particular section. Should inconsistencies occur, these Standards shall have precedence.

M-2 DUCTILE-IRON PIPE AND FITTINGS

Ductile iron pipe shall conform to ANSI/AWWA C151/A21.51, standard thickness, Class 52. The pipe shall be lined with cement mortar conforming to ANSI/AWWA C104/A21.4 and coated with an asphaltic coating. Each length shall be plainly marked with the manufacturer's identification, year cast, class of pipe, and weight. Type of joint shall be rubber gasket, push-on type or mechanical joint conforming to ANSI/AWWA C111/A21.11.

All fittings shall be short-bodied, compact ductile iron with a minimum rating of 250 psi working pressure conforming to ANSI/AWWA C153/A21.53 except flanged fittings shall conform to ANSI/AWWA C110/A21.10. All fittings shall have a cement mortar lining conforming to ANSI/AWWA C104/A21.4. The fittings shall be furnished with flanged ends or mechanical joints as shown.

Restrained joints shall be made up with push-on joint pipe and fittings. The push-on joint restraint device shall be ductile iron with a 350 psi working pressure and shall be U.S. Pipe TR FLEX, Griffin Pipe Products Company SNAP-LOK, Pacific States Lock Joint if Pacific States pipe is allowed, or MEGALUG, or approved equal. Restrained joints with adequate restraint development length shall be utilized where directed by the Association or where thrust blocking and alternative means of pipe restraint may not be adequate for existing trench conditions. All dead-end extensions, permanent or temporary, shall be restrained full length unless the Developer's engineer provides engineering calculations demonstrating adequacy of proposed alternative means of pipe restraint.

Alternatively, except where specifically required above, pipe joints may be restrained using shackle rods and pipe clamps. All shackle rods and associated materials shall be COR-TEN or corrosion resistant equal. Pipe clamps shall be "Star" or approved equal.

Solid sleeve pipe couplings shall be long pattern sleeves constructed of ductile iron with a minimum pressure rating of 250 psi working pressure.

Flexible transition couplings shall be Romac Industries, or approved equal.

Pipe which will not be buried, or in a vault, shall be insulated. Insulation shall be 2-inch thickness of fiberglass pipe insulation, with 0.16 stucco embossed sheet aluminum weather cover with a self-seal lap and #8 x 1/2-inch stainless steel screws on 6-inch centers. Exposed flanges shall be insulated with a removable insulation pad fabricated with 2-inch thermal insulating wool (TIW) fiberglass insulation inside of silicone-impregnated cloth and secured with lacing hooks. Submittals are required for the material intended to be used.

M-3 FLEXIBLE COUPLINGS

Flexible couplings shall be use for connections between plain end pipe of same or different material. Sleeves shall be gray iron ASTM A126 Class B or ductile iron ASTM A536. Ends shall have a smooth inside taper for uniform gasket seating.

Followers shall be ductile iron ASTM A536 and gaskets shall be Grade 30 specially compounded rubber of all new materials. Bolts and nuts shall be high strength low alloy steel with heavy, semi-finished hexagon nuts conforming to AWWA C111 (ANSI-A21.11).

M-4 LOCATOR TAPE AND TRACER WIRE

Detectable locator tape shall consist of a minimum 4.0 mil thickness, inert polyethylene plastic which is impervious to all known alkalis, acids, chemical reagents and solvents likely to be encountered in the soil, with a minimum 1/3-mil metallic foil. The tape shall be at least three inches (3") in width and shall be solid blue with identifying print in black letters. The tape shall have printed thereon the following or similar as commercially available:

"CAUTION - BURIED WATERLINE BELOW"

The identifying lettering shall be minimum 1" high and repeated continuously the full length of the tap. In no instance shall the spacing of the individual segment of the identifying message be greater than eighteen inches (18").

Detectable locator tape shall be installed 24 inches above the pipe it identifies. The backfill shall be sufficiently leveled so that the tape will be installed on a flat surface. The tape shall be centered in the trench and laid flat with printed side up. Caution shall be exercised to avoid displacement of tape and to ensure its integrity. The remainder of the trench is then backfilled in accordance with applicable specifications.

All non-metallic water main and water services shall have tracer wire installed above the pipe. Tracer wire shall consist of jacketed 12 gauge solid copper wire. Tracer wire shall be continuous from valve box to valve box and along water services from the main to the meter box. Enough slack shall be provided in each valve box or meter box to allow the wire to be extended above the ground surface. All wires shall be tested for continuity following installation and backfill.

M-5 GATE VALVES

A. Through 8-Inch Diameter

Gate valves shall conform to AWWA C509. The valves conforming to AWWA C509 shall be ductile iron-bodied, resilient-seated, nonrising stem with flanged ends or mechanical joint as shown. The operating stem shall be bronze with O-ring stem seals. The valve shall open to the left and be equipped with a 2-inch-square operating nut. Valves installed above ground shall be equipped with a hand-wheel. The resilient wedge assembly shall be fully encapsulated by the approved resilient material. Resilient seated gate valves shall be Kennedy, M&H, Mueller, or approved equal.

B. 10-Inch and 12-Inch Diameters

Gate valves shall conform to AWWA C509. The valves shall be ductile iron-bodied, resilient-seated, nonrising stem with flanged ends or mechanical joint as shown. The operating stem shall be bronze with O-ring stem seals. The valve shall open to the left and be equipped with a 2-inch-square operating nut. Valves installed above ground shall be equipped with a hand-wheel. The resilient wedge assembly shall be fully encapsulated by the approved resilient material. Resilient seated gate valves shall be Kennedy, M&H, Mueller, or approved equal.

M-6 BUTTERFLY VALVES

All valves larger than 12 inches shall be butterfly valves.

Butterfly valves shall conform to AWWA C-504. The valves shall be short-body type, Class 150B, suitable for direct burial installation. The valves shall have no moving bearing or contact surfaces of iron in contact with iron. Contact surfaces shall be machined and finished in the best workmanlike manner, and all wearing surfaces shall be easily renewable.

The valve operators shall be manual, fully enclosed, and suitable for buried service. The valve shall open to the left and be equipped with a two-inch-square operating nut.

M-7 TAPPING TEE AND TAPPING VALVE

Tapping Tee shall be furnished with flanged inlet end connections having a machined projection on the flanges to mate with a machined recess on the outlet flanges of the tapping sleeves and crosses. Outlet ends shall conform in dimensions to the AWWA Standards for hub or mechanical joint connections, except that the outside of the hub shall have a large flange for attaching a drilling machine.

Seat opening of the valves shall be larger than normal size to permit full diameter cuts. Tapping sleeves shall be ductile iron, stainless steel, epoxy-coated steel, or other approved materials.

M-8 VALVE BOXES

The valve boxes shall be adjustable two-piece cast-iron valve box of 5 inches minimum inside diameter. The top section shall be 18 inches minimum length with a valve cover marked "WATER" as manufactured by Star Pipe Products, Series 940, or equal. Lids shall be deep skirted, and tabs pointed along main.

M-9 VALVE STEM EXTENSIONS

Provide stem extension with standard operating nut and self-centering rockplate support for all valves with operating nut more than 4 feet below grade to raise operating nut to within 36 inches of the ground surface.

M-10 VALVE MARKER POSTS

The marker posts shall be concrete with 4 inches minimum square section, 42 inches long, and shall be reinforced with at least one #3 bar of reinforcing steel. Paint exposed portion of the marker posts with two (2) coats of concrete paint in a color selected by the Association. Stencil the size of the valve and the distance in feet and inches to the valve on the face of the post, using black paint and a stencil which will produce letters 2 inches high.

M-11 FIRE HYDRANTS

Fire hydrants shall be a breakaway type and shall conform to AWWA C502. The fire hydrants shall be furnished with a 6-inch mechanical joint inlet connection, 1-1/4-inch pentagon operating nut opening to the left, positive acting drain valve, and shall include extensions, if necessary, for the depth of cover on the main at each installation.

Hydrants shall have a minimum main valve opening of 5-1/4 inches, two 2-1/2-inch hose nozzles and one 4 1/2 inch pumper nozzle with threads in accordance with the Association Standards, and with a 4"x4-1/2" female Storz adapter on the pumper nozzle.

All nozzles shall be fitted with cast iron threaded caps with operating nuts of the same design and proportions as the hydrant stem nuts. Caps shall be threaded to fit the corresponding nozzles and shall be fitted with suitable neoprene gaskets for positive water tightness under test pressures.

Hydrants shall be painted with two coats of paint to match the Association's existing hydrants or current color used by Association. The Developer shall furnish the location of the nearest point at which replacement working parts are stocked. Hydrants shall be as manufactured by American Darling or approved equal.

M-12 FIRE HYDRANT GUARD POSTS

The guard posts shall be precast reinforced concrete 9 inches in diameter by six feet long constructed with concrete having minimum strength of 3500 psi. Reinforcing shall consist of minimum of five No. 3 deformed steel bars.

M-13 PAINT FOR FIRE HYDRANT AND POSTS

The following paints shall be used for the fire hydrants, valve lids, and posts.

<u>Item</u>	<u>Paint</u>	<u>Color</u>
Hydrant and Valve Lids and B.O. Hydrant	Preservative Paint Luxlite Industrial & Equip.	Safety Yellow (Hydrant Barrel) #655 Per Color/Flow Table (Hydrant Bonnets per Snohomish County Code 30.53A.520(13))
	<u>Enamel</u> <u>Item</u>	<u>Paint</u> <u>Color</u>
Valve Marker Hydrant Guard Posts	Preservative Paint Luxlite Industrial & Equip. Enamel	Safety Yellow #655
2" Notations for Hydrants and Valves and all Marker Posts	2" die-cut adhesive numbers and letters by EMED Co., P.O. Box 369, Buffalo, NY 14240-0369 (Ph. 1-800-442-3633)	

(item No. DKVL-Z, color: black)

M-14 AIR AND VACUUM RELIEF ASSEMBLIES

The materials for the air and vacuum relief assemblies shall be as shown on the standard detail. Air relief valves shall be designed to operate with potable water under pressure to allow entrapped air to escape from the pipeline and to allow introduction of air into the line when draining. Body and cover shall be cast iron conforming to ASTM A48, Class 30. Floats shall be stainless steel conforming to ASTM A240 and designed to withstand 1,000 psi pressure. Seats shall be Buna N rubber and internal parts shall be stainless steel or bronze.

Valves shall be designed to withstand 300 psi pressure with normal operating pressure under 100 psi and shall be manufactured by APCO or equivalent.

Vaults for air and vacuum relief valves shall be precast concrete meter box or utility vault with traffic rated cover as indicated in the standard detail.

M-15 SAMPLING STATION

The materials for the sampling stations shall be as shown on the standard detail. Sampling stations shall be provided to allow the Association to take water samples at specific locations throughout the system. Sample stations shall be designed to operate with potable water under pressure.

Sample stations shall be constructed using Kupferle Foundry Company Sample Station Eclipse Model #88, with poured concrete footing, per the Standard Detail.

M-16 BLOW-OFF ASSEMBLY

The materials for the blow-off assembly shall be as shown on the standard detail. Assemblies shall have two and one-half inch (2-1/2") NST nozzle. The hydrant shall have full drainage capabilities to prevent freezing after flushing. All moving parts shall be enclosed and made from high quality brass. The model used shall be suitable for underground installation.

M-17 CUSTOMER SERVICE CONNECTION

The materials for service connection installations shall be as shown on the standard details and as further described herein.

WATER SERVICE PIPE:

- A. Compression Couplings:

Compression couplings for use in connecting plain end water service pipes shall be applicable for the type of pipe being coupled. Compression couplings shall have armored gaskets when similar metal pipes are being joined.

B. Insulating Couplings:

Insulating couplings shall be required at any point of connection of two dissimilar metallic pipes (i.e., copper to galvanized iron or steel).

WATER SERVICE MATERIALS

A. Saddles:

1. All other Mains: Saddles shall be minimum 1" bronze or ductile iron, suitable for installation on the type and class of pipe being used. Bands shall be flattened and properly formed to fit the outside diameter of the pipe. Bands, bolts, and nuts shall be stainless steel.
2. Dual bands shall be used on all taps.

B. Corporation Stops:

1. Conform to AWWA C800.
2. Corporation stops for use with saddles shall be minimum 1" bronze alloy with inlet I.P. standard thread and outlet thread compatible with connection piping with no special adapters.
3. Corporation stops shall be Mueller or approved equal.

C. Meter Setter

Meter setters shall be Mueller or approved equal with check valve included.

D. Water Meters

All meters shall be supplied by the Association.

M-18 FOUNDATION GRAVEL

At least two basic trench-bottom conditions commonly cause problems: (1) where silty soils or fine sandy soils are encountered, they will usually flow in the presence of a stream of water, and (2) where clays, peats, or other soft materials are encountered, they may become saturated with water, but do not usually break down into fine particles and flow as do the silts or sands mentioned above.

Where Condition (1) is encountered, the following foundation gravel has been found by experience usually to be adequate. Foundation gravel shall consist of clean bank run sand and gravel, free from dirt, roots, topsoil, and debris and contain not less than 35% retained on a 1/4-inch sieve and with all stones larger than two (2) inches removed. Such gravel must only be used in a dry-trench bottom, free from quicksand or running sand.

Where Condition (2) is encountered, Class A or Class B foundation gravel listed below, has been found by experience usually to be adequate. Other material may be found to be more desirable.

<u>Sieve Size</u> <u>Square Opening</u>	<u>Class A</u> <u>% Passing</u>	<u>Class B</u> <u>% Passing</u>
2-1/2"	98 - 100	95 - 100
2"	92 - 100	75 - 100
1-1/2"	72 - 87	30 - 60
1-1/4"	58 - 75	0 - 15
3/4"	27 - 47	0 - 1
3/8"	3 - 14	---
No. 4	0 - 1	---

Foundation gravel shall contain no pieces larger than five (5) inches, measured along the line of greatest dimension.

M-19 GRAVEL BACKFILL

The gravel backfill shall consist of naturally occurring or screened gravel. It shall be essentially free from wood, roots, bark, or other extraneous or objectionable material. It shall have such characteristics of size and shape that it will compact readily to a firm, stable course.

The gravel backfill shall have such characteristics of size and shape that it will compact readily and shall meet the following test requirements:

Stabilometer "R" Value	72 min.
Swell Pressure	0.3 psi max.
Maximum Particle Size	3 in.
Passing 1/4" Sq. Opening	25% min.
Passing No. 200 Sieve	10% max.
All percentages are by weight	

Dust Ratio: $\frac{\% \text{ Passing No. 200 Sieve}}{\% \text{ Passing No. 40 Sieve}}$	2/3 max.
Sand Equivalent (ASTM D2419)	30 min.

Gravel backfill material retained on a 1/4-inch-square sieve shall contain not more than 0.20 percent by weight of wood waste.

M-20 GRAVEL BEDDING MATERIAL

Bedding for Rigid Conduits: Bedding material shall consist of clean, granular, well graded screened or crushed sand and gravel material conforming to the following gradation when tested in accordance with ASTM D422:

<u>Sieve Size</u> <u>Square Opening</u>	<u>Percent Passing</u> <u>By Weight</u>
3/4 inch	100
3/8 inch	95 - 100
No. 8	0 - 10
No. 200	0 - 3

Bedding for Flexible Conduits: Bedding material shall be a clean screened or crushed sand/gravel mixture free from organic matter and conforming to the following gradation when tested in accordance with ASTM D422:

<u>Sieve Size</u> <u>Square Opening</u>	<u>Percent Passing</u> <u>By Weight</u>
3/4 inch	100
3/8 inch	70 - 100
No. 4	55 - 100
No. 10	35 - 95
No. 20	20 - 80
No. 40	10 - 55
No. 100	0 - 10

Minimum sand equivalent shall be 35 in accordance with ASTM D2419.

M-21 NATIVE MATERIAL

Native material shall be selected soil free from roots or other organic material, debris, or frozen material. Material shall be maximum size of 6 inches with no stone larger than 4 inches in the upper 6 inches of fill. Material shall be free of excess moisture and shall be processed to uniform measure and texture necessary to obtain specified density.

Native material used for trench backfill shall meet compaction requirements as specified. Native material which does not meet compaction requirements will be removed and replaced with gravel backfill.

M-22 CRUSHED SURFACING

Crushed surfacing shall be manufactured from ledge rock, talus, or gravel. The materials shall be uniform in quality and substantially free from wood, roots, bark, and other extraneous material and shall meet the following test requirements:

Los Angeles Wear, 500 Rev.	35% Max.
Degradation Factor - Top Course	25% Min.

Crushed surfacing of the various classes shall meet the following requirements for grading and quality:

	<u>Top Course</u>
% passing 5/8-inch-square sieve	100
% passing 1/4-inch-square sieve	55 to 75
% passing No. 40 sieve	8 to 24
% passing No. 200 sieve	10.0 max.
% fracture	75 min.
All percentages are by weight.	
Sand equivalent	40 min.

The fracture requirement shall be at least one mechanically fractured face and will apply to material retained on each sieve size No. 10 and above if that sieve retains more than 5 percent of the total sample.

The portion of crushed surfacing retained on a 1/4-inch-square sieve shall not contain more than 0.15 percent wood waste.

M-23 CONTROLLED DENSITY FILL (CDF)

CDF shall be a mixture of Portland cement, fly ash, aggregates, water, and admixtures proportioned to provide a non-segregating, self-consolidating and free-flowing material which will result in a hardened, dense, non-settling and excavatable fill. CDF shall be used as fill above utilities wherever non-settling backfill is required or as a hydraulic barrier between coarse and fine grained soil.

CDF shall be a mixture of Portland cement, fly ash, aggregates, water, and admixtures which have been batched and mixed in accordance with Section 6-02.3 of the WSDOT/APWA Specifications. Materials are as follows:.

1. Portland Cement	AASHTO M 85 OR WSDOT/APWA 9-01
2. Fly Ash	Class F
3. Aggregates	WSDOT/APWA 9-03.1(2)B
4. Water	WSDOT/APWA 9-25
5. Admixtures	WSDOT/APWA 9-23.6

CDF shall be used in the following proportions for one cubic yard. Batch weights may vary depending on specific weights of aggregates.

•	Max. gallons of Mixing Water per cubic yard	50
•	Lbs. of Cement per cubic yard	50
•	Lbs. of Fly Ash per cubic yard	250
•	Lbs. of Dry Aggregate per cubic yard, Class 1 or 2 Sand as per WSDOT/APWA 9-03.1(2)B	3200

CDF shall be batched to provide a flowing, non-segregating mix, with a slump between 6" to 8".

M-24 ASPHALT CONCRETE

Asphalt concrete shall conform to the requirements of the local agency having jurisdiction. At a minimum, asphalt concrete shall be Class B asphalt concrete and shall conform to the edition of WSDOT Standard Specifications for Road, Bridge, and Municipal Construction adopted by Snohomish County. The paving asphalt shall be viscosity grade AR 4000W.

Asphalt sealer for tacking joints shall be SS-1 emulsified asphalt.

Asphalt sealer for sealing joints shall be AR-4000.

M-25 SEED

The seed mixture for restoration of unimproved areas shall have the following composition, proportion and quality:

<u>Kind and Variety of Seed in Mixture</u>	<u>% by Weight</u>	<u>Min. % of Pure Seed</u>	<u>Min. % of Germination</u>
Colonial Bent Grass: (Highland or Astoria)	10%	9.8%	85%
Creeping Red Fescue: (Illahee Rainier or Pennlawn)	40%	39.2%	90%
Perennial Rye Grass:	30%	29.4%	90%
White Clover: (Preinoculated)	20%	19.6%	90%

Maximum Percentage of Weed Seed: 1.0%

Maximum Inert and Other Crops: 1.0%

M-26 FERTILIZER

The fertilizer shall be a standard commercial grade of inorganic fertilizer with 10/20/20 mix of nitrate, phosphate and potash.

M-27 MULCH

Wood cellulose fiber mulch shall be specially processed wood fiber containing no growth or germination inhibiting factors and shall be dyed a suitable color to facilitate inspection of the placement of the material. It shall be manufactured in

such a manner that after addition and agitation in slurry tanks with water, the fibers in the material will become uniformly suspended to form a homogenous slurry. When hydraulically sprayed on the ground, the material shall allow the absorption and percolation of moisture.

M-28 PRESSURE REDUCING STATION

A. PRECAST CONCRETE UTILITY VAULT

The vault shall be constructed of reinforced concrete with a minimum strength of 4500 psi at 28 days. The vault including joints and pipe penetrations shall be totally watertight and shall show no evidence of seepage or damp spots. Interior walls and ceiling finish of the concrete shall be smooth, hard and uniform texture. Finish shall be removed and ground smooth. Tie holes and defects larger than 1/8-inch shall be neatly patched with mortar. Floor finish shall be hand steel trowel and lightly brushed to produce a nonslip texture. Floor shall be sloped to drain to the sump. All walls, floor, ceiling, hatch and joints shall be water-tight and not leak. Ceiling and walls shall be painted as described in FINISHES.

The vault shall be furnished with an aluminum ladder. All aluminum and dissimilar metals shall be insulated from each other.

The vault shall be furnished with a continuous sump. The drain from the sump shall be removable, and installed to be one inch (1") higher than the floor of the sump to minimize silting of the drain line.

Water-activated sump drainage equipment shall be equipped with backflow prevention equipment per Association requirements.

The precast vault shall be Utility Vault Co. or approved equal.

B. PIPE AND FITTINGS

The pipe and fittings shall be as specified in Ductile Iron Pipe and Fittings, except flanged pipe shall be ductile iron ANSI/AWWA C151/A21.51, standard thickness, Class 53.

Adjustable flanges to adapt to plain end pipe shall be Series 400 manufactured by Uni-Flange Corporation, or approved equal. Adjustable flanges shall only be allowed inside of the station.

Pipe supports shall be adjustable saddle supports with cast iron saddle, locknut nipple and cast-iron reducer. The pipe hangers shall include an

adjustable wrought iron ring and hanging rods. The pipe supports and pipe hanger assemblies shall be Stand-on or approved equal.

C. PVC DRAIN PIPE

Polyvinyl chloride (PVC) drain pipe shall be in accordance with WSDOT Section 9-05.1(5). Pipe shall be 4 inches in diameter. A metallic location "tracer" wire shall be wrapped around the drain pipe. Connect drain line to storm pipe or drainage ditch in a manner which is protected from damage and which will not back up into the vault when the pipe/ditch is full. Install flapper-type check valve, if necessary.

D. VALVES

The gate valves shall be as specified in Gate Valves, with hand wheels and nonrising stems.

The pressure-reducing valves shall maintain constant downstream pressure regardless of varying inlet pressure. The valves shall be a hydraulically operated, diaphragm-actuated globe valve. The main body shall be cast iron with stainless steel seats, stainless steel trim and the pilot control system shall be cast bronze with stainless steel trim. The valves shall include position indicator, flow clean strainer, and shut-off cocks.

The pressure-reducing valves shall be manufactured by Cla-Val Co. or approved equal.

The pressure relief valve shall maintain constant upstream pressure by bypassing or relieving excess pressure, and shall maintain close pressure limits without causing surges. The valve shall be a hydraulically operated, diaphragm-actuated angle globe valve. The main body shall be cast iron with stainless steel seats, stainless steel trim, and the pilot control system shall be cast bronze with stainless steel trim. Pilot control piping shall face away from the wall and be easily accessible for maintenance and repair. The valves shall be flanged and include position indicator, shut-off cocks and flow control.

The pressure relief valve shall be manufactured by Cla-Val Co, or approved equal.

E. VALVE MARKER POSTS

Valve marker posts, as described in item M-12 of MATERIALS, shall be installed for all pressure-reducing valve stations, and labeled as "PRV" and the station number, using 2-inch letters.

F. ACCESS DOORS

Door leaf shall be aluminum diamond pattern to withstand H-20 wheel loadings. Channel frame shall be 1/4-inch aluminum with an anchor flanged around the perimeter. Doors shall be equipped with stainless steel hinges, pins, spring operators for easy operation and protection against slamming, and an automatic hold-open arm with release handle. A snap lock with removable handle shall be provided. A 1-1/2-inch drainage coupling shall be located in the front right corner of the channel frame. Drainage shall be directed to the inside of the structure through 1-1/2-inch pipe or as directed by the Engineer. Hardware shall be stainless steel and mill finish shall be bituminous coating applied to the exterior of the frame. Manufacturer shall guarantee against defects in material or workmanship for a period of five years. Access door shall be Type J as manufactured by The Bilco Co., or approved equal.

G. DEHUMIDIFIER

The dehumidifier shall be a EBAC hot gas exchange dehumidifier (model CD30), appropriately sized and wall-mounted in the station a minimum of 6 feet from the sump. Power shall be from available electrical outlet, installed to serve the unit. A drain line shall be installed from the dehumidifier to the sump.

H. ELECTRICAL (GENERAL)

All electrical work shall conform to the latest edition of the National Electrical Code.

All electrical outlets shall have ground fault interrupt protection.

I. LIGHTS

Ceiling lights shall be 4' FRS enclosed and gasketed nonmetallic florescent luminaires with clear molded acrylic plastic lens, suitable for wet and damp locations. Lamps shall be cool white fluorescent lamps by same manufacturer. Ballasts shall be cold weather, high-power factor-type in accordance with ANSI C82.1. Lights shall automatically come on when

access door is opened, and shall include a manual override to allow operation with door closed.

J. CONDUITS (ELECTRICAL/TELEPHONE)

All conduits shall be noncorrosive and shall be sealed water-tight and protected from moisture. A pull cord shall be installed of permanent material and sufficient strength to pull any cable through the conduit. Conduits shall be oversized to accommodate future wires, cables or condition.

K. GAUGES

The pressure gauges shall be as manufactured by 3D Instruments, Model #25502-XX-B11, 2-1/2-inch diameter, with brass socket and oil filled. The pressure range shall be as shown on the Drawings. The pressure gauges shall be furnished with isolation cocks, to allow for replacement or removal, a pressure equalizing snubber, and stainless steel piping. (Gauges are not to be installed prior to pressure testing.)

L. AIR VENT

All stations shall be vented to the atmosphere by a protected pipe sufficient to allow air movement, and screened against birds, bugs and foreign objects.

M. FINISHES

Surface	Finish	Preparation	Color
Interior walls and ceiling	One coat TNEMEC Series 66, Hi-Build Epoxoline, 4 to 6 mils dry film thickness.	Concrete cured for 28 days, clean and dry with no contaminants.	White (AA90)
	and		
	One coat TNEMEC Series 73, Endura-Shield III, 3-5 mils dry film thickness.	Clean and dry	White (AA90)
Exposed water main	Two coats TNEMEC Series 66, Hi-Build	Equal to commercial	Safety blue

and valves
(excluding
pilot controls
on control
valves)

Epoxoline, 4-6 mils dry film
thickness per coat.

blast cleaning
(SP6)

Alternatives may be allowed with prior approval.

N. MISCELLANEOUS

The Association retains the right to require such other safety or functional items as may be necessary to provide for the proper operation of the station.

O. OPERATION AND MAINTENANCE MANUALS

The Developer shall furnish three bound copies of operation and maintenance data for the pressure relief and pressure reducing valves.

The data shall be bound in heavy, permanent type binders and shall be indexed so that information on any piece of equipment can be easily found.

Operation and Maintenance manuals shall include:

1. Assembly and disassembly instructions.
2. Parts list with diagrams and cut-away sections.
3. Operating and maintenance instructions for equipment along with recommendations for preventive maintenance.
4. Equipment specifications and guaranteed performance data.
5. Name, address, telephone number of manufacturers, vendors and spare parts sources.
6. Manufacturers' warranties.
7. Step-by-step start-up and operating procedures.
8. Factory parts listed with listings of all component sources, original manufacturer's part number, and interchangeability listings.
9. Lubrication charts.
10. Wiring diagrams of all control circuits actually supplied.

P. START-UP TESTING

The Developer shall furnish a proposed testing and start-up schedule and procedure to the Manager a minimum of three (3) weeks prior to such testing. A factory representative may be required to be present for some equipment. Sufficient tools and supplies shall be furnished to maintain isolation from the Association system until approved for permanent connection and operation.

CONSTRUCTION METHODS

CM-1 CLEARING AND GRUBBING

Clearing, grubbing, and grading where required shall be performed within the public right of way or easements as permitted by the governing agencies or property owners. Construction work in forested and native unimproved areas shall be conducted with extra precaution. Construction activity, stored materials and piles of earth shall not extend beyond the designated work limits. Trees and foliage which are not to be removed in construction shall be protected. Finish grades after completion shall match original grades, sloped to prevent ponding. Remove any surplus dirt or over burden piled around trees to prevent future damage; remove such material by hand if necessary. Clear and fell trees with sufficient care to prevent damage.

All trees which are removed by the Developer shall become the property of the Developer and shall become the Developer's responsibility to remove from the site, unless otherwise noted in the easement stipulations or elsewhere in these specifications. Removal of clearing and grubbing debris shall be subject to the approval of the Association and shall in no way constitute a hazard to the continuous operation of any existing utilities.

All clearing and grubbing debris shall be disposed of by hauling to a site selected and obtained by the Developer and approved by the County.

All water used from the Association's water system shall be obtained where and as directed by the Association. All water use shall be metered and obtained under a hydrant use permit issued by the Association.

CM-2 TRENCH EXCAVATION AND BACKFILL

Trench excavation shall be unclassified. The terms earthwork or excavation include all materials excavated or removed regardless of material characteristics. The Developer shall estimate the kind and extent of materials which will be encountered in the excavation.

All trenches shall be dug to true line and smooth bottom grades. Surface grading, including cut, fill and compaction, shall be accomplished prior to trench excavation. In pavement sections, grading to subgrade may be sufficient for areas to be newly paved. The trench width from the bottom of the trench to the crown of the pipe shall not exceed 40 inches for 15-inch-diameter and smaller pipe. For 18-inch-diameter or larger pipe, the trench width from the bottom of the trench to the crown of the pipe shall not exceed 1.5 times the inside diameter of plus 18 inches. If these widths are exceeded, a stronger grade of pipe and/or a

higher classification and amount of bedding material shall be furnished, as directed by the Association.

Minimum cover over all water lines shall be 36 inches over the top of the pipe. Maximum cover shall be 6 feet, unless otherwise authorized by the Three Lakes Water Association. Deeper excavation may be required due to localized breaks in grade, or installing the new main under existing culverts or other utilities where necessary.

Where it is necessary to cross sanitary sewer or storm sewer trenches, all trench backfill shall be removed and replaced with mechanically compacted granular material to provide a uniform support for the full length of the pipe.

The Washington State Department of Health and the Washington State Department of Ecology require a 10-foot horizontal and 18-inch vertical separation between all sanitary sewer lines and water lines. A five-foot minimum horizontal separation shall be maintained between all water facilities and underground power, gas and telephone facilities, unless otherwise approved.

The root systems of all trees not to be removed which are located on or near the easements and right-of-way shall **not** be cut or disturbed, but shall be tunneled or otherwise protected by the Developer to ensure that no damage is done.

During trenching, installing of pipe lines and appurtenances, and the placing of backfill, trenches shall be kept free of water. The Developer shall furnish all equipment necessary to dewater the trench and shall dispose of the water in such a manner as not to cause a nuisance or menace to the public. All water lines, new or existing, shall be protected against the intrusion of foreign material.

When so directed by the Association, the trench shall be extended below the pipeline grades to permit the placing of foundation gravel. All areas of overexcavation, to remove unsuitable, or for any other reason, shall be brought to grade with approved foundation material, and compacted.

Maximum amount of open trench on streets shall be 300 linear feet. At the end of each day all ditches must be backfilled or covered with steel plates and barricaded with flashing warning lights to prevent people or animals from falling into the trench.

All shoring and bracing or sheeting required to perform and protect the trench and to safeguard the employees, shall be designed and furnished by the Developer. No timber bracing, lagging, sheathing or other lumber shall be left in any excavation except with the permission of the Association.

Pipe bedding and initial backfill to 12 inches over the top of the pipe shall be completed before subsequent backfilling operations are started.

The Developer shall take all necessary precautions to protect the pipe from any damage, movement or shifting. In general, backfilling shall be performed by placing the material so as not to damage the pipe.

The backfill material to be used in the trench section shall be free draining granular material free of debris and clay. This material shall be compacted by mechanical compaction to 95% of maximum density, ASTM D-698, to finished grade in all locations, and shall be in accordance with County requirements in all County rights-of-way.

The Developer shall be responsible for providing the proper size and type of compaction equipment and selecting the proper method of utilizing said equipment to attain the required compaction density. In all cases, equipment shall be selected and used so as to not damage the pipe or other utilities and structures.

Compaction testing will be required for all backfilled trenches. A minimum of one testing location shall be chosen for each 200 feet of water main installed. A separate test shall be performed for each two (2) feet of depth. The Developer, or the Contractor, shall contract the services of a qualified and approved geotechnical consultant to perform the compaction testing. All testing (and retesting) shall be at the Developer's expense. Testing locations shall be chosen by the field inspector. Compaction results shall be furnished prior to paving. Recomposition and retesting will be required for any tests which do not pass the compaction testing. Satisfactory compaction tests do not relieve the Contractor of the responsibility to provide trenches which will not fail. Subsurface settlements within the warranty period will remain the responsibility of the Developer.

Materials excavated from trenches are not guaranteed to be suitable to meet the standards for trench backfill. Where original excavated material is unsuitable for trench backfill, imported gravel backfill shall be placed. The unsuitable material shall be removed by the Developer to a disposal area, in accordance with County requirements.

CM-3 INSTALLATION OF WATER MAINS AND FITTINGS

The trench shall be excavated to the depth required so as to provide a uniform and continuous bearing and support for the pipe on solid and undisturbed ground at every point between bell holes.

All pipe, fittings, valves and hydrants shall be carefully lowered into the trench in such a way as to prevent damage to water main materials and protective coatings and linings. Under no circumstances shall materials be dropped or dumped into trench.

Every precaution shall be taken to prevent foreign material from entering the pipe while it is being placed in the line. Pipe shall be laid with bell ends facing in the direction of laying, unless directed otherwise by the Association. After placing a length of pipe in the trench, the spigot end shall be centered in the bell and the pipe forced home and brought to correct line and grade. The pipe shall be secured in place with bedding material tamped under it. No pipe shall be laid in water, or when, in the opinion of the Association, trench conditions are unsuitable. Wherever it is necessary to deflect pipe from a straight line, the amount of deflection allowed shall not exceed pipe manufacturer's recommendations for mechanical and push-on joints, and shall be approved by the Association.

For connection of push-on joint, the jointing shall be done according to manufacturer's recommendations with special care used in cleaning gasket seat to prevent any dirt or sand from getting between the gasket and pipe. Lubricant to be used on the gasket shall be nontoxic and free from contamination. When a pipe length is cut, the outer edge of the cut shall be beveled with a file to prevent injury to the gasket during jointing.

For connection of mechanical joints, the socket, plain end of each pipe and gasket shall be cleaned of dirt before jointing and shall be jointed according to manufacturer's directions. Pipe ends shall be cut square with all chamfers cut off. Bolts shall be tightened alternately at top, bottom, and sides so pressure on gasket is even.

The cutting of pipe for installing valve, fitting or closure pieces shall be done in a neat and workmanlike manner without damage to the pipe or cement lining and so as to leave a smooth end at right angles to the axis of the pipe.

At times when pipe laying is not in progress, the open ends of pipe shall be closed by a water-tight plug or other means approved by the Association. If water is in the trench when work resumes, the seal shall remain in place until the trench is pumped completely dry.

CM-4 INSTALLATION OF GATE VALVES

The valves shall be accurately set at places designated on the Plans and set with the stems vertical. Adjust stuffing boxes to ensure watertightness without binding the stem. The axis of the valve box shall be common with the axis projected off

the valve stem. The tops of the adjustable valve boxes shall be set to the existing or established grade, whichever is applicable.

CM-5 INSTALLATION OF BUTTERFLY VALVES

The valves shall be installed in the same manner as gate valves.

CM-6 INSTALLATION OR RELOCATION OF FIRE HYDRANTS

Hydrants shall be inspected in the field upon arrival to determine proper working order. Hydrants shall be set according to the standard detail including set plumb and to established grade utilizing hydrant extensions if necessary, to result in the center of nozzle being between 18 and 24 inches above final grade. Hydrants shall be backfilled with washed drain rock under and around the barrel drain. The barrel shall be supported on a concrete bearing block.

Hydrants shall not be installed within three feet of a traveled roadway and a minimum 5-foot radius unobstructed working area shall be provided around all hydrants. Hydrants shall be restrained as shown in the Association Standard Details. Shackle rods shall be cleaned and painted after installation with 2 coats of asphalt varnish, or with such other bituminous paint as may be approved by the Engineer.

The hydrant shall be painted with two coats of paint as specified in the construction materials section. When shown on the Plans or as directed by the Association, a culvert shall be installed in the roadway ditch in front of the hydrant assembly. Length and diameter shall be as specified.

Relocated fire hydrants shall meet the same requirements as new fire hydrants for grade, backfill, blocking and culverting. After relocation, the fire hydrant shall be painted like new. Relocated fire hydrants shall be subject to the same hydrostatic pressure and purity tests as new fire hydrants.

CM-7 INSTALLATION OF VALVE MARKER POSTS

Valve markers shall be installed for all valves except fire hydrant valves or as directed by the Association. Valve markers shall be located at the edge of the right-of-way or at the location as directed by the Association. The markers shall be set to leave 18 inches exposed above ground. The exposed portion of the markers shall be painted with concrete primer and two coats of paint as specified in the construction materials section. The valve size and the distance to the valve, rounded off to the nearest foot, shall be painted on the marker in two-inch-high numbers. See the Association Standard Details.

CM-8 INSTALLATION OF FIRE HYDRANT GUARD POSTS

When directed by the Association, fire hydrant guard posts shall be set with the tops of the posts at the same elevation as the top of the pumper port of the hydrant. The exposed portion of the posts shall be painted with concrete primer and two coats of paint as specified in the construction materials section. See the Association Standard Details.

CM-9 INSTALLATION OF AIR-RELIEF ASSEMBLIES

The air-relief assemblies shall be installed as shown in the Association Standard Details and at the location as directed by the Association. Locate valves so that the high point of the water main is vented and construct the pipe between the main and valve with an upward slope to the valve.

CM-10 INSTALLATION OF SAMPLING STATIONS

The sampling stations shall be installed as shown in the Association Standard Details and at the location as directed by the Association.

CM-11 INSTALLATION OF BLOW-OFF ASSEMBLIES

The blow-off assemblies shall be installed as shown in the Association Standard Details and at the location as directed by the Association.

CM-12 INSTALLATION OF CUSTOMER SERVICES

The services shall be installed as shown in the Association Standard Details. Services shall be installed in one piece with no splices, unless approved in writing otherwise by Three Lakes Water Association for special conditions. Under no circumstances will splices be allowed for polyethylene services.

CM-13 CONCRETE THRUST BLOCKING

Concrete thrust blocking shall be cast in place and have a minimum of 1/4-square-foot bearing against the fitting and 2 square feet of bearing against undisturbed soil and shall be clear of joints so as to permit taking up or dismantling joint. All poured in place blocking shall have a minimum measurement of 12 inches between the pipe and the undisturbed bank. All blocking configurations and sizes shall be per the standard detail. All blocking as shown on the standards are considered as minimums, and consideration should be given to unusual circumstances and topography. See the Association Standard Details.

CM-14 AUGERED OR BORED CASINGS

Water mains installed in casing pipe shall be made by jacking, driving, or augering a steel casing pipe beneath the surface. No open excavation shall be made closer than six feet from the edge of pavement. The diameter of the casing shall be sufficient to allow installation of the water main and also to provide allowance for adjustment of the water main to proper line and grade. Wall thickness shall be sufficient to withstand installation force and highway loading and shall not be less than 3/8-inch. After installation of the water main, and with the approval of the inspector, sand shall be placed in the casing pipe to fill all voids. Casing ends shall be sealed using linkseal, mortar, or other approved method.

Restrained mechanical joint pipe shall be installed in all casings. Approved stainless steel casing insulators (Cascade Water Works Manufacturing, or equal) shall be used to protect the pipe and adjust it to proper grade. The water main may be pushed or pulled into the casing pipe, unless MEGALUGS are used for joint restraint, in which case the water main should be pulled into and through the casing pipe.

All bore pits or related excavations shall be closed at the end of each day. Ditches must be backfilled or covered with steel sheets and, within public or private rights-of-way, barricaded with minimum 5-foot high chain link fencing and flashing warning lights to prevent people or animals from falling into the trench.

The requirements of the roadway agency as contained in the construction permit, or as issued by oral instructions of the authorized representative of the roadway agency shall be followed by the Developer.

CM-15 HYDROSTATIC TESTING AND DISINFECTING

All pipelines shall be tested and disinfected prior to acceptance of work. All pumps, gauges, plugs, saddles, corporation stops, miscellaneous hose and piping, and measuring equipment necessary for performing the test shall be furnished, installed, and operated by the Developer. Feed for the pump shall be from a barrel or other container so that the actual amount of "makeup" water can be measured periodically during the test period.

The pipeline shall be backfilled sufficiently to prevent movement of the pipe under pressure. All thrust blocks shall be in place and time allowed for the concrete to cure before testing. Where permanent blocking is not required, the Developer shall furnish and install temporary blocking.

As soon as pipe is adequately secured against movement under pressure, it may be filled with water.

Water supply for filling, testing and flushing of the new mains will be available from the existing distribution system at no cost for one testing and flushing cycle.

However, if water is needed for additional tests, the Developer shall be billed for water used at the current rate of the Association. High volume flushing of the system will occur after the permanent full diameter connection is made. The Developer shall obtain specific permission from the Association during the months of May through September before any high volume flushing will be allowed.

After the pipe is filled and all air expelled, it shall be pumped to a test pressure equal to 100 psi in excess of the operating pressure, and this pressure shall be maintained for a period of one hour (minimum). In accordance with manufacturer's recommendation, all valves may be limited to a pressure differential equal to the rated pressure of the valve (200 psi minimum), but shall not restrict the test pressure of the main. Mainline testing shall be made with the hydrant auxiliary gate valves open and pressure against the hydrant valve. Hydrant ports shall also be tested to hold static pressure without any visible leaks. Hydrostatic tests shall be performed on every complete section of water main between two valves and witnessed by the Association..

In addition to the hydrostatic pressure test, a leakage test shall be conducted on the pipeline. The leakage test shall be conducted at the same pressure as the hydrostatic pressure test for a period of not less than one hour. The quantity of water lost from the main shall not exceed the number of gallons per hour determined by the formula:

$$L = \frac{ND(P)^{0.5}}{7,400}$$

in which L = Allowable leakage, gallons/hour
 N = No. of joints in length of pipeline tested
 D = Nominal diameter of the pipe in inches
 P = Avg. test pressure during leakage test, psi

Defective materials or workmanship, discovered as a result of the tests, shall be replaced by the Developer at the Developer's expense. Whenever it is necessary to replace defective material or correct the workmanship, the tests shall be rerun at the Developer's expense until a satisfactory test is obtained.

As sections of pipe are constructed and before pipelines are placed in service they shall be sterilized in conformance with the requirements of the State of Washington Department of Health.

CM-16 DISINFECTING

Before being placed in service, all new water mains and repaired portions of, or extensions to, existing mains shall be chlorinated and a satisfactory bacteriological report obtained. Temporary or permanent physical connections shall not be allowed between the existing distribution system and non-disinfected pipelines constructed without a State Department of Health approved backflow preventer (double check valve assembly or better, with current valid test report for the device used) temporarily installed in the connecting line.

Chlorine shall be applied in one of the following manners, listed in order of preference, to secure a concentration in the pipe of at least 50 ppm:

- (1) Injection of chlorine-water mixture from chlorinating apparatus through corporation cock at beginning of section after pipe has been filled and with water exhausting at end of section at a rate controlled to produce the desired chlorine concentration.
- (2) Injection similarly of a hypochlorite solution.
- (3) Placement of calcium hypochlorite throughout pipeline as constructed in proper quantities to produce the desired dosage. Filling of pipeline with this method should be at a very slow rate. Pipeline must be filled within 2 days of placing sterilizing agent.

After the desired chlorine concentration has been obtained throughout the section of line, the water in the line shall be left standing for at least 24 hours. Following this, the line shall be thoroughly flushed and a water sample collected (by the Association). The line must not be placed in service until a satisfactory bacteriological report has been received. A chlorine residual shall be measured that is representative of the service area.

Discharge of hypochlorinated water to surface waters is strictly prohibited. A reducing agent shall be applied to the water to be wasted to neutralize the chlorine residual remaining in the water. Federal, state, and local regulatory agencies should be contacted to determine special provisions for the disposal of heavily chlorinated water. This is to include lakes, rivers, streams, and any and all other waters where fish or other natural water life can be expected. Hypochlorinated water may be required to be trucked off site and disposed of at a sewer treatment plant or other approved location, at the cost of the Developer.

Association representatives only shall be allowed to operate existing and new tie-in valves. Developer's personnel are expressly forbidden to operate any valve on any section of line which has been accepted by the Association.

CM-17 FLUSHING

Upon completion of pipe laying, chlorination and pressure testing, all dirt and foreign matter shall be removed by a thorough flushing through all hydrants, blow-offs or other approved means. Each section of newly laid pipe between valves or dead ends shall be flushed independently, and fire hydrants or other dead end appurtenances shall be flushed simultaneously with the parent line. A minimum flushing velocity of 2.5 fps shall be developed in the main.

The Developer shall be responsible for scheduling and organizing his work so as to use flushing water only during off-peak hours and in the most economical manner.

No flushing shall be performed without the prior approval of the Association.

CM-18 CONNECTION TO EXISTING WATER MAIN

Wet tap connections shall be installed as shown on the Plans and the tapping valve shall remain closed.

Cut-in tees and crosses shall be installed as shown on the plans and the valves on the branches of the tee or cross shall remain closed.

At connections of new piping to existing piping all of the new piping, appurtenances and blocking shall have been installed, disinfected and tested.

To prevent contaminated water from the new main from entering the existing distribution system, an approved double check valve assembly (minimum level of backflow prevention) shall be used on the line supplying the water. The backflow device must have a current valid certification prior to use. A double check valve assembly is sufficient backflow protection only for filling and flushing of the new main. During the hydrostatic pressure test, the temporary connection between the new main and the existing distribution system shall be removed.

For fire and irrigation, the minimum level of backflow prevention required is a double check valve assembly. Fire services shall have a double detector check valve assembly. Air gaps and reduced pressure backflow assemblies are required wherever a potential or actual high health hazard exists.

The Three Lakes Water Association Cross-Connection Control program is based on WAC 246-290-490 and the Association's adopted plan.

Plan approval does not constitute approval of a backflow prevention system. A separate backflow prevention system approval must be obtained from the Cross-Connection Control Specialist prior to initiation of water service.

The Association shall be notified a minimum of five (5) working days in advance of all scheduled connections. No cut-in connections or connections of new piping to existing piping will be scheduled on Fridays, Mondays or federally recognized holidays.

All equipment and material necessary to make the connections shall be delivered to the site prior to the start of work. Bolts, flanges, gaskets, couplings and all accessories shall be checked and assembled where possible by the Developer and verified by the Association prior to shut down of the water system. Tapping tees and valves shall be air tested prior making tap.

Before connection or cut-in, the fittings, pipes, valves, and couplings shall be cleaned and sterilized with chlorine solution in the same manner as provided for the pipeline. The cleaning and sterilizing shall be done immediately prior to installation and in the presence of the Association. Once the process has started on this connection, it shall proceed continuously without interruption and as rapidly as possible until completed.

No shut-off of mains will be permitted overnight or over weekends or holidays. The Contractor may be required to perform the connection during times other than normal working hours

After connection to the existing system, the opening of valves shall be performed by the Association or at a minimum with the authorization of, and in the presence of, the Association's authorized representative.

CM-19 ASBESTOS CEMENT WATER PIPE

Any work to be performed upon existing asbestos/cement water pipe shall be in conformance with the latest edition of "Recommended Standard Asbestos/Cement (AC) Pipe Work Practice Procedures and Training Requirements," adopted and published by the Pacific Northwest Section of the American Water Works Association, which is included herein by reference, and Chapter 296-65 of WAC, except as revised herein. Any AC pipe which is removed from service and is not disturbed may be capped and abandoned in place. Snohomish county may require the filling of AC main to be abandoned. Any exposed and disturbed pipe to be removed from service shall be removed and disposed of at an appropriate waste site, at the Developer's cost. The disturbed pipe may not be relocated in the trench or otherwise disposed of on site. No new or used AC pipe is to be installed in the Association. Disposal of any removed materials shall be at an approved off-site facility, in accordance with the above publications. All materials, equipment and safety gear shall be on site prior to cutting, tapping or removing any AC pipe.

CM-20 RESTORATION OF DISTURBED AREAS

Restoration of public and private improvements shall be performed by experienced contractors or by employees of the Developer who are qualified in this type of work.

The Developer shall be responsible to maintain all roadway areas until the permanent repair is accomplished.

The Developer shall limit construction time on each easement to the very minimum possible, including the time required for installation and testing. Restoration work shall follow immediately after pipe testing with due allowance for weather and season of year.

Asphalt Pavement

The existing asphalt concrete shall be cut on a neat line with a cutting disc or similar approved tool prior to excavation. Before the end of each day the trench shall be backfilled and compacted and a temporary cold mix patch shall be placed and maintained in good condition until replaced.

Immediately prior to permanent resurfacing of bituminous surfaced roads, the edges shall be retrimmed wider than the excavation (per agency) with straight vertical edges free from irregularities and the cold mix shall be removed. Edges of the trimmed surfacing shall be thoroughly tacked with an emulsified asphalt and asphalt concrete shall then be placed and compacted to the grade of the original surface. All asphalt joints shall be sealed with an approved sealer.

Crushed Surfacing

The existing gravel roadway shall be restored by grading the surface to a uniform grade to the width of the roadway prior to construction.

Where ditch sections are disturbed during construction, the ditch shall be restored to the same cross sections as existed prior to construction and shall be restored prior to placement of the crushed surfacing.

The Developer shall spread the crushed surfacing as each load is placed and shall compact the crushed surfacing after the material has been spread.

Landscaped and Improved Areas

All improvements and landscaping within the construction area which are damaged, destroyed or the use thereof interfered with due to the operation of the Developer shall be immediately restored to their former conditions by the Developer at the Developer's expense, using the services of a qualified nursery and/or sod installation company, except where noted otherwise. Notice should be given to the property owners along the route of construction by the Developer advising them of the methods to be used to preserve and restore the improvements.

Unimproved Areas

All areas disturbed by this construction for which no other restoration is specified, and for which there were no private improvements existing prior to construction, shall be seeded for erosion control.

Seeding shall not be done during windy weather or when the ground is frozen, excessively wet, or otherwise untillable. Seed shall be placed at a minimum rate of 120 pounds per acre.

Seeding, fertilizing and mulching shall be installed using an approved type hydroseeder. If hand seeding is used with prior approval, evidence of vigorous growth, in the opinion of the Association, will be required prior to final acceptance.

Fertilizer shall be applied in accordance with the procedures and requirements for seeding at a minimum rate of 500 pounds per acre.

Wood cellulose fiber mulch shall be applied in accordance with the procedures and requirements for seeding at a minimum rate of 2,000 pounds per acre.

CM-21 INSTALLATION OF PRESSURE-REDUCING STATION

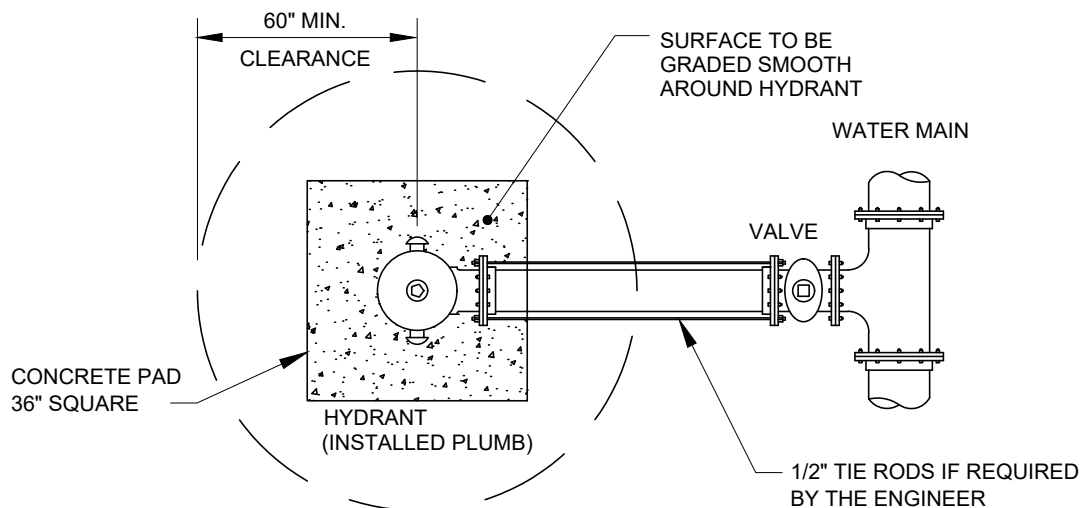
Excavation shall be carried to the proper grade and to a dense undisturbed firm foundation. Grade shall be as shown on drawings, but in no case shall the top slab extend higher than adjoining road grades. The vault shall be carefully placed on a prepared foundation of foundation gravel. The excavation shall be kept free of ground and surface water during installation. The Contractor shall use caution at all times to prevent flotation of the vault.

Backfill around the structure shall be carefully placed in layers not over 12 inches thick and mechanically compacted. No brush, topsoil, organic material or asphalt shall be used in backfilling. Where original excavated material is unsuitable for backfill, as determined by the Engineer, imported gravel backfill shall be placed. The unsuitable material shall be removed by the Contractor to a disposal site, in accordance with County requirements. The backfill shall be compacted by

mechanical compactors to 95% of maximum density, ASTM D-698, to finished grade.

The piping, vault and metal items shall be painted as described under MATERIALS. All surfaces shall be clean and dry. No painting shall be done before the prepared surfaces are approved by the Engineer. The pipe shall be empty and the surfaces shall be free of all moisture and condensation before application begins.

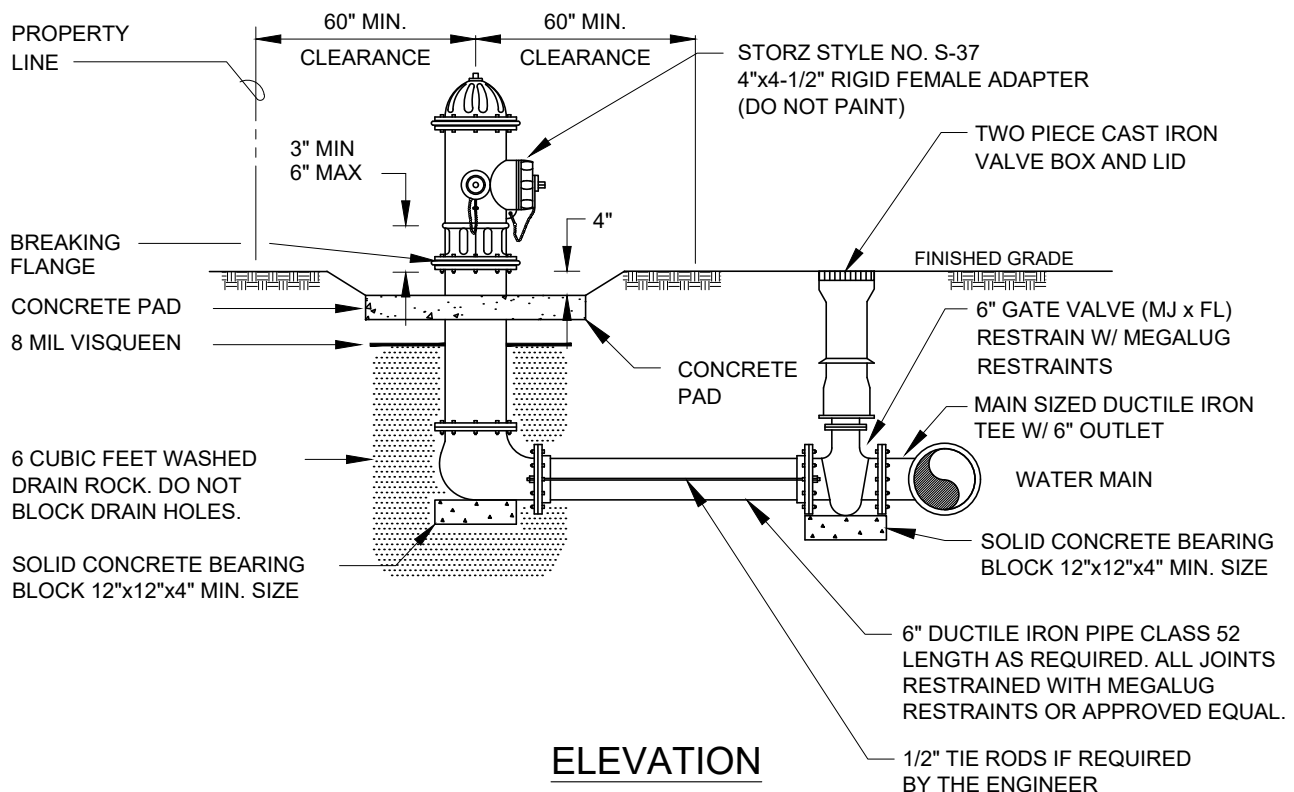
Upon completion of the installation the Contractor shall furnish the services of a technical manufacturer's representative for the pressure relief and pressure reducing valves. The technical representative shall check the installation, test the equipment, place it in operation and train the Association's representative.



PLAN

NOTES:

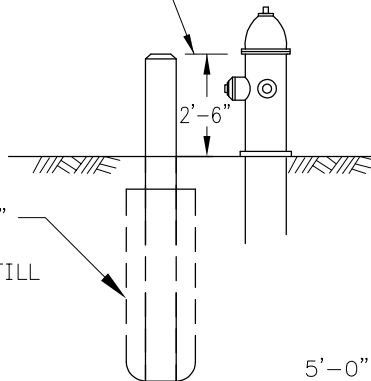
1. FIRE HYDRANTS SHALL BE 3 PORT AMERICAN DARLING HYDRANTS OR APPROVED EQUAL CONFORMING TO AWWA SPECIFICATIONS FOR DRY BARREL FIRE HYDRANTS. EACH HYDRANT SHALL HAVE AT LEAST TWO HOSE CONNECTIONS OF 2-1/2" DIAMETER EACH AND ONE PUMPER CONNECTION WITH 4"x4-1/2" FEMALE STORZ ADAPTER. ALL CONNECTIONS MUST HAVE NATIONAL STANDARD THREADS OR OTHER CONNECTION DEVICES CONSISTENT WITH LOCAL FIRE PROTECTION AUTHORITY REQUIREMENTS.
2. HYDRANT PUMPER PORT SHALL FACE THE ROADWAY.
3. HYDRANT TO BE PAINTED WITH TWO COATS OF "YELLOW" ENAMEL AS APPROVED BY THE WATER ASSOCIATION. BONNET TO BE PAINTED PER ASSOCIATION SPECIFICATION M-13 AND SNOHOMISH COUNTY CODE 30.53A.520(13).
4. IF ROADWAY HAS DITCH SECTION, THE CONTRACTOR SHALL INSTALL 12 LF OF 12" CULVERT PIPE FOR ACCESS TO THE HYDRANT. SEE DETAIL 3.



ELEVATION

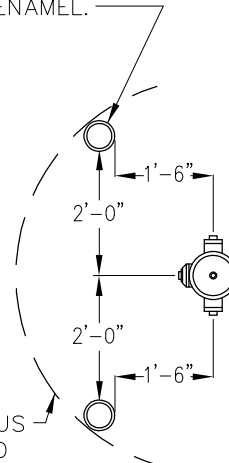
LEVEL WITH BONNET FLANGE
OF HYDRANT OR 2' - 6"
ABOVE FINISHED GRADE

CONCRETE BACKFILL TO 6"
FROM GROUND WHERE
SPECIFIED. EARTH BACKFILL
COMPACTED IN 6" LAYERS
ELSEWHERE.



ELEVATION

HYDRANT GUARD POST SHALL BE 9" DIA
BY 6" LONG PRECAST CONCRETE POST
EQUAL TO FOG-TITE METER SEAL CO.
PAINT WITH TWO COATS OSHA SAFETY
YELLOW, ENAMEL.

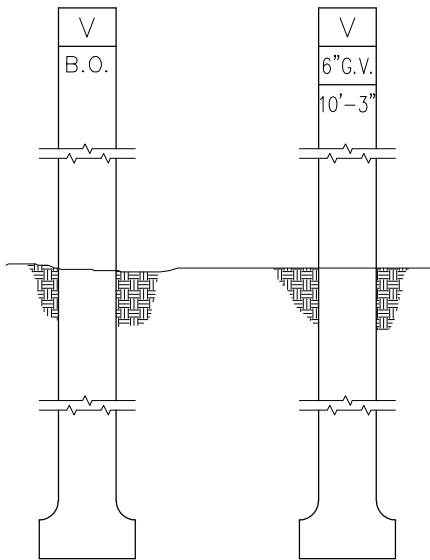


5'-0" MIN. RADIUS
OF LEVEL GROUND
AROUND FIRE HYDRANT

PLAN

FIRE HYDRANT GUARD POST

VALVE MARKER POST SHALL BE
EQUAL TO FOG-TITE METER CO.
PAINT AS SPECIFIED FOR HYDRANT
GUARD POST. PAINT DISTANCE
FROM THE VALVE MARKER TO THE
VALVE ON THE POST WITH NEATLY
STENCILED BLACK ENAMEL NUMBERS,
1" IN HEIGHT.

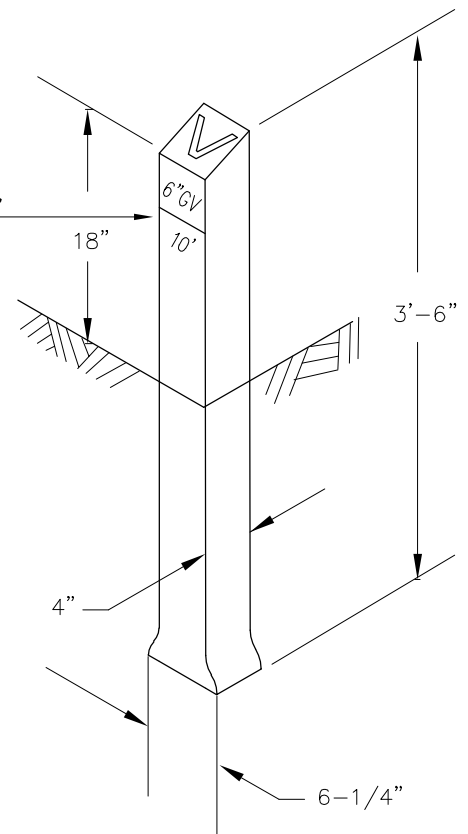


FRONT VIEW

(FOR BLOW-OFF ASSEMBLY)

FRONT VIEW

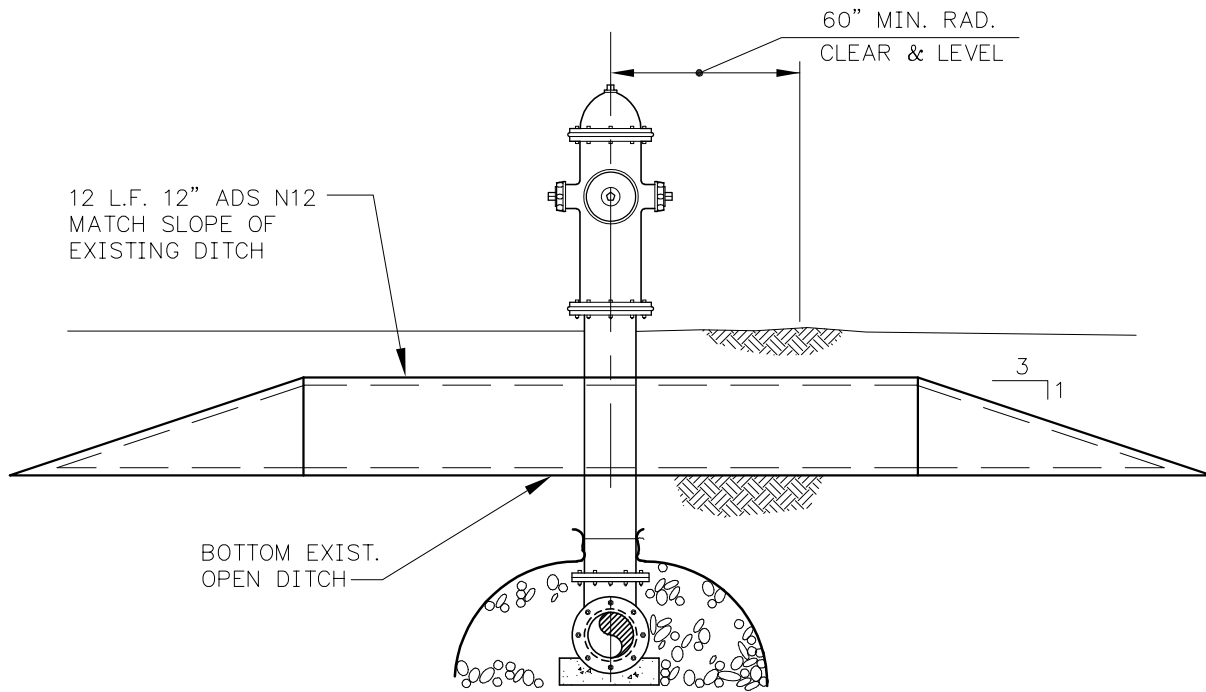
(FOR GATE VALVE)



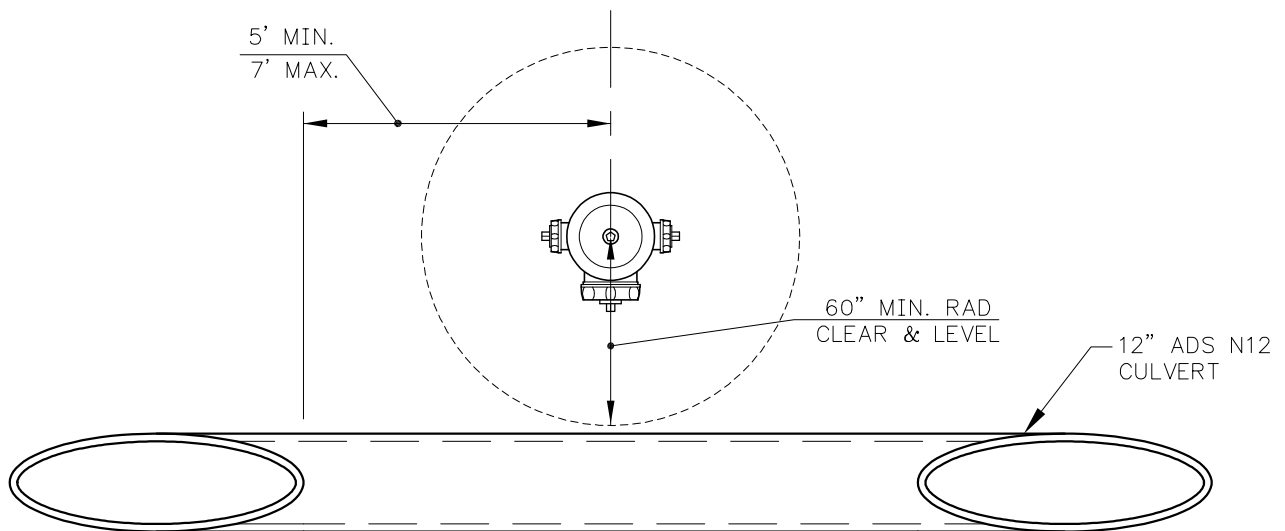
VALVE MARKER POST

NOTES:

1. GUARD POSTS TO BE INSTALLED ONLY
AS DIRECTED BY THE ASSOCIATION.
2. VALVE MARKERS TO BE USED FOR BLOW-OFF AND
MAIN LINE VALVES OUTSIDE PAVED AREAS.



ELEVATION



PLAN

NOTE:

MINIMUM COVER FOR SERVICE LINES SHALL BE 2'-6".

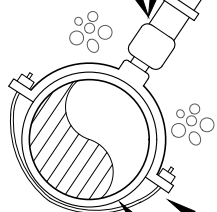
MINIMUM COVER SHALL BE PROVIDED WHERE SERVICE LINES CROSS DRAINAGE DITCH.

INSTALL CHECK VALVE ON CUSTOMER'S SIDE OF METER.

COPPER METER SETTER, DUAL PURPOSE CONNECTIONS WITH 15" EXTENSION ON CUSTOMER'S SIDE WITH ANGLE BALL VALVES WITH PADLOCK WINGS AT INLET AND ASSE APPROVED CHECK VALVE (MUELLER H-1470-2A OR APPROVED EQUAL)

REDUCER AS REQUIRED

1" OR LARGER CORPORATION STOP



1" OR LARGER DUAL BAND BRASS OR DUCTILE IRON SADDLE W/ SST HARDWARE

DUCTILE IRON OR EXISTING AC WATER MAIN

FOGTITE B9-D CONCRETE TRAFFIC-RATED METER BOX W/ EXTENSION OR APPROVED EQUAL AND FIBERITE OR APPROVED EQUAL TRAFFIC-RATED COVER.

ANGLE VALVE

SINGLE CHECK VALVE

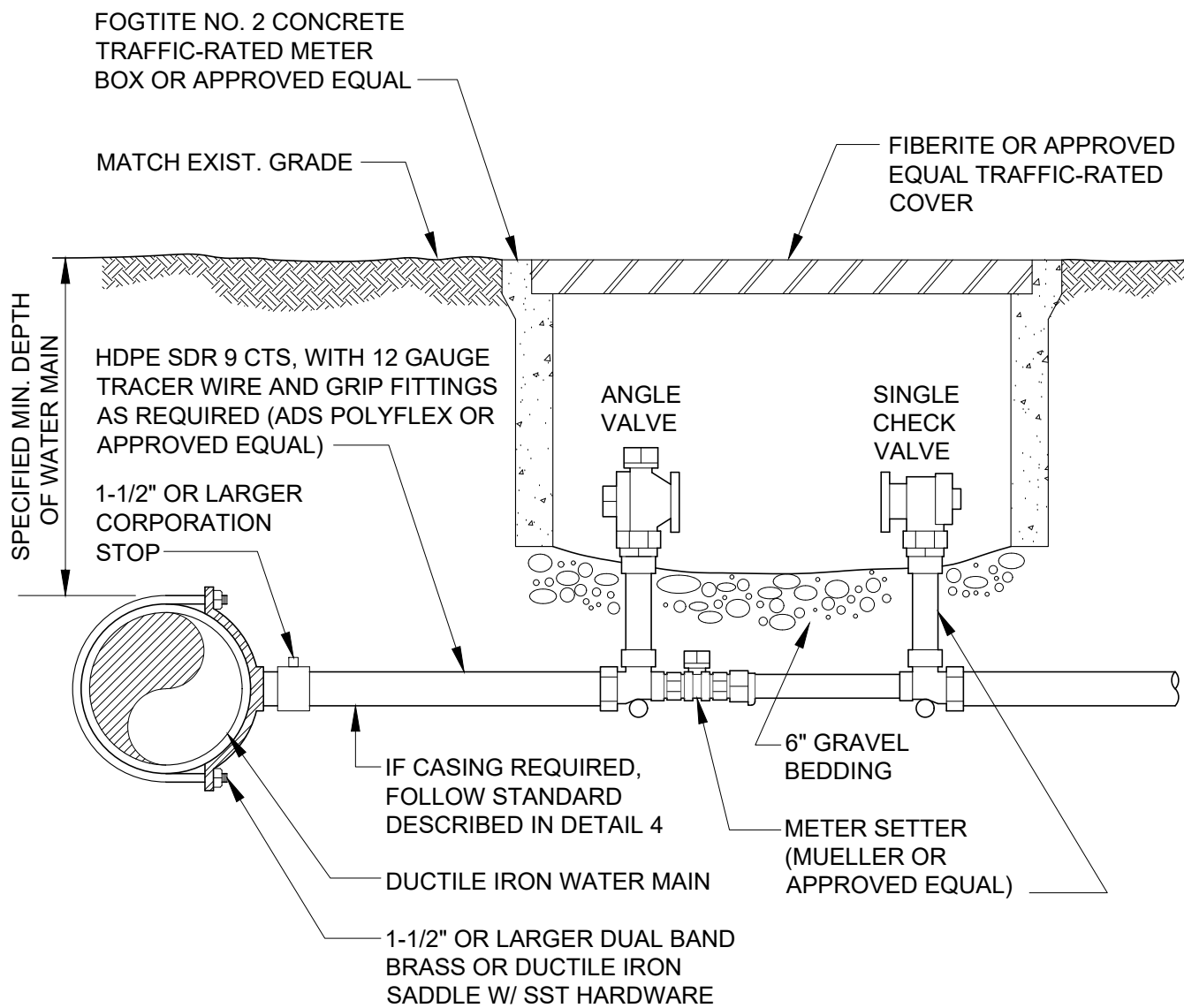
BURY IN SAND

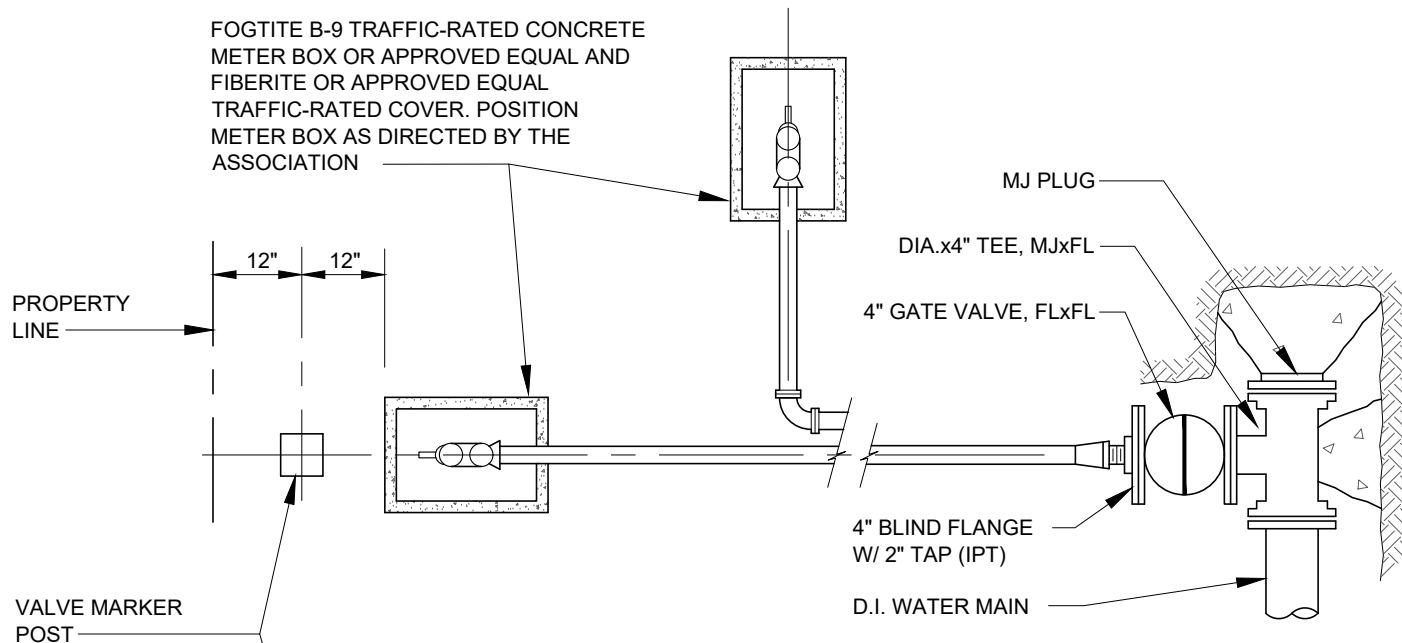
HDPE x COPPER CONNECTION (TYP.)

1" HDPE SDR 9 CTS PIPE WITH 12 GAUGE TRACER WIRE AS REQUIRED BY ASSOCIATION

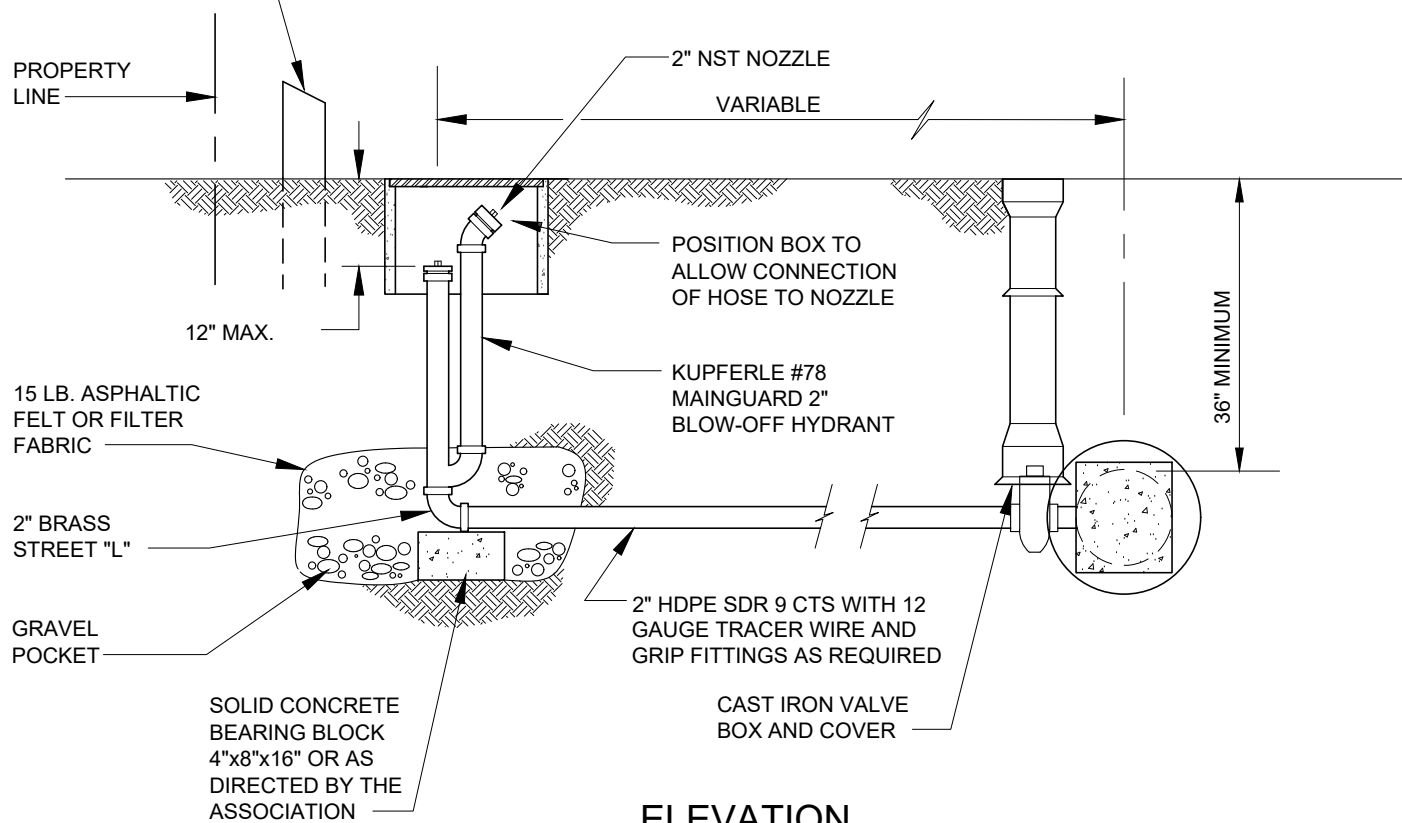
CLOSED CELL FOAM OR ROLLED UP TAPE SEGMENTS TO CENTER SERVICE LINE IN CASING, TAPED IN PLACE. ENCAPSULATE END WITH CHRISTY'S 10 MILLIMETER PIPE WRAP TAPE OR EQUAL (TYP. EACH END OF CASING)

2" SCHEDULE 80 PVC CASING FOR FAR SIDE SERVICES, TO BE INSTALLED BY TRENCHLESS METHOD WITHOUT DISTURBING EX. ROADWAY





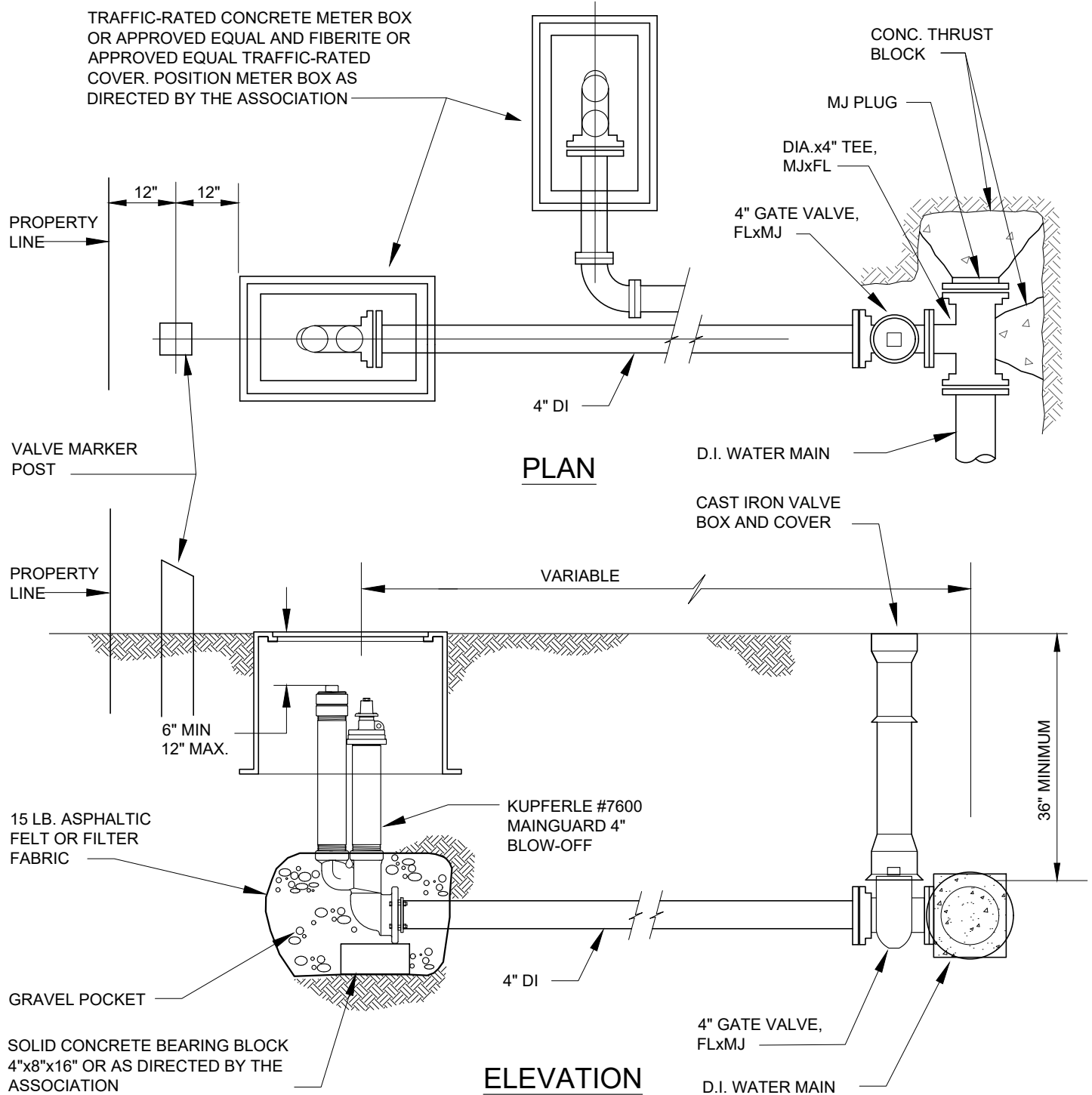
PLAN



ELEVATION

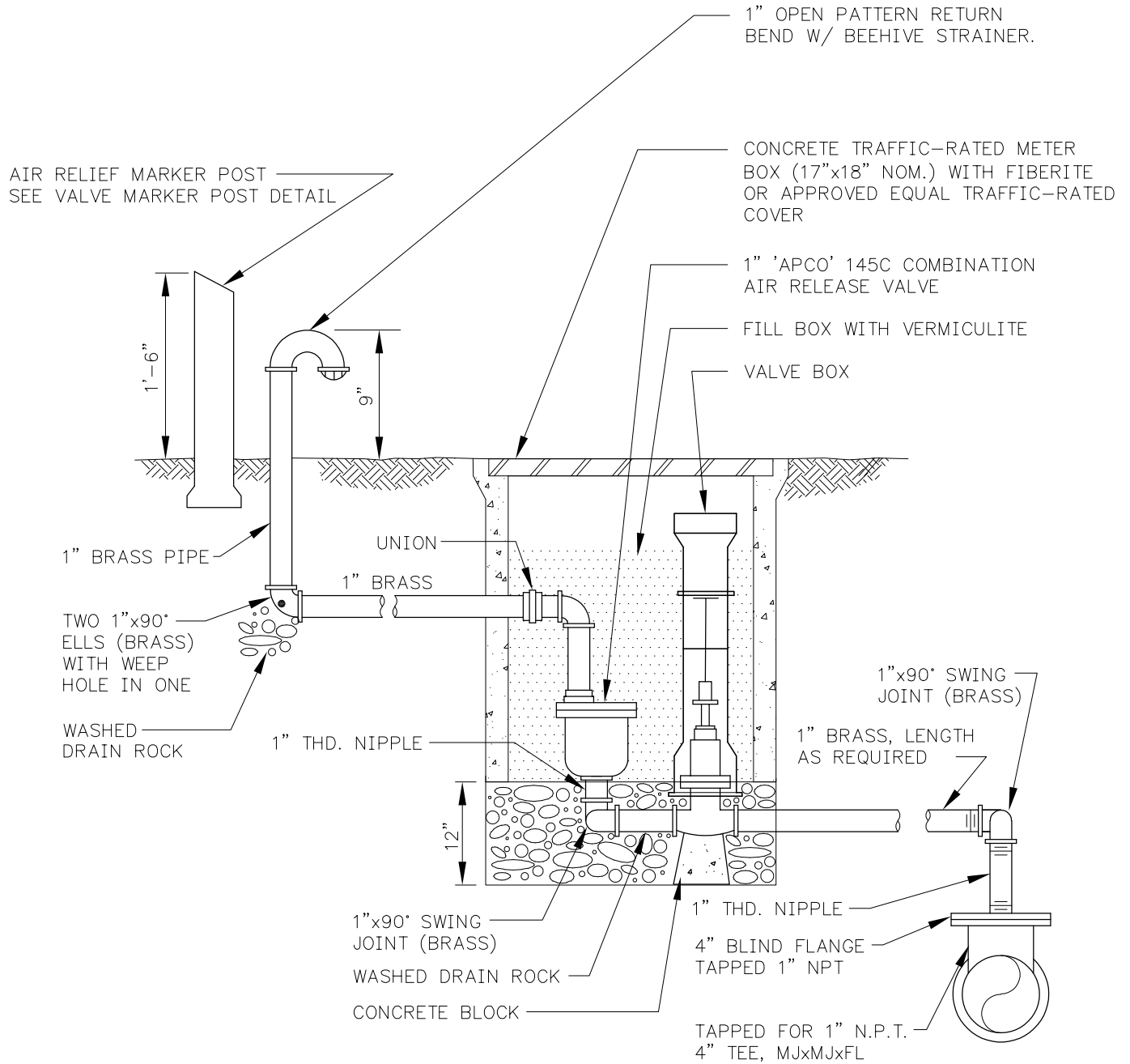
NOTES:

1. PAINT PIPE THREADS WITH ASPHALT PAINT AFTER ASSEMBLY.
2. VALVE AND ALL FITTINGS TO BE BRASS.
3. PIPING TO VALVE TO BE 2" UNLESS OTHERWISE NOTED ON PLAN.
4. PAINT VALVE MARKER POST PER ASSOCIATION REQUIREMENTS.

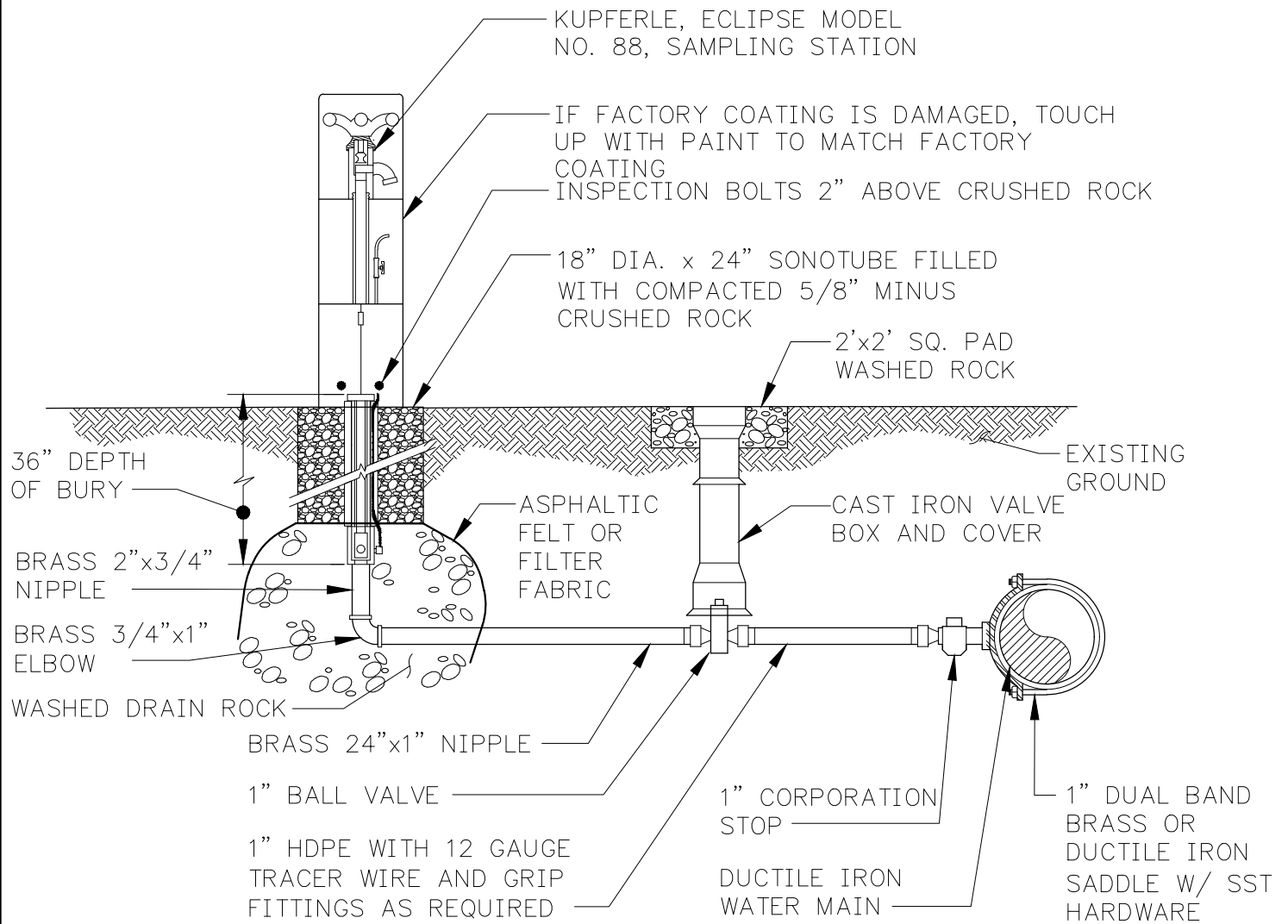


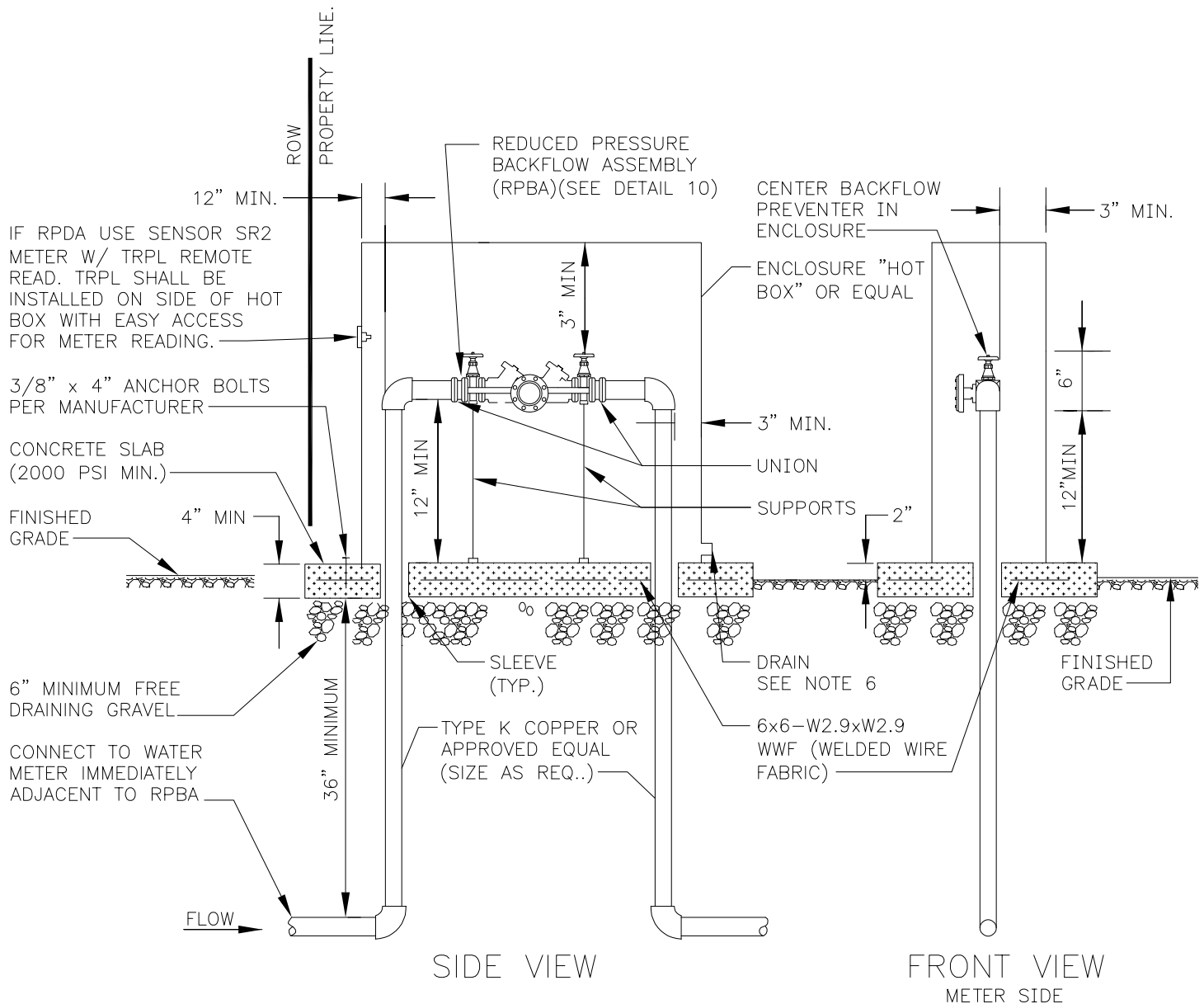
NOTES:

1. PAINT PIPE THREADS WITH ASPHALT PAINT AFTER ASSEMBLY.
2. PIPING TO VALVE TO BE 4" UNLESS OTHERWISE NOTED ON PLAN.
3. PAINT VALVE MARKER POST PER ASSOCIATION REQUIREMENTS.



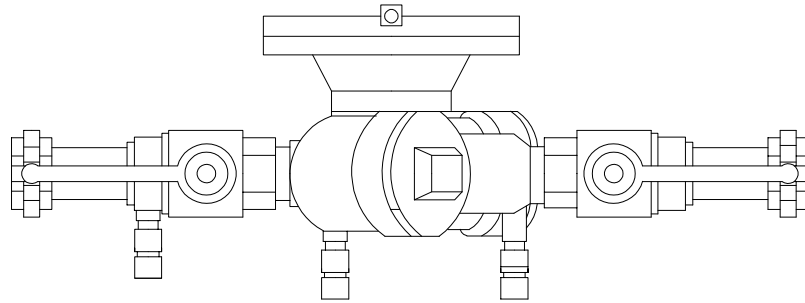
NOTE: ALL ABOVE GROUND PIPING
SHALL BE PAINTED BLUE





NOTES:

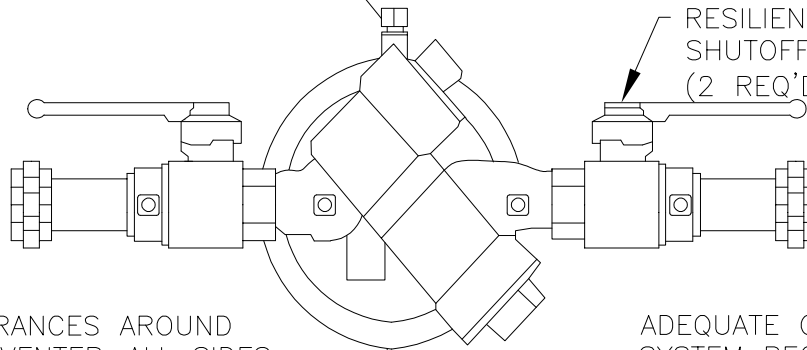
1. PROVIDE SUPPORT FOR DEVICES LARGER THAN 1" DIAMETER.
2. OWNER SHALL FURNISH, INSTALL AND MAINTAIN THE RPBA AND ALL PIPING AND APPURTENANCES SHOWN ON THIS PLAN.
3. INITIAL TEST OF THE RPBA PRIOR TO ESTABLISHMENT OF WATER SERVICE SHALL BE DONE BY A STATE CERTIFIED B.A.T. TESTER.
4. REDUCED PRESSURE BACKFLOW ASSEMBLIES SHALL BE WA. STATE APPROVED DEVICES.
5. ANNUAL TESTING OF RPBA REQUIRED BY OWNER.
6. DRAIN SHALL BE SIZED IN ACCORDANCE WITH AWWA CROSS-CONNECTION CONTROL FIGURE 6-8.
7. ENCLOSURES SHALL BE LOCATED ON PRIVATE PROPERTY. RPBA AND PIPING SHALL BE PROTECTED FROM FREEZING WITH HEAT TAPE.
8. ALL BRANCH CONNECTIONS SHALL BE LOCATED ON THE DOWNSTREAM SIDE OF THE ASSEMBLY.
9. IF RPDA, METER SHALL BE RADIO READ TO MATCH ASSOCIATION'S SYSTEM.



TOP VIEW

TEST COCKS WITH PVC PLUGS
(4 REQ'D)

RESILIENT SEATED
SHUTOFF VALVES
(2 REQ'D)



MIN. 12" CLEARANCES AROUND
BACKFLOW PREVENTER—ALL SIDES,
TOP AND BOTTOM

ADEQUATE GRAVITY DRAINAGE
SYSTEM REQUIRED WITH
APPROVED RELIEF PORT
(1" MIN. AIR GAP)

12" MIN.
5' MAX.

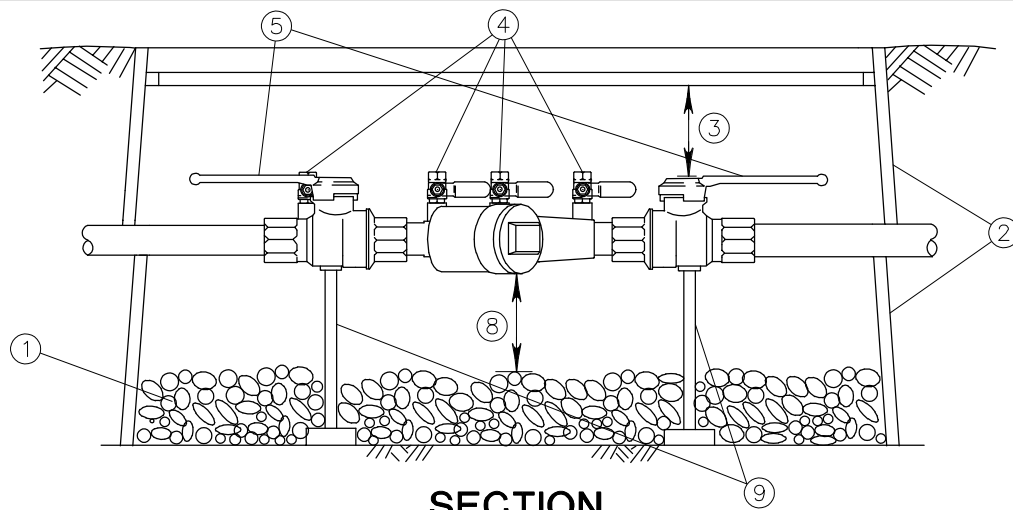
GROUND/FLOOR

SIDE VIEW

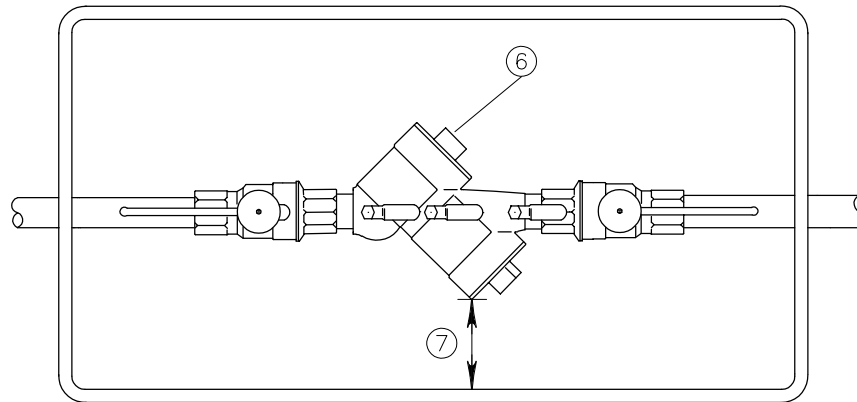
NOTE:

1. APPROVED REDUCED PRESSURE BACKFLOW ASSEMBLY TO LAY HORIZONTAL ONLY.
2. DESIGNED FOR BACKSIPHONAGE AND BACKPRESSURE.
3. THOROUGHLY FLUSH LINES PRIOR TO INSTALLATION OF BACKFLOW PREVENTER.
4. DO NOT INSTALL IN AN AREA SUBJECT TO FLOODING.
5. MUST BE ACCESSIBLE.
6. MUST BE PROTECTED FROM FREEZING CONDITIONS.
7. THE BACKFLOW ASSEMBLY SHALL BE A WASHINGTON STATE APPROVED MODEL.
8. MUST BE TESTED AFTER INSTALLATION AND AFTER REMOVAL AND REINSTALLATION AND YEARLY THEREAFTER BY WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER (B.A.T.). TEST RESULTS SHALL BE SENT TO THE ASSOCIATION.

(ABOVE GROUND INSTALLATION ONLY)



SECTION



PLAN

- ① IF DAYLIGHT DRAIN SYSTEM CANNOT BE PROVIDED THEN INSTALL A 12" MINIMUM LAYER OF 1" WASHED DRAIN ROCK AT THE BOTTOM OF THE BOX.
- ② TWO NO. 2 METER BOXES STACKED ON TOP OF EACH OTHER OR APPROVED EQUAL.
- ③ A MAXIMUM DISTANCE OF 9" BETWEEN THE UNDERSIDE OF THE LID AND THE HIGHEST POINT OF THE DEVICE IS REQUIRED.
- ④ THE DEVICE MUST BE EQUIPPED WITH FOUR RESILIENT SEATED TEST COCKS WITH PLUGS INSTALLED. THE ASSEMBLY MUST ALSO BE INSTALLED WITH THE TEST COCKS FACING UP OR TO ONE SIDE.
- ⑤ THE DEVICE MUST ALSO BE EQUIPPED WITH TWO RESILIENT SEATED SHUT OFF VALVES.
- ⑥ THE DEVICE MUST BE INSTALLED HORIZONTALLY.
- ⑦ A MINIMUM DISTANCE OF 12" BETWEEN THE SIDE OF THE BOX AND THE TEST COCKS WHEN THEY ARE INSTALLED SIDEWAYS.
- ⑧ A MINIMUM DISTANCE OF 1 FOOT BETWEEN THE LOWEST POINT OF THE DEVICE AND THE DRAIN ROCK.
- ⑨ SUPPORTS WILL BE REQUIRED ON 2" AND LARGER DEVICES AS SHOWN.
- ⑩ MAXIMUM HEIGHT OF ASSEMBLY ABOVE GROUND LEVEL SHALL BE FIVE FEET UNLESS AN OSHA-COMPLIANT PLATFORM IS PROVIDED.

GENERAL NOTES

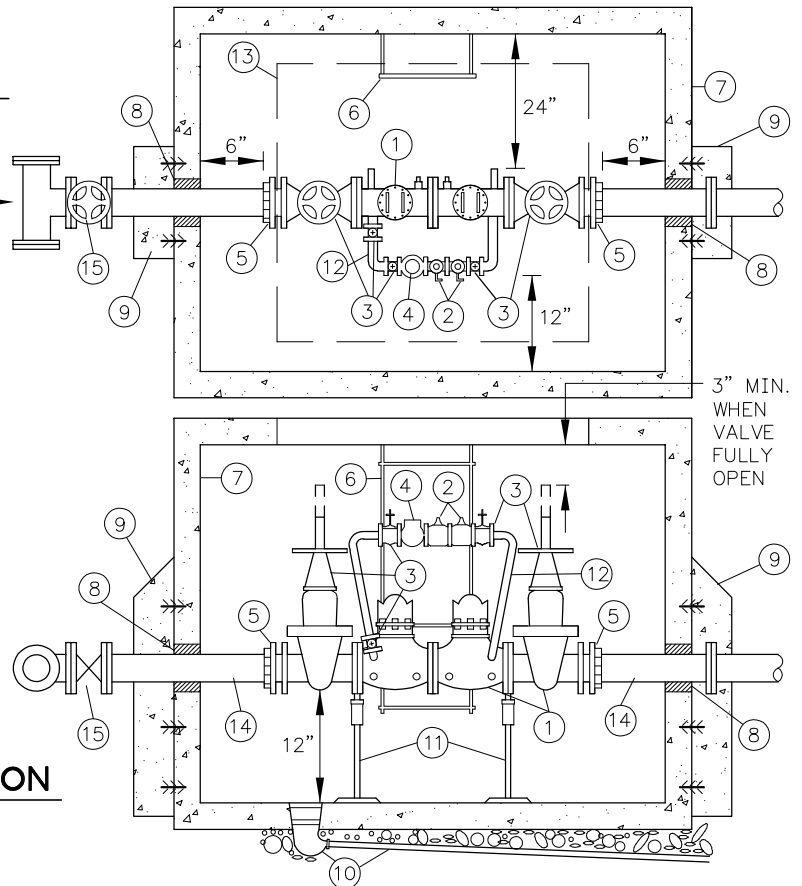
THE D.C.V.A. CHOSEN MUST BE ON THE MOST RECENT WASHINGTON STATE APPROVAL LISTING.
 THE D.C.V.A. MUST BE TESTED BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER AT TIME OF INSTALLATION, ANNUALLY AND WHEN MOVED OR REPAIRED.
 ALL INSTALLATION MUST MEET MANUFACTURERS SPECIFICATIONS AND THE MINIMUM STANDARDS OF THE U.P.C.

NOTES:

1. THE ASSOCIATION WILL DETERMINE IF REDUCED PRESSURE PRINCIPAL DEVICE IS REQUIRED.
2. ASSEMBLY TO BE MAINTAINED BY PROPERTY OWNER/CUSTOMER & ANNUAL CERTIFICATION REQUIRED.
3. FIRELINE SHALL NOT BE PUT INTO SERVICE UNTIL THE BACKFLOW PREVENTION ASSEMBLY IS APPROVED BY THE ASSOCIATION. CERTIFICATION FOLLOWING INSTALLATION REQUIRED.
4. VALVE ASSEMBLY TO BE CENTERED IN VAULT.
5. TEE & GATE VALVE MAY BE REQUIRED ON MAIN. NO GATE REQUIRED ON FIRE LINE SYSTEMS
6. WHEN DOUBLE CHECK VALVE ASSEMBLY IS USED IN SAME LINE W/ DOMESTIC BUILDING METER, METERED DETECTOR BYPASS SHALL BE OMITTED.
7. ALL CLEARANCES SHOWN ARE MINIMUM.
8. VAULTS SHALL NOT BE INSTALLED IN AREAS W/ VEHICULAR TRAFFIC.

PLAN

FLOW →



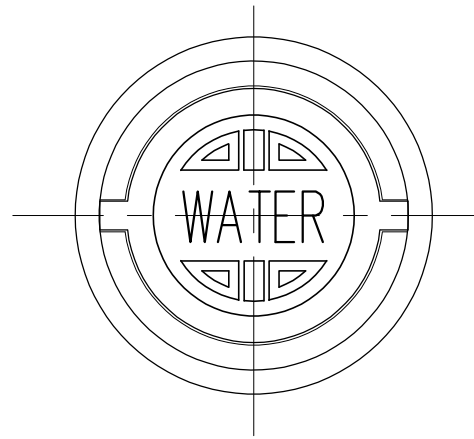
ELEVATION

- ① STATE APPROVED DOUBLE CHECK DETECTOR ASSEMBLY, COMPLETE W/ (2) RESILIENT SEATED O.S.&Y. VALVES & (4) RESILIENT SEATED TEST COCKS, & BRASS OR COPPER DETECTOR BY-PASS.
- ② STATE APPROVED 3/4" DOUBLE CHECK VALVE ASSEMBLY, COMPLETE W/ (2) RESILIENT SEATED BALL VALVES & (4) RESILIENT SEATED TEST COCKS.
- ③ EACH VALVE SHALL BE MARKED W/ MODEL NUMBER W/ DESIGNATION OF RESILIENT SEAT: SUCH AS "RS" OR "R", WHICH MUST BE CAST, MOLDED, OR AFFIXED ONTO THE BODY OR BONNET OF THE VALVE. ALL FERROUS BODIED VALVES SHALL BE COATED W/ A MIN. OF 4MLS. OF EPOXY OR EQUIVALENT POLYMERIZED COATING.
- ④ 5/8"x3/4" METER (CUBIC FEET READING) – METER SUPPLIED AND INSTALLED BY ASSOCIATION DEVELOPER PAYS COST OF METER
- ⑤ UNI-FLANGE W/ SETSCREWS.
- ⑥ ONE GALVANIZED STEEL LADDER TO BE SECURED TO VAULT. WALL IN SUCH MANNER AS TO ALLOW EASY ACCESS FROM EDGE OF HATCH OPENING.
- ⑦ CONCRETE VAULT W/ A MIN. OF 2, 3'x3' ALUM. DIAMOND PLATE DOORS RATED FOR H2O LOADING, MARKED "WATER". DOORS SHALL BE LW HATCH OR EQUAL W/ SPRING LIFT & RECESSED PADLOCK HASP. PAINTED ALUM. SIGN TO BE MOUNTED ON UNDERSIDE OF HATCH "CONFINED SPACE. ENTRY BY PERMIT ONLY". VAULT SHALL BE EQUAL TO UTILITY VAULT CO. MODEL LISTED IN TABLE BELOW.
- ⑧ LINK SEALS
- ⑨ RESTRAIN INLET/OUTLET PIPE FLANGE WITH CAST-IN ANCHOR BLOCKS WITH REBAR EMBEDDED IN VAULT WALL.
- ⑩ DRAIN, SLOPE TO DAYLIGHT WHERE APPLICABLE.
- ⑪ TWO ADJUSTABLE PIPE STANCHIONS.
- ⑫ ALL PLUMBING FOR BY-PASS TO BE COPPER & BRASS.
- ⑬ ACCESS TO BE CENTERED OVER METER.
- ⑭ CL. 52 D.I., M.J. W/ RETAINER GLANDS.
- ⑮ TEE & VALVE SHALL BE INSTALLED AT MAIN. SIZE TO FIT.

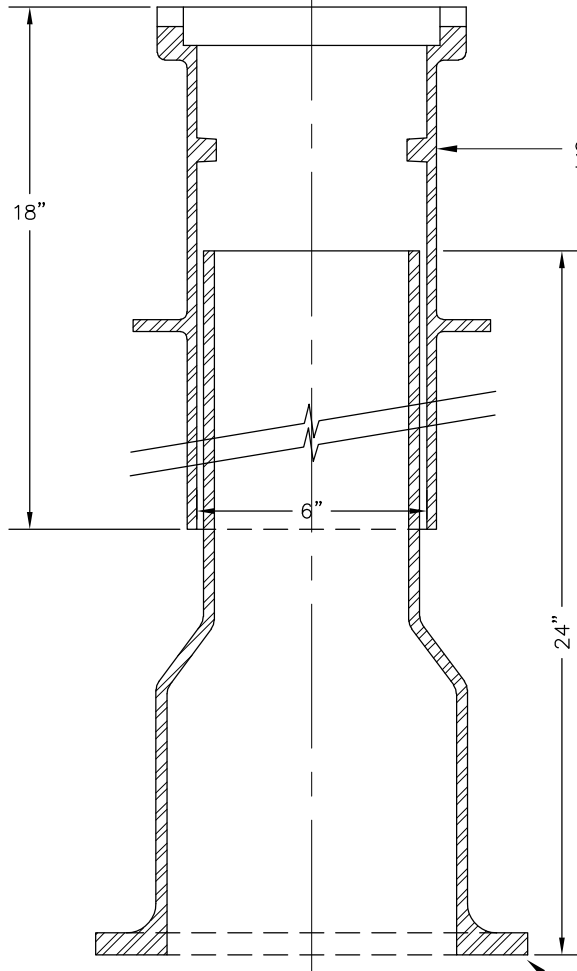
NO GATE VALVE SHALL BE INSTALLED ON FIRE LINE SYSTEMS.

SIZE	MIN. VAULT SIZE (INSIDE)			UTIL. VAULT CO. MODEL	UTIL. VAULT CO. COVER
	W	L	H		
3"	4'-2"	4'-8"	3'-3"	675-WA	675-2-332P
4"	4'-6"	5'-3"	3'-8"	675-WA	675-2-332P
6"	4'-8"	6'-6"	4'-5"	675-WA	675-2-332P
8"	5'-0"	7'-8"	5'-3"	687-LA	687-TL-2-332
10"	5'-2"	8'-8"	6'-1"	5106-LA	5106-TL3-332

940 DEEP SKIRTED
VALVE BOX LID
MARKED WATER,
13-5205

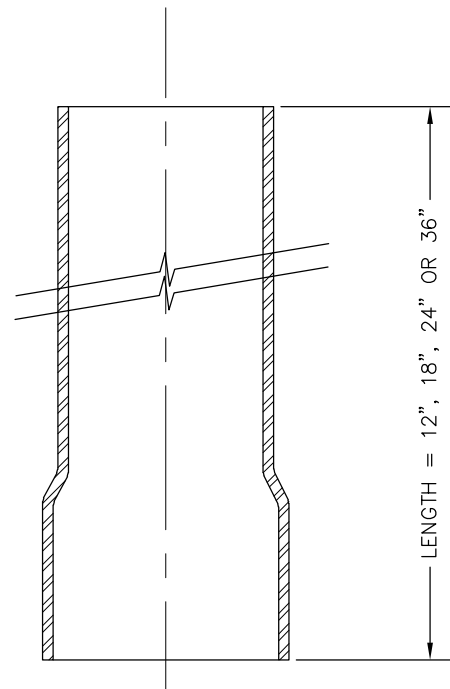


PLAN



SECTION

940 VALVE BOX
TOP, 13-5235

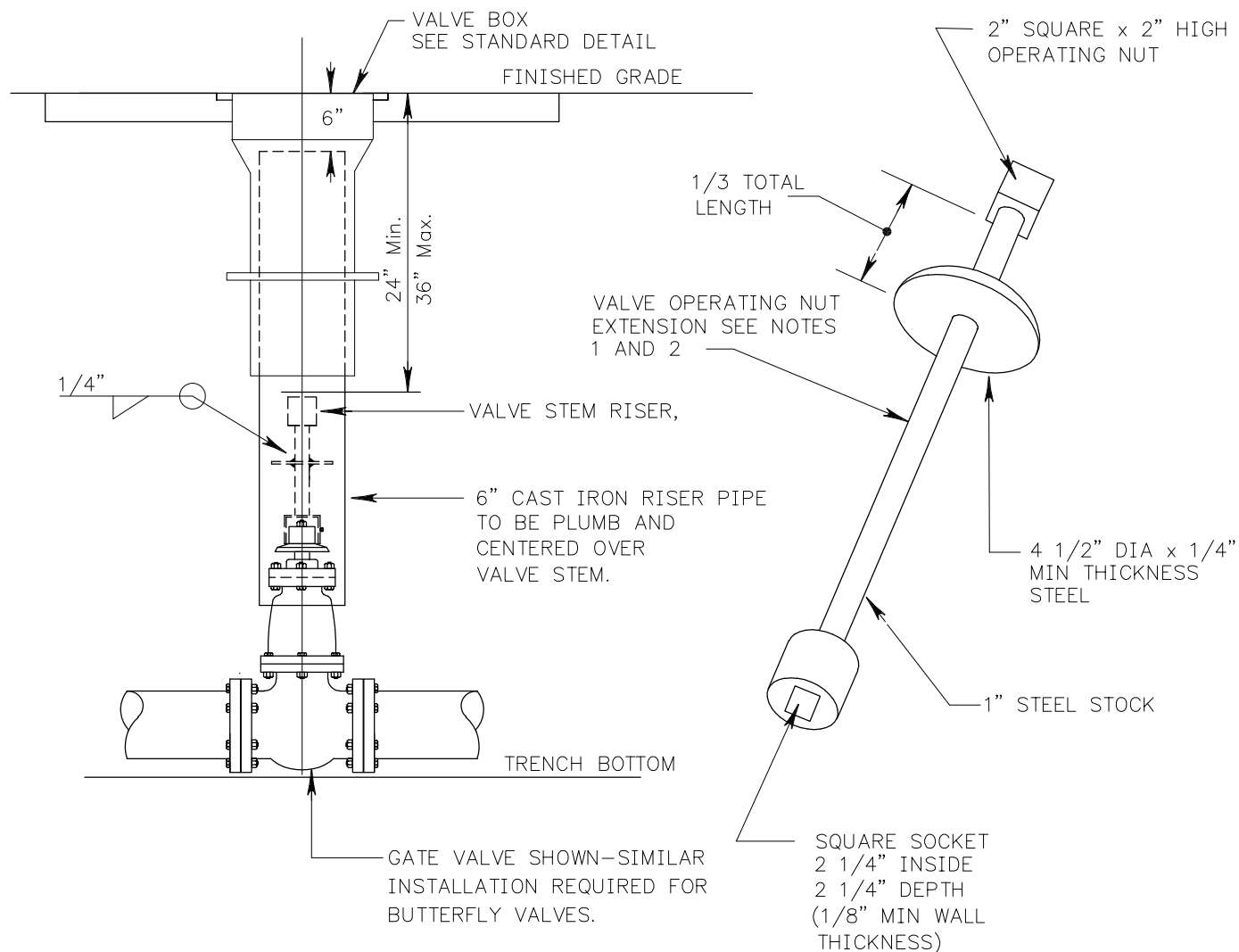


EXTENSION

940 VALVE BOX
BASE, 13-5260

NOTES:

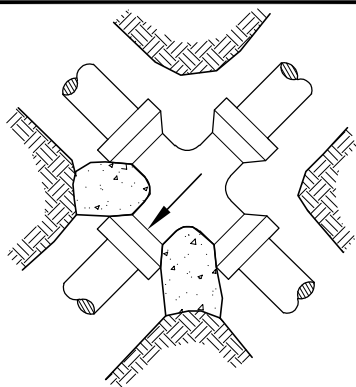
1. VALVE BOX TO BE RICH STYLE 940 HEAVY DUTY VALVE BOX STAR PIPE PRODUCTS (OR EQUAL) WITH LUGGED COVER, AS NOTED ABOVE.
2. VALVE BOX TO BE ADJUSTED FLUSH WITH FINISH PAVING. VALVE BOX LUGS ("EARS") TO ALIGN WITH DIRECTION OF FLOW
3. VALVE BOX CENTERED OVER OPERATING NUT. INSTALL ETHAFOAM CUSHION (1" MIN. THICKNESS) OVER VALVE BONNET
4. BASE AND EXTENSION SHALL BE DIMENSIONALLY COMPATIBLE WITH VALVE BOX AND COVER.



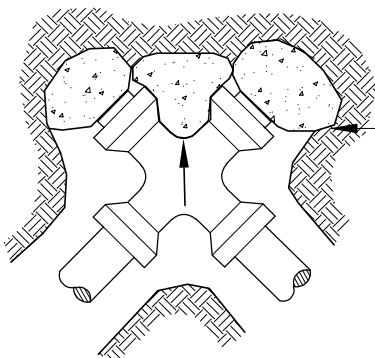
VALVE OPERATING NUT EXTENSION

NOTES:

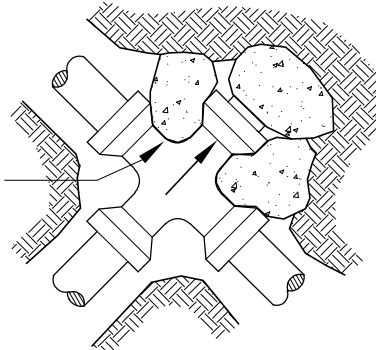
1. VALVE OPERATING NUT EXTENSIONS ARE REQUIRED WHEN THE VALVE NUT IS MORE THAN THREE (3) FEET BELOW FINISHED GRADE. EXTENSIONS ARE TO BE A MINIMUM OF ONE (1) FOOT LONG. ONLY ONE EXTENSION WILL BE ALLOWED PER VALVE.
2. ALL VALVE OPERATING NUT EXTENSIONS ARE TO BE MADE OF STEEL, SIZED AS NOTED, AND PAINTED WITH TWO (2) COATS OF METAL PAINT.



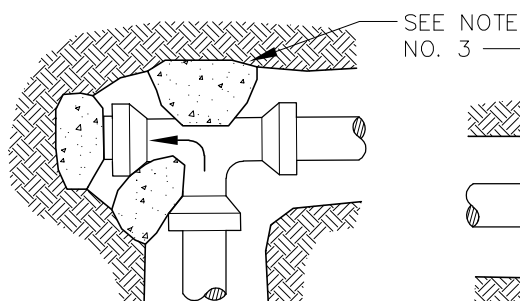
UNBALANCED CROSS



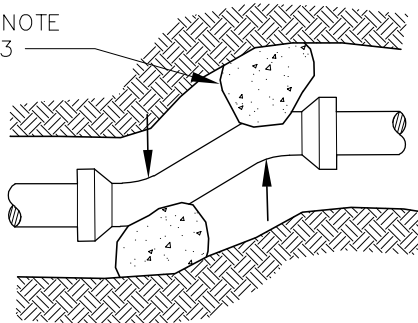
PLUGGED CROSS



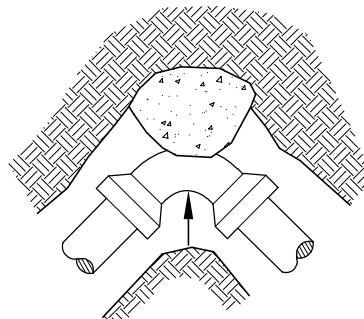
PLUGGED CROSS



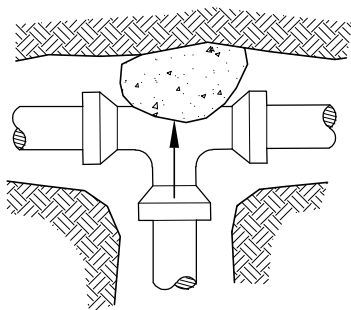
PLUGGED TEE



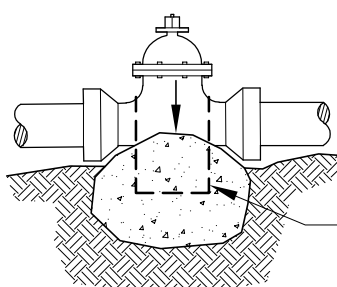
OFFSET



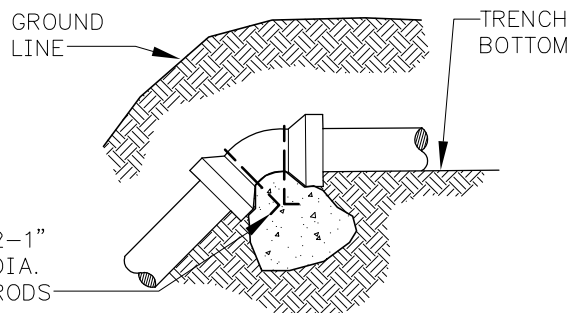
HORIZONTAL BEND



TEE



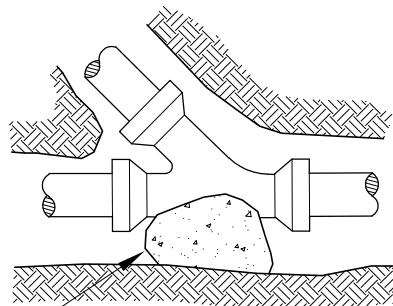
VALVE



VERTICAL BEND

NOTES:

1. SIZE OF BLOCK TO BE DETERMINED BY THE CONTRACTOR, TO BE ADEQUATE FOR SOIL CONDITION AND PRESSURE INVOLVED.
2. ALL BLOCKING TO BE ON UNDISTURBED MATERIAL.
3. BLOCKING REQUIRED IF PLUGS NOT SECURED BY BOLTING OR ADEQUATE STRAPS.



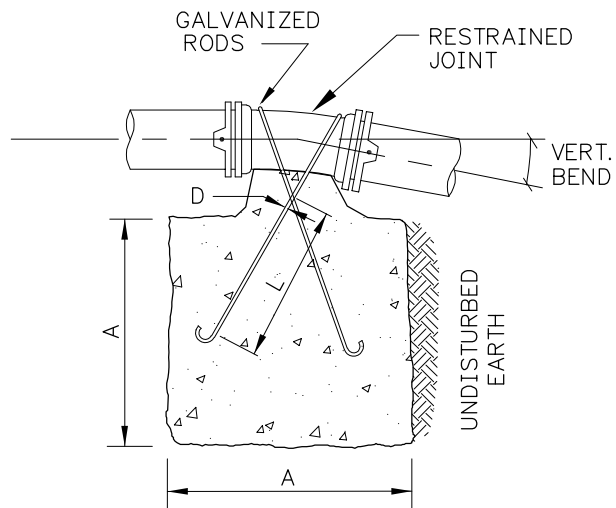
SEE NOTE NO. 3

"Y" BRANCH

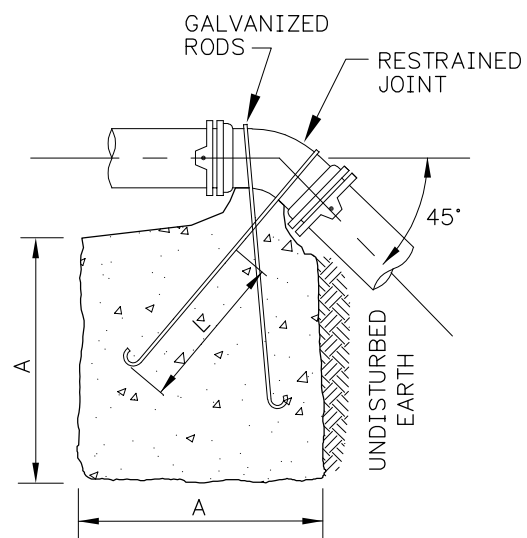
VERTICAL BLOCKING FOR 11 1/4°-22 1/2°-30° BENDS							
PIPE SIZE	V B	CU FT	A	D	L		
4"	11 1/4°	8	2.0'	3/4"	1.5'		
	22 1/2°	11	2.2'		2.0'		
	30°	17	2.6'				
6"	11 1/4°	11	2.2'	3/4"	2.0'		
	22 1/2°	25	2.9'				
	30°	41	3.5'				
8"	11 1/4°	16	2.5'	3/4"	2.0'		
	22 1/2°	47	3.6'				
	30°	70	4.1'			3/4"	2.5'
12"	11 1/4°	32	3.2'	3/4"	2.0'		
	22 1/2°	88	4.5'		7/8"	3.0'	
	30°	132	5.1'				
16"	11 1/4°	70	4.1'	7/8"	3.0'		
	22 1/2°	184	5.7'		1 1/8"	4.0'	
	30°	275	6.5'		1 1/4"		
20"	11 1/4°	91	4.5'	7/8"	3.0'		
	22 1/2°	225	6.1'		1 1/4"	4.0'	
	30°	330	6.9'		1 3/8"	4.5'	
24"	11 1/4°	128	5.0'	1"	3.5'		
	22 1/2°	320	6.8'		1 3/8"	4.5'	
	30°	480	7.9'		1 5/8"	5.5'	
VERTICAL BLOCKING FOR 45° BENDS							
4"	45°	30	3.1'	3/4"	2.0'		
6"		68	4.1'				
8"		123	5.0'				
12"		232	6.1'	3/4"	2.5'		
16"		478	7.8'			1 1/8"	4.0'
20"		560	8.2'			1 1/4"	
24"		820	9.4'	1 3/8"	4.5'		

NOTES:

1. CONCRETE BLOCKING BASED ON 200 PSI PRESSURE AND 2500 PSI CONCRETE.



VERTICAL BLOCKING
FOR 11 1/4°, 22 1/2°, & 30° BENDS



VERTICAL BLOCKING
FOR 45° BENDS

