

COMMUNITY STREET AND UTILITY STANDARDS 2022

*Adopted by City Council on January 10, 2023
Resolution Number 3926*

Page intentionally left blank

TABLE OF CONTENTS

INTRODUCTION AND REFERENCES	5
CONSTRUCTION REQUIREMENTS	7
TABLE 1: ESTABLISHED RATES FOR PERMIT CALCULATIONS	9
DEVIATION PROCEDURES	11
DIVISION 1 GENERAL REQUIREMENTS	13
DIVISION 2 EARTHWORK	40
DIVISION 4 BASES	48
DIVISION 5 SURFACE TREATMENTS AND PAVEMENTS	49
DIVISION 6 STRUCTURES	54
DIVISION 7 DRAINAGE STRUCTURES, STORM SEWERS, SANITARY SEWERS, WATER MAINS, AND CONDUIT	55
DIVISION 8 MISCELLANEOUS CONSTRUCTION	76
DIVISION 9 MATERIALS	90
<u>COMMUNITY STREET AND UTILITY STANDARD DETAILS</u>	

Page intentionally left blank

INTRODUCTION AND REFERENCES

All construction within any right-of-way or municipal easement, or connection to an existing City utility or storm drainage system, or extension of private water and sewer mains and appurtenances on private property shall comply with the 2022 edition of the Washington State Department of Transportation (WSDOT) Standard Specifications for Road, Bridge, and Municipal Construction as revised by these City of Moses Lake Community Street and Utility Standards. WSDOT amendments to the 2022 Standard Specifications for Road, Bridge, and Municipal Construction are explicitly excluded by the Community Street and Utility Standards except as specifically written or revised by the City of Moses Lake. All construction shall conform to the applicable standards in effect at time of Construction Plan approval, or when the permit is issued if no Construction Plans are required. Construction plan approval shall expire one year after approval date if construction has not started; however, if Construction Plans are approved in conjunction with platting processes, the Construction Plans shall expire concurrently with the preliminary plat. All revisions contained in the City of Moses Lake Community Street and Utility Standards shall prevail over other specifications unless revised in writing by the City, and except for project-specific Special Provisions that have been approved by the Municipal Services Director and/or City Engineer.

All revised specifications described herein conform to similar section numbers as listed in the 2022 Standard Specifications for Road, Bridge, and Municipal Construction. Reference materials for modification are compiled into the City of Moses Lake Community Street and Utility Standards from APWA Specifications, Federal regulations, Washington State statutes and regulations, Moses Lake ordinances or resolutions, recommended standards for water works, recommended standards for sewage works, Moses Lake engineering recommendations, Uniform Building Codes, and the 2009 Manual on Uniform Traffic Control Devices (MUTCD).

All construction subject to the Community Street and Utility Standards shall be constructed to ensure conformity within the existing block unless construction that deviates from this requirement is approved by the Engineer in writing prior to construction. Water, sewer, and street construction shall be in substantial compliance with the Water, Sewer, Street, and other Comprehensive Plans or Capital Improvement Plans that are in effect at the time of Construction Plan approval.

Any discrepancies noted between the Special Provisions, the Community Street and Utility Standards, and the Standard Specifications shall be resolved in accordance with Section 1-04.2. Furthermore, any discrepancy shall be brought to the attention of the City Engineer.

Materials and methods not provided for in the Community Street and Utility Standards may be allowed to be used if the applicant demonstrates to the City of Moses Lake that the materials and methods proposed are equal to or superior to the Community Street and Utility Standards. Deviation from the standards shall be granted or denied solely at the discretion of the Municipal Services Director and/or City Engineer.

The City of Moses Lake *Community Street and Utility Standards* and the 2022 edition of the WSDOT *Standard Specifications for Road, Bridge, and Municipal Construction* are on file at the Municipal Services Department, Engineering Division, 321 South Balsam Street, Moses Lake, WA, where they may be examined and consulted by any interested party.

The City of Moses Lake *Community Street and Utility Standards* are also available for purchase from the Municipal Services Department, and they are available on the Internet at <http://www.cityofml.com>.

The *2022 Standard Specifications for Road, Bridge and Municipal Construction* are available for purchase from the Washington State Department of Transportation, Olympia, Washington.

GENERAL REQUIREMENTS

The following items are required for construction within any right-of-way or municipal easement; connection to an existing City utility; or extension of private water and sewer mains and appurtenances on private property.

1. Prior to construction, the Construction Plans and specifications for municipal improvements, and private water mains and sewer mains shall be approved and signed by the City Engineer. Plans for public utilities, like gas, power, and communications, will not be signed by the City Engineer. Signature blanks are required on each Construction Plan sheet. Provide one set of mylar reproducible drawings to the City Engineer after all revisions have been made and approved. Construction plan review fees are in accordance with the current Moses Lake Municipal Code fee schedule.
2. Construction plans with on-site fire hydrants shall be approved and signed by the Moses Lake Fire Department prior to construction. Signature blanks for the Moses Lake Fire Department are required on each Construction Plan sheet that includes on-site fire hydrants.
3. The Contractor shall have a City of Moses Lake Street and Utility Construction Bond in the amount of 150 percent of construction costs. However, property owners may take out a permit to install their sidewalk, or to remove and replace their sidewalk, without a Street and Utility Construction Bond. Additionally, professional surveyors may take out a permit to install monument cases without obtaining a Street and Utility Construction bond.
4. The Contractor or property owner shall obtain a Street and Utility Construction Permit. The permit fee is 2½ percent of the cost of construction for the work that the City inspects, but not less than \$50.00. The Contractor shall provide an estimate of the work, based on the rates established in Table 1. If specific rates are not established by Table 1 for a particular project, the Contractor may provide a project quote for review by the Engineer. The Engineer will base approval of the cost of the project on a reasonable estimate of what the project would cost the City of Moses Lake.
5. All required construction staking shall be performed under the direction of a Professional Land Surveyor.
6. A pre-construction conference shall be required between the Contractor, City staff, and all affected utilities. The City Annex conference room is available for this meeting.
7. The Contractor shall provide a traffic control plan for work within the City's right-of-way reflecting the requirements set forth in the MUTCD.

8. The developer shall provide circuitry for all required street lighting in conjunction with the Grant County PUD. Street lighting and circuitry plans shall be as approved by Grant County PUD for inclusion into the Construction Plans when required.
9. Plans for new public utilities shall be submitted with Construction Plans and shall be approved by the respective utility. The Contractor shall install all new telephone, electric, cablevision and other public utilities underground.
10. The Contractor shall provide submittals to the City Engineer for approval on all non-standard materials.
11. Inspector hours are between the hours of 8:00 a.m. and 3:30 p.m. Work that requires inspection outside of the regular hours shall be coordinated with the City Engineer. Inspector overtime hours shall be in accordance with Section 1-08.0(2).
12. The Contractor shall perform all work in accordance with OSHA and WISHA safety regulations. The Contractor shall construct all work in conformance with the current WSDOT Standard Specifications for Road, Bridge and Municipal Construction as amended by the City of Moses Lake Community Street and Utility Standards, and Special Provisions approved by the Engineer. The Contractor shall be responsible to check on any revised Community Street and Utility Standards that may be in effect at the time of construction.
13. A 2-year maintenance bond is required in the amount of 50 percent of the permitted costs of municipal improvements. The maintenance bond shall be provided upon completion of the project and prior to City Council acceptance of municipal improvements.
14. The Municipal Services Director and/or City Engineer may deviate, waive, or add to the preceding items based on the extent and nature of the proposed construction.

TABLE 1: Established Rates for Permit Calculations		
Item Description	Unit Price	Not Less Than
HMA Patch (includes R & R)	\$14.00/SF	\$863.00
Install Curb (includes R & R)	\$69.00/LF	\$690.00
Sawcut Curb for Driveway	\$35.00/LF	\$350.00
Install Sidewalk (includes R & R)	\$14.00/SF	\$862.00
Sewer or Water Service Connection to Main (Add Trench)	\$863.00/EA	\$863.00
Trenching and pipe work including appurtenances (sewer, storm, or water); add HMA, curb, sidewalks	\$104.00/LF	\$2,070.00
1-inch Water Service (add trench, curb, sidewalk)	\$3,450.00/EA	\$3,450.00
2-inch Water Service (add trench, curb, sidewalk)	\$5,750.00/EA	\$5,750.00
Water Service, 3-inch and larger (add trench, curb, sidewalk)	\$6,900.00/EA	\$6,900.00
Manhole (add trench, HMA)	\$5,175.00/EA	\$5,175.00
Drywell (add trench, curb, sidewalk, catch basin)	\$6,900.00/EA	\$6,900.00
Catch Basin (add trench, curb, sidewalk, drywell)	\$3,450.00/EA	\$3,450.00
Fire Hydrant Assembly with Valve (add trench, curb, sidewalk)	\$4,600.00/EA	\$4,600.00
Valve, Valve Box, and Adjustment	\$2,300.00/EA	\$2,300.00
Full-width Street, No Utilities (includes curb, HMA, sidewalk)	\$224.00/LF	\$69,000.00

VACANT PAGE No 10

DEVIATION PROCEDURE

The WSDOT Standard Specifications for Road, Bridge and Municipal Construction as revised by the Community Street and Utility Standards may be deviated subject to the approval by the Municipal Services Director and/or City Engineer.

A request may be made to the Municipal Services Director and/or City Engineer for a deviation of any requirement of the Community Street and Utility Standards. All requests shall be in writing and sent to the City Engineer at P.O. Box 1579, Moses Lake, Washington, 98837.

Upon receipt of a request or recommendation for a deviation to the Community Street and Utility Standards the Municipal Services Director and/or City Engineer shall consider the deviation request. The Municipal Services Director and/or City Engineer shall approve, conditionally approve, or disapprove the deviation request in compliance with the following requirements.

1. Deviations shall not be approved that would be detrimental to the public health, safety, or welfare; or that would be injurious to real property.
2. A deviation approval may require such conditions as may serve the objectives of the requirement that is being deviated, insofar as is practicable.

VACANT PAGE No. 12

DIVISION 1 GENERAL REQUIREMENTS

1-01 DEFINITIONS AND TERMS

1-01.2(2) ITEMS OF WORK AND UNITS OF MEASUREMENT

The section is supplemented with the following:

AWG	American Wire Gauge
CSTC	Crushed Surfacing Top Course
CSBC	Crushed Surfacing Base Course
D	Depth
DI	Ductile Iron
FIPT	Female Iron Pipe Thread
FL	Flanged
FT	Feet
ID	Inside Diameter
IPT	Iron Pipe Thread
L	Length
Max.	Maximum
MH	Manhole
MIPT	Male Iron Pipe Thread
Min.	Minimum
MJ	Mechanical Joint
OC	On center
OD	Outside Diameter
PE	Polyethylene
PIP	Pressure Irrigation Pipe
R	Radius
Rebar	Reinforcing Steel
ROW	Right-of-way
SF	Square Feet
SW	Sidewalk
typ.	Typical
W	Width
x	By
X-brace	Crossbrace

1-01.3 DEFINITIONS

The section is revised by replacing the following definitions.

Contracting Agency

The Contracting Agency, as used in the Standard Specifications, is the City of Moses Lake. The venue of all causes of action arising from the advertisement, award, execution, and performance of the contract shall be in Grant County Superior Court.

Contractor

Contractor is the individual, partnership, firm, corporation, or joint venture permitted by or contracting with the City to do prescribed work.

Department, Department of Transportation

All references in the Standard Specifications to the terms “Department” or “Department of Transportation”, shall be revised to read “City of Moses Lake”.

Engineer

Engineer is the City Engineer or the Municipal Services Director’s designated representative.

Special Provisions

Special Provisions are Construction Plans and specifications that are approved by the Municipal Services Director and/or City Engineer are provided for a specific project. Special Provisions revise the Community Street and Utility Standards and the Standard Specifications. In cases of discrepancy, the Special Provisions govern over the Community Street and Utility Standards and Standard Specifications.

State

All references in the Standard Specifications to the terms “State” shall be revised to read “City of Moses Lake”.

The section is supplemented with the following:

Attorney

Attorney is the attorney who is duly authorized to act for the City in matters pertaining to law.

Block

The area of a City Street between two street intersections.

Building Sewer

Building sewers are sewer service lines that begin two feet from the edge of the building and ending at the Publicly Owned Treatment Works (POTW) sewer main. The building sewer includes the connection to the POTW sewer main. Building sewers are privately maintained. All building sewers require a Street and Utility Construction permit, a plumbing permit, or both, prior to construction, maintenance, or repair.

City

City is the City of Moses Lake.

City Council

City Council is the duly elected or appointed Council of the City of Moses Lake, Washington.

City Engineer

City Engineer is the City of Moses Lake Engineering Division Director, or another professional engineer designated by the Municipal Services Director.

City Street

City Street is any street within dedicated right-of-way, easement, or other public property including primary streets, secondary streets, tertiary streets, and residential streets within the City limits.

The City Engineer shall classify all proposed City Streets and all City Streets that are annexed after the publication of this edition, as either a primary street, secondary street, tertiary street, or residential street.

Commission

All references in the Standard Specifications to the term “Commission” shall be revised to read “City of Moses Lake”.

Compacted Backfill

Compacted Backfill is any acceptable backfill material that has been compacted to 95 percent of the maximum density in accordance with Section 2-03.3(14)D.

Construction Plans

Construction plans are plans approved by the City Engineer. Construction plans may be required from a Professional Engineer. Construction plans may require a vicinity map, description and location of municipal improvements, location of right-of-way and easements, details for the work, a summary of quantities, structure notes, and other items required to show the Work being authorized by the City.

Developer

Developer is a person, firm, corporation, Contractor, subdivider, or other individual or agent of any person or party who is responsible for installing municipal improvements. Municipal improvements may include repairs or modifications to existing improvements, or new construction; whether they are proposed by the developer or required in accordance with City ordinance. The developer shall assume or cause to be assumed the definition and responsibilities of Contractor (1-01.3).

Deviation

Deviation is a modification to any requirement of the Community Street and Utility Standards or Moses Lake Municipal Code that has been approved by the Municipal Services Director and/or City Engineer.

Drain Rock

Drain rock is the same as Gravel Backfill for Drains, as amended by Section 9-03.12(5).

Final Acceptance Date

Final acceptance date is the date that the City Council accepts the project.

Headquarters

All references in the *Standard Specifications* to the term “Headquarters” shall be revised to read “City”.

Main

Water mains are all potable water pipes that are 4 inches in diameter and larger, and all potable water pipes that serve more than a single service line.

Sewer mains are all sewer pipes that have an inside diameter larger than 6 inches, and all sewer pipes that service more than one property. Sewer mains include all new sewer pipes that terminate in a manhole. Existing sewer mains are all sewer pipes that serve more than one segregated property.

Sewer mains and water mains may be municipal or private. All mains, municipal or private, require a Street and Utility Construction permit for construction, maintenance, or repair.

May

May is a permissive condition. Where the term “may” is used, it shall be at the discretion of the Engineer.

Pipe Bedding Zone

Pipe Bedding Zone is the zone around the pipe that is 6 inches from any portion of the pipe or its appurtenances.

Primary streets

Primary streets are arterial streets that carry the majority of traffic that enters and exits urban areas and that carry the majority of through traffic. Primary streets have either fully controlled or partially controlled accesses. Primary streets include interstate highways, state highways, and the following specific City Streets:

Broadway Avenue	Interstate 90 to State Route 17
Pioneer Way	entire length
Stratford Road	entire length
Wheeler Road	entire length

Public utility

A privately or publicly owned and operated business whose services are so essential to the general public as to justify the granting of a franchise by the City.

Residential streets

Residential streets are all City Streets that are not classified as either a primary street, secondary street, or tertiary street.

Sand

Sand is the same as bedding material acceptable by Section 7-09.3(9).

Sand Bedding

Sand bedding is the same as bedding material acceptable by Sections 7-08.3(1)C and 7-09.3(9).

Sawcutting

Sawcutting pavement is any method allowed by the Engineer to provide a clean, vertical break for pavement removal. These methods may include pneumatic cutters, zippers, or wheel cutters.

Sawcutting concrete is any method allowed by the Engineer that provides for a clean, straight, vertical edge; without any fractures or spalls on the concrete that remains.

Secondary Streets

Secondary streets are arterial streets that distribute trips of moderate lengths between different geographic areas of the City. Secondary streets include all arterials that are not otherwise classified as primary streets. Secondary streets provide access to identifiable areas of the City, but they do not enter into identifiable areas of the City. Secondary streets include the following specific City Streets:

Broadway Avenue	State Route 17, to the eastern City limits
Division Street	Broadway Avenue to Interstate 90

Central Drive	Valley Road, north to Grape Drive
Clover Drive	All of Clover Drive south of Pioneer Way
Frontage Road (all)	entire length
Grape Drive	SR 17 to Valley Road
Hansen Road	entire length
Kittelsohn Road	entire length
Nelson Road	Division Street to the eastern City limits
Patton Boulevard	entire length
Randolph Road	entire length
Road 7 NE	entire length
Road L NE	entire length
Road N NE	entire length
Third Avenue	West Broadway Avenue to East Broadway Avenue
Tyndall Road	entire length
Valley Road	entire length
Yonezawa Boulevard	entire length

Secretary

All references in the Standard Specifications to the term “Secretary” shall be revised to read “City of Moses Lake”.

Secretary of Transportation

All references in the Standard Specifications to the term “Secretary of Transportation” shall be revised to read “City of Moses Lake”.

Select Backfill

Same as bedding material acceptable by Section 7-09.3(9).

Shall

Shall is a mandatory condition. Where requirements are described with “shall”, the requirements are mandatory.

Should

Should is an advisory condition. Where the word “should” is used, it is considered to be advisable usage, recommended but not mandatory.

Standard Specifications

Standard Specifications are the WSDOT Standard Specifications for Road, Bridge and Municipal Construction. Standard Specifications are revised by the Community Street and Utility Standards and the Special Provisions.

State Materials Laboratory

All references to: “State Materials Laboratory” shall be revised to read “location designated by the City of Moses Lake”.

State Treasurer

All references in the Standard Specifications to the term “State Treasurer” shall be revised to read “City of Moses Lake”.

Tertiary Street

Tertiary streets are City Streets that provide land access and traffic circulation within residential, commercial, and industrial areas of the City. Tertiary streets differ from primary and secondary streets in that they may enter geographic areas of the City, to distribute traffic from the primary and secondary streets to their ultimate destination within the neighborhood. Tertiary streets include the following specific City Streets:

A Street	entire length
Alder Street	entire length
Apache Street	entire length
Arlene Lane	entire length
Ash Street	entire length
ASPI Boulevard	entire length
B Street	Broadway Avenue to Ivy Avenue
Balsam Street	entire length northwesterly of Seventh Avenue
Barbara Avenue	entire length
Battery Road	entire length
Beacon Road	Grape Drive to Stewart Lane
Beech Street	entire length
Bell Road	entire length
Bing Road	entire length
Block Street	entire length
Bonanza Street	entire length
Bud Lane	entire length
Burr Avenue	entire length
Burress Avenue	entire length
C Street	Toevs Avenue to Ivy Avenue
Canterbury Lane	Terrace Avenue to Wheeler Road
Cedar Street	entire length
Central Drive	entire length west of Grape Drive
Central Drive	entire length south of Valley Road
Cherry Avenue	Juniper Drive to Grand Drive
Chestnut Street	entire length
Citation Road	entire length
Clover Drive	entire length north of Nelson Road

Colonial Avenue	entire length
Columbia Avenue	Fourth Avenue to A Street
Commerce Way	entire length
Commercial Street	entire length
Coolidge Street	entire length
Date Street	entire length
Debonair Street	entire length
Dogwood Street	entire length
Doolittle Drive	entire length
Driggs Drive	entire length
F Road NE	entire length
Elder Street	entire length
Elm Street	entire length
Fairway Drive	entire length
Fifth Avenue	entire length
Fig Street	entire length
Fir Street	entire length
Fourth Avenue	entire length
Gary Street	Grape Drive to Market Street
Gibby Road	entire length
Grand Drive	Ball Court to Cherry Avenue
Grape Drive	entire length south of Valley Road
Gumwood Street	entire length
Hamilton Road	entire length
Harris Road	entire length
Hermit Road	entire length
Hill Avenue	entire length
Holly Street	entire length
Hunter Place	entire length
Idaho Street	entire length
Industrial Street	entire length
Interlake Road	entire length
Ivy Avenue	entire length
Jones Avenue	entire length
Juniper Drive	entire length
Kinder Road	entire length
Knolls Vista Drive	Stratford Road to Northshore Drive
Laguna Drive	Prichard Road to Sage Road
Lakeland Drive	entire length
Lakeshore Drive	entire length
Lark Avenue	entire length
Lasco Lane	entire length
Leanne Avenue	entire length

Lee Street	Gibby Road to Broadway Avenue
Legend Lane	entire length
Locust Lane	entire length
Loring Drive	entire length
Maiers Road	entire length
Main Street	entire length
Maple Drive	entire length
Marina Drive	entire length
Market Street	entire length
Marlo Avenue	entire length
Melva Lane	entire length
Milwaukee Avenue	entire length
Monroe Street	entire length
Nelson Road	entire length west of Division Street
Olive Avenue	entire length
Owen Road	entire length
Paxson Drive	entire length
Peninsula Drive	entire length south of Locust Lane
Penn Street	entire length
Pheasant Street	South of Locust Lane
Pilgrim Street	entire length
Plum Street	Coolidge Street to Juniper Drive
Prichard Road	entire length
Ray Road	entire length
Reisner Road	Central Drive to Ridge Road
Riviera Avenue	entire length
Road 6.7 NE	entire length
Sage Road	entire length
Sand Dunes Road	entire length
Schneirla Avenue	Broadway Avenue to Peninsula Drive
Seventh Avenue	entire length
Sharon Avenue	entire length
Silva Street	entire length
Sixth Avenue	entire length
Skyline Drive	Nelson Road to Sharon Avenue
Terrace Avenue	entire length
Texas Street	Burress Avenue to Russell Avenue
Third Avenue	West Broadway Avenue to the southwesterly end
Twenty-second Avenue	entire length
Walnut Street	entire length
Wanapum Drive	Peninsula Drive to Lakeshore Drive
Wapato Drive	entire length
Wenatchee Drive	entire length

Western Avenue	entire length
Westlake Road	entire length
Westover Boulevard	entire length
Westshore Drive	Interstate 90 to Hansen Road
Wiser Lane	entire length
Yakima Street	entire length

Traffic

Traffic consists of both vehicular and non-vehicular traffic, such as pedestrians, bicyclists, wheelchairs, and equestrians.

Undisturbed Ground

Undisturbed ground is any ground or soil that is continuous for 10 feet in any direction of a thrust block; and that has either never been disturbed or trenched through, or that has been compacted to 95 percent of maximum density.

Washington State Transportation Commission

All references in the Standard Specifications to the term “Washington State Transportation Commission” shall be revised to read “City of Moses Lake”.

Water Service Line

Water service lines are potable water pipes that connect water services between the building and the water main. All water service lines shall be metered lines. Water service lines are privately maintained between the meter tile and the building, and for all water service lines that are connected to private water mains. Water service lines require a Street and Utility Construction permit, a plumbing permit, or both, prior to construction, maintenance, or repair.

1-02 BID PROCEDURES AND CONDITIONS

1-02.2 PLANS AND SPECIFICATIONS

The section is replaced with the following:

The Contractor shall obtain copies of Construction Plans from the developer prior to construction.

1-04 SCOPE OF THE WORK

1-04.1 INTENT OF THE CONTRACT

The section is supplemented with the following:

The developer shall furnish all labor and materials necessary to provide Construction Plans, specifications, subdivision drawings, engineering, and other related items associated with a development project.

1-04.2 COORDINATION OF CONTRACT DOCUMENTS, PLANS, SPECIAL PROVISIONS, SPECIFICATIONS, AND ADDENDA

The section is revised by replacing items 1 through 7 as follows:

1. Addenda approved by the City Engineer,
2. Special Provisions approved by the City Engineer,
3. Construction Plans that are approved by the City Engineer,
4. Community Street and Utility Standards,
5. Community Street and Utility Standard Details,
6. Standard Specifications,
7. Standard Plans

The following section (1-04.12) is added:

1-04.12 WASTE SITES

Waste sites shall be provided by the Contractor. Waste sites shall be operated in such a manner as to meet all laws, ordinances, and safety and health requirements of the State, County, and City. Waste sites shall not be permitted if operations or results of such operations create a nuisance problem, or result in damage to municipal, public, or private properties. Waste sites within the City of Moses Lake may require a grading permit from the Community Development Department.

The Contractor shall provide the Engineer with copies of all excavation and grading permits that are required by Moses Lake Municipal Code.

The following section (1-04.13) is added:

1-04.13 USE OF PRIVATE PROPERTY

The Contractor shall obtain permission from the property owner before using any private property adjoining the work. The Contractor shall obtain a written release from all damages that has been signed by the property owner; and the Contractor shall provide the written release to the Engineer prior to the City's acceptance of the project.

1-05 CONTROL OF WORK

1-05.4 CONFORMITY WITH AND DEVIATIONS FROM PLANS AND STAKES

The following section (1-05.4(1)) is added:

1-05.4(1) ROADWAY AND UTILITY SURVEYS

The Developer shall hire a professional land surveyor to set the following construction stakes and marks to establish lines, slopes, and grade; and the Contractor shall provide a copy of the survey notes to the Engineer.

1. Street construction — Offset stakes 3 feet behind sidewalk to top of curb elevation at 50-foot intervals.
2. Gravity sewer main construction — Offset stakes to pipe centerline and invert at changes in grade or alignment, and 50-foot intervals.
3. Water main and sanitary sewer force main construction — Offset stakes to pipe centerline and top of pipe at 100-foot intervals and at changes in alignment.
4. Structures — 2 offset stakes for location and elevation.
5. Finish grade for paving in curbed streets — 1 row of blue tops at crown line at 50-foot intervals.
6. Finish grade for paving uncurbed streets — 3 rows of blue tops (1 at crown and 1 at each edge of pavement).
7. Subgrade for curbed streets — No stakes are required. Contractor may set subgrade from offset cut and fill stakes if desired. If the Contractor chooses to provide base course prior to curb construction, the surveyor shall provide centerline hubs at 50-foot intervals.
8. Subgrade for graveled, non-curbed streets — 1 row of red tops along centerline at 100-foot intervals.

1-05.6 INSPECTION OF WORK AND MATERIALS

The section is supplemented with the following:

Inspection shall be performed by the Engineer or an engineering firm hired by the City. Establishment of Development Review and Permit Fees shall be in accordance with Moses Lake Municipal Code 3.54.010 and shall be collected prior to issuance of a Street and Utility Construction Permit.

Permit fees do not include developer costs for required material testing. All costs for material testing required for the project shall be paid by the developer.

1-05.7 REMOVAL OF DEFECTIVE AND UNAUTHORIZED WORK

The section is supplemented with the following:

When the Engineer determines that public safety is affected, or that the situation may cause risk, loss, or damage, the Engineer may elect to accomplish repair by others and charge such costs to the developer.

Direct or indirect costs incurred by the City that are attributable to correcting and remedying defective or unauthorized work, or work the Contractor failed or refused to perform, shall be paid by the Contractor. Payment will be deducted by the Engineer from monies that are or will be due to the Contractor. On developer projects, where monies will not be due to the Contractor, additional permits and acceptance of work will be delayed until such monies are paid to the City. Such direct and indirect costs may include compensation for additional professional services required, compensation for repair and replacement of work of others destroyed or damaged by correction, and compensation for removal or replacement of the Contractor's unauthorized work.

No adjustment in contract time, permit time, or compensation will be allowed because of the delay in the performance of the work attributable to the exercise of the City's rights provided by this section.

The rights exercised under the provisions of this section shall not diminish the City's right to pursue other solutions for additional remedies or damages with respect to the Contractor's failure to perform the work as required.

1-05.10 GUARANTEES

The section is supplemented with the following:

If defective material or workmanship is discovered within 2 years after the date of Final Acceptance of the work, the Contractor shall return and either correct or replace the defective work as directed by the Engineer. If the weather, site conditions, or other factors delay the 2-year inspection, or delay corrections from being made within 2 years after final acceptance, the Contractor's bond shall be extended for 1 additional year.

1-05.11 FINAL INSPECTION

The section is revised by replacing it with the following two sections (1-05.11(1) and 1-5.11(2)).

1-05.11(1) GENERAL

The Contractor shall complete all items required for a complete project before requesting the Engineer to perform a final inspection. For a complete project, all appurtenances shall be installed; all utilities shall be adjusted; all Portland Cement Concrete and HMA shall be placed; all backfilling shall be completed; all grouting shall be completed; all City Streets, curbs, and sidewalks shall be completed; and the entire project shall be debris

free and washed, swept, or vacuumed as necessary to provide a project that is readily inspectable. The Engineer will provide a punch list to the Contractor after final inspection is completed by the City.

The Contractor shall complete all items on the punch list and provide a 2-year maintenance bond in the amount of 50 percent of the cost of municipal improvements before the project will be submitted to City Council for acceptance.

1-05.11(2) OPERATIONAL TESTING

It is the intent of the City for all projects to be complete and operable prior to acceptance. Therefore, when the work involves the installation of machinery or other mechanical equipment; street lighting, electrical distribution, or signal systems; irrigation systems; buildings; or other similar work, it may be desirable for the Engineer to have the Contractor operate and test the work for a period of time after final inspection but prior to acceptance. Whenever items of work are listed in the Construction Plans and specifications for operational testing, the items shall be fully tested under operating conditions for the time period specified to ensure their acceptability prior to acceptance. During and following the test period, the Contractor shall correct any workmanship, materials, or equipment that are faulty or that are not in first-class, operating condition. Equipment, electrical controls, meters, and other devices and equipment to be tested during this period shall be tested under the observation of the Engineer. The Engineer will determine whether the items are suitable for the purpose that they were installed. The project will not be submitted for City Council acceptance until the Engineer determines that all testing and corrections are complete.

The costs for power, gas, labor, material, supplies, and everything else needed to successfully complete operational testing shall be paid by the Contractor.

Operational and test periods shall not affect a manufacturer's guaranties or warranties furnished with the project as required for acceptance.

1-05.12 FINAL ACCEPTANCE

The section is replaced with the following:

Acceptance by the City shall constitute final acceptance of the project.

Final acceptance shall not constitute acceptance of any unauthorized or defective work or material. The City shall not be barred from requiring the Contractor to remove, replace, repair, or dispose of any unauthorized or defective work or from recovering damages for any such work or material.

Add the following two sections (1-05.16 and 1-05.17).

1-05.16 WATER AND POWER

The Contractor shall make necessary arrangements and shall bear the costs for power and water necessary for the performance of the work.

1-05.17 ORAL AGREEMENTS

No oral agreement or conversation with any officer, agent, or employee of the City shall affect or modify any of the terms or obligations contained in the Street and Utility Construction permit. Such oral agreement or conversation shall be considered as unofficial information and in no way binding upon the City, unless subsequently put in writing and signed by the City.

1-06 CONTROL OF MATERIAL

1-06.2 ACCEPTANCE OF MATERIALS

1-06.2(1) SAMPLES AND TESTS FOR ACCEPTANCE

The section is supplemented with the following:

The effective date of the AWWA Specifications is on the first day of the second month after publication. The AWWA Specifications and Revisions thus in effect at time of Construction Plan approval, or when the permit is issued if no Construction Plans are required, shall apply whenever referenced in these specifications. Copies of the AWWA Specifications may be obtained from American Water Works Association, Inc., Customer Service, 6666 Quincy Avenue, Denver, Colorado 80235.

1-07 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC

1-07.1 LAWS TO BE OBSERVED

The section is supplemented with the following:

In cases of conflict between different safety regulations, the more stringent regulation shall apply.

The Washington State Department of Labor and Industries shall be the sole and paramount administrative agency responsible for the administration of the provisions of the Washington Industrial Safety and Health Act of 1973 (WISHA).

The Contractor shall maintain at the project site office, or other well-known place at the project site, all articles necessary for providing first aid to the injured. The Contractor shall establish, publish, and make known to all employees, procedures for ensuring immediate removal to a hospital, or doctor's care, persons, including employees, who may have been injured on the project site. Employees should not be permitted to work on the project site before the Contractor has established and made known procedures for removal of injured persons to a hospital or a doctor's care.

The Contractor shall have sole responsibility for the safety, efficiency, and adequacy of the Contractor's plant, appliances, and methods; and for any damage or injury resulting from their failure; or from improper maintenance, use, or operation. The Contractor shall be solely and completely responsible for the conditions of the project site, including safety for all persons and property in the performance of the work. This requirement shall apply continuously and shall not be limited to normal working hours. The required or implied duty of the Engineer to conduct construction review of the Contractor's performance shall not be intended to include review and adequacy of the Contractor's safety measures.

1-07.5 ENVIRONMENTAL REGULATIONS

1-07.5(3) STATE DEPARTMENT OF ECOLOGY

The section is supplemented with the following:

When a Construction Stormwater General Permit is required for a project development, the said permit shall be approved prior to construction of associated street and utility improvements.

The following section (1-07.6(1) is added:

1-07.6(1) LIABILITY

The Contractor shall be liable for the payment of all fines and penalties resulting from failure to comply with the Federal, State, and local control regulations.

1-07.7 LOAD LIMITS

1-07.7(1) GENERAL

The section is revised by replacing paragraph 1 with the following:

While moving equipment or materials on any public street, road, or highway, the Contractor and its subcontractors, agents, or suppliers shall adhere to RCW 46.44 of the

Motor Vehicle Laws of the State of Washington and local laws that either control traffic or limit loads. The Street and Utility Construction Permit neither exempts the Contractor, its subcontractors, agents, or suppliers from such laws, nor licenses overloads. At the Engineer's request, the Contractor shall furnish to the Engineer a listing of all haul vehicles to be used in the work. The list shall include vehicle owner license number, tare weight, and maximum legal load for vehicle and trailer.

1-07.13 CONTRACTOR'S RESPONSIBILITY FOR WORK

1-07.13(2) RELIEF OF RESPONSIBILITY FOR COMPLETED WORK

The section is replaced with the following:

The Contractor shall be responsible for maintaining and protecting all portions of the work until the project has been accepted by the City.

1-07.13(4) REPAIR OF DAMAGE

The section is replaced with the following:

The Contractor shall promptly repair all damage to either temporary or permanent work as ordered by the Engineer. When the Engineer determines that public safety is affected, or that the situation may cause risk, loss, or damage, the Engineer may elect to accomplish repair by others and charge such costs to the developer.

1-07.15 TEMPORARY WATER POLLUTION PREVENTION

1-07.15(1) SPILL PREVENTION, CONTROL, AND COUNTERMEASURES PLAN

The section is revised by replacing the first paragraph with the following:

A spill prevention, control, and countermeasures (SPCC) plan is required on all projects that disturb one or more acres of land through clearing, grading, excavating, or stockpiling of fill material. Additionally, the stormwater utility may require an SPCC plan on smaller projects, if the project is highly susceptible of contributing to water pollution. The area calculation will take into consideration the entire development project. When an SPCC plan is required, the Contractor shall provide the SPCC plan to the Engineer no later than the date of the preconstruction conference; or in the case of a project that does not require a preconstruction meeting, the SPCC plan shall be provided to the Engineer prior to permit approval. In any case, the SPCC plan, when required, shall be approved by the Stormwater Utility prior to construction, and shall be used by the Contractor for the duration of the project.

1-07.16 PROTECTION AND RESTORATION OF PROPERTY

1-07.16(1) PRIVATE/PUBLIC PROPERTY

The section is supplemented with the following:

When trenching is required within a planting strip, the Contractor shall protect the existing curb, gutter, and sidewalk from damage; utilizing protective measures as approved by the Engineer. The Contractor shall demonstrate the method or procedure of protection, as directed by the Engineer, before proceeding with trenching in a planting strip. Any damage to existing improvements shall be repaired promptly at the Contractor's expense. Damaged sidewalk and driveway entrances in the Paver District shall be replaced with concrete pavers. Paver District boundaries are as shown on Community Street and Utility Standards details.

1-07.18 PUBLIC LIABILITY AND PROPERTY DAMAGE INSURANCE

The section [1-07.18] is replaced in its entirety with the following:

1-07.18(1) GENERAL REQUIREMENTS

The Contractor shall obtain and keep in force during the term of the Contract the following insurance with insurance companies or through sources approved by the State Insurance Commissioner.

The insurance company shall be licensed to do business in the State of Washington (or issued as a surplus line by a Washington Surplus lines broker). The City reserves the right to approve or disapprove the security of the insurance provided, the company, terms and coverage, and the Certificate of Insurance.

The policies of insurance for general and automobile policies shall be specifically endorsed to name the City of Moses Lake Washington as additional insured.

In addition, Contractor's insurance shall be primary as respects to the City, and any other insurance maintained by the City shall be excess and not contributing insurance with the Contractor's insurance.

Insurance shall provide coverage to the Contractor, all subcontractors, and the City. The coverage shall protect against claims for personal injuries and claims for property damages that may arise from any act or omission of the Contractor or the subcontractor, or by anyone directly or indirectly employed by either of them.

Contractor hereby assumes all risk of damage to its property, or injury to its officers, directors, agents, Contractors in or about the property from any cause, and hereby waives all claims against the City. The Contractor further waives, with respect to the City only, its immunity under RCW Title 51, Industrial Insurance.

The Contractor shall not begin work under the Contract until the required insurance has been obtained and approved by the City.

Failure on the part of the Contractor to maintain the insurance as required shall constitute a material breach of Contract upon which the City may, after giving five working days' notice to the Contractor to correct the breach, immediately terminate the Contract; or at the City's discretion, procure or renew such insurance and pay any and all premiums in connection therewith, with any sums so expended to be repaid to the City on demand, or at the sole discretion of the City, offset against funds due the Contractor from the City.

All costs for insurance shall be incidental to and included in the unit Contract prices of the Contract, and no additional payment will be made.

1-07.18(2) COVERAGE AND LIMITS

The insurance shall provide the minimum coverages and limits set forth below. Providing coverage in these stated limits shall not be construed to relieve the Contractor from liability in excess of such limits. The cost of all claim payments falling within the policy deductible shall be the responsibility of the Contractor.

A. Commercial General Liability Insurance shall provide the following limits, or greater:

Bodily Injury and Property Damage

\$2,000,000	General Aggregate
\$2,000,000	Products & Completed Operations Aggregate
\$1,000,000	Each Occurrence

B. Commercial Automobile Liability shall provide the following limit, or greater:

Bodily Injury and Property Damage

\$1,000,000 combined single limit

1-07.18(3) SUBCONTRACTORS

Contractor shall include all subcontractors as insureds under its policies or shall furnish separate evidence of insurance as stated above for each subcontractor. All coverage for

subcontractors shall be subject to all the requirements stated herein and applicable to their profession.

1-07.18(4) EVIDENCE OF INSURANCE

When the Contractor delivers the executed Contract for the work to the City, the Contract shall be accompanied by a Certificate(s) of Insurance and endorsements for each policy of insurance meeting the requirements set forth above.

An ACORD certificate Form 25, showing the insuring company, policy effective dates, limits of liability, and the Schedule of Forms and Endorsements.

A copy of the endorsement naming the City of Moses Lake Washington as Additional Insured(s), showing the policy number. The form shall be signed by an authorized representative of the insurance company.

The certificate(s) shall not contain the following or similar wording regarding cancellation notification to the City: "Failure to mail such notice shall impose no obligation or liability of any kind upon the company."

The description on the Certificate of Liability insurance form and the corresponding endorsement shall reference the project name and the contract number.

1-07.18(5) SELF-INSURANCE

If the Contractor is self-insured for any liability coverage, a letter from the Corporate Risk Manager, or appropriate Finance Officer, is acceptable; stipulating if actuarially funded and fund limits; and showing any excess declaration pages that are required to meet the Contract requirements. Further, the letter shall advise how Contractor would protect and defend the City as an Additional Insured in their Self-Insured layer and shall include claims-handling directions in the event of a claim.

1-07.23 PUBLIC CONVENIENCE AND SAFETY

1-07.23(1) CONSTRUCTION UNDER TRAFFIC

The section is revised by replacing item No. 3 and Item No. 5 in paragraph 2 with the following:

3. The Contractor shall maintain roadway striping as directed by the Engineer. The Contractor shall provide a schedule for striping, subject to approval by the Engineer.

5. The Contractor shall keep drainage structures clean and operable and shall install filters or provide other approved procedures to eliminate contaminated water that originates from construction activities from entering the City's stormwater system, including drywells.

The section is supplemented with the following:

Deficiencies caused by the Contractor's operations shall be repaired at the Contractor's expense.

The Contractor shall provide access to emergency traffic such as police, fire, and emergency units at all times. The Contractor shall notify the Multi-agency Communications Center (MACC, 509-762-1160) prior to closing any street and immediately upon reopening a closed street. The Contractor shall also coordinate all construction activities with the school district, post office, disposal firms, and other services that may be operating in the project area. The Contractor shall be liable for all damages that result from failure to provide reasonable notice, access, or coordination.

When construction operations are such that debris from the work is deposited on the streets, the Contractor shall remove all deposits and debris that have accumulated on the roadway surface at least once per day, and the roadway shall be cleaned at the end of each workday. If daily removal is insufficient to keep the City Streets clean, the Contractor shall perform removal operations on a more frequent basis. If the Engineer determines that a more frequent cleaning is impractical or if the Contractor fails to keep the City Streets free from deposits and debris resulting from the work, the Contractor shall provide facilities for and remove all clay and other deposits from the tires and between wheels before trucks and other equipment travel over City Streets. If the Contractor fails or refuses to clean the City Streets, trucks, and equipment in question, the Engineer may order the work suspended at the Contractor's risk until compliance with the Contractor's obligation is assured; or the Engineer may order the City Streets in question cleaned by others. Such costs incurred by the City in achieving compliance with these requirements, including cleaning of the City Streets, shall be paid by the Contractor prior to final acceptance of the project. The Contractor shall have no claim for delay, extension of contract time, or additional cost should the Engineer choose to suspend the Contractor's work until compliance is achieved.

The following section (1-07.23(1)A) is added:

1-07.23(1)A EXISTING TRAFFIC CONTROL AND STREET NAME SIGNS

Existing traffic control and street name signs that interfere with construction shall be relocated or removed by the Contractor and temporarily stored in a safe place. "Stop", "Yield", "Speed Limit", and "One-Way" signs shall be removed or relocated only upon approval by the Engineer. Existing signs shall not be removed until the Contractor has

provided temporary measures sufficient to safeguard and direct traffic after the existing signs have been removed. Except as otherwise provided in the contract documents, preservation and maintenance of traffic control and street name signs shall be the sole responsibility of the Contractor. All temporary signs shall be in compliance with Section 1-10.3(3) of these specifications.

The Contractor shall reset temporarily relocated or removed traffic and street name signs in their permanent location as work progresses and permits. The Contractor shall replace signs and other traffic control devices that are damaged or lost by the Contractor. However, the Engineer may allow the Contractor to repair a damaged sign in lieu of its replacement.

The Contractor shall install temporary pressure-sensitive pavement marking tape or delineators on the same day that the Engineer notifies the Contractor that existing paint lines have been obliterated by construction activities. The Contractor shall remove said temporary markers after the Engineer approves of permanent traffic channelization that has been installed by the Contractor.

The following section (1-07.23(1)B) is added:

1-07.23(1)B MAINTAINING ACCESS

The Contractor shall maintain access to residential, commercial, and industrial property adjacent to the project. Access to residential property shall not be blocked for more than 8 consecutive hours. Access to commercial and industrial property shall not be blocked for more than 4 consecutive hours. The Contractor shall provide alternate access routes if the work requires blocking City Streets or driveways longer than the hours specified herein. The proposed alternate routes shall be approved by the Engineer prior to their use and the alternate routes shall be the responsibility of the Contractor at no expense to the City.

The Contractor shall provide a notice, 24 hours in advance, to all property owners whose parking may be restricted. The notice shall indicate where they may park and the name and phone number of the Engineer and Contractor.

1-07.23(2) CONSTRUCTION AND MAINTENANCE OF DETOURS

The section is revised by replacing paragraph 2 with the following:

The Contractor shall be responsible for maintenance, control, and safeguarding of traffic on all detours necessary for construction, including on-site and off-site detours, unless otherwise relieved of this responsibility by the Engineer.

The section is supplemented with the following:

All detours within the limits of the project, required or necessitated by the work, shall be the responsibility of the Contractor. This work includes side street crossings, freshly placed Portland Cement Concrete, utilization of one or more lanes of the construction area for maintenance of through traffic, and all other related traffic control. Traffic control plans for such detours shall be in accordance with the requirements of Section 1-10.

1-07.24 RIGHTS OF WAY

The section is replaced with the following:

Street right-of-way lines, limits of easements, limits of proposed right-of-way for a preliminary plat, and limits of construction permits should be shown on Construction Plans. The Contractor's construction activities shall be confined within these limits unless arrangements for use of private property are made. Whenever any of the work is accomplished on or through property other than public right-of-way or property that is owned by the developer, the Contractor shall meet and fulfill all covenants and stipulations of any easement agreement that is provided to the City from the owner of the private property. Copies of the easement agreements will be available to the Contractor as soon as practical after they have been provided to the Engineer. The Contractor shall not proceed with any portion of the work beyond the developer's property in areas where right-of-way, easements, or rights of entry have not been provided to the City. The Contractor shall provide each property owner 48-hour notice prior to entry. This includes entry onto easements and private property where private improvements may require adjustment.

The Contractor shall provide all additional land and access to the land that the Contractor requires for temporary construction facilities, storage of materials, and other Contractor needs. However, before using any private property, the Contractor shall provide the Engineer with a written permission from the private property owner that allows the Contractor to use the private site; and prior to acceptance of the project by the City, the Contractor shall provide the Engineer with written release from the property owner that indicates that the private property owner is satisfied with the condition of the property after the Contractor has completed the project. All statements from private property owners shall include the signature of the property owner, parcel number, address, and date of signature.

The following section (1-07.28) is added:

1-07.28 CONTRACTOR'S RESPONSIBILITY FOR SAFETY

The Contractor is solely responsible for the safety of all workers at the work site, no matter by whom they may be employed. Such responsibility shall include compliance with all local, State, and Federal safety laws, rules, and regulations that apply to work performed by the Contractor or subcontractors for the project. The Contractor is not relieved of this responsibility by actions of the Engineer in the inspection of work in progress to ensure project compliance with Construction Plans. The Engineers that are assigned to perform inspections are not safety inspectors. The Contractor shall obtain an opinion or inspection from the appropriate regulatory agency if the Contractor is uncertain as to the application of any safety rule or regulation.

The Contractor shall be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and shall not be limited to normal working hours.

The Contractor shall be aware of the work site's present condition. The Contractor shall indemnify and hold the City harmless from any and all claims arising from the condition of the work site or on account of any claim of unsafe conditions maintained at the work site during the term of this project.

1-08 PROSECUTION AND PROGRESS

The following section (1-08.0) is added:

1-08.0 PRELIMINARY MATTERS

1-08.0(1) PRECONSTRUCTION CONFERENCE

Prior to construction, the Engineer may determine that a preconstruction conference is required. The Contractor shall provide 1-week advance notice to the Engineer to schedule the meeting. The Civic Center Annex conference room is available for the meeting. The Engineer will provide notification about the meeting to the City departments, public utilities, surveyor, developer, and developer's engineer. The Contractor shall notify all subcontractors about the meeting.

A. The following items will be discussed at the preconstruction conference.

1. Permit requirements
2. Utility service fees and charges
3. Initial progress schedule

4. Working relationship among the parties associated or affected by the work
5. Procedures for notifications, approvals, and submittals
6. Working hours for the project
7. Inspection requirements and schedules
8. Safety standards and traffic control
9. Other project related items

B. The Contractor shall prepare the following items and submit them at the reconstruction meeting, if applicable.

1. Construction cost breakdown
2. Preliminary schedule
3. Submittals for all non-standard items for approval
4. Material sources for approval

1-08.0(2) HOURS OF WORK

Except in the case of emergency, or as approved by the Engineer, the project working hours shall be between 7:00 a.m. and 10:00 p.m. of a working day. The Contractor shall provide a schedule of the hours to be worked and shall notify the Engineer of all changes to the schedule as work progresses. All City inspections required for the project shall be scheduled between the hours of 8:00 a.m. and 3:30 p.m. All work in existing City right-of-way or on existing municipal utilities shall be scheduled when City inspectors are available. Work that requires a City inspector before 8:00 a.m. or after 3:30 p.m. shall be subject to the availability of City inspector or other City personnel and shall require the Contractor to pay the overtime rate per the current fee schedule per hour for all City personnel required for the project. All City inspector overtime hours required for the project will be invoiced to the Contractor and are due upon receipt.

The Contractor shall not perform work that requires City inspections on holidays, Saturdays, Sundays, or before 7:00 a.m. or after 6:00 p.m. on any day unless written authorization is provided by the Engineer. Permission to work longer than an 8-hour period between 7:00 a.m. and 6:00 p.m. is not required, unless the work requires City personnel. Permission to work between the hours of 10:00 p.m. and 7:00 a.m. is subject to noise control requirements and requires approval from the Engineer. For residential areas, City Council approval is required for work between 10:00 p.m. and 7:00 a.m. Approval to continue work during these hours may be revoked at any time the Contractor exceeds the City's noise control regulations or if valid complaints are received from the public or adjoining property owners regarding the noise from the Contractor's operations. The Contractor shall have no claim for damages or delays should such permission be revoked for these reasons.

Permission to work Saturdays, Sundays, holidays, or non-typical working hours Monday through Friday may be subject to conditions set forth by the City. These conditions may include the requirement for City personnel to work overtime.

1-08.9 LIQUIDATED DAMAGES

This section is deleted from the Community Standards on developer funded projects. On projects using City funds, the section shall remain in its entirety.

1-09 MEASUREMENT AND PAYMENT

This section is deleted from the Community Standards on developer funded projects. On projects using City funds, the section shall remain in its entirety.

1-10 TEMPORARY TRAFFIC CONTROL

1-10.2 TRAFFIC CONTROL MANAGEMENT

1-10.2(3) CONFORMANCE TO ESTABLISHED STANDARDS

The section is supplemented with the following:

The Contractor may submit alternate proposals to those for traffic control and detours required by contract documents. Such alternate proposals shall safely and adequately maintain vehicular and pedestrian traffic and shall comply with the most recent version of the MUTCD. Proposals shall be submitted in writing to the Engineer five days in advance of their intended use. The acceptance of any proposal shall be entirely at the discretion of the Engineer. The Contractor shall be solely responsible for all liability associated with traffic control.

1-10.3 TRAFFIC CONTROL LABOR, PROCEDURES, AND DEVICES

1-10.3(3) TRAFFIC CONTROL DEVICES

1-10.3(3)A CONSTRUCTION SIGNS

The section is supplemented with the following:

The Contractor shall provide the traffic signing and traffic control in accordance with the approved Traffic Control Plan. The Contractor shall provide additional signs, barricades, cones, flaggers, and traffic control to ensure public's safety in accordance with the Contractor's plan of operation.

The Contractor shall erect all signs specified by the Traffic Control Plan for an area where work is scheduled to be performed, prior to commencing work on the said area of the project. Work on any area of the project shall not commence until all signs, flaggers, and other traffic control devices for said area are in place and approved by the Engineer.

The Contractor shall patrol the traffic control area and shall reset all disturbed signs and traffic control devices upon discovery or notification. All signs necessary for nighttime traffic control shall be fully reflectorized. The Contractor shall make the necessary changes to any signs or traffic control devices that need to be repeatedly reset to ensure the problem does not continue.

Additionally, the Contractor shall have on the job a sufficient number of type II barricades and 28-inch orange plastic cones to provide for safe working conditions and to protect the traveling public.

For nighttime use, barricades shall be equipped with flashing lights in conformance with the MUTCD. Barricades and cones shall be bright in color and in good working order. Cones shall have a 6-inch-wide, reflectorized, white band placed 3 to 4 inches from the top. A second reflectorized, white band shall be placed at 2 inches below the upper band and shall be 4 inches wide. Broken, faulty, or nonstandard equipment shall be replaced upon discovery or notification.

The Contractor shall assume full responsibility for always maintaining safe conditions on the job site. The Contractor shall provide additional signs, barricades, cones, and other safety equipment as necessary to provide safe conditions and to conform with the MUTCD. The Engineer shall reserve the right to stop all work on the project until adequate traffic control is provided by the Contractor. All costs for traffic control shall be paid by the Contractor.

Where construction affects the traffic on existing City Streets, the Engineer may direct parking restrictions. Signs required for restricted parking shall be provided and installed by the Contractor as approved by the Engineer. The Contractor shall be responsible for providing and maintaining signs required for parking restrictions on and off the project if the parking restrictions are due to construction activities.

The Contractor shall furnish all flaggers and furnish and maintain all temporary traffic control signs and devices necessary to control traffic during construction operations. Traffic control signs and devices shall conform to the requirements set forth in the MUTCD.

DIVISION 2 EARTHWORK

2-01 CLEARING, GRUBBING, AND ROADSIDE CLEANUP

2-01.1 DESCRIPTION

The section is supplemented with the following:

The Contractor shall remove all topsoil and sand within the limits of street and utility construction to a depth of 18 inches below final grade. Topsoil or sand shall not be used for embankment or backfill.

2-01.2 DISPOSAL OF USABLE MATERIAL AND DEBRIS

The section is revised by replacing paragraph 2 with the following:

The Contractor shall dispose of all debris in accordance with Section 2-01.2(2), Disposal Method No. 2-Waste Site.

2-01.3 CONSTRUCTION REQUIREMENTS

2-01.3(3) VACANT

The entire section (2-01.3(3)) is replaced with the following:

2-01.3(3) TREE REMOVAL

Where trees have been removed within a landscape area by the Contractor, the remaining stumps shall be removed to 8 inches below the final ground surface elevation. All leaves, branches, wood chips, and other debris deposited by the tree and stump removal process shall be removed by the Contractor within 24 hours after the tree has been removed. All holes that have been created by the removal of a tree within a landscape area shall be filled with topsoil. The surface shall be sod, bark, rock, or other material which matches the existing landscape. Furthermore, all other landscaping or improvements which have been disturbed by the tree and stump removal process, or other activity of the Contractor, shall be restored to their original condition.

Where a tree is removed within an area where streets, sidewalks, curbs or other improvements will be installed, the contractor shall remove the tree in its entirety, and the hole shall be filled with material suitable for compaction required for the improvement.

2-02 REMOVAL OF STRUCTURES AND OBSTRUCTIONS

2-02.3 CONSTRUCTION REQUIREMENTS

The section is supplemented with the following:

The removal of street improvements shall be conducted in such a manner as not to injure municipal improvements or public utilities that are to remain in place. The Contractor shall be responsible for damage to municipal improvements and public utilities that is caused by construction activities.

The Contractor shall remove manholes, catch basins, and structures as shown on the Construction Plans, or where structures or installations of Portland Cement Concrete, brick, block, or other items interfere with the construction. All abandoned pipe openings shall be plugged watertight with non-shrink-type concrete or grout.

Where the structures are removed, the voids shall be backfilled with suitable material and compacted to 95 percent of maximum density.

Unless otherwise directed, all casting, pipe, and other material of recoverable value taken from the discarded facilities shall be carefully salvaged and delivered to the City in good condition and in such order of salvage as the Engineer may direct. Items deemed of no value by the Engineer shall become the property of the Contractor and shall be removed from the site.

2-02.3(3) REMOVAL OF PAVEMENT, SIDEWALKS, CURBS, AND GUTTERS

The section is revised by deleting items 1 and 2.

The section is supplemented with the following:

Pavement, sidewalks, curbs, and gutters shall be removed by the Contractor as shown on the Construction Plans and as directed by the Engineer. Sidewalk aprons and private walks on street grading and paving projects shall be removed to the extent necessary to provide for construction of pavements and curbs. The Contractor shall remove any additional sidewalk required to provide proper connections and grades, as determined by the Engineer.

The Contractor shall dispose of all pavement and concrete off site.

The following section (2-02.3(4)) is added:

2-02.3(4) FENCES

The Contractor shall remove and replace fences as shown on the Construction Plans and as directed by the Engineer.

2-03 ROADWAY EXCAVATION AND EMBANKMENT

2-03.1 DESCRIPTION

The section is supplemented with the following:

The work shall also include the relocation of existing signs and mailboxes, and the removal and salvaging of existing landscaping improvements, plants, and irrigation lines lying within the limits of excavation or embankment.

2-03.3(7) DISPOSAL OF SURPLUS MATERIAL

2-03.3(7)A GENERAL

The section is replaced with the following:

The Contractor shall obtain a waste site for the disposal of surplus material.

2-03.3(14) EMBANKMENT CONSTRUCTION

2-03.3(14)C COMPACTING EARTH EMBANKMENTS

The section is revised by replacing the first paragraph of Method B with the following:

All material shall be compacted to 95 percent of maximum density, as determined by Section 2-03.3(14)D.

2-03.3(14)D COMPACTION AND MOISTURE CONTROL TESTS

The section is replaced with the following:

Maximum density and optimum moisture for materials with more than 35 percent retained on the No. 4 sieve shall be determined by the WSDOT Test Method No. T 606, or the Contractor may assume a maximum density of 141 Lb. per CF. This variation does not modify standard testing procedures that are defined by WSDOT or AASHTO.

Maximum density and optimum moisture for materials with 35 percent or less retained on the No. 4 sieve shall be determined by the WSDOT FOP for AASHTO T 99, Method B, with the following revisions.

1. 10-pound hammer shall be used.
2. 18-inch drop shall be used.
3. 5 lifts per test

In-place densities and moisture content shall be determined by using the WSDOT Test Method No. 615.

The Contractor shall provide all necessary excavation, vibratory compaction equipment, and labor to facilitate taking compaction tests. The Contractor shall provide the test equipment and operator. The Contractor shall provide all necessary test pits and additional work as directed by the Engineer. The Contractor shall provide the Engineer an opportunity to be present during compaction testing. All compaction results shall be with referral to required maximum densities.

Where soil consistency varies on a project, such that the compaction results are not within the range of acceptability, being either too low or too high, the Engineer may perform a field check on the soil and on the compactive efforts being applied by the Contractor. If the Engineer determines that a particular section of soil differs from the adjacent soils that are showing acceptable compaction results, the compactive effort is consistent with methods used on adjacent soils that are showing acceptable results, and the results are consistent throughout the particular section of soil encountered, the Engineer may authorize or require a different maximum density value for acceptance of that particular soil without requiring a new Proctor test.

The following sections (2-03.3(20)) are added:

2-03.3(20) PROTECTION OF EXISTING IMPROVEMENTS

2-03.3(20)A GENERAL

Utilities of record shall be shown on the Construction Plans insofar as it is possible to do so. Failure of the Owner to show the existence of subsurface objects or installations on the Construction Plans shall not relieve the Contractor from the Contractor's responsibility to call for utility locates, to make independent checks on the ground, nor relieve the Contractor from all liability for damages resulting from the work.

The Contractor shall provide notification to agencies that have utilities in place and shall cooperate with these agencies in the protection and relocation of the various underground installations. These agencies may give assistance in the location of the various utilities,

but this will not relieve the Contractor from responsibility for any damage incurred, except as provided by State law.

The Contractor shall protect and preserve existing improvements that will remain within the right-of-way.

Trenching or other excavation that undermines curbs, sidewalks, driveways, footings or any other structures shall be backfilled with controlled density fill. Trenching or other excavation within the roadway of any City Street less than 24 inches in width shall require controlled density fill. Excess material from this excavation shall be removed to an approved site in accordance with Section 2-01.2.

Controlled density fill shall meet the requirements as stated in Section 2-09.3(1)E.

2-03.3(20)B SEWERS AND APPURTENANCES

The Contractor shall place ¾-inch-thick plywood shield over all manhole channels within the construction area. The Contractor shall cover the shield with a 6-foot by 6-foot by 20-mil plastic tarp. The Contractor shall remove the shield after all debris has been removed from the manhole, after the ring and cover has been adjusted to final grade, and within 24 hours after final adjustment. The Contractor shall remove all debris that falls into the channel and shall rod or flush all pipes that contain construction debris. The Contractor shall provide a trap at the downstream manhole for any flushing or rodding procedures that may be required.

2-03.3(20)C DAMAGED WATER MAINS AND APPURTENANCES

The Contractor shall repair or replace any water valves, hydrants, valve boxes, and other appurtenances that have been damaged during construction.

2-03.3(20)D PRIVATE UTILITIES

Utilities within the City right-of-way, other than those owned and operated by the City, are in the right-of-way pursuant to franchises or to rights claimed under the laws of the U.S.A. or the State of Washington. The respective utility agencies are responsible for all modifications and relocations of their facilities, as directed by the City. The Contractor shall coordinate all work with the work of agencies that are affected by the construction work. The Contractor shall protect all public and private utilities from damage.

The Contractor shall be liable for all damages to public or private utilities resulting from the Contractor's operations, and the Contractor shall hold the City harmless from all damages resulting from the Contractor's operations.

2-03.3(20)E EXISTING IMPROVEMENTS

The Contractor shall remove and salvage all landscaping improvements, plants, and irrigation lines lying within the limits of excavation or embankment to the property Owner, as directed by the Engineer.

The Contractor shall carefully cut and cap remaining irrigation lines within the right-of-way and within 2 feet behind back of sidewalk.

The Contractor shall relocate existing mailboxes as required to provide continual mail service to all residents.

2-06 SUBGRADE PREPARATION

2-06.3 CONSTRUCTION REQUIREMENTS

2-06.3(1) SUBGRADE FOR SURFACING

The section is supplemented with the following:

9. All underground work contemplated in the area of the subgrade shall be completed and properly compacted before final subgrade is prepared for approval.

The following section (2-06.3(3)) is added:

2-06.3(3) GRADE TOLERANCE

Grade tolerance for surfaces to receive crushed surfacing or ballast shall be +0.02 feet. The Contractor may leave areas of the surface lower than the grade established by Construction Plans or as approved by the Engineer; however, these low areas shall be filled with crushed surfacing top course.

2-07 WATERING

2-07.3 CONSTRUCTION REQUIREMENTS

The section is supplemented with the following:

The Contractor shall apply water for dust control as directed by the Engineer.

The following section (2-07.3(1)) is added:

2-07.3(1) CITY WATER SOURCE

The Contractor shall secure permission from and comply with all requirements of the City before obtaining water from a City water source. The Contractor shall measure all water obtained from a City water source with a hydrant meter that has been obtained or authorized by the City Water Division at 11789 Road 4 NE. The Contractor shall pay the hydrant meter rental rates and water charges. Current water meter rental rates and water charges may be obtained by contacting the City Water Division. The Contractor shall protect the City's hydrant meter and associated apparatus from damage, loss, or theft until all items are returned to the possession of the City Water Division.

The Contractor shall furnish all connectors, wrenches, valves and small tools that may be necessary to meet the requirements of the City. The Contractor shall use hydrant wrenches to open and close hydrants.

When using the hydrant, the Contractor shall make certain that the hydrant valve is completely open or shut. An authorized auxiliary valve shall be provided by the Contractor on the outlet line for control purposes. Fire hydrant valves shall be closed slowly to prevent surging of the system.

When use of the hydrant is complete, the Contractor shall notify the City Water Division so that the hydrant may be inspected for possible damage. Any damage resulting from the use of the hydrant by the Contractor, including theft of City equipment, shall be repaired or replaced by the City, and the cost thereof shall be billed to the Contractor.

2-08 VACANT

The entire section (2-08) is replaced with the following:

2-08 EXPOSE EXISTING UTILITIES

2-08.1 DESCRIPTION

Where required on the Construction Plans, the Contractor shall excavate and expose existing utility crossings 24 hours prior to laying pipe. The Contractor shall leave the excavation open sufficient time to allow the Engineer to verify the location and elevation of the utility. Once the utility has been verified, the Contractor shall backfill and compact the excavation as required by these Specifications.

2-09 STRUCTURE EXCAVATION

2-09.3 CONSTRUCTION REQUIREMENTS

2-09.3(4) CONSTRUCTION REQUIREMENTS, STRUCTURE EXCAVATION, CLASS B

The section is revised by deleting paragraphs 4 and 5.

The section is revised by replacing paragraph 3 with the following:

The Contractor shall provide excavation and trench safety systems that meet the requirements of the Washington Industrial Safety and Health Act, RCW Chapter 49.17, and WAC 296-155 if workers enter any trench or other excavation that is 4 feet or more in depth. Excavation and trench safety systems may include shoring, extra trench excavation, or other methods acceptable to the Department of Labor and Industries. The Contractor, alone, shall be responsible for worker safety, and the City assumes no responsibility.

The section is supplemented with the following:

The Engineer may approve a trench to remain open overnight in low-volume traffic areas. The Contractor shall submit a physical barrier protection plan for approval by the Engineer. The physical barrier protection plan shall include obstructions large enough to discourage traffic from entering the excavation and high strength polymer barrier fencing. The Contractor assumes all responsibility for open trenches and safety-protection measures.

2-11 TRIMMING AND CLEANUP

2-11.1 DESCRIPTION

The section is replaced with the following:

This work consists of neatly finishing construction areas to the lines, grades, and cross sections shown on the Construction Plans and as directed by the Engineer. The work shall include trimming and cleaning the entire roadway including planting areas, sidewalks, shoulders, driveways, alleys, side street approaches, slopes, ditches, and utility trenches.

2-11.3 CONSTRUCTION REQUIREMENTS

The section is replaced with the following:

The surface area of the project area shall be uniformly sloped after the Contractor has completed cleaning and dressing the project. Where the existing grade is below the top-of-sidewalk, top-of-curb, or both, the Contractor shall fill and dress the area to the top-of-sidewalk and top-of-curb regardless of limits shown on the Construction Plans. The Contractor shall place fill material high enough to allow for final settlement. The Contractor shall remove all rocks in excess of 2 inches in diameter from the surface for the entire construction area. All windrows of earth shall be removed entirely.

All surfaces and drainage facilities shall be clean. The Contractor shall dispose of all trash, construction stakes, debris, and other waste material. The Contractor shall remove and dispose of broken brush and trees, and construction debris beyond the limits of the project that are caused by construction.

The Contractor shall sweep the street at the conclusion of the work. Self-propelled pickup street sweepers shall be used to remove and collect sediment and other debris from the Street. The Contractor shall furnish the water required. Sidewalks shall be hand broomed. Stormwater inlet protection shall remain in place until the project is trimmed and cleaned, swept, and ready for final inspection.

2-12 CONSTRUCTION GEOSYNTHETIC

2-12.2 MATERIALS

The section is revised by deleting paragraph 3.

DIVISION 4 BASES

4-04 BALLAST AND CRUSHED SURFACING

4-04.3 CONSTRUCTION REQUIREMENTS

4-04.3(2) SUBGRADE

The section is supplemented with the following:

The Contractor shall give the Engineer 24 hours' notice when construction of the subgrade has been completed. The Contractor shall not place crushed surfacing or ballast until the subgrade has been approved by the Engineer. Areas not conforming with the tolerances shall be corrected by the Contractor and approved by the Engineer prior to proceeding with the work. The Contractor may fill low areas with crushed surfacing or ballast at the Contractor's expense.

4-04.3(5) SHAPING AND COMPACTION

The section is supplemented with the following:

Grade tolerance for the surface to receive HMA shall be plus 0.02 feet or minus 0.04 feet. The Contractor shall give the Engineer 24 hours' notice when construction of crushed surfacing top course has been completed. The Contractor shall not place any asphalt tack until the finished grade has been measured and approved by the Engineer. Any areas not

conforming to the above tolerance shall be corrected by the Contractor and re-measured and approved by the Engineer prior to proceeding with the work.

DIVISION 5 SURFACE TREATMENTS AND PAVEMENTS

The following sections (5-06) are added:

5-06 HMA PATCHING

5-06.1 DESCRIPTION

The work includes removal of concrete or pavement, placement of CSTC, placement of CSBC, application of tack coat, and placement of HMA.

5-06.2 MATERIALS

Materials shall meet the requirements of the following sections:

HMA	5-04
Crushed Surfacing Base Course	9-03.9(3)
Crushed Surfacing Top Course	9-03.9(3)

5-06.3 CONSTRUCTION REQUIREMENTS

5-06.3(1) GENERAL

The Contractor shall schedule all pavement patching to accommodate the demands of traffic.

For safety reasons, the Contractor shall patch all areas within traveled lanes on primary streets and secondary streets on the same day that pavement has been removed. An exception is that if the work will continue on the next day, as authorized by the Engineer, the pavement that has been removed and not patched shall be covered by the Contractor with steel plates that are capable of supporting the traffic. For safety concerns, no pavement excavation shall be authorized to remain un-patched on secondary or primary streets on a calendar day where work has not continued on the following day, and the Engineer shall recommend immediate action to enforce these requirements.

The Contractor shall patch all areas within tertiary and residential streets, and in non-traveled lanes for primary and secondary streets, where pavement has been removed, within 10 calendar days of the removal of original pavement.

Where pavement is removed and not patched, the Contractor shall provide a temporary surface for traffic as authorized by the Engineer, which temporary surface shall be maintained by the Contractor until the patch is placed.

Saw-cutting shall be performed as shown on the Construction Plans or as directed by the Engineer.

The Contractor shall provide mechanical compaction for each lift of HMA by means of a roller, plate whacker, jumping jack, or hand tamper. However, the Contractor shall compact all patches that exceed 4-feet in width with a roller.

The Contractor shall expand the perimeter of the HMA patch as necessary to provide an even grade adjacent to the patch that doesn't have humps or dips, as directed by the Engineer. The Contractor shall widen all HMA patches to allow room for the compaction equipment that is being used. Additionally, the Contractor shall widen all patches that are adjacent to the curb to provide for a patch with a maximum cross slope of 6 percent towards the curb.

The Contractor shall apply a tack coat of asphalt to all existing surfaces of HMA, curbs, gutters, and appurtenances that will be covered by HMA. The tack coat shall cover the entire surface.

5-06.3(2) GRADE TOLERANCE

All HMA patches shall be 3-inches thick. Additionally, HMA patches shall match the depth of adjacent pavement if the adjacent pavement is between 3-inches thick and 6-inches thick. HMA patches shall be 6-inches thick if the adjacent pavement is 6-inches or thicker. However, the Engineer may allow a transition from thicker HMA depths to the required design depth for large patches.

Grade tolerance for the surface to receive HMA shall be in accordance with Section 4-04.3(5). The Contractor shall not place any HMA until the base has been authorized by the Engineer. The Contractor shall correct any areas that do not conform to the above tolerance, and the areas shall be authorized by the Engineer prior to proceeding with the work.

5-06.3(3) SPREADING AND FINISHING

The Contractor shall apply HMA in two lifts, with the depth of each compacted lift being not more than 2 inches. Additional lifts in 2-inch increments may be required. HMA shall be compacted in accordance with Section 5-04.3(10).

For HMA patches that are over 8-feet wide, and which patches are longer in the direction of the centerline of the road, the Contractor shall use a paving machine or Layton box, unless otherwise authorized by the Engineer.

5-06.3(4) TRAFFIC CONTROL

Proper signs, barricades, lights, and other warning devices shall be maintained 24 hours a day until the patch is completed and ready for traffic.

5-06.3(5) TEMPORARY PATCHES

The Contractor shall place temporary patches within 10 calendar days if permanent patches cannot be constructed within 10 calendar days following excavation. Temporary patches consist of cold plant mix asphalt or Portland Cement Concrete. For cold plant mix patches, the Contractor shall provide proof of availability of cold plant mix prior to cutting the pavement.

Physical completion shall not be declared until the Contractor has replaced all temporary patches with permanent patches.

5-06.3(5)A TEMPORARY PATCHES–COLD PLANT MIX ASPHALT

1. Temporary cold mix patches shall be 2 inches thick.
2. Temporary patches shall match existing grade.
3. The Contractor shall replace temporary patches with permanent patches prior to May 15th.
4. The Contractor may be required to expand temporary patches 12 inches around the perimeter of a temporary patch prior to placement of a permanent patch. The Contractor shall sawcut the additional pavement required for expanding the patch.

5-06.3(5)B TEMPORARY PATCHES–PORTLAND CEMENT CONCRETE

1. Portland Cement Concrete for temporary patches shall be Class 3000.
2. Temporary Portland Cement Concrete patches shall be 6 inches in depth.
3. Temporary Portland Cement Concrete patches shall match existing grade.
4. The Contractor shall place steel plates over the Portland Cement Concrete patch area and shall restore traffic within 2 hours after placing Portland Cement Concrete. The Contractor shall remove the steel plates after the Portland Cement Concrete has set up for 7 calendar days.
5. The Contractor shall replace temporary Portland Cement Concrete patches with HMA patches prior to May 15th.

6. The Contractor may be required to expand temporary Portland Cement Concrete patches 12 inches around the perimeter of a temporary Portland Cement Concrete patch prior to placement of a permanent HMA patch. The Contractor shall sawcut the additional pavement required for expanding the HMA patch.

5-06.3(6) OIL MAT STREETS

The Contractor shall trim the existing oil mat in a straight line. The Contractor shall place and compact HMA in accordance with Section 5-04.3(10) after the subgrade has been prepared as shown on the drawings or as directed by the Engineer.

5-06.3(7) EXISTING PORTLAND CEMENT CONCRETE PATCHES

The Contractor shall remove and replace existing Portland Cement Concrete patches with HMA patches prior to overlay. All new HMA patches shall be in accordance with this section.

The following sections (5-07) are added:

5-07 ADJUSTMENT OF MANHOLES, CATCH BASINS, MONUMENT CASES, VALVE BOXES, AND CLEAN OUTS TO GRADE

5-07.1 DESCRIPTION

This work shall consist of adjusting manholes, monument cases, water valve boxes, and clean outs to grade.

5-07.2 MATERIALS

Materials shall meet requirements of the following sections:

Ballast and Crushed Surfacing Top Course	4-04
HMA	5-04
Portland Cement Concrete	6-02

Commercial Class Portland Cement Concrete can be used for adjusting utilities in accordance with Section 6-02.3(2)B.

HMA Cl. ⅜-inch PG 64-28 shall be used for utility adjustment patches; however, the Engineer may approve alternative mixes for HMA patches, provided that the Contractor can provide a finish HMA patch that is acceptable to the Engineer.

5-07.3 CONSTRUCTION REQUIREMENTS

5-07.3(1) PAVED SURFACES

The Contractor shall provide 4 to 16 inches of adjustment rings between the top of cone or flattop section of a manhole and the bottom side of the manhole frame. Final elevation of the frame and cover shall be $\frac{1}{4}$ -inch below final street grade.

The Contractor shall remove frames and adjustment rings from manholes and similar structures so that the structure is 8 inches below subgrade whenever the structure is being rehabilitated or adjusted in conjunction with street paving or patching projects. The Contractor shall cover the lowered structures with a temporary metal cover. The Contractor shall reference each structure so that they may be easily found upon completion of the street work.

The Contractor shall adjust manholes, valve boxes, monuments, and other structures in the roadway after the pavement is completed. The Contractor shall locate the center of each structure from references that were previously established by the Contractor.

The Contractor shall cut and remove pavement in a neat circle or square. The diameter of the circle or side of the square shall be equal to the outside diameter of the frame plus 2 feet to allow for compaction. The Contractor shall remove the crushed rock and base material around the appurtenance to the depth of required Portland Cement Concrete as shown on the respective detail. Wedges used for adjusting shall be non-organic. A maximum of 3 wedges shall be used for any adjustment. No wedges shall protrude inside of the frame, and all loose wedges shall be removed prior to pouring Portland Cement Concrete. The Contractor shall compact the excavation area and place Portland Cement Concrete to within $1\frac{1}{2}$ to 2 inches of the top of the structure.

The Contractor shall complete the adjustment on the following day by applying a tack coat of asphalt to the Portland Cement Concrete, edges of the pavement, and the outer edge of the casting; and by placing and compacting HMA with hand tampers, plate whackers, or rollers. The final elevation of the HMA patch shall match the existing paved surface.

The Contractor shall apply non-shrink-type concrete or grout flush with the inside of the frame and adjustment rings upon completion of the final HMA patch. The Contractor shall remove excess concrete and grout within the structure at the completion of the adjustment.

5-07.3(2) UNPAVED SURFACES

The Contractor shall remove frames and adjustment rings from manholes so that the structure is 6 inches below subgrade whenever the structure is being rehabilitated or adjusted in conjunction with street paving or patching projects. The Contractor shall

cover the lowered structures with a temporary metal cover. The Contractor shall reference each structure so that it may be easily found upon completion of the street work.

The Contractor shall install Portland Cement Concrete pads around all manholes, valve boxes, monuments, and other structures that are not within paved surfaces. Final elevation of the pad in graded roadways shall be at final street grade; whereas the final elevation for frames and covers outside of roadways shall be at final grade of existing terrain. All pads in the roadway shall be sloped towards the direction of traffic.

The Contractor shall adjust manholes, valve boxes, monuments, and other structures in the roadway after the final grading is completed. The Contractor shall locate the center of each structure from references that were previously established by the Contractor. The Contractor shall excavate around the top of each structure in a neat square. The Contractor shall remove the material around the structure to a depth required for Portland Cement Concrete as shown on the respective detail and to provide for 6-inch depth for the placement of a Portland Cement Concrete pad. The Contractor shall adjust the top of the appurtenance to the required elevation of the top of the pad. Wedges used for adjusting shall be non-organic. A maximum of 3 wedges shall be used for any adjustment. Wedges shall not protrude inside of the frame, and all loose wedges shall be removed prior to placing Portland Cement Concrete. The Contractor shall compact the excavation area and place Portland Cement Concrete to the top of the frame and cover.

The Contractor shall apply non-shrink-type concrete or grout flush with the inside of the frame and adjustment rings after the pads have been placed. The Contractor shall remove excess concrete and grout within the structure at the completion of the adjustment. The Contractor shall complete the adjustment by removing the forms and by backfilling adjacent to the pad as may be required.

DIVISION 6 STRUCTURES

6-02 CONCRETE STRUCTURES

6-02.3 CONSTRUCTION REQUIREMENTS

6-02.3(2) PROPORTIONING MATERIALS

6-02.3(2)B COMMERCIAL CONCRETE

The section is replaced with the following:

Commercial class concrete shall not be used on City projects except as allowed by the Engineer for unexposed utility frame adjustments.

6-02.3(4) READY-MIX CONCRETE

6-02.3(4)C CONSISTENCY

The section is replaced with the following:

The slump for all concrete shall be 4 inches or less.

DIVISION 7 DRAINAGE STRUCTURES, STORM SEWERS, SANITARY SEWERS, WATER MAINS, AND CONDUITS

7-01 DRAINS

7-01.2 MATERIALS

The section is revised by replacing paragraph 1 with the following:

Materials shall meet the requirements of the following sections:

Gravel backfill for Drains	9-03.12(4)
Concrete Drain Pipe	9-05.10(1)
Perforated Concrete Underdrain Pipe	9-05.20(2)
Perforated Polyvinyl Chloride (PVC) Underdrain Pipe	9-05.2(6)
Polyvinyl Chloride (PVC) Pipe	9-05.12
Construction Geosynthetic	9-33

7-04 STORM SEWERS

7-04.2 MATERIALS

The section is replaced with the following:

Materials shall meet the requirements of the following sections:

Reinforced Concrete Storm Sewer Pipe	9-05.12(1)
Solid Wall PVC Storm Sewer Pipe	9-05.13
Ductile Iron Sewer Pipe	9-05.7(2)

The Contractor shall use ductile iron pipe whenever the depth of cover under a roadway is 18 to 36 inches. The Contractor shall lay all ductile iron pipe, valves, and fittings with a polyethylene encasement installed in accordance with AWWA C105. PVC pipe can be installed at depths of 24 inches and greater under sidewalks, provided that no portion of the PVC pipe is installed within the street (defined at face of curb). All contiguous pipe between stormwater structures shall be of the same diameter and material.

The following section (7-04.3(2)) is added:

7-04.3(2) TELEVISION INSPECTION

Municipal storm sewers shall be inspected by the use of a television camera if the length of pipe between structures exceeds 50 feet. The Contractor shall provide copies of the video inspections to the Engineer. Video inspections shall be on format that can be downloaded on the city's computers for viewing.

All video inspections shall include the following information on the video:

- a) The name of the project and the name of the Contractor.
- b) The name of the street and the cross street if applicable.
- c) The beginning and ending manhole numbers, drywells, or catch basins, as referenced to the approved construction plans.
- d) The direction that the camera is traveling (either upstream or downstream).
- e) The distance shall be shown on the video inspection at all times, from the beginning manhole, catch basin, or drywell, as referenced to 0.0 feet for the beginning structure.
- f) For each structure, the camera shall perform a full video inspection of the inside of the structure.
- g) All abnormal conditions shall be noted, including repairs, debris, fractures, bellies, and standing water. Where abnormalities are noted, the Contractor shall be on notice that the pipe may not be in acceptable condition until repairs are completed, and the main is re-televised.

The television inspection shall be completed after the subgrade is prepared, and the Contractor shall not perform paving operations until the Engineer has reviewed video inspection reports and determined that the storm sewer lines are in acceptable condition.

All costs to provide video inspections shall be borne by the contractor, and the City will not provide television inspection services on storm sewer lines that are not yet accepted by the City.

7-05 MANHOLES, INLETS, CATCH BASINS, AND DRYWELLS

7-05.1 DESCRIPTION

The section is supplemented with the following:

The developer shall provide completed Washington State Department of Ecology (DOE) Underground Injection Control (UIC) applications to the Stormwater Manager for registering all proposed drywells with DOE, along with a reduced set of Construction Plans (11-inch by 17-inch). Drywells will not be permitted for installation, and Construction Plans will not be approved for construction, until the City receives notification from DOE that the drywells are “Rule Authorized”.

7-05.2 MATERIALS

The section is supplemented with the following:

Construction Geosynthetic 9-33

Utility castings shall be as shown on the appropriate construction detail.

7-05.3 CONSTRUCTION REQUIREMENTS

The section is supplemented with the following:

Entry couplings shall be used for all PVC pipe penetrations, with the exceptions for drywells. Mortar shall be applied between the pipe or entry coupling and the structure, where the pipe penetrates the structure, from both the interior and exterior of the structure. The manhole lid and ladder rungs shall be located directly above the inflow pipe where the inflow pipe is opposite from the effluent pipe. However, on manholes with dual entries or drop connections, the ladders shall be placed as directed by the Engineer, so that the flow does not enter at the ladder.

The Contractor shall bring channels together smoothly with well-rounded junctions. Channel sides shall be carried up vertically to the crown elevation of the various pipes, and the concrete shelf between channels shall be smoothly finished and warped evenly with slopes to drain.

The Contractor shall seal catch basins on the outside by placing Portland Cement Concrete from 1-inch below the top of the base section to 1.5-inch below the top of the frame. The Contractor shall seal the frame and adjustment rings inside the catch basin with a non-shrink-type concrete or grout.

The Contractor shall install new frames, grates, and covers as directed by the Engineer whenever existing frames are adjusted. Replacement frames, grates, and covers shall be

provided by the City. The Contractor shall deliver salvageable frames, grates, and covers to the City Shop at 11789 Road 4 NE if the Engineer determines that they are salvageable; otherwise, they shall become the property of the Contractor.

The Contractor shall store construction fabric for drywells in a dry place off the ground. Rolls shall be placed straight in piles. The construction material shall not be exposed to sunlight for more than a total of 40 hours, either during storage or placement.

The surface to be covered by the fabric shall be graded uniformly so that it is free from protruding rocks or other objects. The fabric shall be placed loosely as a liner for the ditch to avoid placing the fabric in tension upon backfilling. The fabric shall be placed with overlaps of 1 foot. The Contractor shall not operate equipment directly on the fabric.

The Contractor shall repair or replace any fabric that is punctured or disturbed during construction in accordance with Section 2-12.

The Contractor shall provide mechanical compaction for drain rock that is placed below the base prior to placing the base.

7-05.3(1) ADJUSTING MANHOLES AND CATCH BASINS TO GRADE

The section is supplemented with the following:

Manholes and catch basins shall be adjusted in accordance with Section 5-07.

7-05.3(2) ABANDON EXISTING MANHOLES

The section is revised by replacing the first sentence of the Section with the following:

Where it is required that an existing manhole be abandoned, the structure shall be broken down to a depth of at least 4 feet below the revised finish grade, all connections shall be plugged with non-shrink-type concrete or grout, and the manhole shall be filled with select backfill and compacted to 95 percent maximum density.

7-05.3(3) CONNECTIONS TO EXISTING MANHOLES

The section is supplemented with the following:

The Contractor shall carefully penetrate the wall of the manhole at the elevation shown on the Construction Plans. PVC pipe penetrations shall be made using an authorized pipe entry coupling.

The following section (7-05.3(5)) is added:

7-05.3(5) DRYWELL

The Contractor shall compact the base layer of drain rock prior to placing the drywell base.

Construction geotextile shall be placed between the drain rock and the existing soil.

7-08 GENERAL PIPE INSTALLATION REQUIREMENTS

7-08.2 MATERIALS

The section is replaced with the following:

Gravel Backfill for Foundations	9-03.12(1)
Gravel Backfill for Pipe Zone Bedding	9-03.12(3)
Gravel Backfill for Drains	9-03.12(4)

7-08.3 CONSTRUCTION REQUIREMENTS

7-08.3(1) EXCAVATION AND PREPARATION OF TRENCH

7-08.3(1)C BEDDING THE PIPE

The section is supplemented with the following:

Contractor shall install pipe zone bedding material as shown on the Trenching and Bedding Detail. Pipe bedding shall conform to Section 9-03.12(3) or Section 9-03.22 for pipes installed above groundwater and above seasonal groundwater zones. Pipe bedding shall conform to Section 9-03.12(4) for pipes installed in groundwater or in seasonal groundwater zones.

7-08.3(2) LAYING PIPE

7-08.3(2)A SURVEY LINE AND GRADE

The section is revised by replacing the first paragraph with the following:

Survey line and grade control hubs shall be set in accordance with Section 1-05.4(1).

7-08.3(2)G JOINTING OF DISSIMILAR PIPE

The section is replaced with the following:

Dissimilar pipe shall be jointed with a factory-fabricated adapter coupling as authorized by the Engineer.

7-08.3(3) BACKFILLING

The section is revised by replacing sentences 3 thru 6 of paragraph 4 with the following:

The Contractor shall place backfill above the pipe zone bedding in horizontal layers that are no greater than 18-inches thick with a maximum aggregate of 12-inches or less. The Contractor shall compact each layer to 95 percent maximum density. Maximum density and optimum moisture shall be in accordance with Compaction and Moisture Control Tests of Section 2-03.3(14)D. Material that is excavated from the trench may be used for backfill above the pipe zone, except that organic material, frozen lumps, wood, or pavement chunks, concrete, or other foreign material shall not be used.

The following section (7-08.3(5)) is added:

7-08.3(5) DETECTABLE MARKING TAPE

The Contractor shall install detectable marking tape above all culverts, stormwater pipes, water pipes, conduits, and sanitary sewer pipes. The tape shall be placed 2 feet above the top of the pipe for the entire length of the pipe. Marking tape shall be in accordance with Section 9-15.18.

7-09 WATER MAINS

7-09.2 MATERIALS

The section is revised by deleting the following materials:

Steel Pipe (6 inches and over).....	9-30.1(4)A
Fittings for Steel Pipe (6 inches and over)	9-30.2(4)A
Steel Pipe (4 inches and under)	9-30.1(4)B
Fittings for Steel Pipe (4 inches and under)	9-30.2(4)B

7-09.3 CONSTRUCTION REQUIREMENTS

The section is supplemented with the following:

Hydrant assemblies shall be installed within 4 feet of all new dead-end water mains before being placed in service. Blow-off assemblies may be authorized by the Engineer in

lieu of hydrant assemblies for temporary dead-end water mains that are to be placed in service. Blow-off assemblies are not authorized for installation on dead-end water mains within permanent cul-de-sacs.

Tees, not crosses, shall be used for all branches to private water mains and services. Consecutive tees shall be separated by at least two feet of pipe, between the outer edges of the tees.

7-09.3(5) GRADE AND ALIGNMENT

The section is revised by replacing sentence 1 of paragraph 3 with the following:

The depth of trenching for water mains shall provide 42 inches of cover over the top of the pipe unless otherwise shown on the Construction Plans or authorized by the Engineer.

7-09.3(7) TRENCH EXCAVATION

The section is revised by replacing paragraph 3 with the following:

Trench excavation within right-of-way or municipal easements shall not be more than 150 feet ahead of the pipe-laying operation. The Engineer may approve a trench to remain open overnight in low-volume traffic areas. This allows a Contractor to avoid backfill and re-excavation operations in the area directly surrounding the end of a pipe. The Contractor assumes all responsibility for the open trench and safety-protection measures.

7-09.3(7)B ROCK EXCAVATION

The section is revised by replacing sentence 2 of paragraph 1 with the following:

Ledge rock, boulders, or stones shall be removed to provide a clearance of 6 inches under the pipe.

7-09.3(9) BEDDING THE PIPE

The section is revised by replacing sentence 1 and 2 with the following:

The Contractor shall install pipe zone bedding material as shown on the Trenching and Bedding Detail. Pipe zone bedding material shall conform to Section 9-03.12(3) or Section 9-03.22 for pipes installed above groundwater and above seasonal groundwater zones. Pipe zone bedding material shall conform to Section 9-03.12(4) for pipes installed in groundwater or in seasonal groundwater zones.

7-09.3(11) COMPACTION OF BACKFILL

The section is revised by replacing the second sentence of paragraph 2 with the following:

In such cases, the backfill material shall be placed in successive layers not exceeding 18 inches in loose thickness, and each layer shall be compacted with mechanical tampers to the density specified herein.

7-09.3(17) LAYING DUCTILE IRON PIPE WITH POLYETHYLENE ENCASEMENT

The section is replaced with the following:

The Contractor shall lay all ductile iron pipe, valves, and fittings with a polyethylene encasement installed in accordance with AWWA C105.

7-09.3(19) CONNECTIONS

7-09.3(19)A CONNECTIONS TO EXISTING MAINS

The section is revised by replacing paragraph 1, 2, and 5 with the following:

The Contractor shall coordinate with Development Engineering for all operations to fill, flush and connect new water lines to the city water system. The Water Department will take samples for the bacteriological test after the designated time unless otherwise mutually agreed.

Method 1–Isolation

The Contractor shall not connect new water mains to existing water mains until a satisfactory bacteriological report has been received by the Engineer and the new water main has passed the hydrostatic pressure test. A backflow prevention assembly that has been authorized by the Water Division Supervisor shall be used on the supplying water line when the new water main is filled during disinfection and flushing operations.

Method 2–Lockout

Water mains may be connected to existing water mains prior to passing a bacteriological test provided that the following conditions are met:

1. All materials used in the connection shall be disinfected. The interiors of all pipe and fittings including couplings and sleeves shall be swabbed or sprayed with 1-percent hypochlorite solution before they are installed.

2. The Contractor shall install a new isolation valve to separate the new main from the existing main. However, an existing valve may be used as the isolation valve, provided that no services are installed between the existing valve and the point of connection. Existing valves are not guaranteed by the City. Where the Contractor uses an existing valve as an isolation valve, and the existing valve does not hold the required test pressures for a new water main, the Contractor shall replace the existing valve with a new valve that holds the required pressure.
3. The isolation valve shall only be operated by Water Division personnel and shall have a lockout installed on the valve to assure no unauthorized person operates the valve.
4. The new main shall be vented to the atmosphere whenever the valve is open. These procedures are to prevent any backflow from the new main due to back pressure.

If an unsatisfactory bacteriological test report is obtained, the valve shall remain closed and the new main shall be disinfected by injection of a chlorine solution at a location near the valve.

Connections and taps to existing water mains shall be made by the Water Division unless otherwise authorized by the Water Division Supervisor. The Contractor shall contact the Water Division Supervisor at least 48 hours prior to making the connection or tap. The Contractor shall submit a list of materials to the Engineer, prior to excavation, that includes fittings, valves, tapping tees, and other items required for the connection. The Contractor shall furnish all labor, equipment, materials, excavation, backfill, and compaction, required to connect to the existing main; however, the actual connection or tap shall be made by Water Division personnel. However, when the connection is being made to a water main stub that is not in service, the connection may be made by the Contractor provided that the Engineer is present.

When the work requires an interruption of service the affected customers shall be notified in advance. The Water Division Supervisor, Engineer, and Contractor shall mutually agree upon a date and time for the work to be performed. The schedule shall allow ample time for the Contractor to mobilize labor, materials, and equipment; and for the Water Division to notify all affected customers.

7-09.3(20) DETECTABLE MARKING TAPE

The section is replaced with the following:

Marking tape shall be placed over all water pipes including service lines. The Contractor shall install the tape approximately 2 feet above the top of the line for the full length of the line. Marking tape shall meet the requirements of Section 9-15.8.

7-09.3(21) CONCRETE THRUST BLOCKING

The section is revised by replacing paragraph 1 with the following:

Portland Cement Concrete thrust blocking shall be installed at all bends, tees, dead ends, and crosses in accordance with the details and as shown on the Construction Plans. Portland Cement Concrete thrust blocking shall meet the requirements of Section 6-02. Hydrants shall be restrained in accordance with Section 7-14.3(2)A. All reducers shall be restrained in accordance with the details, as shown on the Construction Plans, and as authorized by the Engineer.

7-09.3(23) HYDROSTATIC PRESSURE TEST

The section is supplemented with the following:

A successful pressure test shall be performed by the Contractor within 30 days of a satisfactory bacteriological sample, otherwise an additional satisfactory bacteriological sample shall be taken.

7-09.3(23)A TESTING EXTENSIONS FROM EXISTING MAINS

The section is deleted.

7-09.3(23)B TESTING SECTION WITH HYDRANTS INSTALLED

The section is deleted.

7-09.3(23)C TESTING HYDRANTS INSTALLED ON EXISTING MAINS

The section is deleted.

7-09.3(24) DISINFECTION OF WATER MAINS

The section is supplemented with the following:

When a pressure test fails, and any portion of the piping system is taken apart or replaced, the Contractor shall re-chlorinate the water main as directed by the Engineer.

If a section of pipe has not passed a pressure test within 30 days of a satisfactory bacteriological sample, then the line shall be flushed and re-sampled before additional pressure tests shall be allowed.

If a section of pipe is required to be retested, the Contractor shall pay the additional costs to refill, reflush, and resample the section. The costs are as follows:

Water Sample purity	Per current fee schedule
---------------------	--------------------------

Refilling and Reflushing main (each time)	Per current fee schedule
---	--------------------------

These fees shall be paid prior to refilling, reflushing, and resampling.

The following section (7-09.3(25)) is added:

7-09.3(25) TRACER WIRE

A solid copper tracer wire shall be taped to the top of all PVC water mains installed and to all service lines between the water main and the water meter. The wire installation shall conform to the details.

7-12 VALVES FOR WATER MAINS

7-12.3 CONSTRUCTION REQUIREMENTS

The section is supplemented with the following:

The Contractor shall replace existing valve boxes with new valve boxes that are provided by the City of Moses Lake if directed by the Engineer.

The Contractor shall install valves 10 feet from all tees and crosses; however, valves on the branch side of a tee should be FL x MJ valves, bolted to the tee.

Main-line valves shall be installed every 800 lineal feet of pipe installed in residential areas, and every 500 lineal feet in commercial-use and industrial-use areas.

When connecting to an existing water main with a tapping sleeve and valve, additional valves are not required to be installed on the existing main.

7-14 HYDRANTS

7-14.3 CONSTRUCTION DETAILS

7-14.3(1) SETTING HYDRANTS

The section is revised by replacing sentence 1 of paragraph 1 with the following:

Hydrants shall be constructed and installed in accordance with the Hydrant Assembly Detail. In areas without sidewalks, hydrants shall be installed to the elevation as authorized by the Engineer. Hydrants shall be located and oriented as required or authorized by the Fire Marshal. Where a hydrant is required at an intersection, it should be located out of the curve, near the point of curvature. Construction Plans with on-site fire hydrants shall be approved by the Fire Marshal prior to installation.

7-14.3(2) HYDRANT CONNECTIONS

The section is replaced with the following:

Hydrant laterals shall consist of a section of 6-inch pipe from the main to the hydrant and shall include an auxiliary gate valve set vertically and placed in line in accordance with the details. Bell and spigot connections and mechanical joints shall be restrained joints. Concrete thrust blocks and shackle rods are not allowed except as authorized by the Engineer on existing hydrant lines being extended.

7-14.3(2)A HYDRANT RESTRAINTS

The section is replaced with the following:

Hydrants shall be restrained in accordance with the details and as shown on the plans.

7-14.3(2)B AUXILIARY GATE VALVES AND VALVE BOXES

The section is replaced with the following:

Auxiliary gate valves and valve boxes shall be installed in accordance with Section 7 12.

7-15 SERVICE CONNECTIONS

7-15.1 GENERAL

The section is replaced with the following:

This Work consists of installing the service connections from a municipal or private main to the water meter for the premises served. Service connections for commercial, industrial, and residential premises are included in the Work.

Services installed from private water mains shall be installed at locations that are authorized by the Engineer, on private property. The City does not provide maintenance for services that are installed from a private water main, except for the actual meter and strainer within the service tile or vault.

7-15.3 CONSTRUCTION REQUIREMENTS

The section is revised by replacing sentence 1 of paragraph 2 with the following:

The depth of trenching for service connection piping shall provide 30 inches of cover over the top of the pipe.

The last sentence of paragraph 4 is replaced with the following:

The Contractor shall not commence work that involves interruption of water service until all affected customers have been notified 24 hours in advance by the Water Division of the scheduled water service interruption.

The last sentence of paragraph 5 is replaced with the following:

All fittings, appurtenances, and other miscellaneous materials on the sections of existing pipe that have been removed shall become the property of the Contractor, except for the meter and all items determined by the Engineer as salvageable.

The section is supplemented with the following:

The excavation for the vault shall be large enough to allow room for compaction of backfill. The vault shall be set on 6 inches of select backfill compacted to 95 percent of maximum density. Backfill material that is placed within 2 feet of the structure shall be free of rocks that are larger than 4 inches in diameter; and native backfill material that does not meet this requirement shall be replaced with select backfill.

The Contractor shall schedule construction operations so that water service customers are not without water for more than 4 consecutive hours.

All new water service lines from the meter to the building envelope shall be constructed in accordance with Community Street and Utility Standards. Water service lines installed outside the corporate limits shall require a Street and Utility Construction permit from the City.

The Municipal Services Department shall inspect the following items prior to meter installation:

- a. All water service lines that are installed in Municipal right-of-way or easements.
- b. All water service lines that are shown on Construction Plans.
- c. All water service lines outside the corporate limits, served with City water, that are installed outside the building envelope.

The Building Department shall inspect the following items prior to meter installation:

- a. All water service lines installed in the corporate limits, between a building and existing water service line, outside the right-of-way or municipal easement.

The following section (7-15.3(2)) is added:

7-15.3(2) SERVICE METER

The Water Division shall provide and install service meters that are 2 inches and smaller, at prices established by City ordinance. The Contractor shall provide and install authorized service meters that are larger than 2 inches.

Service meter assemblies that are 2-inches and smaller, and connected to municipal water mains, shall be installed in the sidewalk whenever possible; otherwise, the 2-inch and smaller meter assemblies from a municipal main shall be installed in the center of a 5-foot by 5-foot by 6-inch Portland Cement Concrete pad, within the right-of-way, at locations authorized by the Engineer. Portland Cement Concrete for meter pads shall be Class 3000.

Service meters that are installed on private water mains, and all water services greater than 2-inches shall be installed out of the right-of-way, at locations as shown on the Construction Plans or authorized by the Engineer. All water services installed on private property require a municipal access easement on the property where the meters are located.

Service meters that are within the traveled way in commercial-use or industrial-use areas shall be installed in traffic-rated vaults.

All water service meters shall be in a separate tile or vault, regardless of whether the tile or vault is municipal or private. Multiple meters are not authorized for installation in the same vault or tile.

The following section (7-15.3(3)) is added:

7-15.3(3) WATER/SEWER CROSSINGS

Where water mains and sewer mains cross, the Work shall be constructed in accordance with current Washington State Department of Ecology requirements.

The following section (7-15.3(4)) is added:

7-15.3(4) BEDDING THE PIPE

Pipe zone bedding material shall conform to the requirements of Section 7-09.3(9).

The following section (7-15.3(5)) is added:

7-15.3(5) BACKFILLING TRENCHES

Backfill shall conform to the requirements of Section 7-09.3(10).

The following section (7-15.3(6)) is added:

7-15.3(6) COMPACTION OF BACKFILL

Compaction of trenches shall conform to the requirements of Section 7-09.3(11).

7-17 SANITARY SEWERS

The section is revised by changing the title as follows:

7-17 GRAVITY SANITARY SEWERS

7-17.2 MATERIALS

The section is revised by replacing the first paragraph with the following:

Pipe used for gravity sanitary sewers can be ductile iron (rigid) or PVC (thermoplastic).

The section is revised by replacing the fourth paragraph with the following:

Materials shall meet the requirements of the following sections:

Solid wall PVC Sanitary Sewer Pipe	9-05.12(1)
Ductile Iron Sewer Pipe	9-05.13

7-17.3 CONSTRUCTION REQUIREMENTS

7-17.3(2) CLEANING AND TESTING

7-17.3(2)A GENERAL

The section is revised by replacing paragraph 1 with the following:

All gravity sewer pipe and appurtenances shall be tested after backfilling, in accordance with Section 7-17.3(2)F.

All gravity sewer mains shall be thoroughly cleaned by a method authorized by the Engineer.

All gravity sewer mains shall be installed at the minimum grade allowed by WSDOE unless evidence shows that other properties will not be served by the installation of the deeper sewer main.

The ends of all new gravity sewer mains shall terminate with a manhole.

The section is supplemented with the following:

The Contractor shall lay all ductile iron pipe, valves, and fittings with a polyethylene encasement installed in accordance with AWWA C105.

7-17.3(2)F LOW PRESSURE AIR TEST FOR SANITARY SEWERS CONSTRUCTED OF NON-AIR PERMEABLE MATERIALS

The section is replaced with the following:

All gravity sewer and appurtenances shall be tested at 5 psi for 5 minutes. An acceptable test shall not show any visible pressure loss on the gauge. The gauge shall be calibrated to a maximum of 30 psi. At completion of the test, the pressure shall be released so that the gage may be verified to return to zero psi.

7-17.3(2)H TELEVISION INSPECTION

The section is replaced with the following:

All municipal and private gravity sewer mains shall be inspected by the use of a television camera. The Contractor shall provide copies of the video inspections to the Engineer. Video inspections shall be on format that can be downloaded on the city's computers for viewing.

All video inspections shall include the following information on the video:

- a. The name of the project and the name of the Contractor.
- b. The name of the street and the cross street if applicable.
- c. The beginning and ending manhole numbers, as referenced to the approved construction plans.
- d. The direction that the camera is traveling (either upstream or downstream).
- e. The distance shall be shown on the video inspection at all times, from the beginning manhole, as referenced to 0.0 feet for the beginning manhole.

- f. For side services, the camera shall stop and video inside the service connection. The distance from the beginning manhole to each service connection shall be shown on the video inspection.
- g. For each manhole, the camera shall perform a full video inspection of the inside of the manhole.
- h. All abnormal conditions shall be noted, including repairs, debris, fractures, bellies, and standing water. Where abnormalities are noted, the Contractor shall be on notice that the pipe may not be in acceptable condition until repairs are completed, and the main is re-televised.

The television inspection shall be completed after the subgrade is prepared, and the Contractor shall not perform paving operations until the Engineer has reviewed video inspection reports and determined that the sanitary sewer lines are in acceptable condition.

All costs to provide video inspections shall be borne by the contractor, and the City will not provide television inspection services on sewer lines that are not yet accepted by the City.

7-18 SIDE SEWERS

The section is revised by replacing the title with the following:

7-18 BUILDING SEWERS

7-18.2 MATERIALS

The section is supplemented with the following:

Detectable Marking Tape	9-15.18
-------------------------	---------

7-18.3 CONSTRUCTION REQUIREMENTS

7-18.3(1) GENERAL

The section is supplemented with the following:

All new building sewer lines shall be constructed in accordance with Community Street and Utility Standards. Building sewers outside the corporate limits shall require a Street and Utility Construction permit from the City. All new building sewer lines shall be connected to the POTW downstream from a manhole.

The following building sewers shall be inspected by the Municipal Services Department prior to service:

1. All building sewers that are installed in right-of-way or easements.
2. All building sewers that are shown on Construction Plans.
3. All building sewers outside the corporate limits, served with City sewer, that are installed outside the building envelope.

The following building sewers shall be inspected by the Building Official prior to service:

1. All building sewers that are installed in the corporate limits, between a building and existing building sewer line stub, outside the right-of-way or municipal easement.

Building sewer locations shown on the Construction Plans are subject to relocation in the field by the Engineer.

Slopes for building sewers within the right-of-way shall not be less than 1/4-inch vertical to 1-foot horizontal. However, where 6-inch diameter or larger service pipe is allowed to accommodate larger service flows, slopes may be reduced on building sewers as allowed by WSDOE and as authorized by the Engineer. Slopes for building sewers outside of the right-of-way shall be as authorized by the Building Official.

New building sewers installed to the POTW shall be installed through the public utility easement.

7-18.3(5) END PIPE MARKER

The section is replaced with the following:

The Contractor shall mark the location of the end of the building sewer with a #4 rebar if the building sewer will not extend to building connection when the building sewer is installed. The rebar shall extend from the end of the building sewer up to the finished grade. The Contractor shall cut the top of the rebar flush with the finish grade and shall install a red plastic “Sewer Service” cap provided by the Engineer.

The following section (7-18.3(6)) is added:

7-18.3(6) DETECTABLE MARKING TAPE

The Contractor shall install detectable marking tape over all side sewer lines. The tape shall be placed approximately 2 feet above the top of the line and shall extend the full

length of the pipe. Where the building sewer does not extend to a building connection when the building sewer is installed, the tape shall be tied off to the #4 rebar that marks the end of building sewer.

The following sections (7-20) are added:

7-20 SANITARY SEWER FORCE MAINS AND SERVICES

7-20.1 DESCRIPTION

This work shall consist of constructing sanitary sewer force mains, low-pressure sewer mains, and low-pressure services in accordance with Sections 7-09 and 7-12. Work on sanitary sewer force mains, low-pressure mains, and low-pressure building sewers shall exclude Section 7-09.3(24).

All building pressure sewers outside the City limits require a Street and Utility Construction Permit from the City.

A. The following building pressure sewers shall be inspected by the Municipal Services Department prior to service:

1. All building pressure sewers that are installed in right-of-way or easements.
2. All building pressure sewers that are shown on Construction Plans.
3. All building pressure sewers outside the corporate limits, served with City sewer, that are installed outside the building envelope.

B. The following building pressure sewers shall be inspected by the Building Official prior to service:

1. All building sewers that are installed in the corporate limits, between a building and existing building pressure sewer, outside the right-of-way or municipal easement.

7-20.2 MATERIALS

Materials shall meet the requirements of the following sections:

Polyethylene Encasement	7-09.3(17)
Detectable Marking Tape	9-15.18
Ductile Iron Pipe	9-30.1(1)
Polyvinyl Chloride (PVC) Pipe	9-30.1(5)
Fittings	9-30.2

Ductile Iron Pipe Fittings	9-30.2(1)
Polyvinyl Chloride (PVC) Pipe Fittings	9-30.2(5)
Gate Valve (3 inches to 12 inches)	9-30.3(1)
Combination Air Release & Air Vacuum Valve	9-30.3(7)
Check Valves	9-30.3(9)

Where wastewater flows are required to be measured, for either billing or for wastewater permits, meters or flow measuring devices shall be as authorized by the Engineer.

7-20.3 CONSTRUCTION REQUIREMENTS

On-site building sewers shall have at least 30 inches of cover.

Septic tanks and pump tanks shall be at least 50 feet from surface water, measured from the ordinary high-water mark, and at least 5 feet from foundations and in-ground swimming pools, easements, and property lines.

On-site building sewers shall be at least 10 feet from surface water, as measured from the ordinary high-water mark, and at least 2 feet from building foundations and in-ground swimming pools.

On-site building sewers do not have a restriction for distance from property lines or easements.

Building sewers that cross public water system mains shall meet DOE's standards.

7-20.3(1) DETECTABLE MARKING TAPE

The Contractor shall install detectable marking tape over the sewer main. The tape shall be placed approximately 2 feet above the top of the sewer main over the entire length of the pipe.

7-20.3(2) TRACER WIRE

Tracer wire shall be installed on all pressure sewer mains and pressure building sewers.

7-20.3(3) TESTING

The Contractor shall test the force main in accordance with Section 7-09.3(23), Hydrostatic Pressure Test; except that the test pressure shall be 150 psi in excess of that in which they will operate, but not less than 225 psi.

7-20.3(4) LAYING DUCTILE IRON PIPE AND FITTINGS WITH POLYETHYLENE ENCASEMENT

Ductile iron pipe and iron pipe fittings shall be laid with polyethylene encasement. Polyethylene encasement shall be installed in accordance with AWWA C105.

7-20.3(5) SERVICE METER FOR WASTEWATER

Service meters may be required by the City prior to connecting to the POTW in situations where the volume of sewage cannot be determined by water usage, and may be authorized by the City when requested by the Owner in situations where the volume of sewage is substantially less than water usage. The Contractor shall provide and install service meters whenever sewage meters are required or authorized by the City. All wastewater meters should include a bypass line, with locking ball valves, to allow the meter to be removed for inspection, replacement, or service without stopping the wastewater flow to the POTW. All Work shall be in accordance with Construction Plans and details.

Where wastewater meters are authorized and accepted by the City for determining wastewater flows for billing purposes, the meter shall be installed in a municipal easement or right-of-way, and when accepted by the City, will be maintained and serviced by the City. Meters shall be Badger M2000 Electromagnetic Flow Meter and shall include an ERT. ERT shall be Orion Cellular LTE-M End Point.

All sewage that is required or authorized to be metered shall be from a pressure sewer service that first passes through a septic tank, and then to a private pump station. All pumps, pipes, septic tanks, valves, electrical service, vaults, meter, remote reader, bypass, and other appurtenances required to install the metered sewer service shall be owned and maintained by the Owner, but the isolation valve shall be owned, serviced, and maintained by the City.

All septic tanks shall be sized for the rate of discharge and shall be pumped by the owner every four years. The owner shall provide pumping tickets to City every four years for continued sewage service.

Service meters for sewage shall be installed out of the right-of-way at locations shown on the Construction Plans. All metered sewer services require a municipal access easement on the property where the meters are located.

Sewage service meters that are within the traveled way in commercial-use or industrial-use areas shall be installed in traffic-rated vaults.

The Owner shall pay for the electric cost for the flow meter and shall notify the City in the event that power flow to the sewage meter is interrupted.

The following Section [7-21] is added:

7-21 MANHOLES DOWNSTREAM OF FORCE MAINS

Where force mains tie into gravity sewer mains, the first downstream manhole shall be installed with protective concrete mixtures or lined with a protective liner. Authorized products shall be submitted to the engineer for authorization prior to installation.

DIVISION 8 MISCELLANEOUS CONSTRUCTION

8-01 EROSION CONTROL AND WATER POLLUTION CONTROL

8-01.1 DESCRIPTION

The section is supplemented with the following:

A Construction Stormwater General Permit permit is required from WSDOE Washington State Department of Ecology prior to construction for all construction projects that are one acre or larger and if there is any possibility stormwater from the construction site could discharge to Moses Lake or associated wetlands.

8-01.3 CONSTRUCTION REQUIREMENTS

8-01.3(9) SEDIMENT CONTROL BARRIERS

8-01.3(9)D INLET PROTECTION

The section is revised by replacing paragraph 1 with the following:

Inlet protection shall be performed below grade. The Contractor shall install inlet protection devices for catch basins in accordance with Community Standard Details. Inlet protection devices shall be inspected and cleaned every two weeks and after storm events.

8-02 ROADSIDE RESTORATION

8-02.3 CONSTRUCTION REQUIREMENTS

The following section (8-02.3(17)) is added:

8-02.3(17) TREE PLANTER

The Contractor shall construct the tree planter in accordance with the Plans and Specifications. The soil within the tile shall be water settled. Soil outside the tile zone shall be compacted at 95 percent modified proctor. One 2-inch PVC sleeves for the irrigation pipe shall be installed in the edging curb parallel to back of curb.

8-03 IRRIGATION SYSTEMS

8-03.1 DESCRIPTION

The section is supplemented with the following:

The irrigation system includes bubblers, valve boxes, piping, drainpipes, poly pipe, quick coupling devices, double check-valve backflow assembly, Y strainer, valves, electric control valves, battery operated controller with hand-held programmer, 30-inch water meter tile with cast iron ring and cover, and all fittings and miscellaneous items to complete the installation of the irrigation system in accordance with the Plans.

All fittings and materials downstream from the water meter shall be schedule 40 PVC.

The Contractor shall coordinate tie-in work to existing irrigation system with the Parks Maintenance Supervisor, (509)764-3816.

8-03.2 MATERIALS

The section is supplemented with the following:

Double Check-valve Backflow Assembly	9-15.11
--------------------------------------	---------

8-03.3(5) INSTALLATION

The section is revised by replacing the first paragraph with the following:

Type K copper pipe shall be used from the water meter or service connection through the cross-connection control device.

8-03.3(13) IRRIGATION WATER SERVICE

The section is replaced with the following:

The water meter will be installed by the City after the Contractor has completed the water service installation, including all service pipe, service fittings, corporation stop, saddle,

tracer wire, meter setter, meter tile, and associated parts in accordance with the plans and specifications. The Contractor shall notify the Engineer at least two working days prior to the day that water service is requested. The water meter will be provided and installed by the City at no cost to the Contractor for irrigation meters to City property. Irrigation services for private property are subject to meter and System Development Charges per the current fee schedule.

8-03.3(14) IRRIGATION ELECTRICAL SERVICE

The section is deleted.

8-04 CURBS, GUTTERS, AND SPILLWAYS

8-04.1 DESCRIPTION

The section is supplemented with the following:

Replacement curb and gutter shall match the typical dimensions of adjacent curb and gutter unless otherwise directed by the Engineer.

8-04.3 CONSTRUCTION REQUIREMENTS

8-04.3(1) CEMENT CONCRETE CURBS, GUTTERS, AND SPILLWAYS

The section is revised by replacing paragraph 1 with the following:

Portland Cement Concrete curb, curb and gutter, and spillway shall be constructed with air entrained Portland Cement Concrete Class 3000 conforming to the requirement of Section 6-02. Roundabout truck apron cement concrete curb and gutter shall be constructed with air entrained concrete Class 4000 conforming to the requirements of Section 6-02.

The section is revised by replacing sentence 1 of paragraph 3 with the following:

The foundation shall be watered thoroughly before the Portland Cement Concrete is placed, and the Portland Cement Concrete shall be well tamped and spaded in the forms. Vibration is not authorized.

The section is revised by replacing sentence 4 of paragraph 3 with the following:

The top, face, and gutter surfaces of the curb shall receive a light brush finish, parallel to the roadway.

The section is revised by replacing sentence 1 and 2 of paragraph 4 with the following:

The Contractor shall cut 1-inch-deep control joints in the curb and gutter at 10-foot intervals. However, some flexibility is allowed in the placement of joints so that joints in the curb may line up with the joints in the sidewalk or at transitions, as directed by the Engineer. Full-depth mastic shall be installed at 100-foot intervals and at points of curvature. However, mastic shall not be installed in depressed curb for driveways or curb ramps.

The section is supplemented with the following:

The Contractor shall provide forms that are clean and well-oiled prior to placement. The top of the form shall not depart from grade more than $\frac{1}{8}$ -inch when checked with a 10-foot straight edge and the alignment shall not vary more than $\frac{1}{4}$ -inch in 10 feet, with the exception for curbs installed on curves. Curbs installed along curves shall not be constructed of straight curb segments.

The Contractor shall remove pavement adjacent to the existing curb that is being removed for replacement. The Contractor shall remove enough pavement adjacent to the curb to allow for mechanical compaction of successive HMA layers, and additional pavement may be required to be removed to correct depressions or critical slopes in the pavement adjacent to the curb, as directed by the Engineer. HMA patches shall be placed in accordance with Section 5-06. However, the Contractor may not be required to remove any pavement for curb replacement provided that the edge of pavement is not disturbed during curb removal, the adjacent pavement is in good condition, and the adjacent pavement has the required grade for HMA at the completion of the curb replacement.

The Contractor shall remove full sections of the existing curb when removing and replacing curbs and gutters. Except, the Contractor may salvage portions of curb adjacent to the curb that has been removed by saw-cutting the damaged ends, provided that the salvaged portion is completely intact, has not been moved or displaced by removing curb or sidewalk adjacent to it, and at least 6-feet of salvageable curb remains. The Contractor shall remove additional curb as directed by the Engineer if the adjacent curb has been damaged at the point of connection. The Contractor shall install two (2) 12-inch, No. 4 rebar into each existing curb in accordance with the details.

As an option to removing curb to install a new driveway approach in an existing curb, the Contractor may sawcut the face of curb to the shape of a standard curb cut. The back-of-curb shall not be greater than 1.5 inches above the flow line for driveway cuts.

Portland Cement Concrete shall meet the cold-weather protection requirements specified in Section 8-14.3(3).

8-06 CEMENT CONCRETE DRIVEWAY ENTRANCES

The entire section is replaced with the following:

Driveways shall be constructed in accordance with Section 8-14.

8-13 MONUMENT CASES

8-13.1 DESCRIPTION

The section is replaced with the following:

This work shall consist of furnishing and placing iron pipe, brass monument, adjustment sleeve, monument case, and cover, in accordance with the details.

8-14 CEMENT CONCRETE SIDEWALKS

8-14.1 DESCRIPTION

The section is replaced with the following:

The work shall consist of constructing Portland Cement Concrete sidewalks, driveways, slabs, and bike paths in accordance with these specifications and in conformity with the lines, grades, thicknesses, and typical cross-sections shown in the Construction Plans or as established by the Engineer.

8-14.2 MATERIALS

The section is revised by replacing the first sentence of paragraph 2 with the following:

Detectable warning surfaces for curb ramps shall meet the requirements of Section 9-21.4.

8-14.3 CONSTRUCTION REQUIREMENTS

The section is supplemented with the following:

Sidewalks, curbs, driveways, and ramps that are removed and replaced to eliminate hazards or to repair underlying utilities shall be reconstructed to match the slope and grade of the existing concrete surfaces adjacent to the repair. All sidewalks, curbs, driveways, and ramps that are removed and replaced to accommodate revisions to existing driveways or ramps shall be reconstructed such that the entire driveway or entire ramp is constructed to current standards.

8-14.3(3) PLACING AND FINISHING CONCRETE

The section is revised by replacing paragraph 2 with the following:

The Contractor shall brush the surface of the sidewalks with a stiff bristled broom in a direction perpendicular to the curb, after troweling and after edging.

The section is revised by replacing the third, fourth, and fifth paragraphs with the following:

Control joints shall be spaced in accordance with the details and as directed by the Engineer. All control joints shall be perpendicular to the curb.

The Contractor shall place expansion joints every 20 to 30 feet, to align with the spacing for control joints, as directed by the Engineer. Expansion joints shall not be installed in driveways or ramps. Expansion joints shall be installed perpendicular to the curb, for the full depth of concrete.

The Contractor shall edge all joints and sidewalk edges with a ½-inch radius edger. Edgers for control joints shall be 1-inch deep.

The Contractor shall not spray water on the surface of the concrete for finishing; however, a very light mist may be acceptable by the Engineer.

The Contractor shall immediately cover all concrete with plastic if rain begins to fall before the concrete has set up. Any sidewalks that have been subjected to rain prior to setting may be rejected.

Concrete finishes that have a vertical difference of ¼-inch or more between panels shall be rejected. Where brick pavers are being repaired or replaced, all adjacent pavers shall be installed with a vertical difference less than ¼-inch.

The Contractor shall remove one full section, or more, of existing sidewalk when removing and replacing sidewalks; except, the Contractor can sawcut the adjacent panels of sidewalk and salvage portions of sidewalk panels provided that the salvaged portion is completely intact, it has not been moved or displaced by removing curb or sidewalk panels adjacent to it, and it is 3-feet or longer. All sawcuts shall be perpendicular to the curb and shall extend to the back of sidewalk. The Contractor shall remove additional sidewalk as directed by the Engineer if adjacent sidewalk panels have been damaged.

Cold Weather Protection

To achieve adequate curing on sidewalks, curb, and driveway approaches, surface temperature of the Portland Cement Concrete shall be maintained by the Contractor above 50 degrees Fahrenheit for three days. When the National Weather Service predicts temperatures below 35 degrees Fahrenheit for the 72-hour period after Portland Cement Concrete is placed, the Contractor shall provide a thermometer on the finish Portland Cement Concrete surface, to record the lowest temperature. The Contractor shall maintain the thermometer and cold weather protection for the finished Portland Cement Concrete until the Portland Cement Concrete has been maintained above 50 degrees Fahrenheit for three days. The cure period does not need to be 3 continuous days but shall consist of three or more continuous periods of 24 hours or greater. If the lowest surface temperature of the concrete drops below 32 degrees Fahrenheit before the three-day cure period has been achieved, the Portland Cement Concrete may be rejected by the Engineer.

8-14.3(4) CURING

The section is supplemented with the following:

The Contractor may use clear pigment curing compound as an alternative to moist burlap or quilted blankets. The Contractor shall apply clear pigment in accordance with the procedures outlined in Section 5-05.3(13)A. The curing agent shall be applied immediately after brooming; except, between October 1st and March 31st, curing compound shall be applied immediately after brooming when recommended by the manufacturer for temperatures encountered.

8-14.3(5) DETECTABLE WARNING SURFACE

The section is revised by replacing the first paragraph with the following:

The detectable warning surface shall be located as shown in the Construction Plans or as directed by the Engineer. Placement of the detectable warning surface shall be in accordance with the manufacturer's recommendation for placement in fresh Portland Cement Concrete, before the Portland Cement Concrete has reached initial set. For curb ramps that are prone to vehicular traffic, the Engineer may require the truncated dome panels to be constructed of cast iron or ductile iron products.

The following section (8-14.3(6)) is added:

8-14.3(6) DEPRESSED CURB FOR CURB RAMPS

The Contractor shall construct depressed curbs for curb ramps at intersections where new Portland Cement Concrete curbs are being constructed. The Contractor shall also install depressed curb for an additional ramp across from new ramps at intersections where no existing ramps have previously been constructed, as directed by the Engineer.

The Contractor shall replace depressed curbs for curb ramps that have been installed with a vertical rise of more than ½-inch within 3-inches of the center of the flow line.

8-20 ILLUMINATION, TRAFFIC SIGNAL SYSTEMS, AND ELECTRICAL

8-20.3 CONSTRUCTION REQUIREMENTS

8-20.3(14) SIGNAL SYSTEMS

8-20.3(14)C INDUCTION LOOP VEHICLE DETECTORS

The section is revised by replacing item No.10 with the following:

10. Sawcut sealant shall be Koch Flex-A-Fill crack sealant, 3M Detector Loop Sealant Black 5000, or as authorized by the Engineer.

The section is supplemented with the following:

12. Sawcuts shall be clean and dry prior to loop installation. Loops shall be cut, rope installed, and cuts sealed the same day.
13. Sawcuts shall extend 6 inches beyond the angle cut. Rope shall extend and terminate 6 inches beyond the sawcut angle points.

8-21 PERMANENT SIGNING

8-21.3 CONSTRUCTION REQUIREMENTS

8-21.3(1) LOCATION OF SIGNS

The section is replaced with the following:

Signs shall be located as shown on the Construction Plans and as directed by the Engineer. The sign locations shown in the Construction Plans are subject to relocation in the field as directed by the Engineer.

8-21.3(2) PLACEMENT OF SIGNS

The section is supplemented with the following:

The Contractor shall install permanent signs as shown on the Sign Installation Detail.

8-22 PAVEMENT MARKING

8-22.1 DESCRIPTION

The section is supplemented with the following:

Optional narrow elongated arrows in FHWA publication Standard Alphabet for Highway Signs and Pavement Markings are not authorized for installation.

Contractor shall utilize city-provided stencils when directed by the Engineer.

8-22.2 MATERIALS

The section is revised by replacing the first sentence with the following:

Material for pavement marking shall be paint or Type B plastic in accordance with Section 9-34. All word, symbol, and transverse crosswalk line markings shall be Type B plastic.

8-22.3 CONSTRUCTION REQUIREMENTS

8-22.3(3)E INSTALLATION

The section is revised by replacing the paragraph 2 with the following:

The Contractor shall not apply paint unless the temperatures of both the pavement and the air are greater than 50 degrees Fahrenheit. And, when the temperature is less than 60 degrees Fahrenheit, paint shall not be applied if the temperatures are decreasing.

The Contractor shall not apply Type B material unless the temperatures of both the pavement and the air are greater than 40 degrees Fahrenheit. And, when the temperature is less than 50 degrees Fahrenheit, Type B materials shall not be applied if the temperatures are decreasing.

The following sections (8-30) are added:

8-30 CONCRETE BRICK PAVER SIDEWALKS AND DRIVEWAYS

8-30.1 DESCRIPTION

This work consists of the construction of concrete brick paver sidewalks and driveways using individual high strength concrete pavers as shown on the Plans, described herein, and in accordance with the manufacturer's recommendations.

Existing utilities within sidewalk areas shall be adjusted to finished grade by the Contractor prior to placing the concrete brick pavers.

All tree planters, tree grates, trees, decorative lights, sidewalk drains, edging strips, irrigation and irrigation controls shall match existing unless otherwise directed by the Engineer.

8-30.2 MATERIALS

Materials shall meet the requirements of the following sections:

Sand Bedding for Concrete Brick Pavers	9-03.3
Detectable Warning Surfaces for Curb Ramps	9-21.4
Construction Geosynthetic	9-33
Efflorescence Cleaner for Concrete Brick Pavers	9-37
Sealer for Concrete Brick Pavers	9-38
Concrete Brick Pavers	9-40

8-30.3 CONSTRUCTION REQUIREMENTS

8-30.3(1) GENERAL

8-30.3(1)A REMOVAL AND SUBGRADE

The Contractor shall not remove any concrete sidewalks until the City has received written verification of delivery from the concrete brick paver manufacturer stating that all the pavers will be delivered at the project site within the next 7 calendar days.

Following removal of existing sidewalks and curbs, the Contractor shall perform excavation, grading, and compaction necessary to prepare the sidewalk and driveway subgrade to the required elevation and density to receive the geotextile fabric, CSTC, sand, and concrete brick pavers. The finished subgrade shall be true to elevation and shall be compacted to 95 percent of maximum density.

8-30.3(1)B PLACING CRUSHED SURFACING

The Contractor shall place and grade CSTC in all areas where the concrete sidewalks are removed and provide wood or other hard surfaced walkways to match all business entrances the same day the concrete sidewalk is removed and leave in place until the pavers are installed.

Construction of concrete brick sidewalks and driveways using concrete brick pavers shall be in accordance with the Plans and the manufacturer's recommended procedures. Prior to placing bedding sand, the CSTC base shall be leveled and compacted to 95 percent of maximum density. CSTC shall be placed and compacted to provide a uniform surface. Variation in grade shall not exceed more than ½-inch in 10 feet. Concrete utility structure edging in conformance with Section 8-30.3(2), shall be installed around all utility structures, poles, and vaults.

8-30.3(1)C PLACING BEDDING SAND

The Contractor shall place bedding sand immediately ahead of the brick pavers laying process. Bedding sand shall be 1 inch thick. The Contractor shall spread granular pesticide for ant control on the bedding sand according to the manufacturer's directions and all laws, codes, and rules. The Contractor shall keep equipment and pedestrians off the bedding sand prior to placing concrete brick pavers.

8-30.3(1)D PLACING CONCRETE BRICK PAVERS

All joints between pavers and between pavers and the curbs, concrete sidewalk edging strips, and concrete utility structure edging shall be ⅛-inch. If joints exceed these limits, the Contractor shall evenly readjust the paver layout.

The Contractor shall vibrate the pavers immediately after the edge pavers are installed and a complete surface exists before the surface is exposed to rain. Edge stones shall be placed along concrete sidewalk edging strip and the back of curb. Edge stone shall be installed the same day the bricks are laid. The pavers shall be compacted and set after each workday. Concrete pavers, within 3 feet of the laying face, shall be completely compacted at the end of each day. Concrete pavers shall be vibrated into the leveling course with low amplitude plate vibrator capable of a 3,500-to-5,000-pound compaction force. The vibrator shall make at least 3 passes across the concrete pavers. The Contractor shall spread dry sand and fill joints within 24 hours after vibrating pavers into the leveling course. The Contractor shall brush and vibrate the sand until all joints are completely filled. Surplus sand shall be removed by the Contractor upon completion.

Upon completion of the paver installation, the pavers shall be ⅛-inch to ¼-inch higher than the curb, concrete sidewalk edging strip, and concrete utility structure edging. If the pavers are too low, the Contractor shall remove the pavers, adjust the subgrade, and

reinstall the pavers correctly. If the pavers are too high, the Contractor shall hand tamp the pavers to the desired elevation.

When matching newly installed pavers to existing pavers, the Contractor shall remove five linear feet of the existing pavers. The Contractor shall then reinstall the pavers by mixing new pavers with the existing pavers to blend any color differences.

The Contractor shall install charcoal colored concrete pavers at all driveways and alleyways as shown on the detail.

8-30.3(2) CLEAN AND SEAL CONCRETE BRICK PAVERS

The Contractor shall apply efflorescence cleaner to all new or disturbed concrete brick pavers in accordance with manufacturer's recommendation 3 months after concrete brick pavers have been installed. Then the Contractor shall thoroughly scrub concrete brick pavers with a bristle brush broom.

Twenty-four hours after cleaning the bricks, the Contractor shall apply two coats of concrete sealer at a total rate of 100 sf/gal in accordance with manufacturer's recommendation. Sealer shall be applied to concrete brick pavers and castings as shown on the plans and as directed by the Engineer.

8-30.3(3) CONCRETE UTILITY STRUCTURE EDGING

Concrete utility structure edging shall be installed around all power poles, J-boxes, guy wires, signs, light posts, water meters, fire hydrants, and vaults. All power poles and guy anchors shall have a mastic strip placed around them prior to placing the concrete. Guy anchors shall have a $\frac{3}{4}$ -inch plastic sleeve placed over the wire prior to placing the concrete. Concrete utility structure edging shall be formed so that the curb and building sides match the brick layout. The other two sides shall be formed symmetrical about the utility structure and the pavers shall be cut to match the concrete. Concrete utility structure edging may be installed after pavers are placed.

8-30.3(4) ADJUST WATER METER RING AND COVER

The ring and cover of all water meters as shown on the Plans shall be adjusted to match sidewalk grade. Concrete utility structure edging shall be constructed around the water meter in accordance with details.

8-30.3(5) SIDEWALK DRAIN

The Contractor shall install sidewalk drains as shown on the plans and as directed by the Engineer.

The following sections (8-31) are added:

8-31 CONCRETE SIDEWALK EDGING STRIP

8-31.1 DESCRIPTION

This work consists of the construction of a concrete sidewalk edging strip, parallel to the building side of the sidewalk, and as transition joints and project termination points, at locations shown on the plans and as directed by the Engineer. The width of the concrete sidewalk edging strip shall be six to fourteen inches. The concrete sidewalk edging strip shall be twelve inches deep with two number four rebar, but rebar is not required if fibermesh concrete is placed for the concrete sidewalk edging strip. The concrete sidewalk edging strip shall be constructed so that the outside edge or edges will match the pattern and layout of the concrete brick pavers. Control joints shall be installed in the concrete sidewalk edging strip every 10 feet. Expansion joints shall be installed every 100 feet and shall be full depth of the concrete sidewalk edging strip but shall not be installed in driveways.

8-31.2 MATERIALS

The materials used shall conform to the provisions in section 8-14.2 of the Standard Specifications.

The following sections (8-32) are added:

8-32 TREE GRATES

8-32.1 DESCRIPTION

This work shall include the installation of Tree Grates including exposed aggregate concrete work and grate frame installation.

8-32.2 MATERIALS

Exposed Aggregate	8-33
Reinforcing Steel	9-07
Tree Grates	9-14.9
Grate Frames	9-14.10

8-32.3 CONSTRUCTION REQUIREMENTS

The grate frame shall be securely fastened to the curb in a manner that does not crack the curb. Where the Contractor is required or authorized to grout cracks and seams for the

grate frame, non-shrink-type concrete or grout shall be placed within seams and cracks and shall be cleaned from the adjacent surfaces.

8-32.3(1) GRATE FRAME INSTALLATION

Grate frames shall be anchored into new concrete. The grate frame shall be supported by casting it in concrete on three sides. After the concrete has cured, the side adjacent to the curb shall be attached to the curb with 3/8-inch by 3 1/2-inch epoxy glue style expansion bolts located 3 to 6 inches below the top of the curb.

8-32.3(2) EXPOSED AGGREGATE CONCRETE

The Contractor shall pour concrete between the existing tree planter and grate as shown in the details. The concrete shall be exposed aggregate complying with the requirements of section 8-33.

The following sections (8-33) are added:

8-33 EXPOSED AGGREGATE

8-33.1 DESCRIPTION

This item of work shall include all labor, material, equipment, and services required to provide the exposed aggregate finish to surfaces as shown in the plans. Care shall be taken to avoid discoloring or damaging the pavers adjoining the project.

8-33.2 MATERIALS

Cleaner	9-37
Sealer	9-38
Retardant	9-39

8-33.3 CONSTRUCTION REQUIREMENTS

All exposed aggregate concrete shall achieve the same final effect as demonstrated on the first approved tree planter installation.

Forms shall be cleaned and reconditioned before each use. Damage to forms during placing, removal, or storage shall be repaired prior to re-use. Forms with repairs, patches, or defects that may result in adverse effects to the concrete finish shall not be used. Forms and form joints shall remain watertight.

Concrete shall be placed in accordance with Section 6-02 and shall meet the cold-weather protection requirements specified in Section 8-14.3(3).

Forms for the exposed aggregate surface for members not yet supporting loads, including the members own load, may be removed as required to finish the exposed aggregate surface, provided the concrete has aged at least twelve hours, is of sufficient strength and hardness so as not to be damaged by the form removal operations, and curing and protection operations are maintained. Removal of forms on the remaining concrete surfaces shall be as specified in Section 6-02.

After the forms are stripped, the surface mortar shall be removed from the exposed aggregate areas.

A retardant coating shall be applied to the forms where exposed aggregate concrete is shown in the plans. The retardant shall have an effective life of not less than the length of time required for the exposed aggregate concrete to be in place prior to the removal of forms plus 12 hours. The sealer and form release agent used on the form shall not react chemically or otherwise with the retardant to produce an undesirable effect on the exposed aggregate finish. The sealer and form release agent shall be as recommended by the manufacturer of the retardant and as authorized by the Engineer. Retardant shall be applied in accordance with the manufacturer's instructions to remove the surface mortar.

Surface mortar shall be removed as follows:

- a. Light abrasive blasting and/or
- b. Washing with water under pressure, avoiding excessive pressure which loosens individual aggregate particles.

Concrete shall be cured in accordance with Section 6-02.3(11).

The Contractor shall seal the concrete thirty days after the concrete has been installed. The Contractor shall remove all staining and streaking on the exposed aggregate surface before applying the sealer.

DIVISION 9 MATERIALS

The Division is supplemented by including the following prior to Section 9-00:

Submittals for all materials used on the project shall be authorized by the Engineer prior to installation of the item.

9-03 AGGREGATES

9-03.3 VACANT

The entire section (9-03.3) is replaced with the following:

9-03.3 SAND BEDDING AND JOINTING SAND FOR CONCRETE BRICK PAVERS

Sand bedding and jointing sand for concrete brick pavers shall meet the following requirements for grading:

Sieve Size	Bedding Sand Percent Passing	Jointing Sand Percent Passing
$\frac{3}{8}$	100	
No. 4	90 – 100	100
No. 8	70 – 85	95 – 100
No. 16	40 – 65	70 – 100
No. 30	10 – 35	40 – 75
No. 50	6 – 8	10 – 35
No. 100	2 – 5	2 – 15
No. 200	0 – 4	0 – 2

The final jointing sand shall be white in color and shall appear clean and uniform.

9-03.12 GRAVEL BACKFILL

9-03.12(3) GRAVEL BACKFILL FOR PIPE ZONE BEDDING

The section is revised by deleting the final paragraph:

9-03.12(5) GRAVEL BACKFILL FOR DRYWELLS

The section is revised by replacing the gradation requirements as follows:

Sieve Size	Percent Passing
3-inch square	100
$\frac{3}{4}$ -inch square	0 – 20
$\frac{3}{8}$ -inch square	0 – 2.0
U.S. No. 200	0 – 1.5

The following section (9-03.22) is added:

9-03.22 SAND PIPE BEDDING

Blow sand, free of rocks larger than 3-inch in diameter and free of organic material, may be used as pipe bedding material above the groundwater.

9-04 JOINT SEALING MATERIALS

The following Section (9-04.13) is added:

9-04.13 CRACK SEALING–RUBBERIZED ASPHALT

Crafco Roadsaver 201 is the only rubberized crack seal material that is pre-authorized by the Municipal Services Department.

Other materials proposed on the project shall be submitted to the Engineer and authorized by the Engineer prior to use. The Contractor shall submit to the Engineer certification from the manufacturer verifying that the material has been authorized by the WSDOT. The Contractor shall also submit product information describing the Manufacturer’s recommendations for application of the product.

9-05 DRAINAGE STRUCTURES AND CULVERTS

9-05.15 METAL CASTINGS

9-05.15(1) MANHOLE RING AND COVER

The section is supplemented with the following:

Authorized ring and covers for manholes include the following:

D & L Foundry	A-2000
East Jordan Iron Works, Inc.	Frame: 3700Z, Cover: 3700C DI
Olympic Foundry	MH30K-ML

9-05.15(2) METAL FRAME, GRATE, AND SOLID METAL COVER FOR CATCH BASINS OR INLETS

The section is supplemented with the following:

The following catch basin frames and covers are authorized for installation:

D & L Foundry	I-4437
D & L Foundry	I-4432

The Contractor shall install bi-directional grates or uni-directional grates as directed by the engineer, or as shown on the plans.

Herringbone grates are not authorized for installation.

9-05.50 PRECAST CONCRETE DRAINAGE STRUCTURES

9-05.50(2) MANHOLES

The section is supplemented with the following:

Ladders and steps shall meet the requirements of ASTM C-478 and AASHTO M-199. The polypropylene shall conform to ASTM D-4101. The ½-inch Grade 60 reinforcing bar shall meet ASTM A-615.

The Contractor shall provide precast manhole elements with ladder rungs, vertically aligned, such that the completed manhole shall contain a continuous vertical ladder with rungs equally spaced at 12-inches. The lowest rung shall not be more than 12 inches above the shelf, and the uppermost rung shall not be more than 12-inches below the top of cone.

9-05.50(3) PRECAST CONCRETE CATCH BASINS

The section is revised by replacing paragraph 1 with the following:

Precast concrete catch basin construction shall conform to the requirements of Section 9-05.50(1), except that the dimensions shall be in accordance with details.

Round concrete base sections are authorized, provided that the finished catch basin shall allow the City's 24-inch camera to access the pipes, and the frame and grate are approved by the Engineer. Authorized round catch basins include the H² Pre-cast Inc. Storm Sewer 30-inch Diameter Catch Basin and Wilbert Precast, Inc 30-inch diameter catch basin, Yakima, with 6-inch riser (#1844-6).

9-14 EROSION CONTROL AND ROADSIDE PLANTING

9-14.6 (7) PLANT MATERIALS

9-14.7(4) SOD

The section is supplemented with the following:

The maintenance period shall begin on the date the Engineer approves the placed sod and shall continue for 10 days. At the end of the maintenance period, the Engineer shall mark all sod for replacement that is not in a healthy, growing condition. All sod marked by the Engineer for replacement shall be removed and replaced by the Contractor at the Contractor's expense. Sod that is replaced shall be of the same mixture and grade as the surviving sod.

The following section (9-14.9) is added:

9-14.9 TREES

Tree variety and spacing shall be as shown in the Construction Plans.

At the time of planting, trees shall have a caliper of between 1¼-inches and 1½-inches at 6 inches above the planting level. All trees shall be at least 8 feet tall.

The following section (9-14.9) is added:

Street Trees for 5-6' Planter Strip in Moses Lake, as Recommended by the Community Assistance Forester, WA State Dept. of Natural Resources

Scientific name	Common name	Showy fall color	Showy flowers	Winter interest	Height/Spread	Drought tolerance	Notes
Acer platanoides	Norway Maple	yellow	no	no	40-60' H 35-40' W	moderate	Shallow roots may heave sidewalk unless tree 4-6' away
Acer rubrum	Red Maple	orange, red, yellow	red spring	yes	60-75' H 25-35' W	moderate	Roots can heave sidewalks but are not as aggressive as silver maple roots; one tree may have multiple fall colors
Carpinus betulus	European Hornbeam	yellow	no	yes	40-60' H 35-40' W	high	
Cercidiphyllum japonicum	Katsuratree	yellow	no	yes	40-60' H 35-60' W	moderate	More decorative than some of the others; roots can heave sidewalks if not given enough room or soil not well-drained enough; needs protection from direct wind exposure; fairly pest free
Ostrya virginiana	American Hophornbeam	yellow	brown, green,	yes: bark	30-40' H 25-30' W	high	Very hardy; needs little care once

			summ er				established
Parrotia persica	Persian Parrotia	orange, red, yellow	red spring	yes: bark	20-40' H 20-35' W	high	More decorative than some of the others; interesting fall colors: yellow to orange to red. Slow growing and high maintenance: Tree is shrubby/multi- stemmed to 15'; requires training and pruning to get a street tree.
Pyrus calleryana	Callery flowering pear	red	white spring	no	35-45'H 25-35' W	high	'Aristocrat' better than 'Bradford' because of less branch breakage. Other species of flowering pear could also be used
Sophora japonica	Scholar tree	no	white, yellow summ er	no	40-70' H 40-70'W	high	
Tilia cordata	Littleleaf Linden	no	yellow summ er fragran t	no	60-70' H 35-50' W	moderate	Other Lindens may be even better, especially Crimean
Zelkova species	Zelkova	yellow, dark red, reddish brown	no	no	50-80' H 50-80'W	yes	Same family as elm so similar appearance without susceptibility to Dutch Elm Disease

And any other trees as authorized by the Parks, Recreation and Cultural Services Director.

9-14.10 TREE GRATES

Tree grates shall be cast iron, with ¼ -inch slots in a radial pattern, and include the City name and logo in accordance with construction plans. Grate thickness shall be 1-inch.

The following section (9-14.11) is added:

9-14.11 GRATE FRAMES

Dimensions and materials shall be in accordance with construction plans.

9-15 IRRIGATION SYSTEM

9-15.1 PIPE, TUBING, AND FITTINGS

The section is replaced with the following:

Pipe, tubing, and fittings shall be as shown in the details and authorized by the engineer.

9-15.3 AUTOMATIC CONTROLLERS

The section is supplemented with the following:

Automatic Controllers for irrigation systems shall be battery operated, Rainbird, 4-station model. The Contractor shall have access to a remote-control programmer for the specified system.

9-15.5 VALVE BOXES

The section is revised by replacing the last sentence with the following:

Irrigation Valve Boxes in sidewalk areas shall be 2-inch water services in accordance with Section 9-30.6(7) with ring and covers for 2-inch water services in accordance with Section 9-30.8.

9-15.11 CROSS CONNECTION CONTROL DEVICES

The section is supplemented with the following:

The irrigation system cross connection control device shall be a double check-valve backflow assembly. The following double check-valve assembly is authorized for installation:

Febco Model 850, 2-inch.

Alternate double check-valve backflow assemblies are not authorized for installation without written approval from the Engineer.

9-15.18 DETECTABLE MARKING TAPE

The section is revised by replacing the last paragraph with the following:

The width of the tape shall be at least 3 inches.

9-21 RAISED PAVEMENT MARKERS (RPM)

The following section (9-21.4) is added:

9-21.4 DETECTABLE WARNING SURFACES FOR CURB RAMPS

Color shall be in accordance with 8-14.2.

The following detectable warning surfaces are authorized for installation:

Neenah Foundry Company, cast-iron, ADA-Compliant, Truncated-Dome, Detectable Warning Plate, with powder-coated finish.

East Jordan Iron Works, gray-iron, heavy-duty, detectable warning plate, with powder coating RAL 1003 (Product Number 00700585).

Armor-Tile, manufactured by Engineered Plastics Inc. is authorized for installation, except where the construction plans or the Engineer require cast iron or ductile iron detectable warning surfaces.

TufTile, cast iron, wet-set replaceable detectable warning surface, manufactured by TufTile is authorized.

TufTile (replaceable) cast-in-place ADA Tiles are authorized for installation.

D & L Foundry, Catalog No. H-88XX Tactile Warning Plates.

9-22 MONUMENT CASES

9-22.1 MONUMENT CASES, COVERS, AND RISERS

The section is supplemented with the following:

Authorized monument case and covers include the following:

D & L Foundry	K-6523
Olympic Foundry	M1015

9-28 SIGNING MATERIALS AND FABRICATION

The following section (9-28.16) is added:

9-28.16 STREET NAME SIGNS

Street name signs shall be two-sided signs. The maximum length shall be 42 inches. The height shall be 9 inches. Sign blanks shall be double-faced, extruded blade.

Letters for street names shall be as follows:

- a. All letters shall be 6-inches tall.
- b. First letters of each word of a street name shall be upper case.
- c. Letters that follow the first letter of a word in a street name shall be lower case.

Letters for designators, such as St (Street), Dr (Drive), Ave (Avenue), Rd (Road), Blvd (Boulevard), Way, and Pl (Place) shall be as follows:

- a. All letters shall be 4-inches tall.
- b. First letters of a designator shall be upper case.
- c. Letters that follow the first letter of a designator shall be lower case.

9-29 ILLUMINATION, SIGNAL, ELECTRICAL

9-29.2 JUNCTION BOXES, CABLE VAULTS, AND PULL BOXES

The section is supplemented with the following:

Junction boxes that are authorized for installation in the sidewalk shall be rated for installation in the sidewalk, shall be authorized by the utility, and shall be authorized for use by the Engineer prior to installation.

9-30 WATER DISTRIBUTION MATERIALS

9-30.3 VALVES

9-30.3(1) GATE VALVES—3 INCHES TO 16 INCHES

The section is replaced with the following:

Gate valves shall be non-rising stem, resilient wedge, conforming to AWWA C509 or AWWA C515. The wedge shall be cast iron, completely encapsulated with urethane rubber. Urethane rubber shall be permanently bonded to the cast iron wedge in accordance with ASTM D429.

9-30.3(4) VALVE BOXES

The section is supplemented with the following:

The following valve boxes are authorized for installation:

Olympic Foundry
Tyler
D & L Foundry

VB 930
6855 with drop lid
M-8040

9-30.3(7) COMBINATION AIR RELEASE/AIR VACUUM VALVES

The section is supplemented with the following:

For sewer line applications, the Contractor shall install air-release valves where shown on the Construction Plans. Air release valves shall be A.R.I. Model D-20, flanged, epoxy-coated valves. Air release valve assemblies shall be constructed in accordance with the details.

9-30.3(8) TAPPING SLEEVE AND VALVE ASSEMBLY

The section is revised by replacing the last sentence with the following:

Tapping sleeves shall be Romac Industries SST, Stainless Steel Tapping Sleeve with Ductile Iron Flange.

The following section (9-30.3(9)) is added:

9-30.3(9) CHECK VALVES

Dresser M and H Style number 259-02, flanged end, with lever, spring, and bronze disk are authorized check valves.

9-30.5 HYDRANTS

The section is revised by changing the title as follows:

9-30.5 FIRE HYDRANTS

The section is supplemented with the following:

The following hydrants are authorized for installation:

M & H model 129S
Clow Model Medallion
Mueller Super Centurion 250
Kennedy K81D

9-30.5(1) END CONNECTIONS

The section is replaced with the following:

The end connection shall be a mechanical joint meeting the requirements of AWWA C110 and C111.

9-30.5(2) HYDRANT DIMENSIONS

The section is replaced with the following:

Hydrant connection pipe size, inside diameter:	6 inch MJ
Standpipe, inside diameter:	7 inches
Valve opening, diameter:	5.25 inches
Size of auxiliary gate valve:	6 inches
Hose nozzle:	
-number	2
-size	2.5 inch
-thread	National Standard
Length of thread:	1 inch
Pumper nozzle:	
-number	1
-size 4	.5 inch
-thread	National Standard with a 5-inch Storz connection, Style S-37, by Red Head Brass, Inc. is an authorized Storz connection
Operating nut:	1.5-inch standard pentagon

Hydrants shall include a weather shield on the operating nut.

All City-owned hydrants shall be painted yellow. Sherwin-Williams SuperAcrylic Safety Yellow 140-0571 and Rustoleum, Safety Yellow, non-aerosol, are authorized paints for City-owned hydrants that require painting.

All private hydrants shall be painted red. Sherwin-Williams SuperAcrylic High Visibility Red (Safety) 140-0548 and Rustoleum, Safety Red, non-aerosol, are authorized paints for private hydrants that require painting.

The bonnet shall be painted the same color as the hydrant and the Storz connection shall not be painted.

Hydrants shall be painted with a brush, not spray painted.

9-30.5(3) HYDRANT EXTENSIONS

The section is revised by replacing sentence 1 of paragraph 1 with the following:

Hydrant extensions shall have a 7-inch inside diameter, shall be gray cast iron or ductile iron, and shall conform to AWWA standards for such castings.

9-30.6 WATER SERVICE CONNECTIONS 2 INCHES AND SMALLER

9-30.6(1) SADDLES

The section is revised by replacing the second paragraph with the following:

Saddles shall have an FIPT connection.

The following saddles are authorized for installation for 1-inch service lines:

Romac 101S
Ford 101S

The following saddles are authorized for installation for 2-inch service lines:

Romac 202S
Ford 202S

Saddles used on PVC pipe shall be formed for PVC pipe and shall have flat, stainless-steel straps. For PVC pipe, provide a saddle that has the pipe O.D. closest to the top of the saddle's O.D. range. The correct Romac saddle sizes for 6-inch, 8-inch, 10-inch, and 12-inch C900 PVC pipe are as follows:

6-inch	6.63-6.90
8-inch	8.63-9.05
10-inch	10.00-11.10
12-inch	12.00-13.20

9-30.6(2) CORPORATION STOPS

The section is replaced with the following:

Corporation stops shall be ball valves made of bronze alloy and shall have MIPT on the inlet and outlet. Ford FB500 corporation stops are authorized for 1-inch and 2-inch outlet saddles.

9-30.6(4) SERVICE FITTINGS

The section is supplemented with the following:

Service fittings shall conform to AWWA C-800. All service fittings installed on a service line, between the corporation stop and the meter setter, and on the service side of the setter, shall be compatible and from the same manufacturer.

9-30.6(5) METER SETTERS

The section is revised by replacing paragraphs 3 and 4 with the following:

Meter setters shall be either 1-inch or 2-inch setters for services that are 2 inches and smaller.

All setters shall have iron pipe threads (IPT) on the inlet and the outlet, the same size as the setter. All meter setters that are 2-inches or smaller shall include a locking ball-valve inlet and a single check-valve outlet. Two-inch meter setters shall also include a high, offset bypass.

The following setters are authorized for installation for 1-inch services:

Ford Meter Box Co.	VBH 74-24W-11-44
A.Y. McDonald Manufacturing Co	720-424WDDD44

The following setters are authorized for installation for 2-inch services:

Ford Meter Box Co.	VBH-77-12HB-11-77
--------------------	-------------------

9-30.6(7) METER BOXES

The section is replaced with the following:

The following tiles are authorized for installation for 1-inch water services in non-traffic areas:

Pressure irrigation pipe, SDR 51, PVC 1120, 21-inch diameter by 36-inch length
SDR 32.5, CI 125, PIP, 21-inch diameter by 36-inch length.

The following tiles are authorized for installation for 2-inch water services in non-traffic areas:

Hancor Hi-Q pipe, 30-inch diameter by 36-inch length.

The following traffic-rated tile is authorized for installation for one-inch or two-inch water services in commercial-use and industrial-use traffic areas:

H² Pre-cast Inc. Vault Base VBE3 with lid VLE3-24

Poly-tuff meter tiles are not authorized for installation for any water service.

The following vaults are authorized for water services:

H2 Pre-cast Inc.	Small Meter Vault with traffic top, SMV 9686-TR
Wilbert Vault Company (Spokane)	Vault model number 1901
H ² Pre-cast Inc.	Large Meter Vault with traffic top, LMV 14481-TR

Vaults for water services shall include a six-inch-tall riser with a 6-inch-tall frame and cover.

Precast concrete vaults for water services shall meet the requirements of Section 9-05.50(1).

All vaults shall have a hatch. Hatches shall be USF fabrication H-20 rated hatch model UEZD ($33 \frac{9}{16} \times 67$) or approved equal.

The Contractor shall verify that the vault and meter combination selected can meet the space requirements in accordance with details.

The following section (9-30.7) is added:

9-30.7 WATER SERVICE CONNECTIONS LARGER THAN 2 INCHES

Meters that are larger than 2 inches shall be as specified by the Water Division Supervisor. The installation shall include an Electronic Remote Transmitter (ERT); handwheel gate valves on each side of the meter; and a bypass that is the same size as the service line, with a handwheel gate valve. All water meters shall measure cubic feet. The Contractor shall provide submittals to the Engineer on all meters and meter installations

that are larger than 2 inches. The Contractor shall not commence work until the submittals have been authorized by the Engineer.

All water services greater than 2-inches shall be installed out of the right-of-way, at locations as shown on the Construction Plans or authorized by the Engineer.

Service meters that are within the traveled way in commercial-use or industrial-use areas shall be installed in traffic-rated vaults.

The following vaults are authorized for water services:

H2 Pre-cast Inc.	Small Meter Vault with traffic top, SMV 9686-TR
Wilbert Vault Company (Spokane)	Vault model number 1901
H2 Pre-cast Inc.	Large Meter Vault with traffic top, LMV 14481-TR

The Contractor shall verify that the vault and meter combination selected can meet the space requirements of the Community Street and Utility Standard details.

Precast concrete vaults for water services shall meet the requirements of Section 9-05.50(1).

The following section (9-30.8) is added:

9-30.8 RING AND COVER FOR METER TILES

The following rings and covers are authorized for installation for water services:

1-inch service	D & L Foundry L-2216
2-inch service and larger	D & L Foundry A-2000

The following section (9-30.9) is added:

9-30.9 TRACER WIRE

Tracer wire shall be insulated, solid No. 10 copper wire approved for underground installation.

9-33 CONSTRUCTION GEOSYNTHETIC

The section is replaced with the following:

Crown Resources R060 geotextile material is authorized for underground when non-woven geotextile fabric is specified. This includes drywells, underdrain pipe, and french drains.

AASHTO Class 1 woven geotextile fabric, 315 WT, is authorized for installation between infiltration gallery and drain rock.

Phillips Fibers Corporation, SUPAC-4NP geotextile material is authorized for concrete brick pavers.

Geotextile material for subgrade stabilization shall be as authorized by the Engineer.

Geotextile material for overlays shall be as authorized by the Engineer.

9-34 PAVEMENT MARKING MATERIAL

9-34.3 PLASTIC

The section is revised by replacing the first sentence with the following:

White and yellow pavement marking materials shall comply with the Specifications for Type B-Pre-formed fused thermoplastic. Type B thermoplastic shall be Premark-Plastic.

The following section (9-37) is added:

9-37 EFFLORESCENCE CLEANER FOR CONCRETE BRICK PAVERS

The following cleaners are authorized for use in cleaning concrete brick pavers.

PAVER PREP Cleaner as manufactured by PAVE TECH, INC., PO Box 576, Prior Lake, MN 55372, (800-728-3832 or 612-226-6400).

Acid Wash as manufactured by Concrettech Decorative Concrete Supply Ltd.

The following section (9-38) is added:

9-38 SEALER FOR CONCRETE BRICK PAVERS

The following concrete sealers are authorized for use in sealing concrete pavers:

Sealtight CS-309-30 or CS-309-25 Curing and Sealing Compound as manufactured by W.R. Meadows, Inc., P.O. Box 338, Hampshire, IL 60140 (847-683-4500)

CS-30 Acrylic Sealer as manufactured by Concretech Supply Ltd., 7333 River Road, Delta, B.C., Canada V4G 1B1, (604-952-0057)

Luster Seal 300 as manufactured by Tamms Industries, Inc., 3835 State Route 72, Kirkland, IL 60146, (800-862-2667)

Paver Guard by Pave Tech, Inc.

The following section (9-39) is added:

9-39 RETARDANT COATING

The following retardants are authorized for exposed-aggregate concrete:

1. Ruggsol
2. Etch-Pro
3. True Etch Surface Retarder
4. Tuf-Cote Gray

The following section (9-40) is added:

9-40 CONCRETE BRICK PAVERS

Concrete pavers shall meet the following criteria:

- a. Compressive strength of 8000 psi or greater.
- b. Water absorption rate of 5 percent or less.
- c. Meet or exceed ASTM C-936-82.
- d. Meet or exceed freeze-thaw testing in accordance with Section 8 of ASTM C-67-73.

Pavers used in sidewalk areas shall be 2⅞-inches thick. Pavers used in driveway areas shall be 3⅞-inches thick. Pavers shall have ⅛-inch spacer bar on three sides.

The following pavers are authorized for installation:

“UniDecor” as manufactured by Mutual Materials of Spokane, Washington
“Village Stone” as manufactured by Western Interlock of Rickreal, Oregon

Samples of the concrete brick pavers shall be provided to the Engineer for approval of materials and color prior to ordering and installation.

DETAIL DRAWING INDEX

STREET

TITLE	DETAIL NO.
Paver District	A-1
Street Standards	A-2
Typical Alley	A-3
Typical Portland Cement Concrete Curb & Gutter	A-4
Typical Portland Cement Concrete Sidewalk	A-5
Typical Cement Concrete Driveway	A-6
Curb Ramp	A-7
Street Sign Installation	A-8
30" Round Catch Basin	A-9
Catch Basin Type 1L	A-9a
48" Precast Concrete Drywell	A-10
Monument – Type I	A-11A
Monument – Type II	A-11B
Barricade for Temporary No-outlet Street	A-12
Cul-De-Sac Standards	A-13
Inlet Protection Below Inlet Grate Device	A-14
Public Utilities	A-15
Tree Planter Detail	A-16
Tree Planter Irrigation	A-17
Concrete Brick Pavers	A-18
Flagpole Holder	A-19
Tree Grate Frame	A-20
Tree Grate	A-21
Tree Planter Grate	A-22
Tree Planting Detail	A-23
Induction Loop Detail	A-24
Typical Pedestrian Path or Activity Trail	A-25
Storm Drain Manhole Lid	A-26
Type-2 Catch Basin Detail	A-27
Infiltration Gallery	A-28
Temporary Gravel Cul-De-Sac	A-29

WATER

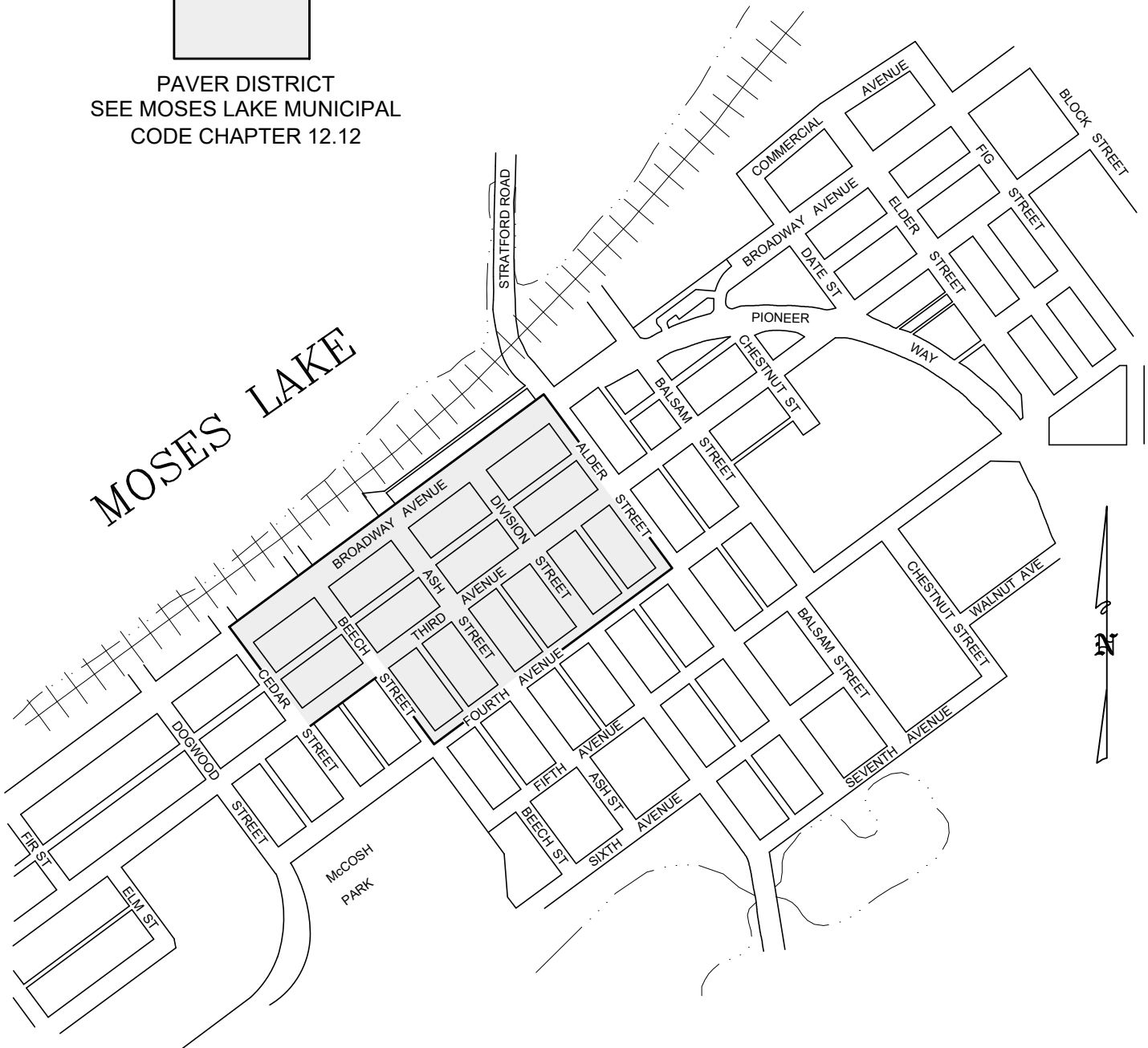
TITLE	DETAIL NO.
Typical Water and Sewer Service Locations in Residential Areas	B-1
Patching Detail	B-2
Trenching and Bedding	B-3
Watermain Thrust Blocks	B-4
Valve and Tracer Wire Installation	B-5
Hydrant Assembly	B-6
1-inch and 2-inch Water Service	B-7
3-inch and Larger Water Service	B-8
2-inch Blow-off Assembly	B-9
Access Easement and Roadway for Municipal Utilities	B-10
Water Meter Lid 1-inch Service	B-11
Water Manhole Lid 2-inch and Larger Service	B-12
AC Watermain CDF Requirements	B-13
Alternative to Traffic Rated Vault for 1-inch Water Service	B-14
1-inch RPBA Detail	B-15
Hot Box	B-16

SEWER

TITLE	DETAIL NO.
Sewer Manhole	C-1
Sewer Cleanout	C-2
Building Sewer	C-3
Drop Manhole Connection	C-4
Air Release Assembly	C-5
Force Main Sewer Connection	C-6
On-site Force Main & Low-pressure Effluent System Sewer Connection	C-7
Sewer Manhole Lid	C-8

PAVER DISTRICT
SEE MOSES LAKE MUNICIPAL
CODE CHAPTER 12.12

MOSES LAKE



NOTES:

1. CONSTRUCTION PLANS MAY BE REQUIRED FROM A PROFESSIONAL ENGINEER PRIOR TO AUTHORIZATION FROM THE CITY.
2. PAVERS MAY BE AUTHORIZED OUTSIDE OF THE PAVER DISTRICT. OWNER SHALL BE RESPONSIBLE FOR ALL COSTS OF INSTALLATION AND MAINTENANCE OF THE PAVERS.
3. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

PAVER DISTRICT

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN	RPM
CHECK	MORO
SCALE	NONE
DATE	12/12

CITY OF MOSES LAKE

GRANT COUNTY

WASHINGTON

A-1

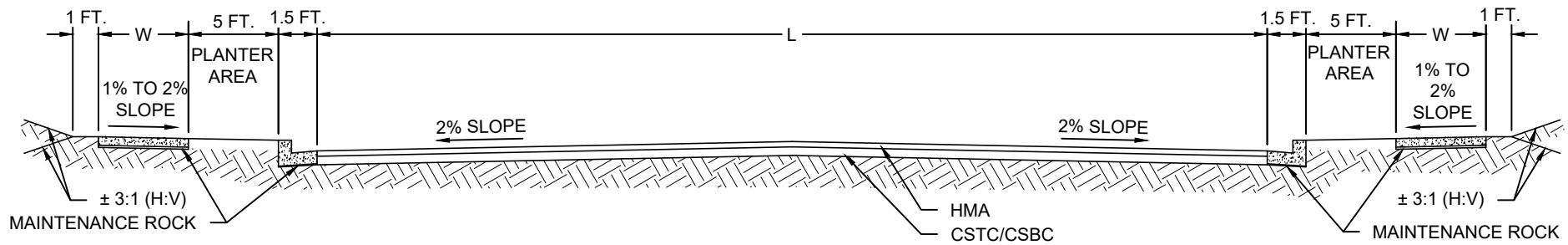
DATE	REVISION	BY
08/18	AMENDED	MLL

DIMENSIONS

	PRIMARY STREETS	SECONDARY STREETS	TERTIARY STREETS	RESIDENTIAL STREETS
ASPHALT DEPTH	4 INCHES	3 INCHES	2.5 INCHES	2.5 INCHES
ASPHALT WIDTH 'L'	50 FEET	50 FEET	35 FEET	28 FEET
CSTC DEPTH	3 INCHES	3 INCHES	4 INCHES	4 INCHES
CSBC DEPTH	6 INCHES	6 INCHES	N/A	N/A
SIDEWALK WIDTH 'W'	6 FEET	6 FEET	5 FEET	5 FEET
RADIUS TO BACK OF CURB AT INTERSECTION	30 FEET	30 FEET	20 FEET	20 FEET
RIGHT OF WAY	100 FEET	80 FEET	60 FEET	60 FEET
CURVATURE	300 FT. RADIUS	200 FT. RADIUS	200 FT. RADIUS	100 FT. RADIUS
MAXIMUM GRADE	6 %	8%	10 %	10 %

CUL-DE-SAC: SEE DETAIL A-13

NOTE: THESE DIMENSIONS MAY BE REQUIRED TO BE INCREASED DUE TO SPECIFIC CONDITIONS.



TYPICAL STREET CROSS SECTION

NOTES:

- FOR SIDEWALK AND DRIVEWAY CONSTRUCTION SEE STANDARD DRAWINGS A-5 AND A-6.
- FOR CURB CONSTRUCTION SEE STANDARD DRAWING A-4.
- STREETS SHALL HAVE A CENTERLINE SLOPE OF 0.5 PERCENT OR GREATER.
- ALL SIDEWALK SHALL BE INSTALLED WITH A SLOPE OF 1% TO 2.0% FROM BACK-OF-SIDEWALK TO BACK-OF-CURB.
- IN COMMERCIAL AND INDUSTRIAL DEVELOPMENTS, PLANTER AREAS MAY BE ELIMINATED BY INSTALLING AN 8-FOOT-WIDE SIDEWALK ADJACENT TO CURB.
- RIGHT-OF-WAY FOR RESIDENTIAL STREETS MAY BE REDUCED TO 53-FT PROVIDED THAT A 4-FT MUNICIPAL EASEMENT IS ACCEPTED BY THE CITY ON EACH SIDE OF THE 53-FT RIGHT-OF-WAY.
- ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

STREET STANDARDS

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN	RPM
CHECK	MORO
SCALE	NONE

CITY OF MOSES LAKE

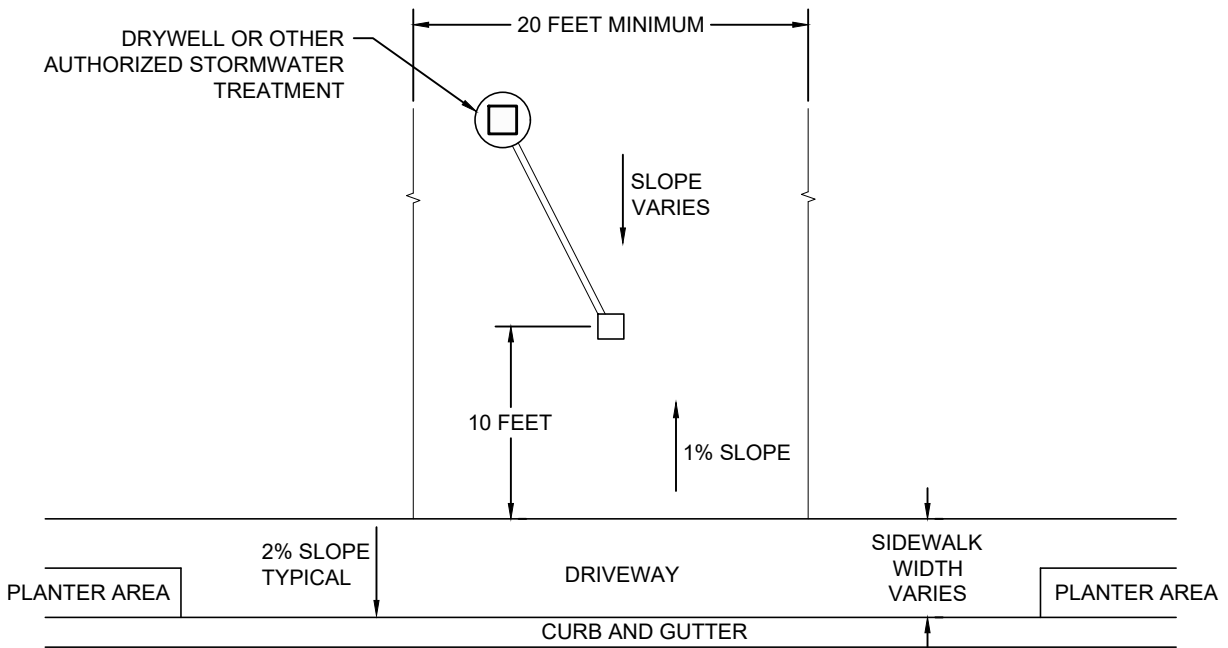
DATE	01/10
------	-------

GRANT COUNTY

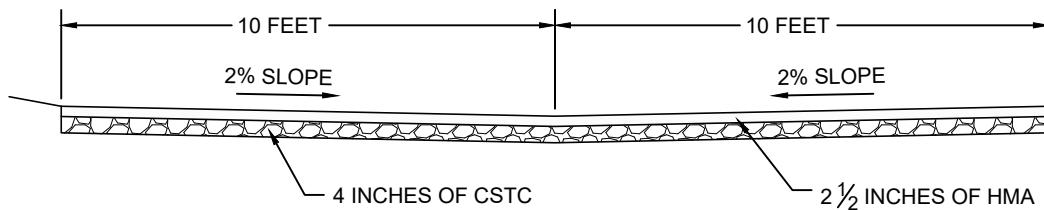
WASHINGTON

A-2

DATE	REVISION	BY
08/18	AMENDED	MLL



PLAN VIEW



TYPICAL SECTION

NOTES:

1. ALLEYS IN RESIDENTIAL AREAS SHALL BE GRADED AND HAVE 4 INCHES CSTC.
2. ALLEYS ADJACENT TO PROPERTIES OTHER THAN RESIDENTIAL AREAS SHALL BE AS SHOWN IN THIS DETAIL.
3. PAVED ALLEYS SHALL HAVE A CENTERLINE SLOPE OF 0.5 PERCENT OR GREATER.
4. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

TYPICAL ALLEY

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN RPM
CHECK MORO
SCALE NONE

CITY OF MOSES LAKE

DATE 01/10

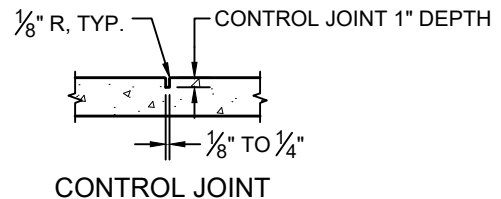
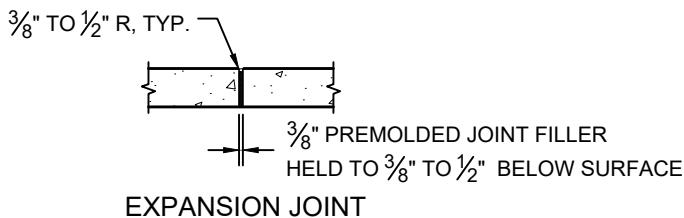
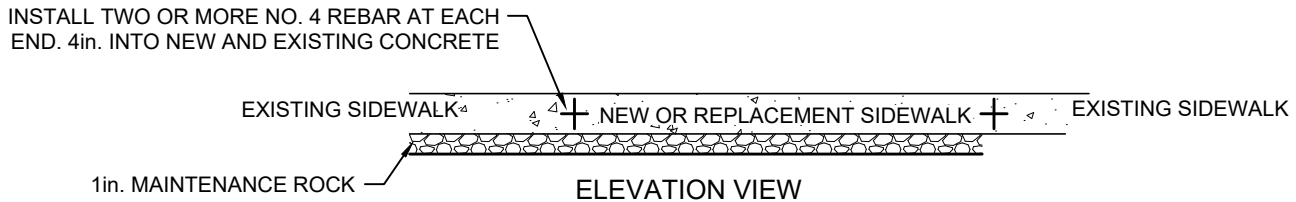
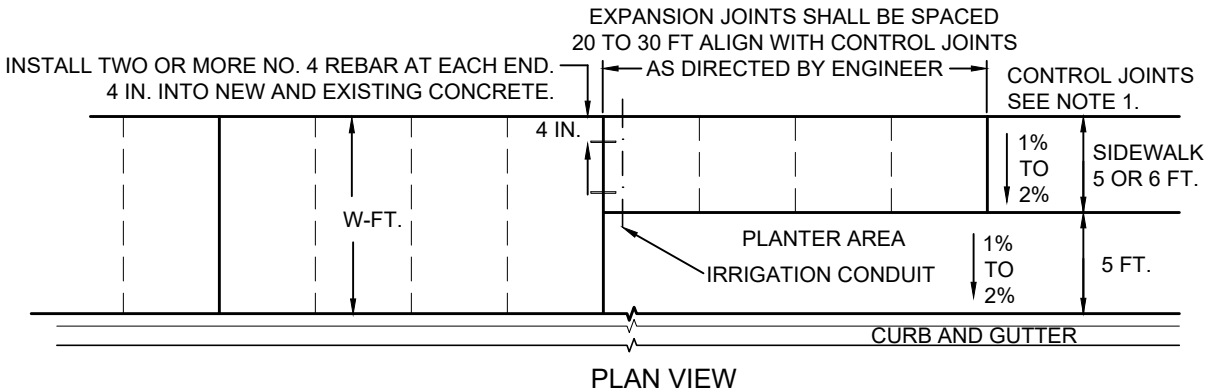
GRANT COUNTY

WASHINGTON

A-3

DATE 08/18
REVISION AMENDED
BY MLL

WASHINGTON



NOTES:

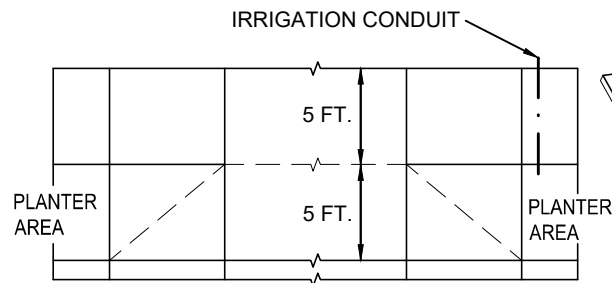
- CONTROL JOINTS SHALL BE 1 INCH DEEP AND PLACED PERPENDICULAR TO THE CURB. SPACING SHALL MATCH THE SIDEWALK WIDTH, BUT NOT GREATER THAN 10 FT., EXCEPT, WHEN PLANTER AREAS ARE NOT INSTALLED, CONTROL JOINTS SHALL ALIGN WITH CURB JOINTS.
- FULL DEPTH EXPANSION JOINTS (MASTIC) SHALL BE PLACED PERPENDICULAR TO THE CURB AT 20 TO 30 FT. INTERVALS. ALIGN WITH CONTROL JOINTS AS DIRECTED BY ENGINEER.
- MASTIC SHALL BE 3/8-INCH THICK MATERIAL AND BE PLACED FULL DEPTH. MASTIC SHALL NOT BE INSTALLED WITHIN DRIVEWAYS OR RAMPS.
- SIDEWALK AND DRIVEWAYS SHALL BE BROOM FINISHED PERPENDICULAR TO THE CURB.
- MAINTAIN FIVE-FEET OF CLEARANCE FOR SIGN, MAILBOX, UTILITY POLE, AND ALL OTHER STRUCTURES WITHIN THE SIDEWALK.
- ONE INCH OF MAINTENANCE ROCK OR CRUSHED SURFACING TOP COURSE IS REQUIRED UNDER ALL CONCRETE.
- SIDEWALK THICKNESS:
4 INCHES WHEN BEHIND TYPE 'A' CURB AND TYPE 'E' CURB
6 INCHES IN ALL DRIVEWAYS (TOP-OF-TAPER TO TOP-OF-TAPER) AND BEHIND EXISTING ROLLED CURB.
- IN THE PLANTER AREA, A 2-INCH SCHEDULE 40 PVC PIPE WITH CAPS ON BOTH ENDS SHALL BE INSTALLED 12-INCHES DEEP WITH 6-INCHES OF SAND BEDDING UNDER THE SIDEWALK FOR EACH PROPERTY.
- PLANTER AREAS MAY BE WIDER THAN 5 FEET, PROVIDED THAT 1-FOOT R.O.W. IS PROVIDED BEHIND THE SIDEWALK.
- CURB, SIDEWALK, OR DRIVEWAYS CAN BE PLACED MONOLITHICALLY.
- FOR NON-RESIDENTIAL ZONES, PLANTER AREAS ARE NOT REQUIRED PROVIDED THAT THE WIDTH OF SIDEWALK "W" IS AT LEAST 8 FT. WIDE. IN THE PAVER DISTRICT, SIDEWALKS SHALL BE CONSTRUCTED FROM R.O.W. TO BACK-OF-CURB.
- WHEN NEW SIDEWALKS ARE INSTALLED ADJACENT TO EXISTING CURB OR SIDEWALKS, NO.4 REBAR SHALL BE INSTALLED IN THE DIRECTION OF PEDESTRIAN TRAVEL AS DIRECTED BY THE ENGINEER.
- ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE

TYPICAL PORTLAND CEMENT CONCRETE SIDEWALK

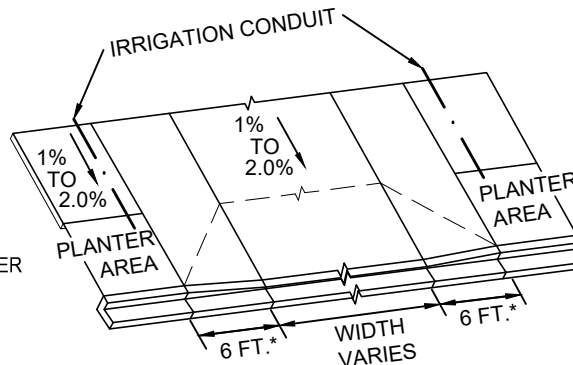
MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN	RPM	CITY OF MOSES LAKE
CHECK	MORO	
SCALE	NONE	
DATE	01/13	GRANT COUNTY WASHINGTON

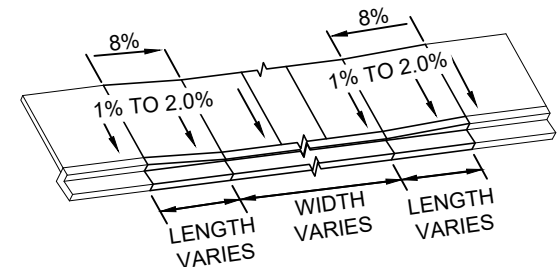
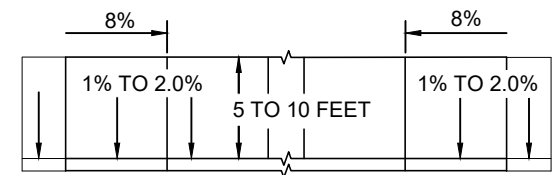
A-5



OPTION A



* MAY BE REDUCED TO 18 INCHES ADJACENT TO PLANTER AREA



OPTION B

NOTES:

- ALL JOINTS SHALL BE CLEAN & EDGED. REFER TO DETAIL A-5 AS FOR LOCATION.
- ONE INCH OF MAINTENANCE ROCK REQUIRED UNDER ALL CONCRETE.
- CURING SHALL BE PER SECTION 8-14.3(4).
- UP TO TWO DRIVEWAYS AUTHORIZED PER RESIDENCE OR ONE BUSINESS, UNLESS APPROVED IN WRITING BY THE MUNICIPAL SERVICES DIRECTOR.
- CONCRETE SHALL BE 6 INCHES THICK IN DRIVEWAY FROM TOP OF TAPER TO TOP OF TAPER.
- DRIVEWAYS SHALL BE BROOM FINISHED PERPENDICULAR TO THE ROADWAY.
- IN PLANTER AREAS, A 2-INCH SCHEDULE 40 PVC PIPE WITH CAPS SHALL BE INSTALLED 12-INCHES DEEP UNDER THE SIDEWALK WITH 6-INCHES OF SAND BEDDING.
- SETBACKS FROM INTERSECTIONS ARE MEASURED FROM THE FRONT FACE OF THE EXISTING OR PROJECTED CURB OF THE INTERSECTING STREET.
- SEE DETAIL A-4 FOR DEPRESSED CURB CROSS SECTION. EXISTING CURB MAY BE SAWCUT FOR DRIVEWAY ACCESS.
- OPTION B IS REQUIRED WHEN DRIVEWAYS ARE CONSTRUCTED IN AREAS WITHOUT PLANTER STRIPS.
- RAMPS ON OPTION B SHALL BE EXTENDED AS NECESSARY TO PROVIDE PEDESTRIAN ACCESS AT 8% OR LESS, OR THE RAMP SHALL BE EXTENDED FOR A TOTAL LENGTH OF 15 FEET IN THE DIRECTION OF PEDESTRIAN TRAVEL.

- ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

--- CHANGE OF SLOPE
 ——— CONTROL JOINTS

DRIVEWAY SEPARATION (MEASURED FROM BOTTOM OF THE TAPERS)

	PRIMARY STREET	SECONDARY STREET	COMMERCIAL TERTIARY STREET	RESIDENTIAL TERTIARY STREET	RESIDENTIAL STREET
DISTANCE FROM INTERSECTIONS	100 FEET	75 FEET	50 FEET	30 FEET	30 FEET
DISTANCE FROM INTERIOR LOT LINES	30 FEET	20 FEET	20 FEET	TAPER LENGTH	TAPER LENGTH
SEPARATION BETWEEN DRIVEWAYS ON ONE LOT	100 FEET	75 FEET	60 FEET	12 FEET	12 FEET

DRIVEWAY WIDTH

SINGLE AND DUPLEX:
10 TO 30 FEET

OTHER: 10 TO 40 FEET

PORTLAND CEMENT CONCRETE DRIVEWAY

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

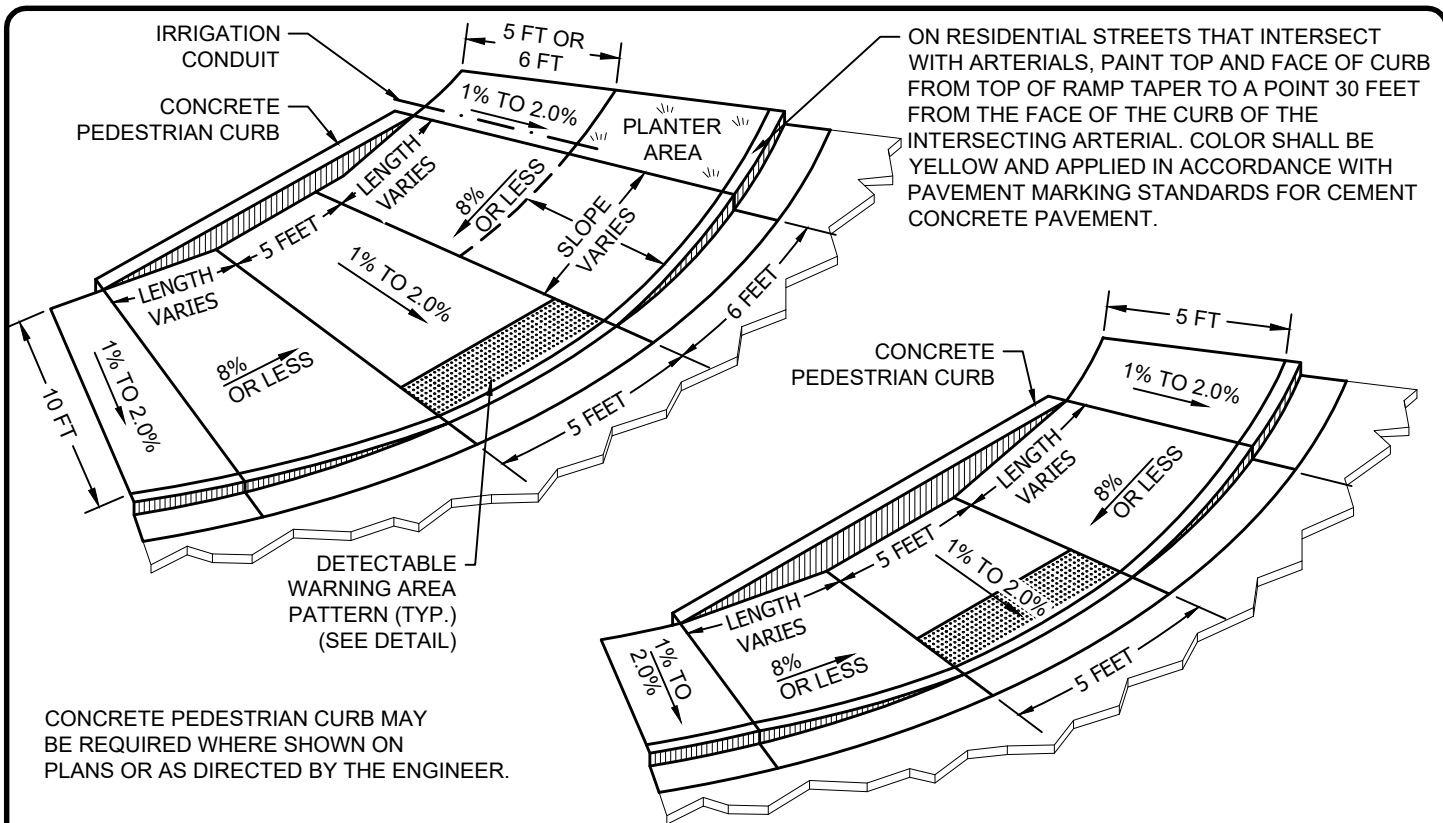
DRAWN RPM
 CHECK MORO

SCALE NONE
 DATE 01/13

CITY OF MOSES LAKE

GRANT COUNTY WASHINGTON

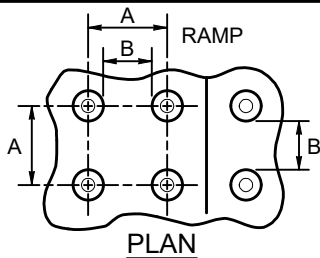
A-6



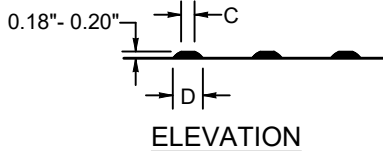
CONCRETE PEDESTRIAN CURB MAY BE REQUIRED WHERE SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

SIDEWALK RAMP DETAIL

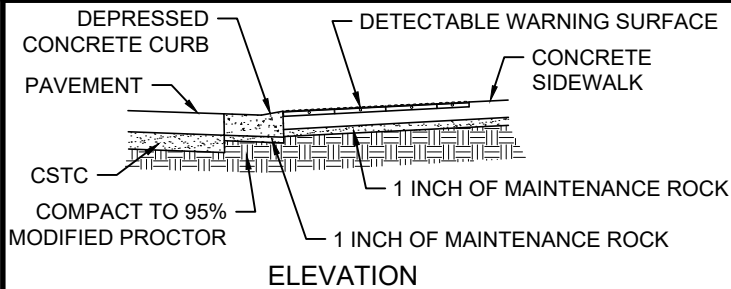
NTS



	MIN.	MAX.
A	1 5/8 IN.	2 3/8 IN.
B	5/8 IN.	1 1/2 IN.
C	7/16 IN.	3/4 IN.
D	7/8 IN.	1 7/16 IN.



TRUNCATED DOMES PATTERN DETAIL



DETECTABLE WARNING AREA CONSTRUCTION DETAIL

GENERAL NOTES:

1. SEE DETAIL A-4 FOR CONSTRUCTION OF DEPRESSED CURB AND CONCRETE PEDESTRIAN CURB.
2. SEE SIDEWALK DETAIL A-5 FOR CONSTRUCTION OF CONCRETE SIDEWALK.
3. SIDEWALK RAMP SHALL BE 4 INCHES THICK.
4. SIDEWALK RAMP SHALL BE BROOM FINISHED PERPENDICULAR TO BACK OF CURB.
5. SIDEWALK RAMP SLOPES SHALL BE 8 PERCENT OR LESS, EXCEPT THAT RAMP SHALL NOT BE REQUIRED TO EXTEND MORE THAN 15 FEET.
6. FOR THE PLANTER AREAS, A 2-INCH SCHEDULE 40 PVC PIPE WITH CAPS ON BOTH ENDS SHALL BE INSTALLED 12-INCHES DEEP WITH 6-INCHES OF SAND BEDDING AROUND THE CONDUIT.
7. DETECTABLE WARNING SURFACES SHALL BE PER SPECIFICATIONS.
8. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

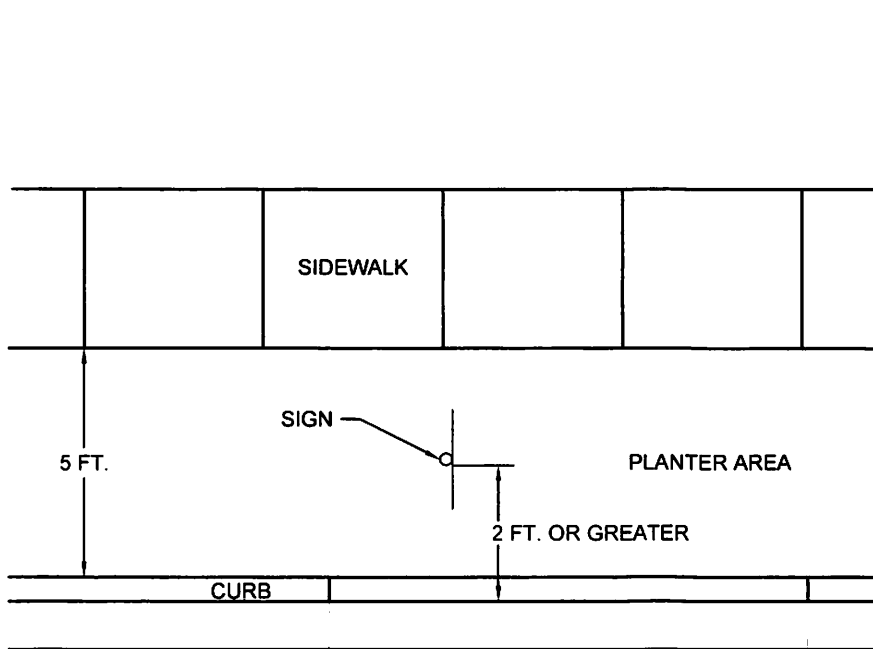
CURB RAMP

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

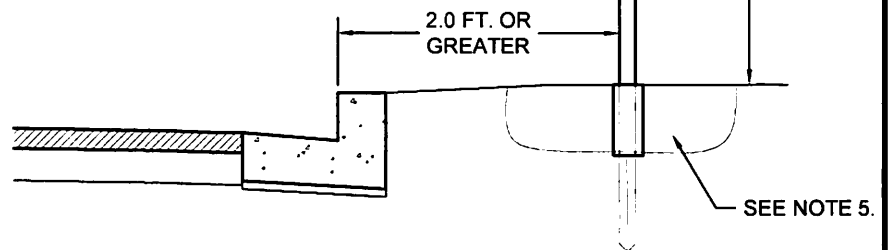
DRAWN	RPM	CITY OF MOSES LAKE
CHECK	MORO	
SCALE	NONE	
DATE	01/13	GRANT COUNTY WASHINGTON

A-7

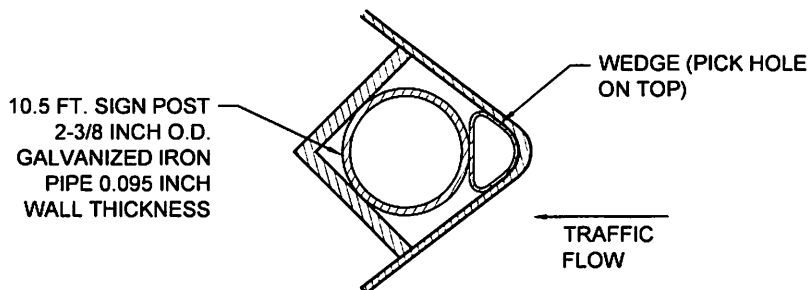
DATE	REVISION	BY
10/20	AMENDED	MLL



SIGN PLAN VIEW



SIGN SECTION VIEW



V-LOCK SIGN ANCHOR

NOTES:

1. EXACT LOCATION OF THE SIGN AND ANCHOR WILL BE ESTABLISHED BY THE CITY AT THE TIME OF INSTALLATION.
2. V-LOCK SIGN ANCHORS AND WEDGES SHALL BE PROVIDED BY THE CONTRACTOR.
3. NO PORTION OF THE SIGN SHALL OVERHANG THE SIDEWALK OR CURB.
4. THIS INSTALLATION SHALL BE ONLY FOR AREAS WITH PLANTER STRIPS, WITHOUT SIDEWALKS, OR WITHOUT ADEQUATE SPACE BEHIND THE SIDEWALK AS APPROVED BY THE ENGINEER.
5. IF CONCRETE IS PLACED AROUND V-LOCK, ENSURE V-LOCK DRAINAGE IS NOT BLOCKED.
6. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE. PER SECTION 9-28.16

STREET SIGN INSTALLATION

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

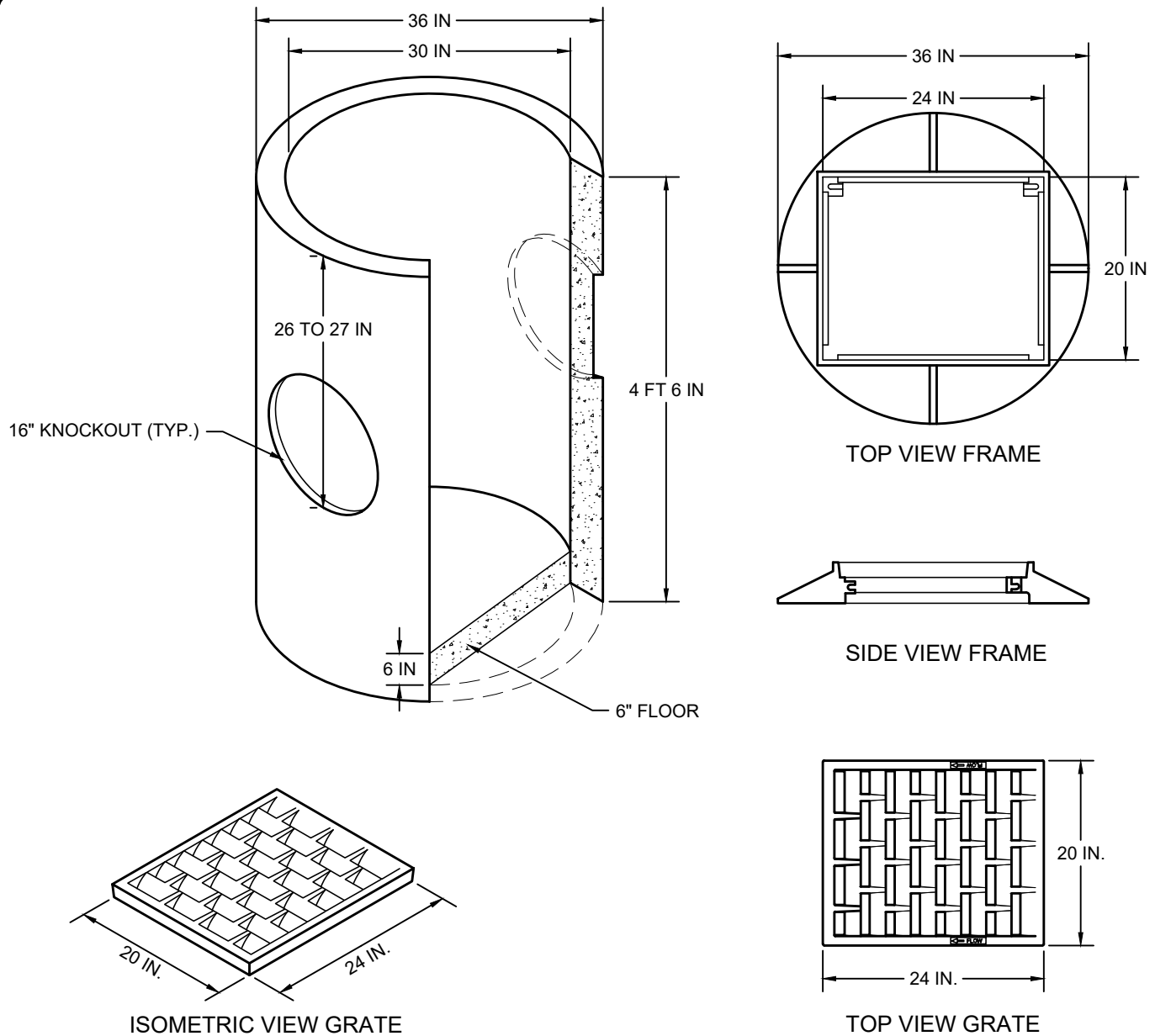
DRAWN	RPM
CHECK	MORO
SCALE	NONE
DATE	01/10

CITY OF MOSES LAKE

DATE	REVISION	BY
08/20	AMENDED	MLL

GRANT COUNTY WASHINGTON

A-8



NOTES:

- CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C 478 (AASHTO M 199) AND ASTM C 890.
- PRECAST BASES SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2 INCHES.
- AN ENTRY COUPLING OR SAND COLLAR IS REQUIRED FOR PVC PIPE WHERE THE PIPE PENETRATES THE CATCH BASIN BASE.
- DEPTH FROM PIPE INVERT TO FINISH GRADE SHALL BE 5 FEET OR LESS.
- COVER FROM TOP OF PIPE TO FINISH GRADE UNDER SIDEWALKS SHALL BE 24 INCHES OR MORE. COVER FROM TOP OF PIPE TO FINISH GRADE UNDER ROADWAYS SHALL BE 36 INCHES OR MORE FOR PVC PIPE AND 18 INCHES OR MORE FOR DUCTILE IRON PIPE.
- ADJUSTMENT RINGS AND THE CATCH BASIN GRATE SHALL BE WITHIN ONE INCH OF THE VERTICAL ALIGNMENT OF THE CATCH BASIN. PLACE CONCRETE AROUND OUTSIDE OF ADJUSTMENT RINGS AND GRATE.
- CONTRACTOR SHALL USE D&L FOUNDRY FRAME No. I-4437 WITH VANED OR BI-DIRECTIONAL GRATE.
- ENGINEER MAY REQUIRE DRAINAGE TEE ON FIRST UPSTREAM CATCH BASIN FROM DRYWELL OR STORMWATER TREATMENT DEVICE. SEE STANDARD DETAIL A-30.
- ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

30" ROUND CATCH BASIN

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN MLL
CHECK MORO
SCALE NONE

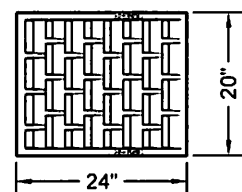
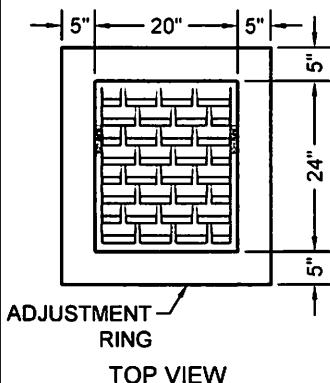
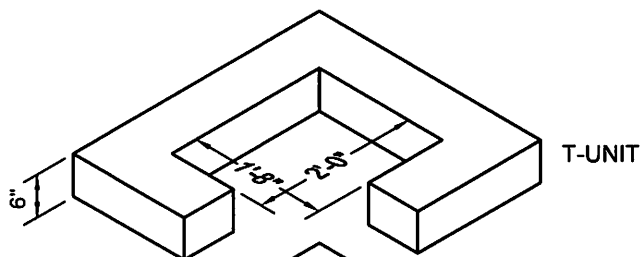
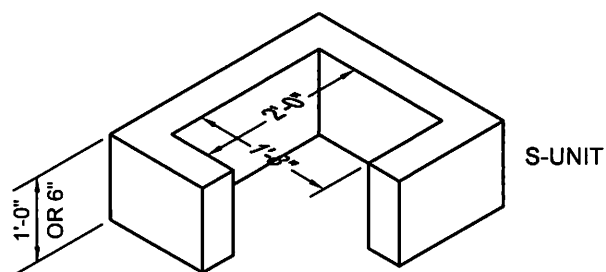
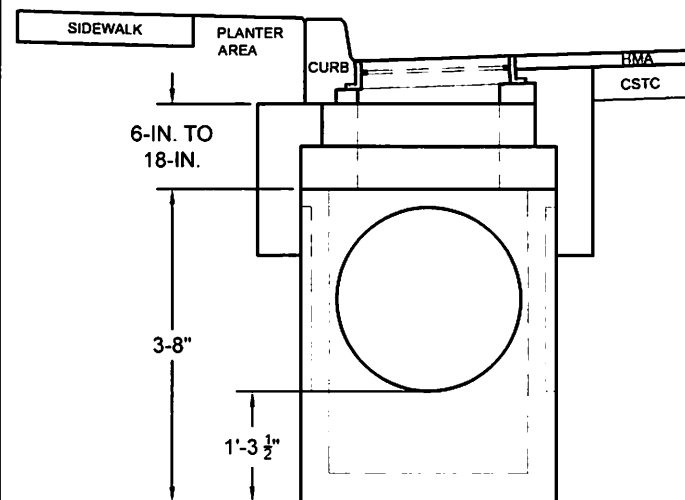
CITY OF MOSES LAKE

DATE 11/21 10/20

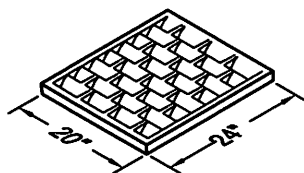
GRANT COUNTY

WASHINGTON

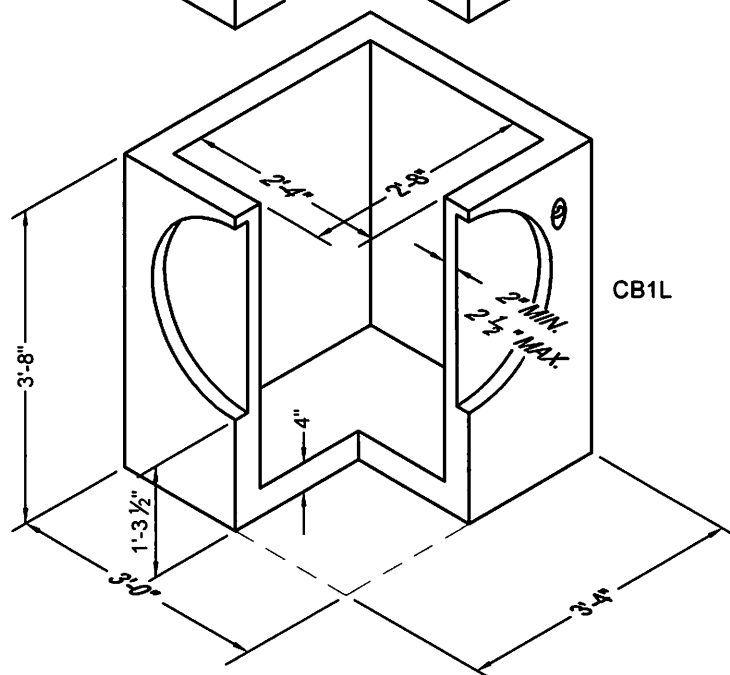
A-9



TOP VIEW GRATE



ISOMETRIC VIEW GRATE



NOTES:

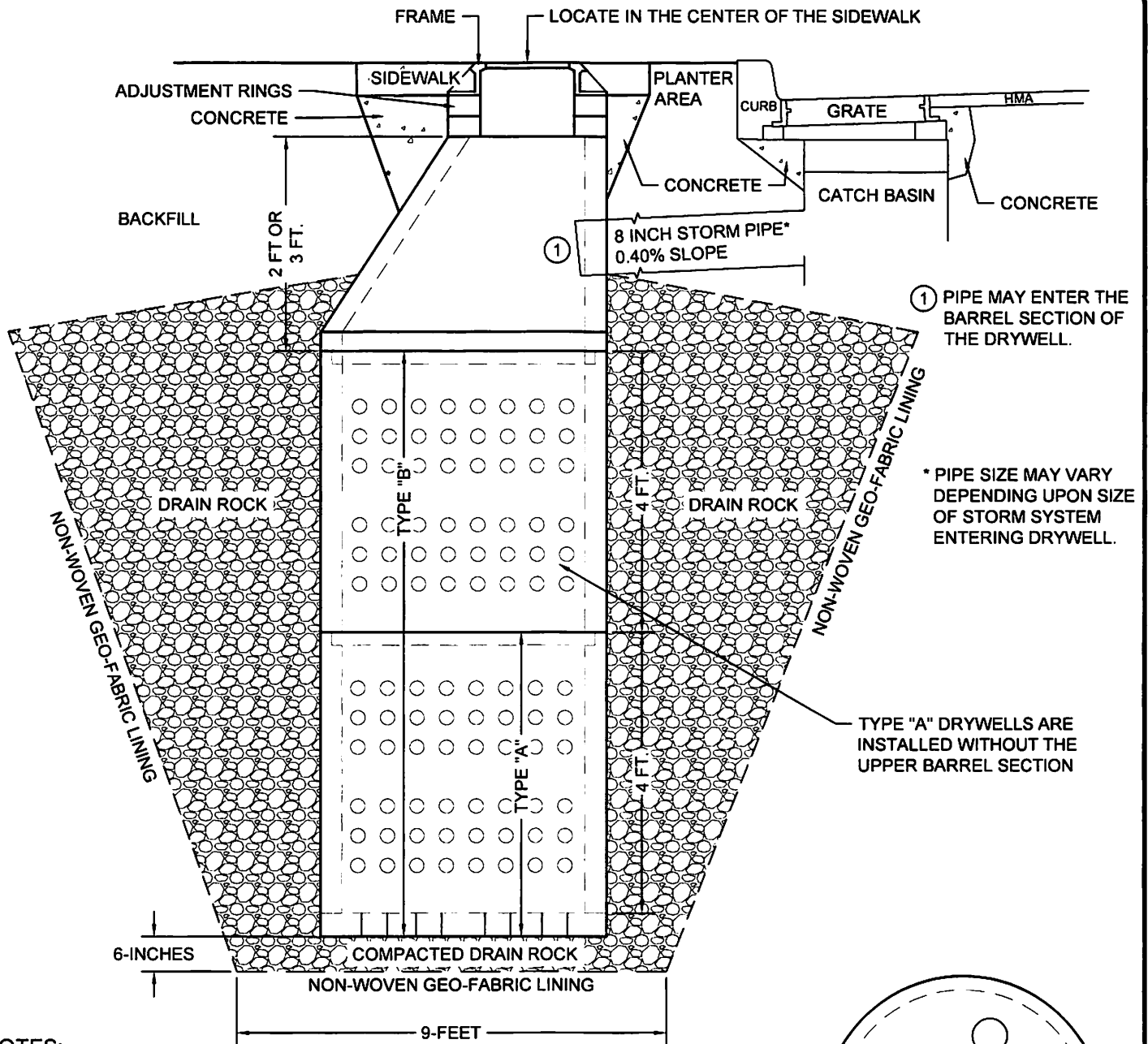
1. CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C 478 (AASHTO M 199) AND ASTM C 890.
2. PRECAST BASES SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2 INCHES.
3. AN ENTRY COUPLING OR SAND COLLAR IS REQUIRED FOR PVC PIPE WHERE THE PIPE PENETRATES THE CATCH BASIN BASE.
4. DEPTH FROM PIPE INVERT TO FINISH GRADE SHALL BE 5 FEET OR LESS.
5. COVER FROM TOP OF PIPE TO FINISH GRADE UNDER SIDEWALKS SHALL BE 2 FEET OR MORE. COVER FROM TOP OF PIPE TO FINISH GRADE UNDER ROADWAYS SHALL BE 3 FEET OR MORE FOR PVC PIPE AND 18 INCHES OR MORE FOR DUCTILE IRON PIPE.
6. ADJUSTMENT RINGS AND THE CATCH BASIN GRATE SHALL BE WITHIN ONE INCH OF THE VERTICAL ALIGNMENT OF THE CATCH BASIN. PLACE CONCRETE AROUND OUTSIDE OF ADJUSTMENT RINGS AND GRATE.
7. CONTRACTOR SHALL USE D&L FOUNDRY FRAME No. I-4437 WITH VANED OR BI-DIRECTIONAL GRATE.
8. ENGINEER MAY REQUIRE DRAINAGE TEE. SEE STANDARD DETAIL A-28.
9. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

CATCH BASIN TYPE 1L

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

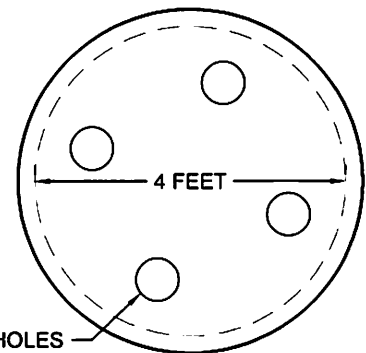
DRAWN	RPM	CITY OF MOSES LAKE
CHECK	MORO	
SCALE	NONE	
DATE	01/10	GRANT COUNTY WASHINGTON

A-9a



NOTES:

1. 4 INCHES TO 16 INCHES OF ADJUSTMENT RINGS ARE REQUIRED.
2. PLACE CONCRETE AROUND OUTSIDE OF ADJUSTMENT RINGS AND FRAME.
3. PRECAST CONE SECTION SHALL BE ECCENTRIC AND ECCENTRIC SIDE SHALL BE PLACED OVER THE INLET PIPE.
4. INSTALL SAND COLLAR AND GROUT SEAL PVC PIPE WHERE THE PIPE PENETRATES THE DRYWELL.
5. DRYWELLS NOT IN SIDEWALK SHALL BE PLACED IN A 6-FT. BY 6-FT. BY 6-IN. CONCRETE PAD AT FINISH GRADE.
6. DRYWELL SHALL BE PLACED 15 FEET FROM OTHER UTILITY STRUCTURES AND 5 FEET FROM OVERHEAD UTILITIES.
7. "DRAIN" SHALL BE CAST IN THE LID.
8. PRIOR TO CONSTRUCTION, THE CITY SHALL RECEIVE APPROVAL FROM THE WSDOE PER SECTION 7-05.
9. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.



PRECAST BASE DETAIL

48-INCH PRECAST CONCRETE DRYWELL

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

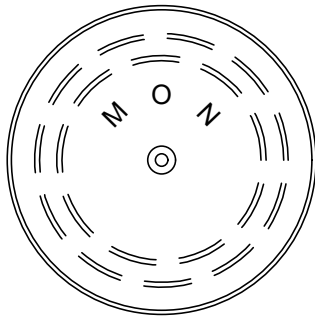
DRAWN	RPM	CITY OF MOSES LAKE
CHECK	MORO	
SCALE	NONE	A-10
DATE	01/10	

GRANT COUNTY

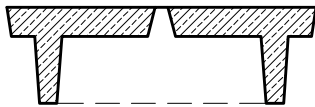
WASHINGTON

DATE	REVISION	BY
07/22	AMENDED	MLL

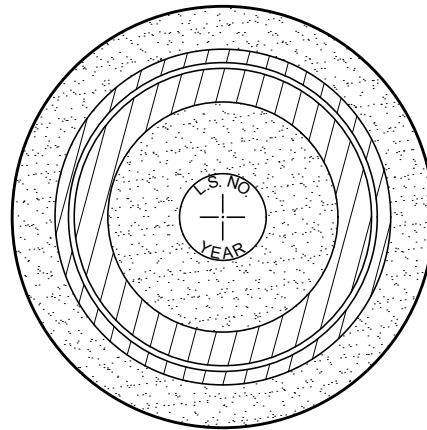
MONUMENTS IN UNPAVED AREAS ARE NOT REQUIRED TO BE SET IN ACCORDANCE WITH THIS DETAIL.



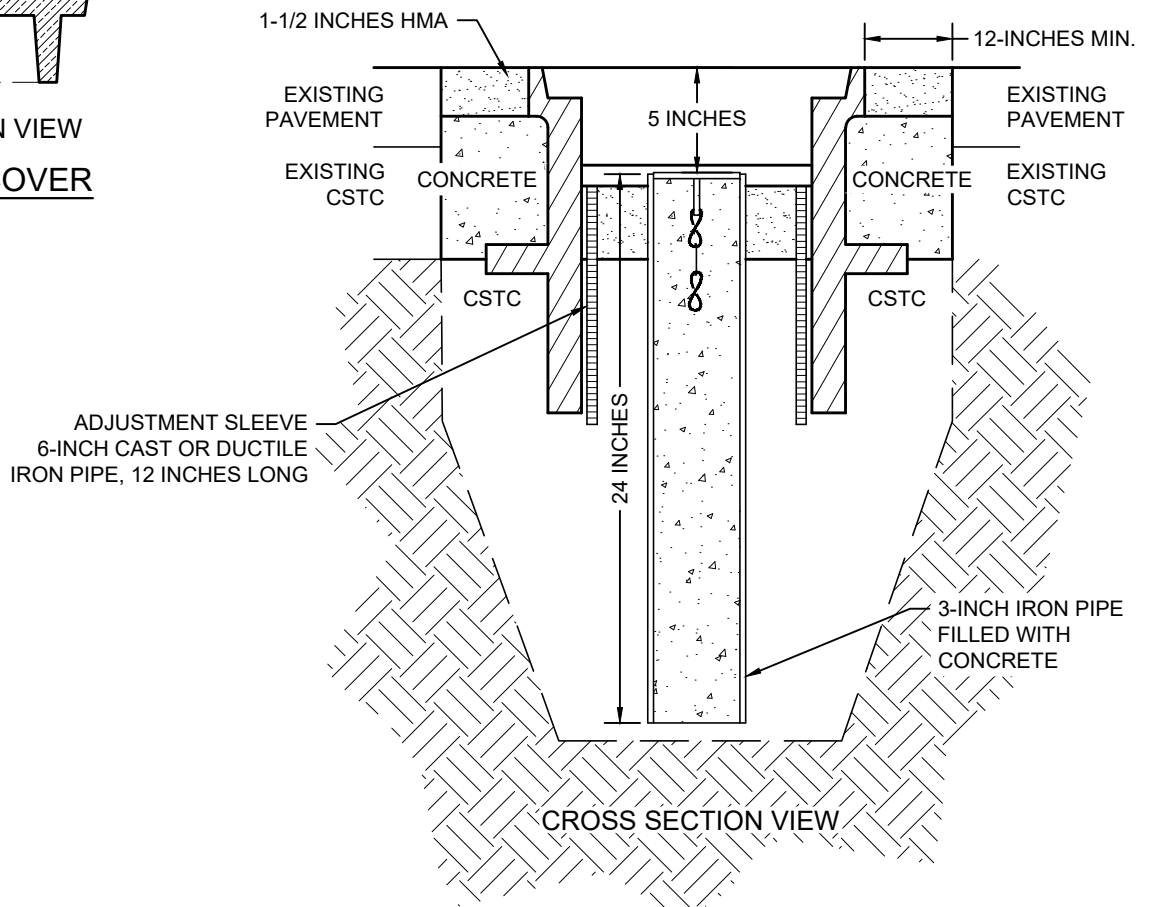
PLAN VIEW



CROSS SECTION VIEW
MONUMENT COVER



PLAN VIEW



CROSS SECTION VIEW

NOTES:

1. BRASS CAP SHALL BE 2 INCHES IN DIAMETER, OR GREATER.
2. AREA EXCAVATED TO INSTALL MONUMENT SHALL BE BACKFILLED WITH CSTC TO WITHIN 9 INCHES OF FINISHED GRADE (THE BOTTOM OF THE MONUMENT CASE) AND COMPACTED TO 95% OF MAXIMUM DENSITY. THE VOID INSIDE THE MONUMENT CASE SHALL ALSO BE FILLED WITH CSTC TO THE BOTTOM OF THE BRASS CAP.
3. ADJUST MONUMENT IN ASPHALT TO 1/4 INCH BELOW FINISH GRADE.
4. "MON" SHALL BE CAST INTO THE LID.
5. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

MONUMENT - TYPE I

MONUMENT - TYPE I

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

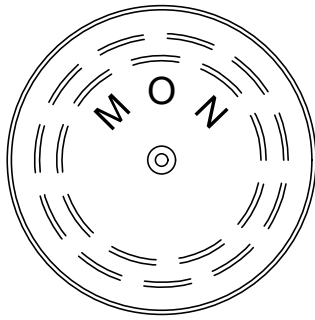
DRAWN	RPM	CITY OF MOSES LAKE
CHECK	MORO	
SCALE	NONE	A-11A
DATE	01/10	

DATE	REVISION	BY
08/18	AMENDED	MLL

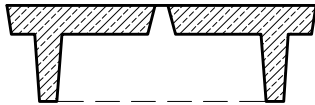
GRANT COUNTY

WASHINGTON

MONUMENTS IN UNPAVED AREAS ARE NOT REQUIRED TO BE SET IN ACCORDANCE WITH THIS DETAIL.

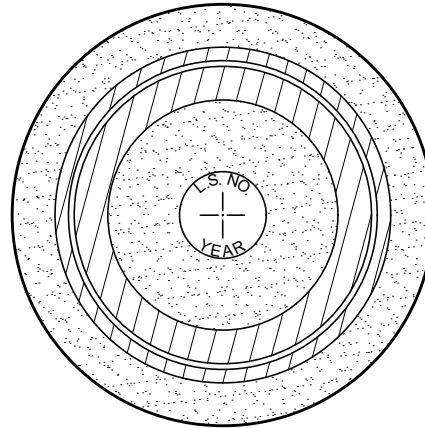


PLAN VIEW

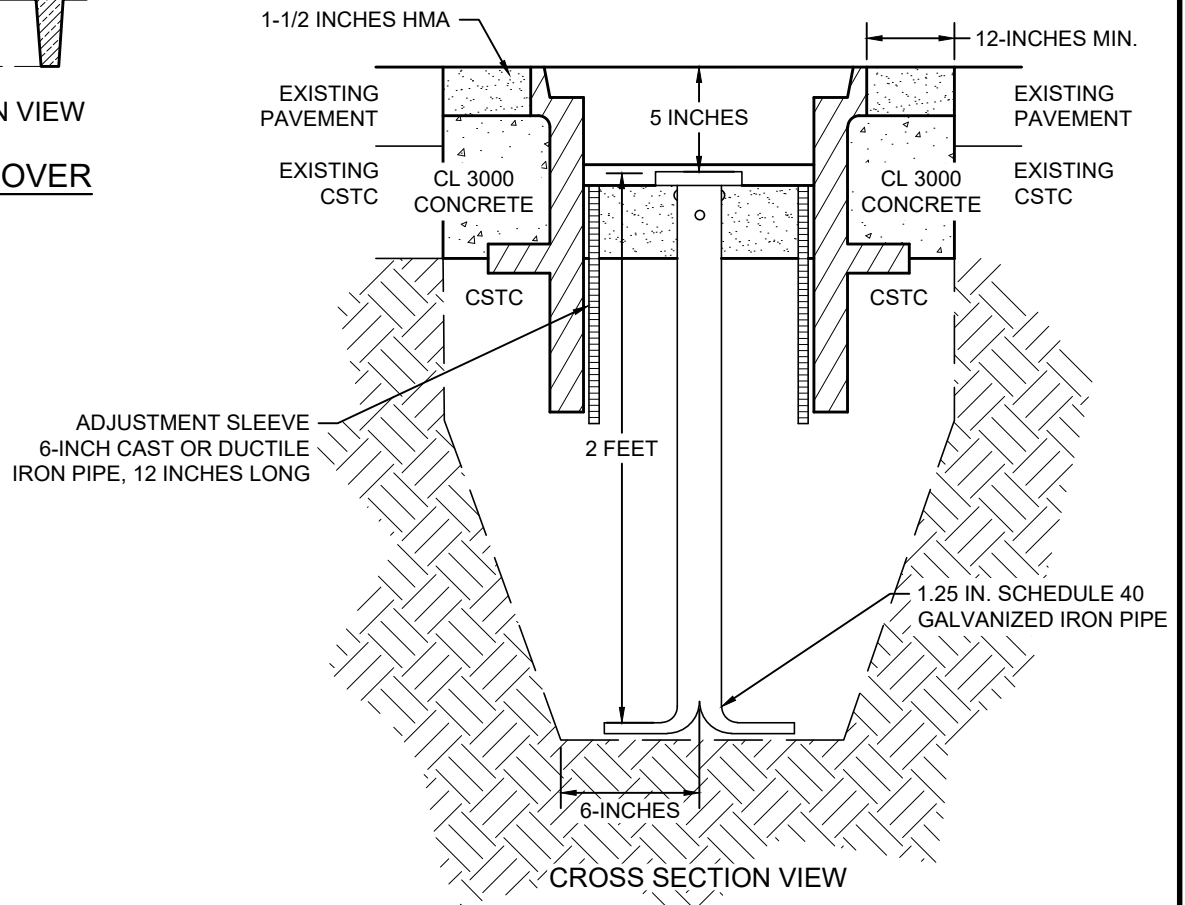


CROSS SECTION VIEW

MONUMENT COVER



PLAN VIEW



CROSS SECTION VIEW

MONUMENT - TYPE II

NOTES:

1. BRASS CAP SHALL BE 2 INCHES IN DIAMETER, OR GREATER.
2. AREA EXCAVATED TO INSTALL MONUMENT SHALL BE BACKFILLED WITH CSTC TO WITHIN 9 INCHES OF FINISHED GRADE (THE BOTTOM OF THE MONUMENT CASE) AND COMPACTED TO 95% OF MAXIMUM DENSITY. THE VOID INSIDE THE MONUMENT CASE SHALL ALSO BE FILLED WITH CSTC TO THE BOTTOM OF THE BRASS CAP.
3. ADJUST MONUMENT IN ASPHALT TO 1/4 INCH BELOW FINISH GRADE.
4. "MON" SHALL BE CAST INTO THE LID.
5. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

MONUMENT - TYPE II

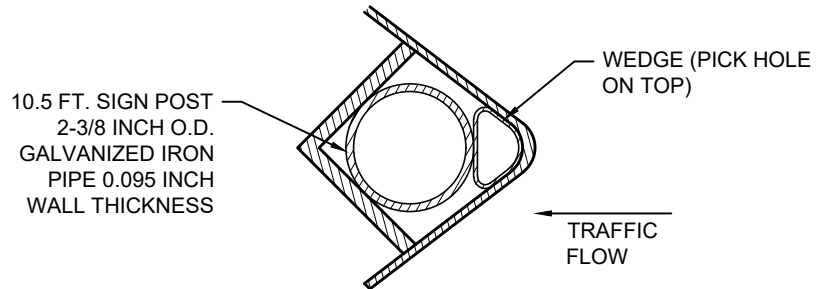
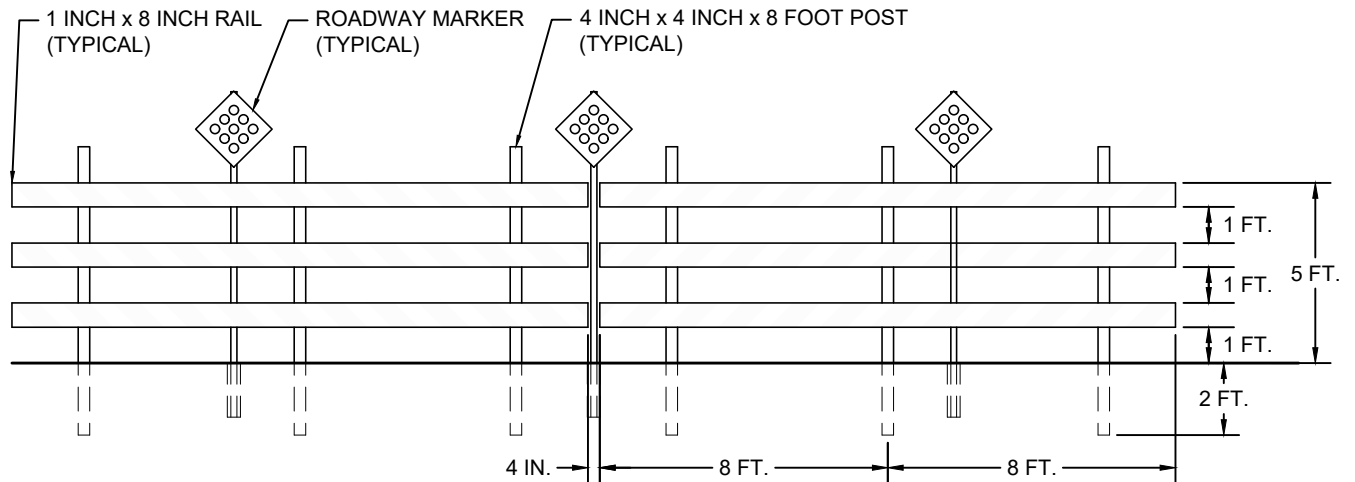
MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN	RPM	CITY OF MOSES LAKE
CHECK	MORO	
SCALE	NONE	A-11B
DATE	12/12	

DATE	REVISION	BY
08/18	AMENDED	MLL

GRANT COUNTY

WASHINGTON



V-LOCK SIGN ANCHOR

TO BE USED ONLY AS REQUIRED OR
AUTHORIZED BY THE MUNICIPAL
SERVICES DIRECTOR.

NOTES:

1. END-OF-ROADWAY MARKER SHALL BE PER THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES SIGN OM4-2, RED ON BLACK.
2. ROADWAY MARKER POSTS SHALL BE 2-INCH O.D. GALVANIZED IRON PIPE WITH 0.095-INCH WALL THICKNESS MOUNTED IN V-LOCKS BEHIND BARRICADES. V-LOCK ANCHORS AND WEDGES SHALL BE PROVIDED BY THE CONTRACTOR.
3. 4-INCH BY 4-INCH BY 8-FOOT POSTS SHALL BE PRESSURE TREATED LUMBER, PRIMED AND PAINTED WHITE.
4. RAILS SHALL BE PLASTIC, 1-INCH THICK BY 8-INCHES WIDE, RED ON WHITE, WITH STRIPES FACTORY APPLIED, ENGINEER GRADE AS SUPPLIED BY TRAFFIC SAFETY SUPPLY.
5. LENGTH OF BARRICADE SHALL BE OF A LENGTH THAT WILL PHYSICALLY RESTRICT ACCESS BY MOTORIZED VEHICLES.
6. BARRICADES SHALL MEET THE REQUIREMENTS OF SECTIONS 3C-04 AND 3F-01 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
7. WHERE ACCESS MAY BE REQUIRED BEYOND THE BARRICADE, ALTERNATE PASS-THROUGH BARRICADES MAY BE AUTHORIZED OR REQUIRED BY THE ENGINEER.
8. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

BARRICADE FOR TEMPORARY NO-OUTLET STREET

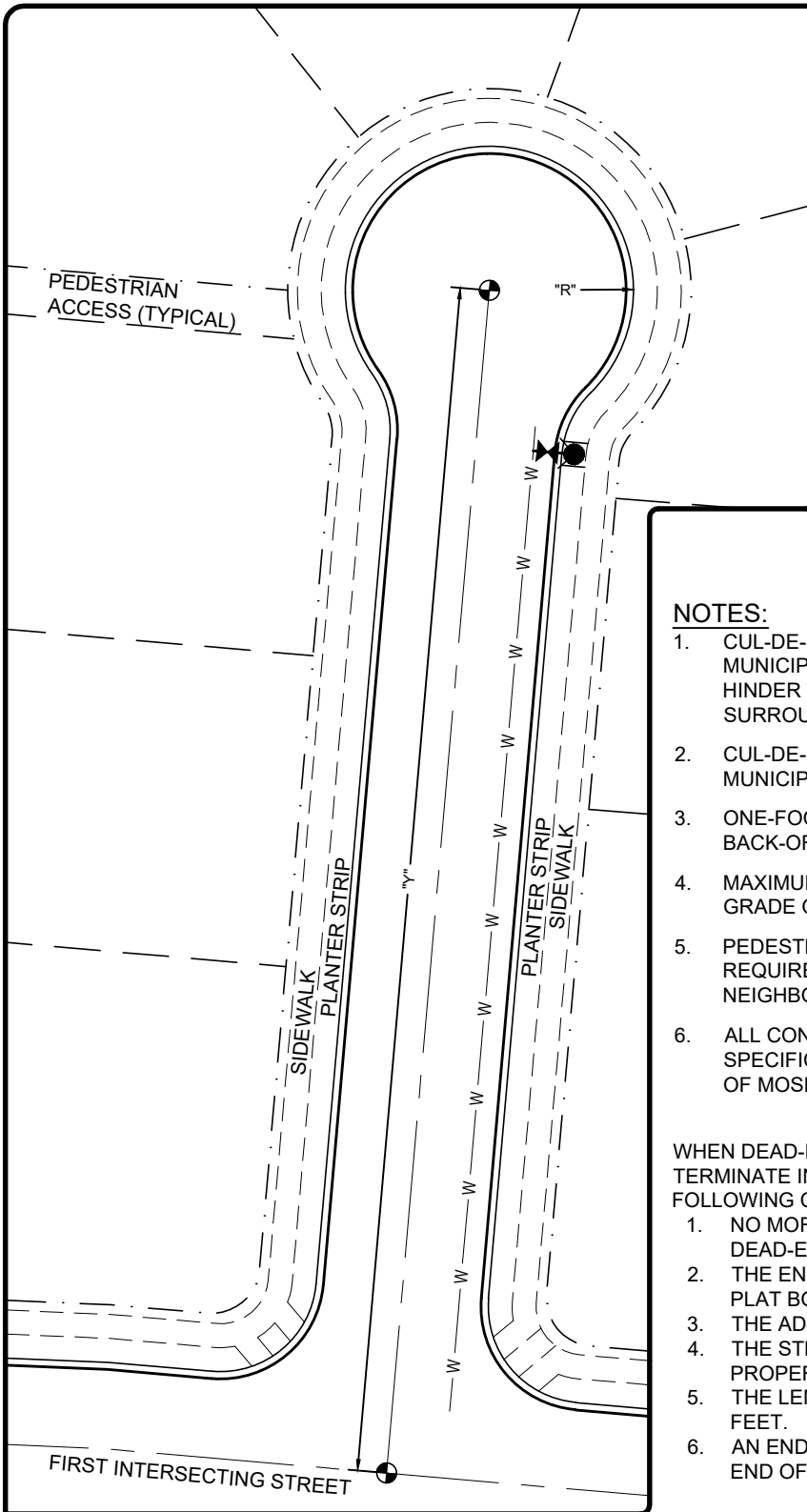
MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN RPM
CHECK MORO
SCALE NONE
CITY OF MOSES LAKE

DATE	REVISION	BY
07/22	AMENDED	MLL

DATE 12/12 GRANT COUNTY WASHINGTON

A-12



DESIGN DISTANCES

"Y"	"R"
LESS THAN 220 FEET	30 FEET
220 FEET OR GREATER	46 FEET

"Y" IS MEASURED FROM THE MONUMENT AT THE INTERSECTING STREET ALONG THE CENTERLINE TO THE MONUMENT AT THE CENTER OF THE CUL-DE-SAC.

"R" IS MEASURED FROM CENTER OF THE CUL-DE-SAC TO TOP BACK OF CURB

NOTES:

1. CUL-DE-SACS MAY BE INSTALLED AS APPROVED BY THE MUNICIPAL SERVICES DIRECTOR, WHERE THEY DO NOT HINDER THE CONNECTIVITY OF STREETS IN THE SURROUNDING NEIGHBORHOOD.
2. CUL-DE-SACS MAY BE ECCENTRIC, AS APPROVED BY THE MUNICIPAL SERVICES DIRECTOR.
3. ONE-FOOT OF RIGHT-OF-WAY IS REQUIRED BEHIND THE BACK-OF-SIDEWALK.
4. MAXIMUM CUL-DE-SAC CROSS SLOPE IS 6 PERCENT. MAXIMUM GRADE ON THE CUL-DE-SAC STREET IS 10 PERCENT.
5. PEDESTRIAN ACCESSES AND RIGHT-OF-WAY MAY BE REQUIRED TO CONNECT THE CUL-DE-SAC TO ADJACENT NEIGHBORHOODS.
6. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

WHEN DEAD-END STREETS ARE APPROVED, THEY SHALL TERMINATE IN A CUL-DE-SAC UNLESS THEY MEET ALL OF THE FOLLOWING CRITERIA:

1. NO MORE THAN ONE LOT HAS SOLE ACCESS FROM THE DEAD-END STREET.
2. THE END OF THE STREET RIGHT-OF-WAY TERMINATES AT THE PLAT BOUNDARY.
3. THE ADJACENT PROPERTY IS UNPLATTED.
4. THE STREET SHOULD CONTINUE THROUGH THE ADJACENT PROPERTY WHEN IT IS DEVELOPED.
5. THE LENGTH OF THE DEAD-END STREET IS LESS THAN 175 FEET.
6. AN END-OF ROADWAY BARRICADE IS CONSTRUCTED AT THE END OF THE DEAD-END STREET.

—————	TOP BACK CURB
—————	EDGE OF ASPHALT
- - - - -	SIDEWALK
—————	CENTERLINE
- . - . -	RIGHT OF WAY
—————	PROPERTY LINE
— W — W — W — W —	WATER MAIN

CUL-DE-SAC STANDARDS

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

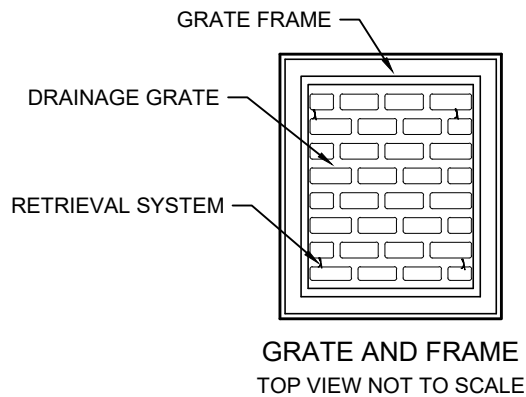
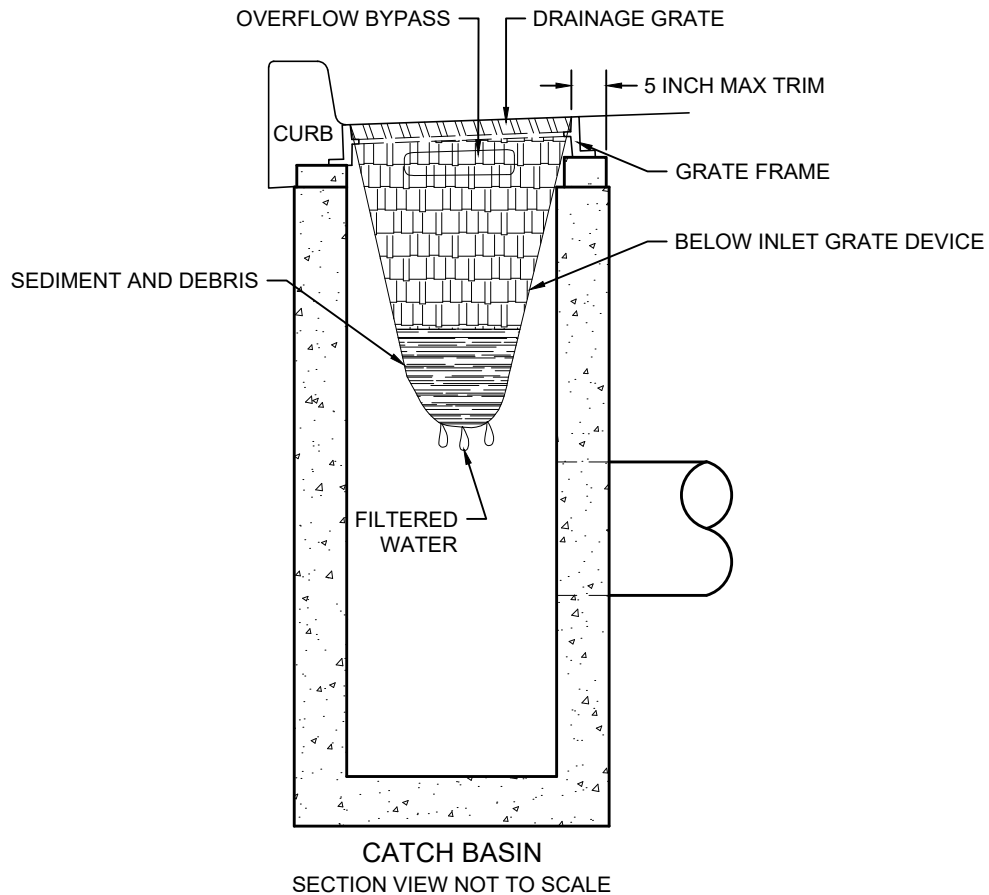
DRAWN RPM
CHECK MORO
SCALE NONE

CITY OF MOSES LAKE

DATE	REVISION	BY
08/18	UPDATE	MLL

DATE 01/10 GRANT COUNTY WASHINGTON

A-13



NOTES:

1. INLET PROTECTION DEVICES SHALL BE INSTALLED IN ALL CATCH BASINS DOWNSTREAM TO PROJECT SITE PRIOR TO ANY AND ALL CONSTRUCTION ACTIVITY. SEE STANDARD SPECIFICATION 8-01.3(9d)
2. SIZE THE BELOW INLET GRATE DEVICE (BIGD) FOR THE STORM WATER STRUCTURE IT WILL SERVICE.
3. THE BIGD SHALL HAVE A BUILT-IN HIGH-FLOW RELIEF SYSTEM (OVERFLOW BYPASS).
4. THE RETRIEVAL SYSTEM SHALL ALLOW REMOVAL OF THE BIGD WITHOUT SPILLING THE COLLECTED MATERIAL.
5. MAINTENANCE SHALL BE PERFORMED IN ACCORDANCE WITH STANDARD SPECIFICATION 8-01.3(15).
6. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

**INLET PROTECTION BELOW
INLET GRATE DEVICE**

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN RPM

CHECK MORO

SCALE NONE

DATE 12/12

CITY OF MOSES LAKE

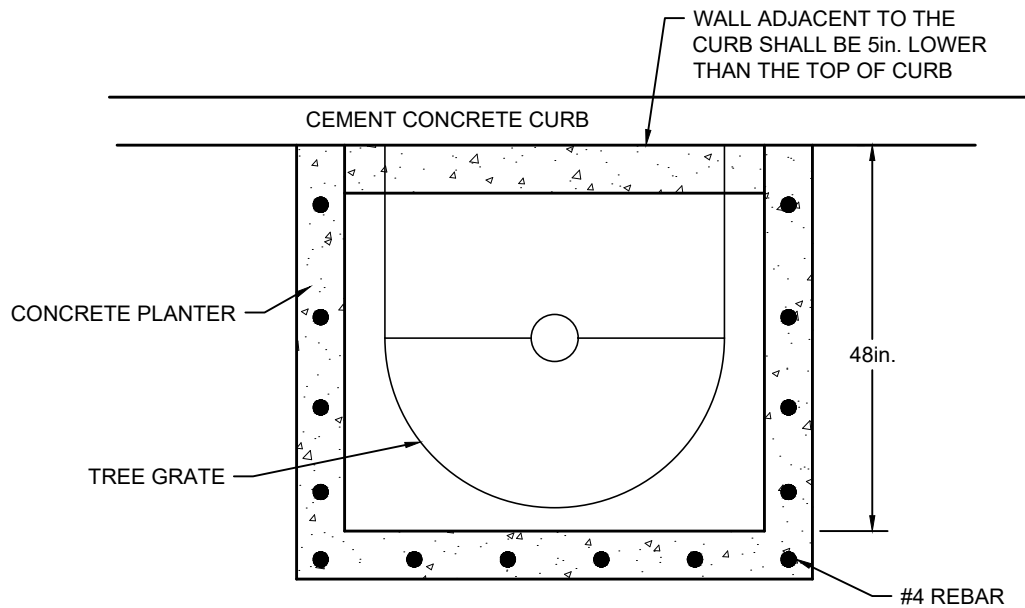
GRANT COUNTY

WASHINGTON

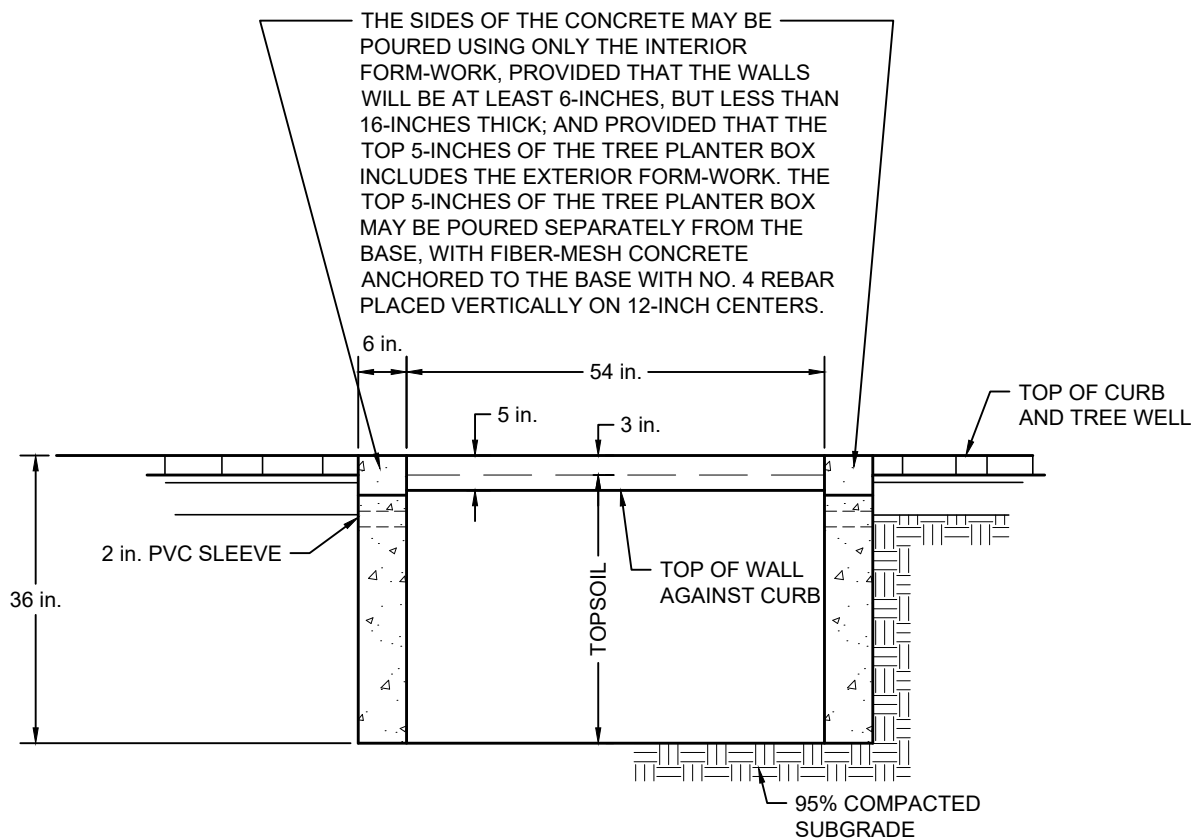
A-14

DATE	REVISION	BY
08/18	AMENDED	MLL

DATE	REVISION	BY	SCALE	NONE
08/18	AMENDED	MLL	DATE	01/13



PLAN VIEW



PROFILE VIEW

NOTES:

1. WHEN INSTALLING BEHIND EXISTING CURB, USE CONTROL DENSITY BACKFILL TO SUPPORT UNDERMINED CURB.
2. TREE AND IRRIGATION NOT SHOWN FOR CLARITY.
3. ALL CONSTRUCTION AND MATERIAL SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

TREE PLANTER DETAIL

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN BO

CHECK JRH

SCALE NONE

DATE 03/04

CITY OF MOSES LAKE

GRANT COUNTY

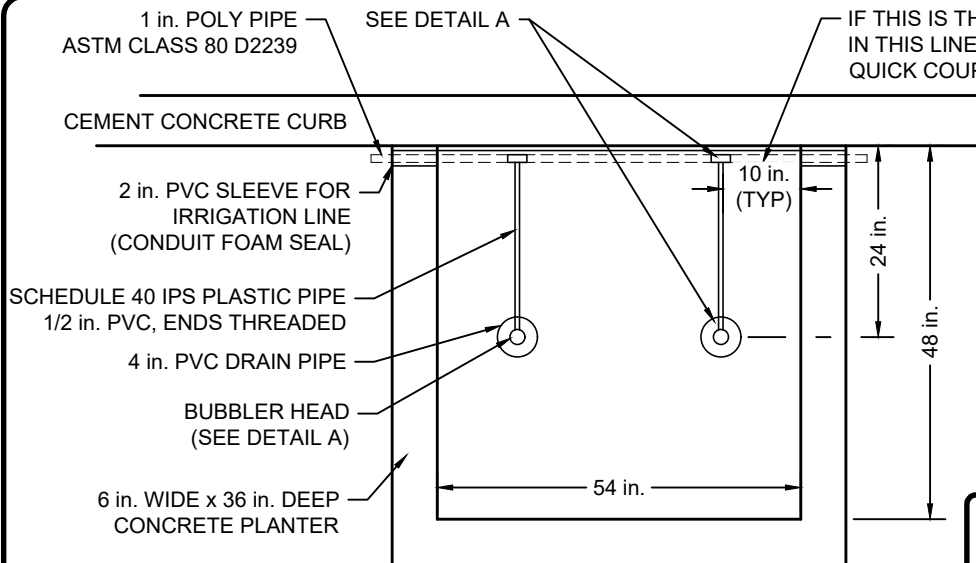
WASHINGTON

A-16

DATE
08/18

REVISION
UPDATE

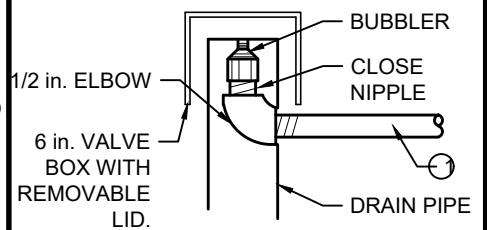
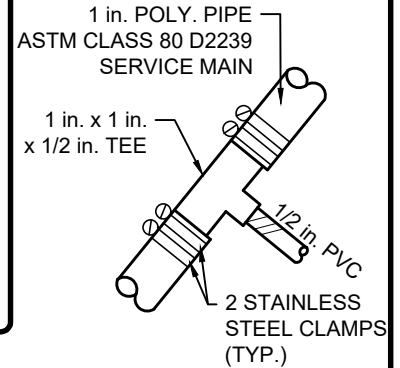
BY
MLL



PLAN VIEW

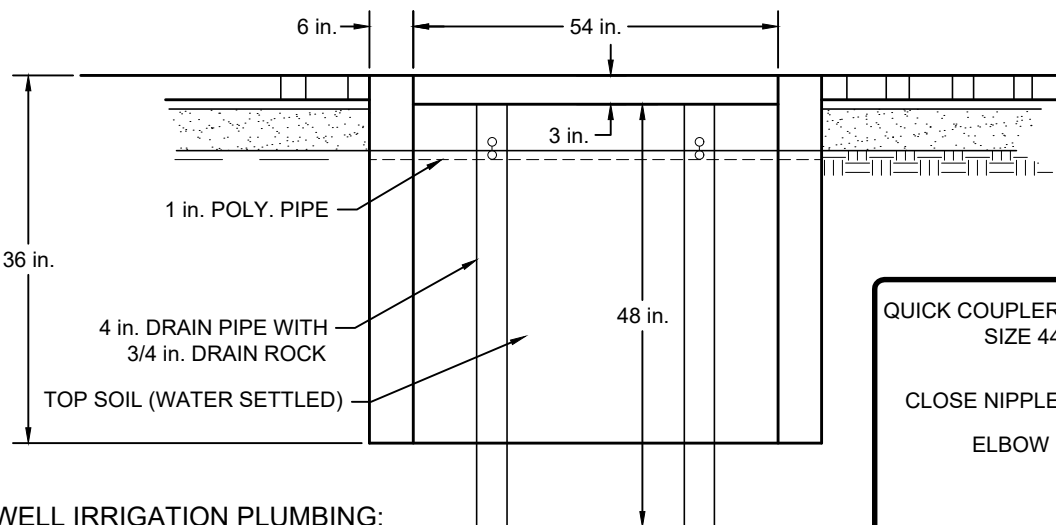
NOTES:

1. POLYETHYLENE PIPE SHALL RUN CONTINUOUS BETWEEN TREE WELLS. NO JOINTS OR CONNECTIONS SHALL BE MADE UNDER SIDEWALK. PIPE SHALL HAVE A SAND BED BETWEEN TREE WELLS
2. IRRIGATION PIPE SHALL BE 7 in. BELOW SIDEWALK GRADE.
3. QUICK COUPLER SHALL BE INSTALLED A 3 in. BELOW SIDEWALK GRADE IN LAST TREE WELL FROM IRRIGATION UNIT. CONTINUE 1 in. PIPE TO END OF PROJECT AND CAP ENDS. (SEE DETAIL B)
4. 4 in. DRAIN PIPE SHALL BE 4 ft. IN LENGTH AND BURIED TO A DEPTH OF 51 in. WRAP WITH WEED CONTROL FABRIC.
5. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.



DETAIL A

① 1/2 in. SCHEDULE 40 IPS PLASTIC PIPE



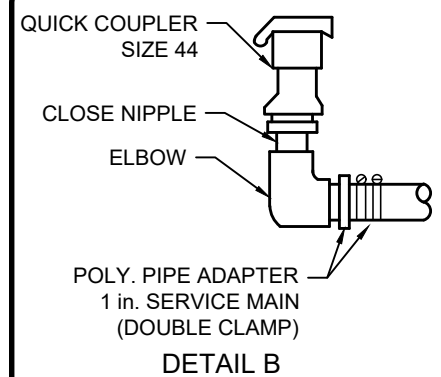
PROFILE VIEW

TREE WELL IRRIGATION PLUMBING:

- 2 - 1 in. x 1 in. x 1/2 in. PVC TEES
- 2 - 1/2 in. SCHEDULE 40 IPS PLASTIC PIPE
- 2 - 4 in. SCHEDULE 40 IPS PLASTIC PIPE, PRE-DRILLED WITH 1/2 in. HOLES
- 2 - 1/2 in. PVC CLOSE NIPPLES
- 2 - 1/2 in. PVC 90 DEGREE ELBOWS
- 2 - RAINBIRD 1300A-FR BUBBLER HEADS

DeWITT'S PRO-5 WEED BARRIER FABRIC (1-800-888-9669)

BRASS QUICK COUPLER, 6 in. VALVE BOX WITH REMOVABLE LID



DETAIL B

TREE PLANTER IRRIGATION

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN TMD/MTP

CHECK MORO

SCALE NONE

DATE 05/1992

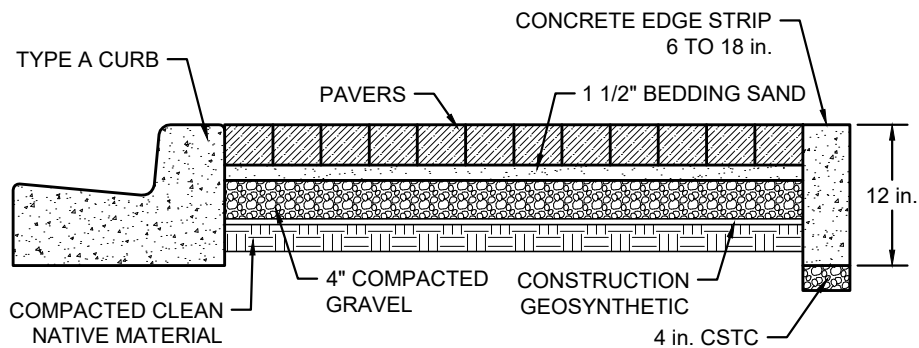
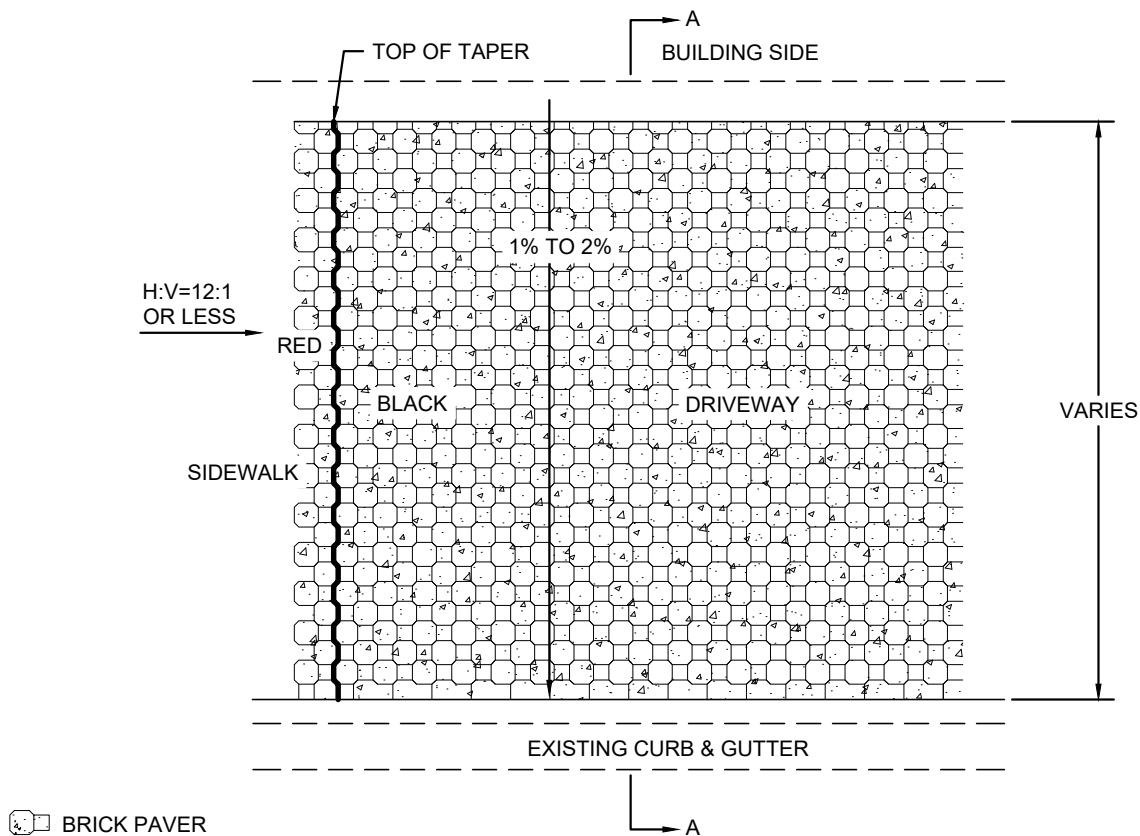
CITY OF MOSES LAKE

GRANT COUNTY

WASHINGTON

A-17

DATE	REVISION	BY
08/18	AMENDED	MLL



SECTION A-A

NOTES:

1. PAVERS SHALL BE INSTALLED 1/16 INCH TO 1/8 INCH ABOVE ANY ADJACENT CONCRETE SURFACES.
2. CONCRETE EDGE STRIP SHALL BE 6 TO 18 INCHES WIDE 12 INCHES DEEP, FIBERMESH CONCRETE OR INSTALL TWO #4 REBAR. REBAR SHALL BE PLACED 3" FROM BOTTOM & EDGE.
3. ALL PAVERS SHALL BE INSTALLED ON GRADE OF 1% TO 2% TOWARDS CURB. RAMPS SHALL H:V=12:1, OR LESS, PARALLEL WITH CURB.
4. REUSE EXISTING PAVERS AND MATCH EXISTING PAVER PATTERN WHEN APPLICABLE AND AS DIRECTED BY THE ENGINEER. FOR NEW PAVER INSTALLATIONS, PROVIDE MATERIAL SAMPLES TO ENGINEER FOR APPROVAL.
5. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

CONCRETE BRICK PAVERS

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN RLG

CHECK MORO

SCALE NONE

DATE 08/11

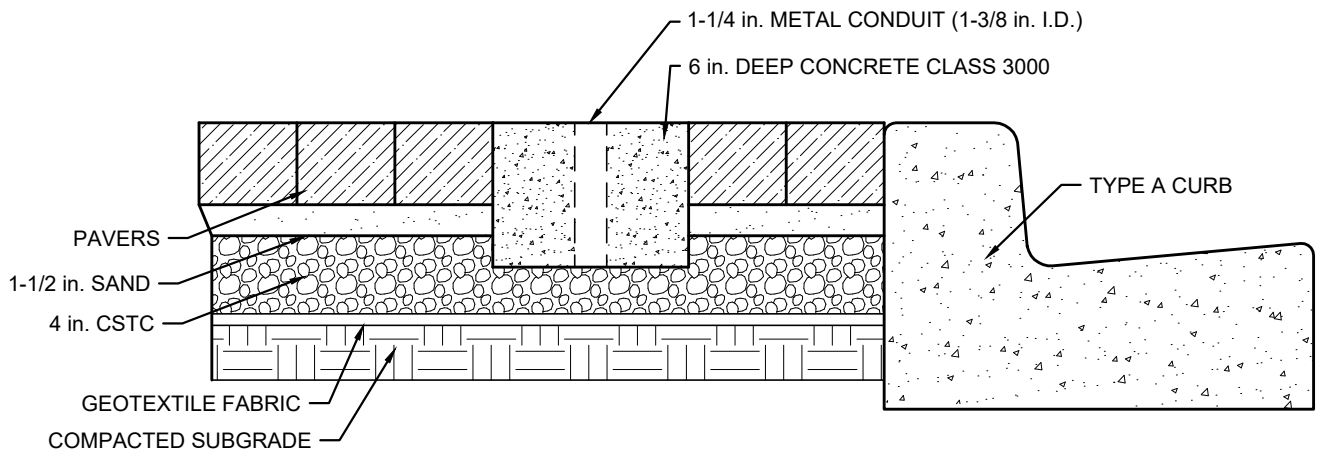
CITY OF MOSES LAKE

GRANT COUNTY

WASHINGTON

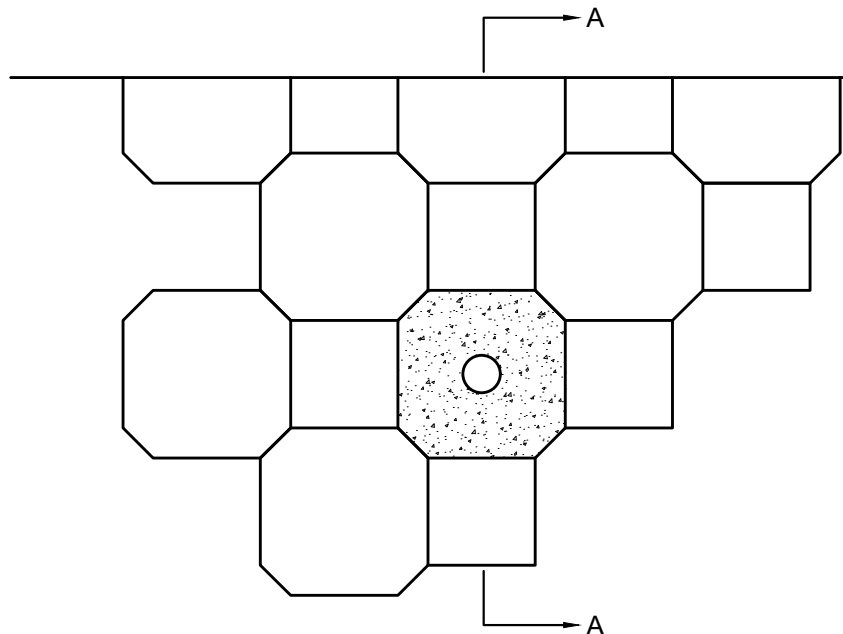
A-18

DATE	REVISION	BY
08/18	UPDATE	MLL



SECTION A-A

NOTE- METAL CONDUIT SHALL BE 6 in. LONG
WELD 1/2-in. I.D. WASHER TO BOTTOM OF CONDUIT



NOTES:

1. ENGINEER MAY AUTHORIZE FLAGPOLE HOLDER TO BE INSTALLED IN UTILITY STRUCTURE EDGING.
2. PAVERS SHALL BE INSTALLED 1/16 INCH TO 1/8 INCH ABOVE ADJACENT CONCRETE SURFACES.
3. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

FLAGPOLE HOLDER

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN TMD

CHECK MORO

SCALE NONE

DATE 09/1991

CITY OF MOSES LAKE

GRANT COUNTY

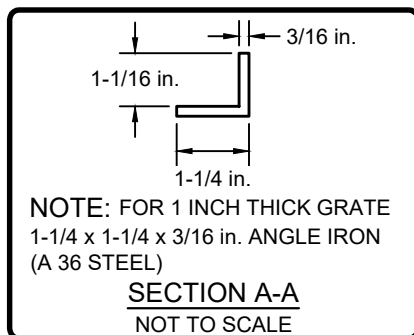
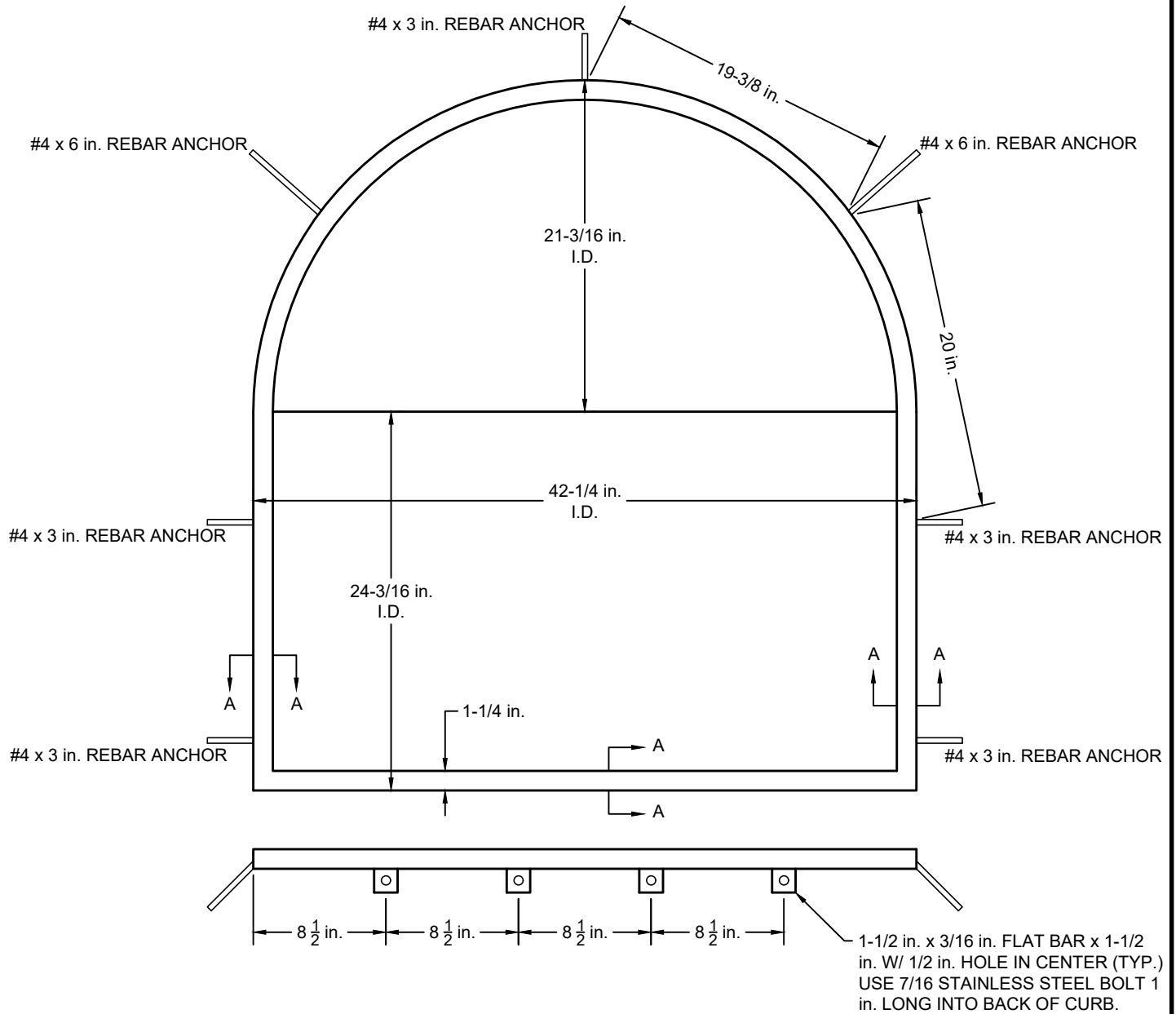
WASHINGTON

A-19

DATE
08/18

REVISION
UPDATE

BY
MLL



NOTE:
 ALL CONSTRUCTION AND MATERIALS SHALL MEET
 THE SPECIFICATIONS AND REQUIRE AUTHORIZATION
 BY THE CITY OF MOSES LAKE.

TREE GRATE FRAME

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN RPM

CHECK MORO

SCALE NONE

DATE 03/04

CITY OF MOSES LAKE

GRANT COUNTY

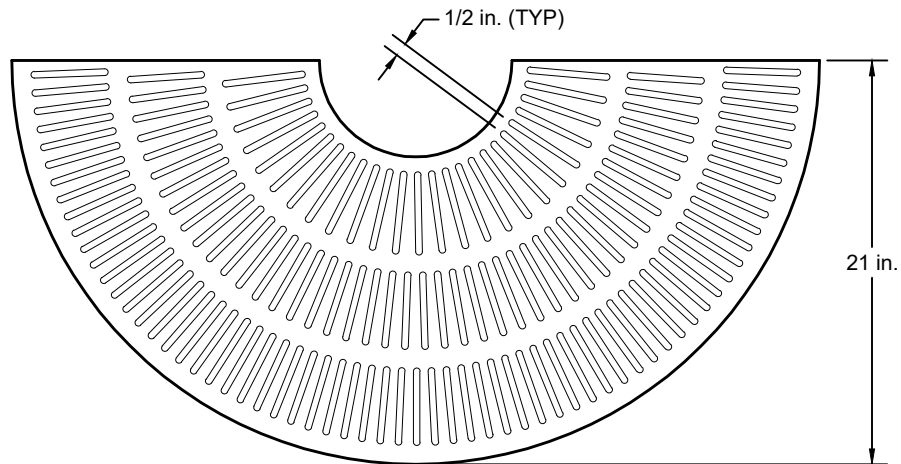
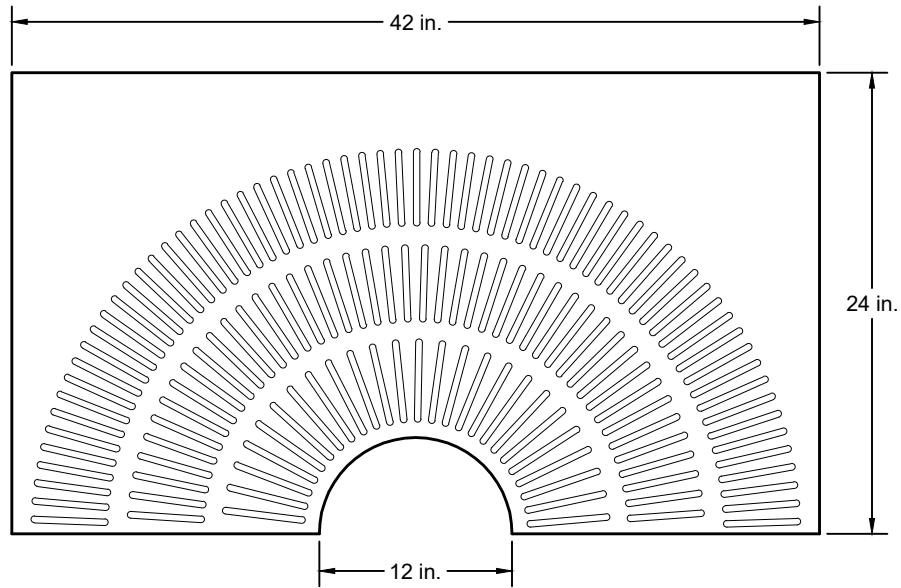
WASHINGTON

A-20

DATE 08/18

REVISION UPDATE

BY MLL



OPENINGS SHALL NOT EXCEED 1/4-INCH WIDTH
GRATE THICKNESS SHALL BE 1-INCH CAST IRON.

NOTE:
ALL CONSTRUCTION AND MATERIALS SHALL MEET THE
SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE
CITY OF MOSES LAKE.

TREE GRATE

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN RPM

CHECK MORO

SCALE NONE

DATE 12/13

CITY OF MOSES LAKE

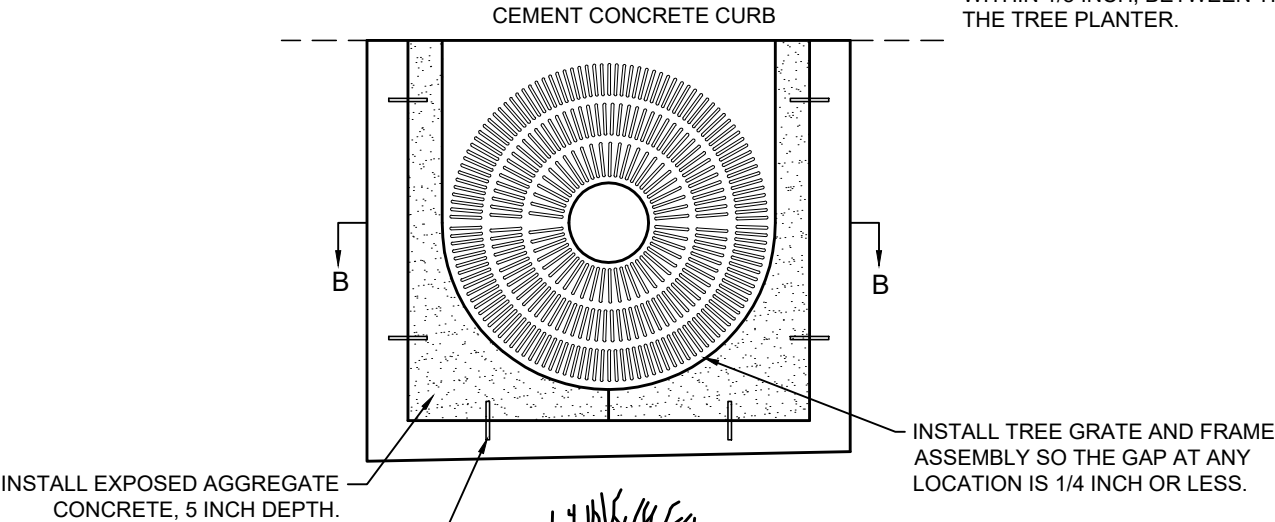
GRANT COUNTY

WASHINGTON

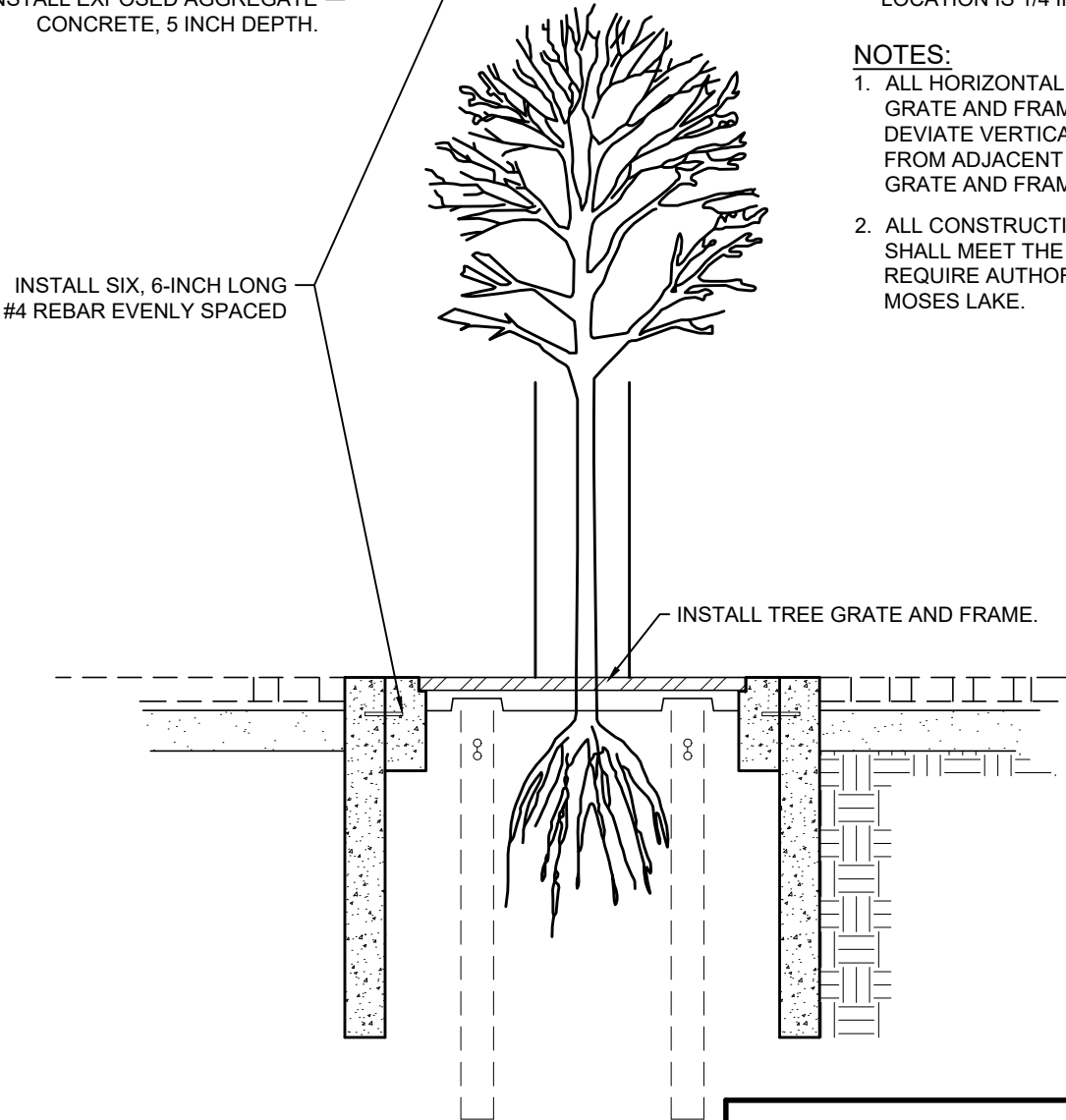
A-21

DATE	REVISION	BY
10/20	UPDATE	MLL

THE TREE GRATE SHALL BE CENTERED,
WITHIN 1/8 INCH, BETWEEN THE SIDES OF
THE TREE PLANTER.



- NOTES:**
1. ALL HORIZONTAL SURFACES OF THE TREE GRATE AND FRAME ASSEMBLY SHALL NOT DEVIATE VERTICALLY MORE THEN 1/8 INCH FROM ADJACENT SURFACES IN THE TREE GRATE AND FRAME ASSEMBLY.
 2. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.



SECTION B-B

TREE PLANTER GRATE

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

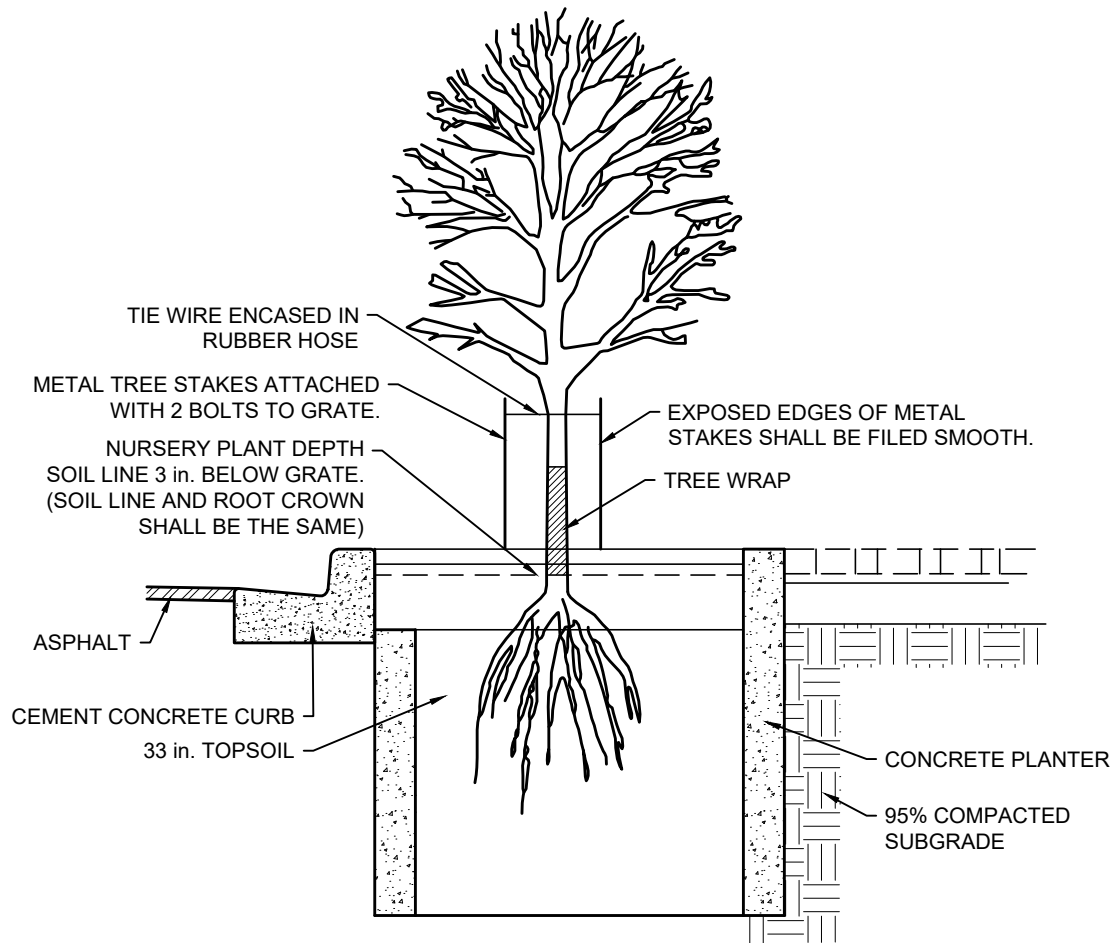
DRAWN	BO	CITY OF MOSES LAKE
CHECK	MORO	
SCALE	NONE	
DATE	04/04	

DATE	REVISION	BY
10/20	UPDATE	MLL

GRANT COUNTY

WASHINGTON

A-22



NOTES:

1. TREE SHALL BE CENTERED WITHIN $\frac{1}{4}$ IN. IN THE TREE GRATE. THE ACTUAL CENTER OF THE TREE GRATE OPENING SHALL PASS THROUGH THE CENTER OF THE TREE.
2. TREE WELL SHALL BE FILLED WITH 33 INCHES OF TOPSOIL, WATER SETTLED TO FINISHED SOIL GRADE.
3. BARE ROOT OR ROOT BALL STOCK MAY BE USED. REMOVE BURLAP FROM TOP HALF OF ROOT BALL IF USED.
4. CUT AND STRAIGHTEN ROOTS THAT CIRCLE AND REMOVE ALL MATTED ROOTS.
5. TREE ROOT CROWN SHALL BE PLANTED TO SOIL LINE.
6. ADD AND FIRM SATURATED TOPSOIL AS NEEDED FOR GOOD CONTACT WITH ROOTS. WATER SETTLE TREE SO LEVEL OF NURSERY SOIL LINE MEETS SOIL FINISHED GRADE.
7. REMOVE ANY DAMAGED BRANCHES, DO NOT CUT LEADER.
8. REMOVE ALL BRANCHES UP TO 16 INCHES ABOVE TREE ROOT CROWN.
9. THE TREE SHALL BE STAKED PERPENDICULAR TO THE PAVER SIDEWALK USING $\frac{3}{8}$ INCH X 1 INCH X 4 FEET TALL STEEL FLAT BAR.
10. TIE WIRE AROUND TREE SHALL BE ENCASED IN SOFT RUBBER TUBING.
11. TREE SHALL BE WRAPPED WITH CORRUGATED PAPER TREE WRAP, WRAP FROM BOTTOM UPWARDS.
12. TREE SHALL NOT BE PLANTED UNTIL FULLY AUTOMATIC IRRIGATION SYSTEM IS OPERATIONAL AND INSPECTED.
13. TREE ROOT CROWN SHALL BE PLANTED 3 INCHES BELOW GRATE.
14. ALL CONSTRUCTION AND MATERIAL SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

TREE PLANTING DETAIL

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN TMD

CHECK MORO

SCALE NONE

DATE 05/1992

CITY OF MOSES LAKE

GRANT COUNTY

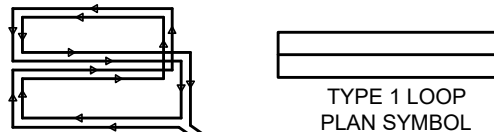
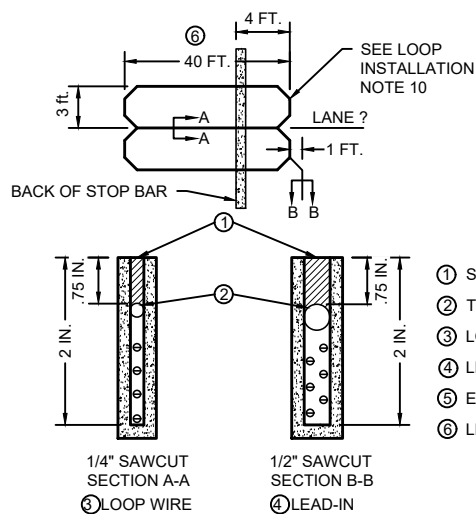
WASHINGTON

DATE
08/18

REVISION
UPDATE

BY
MLL

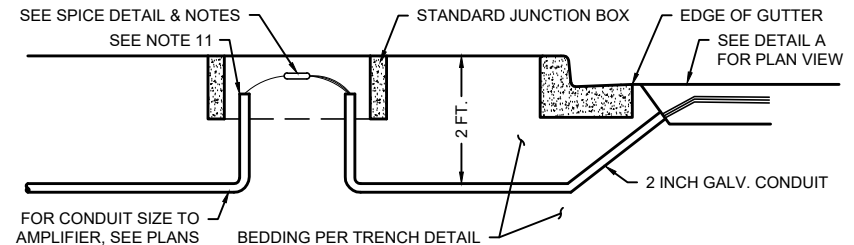
A-23



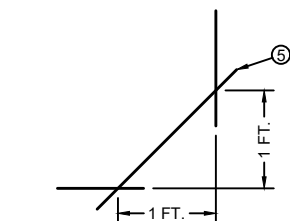
TYPE 1 LOOP WINDING DETAILS

NOTE: THE NUMBER OF TURNS SHALL BE AS SHOWN UNLESS NOTED OTHERWISE IN THE PLANS

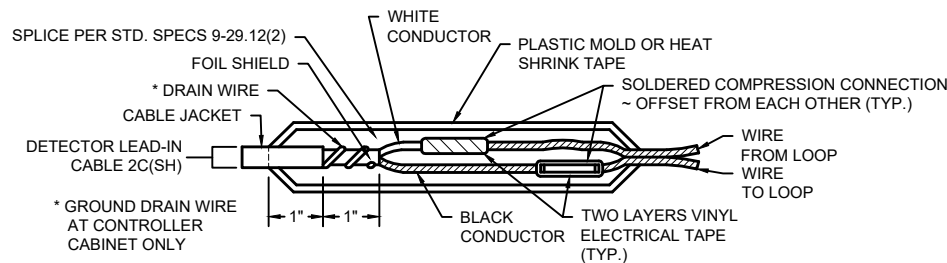
- ① SEALANT - SEE STD. SPEC. 8-20.3(14)C.
- ② TWISTED POLYPROPYLENE ROPE (SIZED FOR SNUG FIT).
- ③ LOOP WIRE - NUMBER VARIES (SEE LOOP WINDING DETAILS).
- ④ LEAD-IN WIRES: ONE PAIR FOR EACH LOOP SERVED. 3 PAIRS MAX. PER SAWCUT.
- ⑤ EXTEND SAWCUT SUFFICIENT LENGTH TO PROVIDE FULL SAWCUT DEPTH AROUND CORNERS.
- ⑥ LENGTH MAY VARY WHEN DIRECTED BY ENGINEER.



TYPICAL CONDUIT PLACEMENT FOR LOOP LEAD-IN WIRES

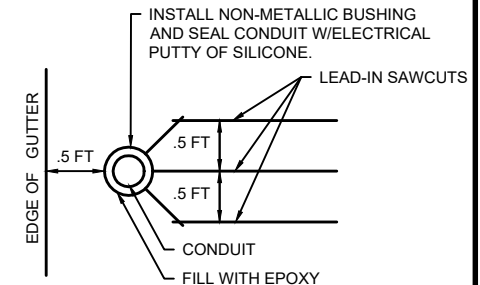


TYPICAL CORNER SAWCUT LOOP SAWCUT DETAILS



SPLICE DETAIL

NOTE: SPLICE KIT SHALL BE CENTERED ON CONDUCTORS AND SUFFICIENT SLACK SHALL BE PROVIDED SO THAT THE SPLICE CAN BE RAISED AT LEAST 12" ABOVE GROUND LINE.



DETAIL A

LEAD-IN SAWCUTS AND CONDUIT PLACEMENT DETAIL

LOOP INSTALLATION NOTES:

1. INSTALL JUNCTION BOX AND LEAD-IN CONDUIT.
2. SAW LOOP SLOTS AND LEAD-IN SLOTS.
3. LAY OUT LOOP WIRE BEGINNING AT JUNCTION BOX, ALLOWING 5' SLACK.
4. INSTALL WIRE IN LOOP SLOT. SEE LOOP WINDING DETAIL.
5. RETURN TO JUNCTION BOX AND IDENTIFY LEADS WITH PLAN DETECTOR NUMBER AND "S" FOR START AND "F" FOR FINISH.
6. TWIST EACH PAIR OF LEAD-IN WIRES TWO TURNS PER FOOT FROM LOOP TO JUNCTION BOX AND INSTALL IN LEAD-IN SLOT AND CONDUIT. REVERSE DIRECTION OF TWIST FOR EACH SUCCESSIVE PAIR INSTALLED.
7. CONSTRUCT SUPPLEMENTAL SPLICE CONTAINING ANY SERIES OR PARALLEL LOOP CONNECTIONS REQUIRED IN PLANS. SUPPLEMENTAL SPLICES ARE SUBJECT TO THE SAME REQUIREMENTS SHOWN FOR THE LOOP LEAD AND SHIELD CABLE SPLICE.
8. SPLICE LOOP LEADS OR SUPPLEMENTAL SPLICE LEADS TO SHIELDED CABLE AS NOTED.
9. COMPLETE INSTALLATION AND TEST LOOP CIRCUITS OR COMBINATION LOOP CIRCUITS. SEE STD. SPEC. 8-20.3(14)D.
10. FRONT OF LOOP SHALL BE MEASURED FROM BACK OF STOP BAR, OR BACK OF CROSSWALK WHERE NO STOP BAR IS INSTALLED.

11. SEAL END OF CONDUIT WITH ELECTRICAL PUTTY OR SILICONE.
12. EACH LEAD-IN WIRE SHALL BE TWISTED AT LEAST 6 TIMES PER FOOT BETWEEN THE INDUCTION LOOP WIRES AND THE DETECTORS LEAD-IN CABLES.
13. WHEN CONSTRUCTION ACTIVITIES CAUSE DAMAGE TO EXISTING INDUCTION LOOPS, LEAD-IN WIRES, OR LEAD-IN CABLES, REPLACEMENT SHALL BE IN ACCORDANCE WITH THIS DETAIL AND AS DIRECTED BY THE ENGINEER.
14. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

INDUCTION LOOP DETAIL

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

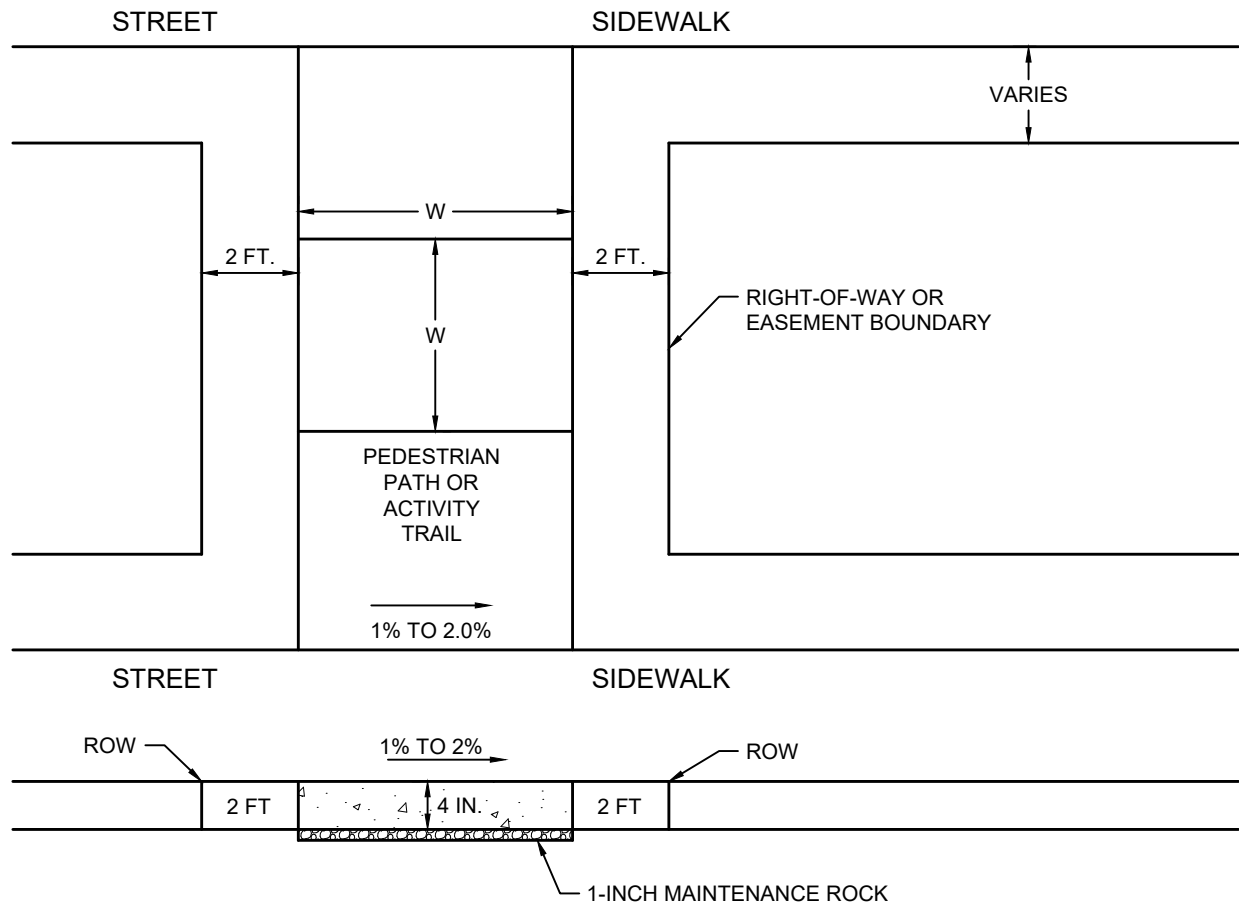
DRAWN	TMD
CHECK	MORO
SCALE	NONE
DATE	12/1996

CITY OF MOSES LAKE

GRANT COUNTY

WASHINGTON

A-24



NOTES:

1. WHERE REQUIRED BY MLMC 17.21.040, PEDESTRIAN PATHS AND ACTIVITY TRAILS SHALL BE CONSTRUCTED TO CONNECT WITH SIDEWALKS AND ACTIVITY TRAILS WITHIN STREET RIGHT-OF-WAY.
2. ACTIVITY TRAILS SHALL BE CONSTRUCTED AT LOCATIONS SHOWN ON THE ACTIVITY TRAIL MASTER PLAN.
3. FOR PEDESTRIAN PATHS, WIDTH OF SIDEWALK SHALL BE AT LEAST 6 FEET. FOR ACTIVITY TRAILS, WIDTH OF SIDEWALK SHALL BE AT LEAST 10 FEET.
4. PEDESTRIAN PATHS SHALL BE CONSTRUCTED OF PORTLAND CEMENT CONCRETE, 4 INCH DEPTH, ON 1-INCH MAINTENANCE ROCK.
5. ACTIVITY TRAILS SHALL BE CONSTRUCTED OF PORTLAND CEMENT CONCRETE, 4 INCH DEPTH, ON 1-INCH MAINTENANCE ROCK.
6. CROSS SLOPE SHALL BE 1% TO 2.0%.
7. JOINTS SHALL BE SPACED TO CORRESPOND WITH THE WIDTH. FULL DEPTH MASTIC SHALL BE INSTALLED EVERY 20 TO 30 FEET AS DIRECTED BY THE ENGINEER.
8. CONTROL JOINTS SHALL BE 1 INCH DEEP AND PLACED PERPENDICULAR TO THE CURB. SPACING SHALL MATCH THE SIDEWALK WIDTH, BUT NOT GREATER THAN 10 FT; EXCEPT, WHEN PLANTER AREAS ARE NOT INSTALLED, CONTROL JOINTS SHALL ALIGN WITH CURB JOINTS.
9. FULL DEPTH EXPANSION JOINTS (MASTIC) SHALL BE PLACED PERPENDICULAR TO THE CURB AT 20 TO 30 INTERVALS. ALIGN WITH CONTROL JOINTS AS DIRECTED BY ENGINEER.
10. MASTIC SHALL BE 3/8-INCH THICK MATERIAL AND BE PLACED FULL DEPTH. MASTIC SHALL NOT BE INSTALLED WITHIN DRIVEWAYS OR RAMPS.
11. SIDEWALK AND DRIVEWAYS SHALL BE BROOM FINISHED PERPENDICULAR TO THE CURB.
12. WHEN NEW SIDEWALKS ARE INSTALLED ADJACENT TO EXISTING CURB OR SIDEWALKS, NO.4 REBAR SHALL BE INSTALLED IN THE DIRECTION OF PEDESTRIAN TRAVEL AS DIRECTED BY THE ENGINEER.
13. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

TYPICAL PEDESTRIAN PATH OR ACTIVITY TRAIL

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN RPM

CHECK MORO

SCALE NONE

DATE 03/14

CITY OF MOSES LAKE

GRANT COUNTY

WASHINGTON

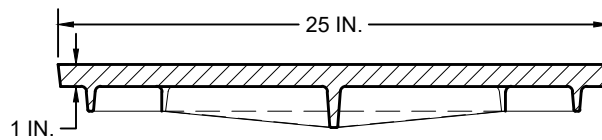
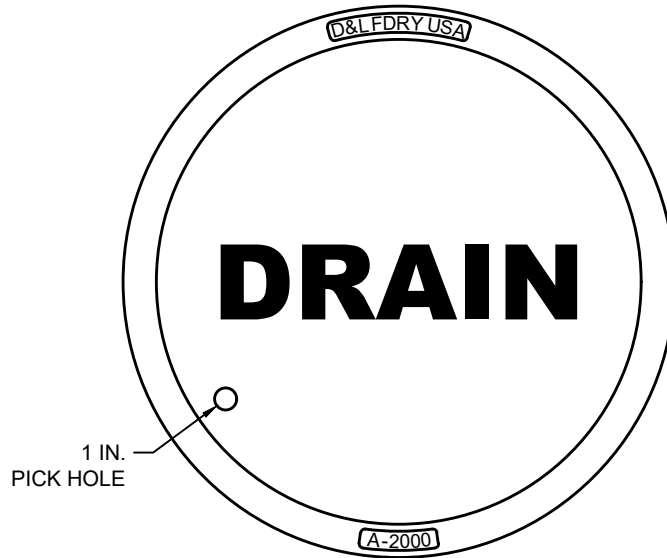
A-25

DATE 08/18

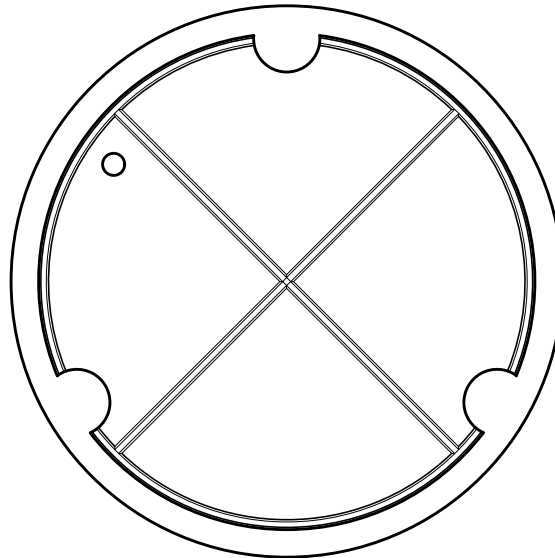
REVISION AMENDED

BY MLL

A-2000



SECTION A-A



NOTES:

1. LIDS WITH CITY LOGO MAY BE AUTHORIZED BY ENGINEER ON LIDS THAT WILL BE MAINTAINED BY THE CITY TO ALLOW EXISTING STOCK TO BE DEPLETED.
2. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

STORM DRAIN MANHOLE LID

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN RPM

CHECK MORO

SCALE NONE

DATE 07/16

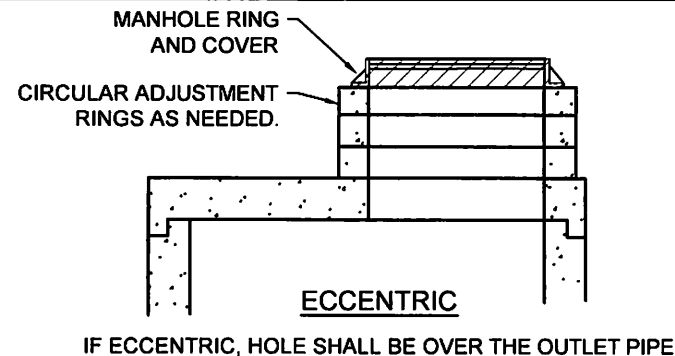
CITY OF MOSES LAKE

GRANT COUNTY

WASHINGTON

A-26

DATE	REVISION	BY
10/20	AMENDED	MLL



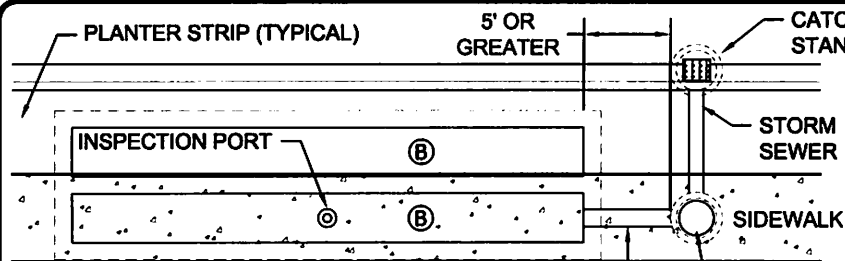
1. NO STEPS ARE REQUIRED WHEN HEIGHT IS 4' OR LESS.
2. THE BOTTOM OF THE PRECAST CATCH BASIN MAY BE ROUNDED.
3. FRAME AND GRATE SHALL BE INSTALLED WITH FLANGE DOWN.
4. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MINIMUM TO 2 1/2" MAXIMUM.
5. APPROVED MANHOLE RING AND COVER D & L FOUNDRY A-2000 MARKED "DRAIN" ON COVER.
6. WHERE EXISTING UTILITIES OR RIGHT-OF-WAY LIMITS CONSTRAIN THE SPACE, THE ENGINEER MAY AUTHORIZE OR REQUIRE THE USE OF A TYPE 1 CATCH BASIN.
7. WHERE DEPTH OF STORMWATER PIPE IS LESS THAN 24" ADJUSTMENT RINGS MAY BE OMITTED.
8. "DRAIN" SHALL BE CAST IN THE LID.
9. CITY LOGO IS NOT AUTHORIZED ON STORMWATER LIDS THAT ARE NOT MAINTAINED BY THE CITY.
10. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

DIA.	WALL THICKNESS	BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS	BASE REINFORCING STEEL IN ² /FT IN EACH DIRECTION	
					INTEGRAL BASE	SEPARATE BASE
48"	4"	6"	36"	8"	0.15	0.23
60"	5"	8"	48"	8"	0.25	0.25
72"	6"	8"	60"	12"	0.24	0.35

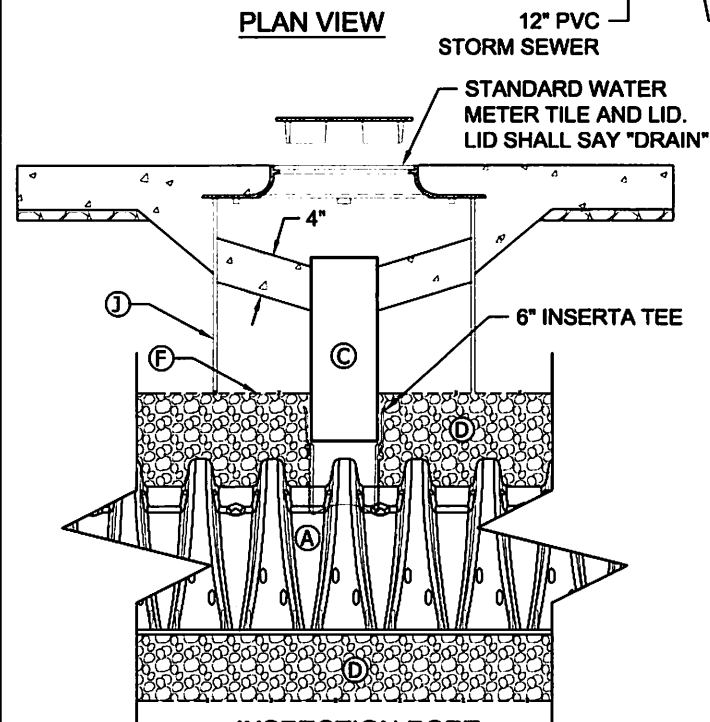
DRAWN	RPM	CITY OF MOSES LAKE
CHECK	MORO	
SCALE	NONE	
DATE	12/12	
		GRANT COUNTY
		WASHINGTON

A-27

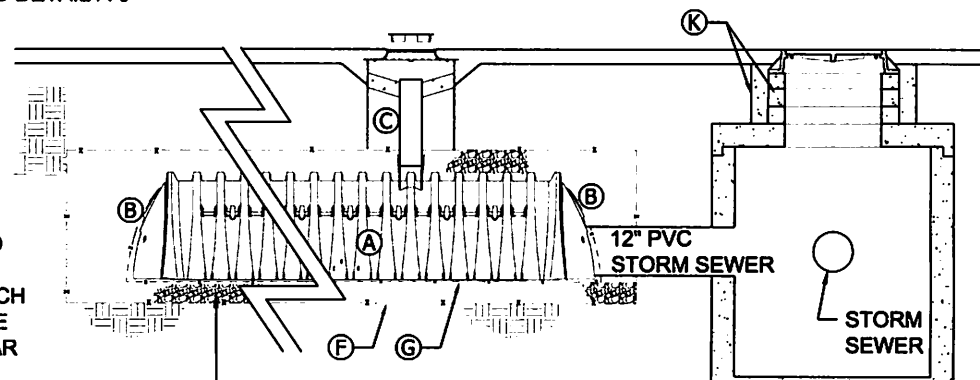
DATE	REVISION	BY	SCALE	NONE
07/22	AMENDED	MLL	DATE	12/12



PLAN VIEW

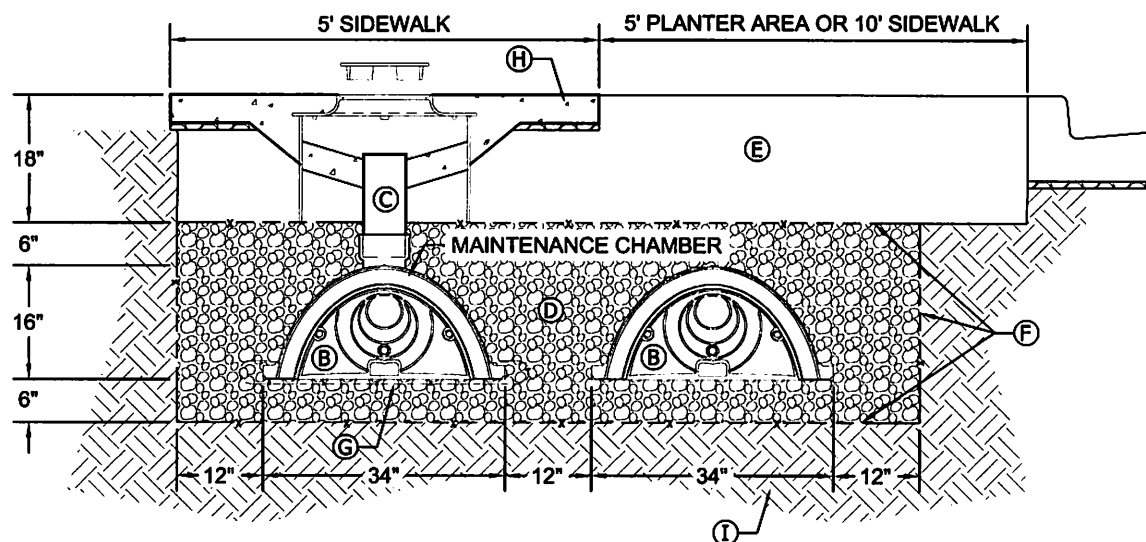


INSPECTION PORT



ELEVATION

CATCH BASIN, SOLID LID



SECTION

(GALLERY CENTERED UNDER SIDEWALK)

- (A) SC-310 CHAMBER
- (B) SC-310 END CAP
- (C) 6" PVC PIPE.
- (D) GRAVEL BACKFILL FOR DRYWELLS.
- (E) NATIVE MATERIAL FOR TRENCH BACKFILL. COMPACT IN 6" LIFTS.
- (F) NON-WOVEN GEOTEXTILE FABRIC PER CITY STANDARD SPECIFICATION 9-33.
- (G) WOVEN GEOTEXTILE FABRIC, 48" WIDTH, CONTINUOUS WITHOUT SEAMS BETWEEN MAINTENANCE CHAMBER AND DRAIN ROCK. FABRIC SHALL BE LAID FLAT WITHOUT WRINKLES.

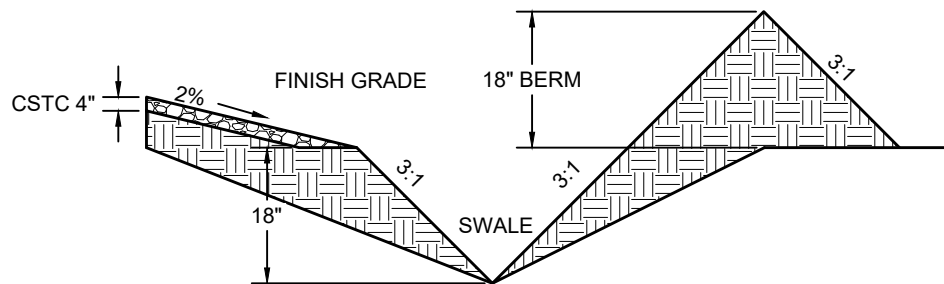
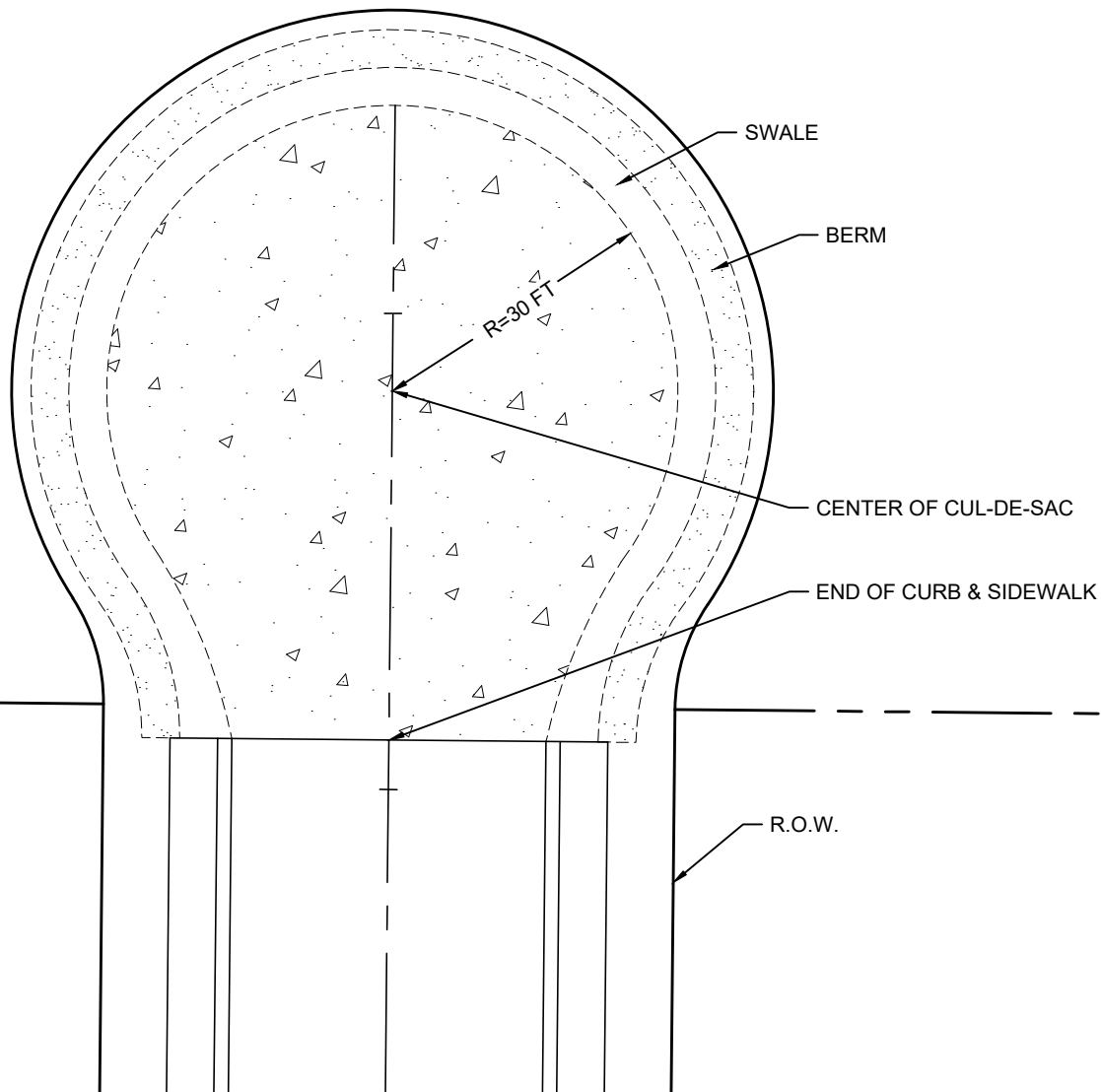
- (H) TYPICAL SIDEWALK SECTION PER DETAIL A-5.
- (I) UNDISTURBED NATIVE SOILS.
- (J) PRESSURE IRRIGATION PIPE, SDR 51, PVC 1120, 21-INCH DIAMETER.
- (K) ADJUSTMENT RINGS AS REQUIRED TO MEET FINISH GRADE. CONCRETE COLLAR FULL DEPTH AROUND ADJUSTMENT RINGS.
- (L) ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

INFILTRATION GALLERY

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN	MLL	CITY OF MOSES LAKE
CHECK	RAL	
SCALE	NONE	
DATE	10/20	GRANT COUNTY WASHINGTON

A-28



SWALE & BERM
SECTION DETAIL (NTS)

NOTES:

1. CONSTRUCT TEMPORARY CUL-DE-SAC OF 4" COMPACTED CSTC.
2. TEMPORARY CUL-DE-SAC MAY BE AUTHORIZED FOR NEW SUBDIVISIONS IN ACCORDANCE WITH THE MOSES LAKE MUNICIPAL CODE.
3. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

**TEMPORARY GRAVEL
CUL-DE-SAC**

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN RPM
CHECK MORO
SCALE NONE

CITY OF MOSES LAKE

DATE 07/16

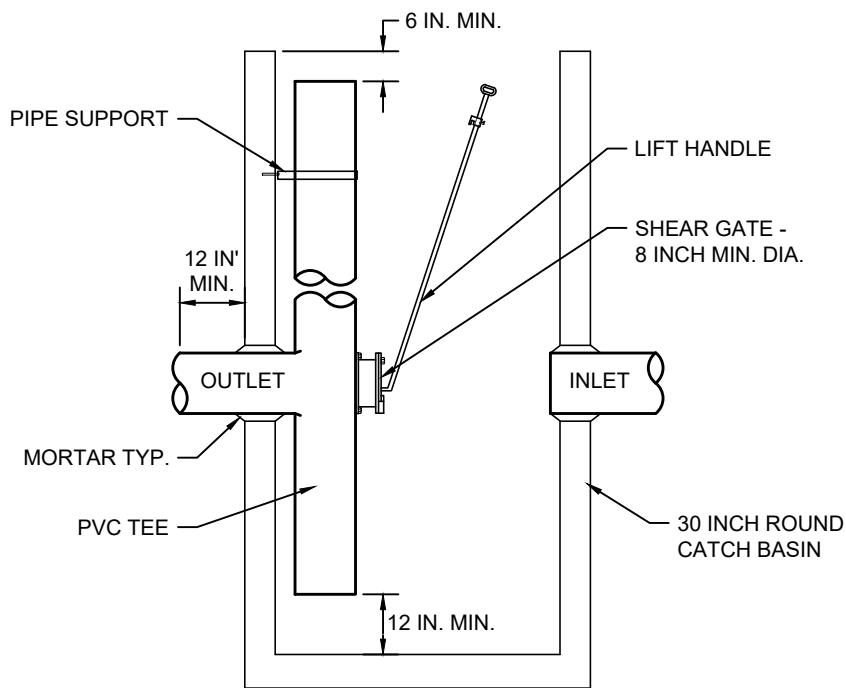
GRANT COUNTY

WASHINGTON

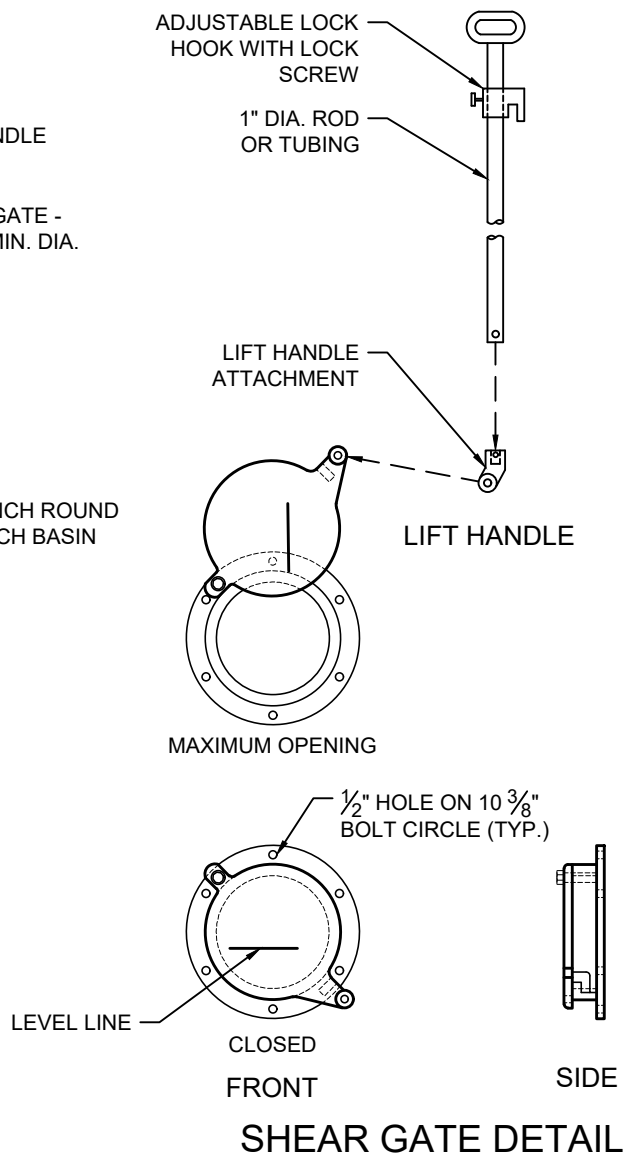
A-29

DATE 08/18
REVISION AMENDED
BY MLL

\\ENG-SERVER\Drawings\COMMUNITY STANDARDS\2021\Revised\A-30 Catch Basin Tee.dwg PLOT: July 27, 2022 at: 12:54pm



CATCH BASIN TEE



NOTES:

1. CATCH BASIN TEE SHALL BE MADE OF SAME SIZE AND MATERIAL AS THE STORM PIPE.
2. PIPE SUPPORT SHALL BE MADE OF ALUMINUM AND ANCHORED TO THE MANHOLE WITH $\frac{5}{8}$ " STAINLESS STEEL EXPANSION BOLTS OR EMBED THE SUPPORTS INTO THE MANHOLE WALL 2 INCHES.
3. THE SHEAR GATE SHALL BE MADE OF ALUMINUM ALLOY IN ACCORDANCE WITH ASTM B 26 AND ASTM B 276, DESIGNATION ZG23A; OR CAST IRON IN ACCORDANCE WITH ASTM A 48, CLASS 30B.
4. THE LIFT HANDLE SHALL BE MADE OF A SIMILAR METAL TO THE GATE (TO PREVENT GALVANIC CORROSION). IT MAY BE OF SOLID ROD OR HOLLOW TUBING, WITH ADJUSTABLE HOOK AS REQUIRED.
5. COVER FROM TOP OF PIPE TO FINISH GRADE UNDER SIDEWALKS SHALL BE 24 INCHES OR MORE. COVER FROM TOP OF PIPE TO FINISH GRADE UNDER ROADWAYS SHALL BE 36 INCHES OR MORE FOR PVC PIPE AND 18 INCHES OR MORE FOR DUCTILE IRON PIPE.
6. INSTALL THE GATE SO THAT THE LEVEL-LINE MARK IS LEVEL WHEN THE GATE IS CLOSED.
7. THE MATING SURFACES OF THE LID AND THE BODY SHALL BE MACHINED FOR PROPER FIT. ALL SHEAR GATE BOLTS SHALL BE STAINLESS STEEL.
8. THE SHEAR GATE MAXIMUM OPENING SHALL BE CONTROLLED BY LIMITED HINGE MOVEMENT, A STOP TAB, OR SOME OTHER DEVICE AUTHORIZED BY THE ENGINEER.
9. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

CATCH BASIN TEE

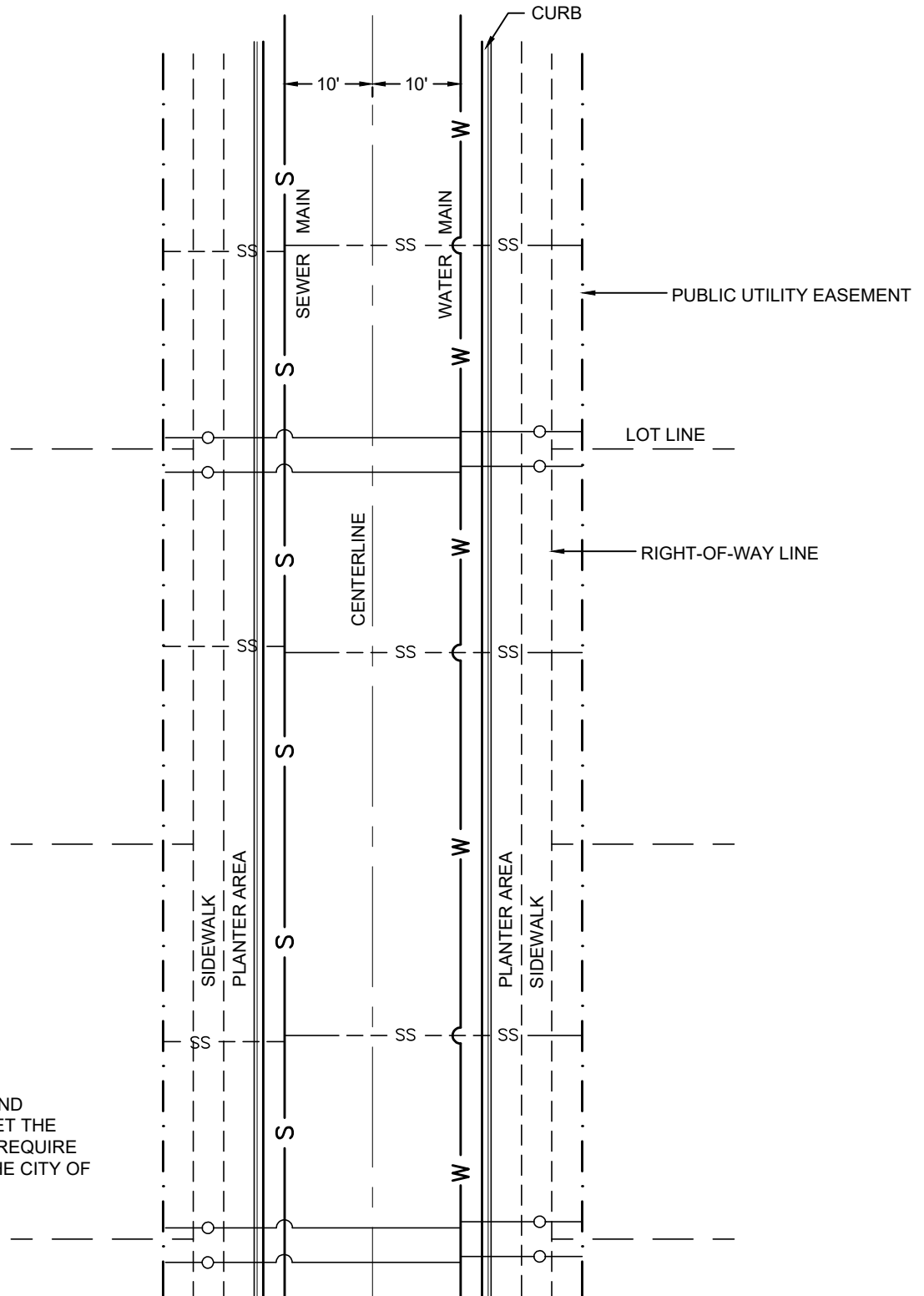
MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN MLL
CHECK RAL
SCALE NONE
DATE 07/22

CITY OF MOSES LAKE

GRANT COUNTY WASHINGTON

A-30



NOTE:

1. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

- WATER METERS SHALL BE INSTALLED IN THE MIDDLE OF THE SIDEWALK.
- SS— SANITARY SEWER AND WATER SERVICES SHALL BE INSTALLED TO EDGE OF PUBLIC UTILITY EASEMENT.

TYPICAL WATER AND SEWER SERVICE LOCATIONS IN RESIDENTIAL AREAS

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

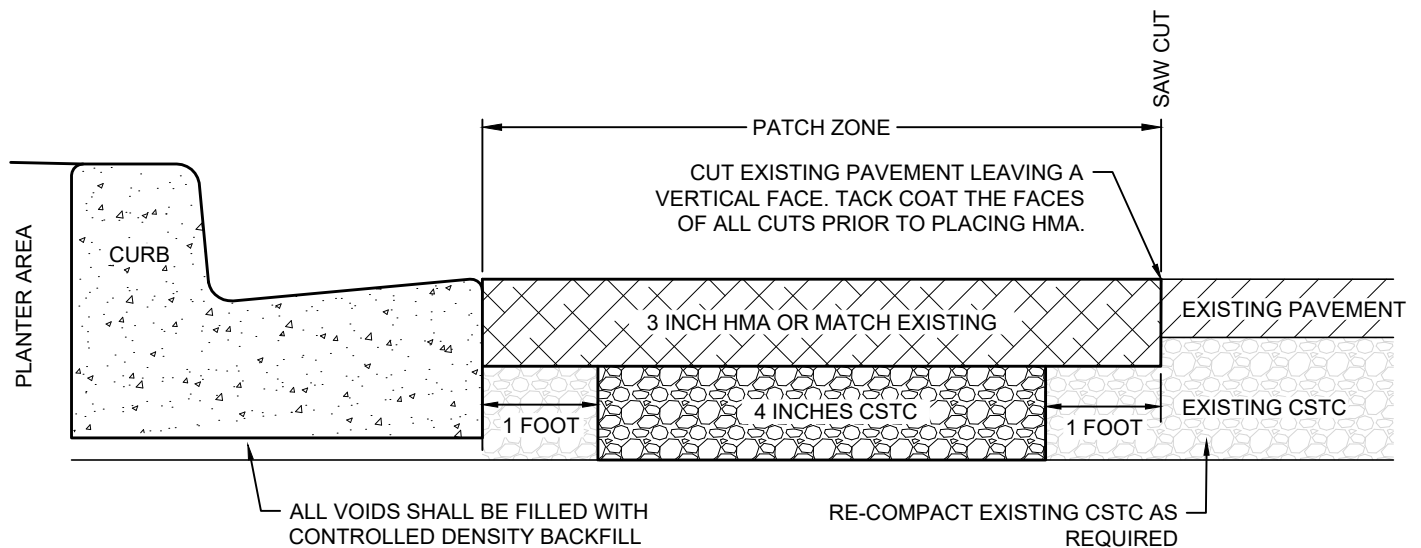
DRAWN	RPM	CITY OF MOSES LAKE
CHECK	MORO	
SCALE	NONE	DATE 01/10
DATE	01/10	

DATE	REVISION	BY
08/18	AMENDED	MLL

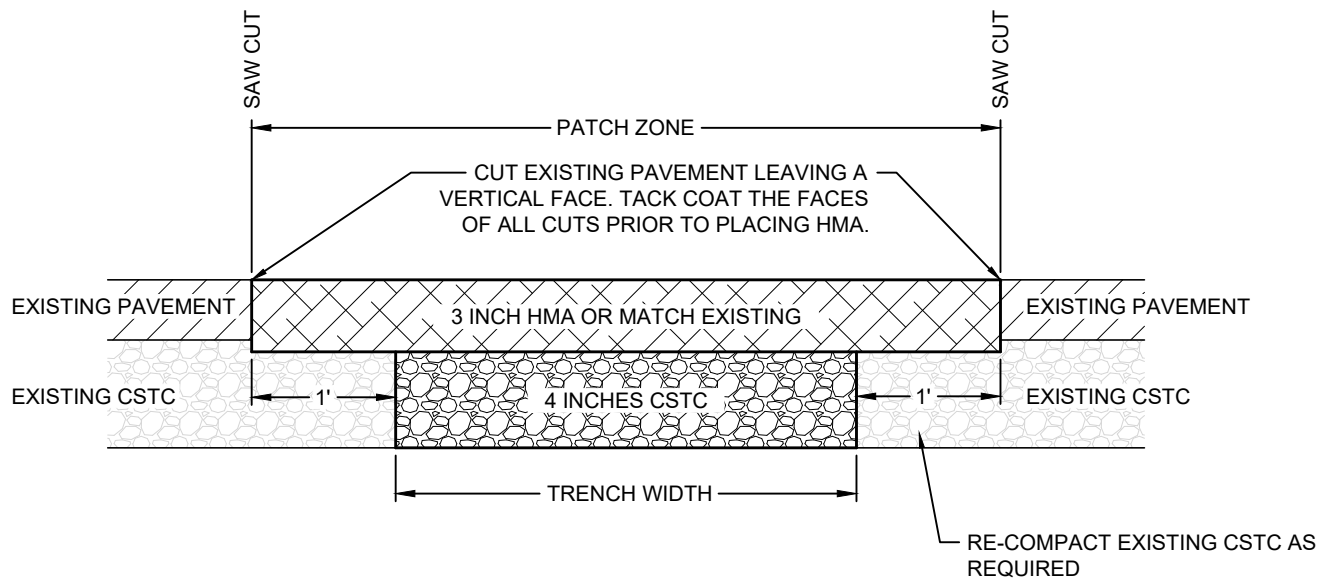
GRANT COUNTY

WASHINGTON

B-1



SECTION AT ROADWAY CURB



SECTION AT MIDDLE OF ROADWAY

NOTES:

1. HMA IN THE PATCH ZONE SHALL BE OF 3 INCHES THICK, OR MATCH EXISTING, WHICHEVER IS GREATER. HOWEVER, THE THICKNESS IS NOT REQUIRED TO BE GREATER THAN 6 INCHES. ALL PATCHES SHALL BE PLACED IN 2 OR MORE LIFTS. ALL LIFTS SHALL BE 2 INCHES (COMPACTED), OR LESS.
2. PATCH WIDTH SHALL ACCOMMODATE COMPACTION METHODS APPROVED BY THE ENGINEER.
3. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

PATCHING DETAIL

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN RPM

CHECK MORO

SCALE NONE

DATE 01/10

CITY OF MOSES LAKE

GRANT COUNTY

WASHINGTON

B-2

DATE	REVISION	BY
07/22	AMENDED	MLL

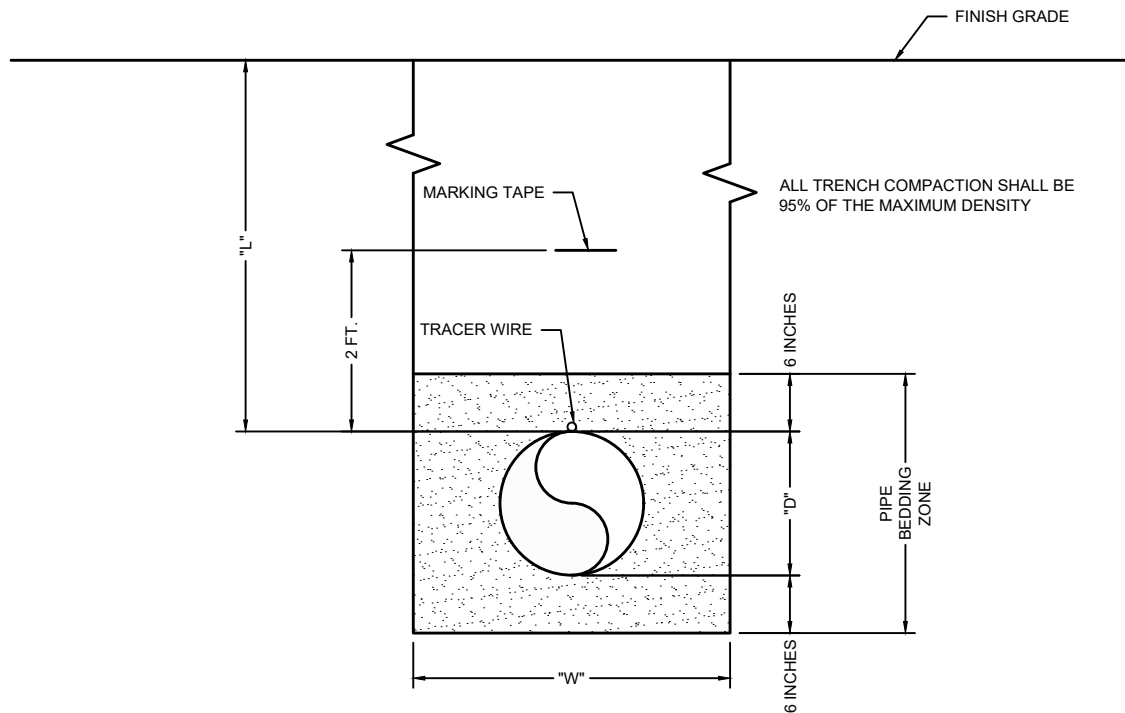


TABLE B-3		
WATER MAINS, SANITARY SEWER MAINS, AND STORM SEWER MAINS		
TRENCH WIDTH FOR MAINS (W) SHALL BE PIPE SIZE PLUS 18 INCHES.		
ALL TRENCHES SHALL MEET WAC CHAPTER 296-155 FOR CONSTRUCTION WORK.		
	REQUIRED PIPE COVER "L"	REQUIRED PIPE DIAMETER "D"
WATER MAINS	42 INCHES	8 INCH
WATER SERVICES	30 INCHES	1 INCH
SEWER MAINS	48 INCHES	8 INCH
BUILDING SEWERS	36 INCHES	4 INCH
SANITARY SEWER PRESSURE MAINS	72 INCHES	VARIES
SANITARY SEWER PRESSURE SERVICES	72 INCHES	VARIES
STORM SEWER UNDER ROADWAY	36 INCHES	8 INCH
STORM SEWER UNDER SIDEWALK	24 INCHES	8 INCH
STORM SEWER - DUCTILE IRON	18 INCHES	8 INCH

NOTES:

1. TRACER WIRE SHALL BE TAPED AT 10-FOOT INTERVALS TO THE TOP OF ALL WATER AND SEWER PRESSURE MAINS, AND WATER SERVICE LINES.
2. BEDDING MATERIAL SHALL BE PLACED UNDER ALL PIPE PRIOR TO PLACING PIPE.
3. TRENCHES MAY BE BACKFILLED WITH CONTROLLED DENSITY FILL.
4. ALL UTILITIES (PHONE, GAS, CABLE TV, TELECOMMUNICATIONS, ELECTRIC, WATER, SEWER, STORM, ETC.) SHALL MEET THE REQUIREMENTS OF THIS DETAIL.
5. WHERE THE DEPTH OF COVER IS LESS THAN 30 INCHES, THE ENGINEER SHALL DETERMINE THE LOCATION OF THE MARKING TAPE.
6. PIPE COVER (L) AND PIPE DIAMETER (D) MAY BE LONGER THAN REQUIRED BY TABLE B-3.
7. BUILDING SEWERS SHOULD BE INSTALLED BELOW WATER LINES. CASING IS NOT REQUIRED ON BUILDING SEWERS.
8. ENGINEER MAY APPROVE DEVIATIONS TO BUILDING SEWER LOCATIONS WHEN EXISTING CONDITIONS PREVENT COMPLIANCE WITH THIS DETAIL.
9. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

TRENCHING AND BEDDING

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN RPM

CHECK MORO

SCALE NONE

DATE 01/10

CITY OF MOSES LAKE

GRANT COUNTY

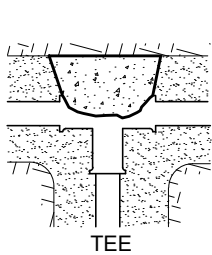
WASHINGTON

B-3

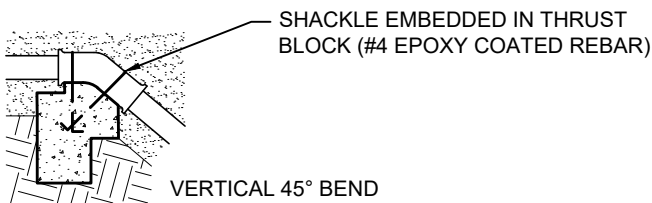
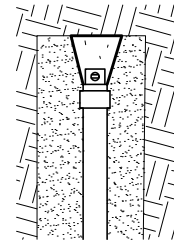
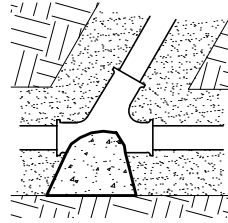
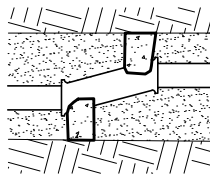
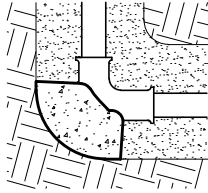
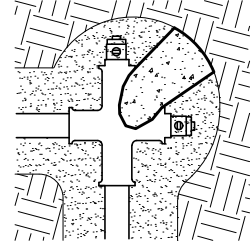
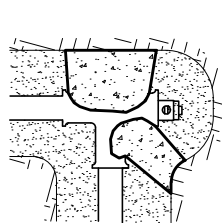
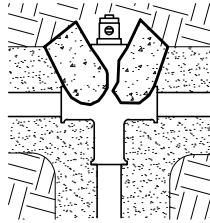
DATE
10/20

REVISION
AMENDED

BY
MLL



TEE



VERTICAL 45° BEND

THRUST BLOCK BEARING AREA REQUIRED*				
SIZE	TEES AND DEAD ENDS	90° BEND	45° BEND	22-1/2° BEND
4 INCH OR LESS	2 SF	3 SF	2 SF	1 SF
6 INCH	4 SF	5 SF	3 SF	2 SF
8 INCH	6 SF	8 SF	5 SF	3 SF
10 INCH	10 SF	13 SF	7 SF	4 SF
12 INCH	13 SF	19 SF	10 SF	6 SF
14 INCH	18 SF	25 SF	14 SF	7 SF
16 INCH	23 SF	32 SF	18 SF	9 SF

* BASED ON A PIPE TEST PRESSURE OF 250 PSI, A SAFETY FACTOR OF APPROXIMATELY 1.5, AND BEARING STRENGTH OF SOIL AT 3000 LBS./SQ. FT. FOR OTHER CONDITIONS REVISE AND INCREASE AS APPROVED BY THE ENGINEER.

NOTES:

1. THRUST BLOCKS SHALL EXTEND TO UNDISTURBED GROUND.
2. INCREASE THRUST BLOCK AREA SHOWN IN TABLE ABOVE BY 50% IN SAND.
3. WRAP ALL FITTINGS WITH 8-MIL POLYETHYLENE ENCASEMENT.
4. CONCRETE SHALL NOT COME INTO CONTACT WITH PIPE, VALVES, OR FITTINGS.
5. ALL THRUST BLOCKS SHALL BE FORMED ON THE SIDES WITH SUITABLE BACKFILL MATERIAL OR REMOVABLE FORMS.
6. THRUST BLOCKS SHALL NOT BE USED ON MUNICIPAL VALVES OR HYDRANTS. RESTRAINT JOINTS MAY BE REQUIRED.
7. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

WATERMAIN THRUST BLOCKS

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN RPM

CHECK MORO

SCALE NONE

DATE 01/10

CITY OF MOSES LAKE

GRANT COUNTY

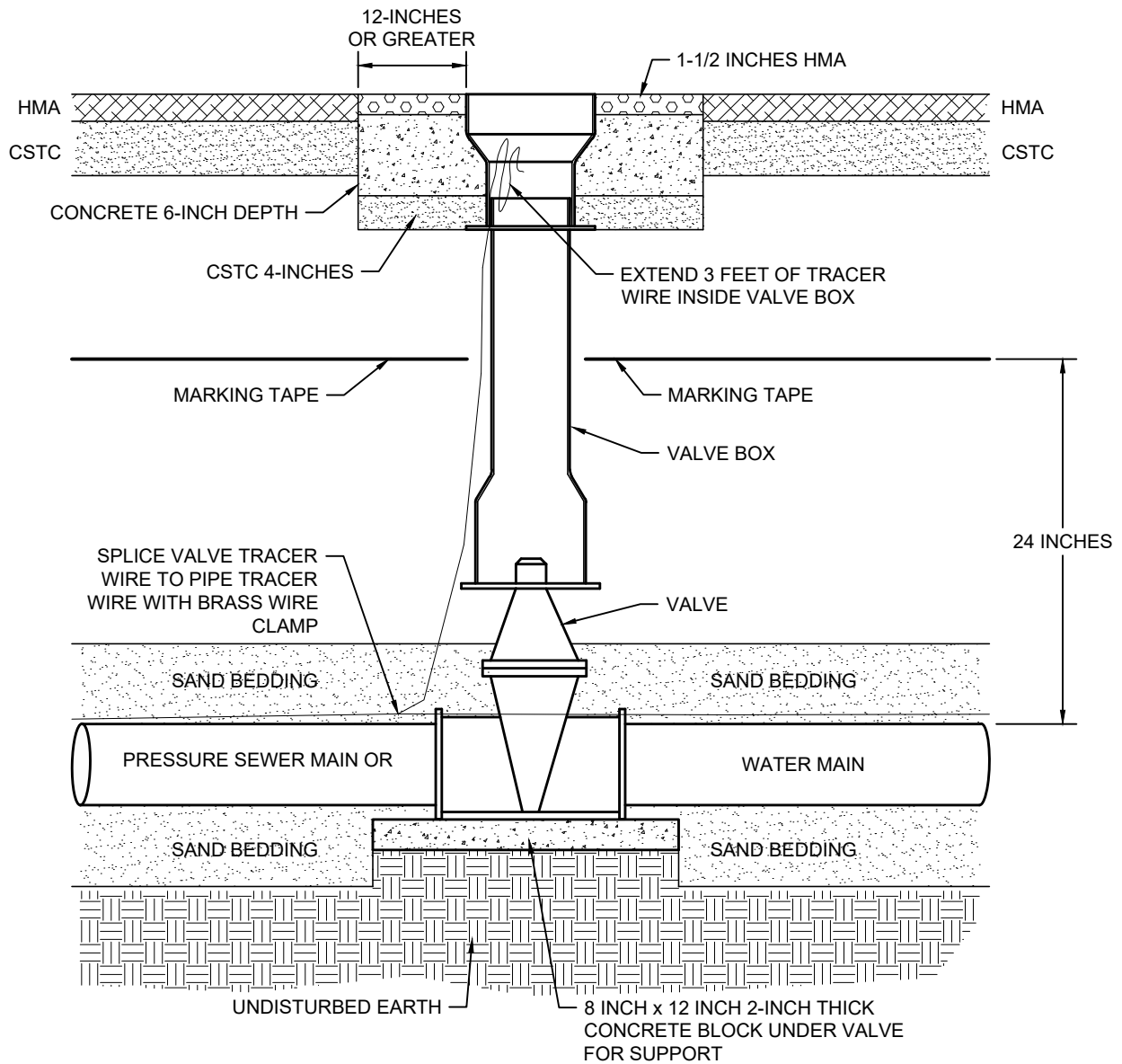
WASHINGTON

B-4

DATE
08/18

REVISION
AMENDED

BY
MLL



NOTES:

1. TRACER WIRE SHALL BE TAPED AT 10-FOOT INTERVALS TO THE TOP OF ALL MAINS AND ON WATER SERVICE LINES UP TO WATER METER TILE.
2. VALVE BOX AND LID SHALL BE SET 1/8 TO 1/4 INCH BELOW FINISH GRADE IN ASPHALT AREAS. IN UNPAVED AREAS SET VALVE BOX TO GRADE AND CENTER IN A CONCRETE PAD, SLOPED IN DIRECTION OF TRAVEL, WITH A DEPTH OF 6 INCHES AND A WIDTH OF 1 FOOT BEYOND VALVE BOX.
3. VALVE OPERATING NUT MORE THAN 4 FEET BELOW GRADE SHALL HAVE AN APPROVED EXTENSION INSTALLED TO BRING TOP OF OPERATING NUT TO 24 INCHES TO 36 INCHES BELOW FINISH GRADE.
4. BRASS WIRE CLAMP SHALL BE SPLIT-BOLT CONNECTOR OR OTHER WIRE CONNECTOR AS AUTHORIZED BY THE ENGINEER.
5. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

VALVE AND TRACER WIRE INSTALLATION

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN	RPM
CHECK	MORO

CITY OF MOSES LAKE

B-5

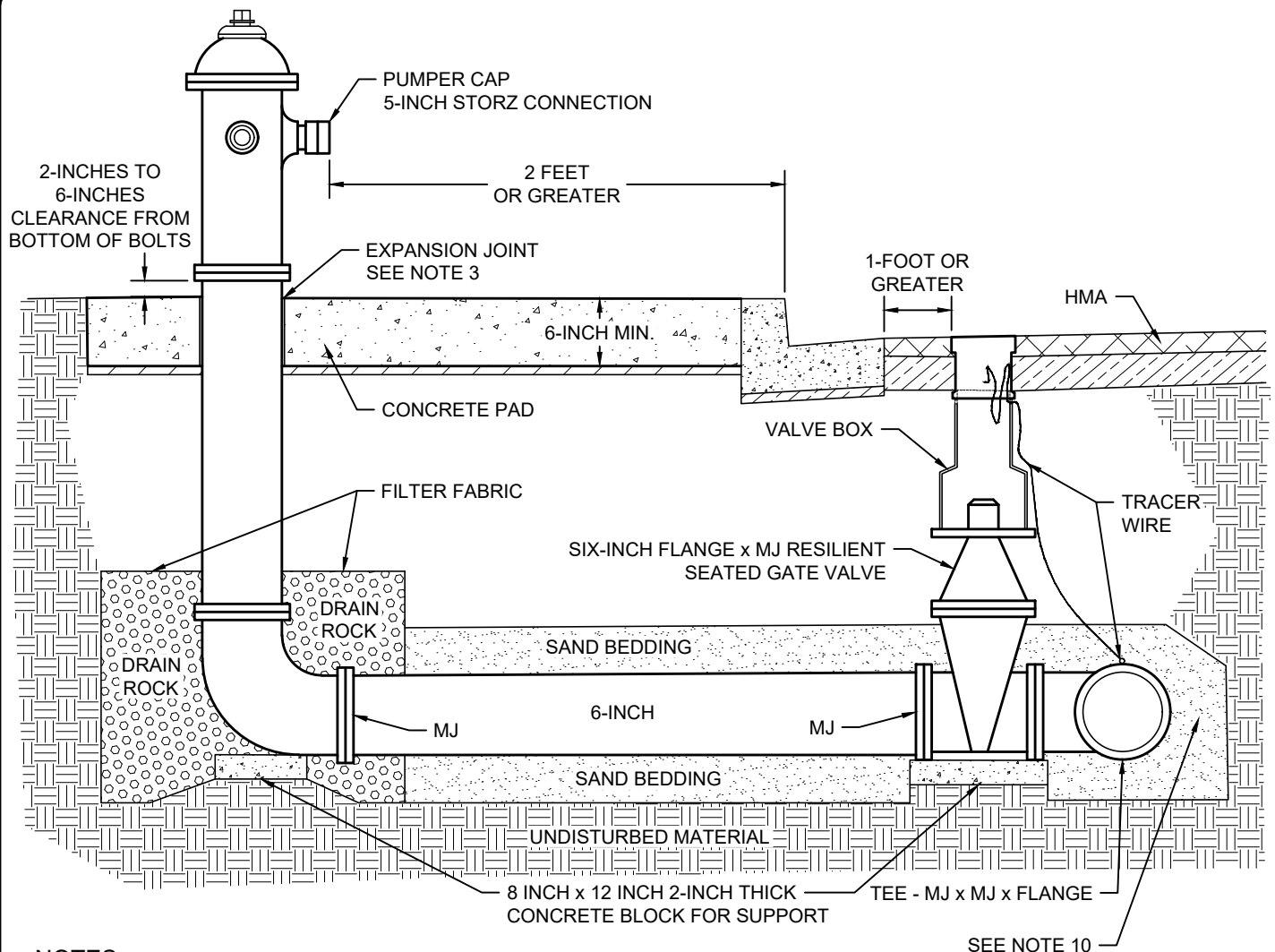
SCALE	NONE
-------	------

DATE	12/12
------	-------

GRANT COUNTY

WASHINGTON

DATE	REVISION	BY	SCALE	NONE
07/22	AMENDED	MLL	DATE	12/12



NOTES:

1. NO PORTION OF THE HYDRANT SHALL PROJECT OVER THE SIDEWALK OR TRAVELED WAY.
2. THE HYDRANT SHALL BE CENTERED IN A 6-FT. X 6-FT. X 6-IN. CONCRETE PAD; HOWEVER, THE SIDEWALK MAY BE CONSIDERED PART OF THE PAD.
3. 1/4-INCH-THICK NEOPRENE EXPANSION JOINT REQUIRED BETWEEN CONCRETE PAD AND FIRE HYDRANT.
4. MUNICIPAL HYDRANTS SHALL BE PAINTED YELLOW. PRIVATE HYDRANTS SHALL BE PAINTED RED.
5. PLACE HYDRANT BOLLARDS WHEN REQUIRED BY THE CITY.
6. MECHANICAL JOINTS AND BELL/SPIGOT CONNECTIONS SHALL BE RESTRAINED JOINTS. CONCRETE THRUST BLOCKS AND SHACKLES ARE NOT ALLOWED ON HYDRANTS OR VALVES.
7. ALL FITTINGS SHALL BE DUCTILE IRON, WRAPPED IN 8-MIL POLYETHYLENE ENCASEMENT, EXCEPT FOR THE BARREL SECTION.
8. VALVE SHALL BE INSTALLED PER THE VALVE AND TRACER WIRE DETAIL.
9. FOR MUNICIPAL HYDRANTS, EXCEPTIONS WILL NOT BE AUTHORIZED FOR 8-INCH INSTALLATIONS, REDUCED FOR THE HYDRANTS.
10. WHERE A HYDRANT TEE IS INSTALLED ON AN EXISTING AC PIPE, INSTALL A THRUST BLOCK IN ACCORDANCE WITH DETAIL B-4.
11. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

HYDRANT ASSEMBLY

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN RPM

CHECK MORO

SCALE NONE

DATE 12/12

CITY OF MOSES LAKE

GRANT COUNTY

WASHINGTON

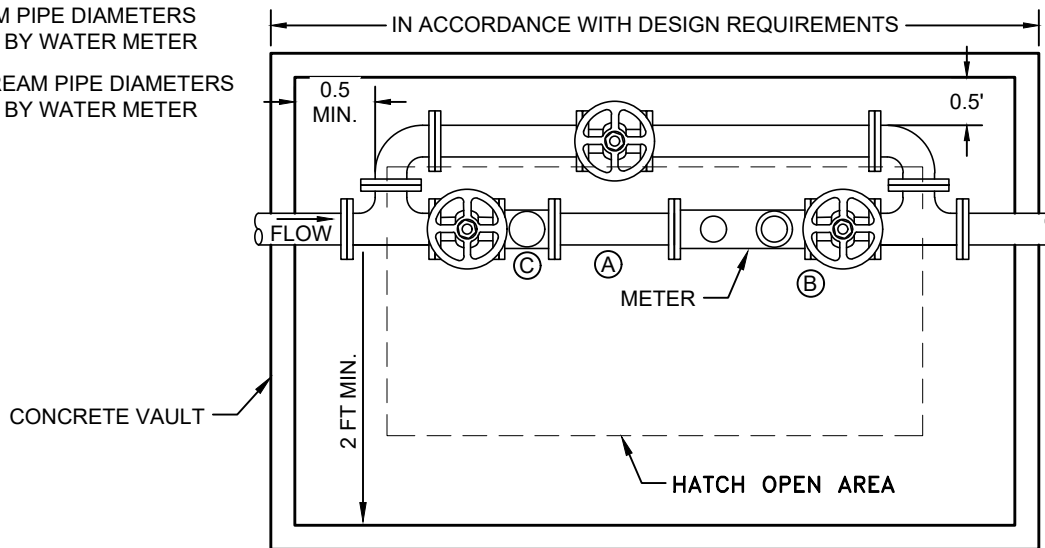
B-6

DATE 08/18

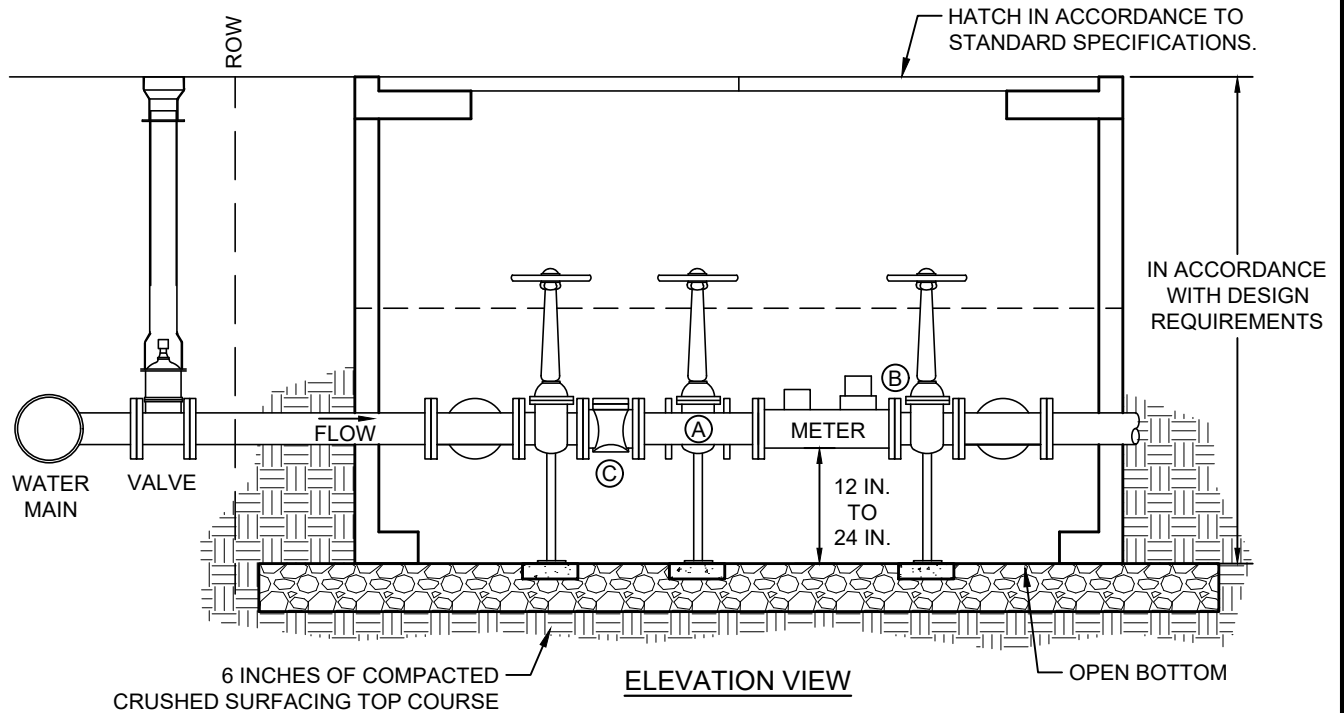
REVISION AMENDED

BY MLL

- (A) UP STREAM PIPE DIAMETERS
REQUIRED BY WATER METER
- (B) DOWN STREAM PIPE DIAMETERS
REQUIRED BY WATER METER
- (C) STRAINER



PLAN VIEW



ELEVATION VIEW

NOTES:

- FOR 3-INCH WATER SERVICES INSTALL 4-INCH WATER SERVICE LINE FROM THE MAIN, REDUCED TO 3-INCH SERVICE IN THE VAULT.
- BYPASS PIPING SHALL BE THE SAME SIZE AS THE SERVICE LINE. SINGLE BYPASS VALVE IS REQUIRED. A REDUCED BYPASS MAY BE APPROVED WITH WRITTEN REQUEST FROM THE OWNER.
- THE SERVICE LINE SHALL BE ADJUSTED TO MEET THE DEPTH REQUIREMENT OF THE VAULT.
- ALL SERVICE LINE CONNECTIONS SHALL BE RESTRAINED JOINTS.
- VALVES AND TEES MAY BE INSTALLED OUTSIDE THE VAULT WITH AUTHORIZATION FROM THE ENGINEER.
- STRAINERS ARE REQUIRED FOR ALL METER INSTALLATIONS 3 INCHES AND LARGER. STRAINERS WILL BE SERVICED AND MAINTAINED BY THE WATER DIVISION.
- CONTRACTOR SHALL VERIFY ALL PIPING COMPONENTS AND VAULT SIZES PRIOR TO INSTALLATION.
- WATER SERVICES 3-INCHES AND LARGER SHALL BE INSTALLED ON PRIVATE PROPERTY.
- ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

3-INCH AND LARGER WATER SERVICE

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN AR

CHECK MORO

SCALE NONE

DATE 04/18

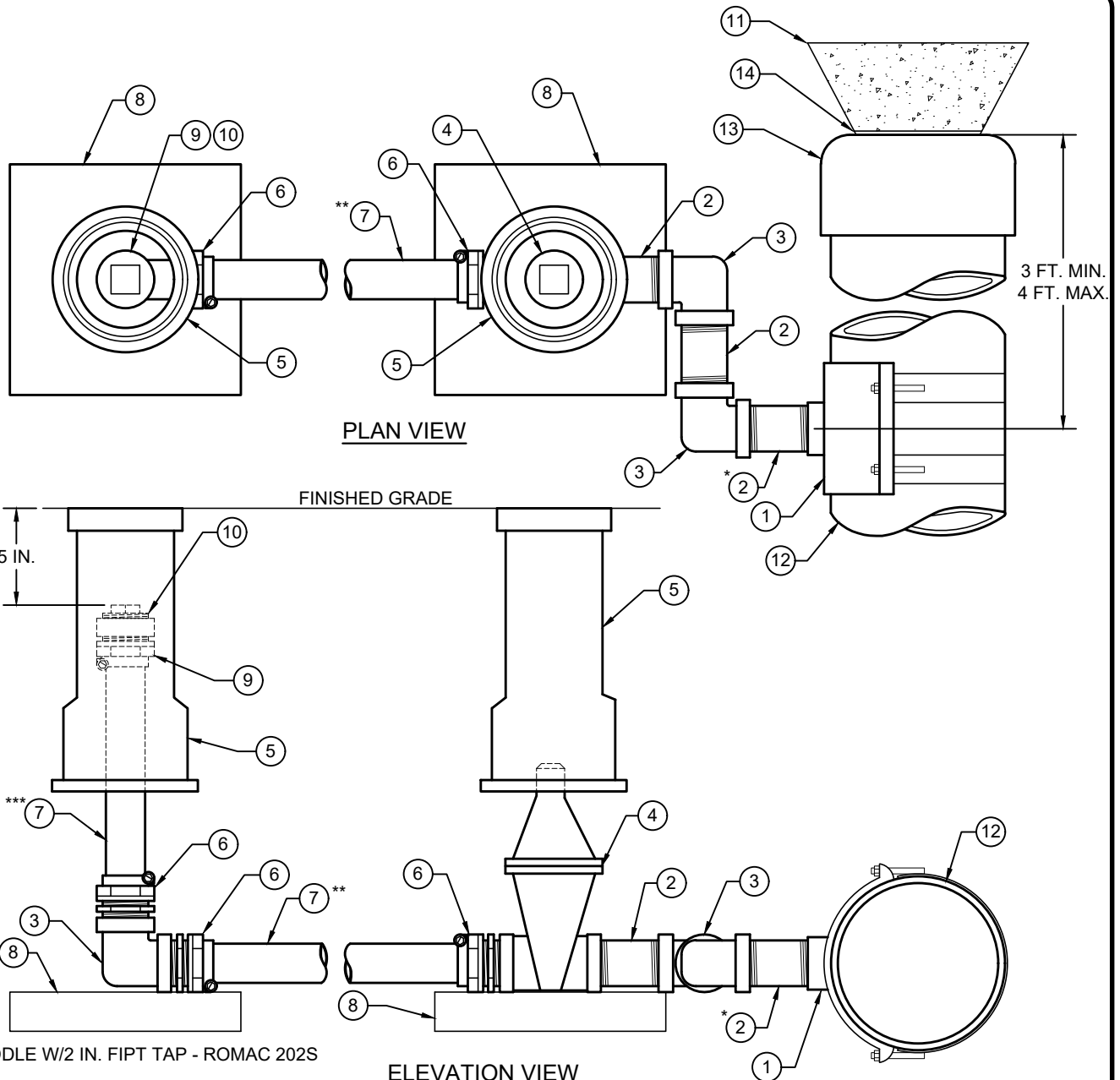
CITY OF MOSES LAKE

GRANT COUNTY

WASHINGTON

B-8

DATE	REVISION	BY
08/18	AMENDED	MLL



- ① SADDLE W/2 IN. FIPT TAP - ROMAC 202S
- ② 2 IN. DIA X 4 IN. LG. BRASS IPT NIPPLE
- ③ 2 IN. BRASS 90° IPT ELBOW
- ④ 2 IN. AWWA NON-RISING STEM, RESILIENT WEDGE GATE VALVE W/FIPT ENDS AND 2 IN. OPERATING NUT
- ⑤ VALVE BOX PER 9-30
- ⑥ SERVICE FITTING PER 9-30
- ⑦ 2 IN. DIA TYPE K RIGID COPPER PIPE
- ⑧ 2 IN. THK. X 12 IN. X 12 IN. CONCRETE BLOCK
- ⑨ SERVICE FITTING PER 9-30
- ⑩ 2 IN. MIPT PLUG W/SQUARE OR HEX WRENCH HEAD, BRASS OR PVC
- ⑪ THRUST BLOCK
- ⑫ WATER MAIN - SIZE VARIES
- ⑬ PIPE CAP - SIZE VARIES
- ⑭ 6 MIL PLASTIC

NOTES:

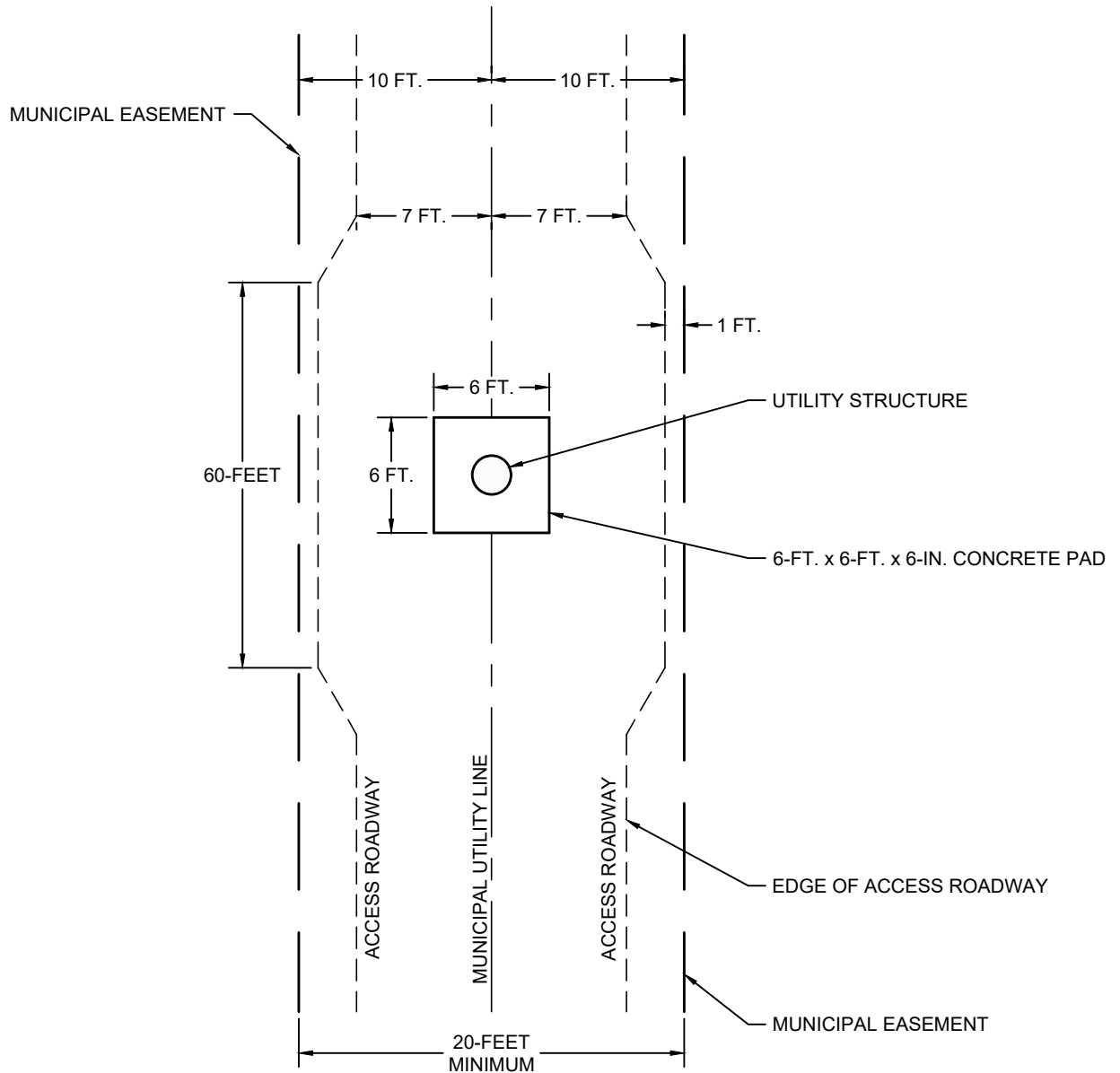
1. SEE TRENCH BEDDING DETAIL B-3.
2. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.
- * FOR LIVE TAPS, NIPPLE SHALL BE REPLACED WITH 2 IN. CORPORATION STOP.
- ** COPPER PIPE SHALL BE CUT AT 24 IN. LONG.
- *** COPPER PIPE SHALL BE CUT AS REQUIRED.

2-INCH BLOW-OFF ASSEMBLY

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN	RPM	CITY OF MOSES LAKE
CHECK	MORO	
SCALE	NONE	
DATE	01/10	GRANT COUNTY WASHINGTON

B-9



NOTES:

1. MUNICIPAL UTILITIES THAT ARE AUTHORIZED BEYOND THE RIGHT-OF-WAY SHALL BE INSTALLED WITHIN A MUNICIPAL EASEMENT AND ACCESS ROADWAY PER THIS DETAIL. THE MUNICIPAL SERVICES DIRECTOR MAY WAIVE THE REQUIREMENT FOR AN ACCESS ROAD IF ALL UTILITY STRUCTURES CAN BE SERVICED BY AN APPROVED ROADWAY.
2. ACCESS ROADWAY SHALL BE CSBC OR CSTC, 3-INCHES DEPTH, AND DESIGNED FOR 50,000 LB. MAINTENANCE VEHICLE.
3. UTILITY STRUCTURES OUTSIDE OF RIGHT-OF-WAY SHALL BE CENTERED WITHIN THE MUNICIPAL EASEMENT.
4. UTILITY STRUCTURES THAT ARE MORE THAN 10-FEET DEEP MAY REQUIRE ADDITIONAL RIGHT-OF-WAY OR MUNICIPAL EASEMENT WIDTHS.
5. 6-FOOT x 6-FOOT x 6-INCH CONCRETE PADS ARE REQUIRED AROUND ALL UTILITY STRUCTURES THAT ARE INSTALLED IN NON-ASPHALT AREAS.
6. ACCESS ROADWAY SHALL DRAIN AWAY FROM UTILITY STRUCTURE.
7. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

ACCESS EASEMENT AND ROADWAY FOR MUNICIPAL UTILITIES

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN RPM

CHECK MORO

SCALE NONE

DATE 01/10

CITY OF MOSES LAKE

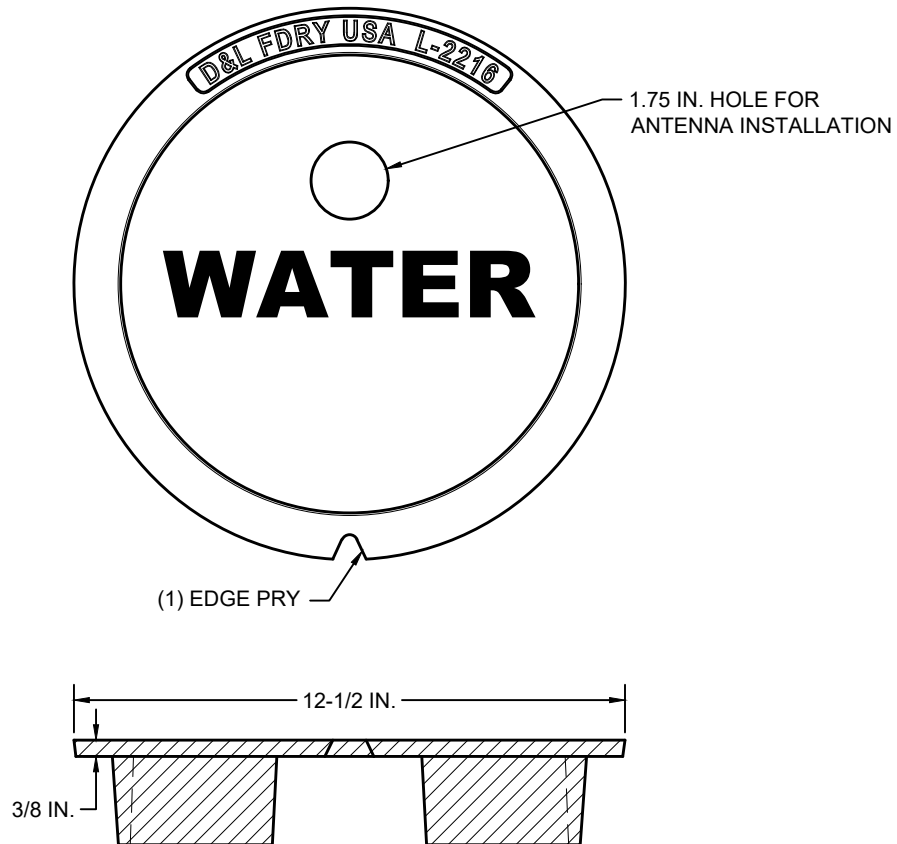
GRANT COUNTY

WASHINGTON

B-10

DATE	REVISION	BY
08/18	AMENDED	MLL

L-2216



SECTION A-A

NOTES:

1. LIDS WITH CITY LOGO MAY BE AUTHORIZED BY ENGINEER ON LIDS THAT WILL BE MAINTAINED BY THE CITY TO ALLOW EXISTING STOCK TO BE DEPLETED.
2. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

**WATER METER LID
1-INCH SERVICE**

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN RPM

CHECK MORO

SCALE NONE

DATE 07/16

CITY OF MOSES LAKE

GRANT COUNTY

WASHINGTON

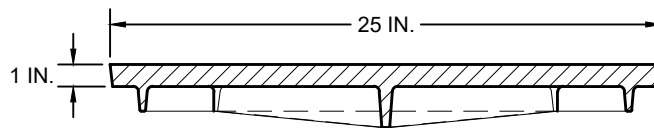
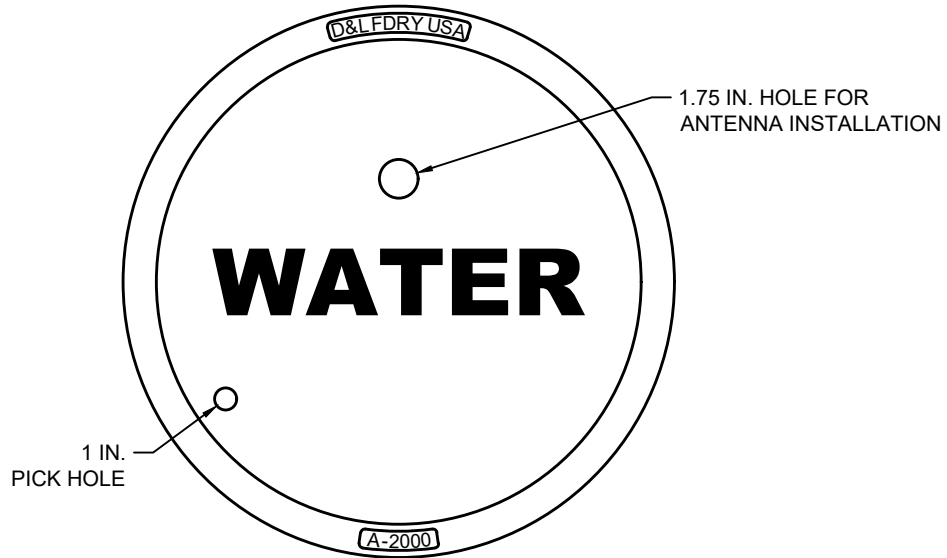
B-11

DATE
10/20

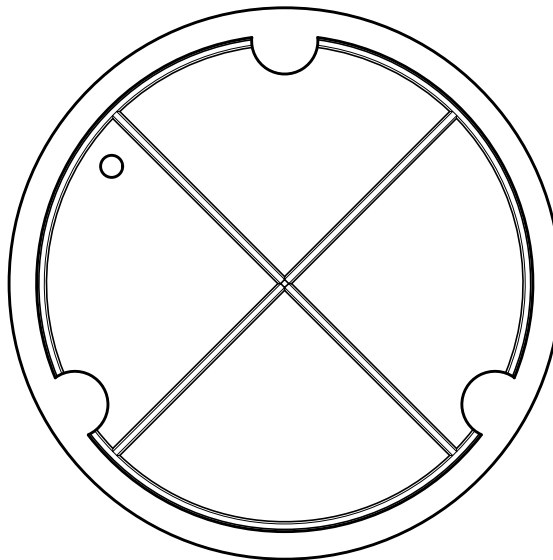
REVISION
AMENDED

BY
MLL

A-2000



SECTION A-A



NOTES:

1. LIDS WITH CITY LOGO MAY BE AUTHORIZED BY ENGINEER ON LIDS THAT WILL BE MAINTAINED BY THE CITY TO ALLOW EXISTING STOCK TO BE DEPLETED.
2. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

**WATER MANHOLE LID
2-INCH AND LARGER SERVICE**

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN RPM

CHECK MORO

SCALE NONE

DATE 07/16

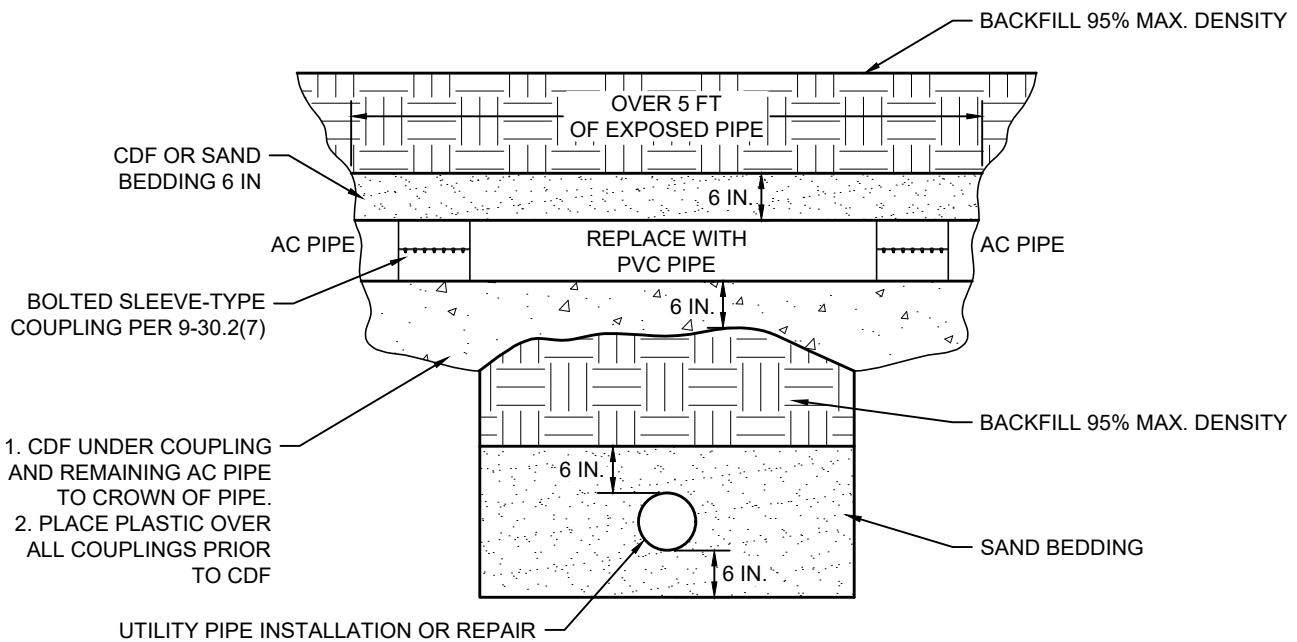
CITY OF MOSES LAKE

GRANT COUNTY

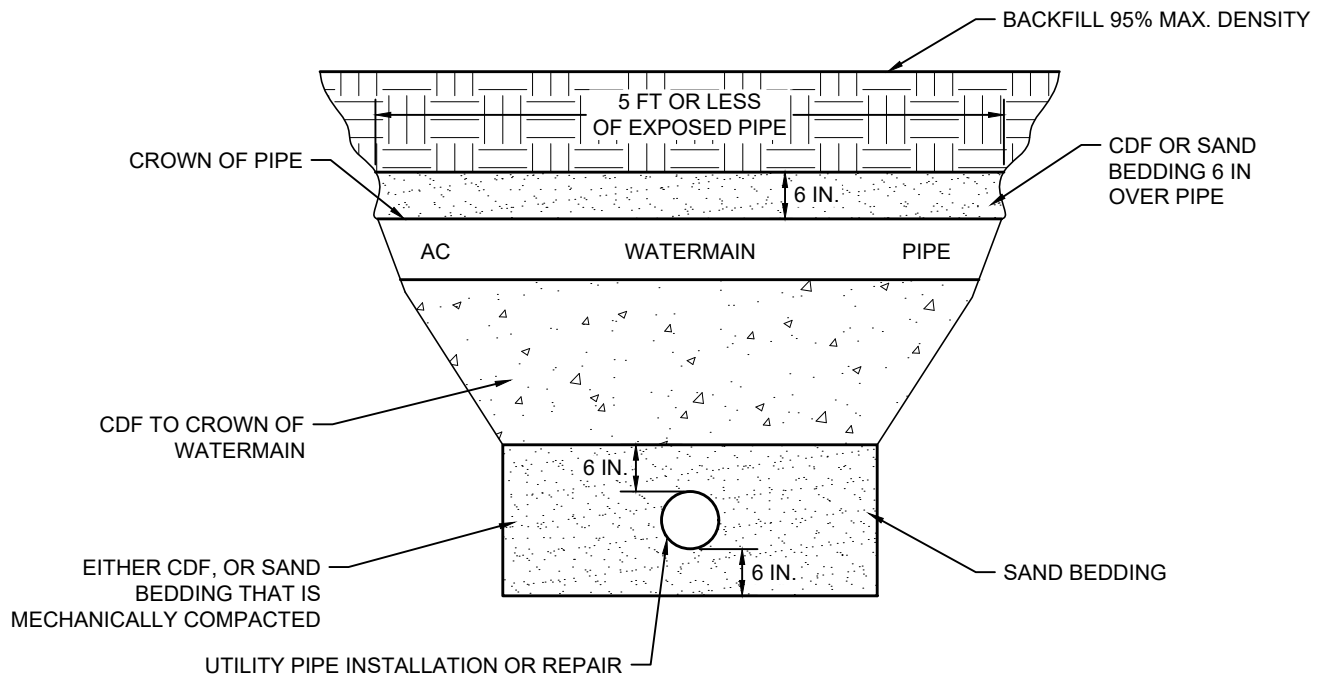
WASHINGTON

B-12

DATE	REVISION	BY
10/20	AMENDED	MLL



MAJOR CROSSING



MINOR CROSSING (AC EXPOSURE: 5 FT OR LESS)

NOTES:

1. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

AC WATERMAIN CDF REQUIREMENTS

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN RPM
CHECK MORO

CITY OF MOSES LAKE

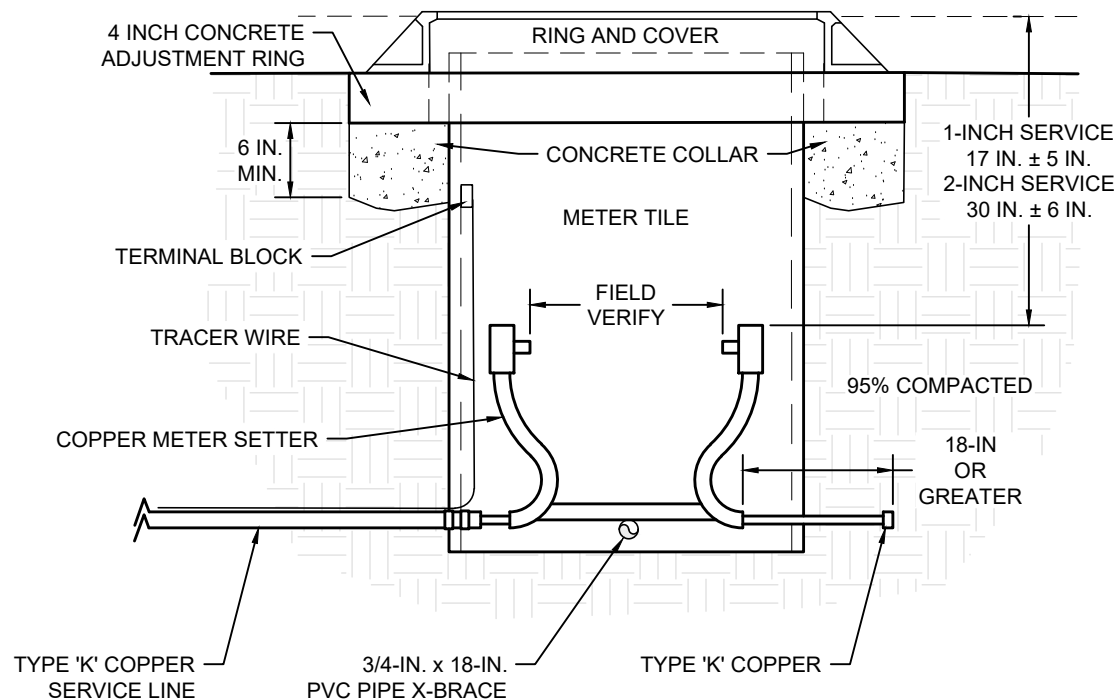
DATE 08/18
REVISION AMENDED
BY MLL

SCALE NONE
DATE 07/16

GRANT COUNTY

WASHINGTON

B-13



NOTES:

1. METER TILE SHALL BE CENTERED IN A 6-FOOT BY 6-FOOT BY 6-INCH THICK CONCRETE PAD OR SIDEWALK. WATER SERVICES BEYOND THE RIGHT-OF-WAY SHALL BE INSTALLED FROM A PRIVATE WATER MAIN.
2. SEE STANDARD DETAIL FOR WATER SERVICE INSTALLATION.
3. USE RING AND COVER SPECIFIED FOR LARGER SERVICE WITH "WATER" CAST IN LID.
4. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

ALTERNATIVE TO TRAFFIC RATED VAULT FOR 1- INCH WATER SERVICE

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN RPM
CHECK JRH

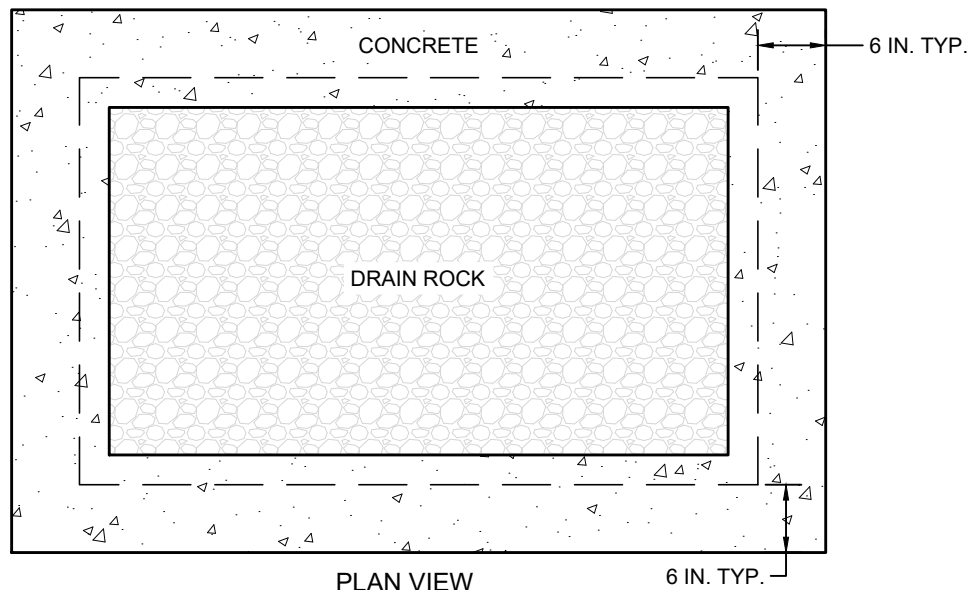
CITY OF MOSES LAKE

DATE	REVISION	BY	SCALE	NONE
08/18	AMENDED	MLL	DATE	08/16

GRANT COUNTY

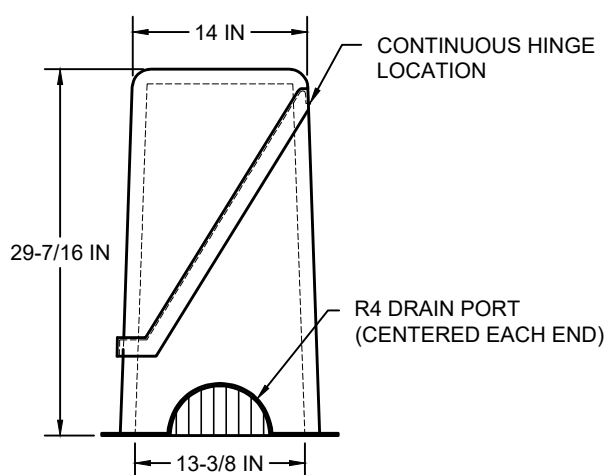
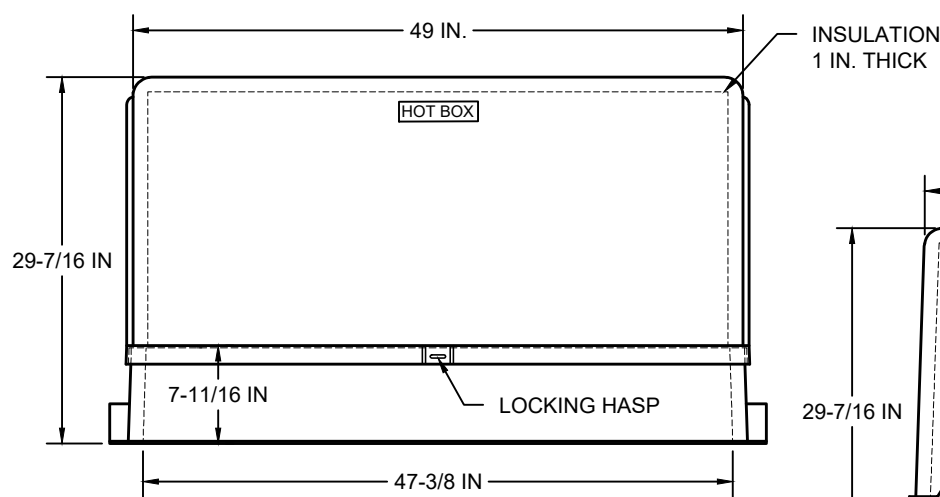
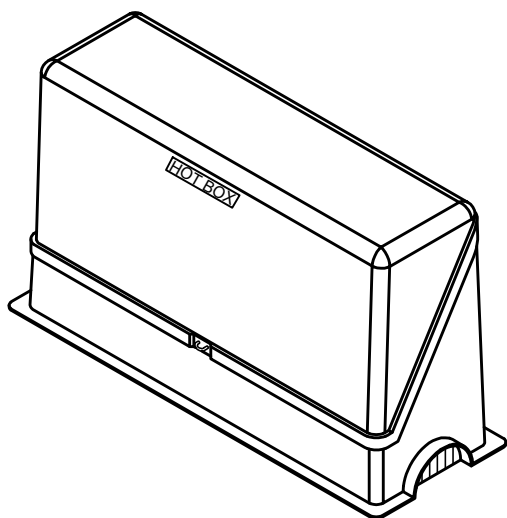
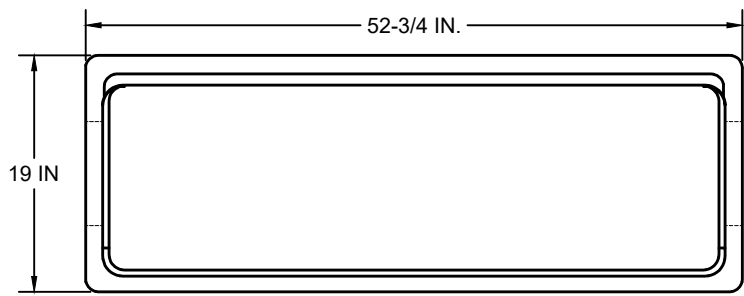
WASHINGTON

B-14



1-INCH RPBA DETAIL			
MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION			
DRAWN	RLG	CITY OF MOSES LAKE	B-15
CHECK	MORO		
SCALE	NONE		
DATE	03/13		
		GRANT COUNTY	WASHINGTON

\\ENG-SERVER\Drawings\COMMUNITY STANDARDS\2021\Revised\B-16 HOT BOX Rev.dwg PLOT: July 27, 2022 at: 12:58pm

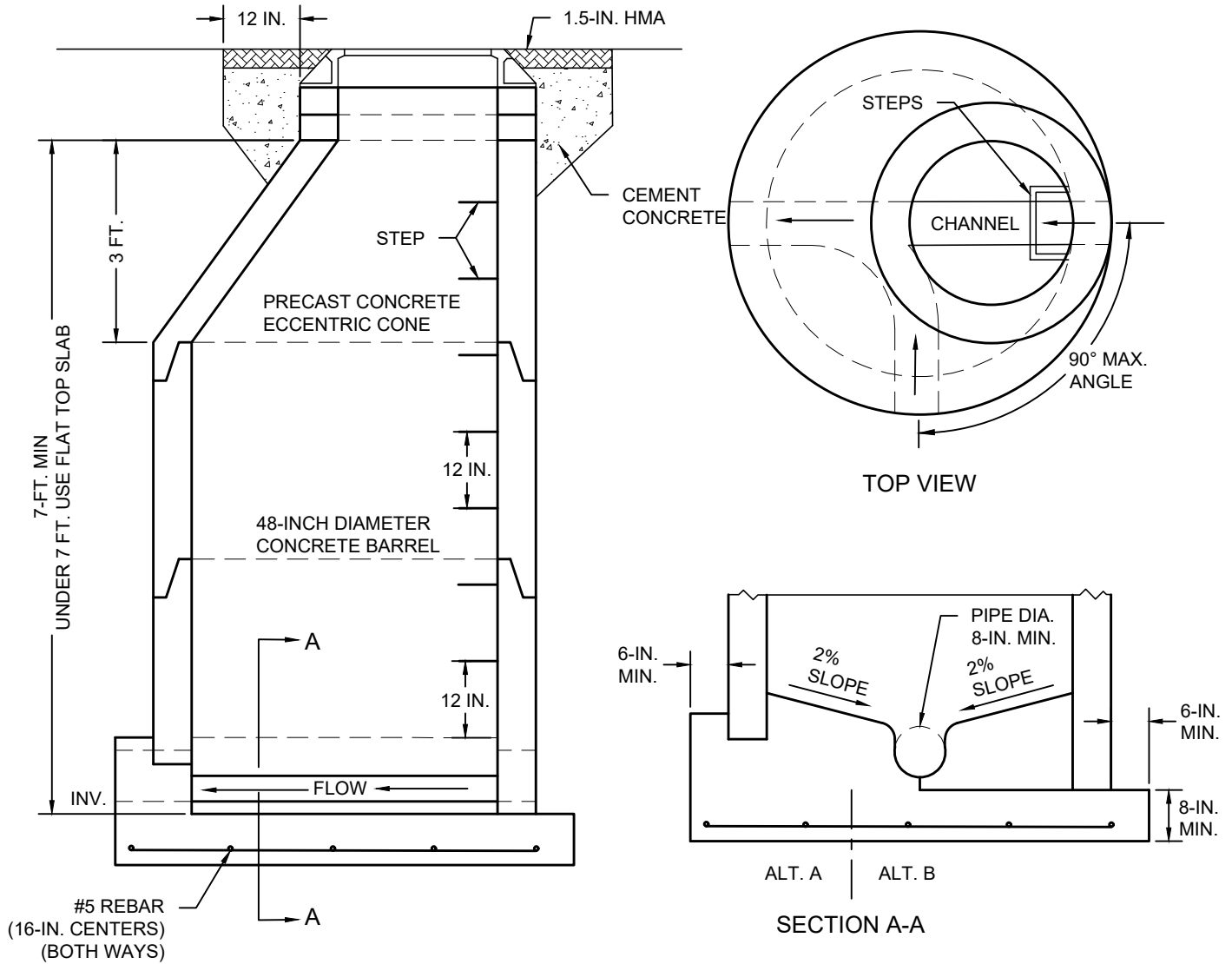


NOTES:

1. HEAT IS PROVIDED BY A 90-WATT, 120-VOLT SINGLE PHASE HEAT TRACE TAPE. FOR UNHEATED VERSION REPLACE THE PREFIX "H" WITH AN "L".
2. FOUR INTERNAL BRACKETS AND CONCRETE ANCHORS ARE SUPPLIED WITH THE ENCLOSURE, (NOT SHOWN).
3. STANDARD COLOR IS BEIGE. (OPTIONS AVAILABLE)
4. FOR RECOMMENDED SLAB SIZE ADD 9" TO THE ENCLOSURE EXTERIOR.
5. INTERIOR DIMENSIONS ARE NORMAL.
6. OLD P/N: HB2S
7. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

			HOT BOX		
			MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION		
			DRAWN	RPM	CITY OF MOSES LAKE
			CHECK	MORO	
DATE	REVISION	BY	SCALE	NONE	B-16
07/22	AMENDED	MLL	DATE	07/16	
			GRANT COUNTY		WASHINGTON

\\ENG-SERVER\Drawings\COMMUNITY STANDARDS\2021\Revised\C-1 SEWER MANHOLE_Rev.dwg PLOT: July 27, 2022 at: 12:58pm



BASE CONSTRUCTION ALTERNATIVES:

- ALT. A: BASE & INVERT IN SINGLE POUR
ALT. B: POUR BASE, SET MANHOLE, THEN POUR INVERT
ALT. C: PRECAST CONCRETE BASE & INVERTS

NOTES:

1. STEPS SHALL BE CENTERED OPPOSITE THE OUTFLOW LINE.
2. 4 TO 16 INCHES OF ADJUSTMENT REQUIRED.
3. "SEWER" SHALL BE CAST IN ALL LIDS.
4. MANHOLES NOT IN ASPHALT SHALL BE CENTERED IN A 6-FT. BY 6-FT. BY 6-IN. CONCRETE PAD AT FINISH GRADE. SLOPE CORNERS DOWN IN GRAVEL STREETS.
5. MANHOLE LIDS SHALL BE SET 1/8 TO 1/4 INCH BELOW FINISH GRADE.
6. PLACE FLEXIBLE GASKET BETWEEN BARREL SECTIONS, AND BETWEEN THE CONE, AND BARREL SECTION.
7. ALL OPEN JOINTS AND PICK HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND FINISHED TO A SMOOTH SURFACE. ANNULAR SPACES SHALL BE FILLED WITH FOAM SEALER.
8. ENTRY COUPLINGS OR SAND COLLARS ARE REQUIRED WHERE SEWER MAINS ENTER AND EXIT THE MANHOLE.
9. MANHOLE BASE SHALL BE ON UNDISTURBED OR COMPACTED EARTH.
10. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

SEWER MANHOLE

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN RPM

CHECK MORO

SCALE NONE

DATE 01/10

CITY OF MOSES LAKE

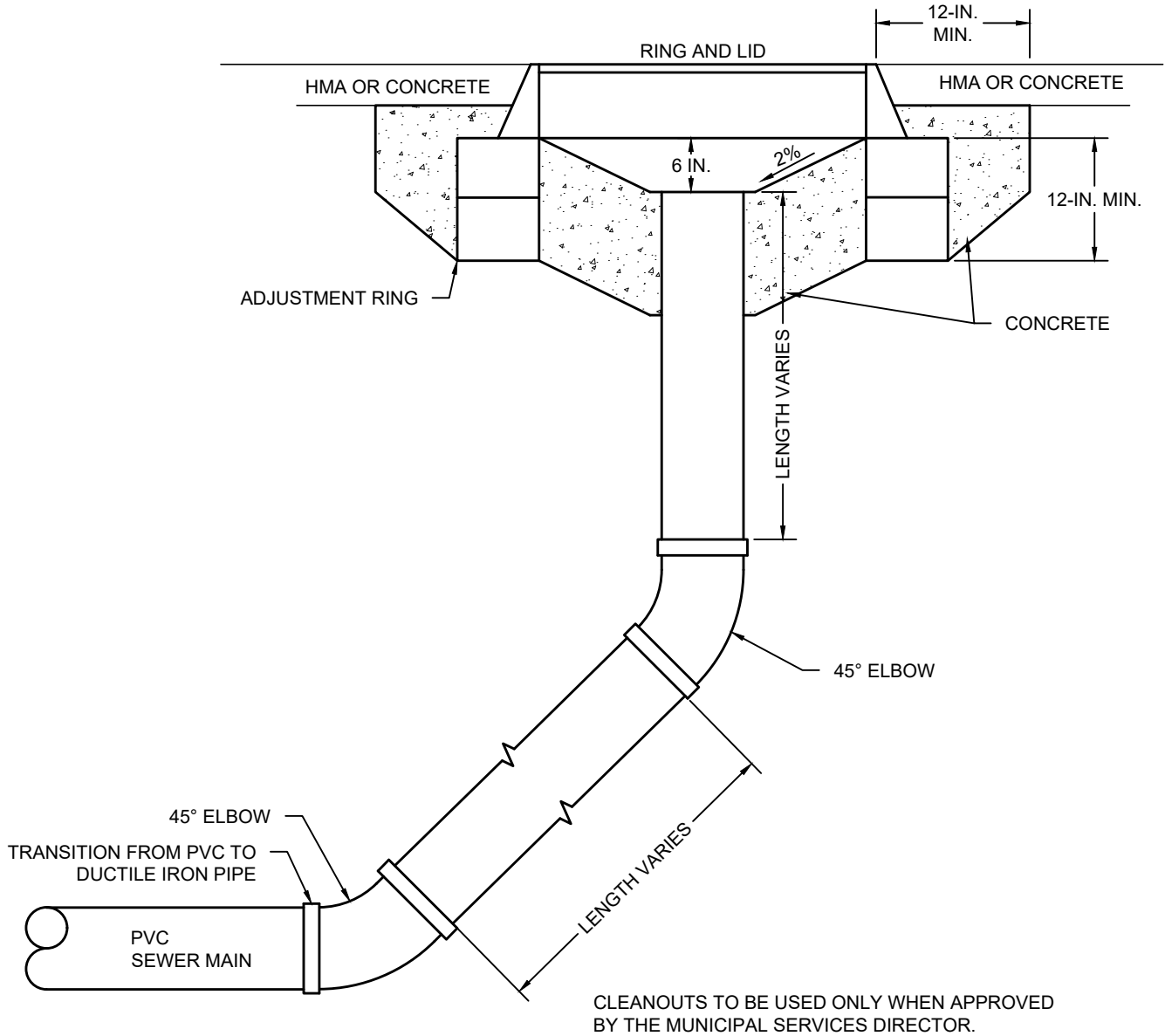
GRANT COUNTY

WASHINGTON

C-1

DATE	REVISION	BY
07/22	AMENDED	MLL

\\ENG-SERVER\Drawings\COMMUNITY STANDARDS\2021\Revised\C-2 SEWER CLEANOUT Rev.dwg PLOT: July 27, 2022 at: 12:59pm



NOTES:

1. CLEANOUTS NOT IN ASPHALT SHALL BE CENTERED IN A 6-FOOT BY 6-FOOT BY 6-INCH CONCRETE PAD AT FINISH GRADE. SLOPE CORNERS DOWN IN GRAVEL STREETS.
2. CLEANOUT LIDS SHALL BE SET 1/8 TO 1/4 INCH BELOW FINISH GRADE.
3. "SEWER" SHALL BE CAST IN ALL CLEANOUT LIDS.
4. RING/LID ASSEMBLY SHALL SET ON TWO 6-INCH CONCRETE ADJUSTMENT RINGS.
5. ALL CLEANOUT PIPING AND ELBOWS SHALL BE A MINIMUM OF CLASS 50 DUCTILE IRON.
6. LOCKING LIDS MAY BE REQUIRED.
7. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

SEWER CLEANOUT

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN RPM

CHECK MORO

SCALE NONE

DATE 12/12

CITY OF MOSES LAKE

GRANT COUNTY

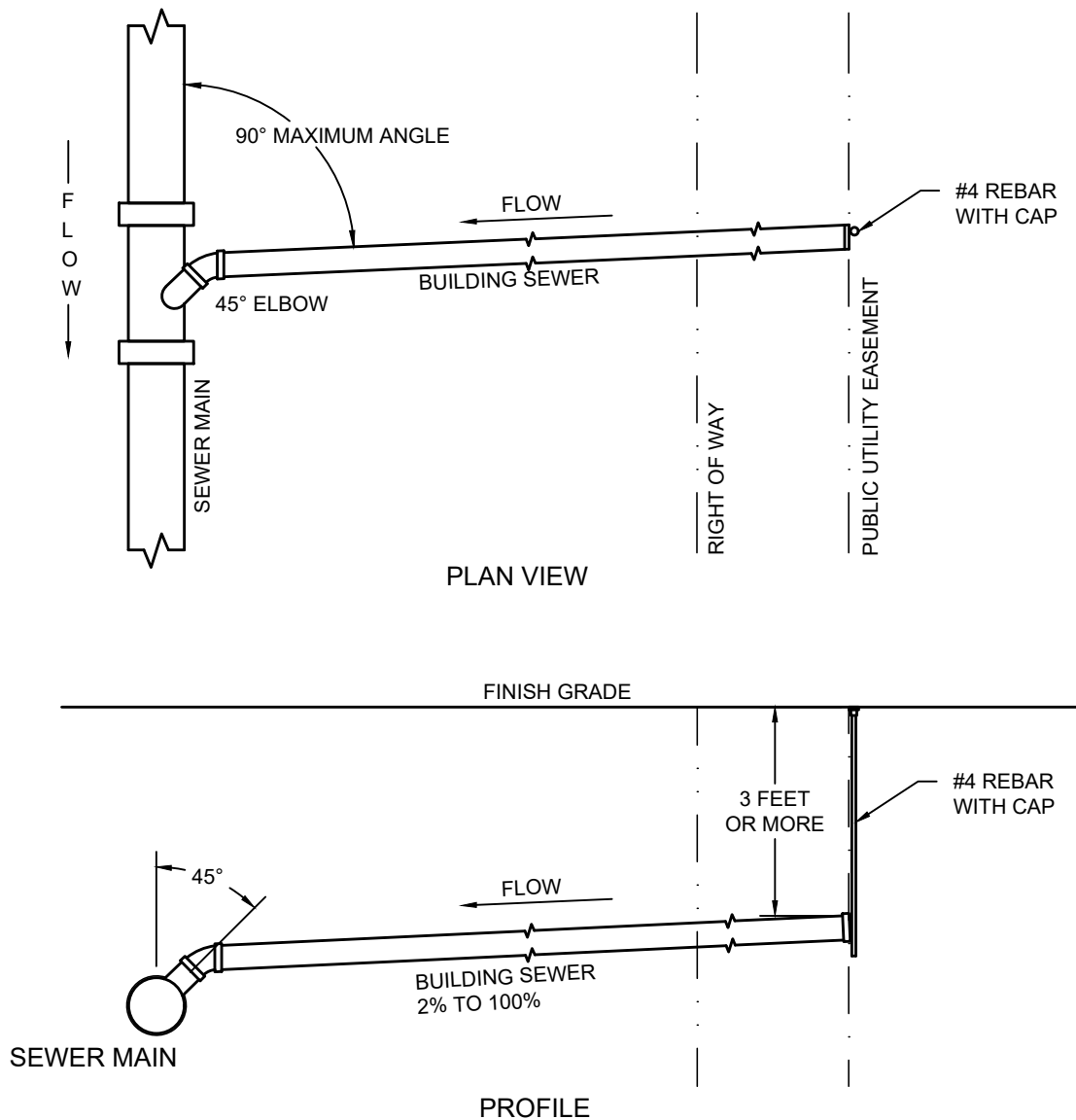
WASHINGTON

C-2

DATE
07/22

REVISION
AMENDED

BY
MLL



NOTES:

1. IN-LINE GASKETED-WYE SEWER FITTING SHALL BE USED ON NEW MAINS. GASKETED-WYE SEWER SADDLE WITH STAINLESS STEEL CLAMPS SHALL BE USED ON EXISTING SEWER MAINS.
2. THE END OF THE SERVICE LINE SHALL BE CAPPED, WHEN NOT PLACED IN SERVICE.
3. A RED CAP SHALL BE PLACED ON THE #4 REBAR, FLUSH WITH FINISH GRADE, MARKING THE END OF THE SERVICE LINE. THE RED CAP WILL BE SUPPLIED BY THE CITY.
4. BUILDING SEWER CLEANOUTS ARE NOT AUTHORIZED WITHIN MUNICIPAL EASEMENTS OR RIGHT OF WAY.
5. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

BUILDING SEWER

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN RPM
CHECK MORO

CITY OF MOSES LAKE

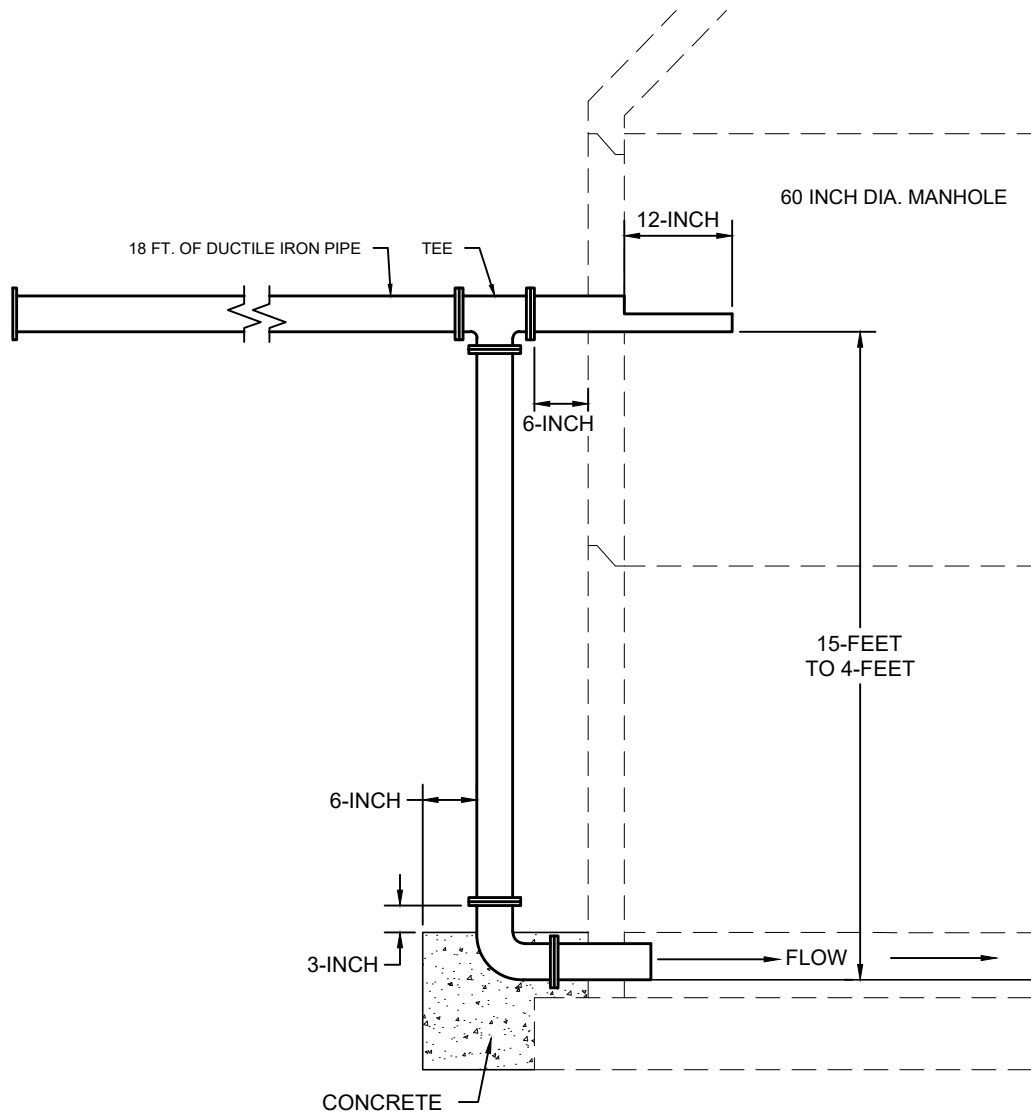
DATE 08/18
REVISION AMENDED
BY MLL

SCALE NONE
DATE 01/13

GRANT COUNTY

WASHINGTON

C-3



DUCTILE IRON
DROP CONNECTION

NOTES:

1. ALL PIPE AND FITTINGS SHALL BE DUCTILE IRON, WRAPPED IN 8-MIL POLYETHYLENE ENCASEMENT.
2. MANHOLE SHALL BE CONSTRUCTED PER DETAIL C-1.
3. ALL DUCTILE IRON PIPE SHALL BE A CLASS 50.
4. DROP MANHOLE CONNECTIONS REQUIRE AUTHORIZATION BY MUNICIPAL SERVICE DIRECTOR.
5. FLANGED OR MECHANICAL JOINTS ARE AUTHORIZED FOR THE DUCTILE-IRON DROP CONNECTION.
6. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

DROP MANHOLE CONNECTION

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN	RPM
CHECK	MORO
SCALE	NONE

CITY OF MOSES LAKE

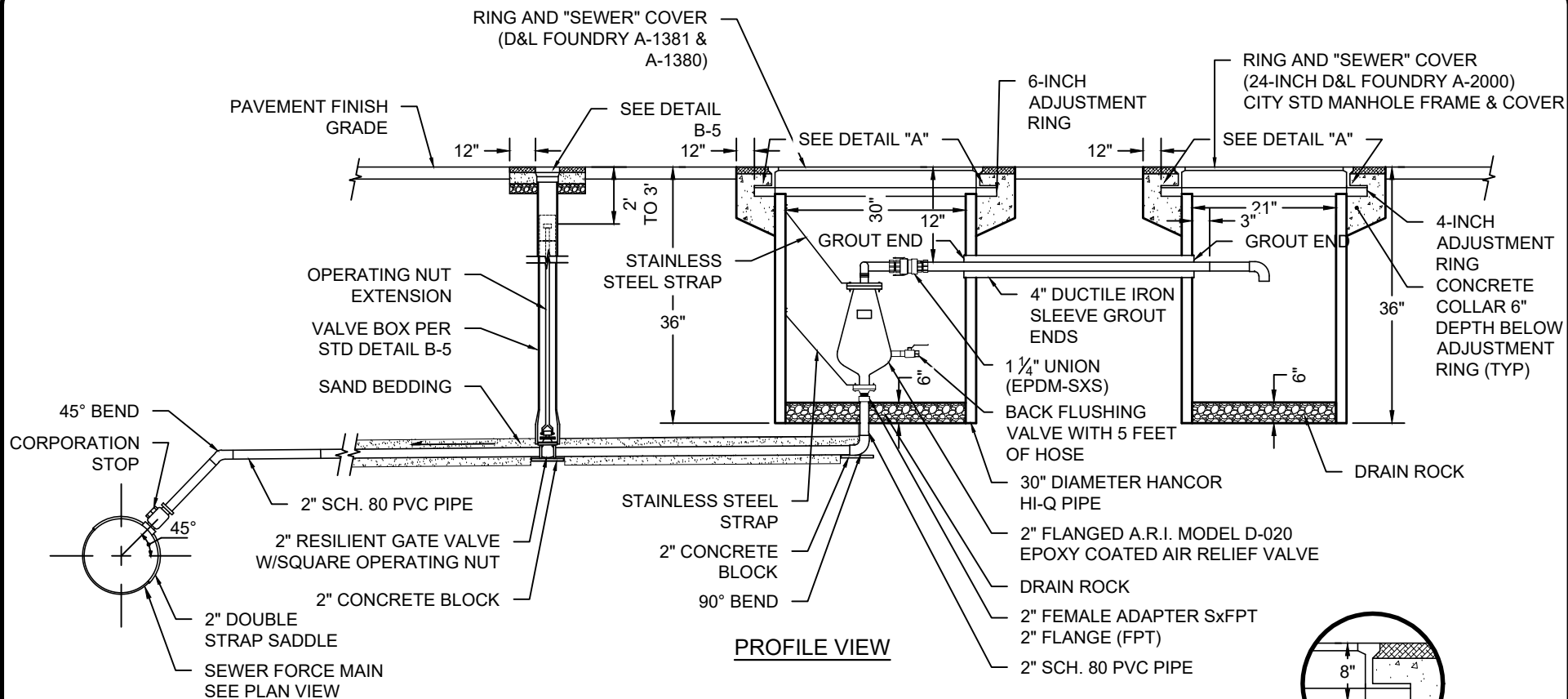
DATE	REVISION	BY
07/22	AMENDED	MLL

DATE	12/12
------	-------

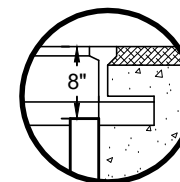
GRANT COUNTY

WASHINGTON

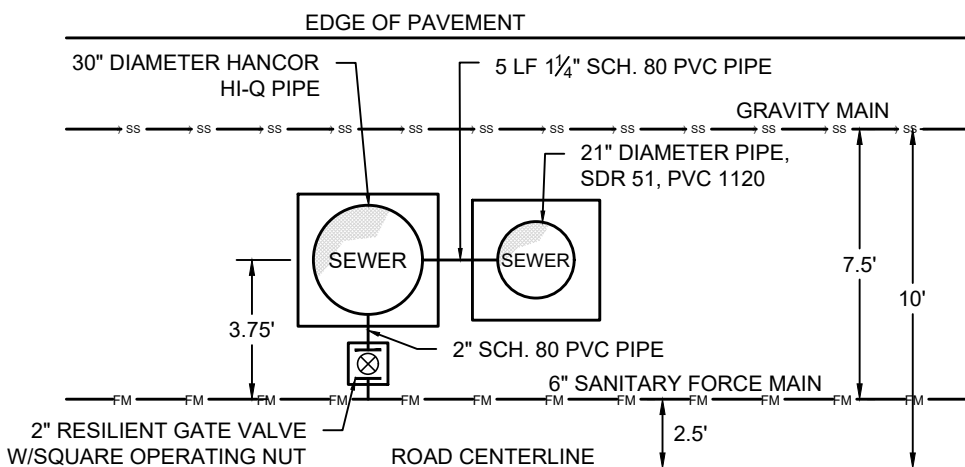
C-4



PROFILE VIEW



DETAIL "A"



TYPICAL PLAN VIEW

NOTES:

1. STRAPS TO AIR RELEASE VALVE SHALL BE PLACED AS NEEDED FOR A STABLE INSTALLATION.
2. SEWER SHALL BE CAST IN ALL COVERS.
3. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

AIR RELEASE ASSEMBLY

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN RPM
CHECK MORO

SCALE NONE

DATE 01/13

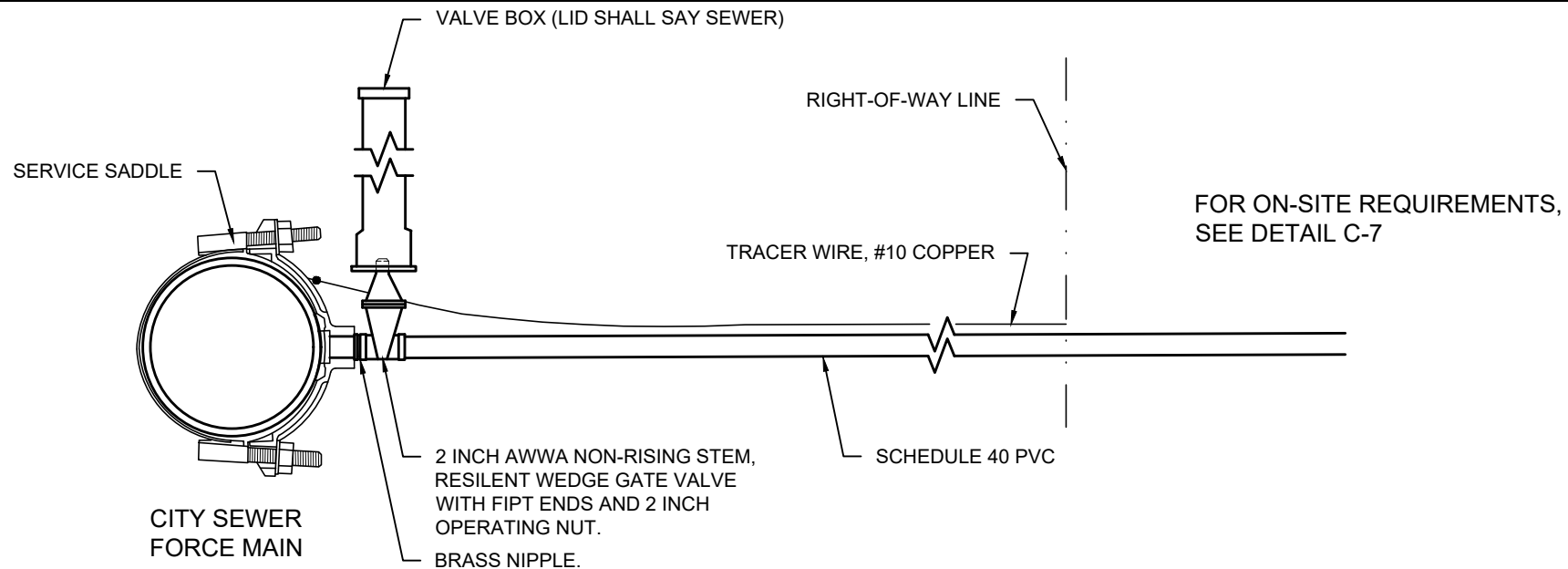
CITY OF MOSES LAKE

GRANT COUNTY

WASHINGTON

C-5

DATE	REVISION	BY
08/18	AMENDED	MLL



NOTES:

1. TRENCHING AND BEDDING SHALL BE PER DETAIL B-3.
2. CONNECT SERVICE TRACER WIRE TO FORCE MAIN TRACER WIRE WITH BRASS WIRE CLAMP. BRASS WIRE CLAMP SHALL BE SPLIT-BOLT CONNECTOR OR OTHER CONNECTOR AS AUTHORIZED BY THE ENGINEER.
3. CONNECTIONS TO SEWER FORCE MAINS SHALL ONLY BE AS AUTHORIZED BY MUNICIPAL SERVICE DIRECTOR.
4. ALL CONNECTIONS TO SEWER MAIN SHALL BE FOR EFFLUENT ONLY, UNLESS AUTHORIZED BY MUNICIPAL SERVICE DIRECTOR.
5. ENGINEER WILL DETERMINE IF LIVE TAP IS REQUIRED BY OWNER FOR CONNECTION TO SEWER FORCE MAIN. IF LIVE TAP IS NOT REQUIRED, OWNER SHALL SUBMIT CONNECTION DETAILS TO THE ENGINEER FOR AUTHORIZATION PRIOR TO CONNECTION.
6. ROADWAY CROSSING OUTSIDE CITY LIMITS SHALL REQUIRE AUTHORIZATION BY GRANT COUNTY PUBLIC WORKS.
7. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

FORCE MAIN SEWER CONNECTION

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN	RPM
CHECK	MORO
SCALE	NONE

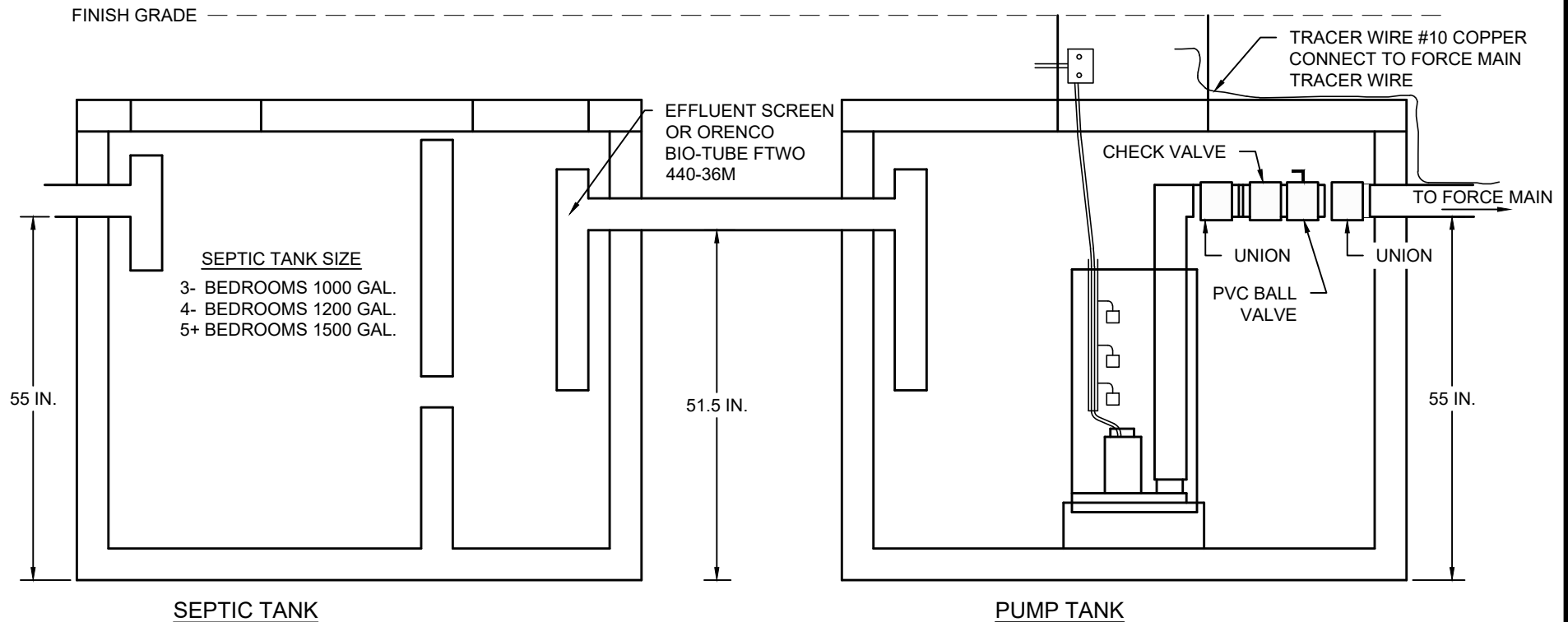
CITY OF MOSES LAKE

DATE	REVISION	BY
10/20	AMENDED	MLL

DATE 01/14 GRANT COUNTY

WASHINGTON

C-6



NOTES:

- PUMP TANK SHALL BE AT LEAST 750 GALLONS (670 GALLON MI TANK AUTHORIZED FOR RESIDENTIAL).
- PUMP TANK SHALL CONTAIN THE FOLLOWING ITEMS: EFFLUENT SCREEN, 3-FLOAT SYSTEM, INLET BAFFLE FOR PUMP CHAMBER, AND AUDIO AND VISUAL ALARM SYSTEM.
- PUMP SHALL BE DESIGNED FOR ELEVATION DIFFERENCE AND LENGTH TO FORCE MAIN.
- DISCHARGE FROM PUMP TO MAIN SHALL INCLUDE UNIONS, CHECK VALVE, AND BALL VALVE AS SHOWN, UNLESS PROFESSIONAL ENGINEER STAMPS PLANS.
- TRACER WIRE SHALL BE ACCESSIBLE WITH AT LEAST 3 FEET OF WIRE INSIDE HATCH OR AS AUTHORIZED BY ENGINEER.
- CONNECTION TO CITY SEWER MAIN REQUIRES ONSITE INSPECTION BY CITY PRIOR TO CONNECTION AND REQUIRES MUNICIPAL ACCESS EASEMENT. WORK INSIDE CITY LIMITS WILL BE INSPECTED BY BUILDING OFFICIAL. WORK OUTSIDE CITY LIMITS WILL BE INSPECTED BY CITY'S DEVELOPMENT ENGINEER.
- ALL COMMERCIAL SYSTEMS ARE REQUIRED TO BE DESIGNED BY A PROFESSIONAL ENGINEER. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.
- ALL ON-SITE BUILDING SEWERS SHALL HAVE AT LEAST 30-INCHES OF COVER.
- ALL SEPTIC TANKS AND PUMPS SHALL BE AT LEAST 50 FEET FROM SURFACE WATER, AS MEASURED FROM THE ORDINARY HIGH WATER MARK, AND AT LEAST 5 FEET FROM FOUNDATION, IN-GROUND SWIMMING POOL, EASEMENTS, AND PROPERTY LINES.
- ON-SITE BUILDING SEWERS SHALL BE AT LEAST 10 FEET FROM SURFACE WATER MARK, AND AT LEAST 2 FEET FROM BUILDING FOUNDATION AND IN-GROUND SWIMMING POOLS.
- ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

ON-SITE FORCE MAIN & LOW-PRESSURE EFFLUENT SYSTEM SEWER CONNECTION

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN RPM
CHECK MORO
SCALE NONE

CITY OF MOSES LAKE

DATE 01/14

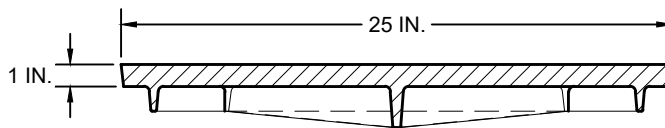
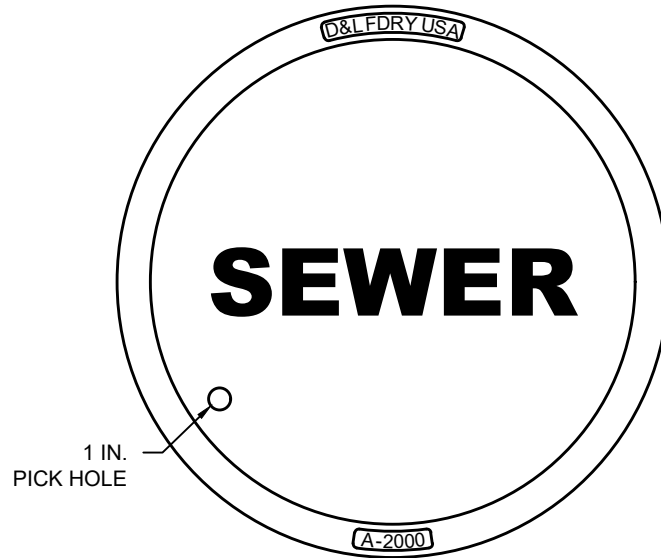
GRANT COUNTY

WASHINGTON

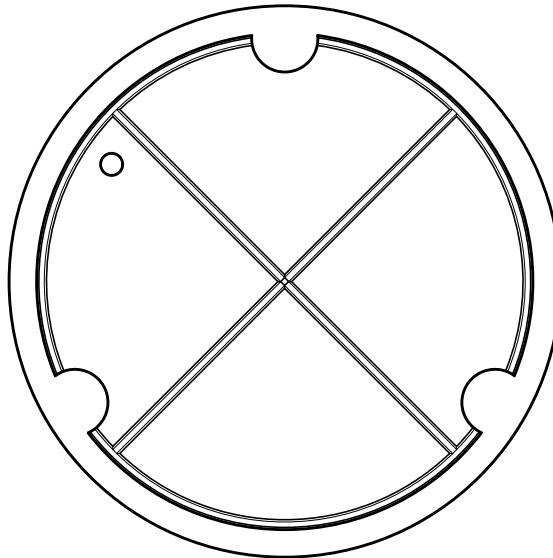
C-7

DATE	REVISION	BY
08/18	AMENDED	MLL

A-2000



SECTION A-A



NOTES:

1. LIDS WITH CITY LOGO MAY BE AUTHORIZED BY ENGINEER ON LIDS THAT WILL BE MAINTAINED BY THE CITY TO ALLOW EXISTING STOCK TO BE DEPLETED.
2. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND REQUIRE AUTHORIZATION BY THE CITY OF MOSES LAKE.

SEWER MANHOLE LID

MUNICIPAL SERVICES DEPT. - ENGINEERING DIVISION

DRAWN RPM

CHECK MORO

SCALE NONE

DATE 01/16

CITY OF MOSES LAKE

GRANT COUNTY

WASHINGTON

C-8

DATE	REVISION	BY
10/20	AMENDED	MLL