CITY OF THE DALLES 2020 STANDARD DRAWINGS

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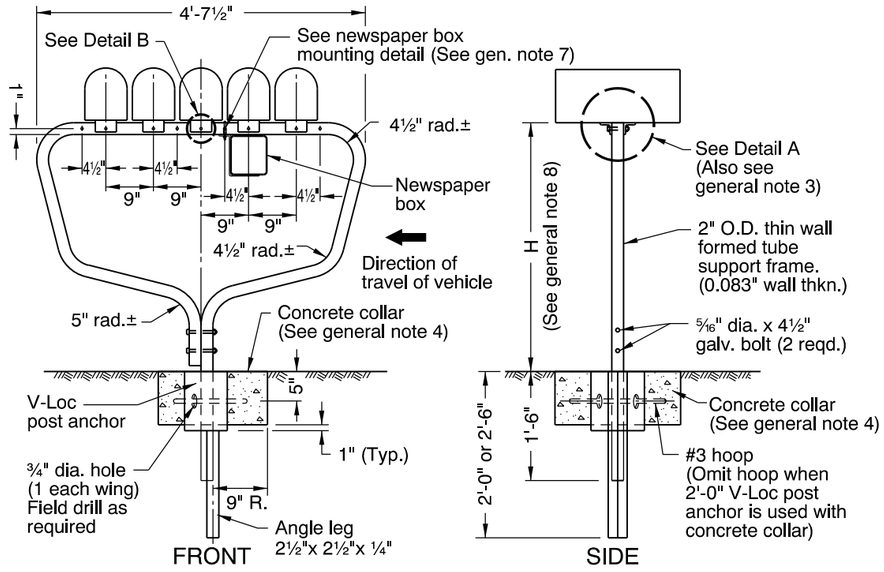
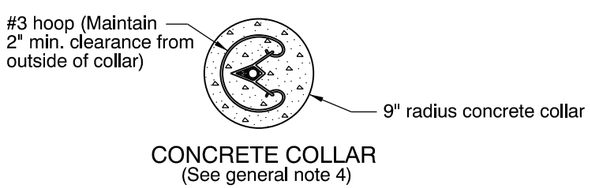
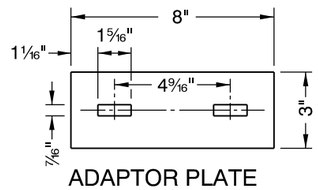
TIRE WASH FACILITY (TYPE 1 AND 2) **RD1060**
SEDIMENT TRAP **RD1065**
CONCRETE TRUCK WASHOUT **RD1070**



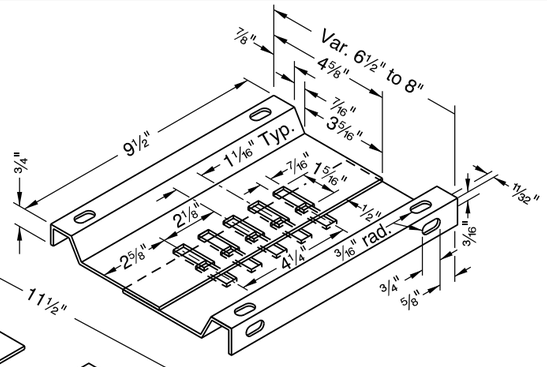


CONCRETE COLLAR
(See general note 4)

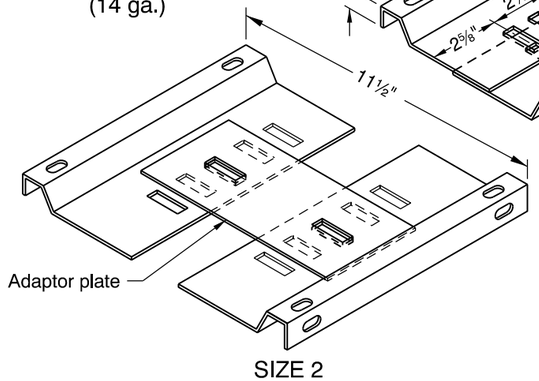
MULTIPLE SUPPORT
(Supports 5 standard (Sizes 1 & 1½) mailboxes or 4 large (Size 2) mailboxes)



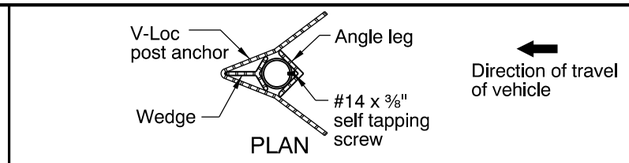
ADAPTOR PLATE
(14 ga.)



SIZE 1 & 1½
MOUNTING BRACKET
(16 ga.)

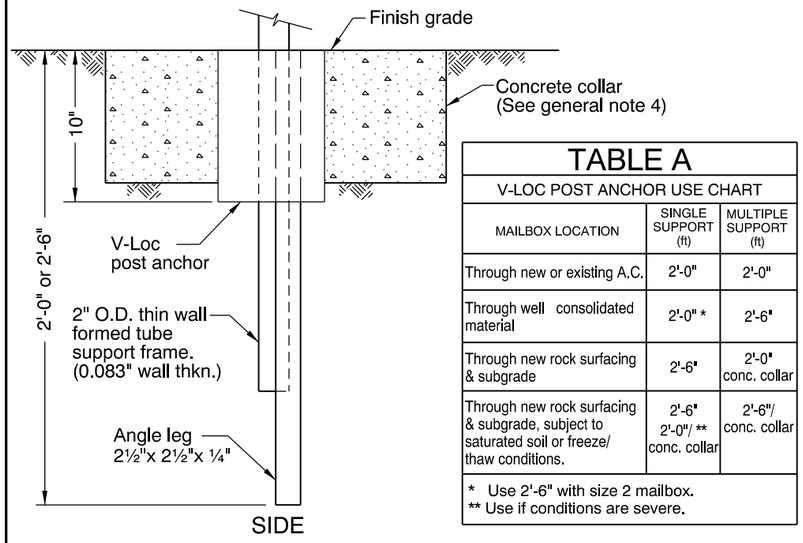


SIZE 2
MOUNTING BRACKET (16 ga.)
WITH ADAPTOR PLATE (14 ga.)



PLAN

Direction of travel of vehicle



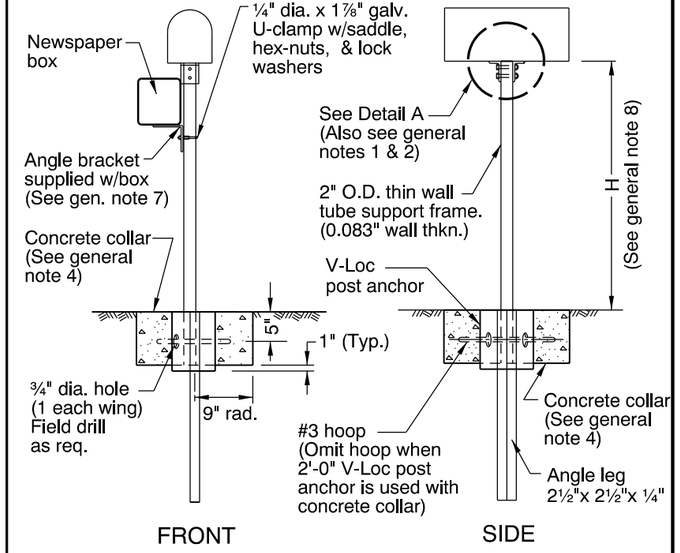
SIDE

TABLE A
V-LOC POST ANCHOR USE CHART

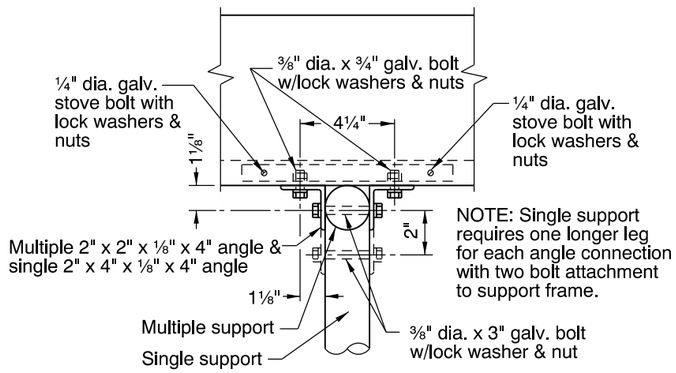
MAILBOX LOCATION	SINGLE SUPPORT (ft)	MULTIPLE SUPPORT (ft)
Through new or existing A.C.	2'-0"	2'-0"
Through well consolidated material	2'-0" *	2'-6"
Through new rock surfacing & subgrade	2'-6"	2'-0" conc. collar
Through new rock surfacing & subgrade, subject to saturated soil or freeze/ thaw conditions.	2'-6" 2'-0"/ ** conc. collar	2'-6"/ conc. collar

* Use 2'-6" with size 2 mailbox.
** Use if conditions are severe.

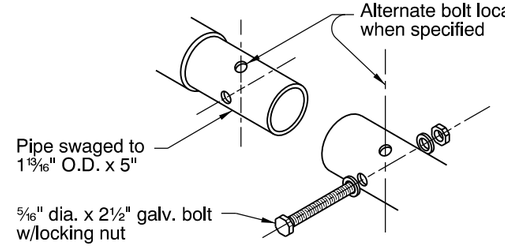
POST MOUNTING SOCKET



SINGLE SUPPORT



DETAIL A



DETAIL B

GENERAL NOTES FOR ALL DETAILS:

1. Angle connections to be parallel to traffic flow for Size 2 mailbox mounted on single post.
2. All holes in the tube support frame are to be predrilled by the manufacturer.
3. Size 2 mailbox mounted on a multiple support requires 2 each ⅜" dia. x ⅝" galv. bolts with lock washers and nuts to attach the adaptor plate to the mounting bracket. The unit will then require 4 angle connections to attach to the formed tube support frame. See Detail A.
4. Provide concrete collar when any of the following conditions exist:
   a) when required in Table A
   b) when required by project plans
   c) as directed by the Engineer
   Concrete collar, when required, to be poured in place after V-Loc post anchor has been installed, level and plumb. Do not excavate below bottom of V-Loc post anchor. Care shall be taken that no concrete is placed within anchor.
5. Other proprietary products available as listed in ODOT's QPL.
6. For mailbox installation locations, see Std. Drg. RD101 and project plans.
7. For Newspaper Box Mounting Detail, see Std. Drg. RD101.
8. Mounting height (H) shall be 42" nominal, measured from vehicle driving surface.
9. See project plans for detail not shown

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

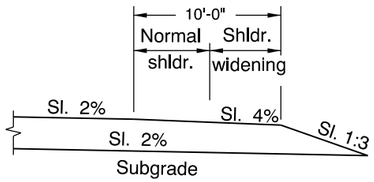
MAILBOX SUPPORT

2020

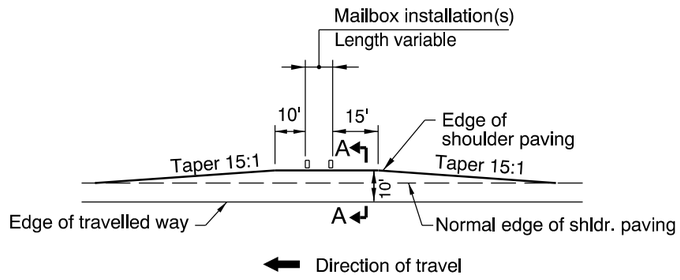
DATE	REVISION DESCRIPTION
01-2015	REVISED DETAILS & NOTES
01-2018	REVISED NOTES

RD100

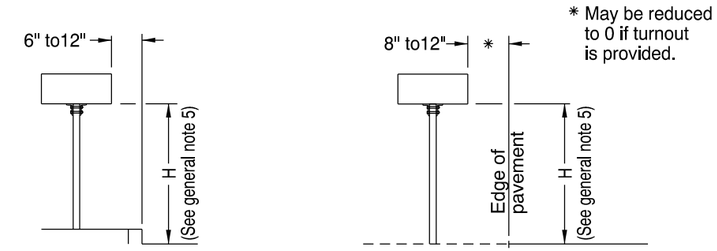
Effective Date: January 1, 2020 - December 31, 2020 RD100



SECTION A-A



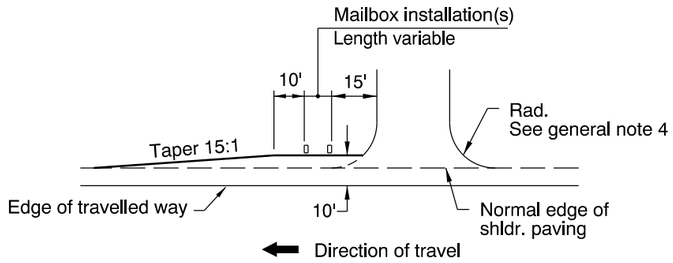
MAILBOX SERVICE TURNOUT



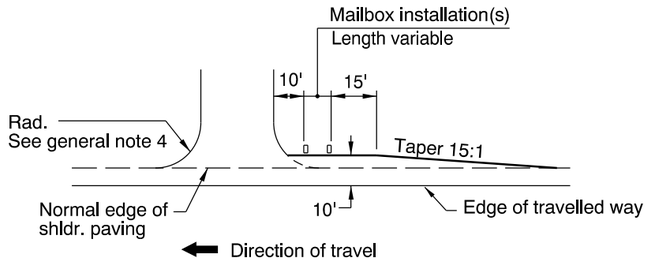
CURBED SECTION

NON-CURBED SECTION

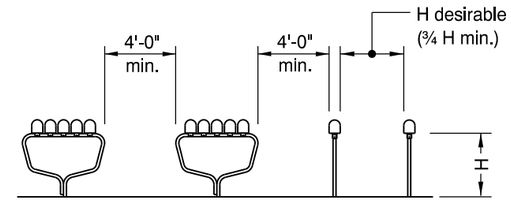
PLACEMENT



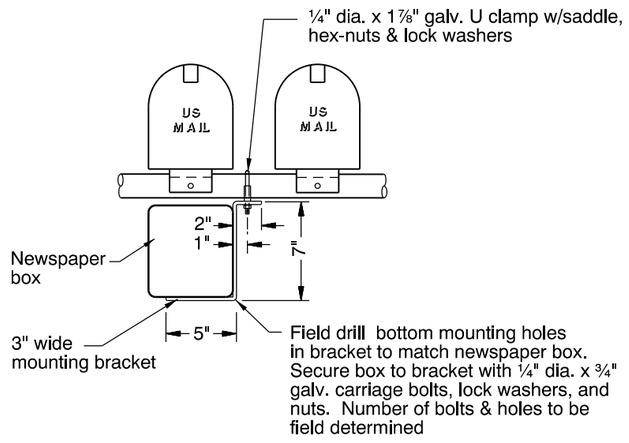
MAILBOX SERVICE TURNOUT AFTER APPROACH



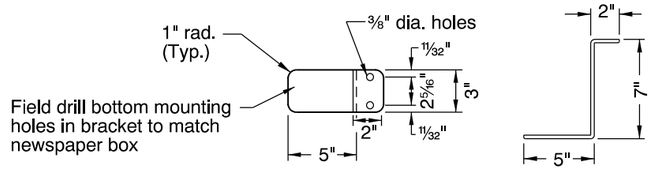
MAILBOX SERVICE TURNOUT BEFORE APPROACH



SUPPORT SPACING



NEWSPAPER BOX MOUNTING DETAIL



TOP VIEW

SIDE VIEW

NEWSPAPER BOX MOUNTING BRACKET DETAIL (14 ga.)

GENERAL NOTES FOR ALL DETAILS:

1. All holes in the tube support frame are to be predrilled by the manufacturer.
2. Other proprietary products available as listed in ODOT's QPL.
3. For mailbox support details, see Std. Drg. RD100.
4. For approach details, see Std. Drg. RD715.
5. Mounting height (H) shall be 42" nominal, measured from vehicle driving surface.
6. See project plans for details not shown

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

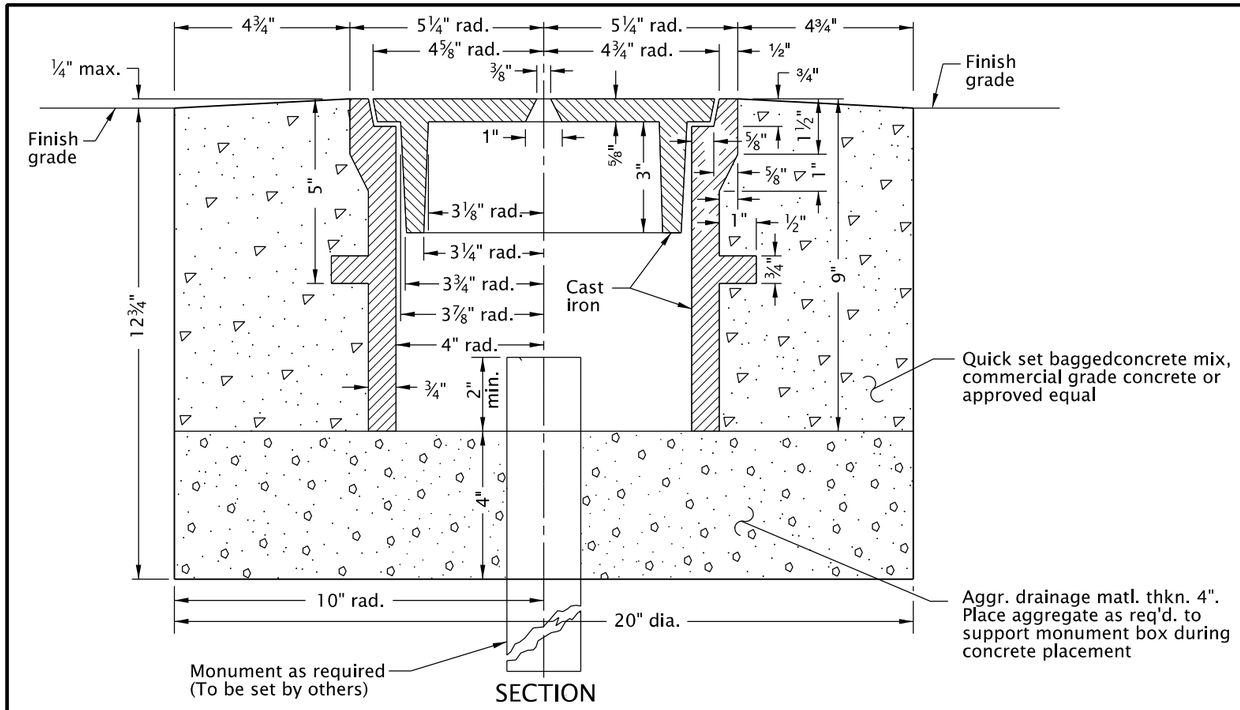
CITY OF THE DALLES STANDARD DRAWING

MAILBOX INSTALLATION

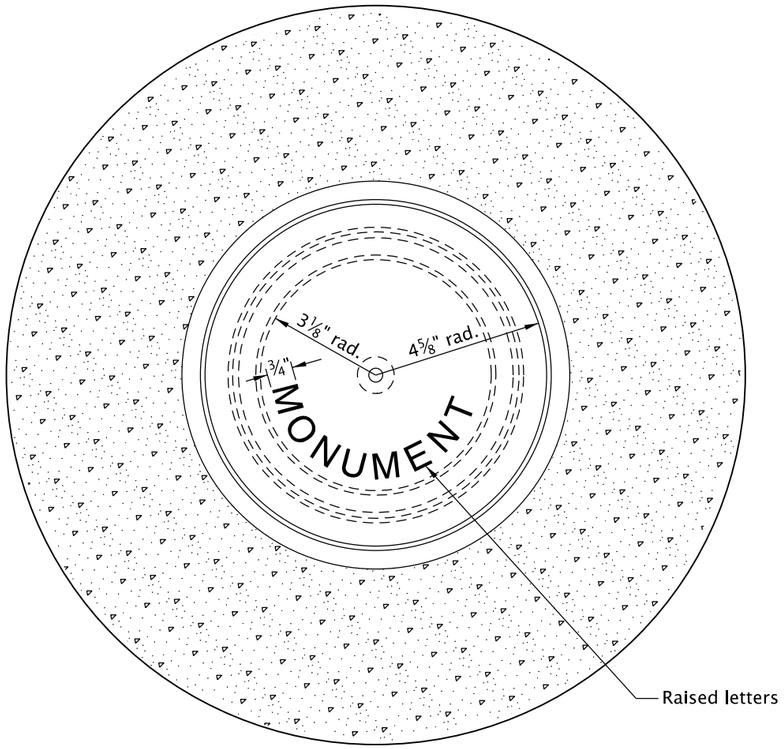
2020

DATE	REVISION DESCRIPTION
01-2018	REVISED NOTES

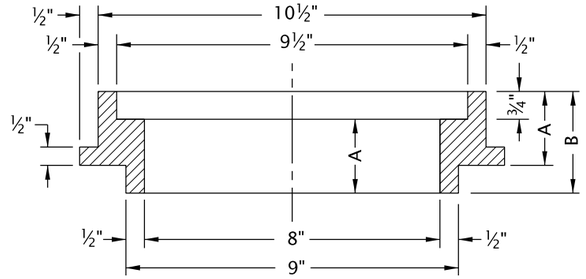
RD101



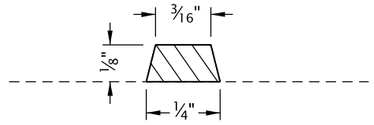
SECTION



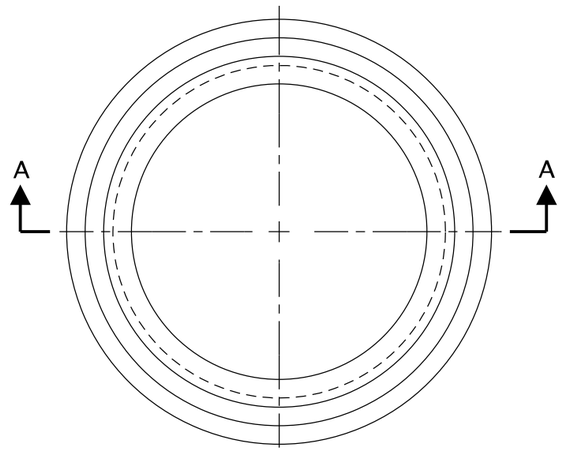
PLAN OF COVER



SECTION A–A



SECTION OF RAISED LETTER



PLAN

RISER RING

RISER RING TABLE

DIM.	RISER RING ADJUSTMENT HEIGHT			
	1½"	2"	2½"	3"
A	1½"	2"	2½"	3"
B	2¼"	2¾"	3¼"	3¾"

GENERAL NOTES FOR ALL DETAILS:

1. See project plans for details not shown.

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CITY OF THE DALLES STANDARD DRAWING

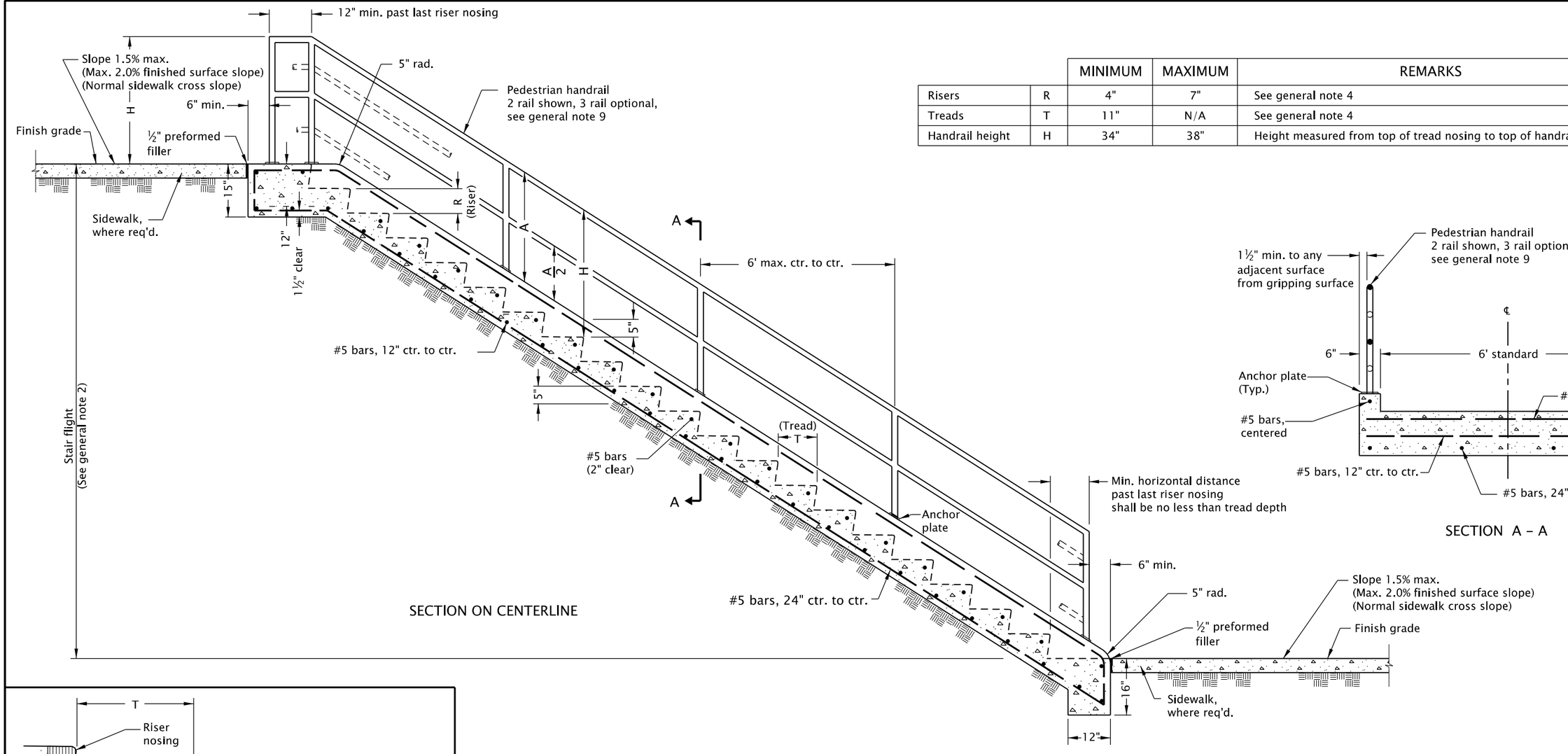
MONUMENT BOX

2020

DATE	REVISION DESCRIPTION

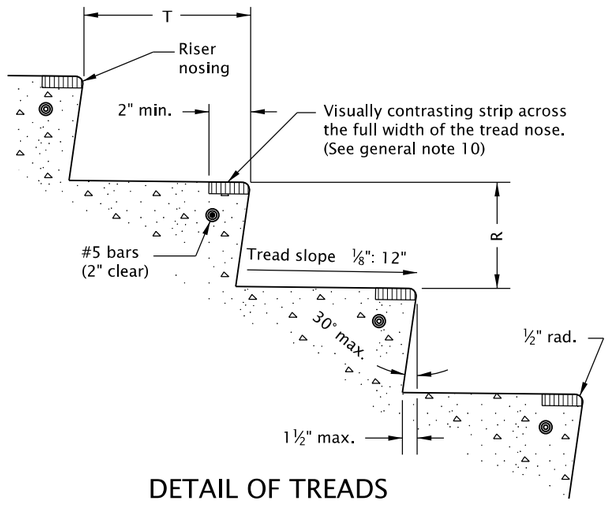
RD115

		MINIMUM	MAXIMUM	REMARKS
Risers	R	4"	7"	See general note 4
Treads	T	11"	N/A	See general note 4
Handrail height	H	34"	38"	Height measured from top of tread nosing to top of handrail



SECTION ON CENTERLINE

SECTION A – A



DETAIL OF TREADS

GENERAL NOTES FOR ALL DETAILS:

1. Details are based on United States Access Board Standards.
2. Maximum vertical rise between finish grade of landings shall be 12'.
3. Number of steps varies. Round edges of steps and all other exposed edges to ½" radius.
4. All risers in a stair flight shall be the same height.
   All treads in a stair flight shall be the same depth.
5. Handrail height (H) to be constant within a stair flight.
6. All concrete shall be commercial grade concrete.
7. All reinforcing steel to be placed a minimum of 2" clear of nearest face of concrete unless otherwise shown or noted.
8. See Std. Dwg. RD720 for sidewalk details.
9. See Std. Dwgs. RD770 & RD771 for pedestrian handrail details.
10. Provide painted contrasting strip (color shall be safety yellow), or approved equal.
11. See project plans for details not shown.

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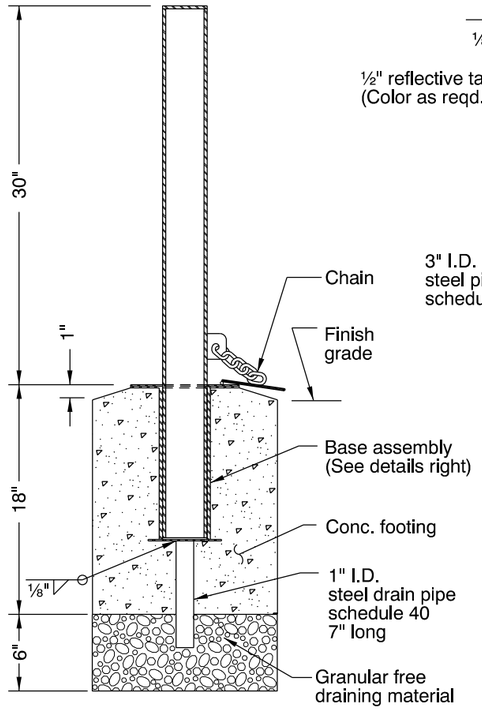
CITY OF THE DALLES STANDARD DRAWING

CONCRETE STAIRWAY

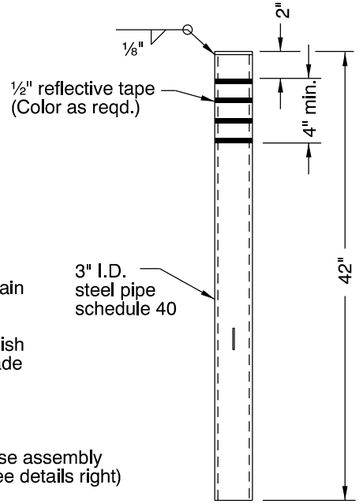
2020

DATE	REVISION DESCRIPTION
01-2018	REVISED NOTES

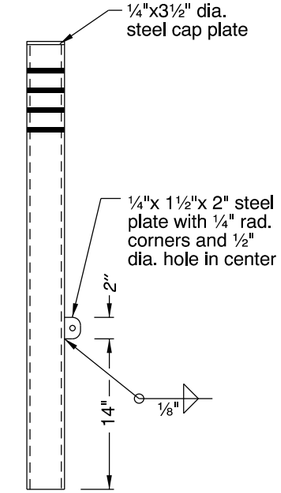
RD120



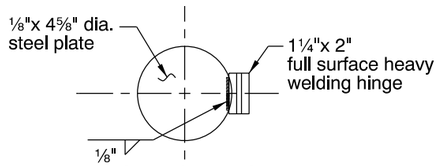
SECTION A-A



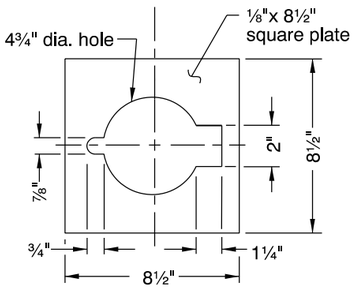
FRONT VIEW



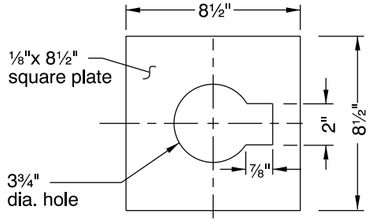
SIDE VIEW



CAP & HINGE



COVER PLATE



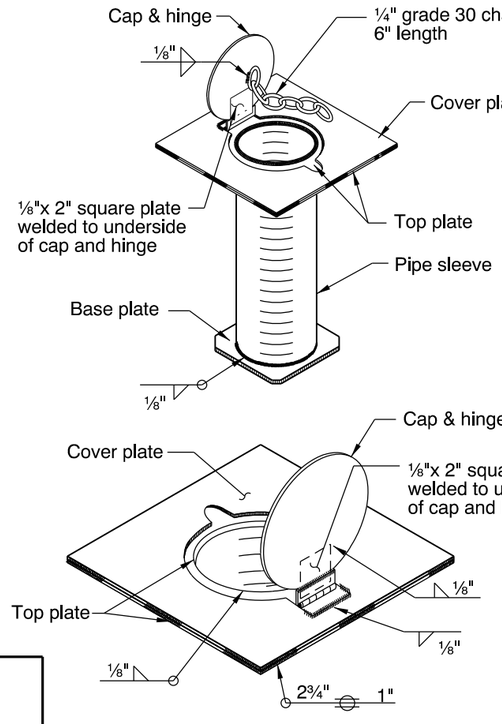
TOP PLATE

PIPE SLEEVE

BASE PLATE

BASE ASSEMBLY

PLAN



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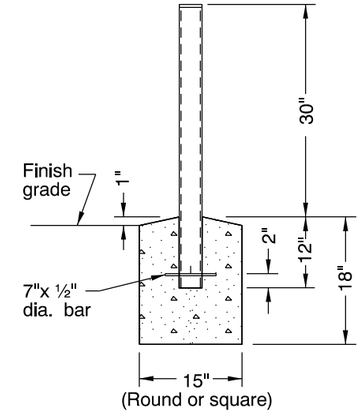
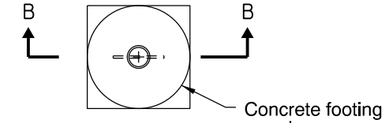
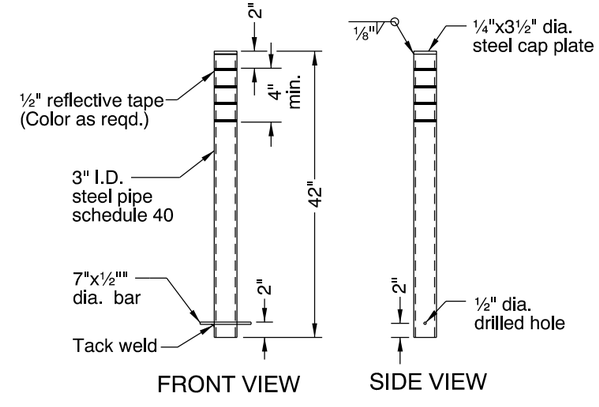


SECTION B-B



PLAN



FRONT VIEW SIDE VIEW

NON-REMOVABLE

GENERAL NOTES FOR ALL DETAILS:

1. Grind all edges smooth.
2. Prime and paint bollard safety yellow after fabrication.
3. Hot-dip galvanize base assembly after fabrication.
4. All concrete shall be commercial grade concrete.
5. Orient lock assembly parallel with pedestrian traffic.
6. Provide lock, if required.
7. See project plans for details not shown

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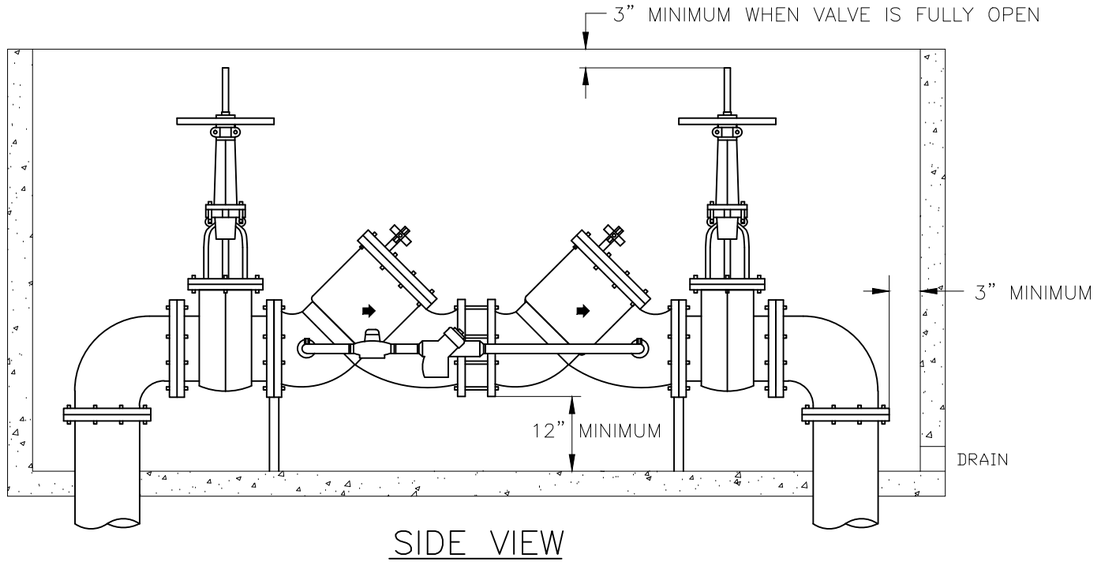
CITY OF THE DALLES STANDARD DRAWING

BOLLARDS

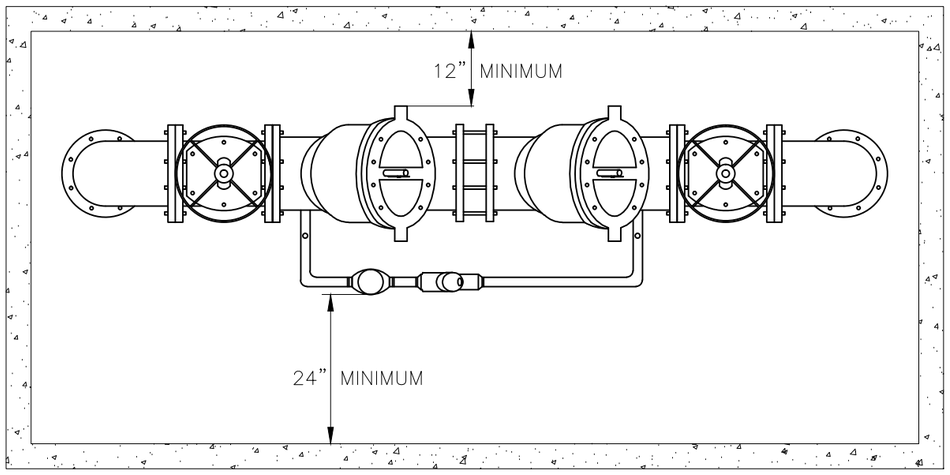
2020

DATE	REVISION DESCRIPTION
01-2015	REVISED NOTES
01-2018	REVISED NOTES

RD130



SIDE VIEW



TOP VIEW

NOTES:

1. LID IS TO BE SPRING LOADED AND ABLE TO LOCK IN THE OPEN POSITION.

2. ASSEMBLY MUST BE FREEZE PROTECTED

3. ALL BELOW GROUND AND VAULT INSTALLATIONS SHALL HAVE NON-GALVANIZED, THREADED, AND WATER-TIGHT FITTED PLUGS OR CAPS ON THE TEST PORTS.

4. RPDA ASSEMBLIES MUST NOT BE INSTALLED IN AN ENCLOSED VAULT OR BOX UNLESS A BORE-SIGHTED DRAIN TO DAYLIGHT IS PROVIDED.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

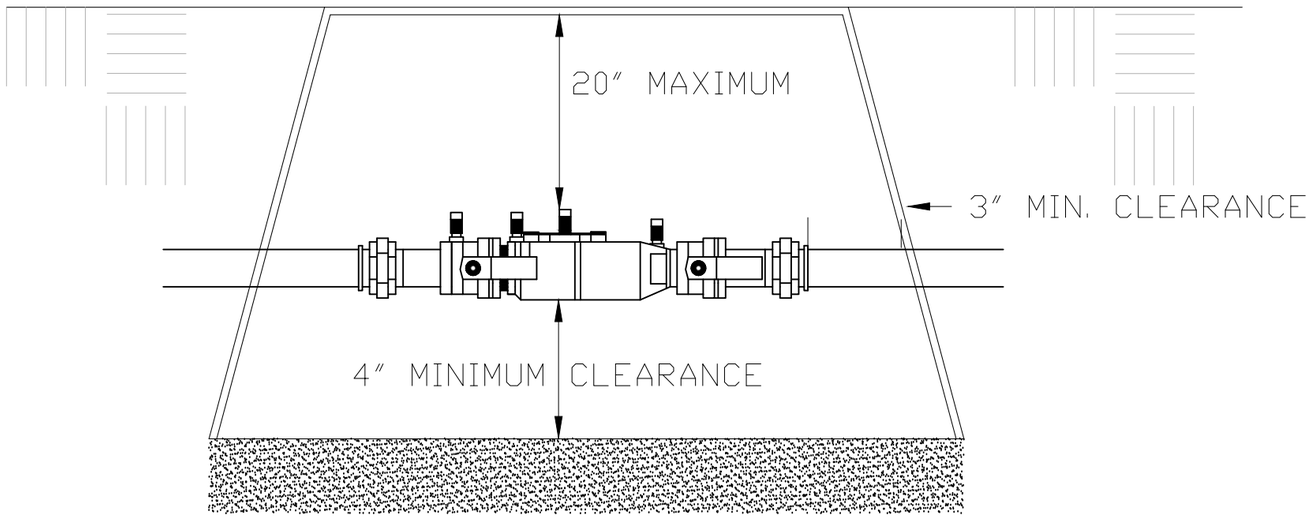
NOTE: All material and workmanship shall be in accordance with with the current Oregon Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

DOUBLE CHECK DETECTOR ASSEMBLY (DCDA) OR REDUCED PRESSURE DETECTOR (RPDA) INSTALLATION

2020

REVISIONS	
DATE	DESCRIPTION



NOTES:

1. CANNOT BE SUBJECTED TO CONTINUANCE FLOODING.
2. ASSEMBLY MUST BE FREEZE PROTECTED
3. TEST COCKS FITTED WITH WATER TIGHT PLUGS

TYPICAL BELOW GROUND INSTALLATION

RECOMMENDED ENCLOSURE SIZES	
SERVICE SIZE	BOX SIZE
3/4" TO 1"	14" X 19"
1-1/2" TO 2"	17" X 30"

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with with the current Oregon Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

DOUBLE CHECK VALVE ASSEMBLY
BELOW GROUND
2" AND SMALLER

2020

REVISIONS

DATE	DESCRIPTION

RD212

RD212

THRUST BLOCKING

TABLE A

CONCRETE THRUST BLOCKING (HORIZONTAL)

		Thrust (T) at fittings in Pounds				
		A	B	C	D	E
PIPE DIA.	Table Pressure PSI	Tee & Dead Ends	90 deg Bend	45 deg Bend	22.5 deg Bend	11.25 deg Bend
4"	250	3035	4320	2315	1215	610
6"	250	6860	9735	5215	2720	1375
8"	250	12185	17310	9265	4835	2430
10"	250	19045	27045	14480	7560	3800
12"	250	27405	38940	20840	10880	5465
14"	250	37320	53010	28370	14815	7445
18"	250	63333	105667	57333	29333	14667

TABLE B

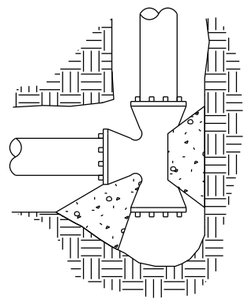
Soil Type	Soil Bearing Capacity (B) in PSF
Muck, peat, etc.	0
Soft Clay	1000
Sand	2000
Sand and gravel	3000
Sand and gravel cemented with clay	4000
Hard shale	10,000

TABLE C

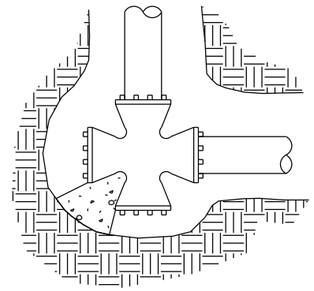
CONCRETE BLOCKING FOR CONVEX VERTICAL BENDS

DIMENSION TABLE

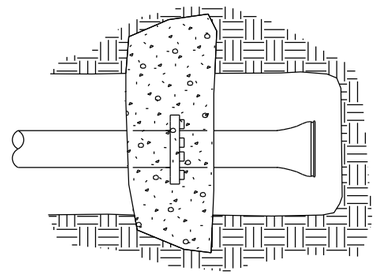
PIPE DIA. in.	Table Pressure PSI	Bend Angle (deg)	Concrete Volume (cy)	Cube Size (ft)	Stirrup Dia. (in)	Stirrup Embmt. (in)	Stirrup Bar #
4"	250	11.25	0.21	1.8	⅝	17	5
		22.5	0.43	2.3			
		45	0.77	2.8			
6"	250	11.25	0.48	2.4	⅝	17	5
		22.5	0.95	3.0			
		45	1.79	3.6			
8"	250	11.25	0.86	2.9	⅝	17	5
		22.5	1.65	3.5			
		45	3.22	4.4			
10"	250	11.25	1.39	3.3	⅝	17	5
		22.5	2.62	4.1			
		45	4.97	4.1			
12"	250	11.25	1.94	3.7	⅝	17	5
		22.5	3.91	4.7			
		45	6.89	5.7	⅞	24	7
14"	250	11.25	2.62	4.1	⅝	17	5
		22.5	5.26	5.2	¾	20	6
		45	9.70	6.4	1	27	8
18"	250	11.25	3.67	4.63	⅝	24	5
		22.5	7.33	5.83	⅞	30	7
		45	14.50	7.32	1⅛	36	9



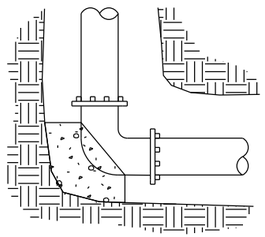
TEE



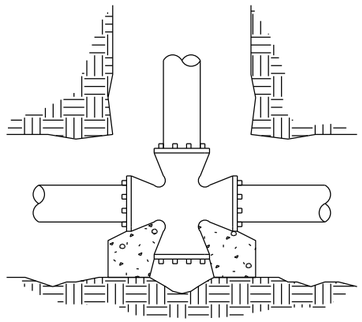
CROSS



STRADDLE



BEND



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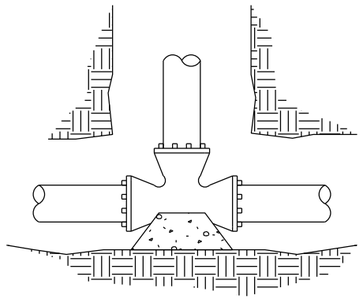

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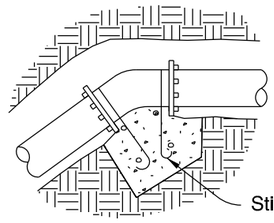
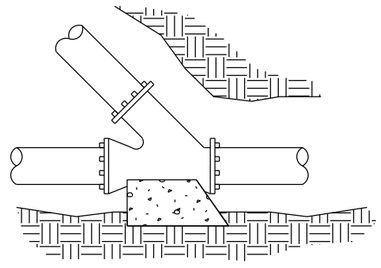


CONVEX VERTICAL BEND
(See Table C)



WYE

THRUST BLOCK BEARING AREA EQUATION

NOTE: WHEN THRUST BLOCK BEARING AREA IS NOT SPECIFIED ON THE PLANS OR DETERMINED BY THE ENGINEER, USE THE FOLLOWING PROCEDURE TO DETERMINE REQUIRED BEARING AREA.

1. Determine thrust (T) for type of fitting or joint and size of pipe from Table A.
2. Determine Design (Test) Pressure from Standard Specifications or Special Provisions.
3. Determine Table Pressure from Table A.
4. Determine Soil Bearing Capacity (B) of soil from Table B.
5. Determine required bearing area (A) in sq. ft. as follows:

$$\text{Thrust Block Bearing Area} = A = \left(\frac{T}{B}\right)\left(\frac{\text{Design (Test) Pressure}}{\text{Table Pressure}}\right)$$

Example: Design (Test) Pressure = 150 PSI
Pipe = 14"
Fitting = Tee
Soil = Sand

From Table A, T = 37320
From Table B, B = 2000

$$A = \left(\frac{37320}{2000}\right)\left(\frac{150}{250}\right) = 11.2 \text{ sq ft}$$

GENERAL NOTES FOR ALL DETAILS:

1. Contractor to provide blocking adequate to withstand full test pressure.
2. Pour concrete blocking against undisturbed earth.
3. All concrete shall be commercial grade concrete.
4. Wrap pipe and/or fittings with 2 layers of polyethylene film where in contact with concrete
5. Keep concrete clear of all joints and accessories.
6. Stirrups shall be deformed galvanized cold rolled steel AASHTO M31 (ASTM A615), Grade 60. Coat with coal tar epoxy after installation.
7. See project plans for details not shown.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

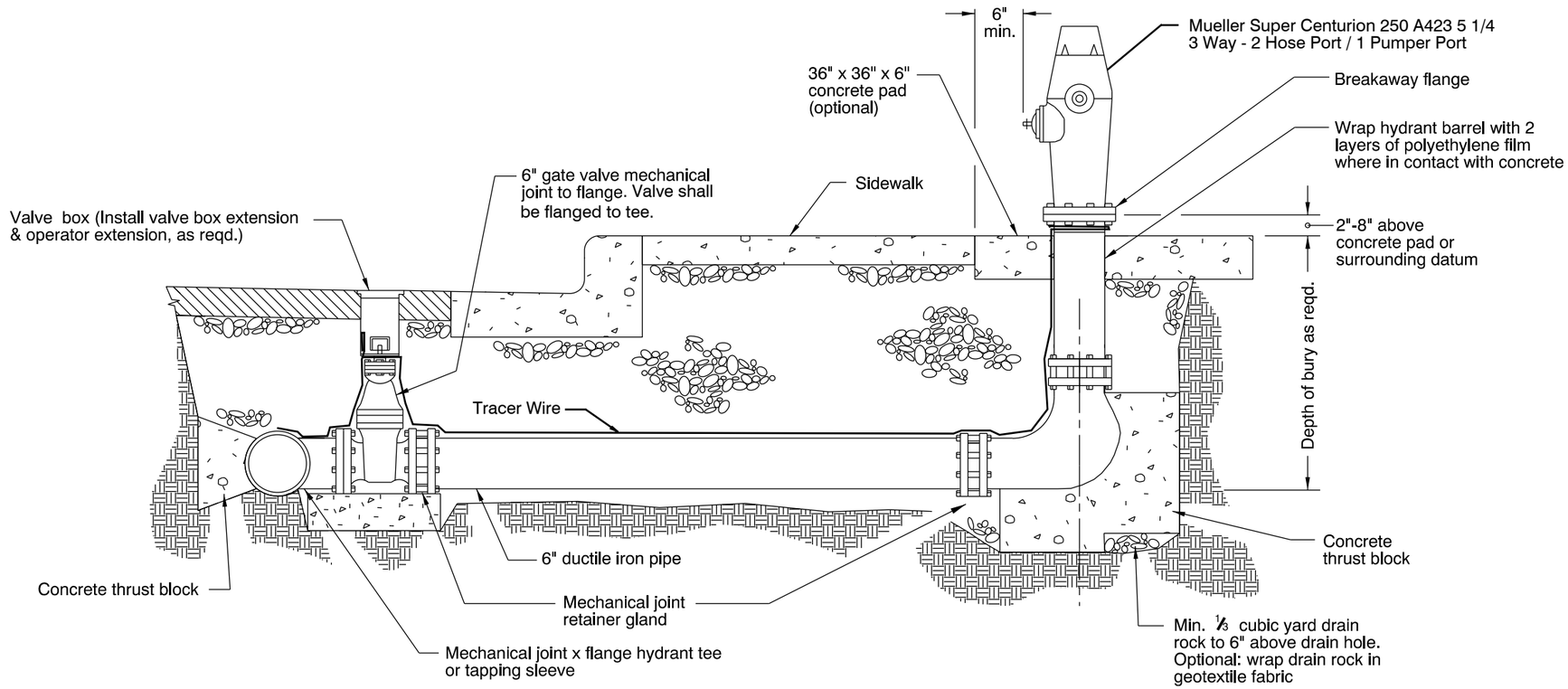
CITY OF THE DALLES STANDARD DRAWING

THRUST BLOCKING

2020

DATE	REVISION DESCRIPTION
01-2018	REVISED NOTES

HYDRANT ASSEMBLY



GENERAL NOTES FOR ALL DETAILS:

1. When pipe is shorter than 18', no joints allowed. Use mechanical joint retainer glands. Two ¾" galvanized tie rods may be used in lieu of thrust blocks for installations less than 18' long. Coat tie rods with two coats of coal tar epoxy.
2. When pipe is longer that 18' retainer glands not required.
3. There shall be a minimum of 18" horizontal clearance around hydrant.
4. When placed adjacent to curb, hydrant port shall be 24" from face of curb.
5. Concrete thrust blocks shall be constructed as per thrust blocking Std. Drg. RD250. Do not block drain holes
6. Extensions required for hydrant systems shall be installed to the manufacturer's specifications.
7. Hydrants shall be placed to provide a minimum of 5' clearance from driveways, poles, and other obstructions.
8. Hydrant pumper port shall face direction of access.
9. Set hydrant plumb in all directions.
10. See project plans for details not shown.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

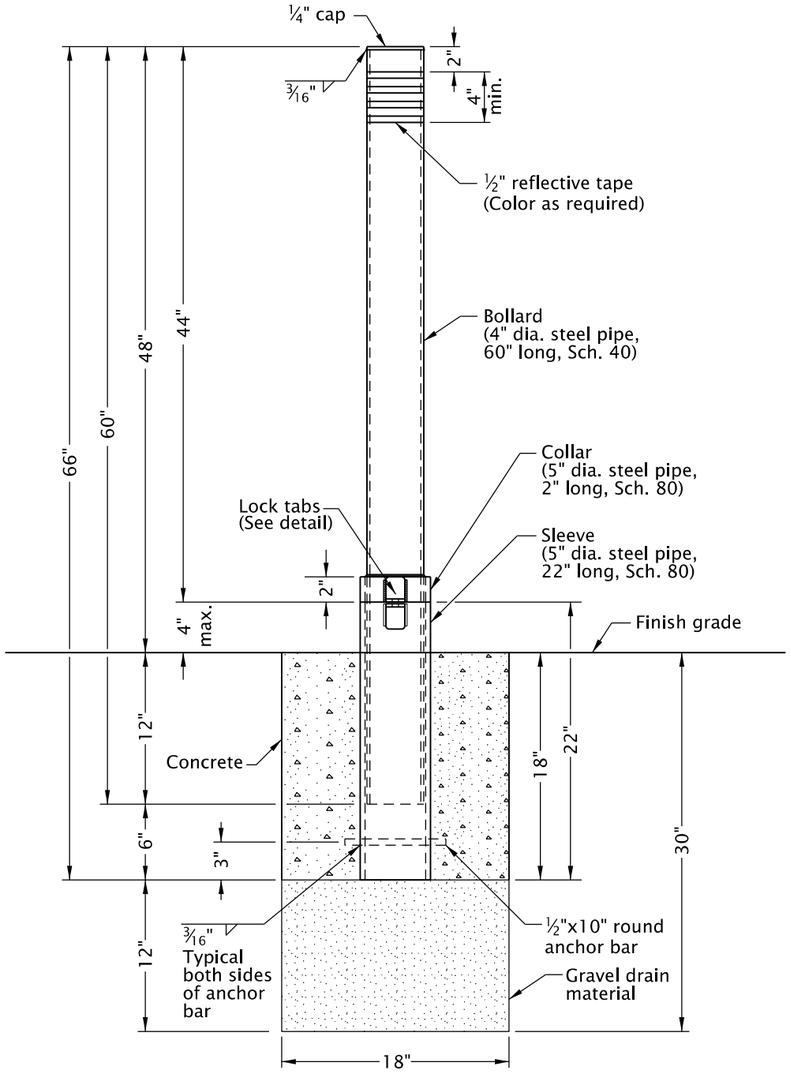
CITY OF THE DALLES STANDARD DRAWING

HYDRANT INSTALLATION

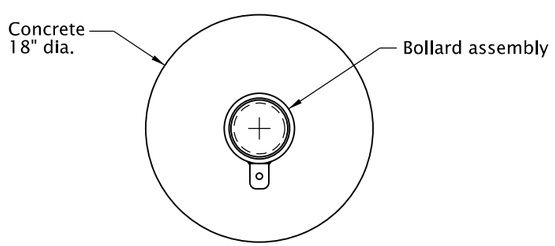
2020

DATE	REVISION DESCRIPTION
01-2018	REVISED NOTES

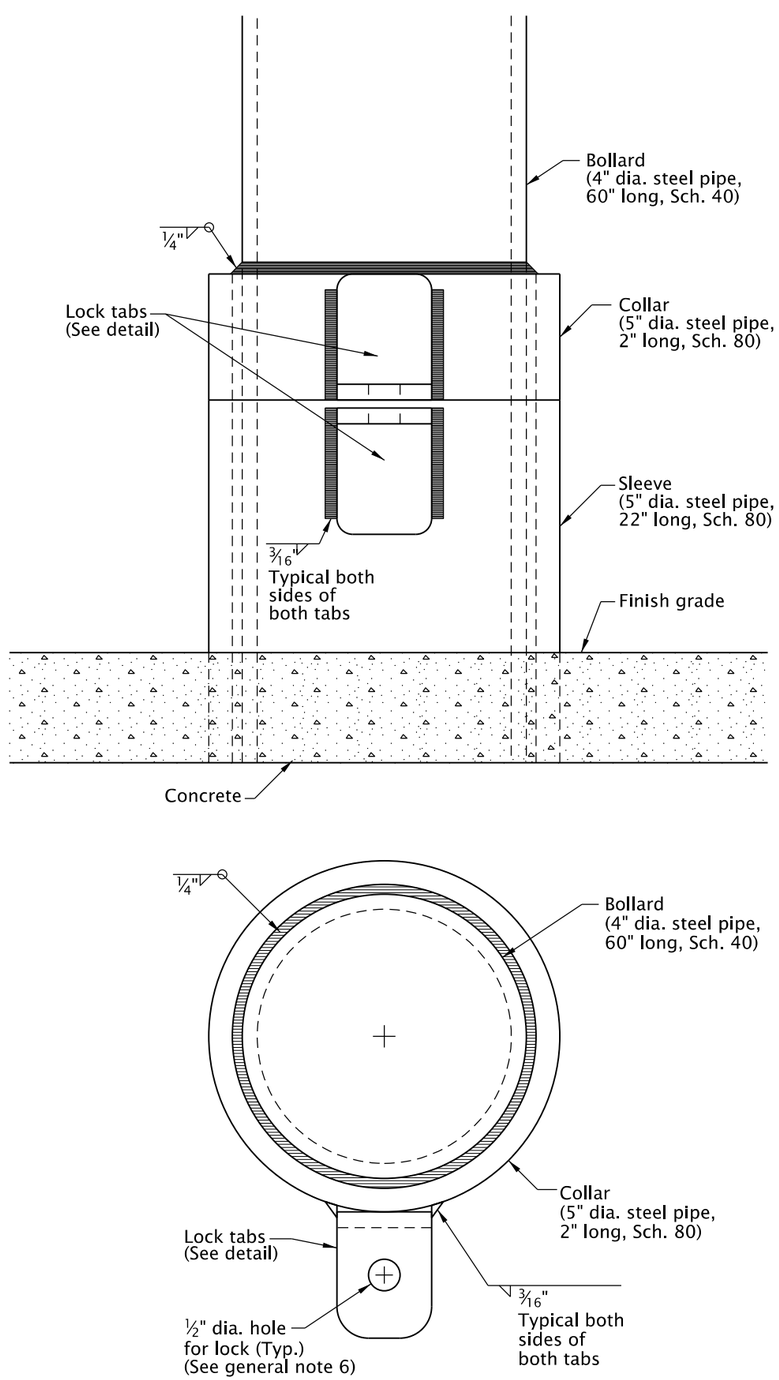
RD254



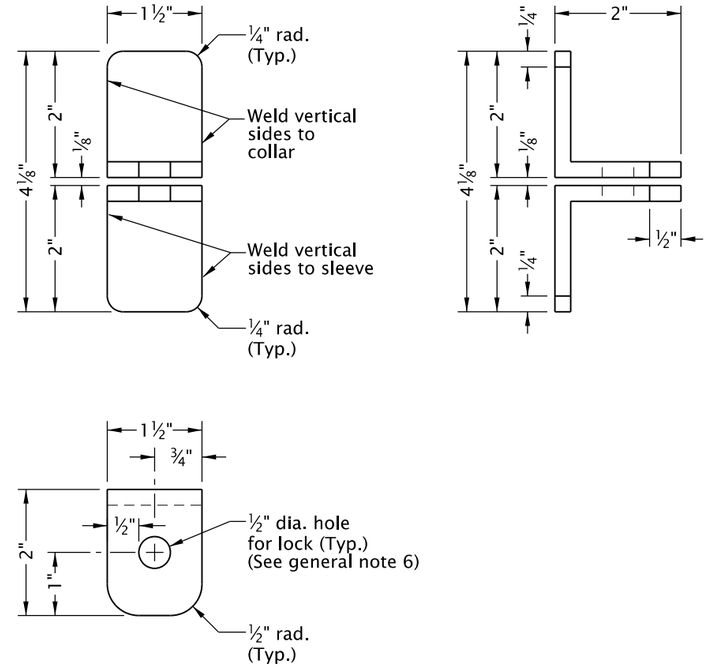
ELEVATION



PLAN



COLLAR & LOCK TABS



LOCK TABS

(2"x2"x¼" steel angle)

GENERAL NOTES FOR ALL DETAILS:

1. Grind all edges smooth.
2. Prime and paint bollard safety yellow after fabrication.
3. Hot-dip galvanize sleeve after fabrication.
4. All concrete shall be commercial grade concrete.
5. Orient lock assembly parallel with pedestrian traffic.
6. Provide lock, if required.
7. See project plans for details not shown.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

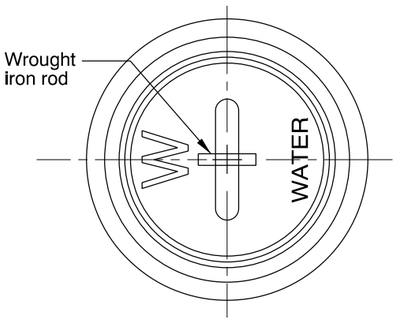
CITY OF THE DALLES STANDARD DRAWING

HYDRANT BOLLARD

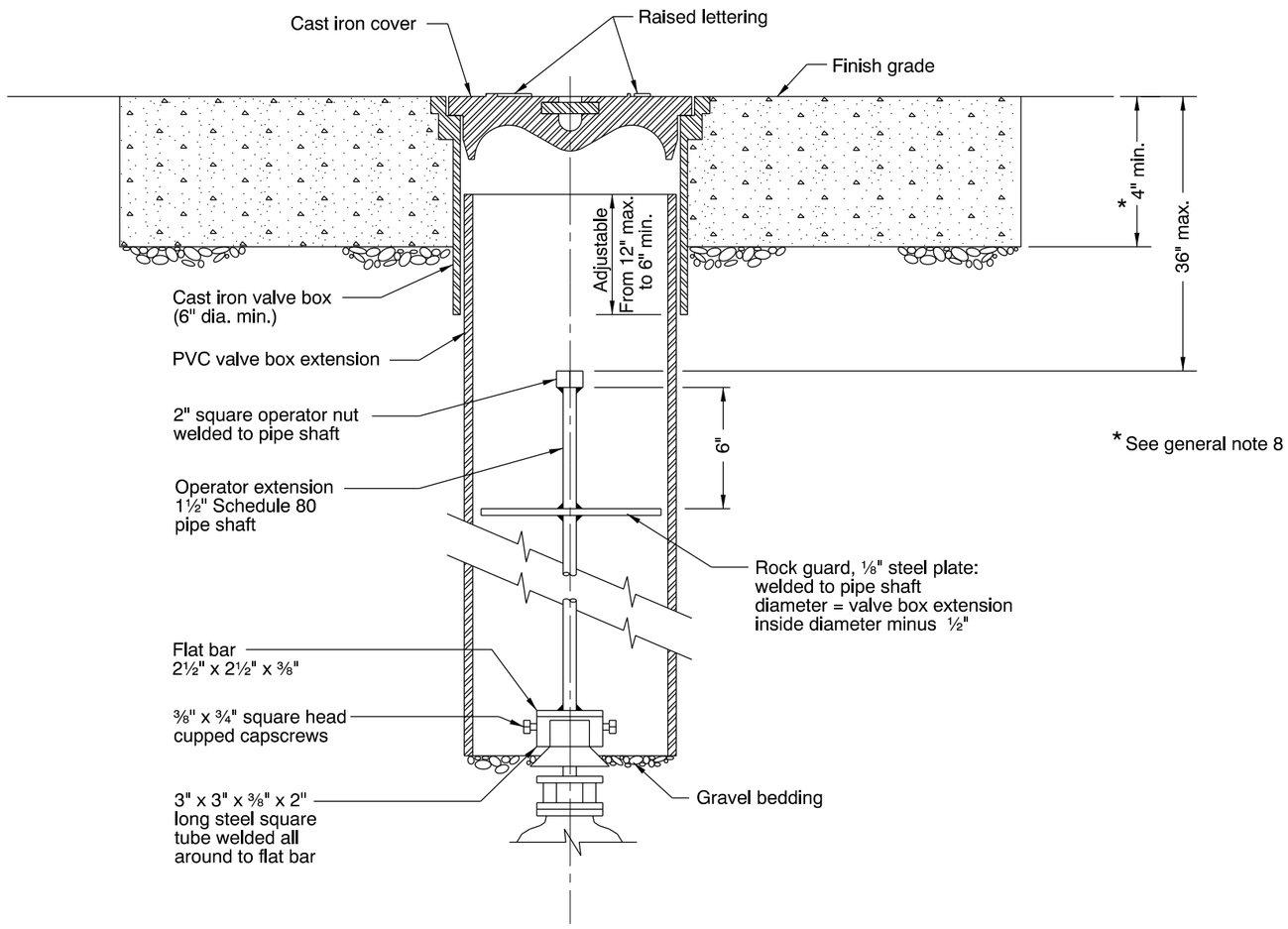
2020

DATE	REVISION DESCRIPTION

RD255

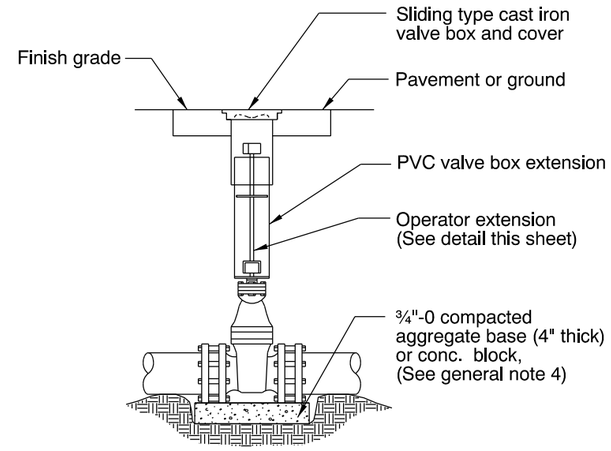


COVER PLAN



* See general note 8

VALVE BOX EXTENSION SECTION



VALVE BOX
ASSEMBLY DETAIL

GENERAL NOTES FOR ALL DETAILS:

1. Valve box not to rest on operating assembly.
2. Operator extension required when valve nut is deeper than 4' from finish grade.
3. Center valve box on axis of operator nut.
4. Valves 12" and smaller shall be provided with compacted aggr. base on undisturbed ground. Valves greater than 12" shall be installed on precast concrete block, (4" thick).
5. Welds shall be minimum ¼" all around.
6. Hot dip galvanize operator extension after fabrication.
7. Casting shall meet H20 load requirement.
8. Provide concrete or asphalt pad (24" square, 4" thick), when required.
9. See project plans for details not shown.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

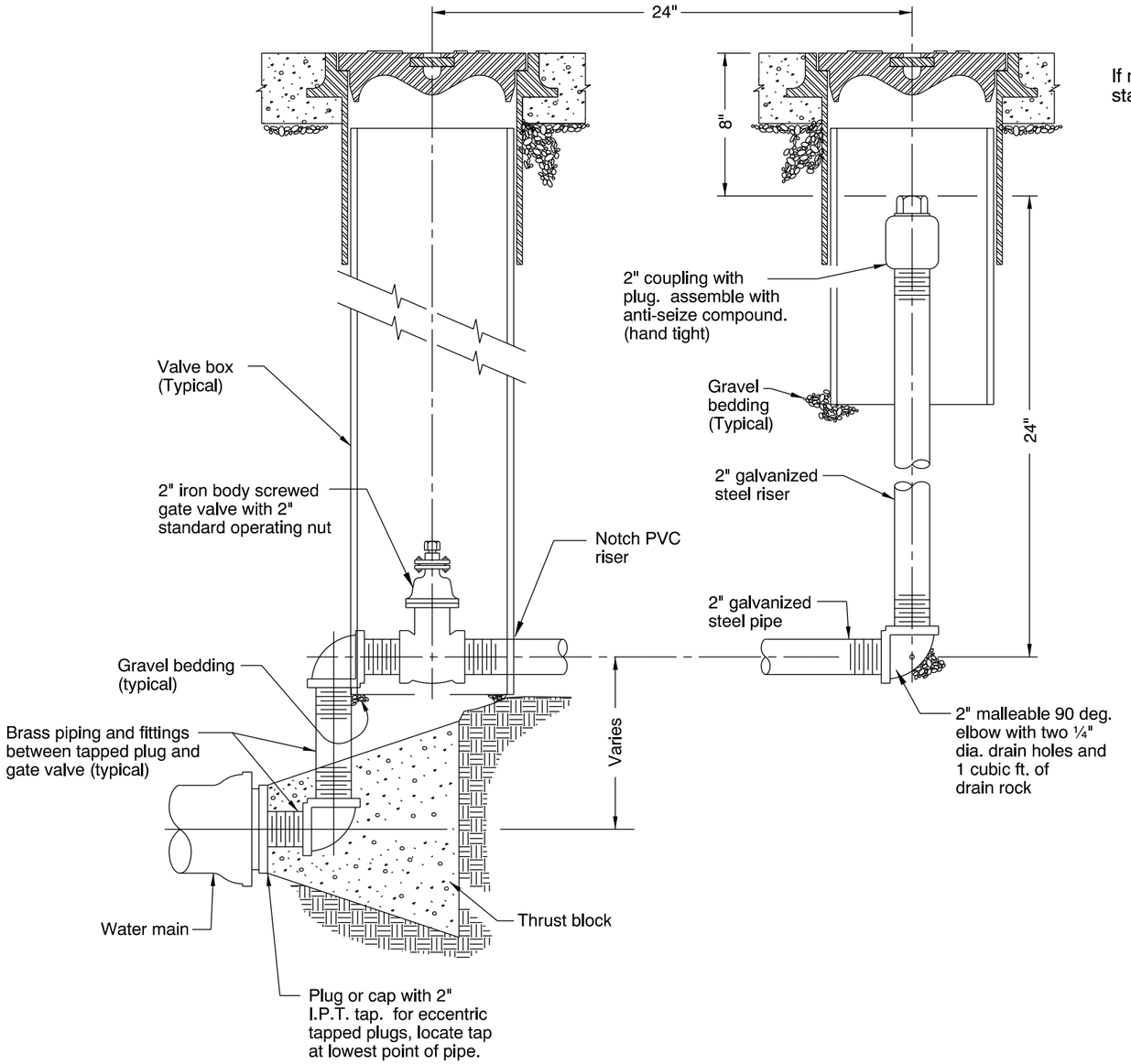
CITY OF THE DALLES STANDARD DRAWING

VALVE BOX AND OPERATOR EXTENSION ASSEMBLY

2020

DATE	REVISION DESCRIPTION

RD258



If not located in the street, assembly shall be marked with a blue "Water Line" delineator stake.

GENERAL NOTES FOR ALL DETAILS:

1. Wrap main and fittings in thrust block zone with two layers of polyethylene film to facilitate future removal.
2. In lieu of concrete thrust block, restrain pipe or pour concrete straddle block.
3. See project plans for details not shown.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

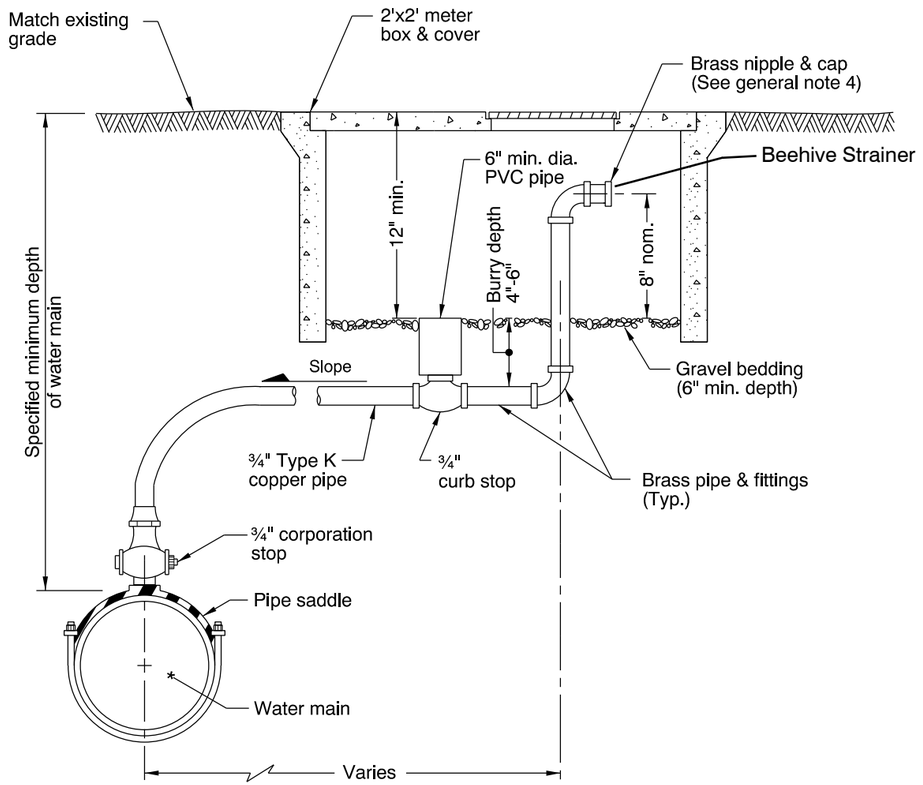
CITY OF THE DALLES STANDARD DRAWING

TYPICAL MAIN DEAD-END BLOWOFF ASSEMBLY

2020

DATE	REVISION DESCRIPTION
01-2018	REVISED NOTES

RD262



GENERAL NOTES FOR ALL DETAILS:

1. Locate at high point of main.
2. Tap top of main.
3. Provide insulation and additional depth when specified for freeze protection.
4. Provide minimum 6" side clearance.
5. See project plans for details not shown.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

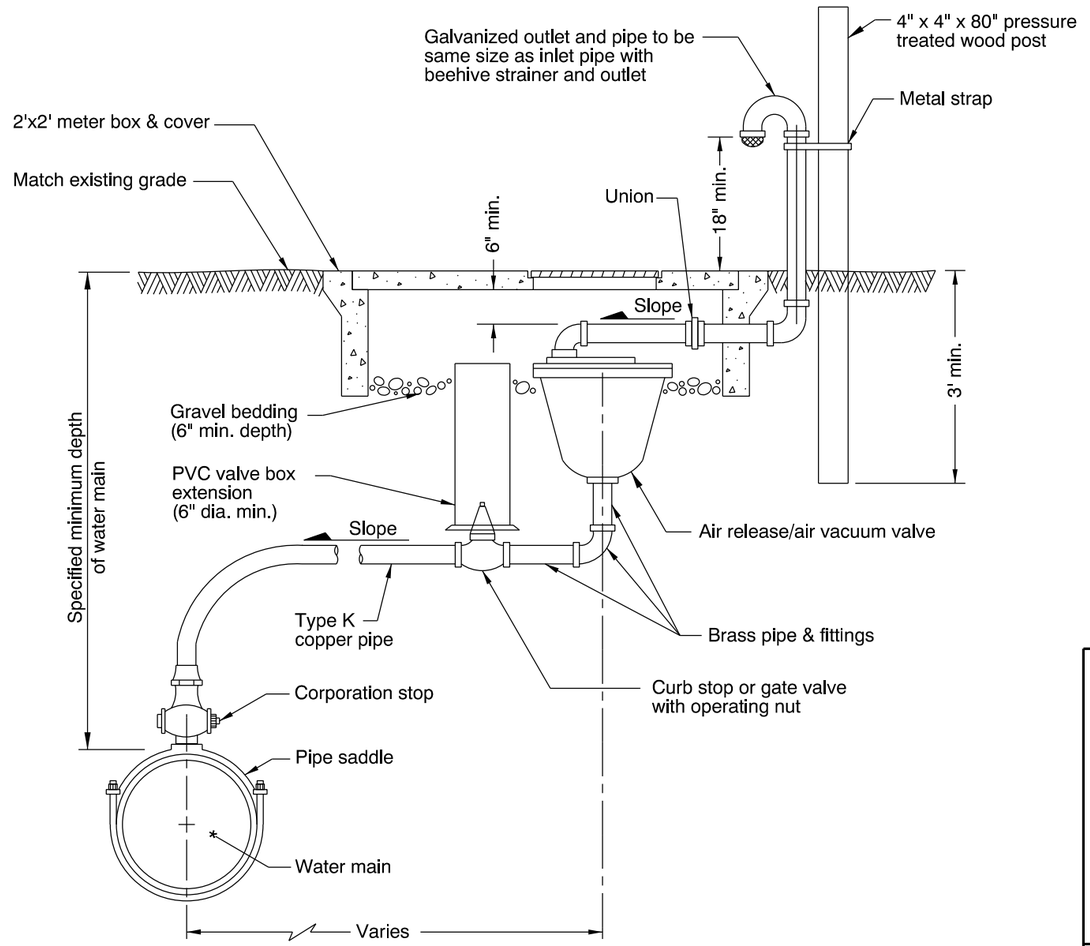
CITY OF THE DALLES STANDARD DRAWING

MANUAL AIR-RELEASE ASSEMBLY (¾")

2020

DATE	REVISION DESCRIPTION
01-2018	REVISED NOTES

RD266



GENERAL NOTES FOR ALL DETAILS:

1. Air release/air vacuum valve shall be size specified in Contract. Piping and valves to be same size as combination air release/air vacuum valve.
2. Locate at high point of main.
3. Tap top of main.
4. Provide insulation and additional depth when specified for freeze protection.
5. See project plans for details not shown.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

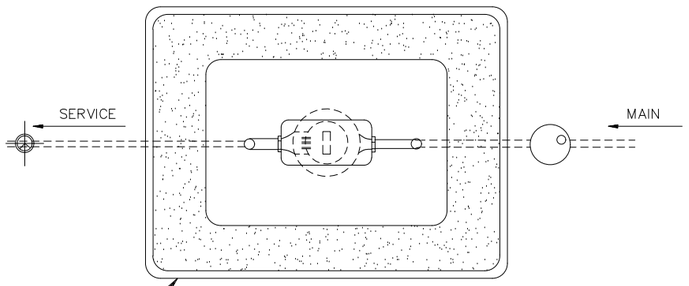
CITY OF THE DALLES STANDARD DRAWING

COMBINATION AIR RELEASE AIR VACUUM VALVE ASSEMBLY (2" AND SMALLER)

2020

DATE	REVISION DESCRIPTION
01-2018	REVISED NOTES

RD270



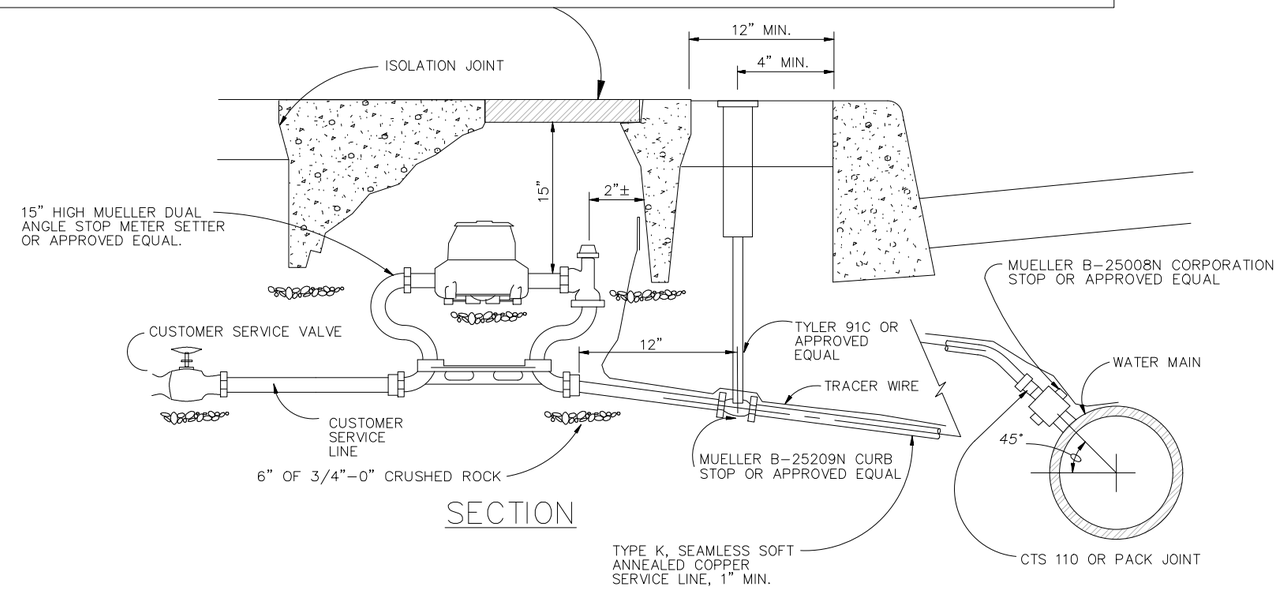
PLAN

1" AND SMALLER METERS:

12"X20"X24" AMORCAST METER BOX (P6000485X24 W/O MOUSEHOLES), AMORCAST COVER (A6000484DQ) WITH INSERT (SP-AA6000487 MAGNET 5X7 OPENING)

1-½" METERS:

17"X30"X22" AMORCAST METER BOX (P60001534X22 W/O MOUSEHOLES), AMORCAST COVER (A60001643DZ) WITH INSERT (SP-AA6000482 MAGNET 9X14 OPENING)



SECTION

NOTES:

1. METER TO BE CENTERED AND SET PLUMB INSIDE METER BOX.
2. MANUFACTURED METER SETTER SHALL BE USED FOR 3/4" TO 1 1/2" SERVICES.
3. SET CURB STOP BOX 4" MINIMUM BEHIND CURB OR SIDEWALK.
4. METER BOXES SET IN DRIVEWAYS SHALL HAVE TRAFFIC RATED LIDS.
5. METER SHALL BE A TYPE AND MAKE ACCEPTABLE TO THE CITY AND GALLON READ.
6. METER SHALL BE EQUIPPED WITH REGISTERS THAT ARE COMPATIBLE WITH THE "ITRON MOBILE COLLECTION SYSTEM" AND BE WIRED WITH A MINIMUM OF 5 FEET OF CABLE INCLUDING ITRON INLINE CONNECTOR.
7. ALL 1 1/2" METERS TO BE INSTALLED WITH A LOCKING BYPASS ARRANGEMENT MUELLER 1-1/2 B-2423 24" HEIGHT (WITHOUT ANGLE DUAL CHECKS AND WITHOUT BYPASS CHECK VALVE)
8. METERS SHALL COMPLY WITH "EPA'S LEAD REDUCTION ACT" (LEAD FREE)
9. METERS SHALL BE EQUIPPED WITH REGISTERS WITH A RESOLUTION THAT READS IN 1/10 OF A GALLON
10. SEE PROJECT PLANS FOR DETAILS NOT SHOWN.

NOTE: All material and workmanship shall be in accordance with with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

3/4" - 1 1/2" WATER SERVICE CONNECTION

2020

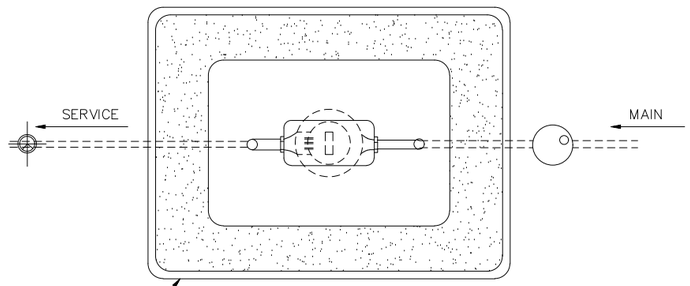
REVISIONS

DATE	DESCRIPTION
01-2018	REVISED NOTES
01-2019	REVISED METER BOXES
12-2019	REVISED NOTES

Effective Date: January 1, 2020 - December 31, 2020

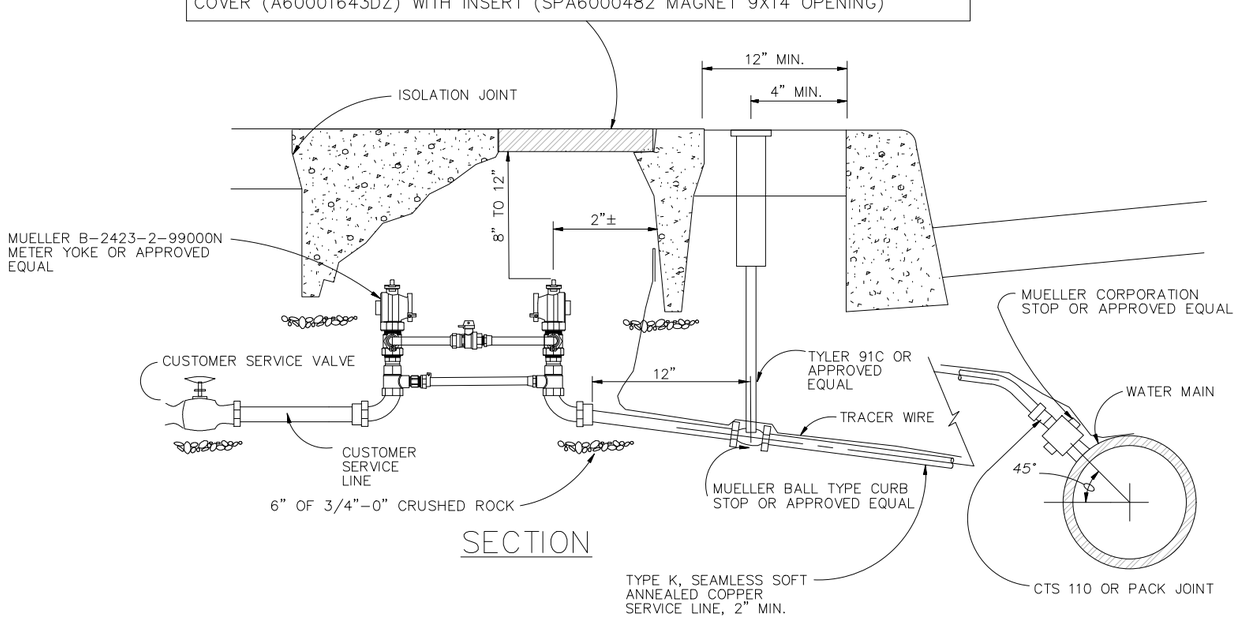
RD274

RD274



PLAN

17"X30"X22"AMORCAST METER BOX (P60001534X22 W/O MOUSEHOLES), AMORCAST COVER (A60001643DZ) WITH INSERT (SPA6000482 MAGNET 9X14 OPENING)



SECTION

NOTES:

1. METER TO BE CENTERED AND SET PLUMB INSIDE METER BOX.
2. SET CURB STOP BOX 4" MINIMUM BEHIND CURB OR SIDEWALK.
3. METER BOXES SET IN DRIVEWAYS SHALL HAVE TRAFFIC RATED LIDS.
4. METER SHALL BE A TYPE AND MAKE ACCEPTABLE TO THE CITY AND GALLON READ.
5. METER SHALL BE EQUIPPED WITH REGISTERS THAT ARE COMPATIBLE WITH THE "ITRON MOBILE COLLECTION SYSTEM" AND BE WIRED WITH A MINIMUM OF 5 FEET OF CABLE INCLUDING ITRON INLINE CONNECTOR.
6. METERS SHALL COMPLY WITH "EPA'S LEAD REDUCTION ACT" (LEAD FREE)
7. METERS SHALL BE EQUIPPED WITH REGISTERS WITH A RESOLUTION THAT READS IN 1/10 OF A GALLON
8. SEE PROJECT PLANS FOR DETAILS NOT SHOWN

NOTE: All material and workmanship shall be in accordance with with the current City of The Dalles Standard Specifications

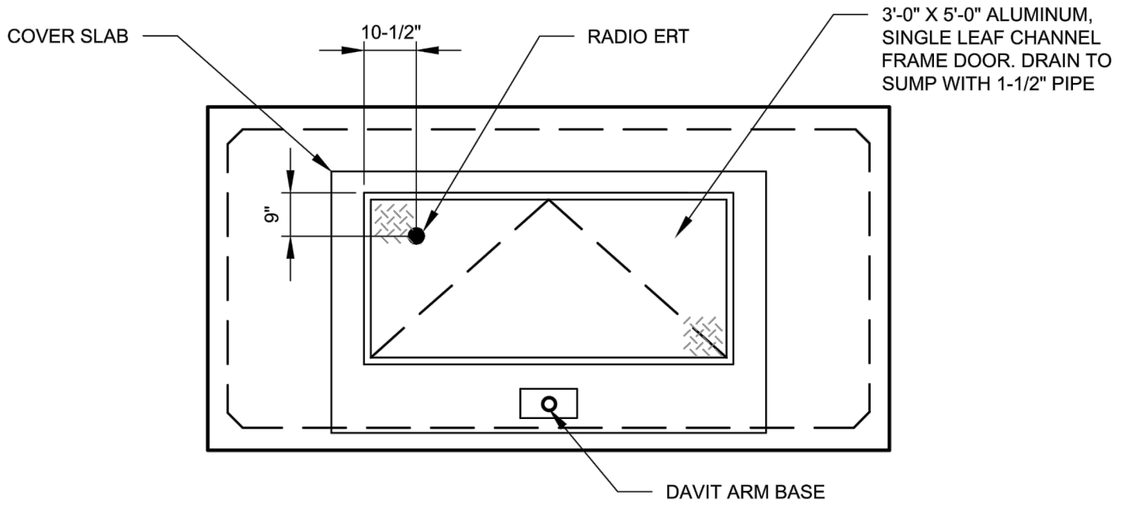
CITY OF THE DALLES STANDARD DRAWING

2" WATER SERVICE CONNECTION

2020

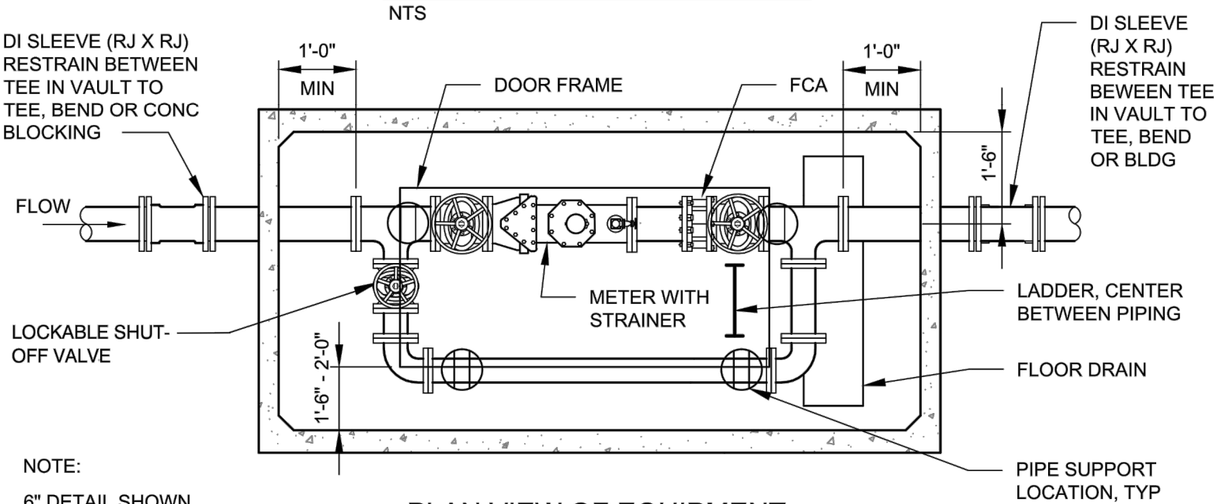
REVISIONS

DATE	DESCRIPTION
01-2018	REVISED NOTES
01-2019	REVISED METER BOXES



PLAN VIEW WITH COVER SLAB

NTS



PLAN VIEW OF EQUIPMENT

NTS

VAULT, FITTINGS AND PIPING SIZING REQUIREMENTS						UTILITY VAULT NO. *
METER SIZE	BYPASS VALVES AND PIPING	BYPASS TEE (FL X FL)	MIN INSIDE VAULT DIM LEN	WIDTH	HT	
3"	3"	3" X 3"	10 FT	6 FT	6 FT	810 - LA
4"	4"	4" X 4"	10 FT	6 FT	6 FT	810 - LA
6"	4"	6" X 4"	12 FT	6 FT	6 FT	810 - LA

* OR APPROVED EQUAL

NOTES:

1. VAULT ACCESS HATCH SHALL BE DRILLED FOR INSTALLATION OF RADIO ERT.
2. METER SHALL BE OBTAINED BY THE CONTRACTOR FROM THE SUPPLIER AND DELIVERED TO CITY MAINTENANCE OPERATIONS CENTER FOR STORAGE UNTIL INSTALLATION. WHEN METER APPLICATION IS APPROVED FOR INSTALLATION, INCLUDING PAYMENT OF CONNECTION FEES, THE CONTRACTOR SHALL RETRIEVE AND INSTALL METER.
3. A GRAVITY VAULT DRAIN (DI) SHALL BE CONNECTED TO STORM SYSTEM AS SHOWN ON THE DRAWINGS.
4. PAINT ALL EXPOSED PIPING AND FITTINGS INSIDE VAULT, EXCEPT METER BODY.
5. CENTER PIPING UNDER HATCH OPENING.
6. METER BOXES SET IN DRIVEWAYS SHALL HAVE TRAFFIC RATED LIDS.
7. METER SHALL BE A TYPE AND MAKE ACCEPTABLE TO THE CITY.
8. METER SHALL BE EQUIPPED WITH REGISTERS THAT ARE COMPATIBLE WITH THE "ITRON MOBILE COLLECTION SYSTEM" AND BE WIRED WITH A MINIMUM OF 5 FEET OF CABLE INCLUDING ITRON INLINE CONNECTOR.
9. METERS SHALL COMPLY WITH "EPA'S LEAD REDUCTION ACT" (LEAD FREE)
10. METER SHALL BE EQUIPPED WITH REGISTERS WITH A RESOLUTION THAT READS IN $\frac{1}{10}$ OF A GALLON.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

WATER METER PLAN VIEW
3", 4" & 6" METER DETAILS

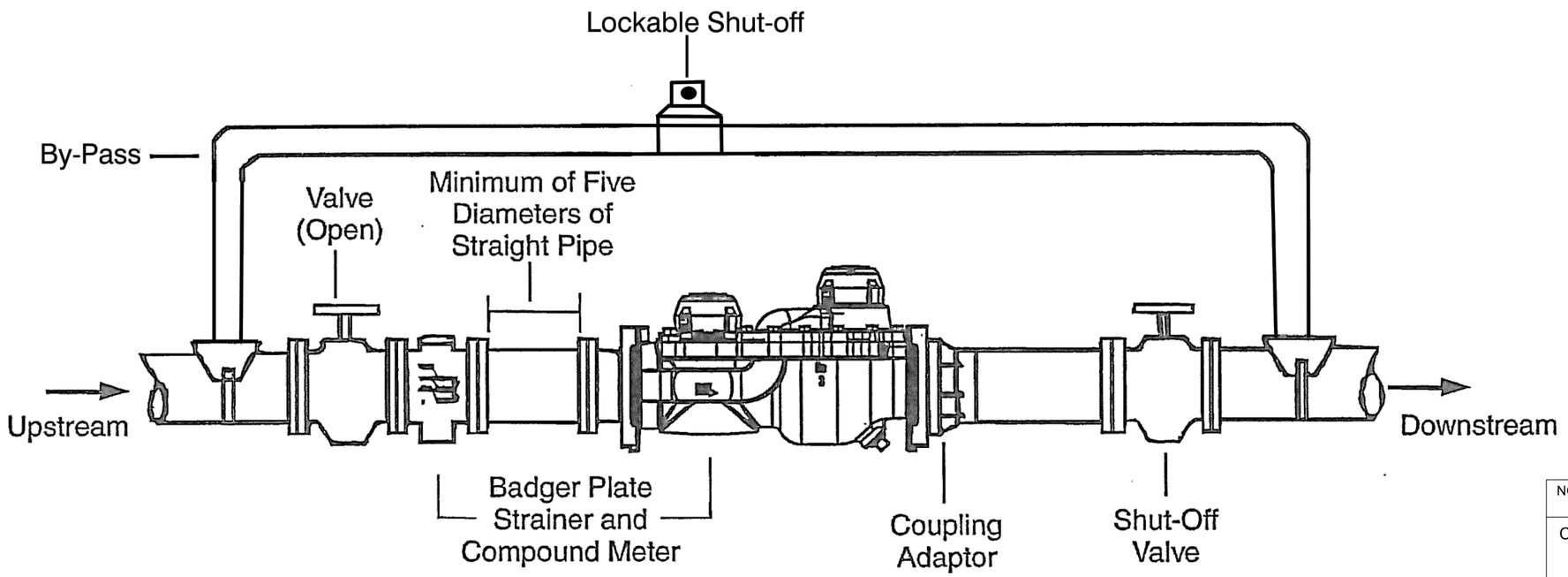
2020

DATE	REVISIONS DESCRIPTION

Effective Date: January 1, 2020 - December 31, 2020 RD276

NOTES:

1. METER TO BE CENTERED AND SET PLUMB INSIDE METER BOX.
2. METER BOXES SET IN DRIVEWAYS SHALL HAVE TRAFFIC RATED LIDS.
3. METER SHALL BE A TYPE AND MAKE ACCEPTABLE TO THE CITY AND GALLON READ.
4. METER SHALL BE EQUIPPED WITH REGISTERS THAT ARE COMPATIBLE WITH THE "ITRON MOBILE COLLECTION SYSTEM" AND BE WIRED WITH A MINIMUM OF 5 FEET OF CABLE INCLUDING ITRON INLINE CONNECTOR.
5. METERS SHALL COMPLY WITH "EPA'S LEAD REDUCTION ACT" (LEAD FREE)
6. METERS SHALL BE EQUIPPED WITH REGISTERS WITH A RESOLUTION THAT READS IN 1/10 OF A GALLON
7. BYPASS SHALL BE IN SAME VAULT AS METER.



The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

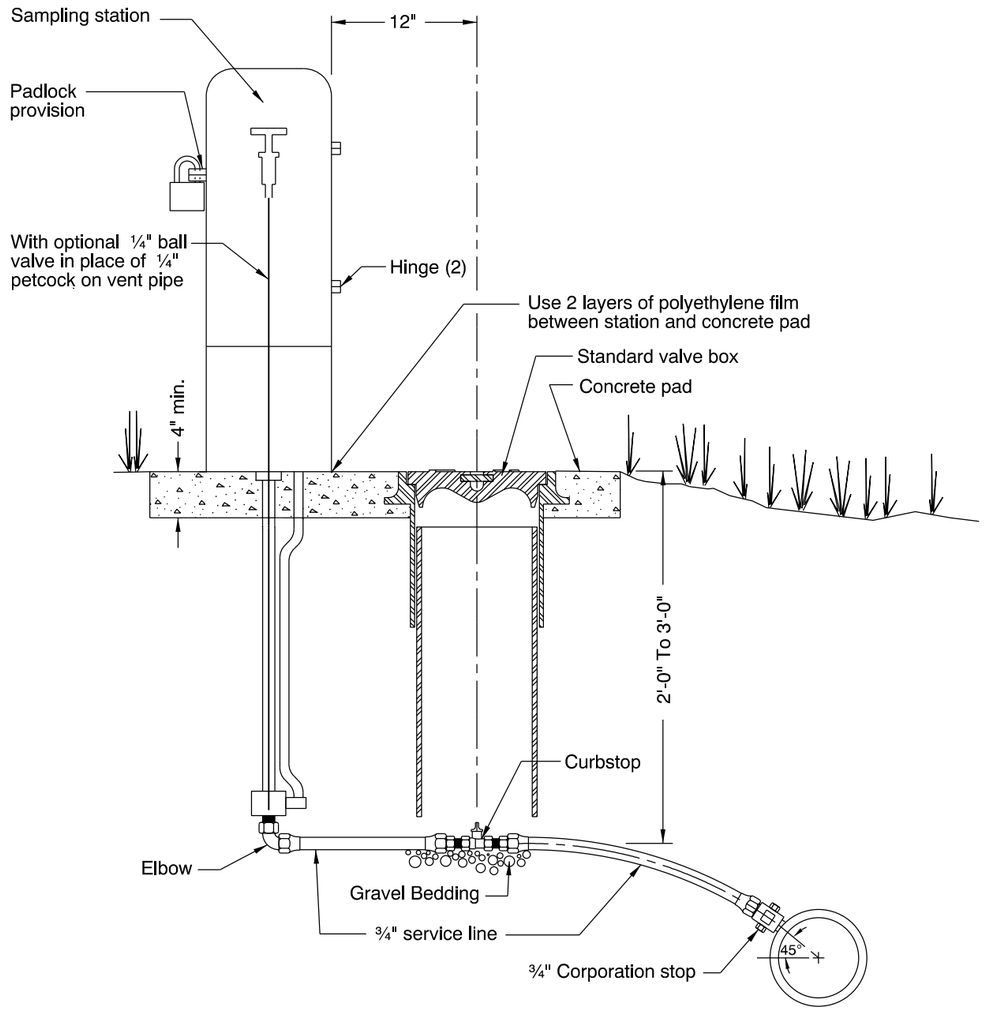
NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

COMPOUND WATER METER

2020

REVISIONS	
DATE	DESCRIPTION



GENERAL NOTES FOR ALL DETAILS:

1. Provide insulation and additional depth when specified for freeze protection.
2. Sampling Station shall be a Kupferle Eclipse #88-SS or approved equal.
3. See project plans for details not shown.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

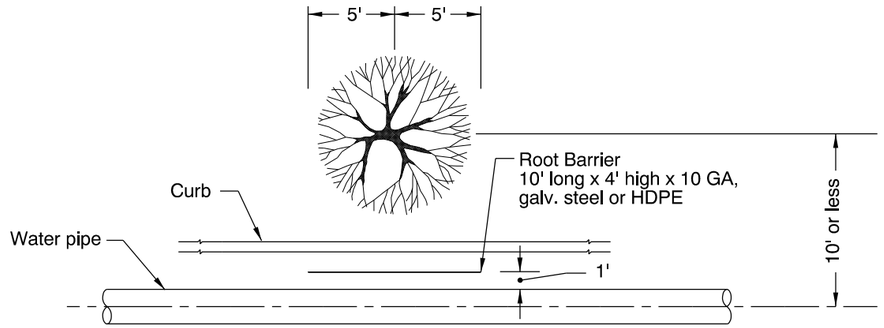
CITY OF THE DALLES STANDARD DRAWING

WATER SAMPLING STATION

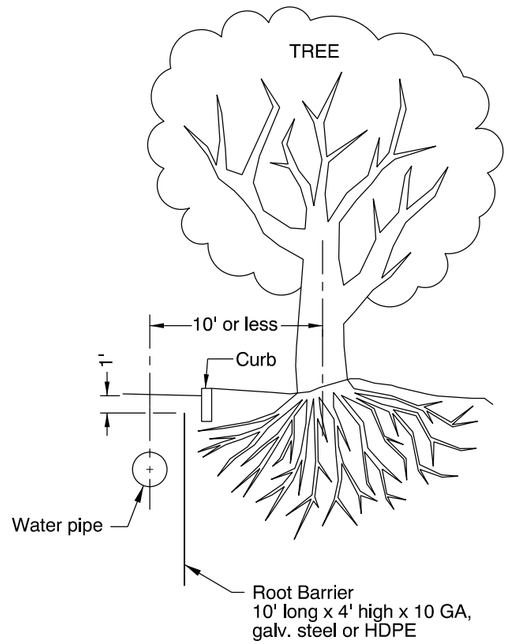
2020

DATE	REVISION DESCRIPTION
07-2015	REVISED DETAIL
01-2018	REVISED NOTES

RD282



PLAN



SECTION

GENERAL NOTES FOR ALL DETAILS:

1. Where existing parkway trees have been root pruned, install continuous, lineal root barrier adjacent to the pipe.
2. Root sealer shall be applied to all cut root areas which are larger that 2" in diameter. The sealer shall be applied as soon as practical after the cuts have been made. Root sealer shall be approved by the engineer at least 48 hours in advance of the pruning operation.
3. Root barriers shall be fabricated from a high density, high impact plastic or hot dipped galvanized steel.
4. See project plans for details not shown.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

ROOT BARRIER

2020

DATE	REVISION DESCRIPTION
01-2018	REVISED NOTES

RD286

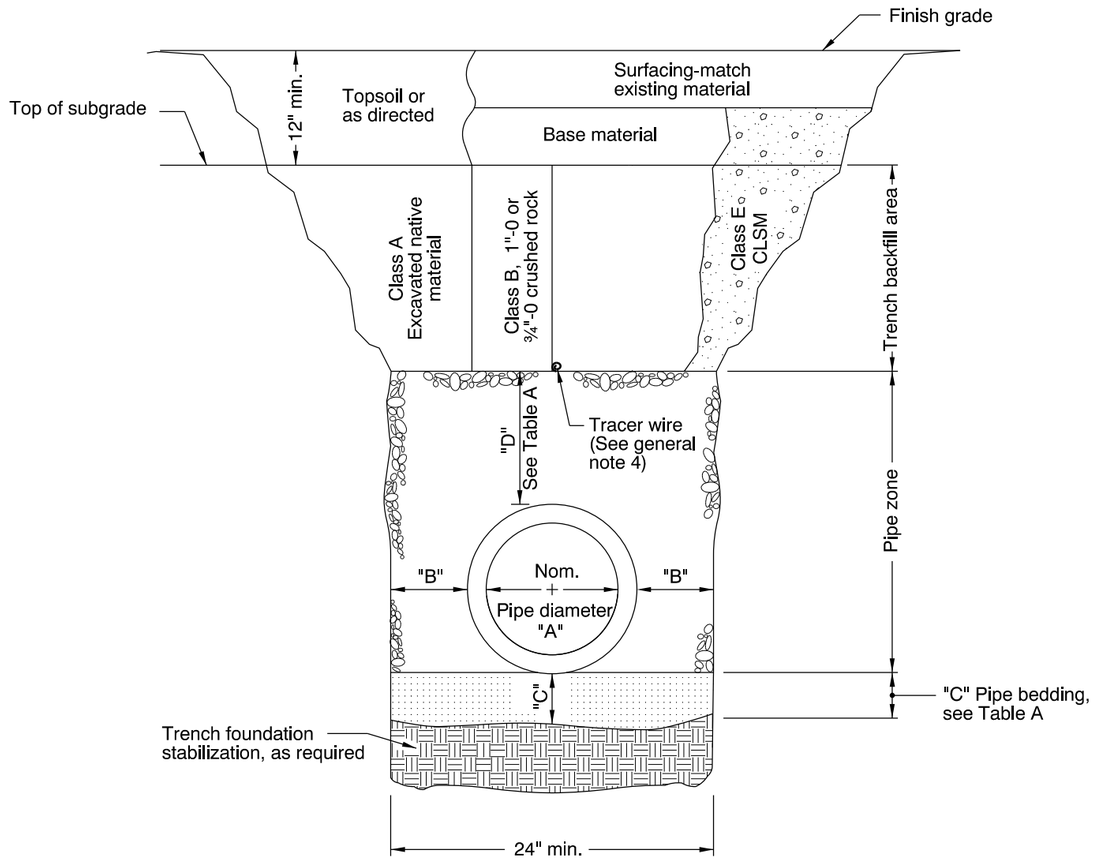
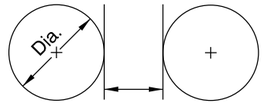


TABLE A

"A" (in)	"B" (in)	"C" (in)	"D" (in)
4	10	4	8
6	10	4	8
8	10	6	10
10	10	6	10
12	12	6	10
15	12	6	10
18	16	6	12
21	16	6	12
24	18	6	12
30	18	6	12
36	24	6	14
42	24	6	14
48	24	6	14
54	24	6	14
60	24	6	14
66	24	6	14
72	24	6	14

For pipes over 72" diameter, see general note 3.

MULTIPLE INSTALLATIONS



DIAMETER	MIN. SPACE BETWEEN PIPES
Up to 48"	24"
48" to 72"	One half (½) dia. of pipe

GENERAL NOTES FOR ALL DETAILS:

1. Surfacing of paved areas shall comply with street cut Std. Drg. RD302.
2. For pipe installation in embankment areas where the trench method will not be used and the pipe is ≥ 36" diameter, increase dimension "B" to nominal pipe diameter.
3. Pipes over 72" diameter are structures, and are not applicable to this drawing.
4. See Std. Drg. RD336 for tracer wire details (When required).

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

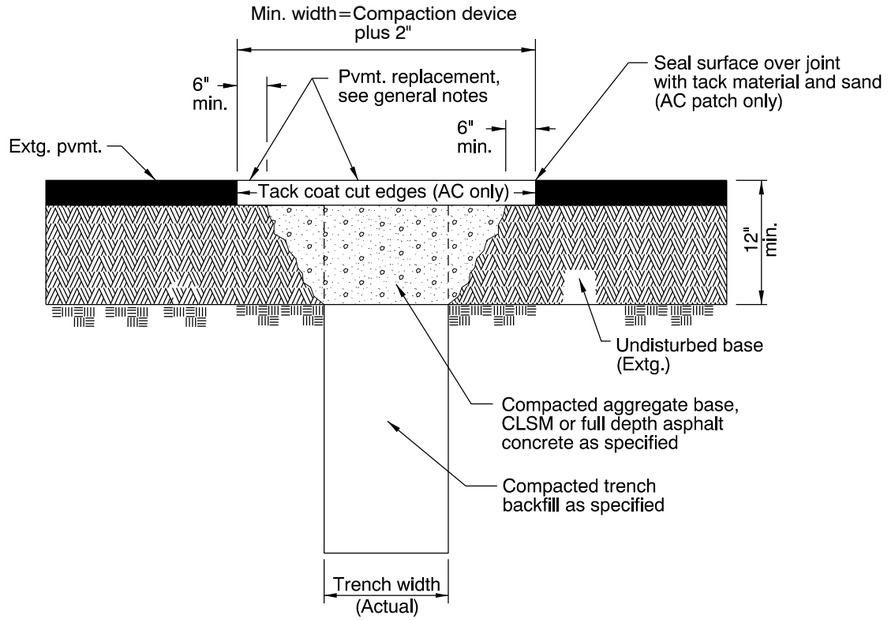
CITY OF THE DALLES STANDARD DRAWING

TRENCH BACKFILL, BEDDING, PIPE ZONE AND MULTIPLE INSTALLATIONS

2020

DATE	REVISION DESCRIPTION

RD300



GENERAL NOTES FOR ALL DETAILS:

1. All existing AC or PCC pavement shall be sawcut prior to repaving.
2. Concrete pavement shall be replaced with concrete to a minimum thickness of 6" or to the thickness of removed pavement, whichever is greater.
3. Place AC mix minimum thkn. of 4" or the thkn. of the removed pavement, whichever is greater. Compact as specified.

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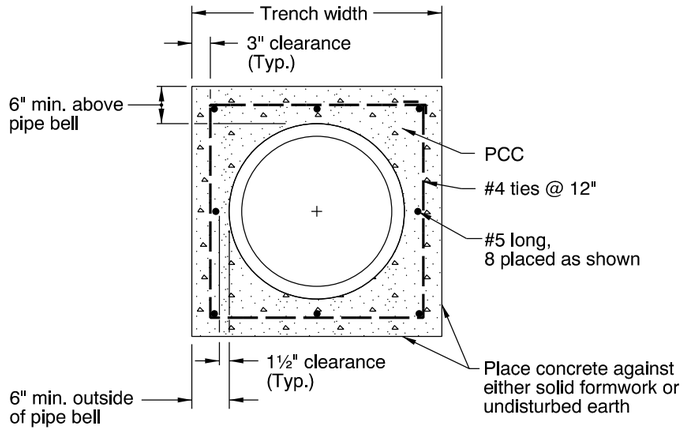
CITY OF THE DALLES STANDARD DRAWING

STREET CUT

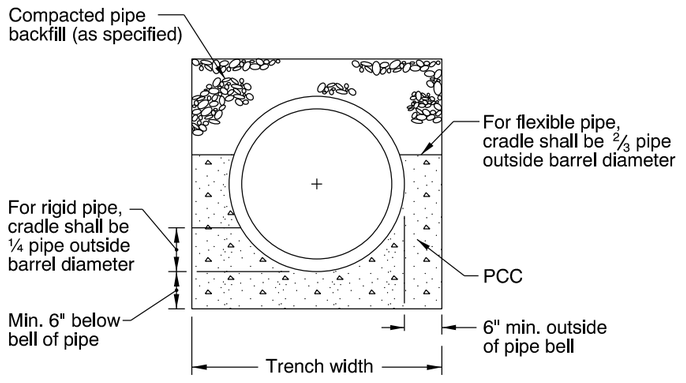
2020

DATE	REVISION DESCRIPTION

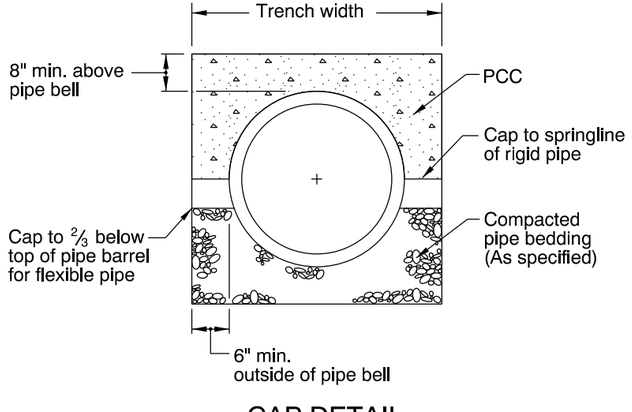
RD302



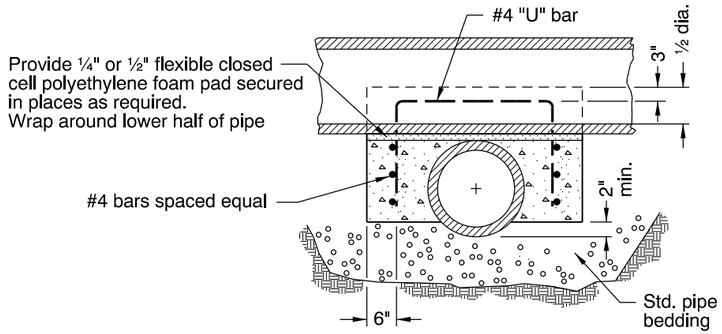
CONCRETE ENCASEMENT DETAIL



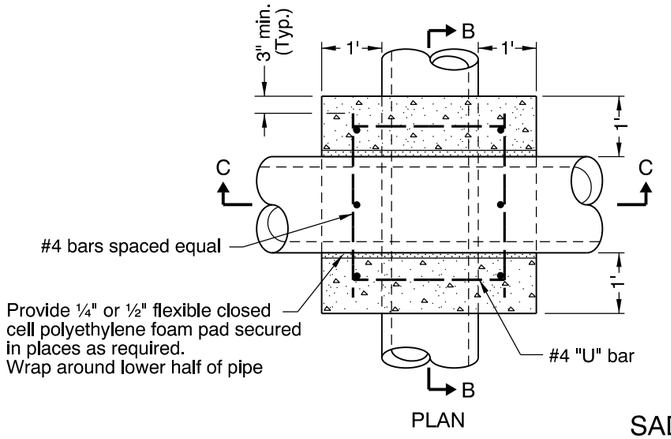
CRADLE DETAIL



CAP DETAIL



SECTION C-C



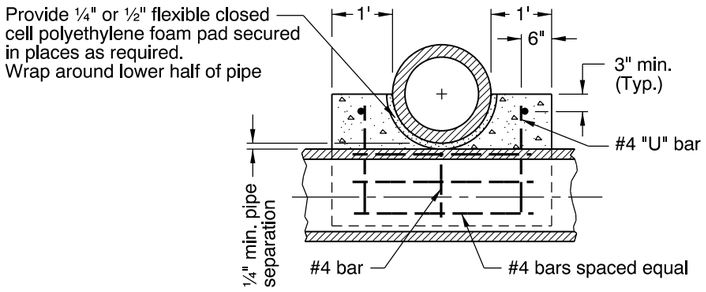
PLAN

SADDLE

SECTION A-A

PLAN

REINFORCED CONCRETE COLLAR



SECTION B-B

GENERAL NOTES FOR ALL DETAILS:

1. All concrete shall be commercial grade concrete.
2. End all reinforcing 3" clear of ground, forms or top surface, unless otherwise shown.
3. Trowel finish top surface of saddle, and cradle.
4. Reinforcement shall be # 4 vertical & horizontal bars as shown.
5. See Std. Drg. RD300 for trench backfill, bedding, etc.
6. See Std. Drg. RD336 for tracer wire details (When required).
7. Pipe over 72" diameter are structures, and are not applicable to this drawing.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

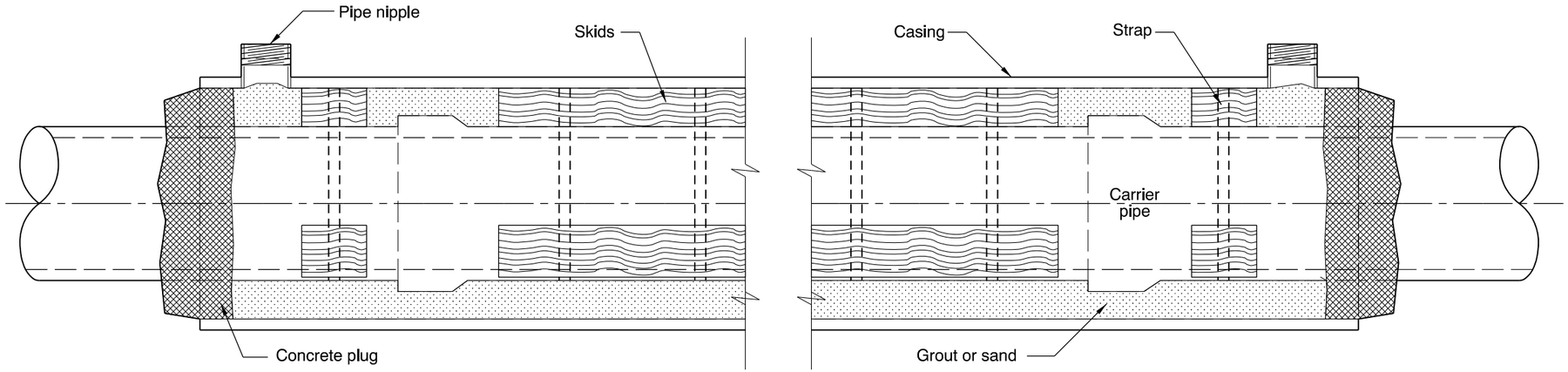
CITY OF THE DALLES STANDARD DRAWING

CONCRETE ENCASEMENT, CRADLE, AND CAP DETAILS

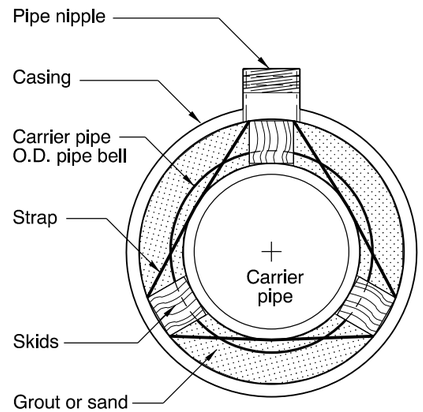
2020

DATE	REVISION DESCRIPTION

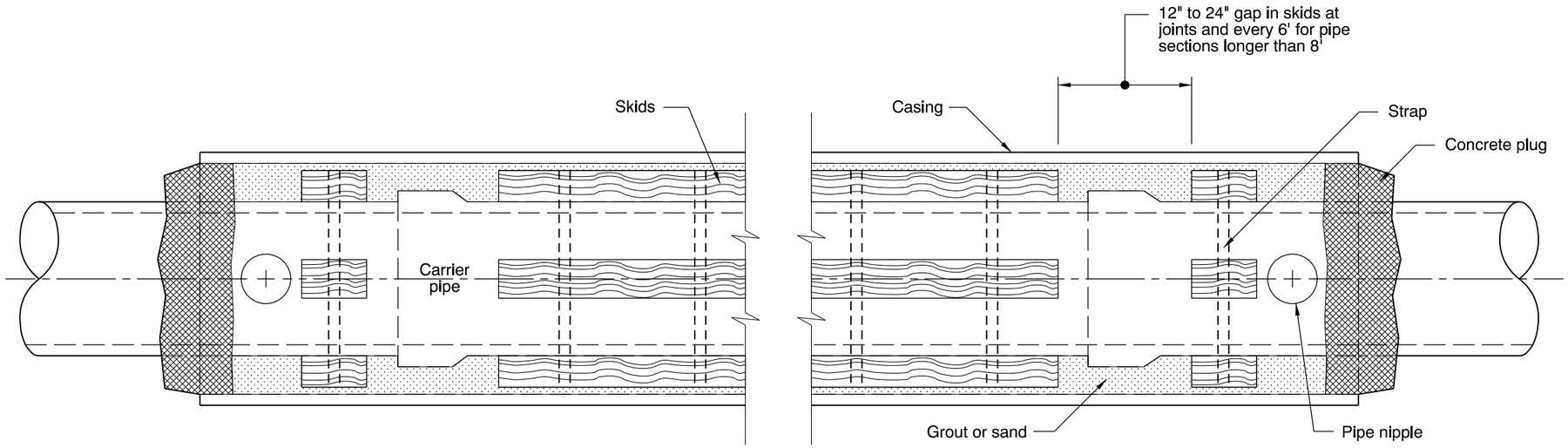
RD306



ELEVATION



END VIEW



PLAN

GENERAL NOTES FOR ALL DETAILS:

1. Type, size, and location(s) of casing, carrier pipe, skids, straps, pipe nipples, etc., are as required by the Engineer to meet site conditions.
2. Plug ends of casing with commercial grade concrete.
3. Block carrier pipe down or flood to resist flotation when filling annular space.
4. Provide pipe nipple at top of casing at each end of casing, for filling and verifing filling operation. Size to accomodate volume of grout or sand and site conditions (4" diameter minimum).
5. Strap pressure treated wood or manufactured skids to pipe, 3 skids per pipe section. Skids to support full length of pipe except bell.
6. See Std. Drg. RD336 for tracer wire details (When required).

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

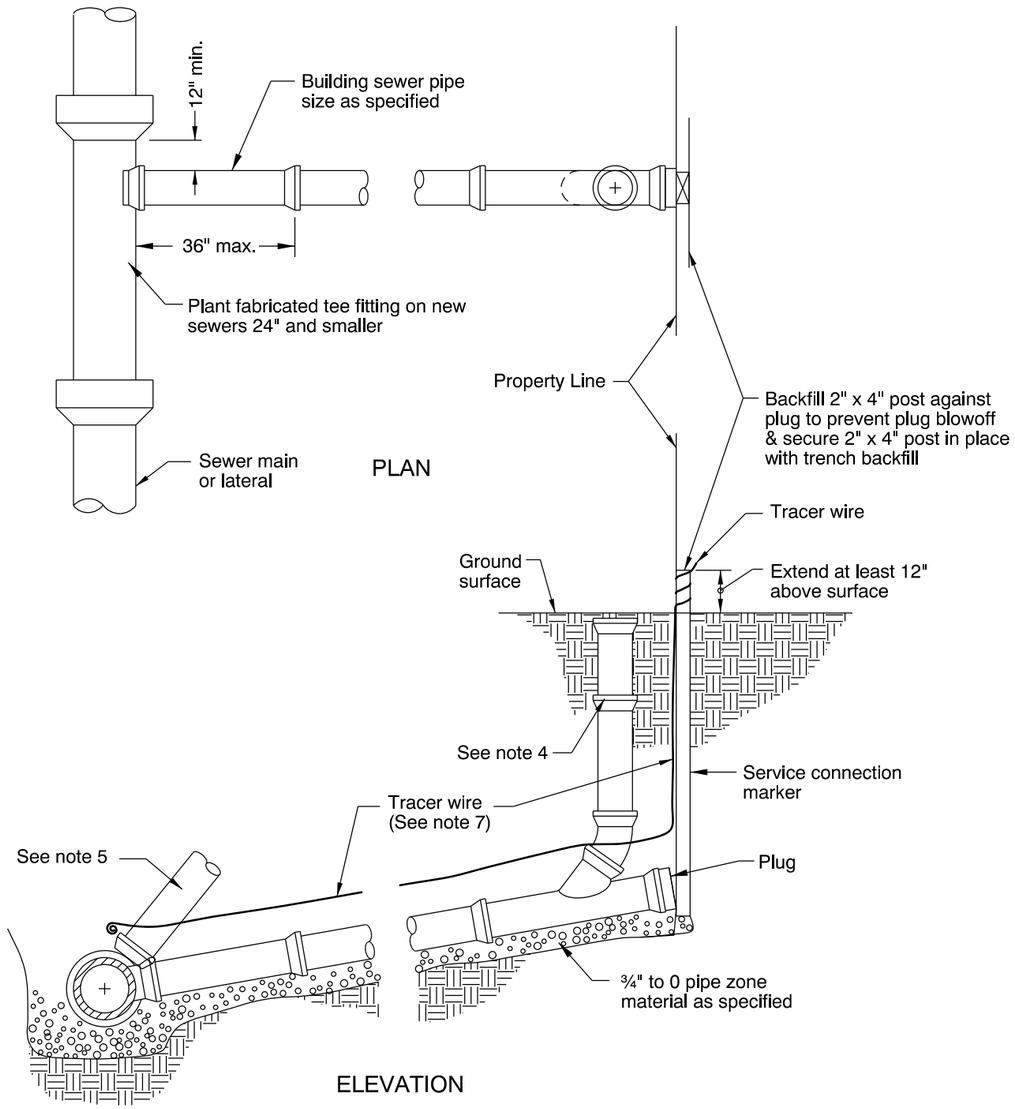
CITY OF THE DALLES STANDARD DRAWING

BORE CASING DETAIL

2020

DATE	REVISION DESCRIPTION

RD308

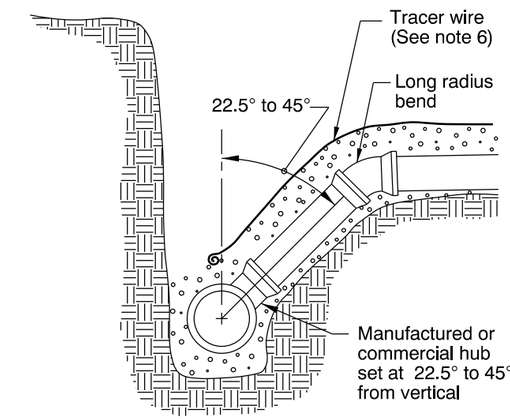


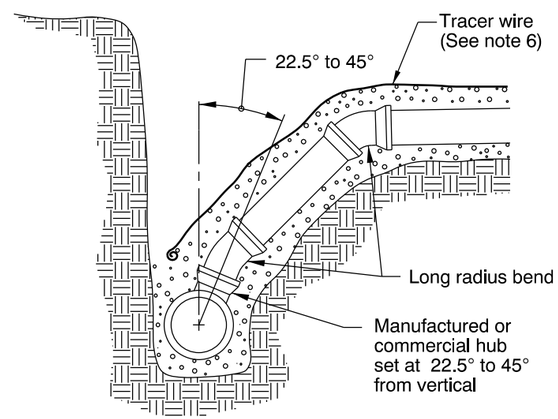
ELEVATION

SHALLOW TRENCH SERVICE

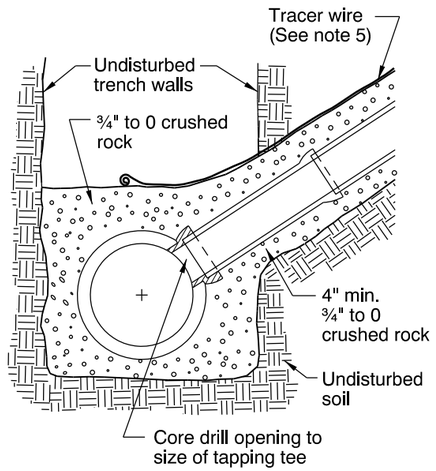
NOTES:

1. Pipe and fittings shall be compatible. Only manufactured fittings shall be used.
2. Minimum depth at right of way or easement line shall be 4'.
3. Marker posts and blocking shall be treated wood. Post shall be 2" x 4" fir. Post to extend 12" minimum above finish grade and exposed area shall be painted green.
4. A cleanout shall be installed per RD362 at property line or where located by Engineer
5. Lay building sewer at max. 45° from horizontal to achieve required depth at propertly line when minimum slope results in excessive depth.
6. For bedding and backfill see Std. Drg. RD300.
7. See Std. Drg. RD336 for tracer wire details.





DEEP TRENCH SERVICE



WASTEWATER SERVICE TAP

NOTES:

1. Seat tee in place to fit outside surface of carrier pipe and to form watertight seal.
2. Type of tapping tee shall be watertight and conform to standard specification requirements.
3. Tapping tee shall not protrude into pipe except as approved by the engineer.
4. For bedding and backfill, see Std. Drg. RD300.
5. See Std. Drg. RD336 for tracer wire details.

NOTES:

1. Pipe and fittings shall be compatible. Only manufactured fittings shall be used.
2. For details not shown see shallow trench service connection drawing.
3. Vertical trench walls are required. If it is not possible to maintain vertical trench walls, use alternate connection method to maintain 6" maximum distance between riser pipe and trench walls. Replace all excavated or disturbed material with full depth granular backfill compacted to 95% relative density.
4. Where deep connection is at an angle less than 45° from vertical, ductile iron pipe and fittings should be used.
5. For bedding and backfill, see Std. Drg. RD300.
6. See Std. Drg. RD336 for tracer wire details.

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NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

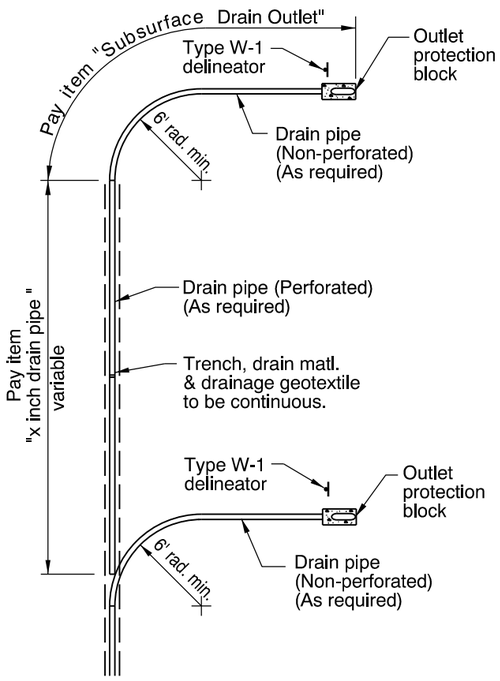
CITY OF THE DALLES STANDARD DRAWING

SHALLOW/DEEP TRENCH SERVICE CONNECTION, BLOCKING AND MARKERS

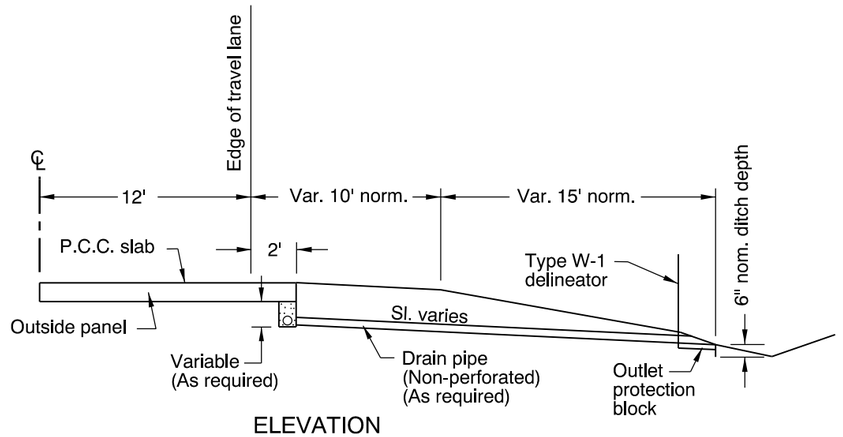
2020

DATE	REVISION DESCRIPTION
07-2015	REVISED DETAILS

RD310



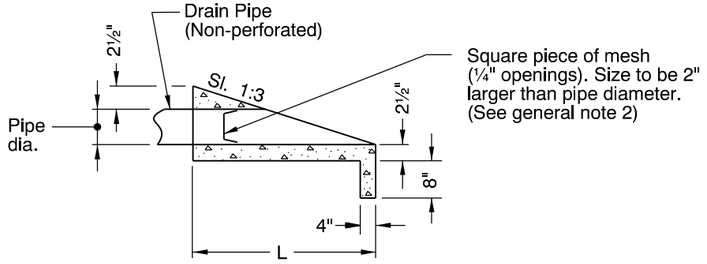
PLAN



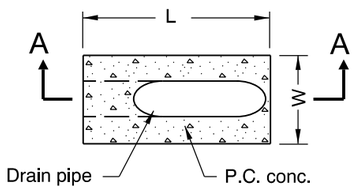
ELEVATION

SUBSURFACE DRAIN OUTLET

PIPE DIA. (in)	L NOM. (in)	W NOM. (in)
3	24	12
4	24	12
6	33	14
8	42	16



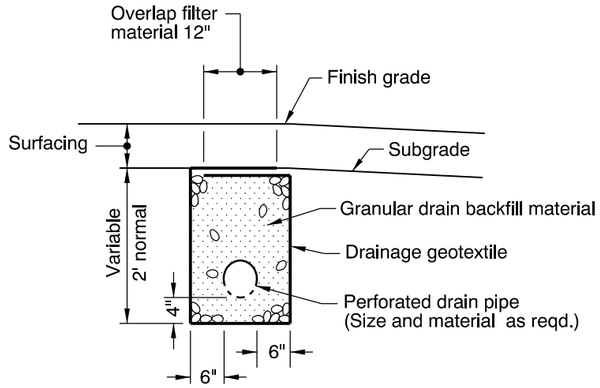
SECTION A-A



PLAN

OUTLET PROTECTION BLOCK

TYPE 1 SUBSURFACE DRAIN INSTALLATION



SECTION

SUBSURFACE DRAIN DETAIL

GENERAL NOTES FOR ALL DETAILS:

1. In guard rail areas extend outlet protection block to back of guard rail post min.
2. Mesh for rodent control to be galvanized wire or approved equal.

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NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

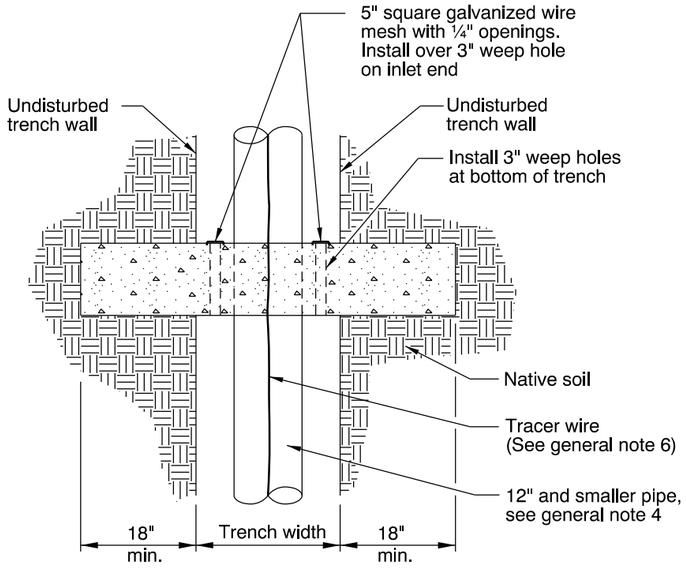
CITY OF THE DALLES STANDARD DRAWING

SUBSURFACE DRAIN

2020

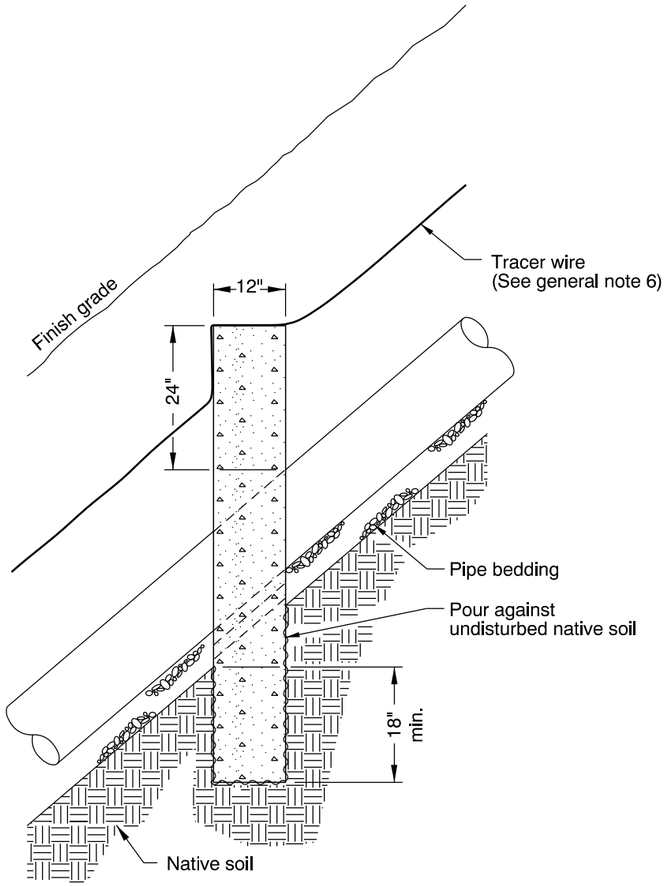
DATE	REVISION DESCRIPTION
07-2015	REVISED NOTES

RD312



PLAN

Metal pipe requires polymeric coating when using slope anchors made with concrete.



ELEVATION

GENERAL NOTES FOR ALL DETAILS:

1. Concrete pipe anchors shall be constructed using forms when sewers, storm drains and other pipelines are constructed with slopes 20% or greater. Remove forms prior to backfilling trench.
2. All concrete shall be commercial grade concrete.
3. Center to center max. spacing of concrete pipe anchors shall be:

SLOPE	SPACING (on slope)
20-34%	35'
35-50%	25'
50+ %	15' or concrete encasement

4. Dimensions for embedment for pipes larger than 12" shall be approved by the engineer.
5. See Std. Drgs. RD300 & RD304 for pipe installation details.
6. See Std. Drg. RD336 for tracer wire details (When required).

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NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

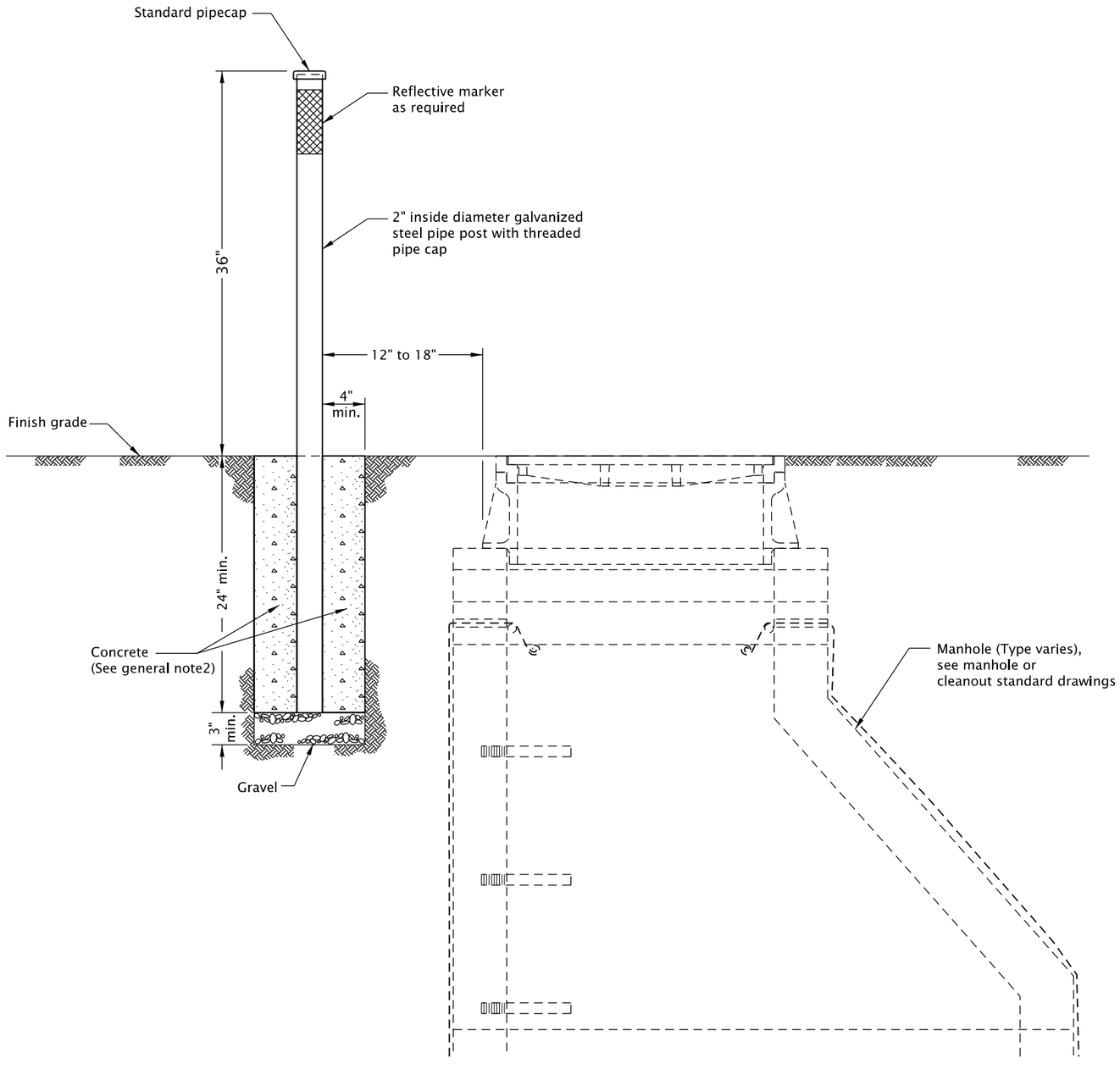
CITY OF THE DALLES STANDARD DRAWING

PIPE SLOPE ANCHORS - CONCRETE

2020

DATE	REVISION DESCRIPTION
01-2015	REVISED NOTE

RD332



LOCATOR POST AT MANHOLE OR CLEANOUT

AMERICAN PUBLIC WORKS ASSOCIATION UNIFORM COLOR CODE	
RED	Electric power lines, cables or conduits, and lighting cables.
YELLOW	Gas, oil, steam, petroleum or other hazardous liquid or gaseous materials.
ORANGE	Communications, cable TV, alarm or signal lines, cables, or conduits.
BLUE	Water, irrigation, and slurry lines.
GREEN	Sewers, storm sewer facilities, or other drain lines.
WHITE	Proposed excavation
PINK	Temporary survey markings.
PURPLE	Reclaimed water, irrigation and slurry lines.

GENERAL NOTES FOR ALL DETAILS:

1. As directed the locator post shall be located on the straight side of manhole cone.
2. Post located in areas subject to vehicle traffic shall be flexible, durable plastic.
3. Flexible, durable plastic marker shall be a PEXCO Flexi Guide FG 542 with a FG 95 Plastic Anchor, or approved equal.
4. Post shall be painted appropriate color as shown.

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NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

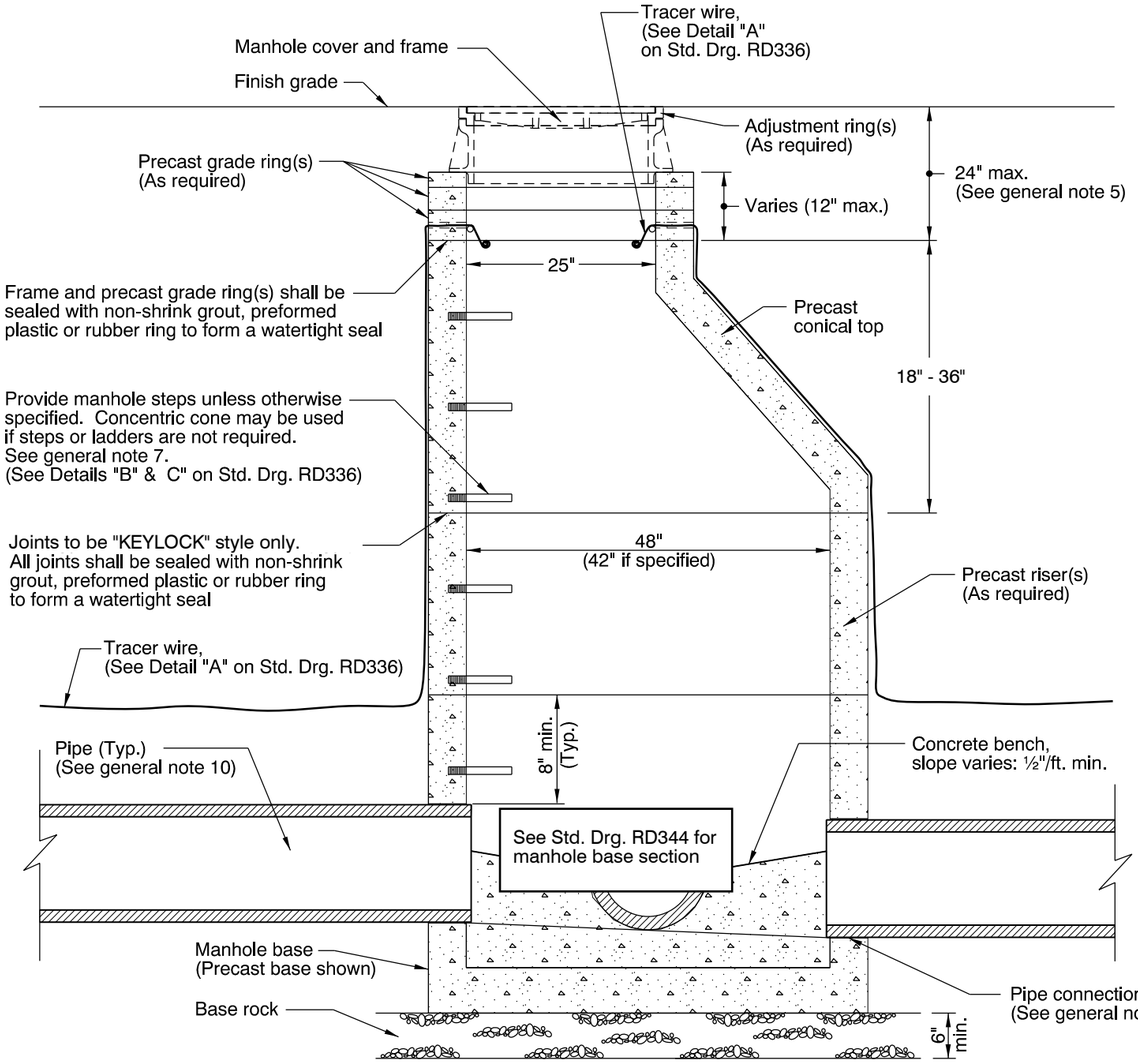
LOCATOR POST

2020

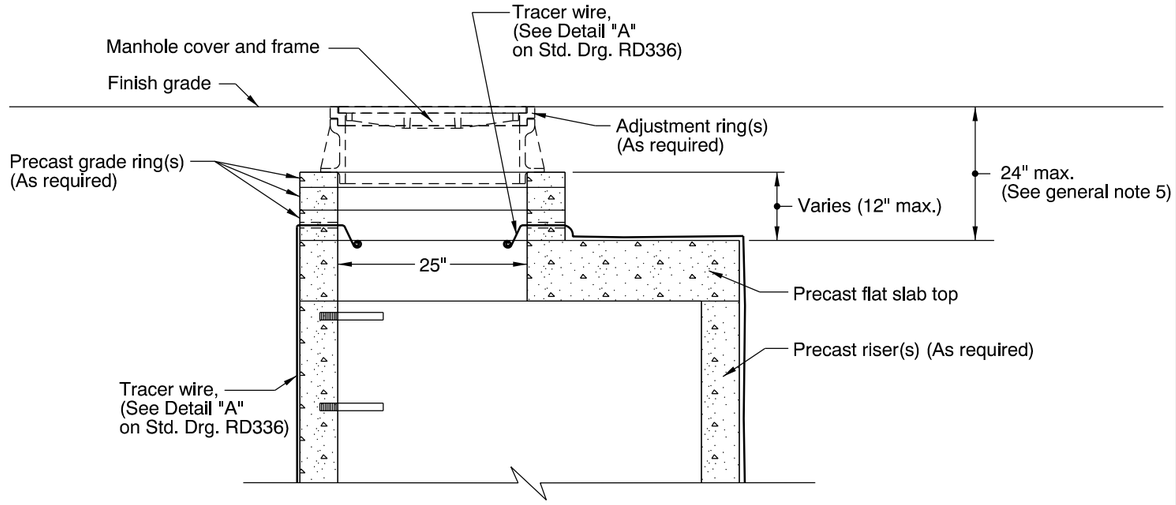
DATE	REVISION DESCRIPTION
07-2018	REVISED NOTES

RD334

EFFECTIVE DATE: JANUARY 1, 2020- DECEMBER 31, 2020 RD334



MANHOLE WITH PRECAST CONICAL TOP



MANHOLE WITH PRECAST FLAT SLAB TOP

GENERAL NOTES FOR ALL DETAILS:

1. All precast products shall conform to requirements of ASTM C478.
2. Standard precast manhole section diameter shall be 48". Use 42" if specified by the Engineer.
3. See Std. Drg. RD345 for pipe to manhole connections.
4. See Std. Drg. RD344 for manhole base section.
5. Adjust 24" maximum.
6. All connecting pipes shall have a tracer wire, or approved alternate.
7. See Std. Dwg. RD336 for manhole steps.
8. See Std. Drg. RD336 for details not shown.
9. See Std. Drg. RD356 for manhole covers and frames, manhole adjustment rings, etc.
10. Max. pipe diameter varies with pipe material.
11. See Std. Drg. RD342 for shallow manholes.
12. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.

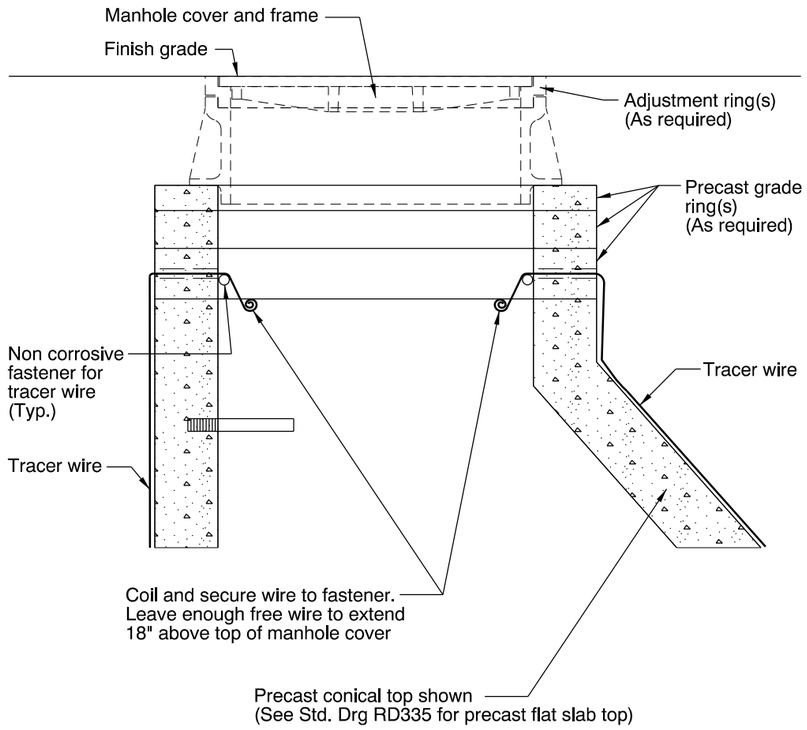
NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

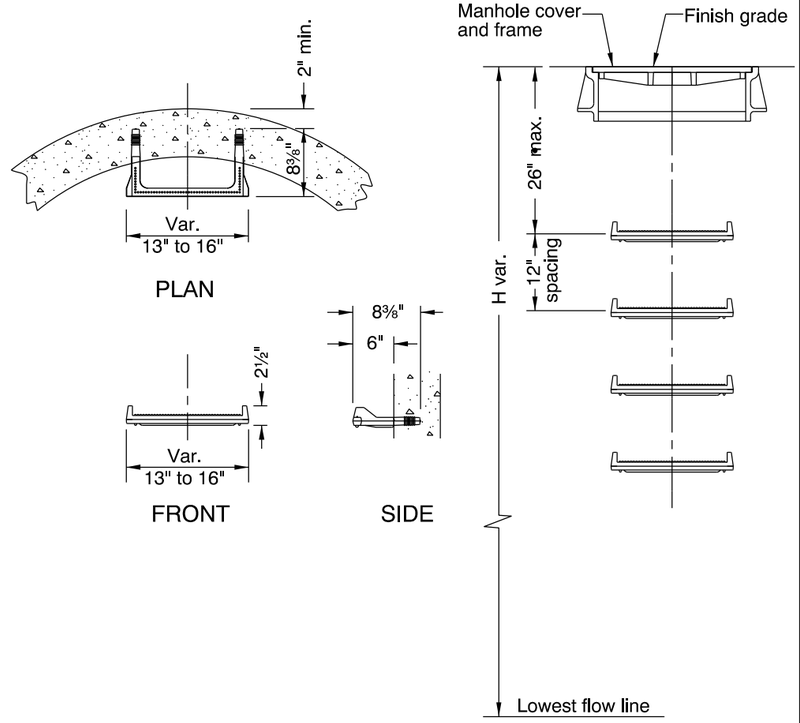
STANDARD
STORM SEWER MANHOLE

2020

DATE	REVISION DESCRIPTION
12/2019	REVISED JOINT NOTE

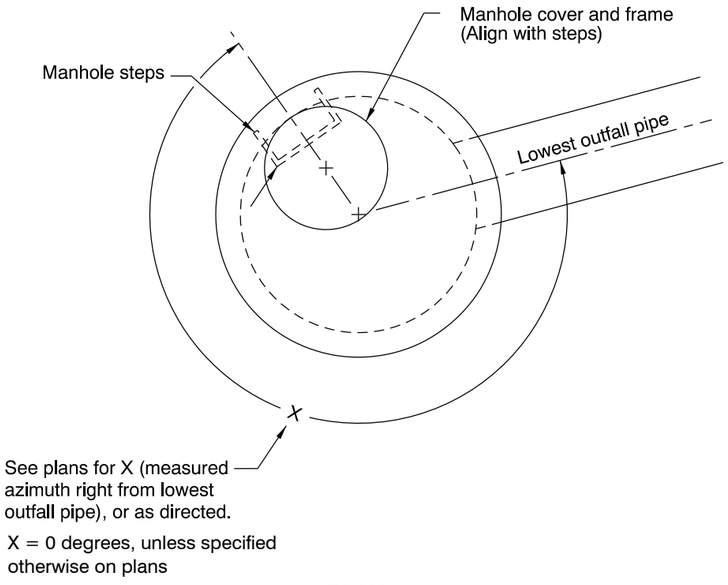


DETAIL "A"
TRACER WIRE
(See general note 6)



See ODOT's QPL for acceptable alternate manhole steps and/or ladders.
NOTE: No conflict with pipe align with available shelf.

DETAIL "B"
MANHOLE STEPS
(See general note 7)



PLAN

DETAIL "C"
PRECAST CONICAL TOP
OR
PRECAST FLAT SLAB TOP
AND MANHOLE STEPS ORIENTATION
(See general note 7)

GENERAL NOTES FOR ALL DETAILS:

1. All precast products shall conform to requirements of ASTM C478.
2. Standard precast manhole section diameter shall be 48". Use 42" if specified by the Engineer.
3. See Std. Drg. RD345 for pipe to manhole connections.
4. See Std. Drg. RD344 for manhole base section.
5. Adjust 24" maximum.
6. All connecting pipes shall have a tracer wire, or approved alternate. Place tracer wire directly over pipe centerline and on top of the pipe zone material.
7. Steps and ladders shall conform to requirements of ASTM C478. When H=42" or less omit steps. See Detail "C" for alignment of steps, and manhole cover and frame.
8. See Std. Drg. RD335 for details not shown.
9. See Std. Drg. RD356 for manhole covers and frames, manhole adjustment rings, etc.
10. Max. pipe diameter varies with pipe material.
11. See Std. Drg. RD342 for shallow manholes.
12. See project plans for details not shown.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

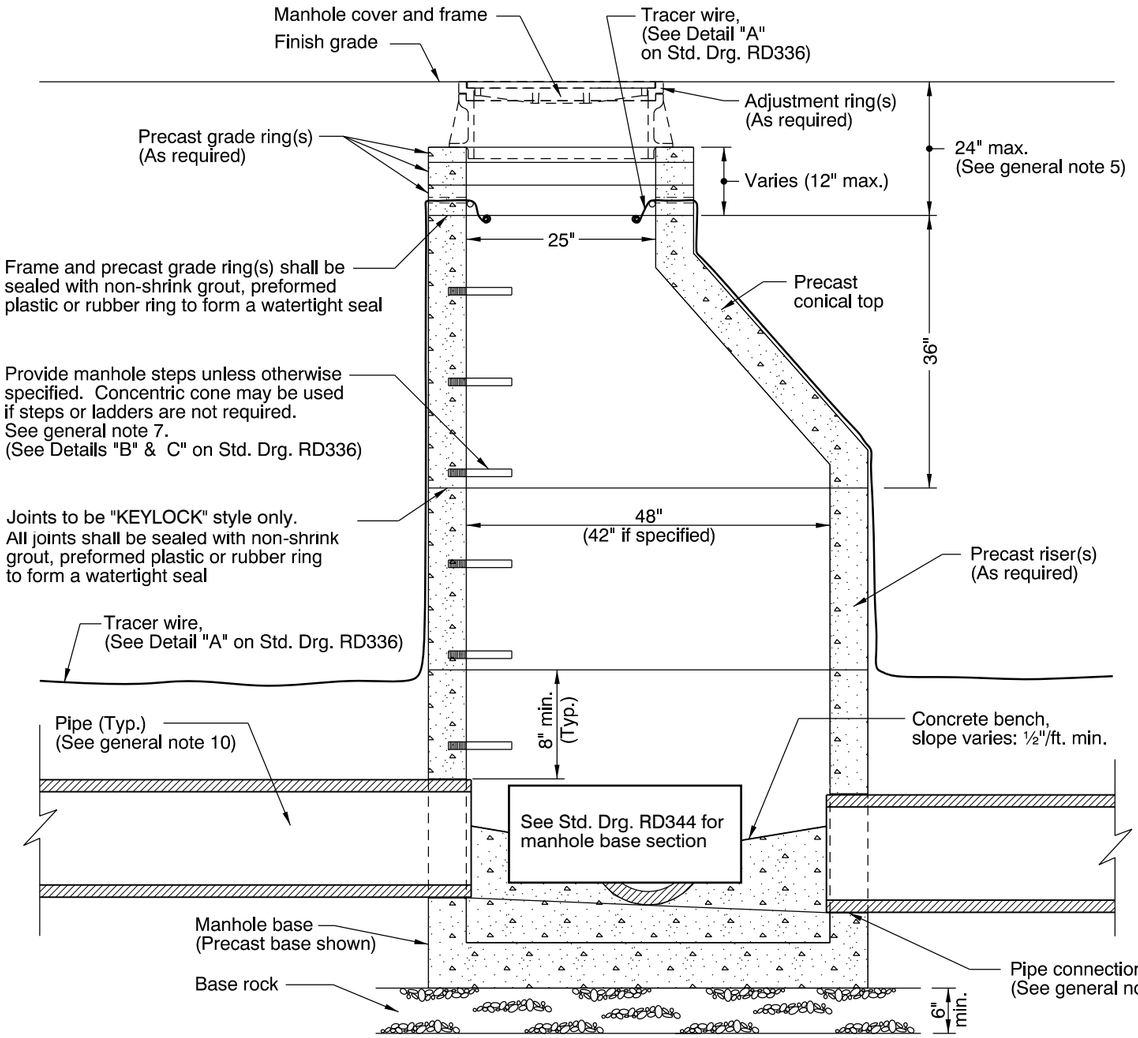
STANDARD MANHOLE DETAILS

2020

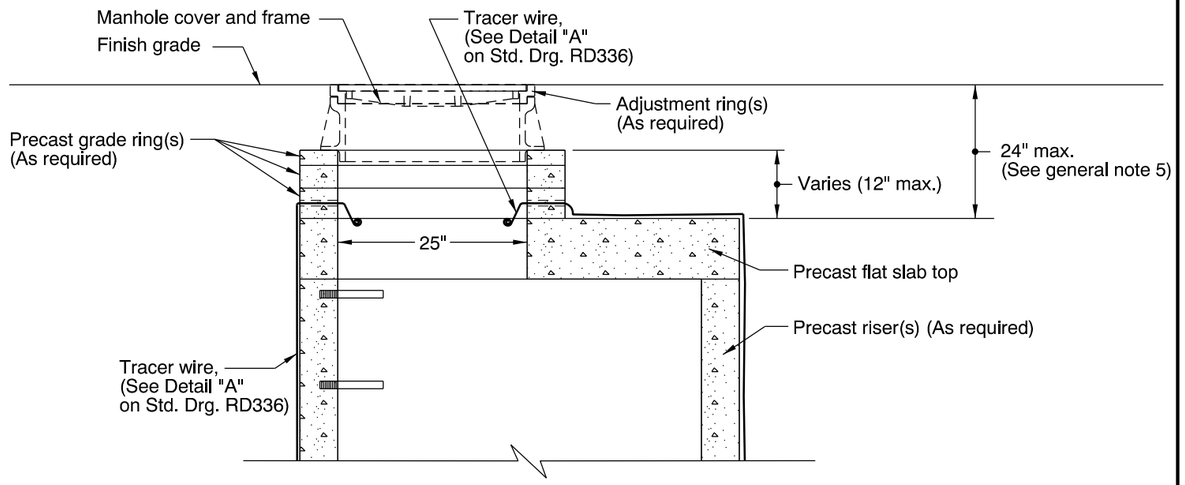
DATE	REVISION DESCRIPTION
07-2015	REVISED DETAILS & NOTES

RD336

Effective Date: January 1, 2020 - December 31, 2020 RD336



MANHOLE WITH PRECAST CONICAL TOP



MANHOLE WITH PRECAST FLAT SLAB TOP

GENERAL NOTES FOR ALL DETAILS:

1. All precast products shall conform to requirements of ASTM C478.
2. Standard precast manhole section diameter shall be 48". Use 42" if specified by the Engineer.
3. See Std. Drg. RD345 for pipe to manhole connections.
4. See Std. Drg. RD344 for manhole base section.
5. Adjust 24" maximum.
6. All connecting pipes shall have a tracer wire, or approved alternate.
7. See Std. Dwg. RD336 for manhole steps.
8. See Std. Drg. RD336 for details not shown.
9. See Std. Drg. RD356 for manhole covers and frames, manhole adjustment rings, etc.
10. Max. pipe diameter varies with pipe material.
11. See Std. Drg. RD342 for shallow manholes.
12. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
13. This detail limited to interior drop of 24".
    See Std. Drawing RD352 for drop manhole details for drops in excess of 24".

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

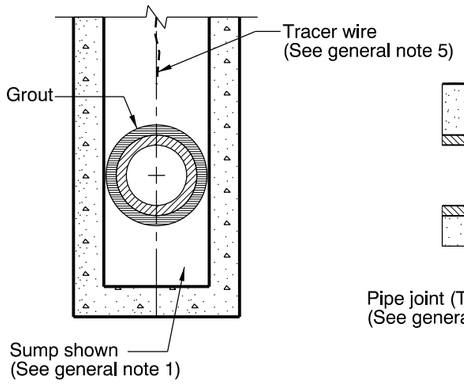
CITY OF THE DALLES STANDARD DRAWING

STANDARD
SANITARY SEWER MANHOLE

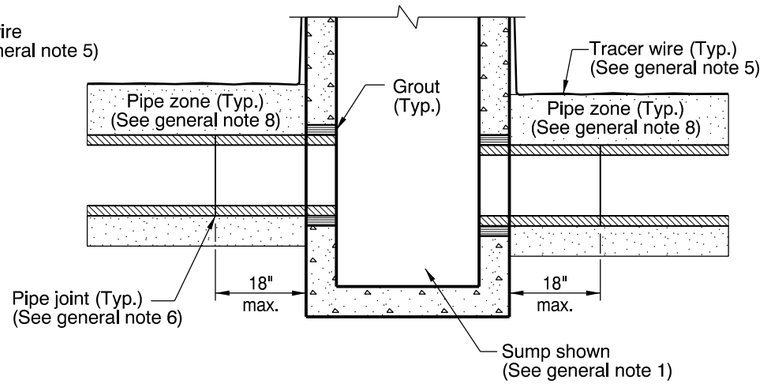
2020

DATE	REVISION DESCRIPTION
01-2018	REVISED NOTES
12-2019	REVISED JOINT NOTE

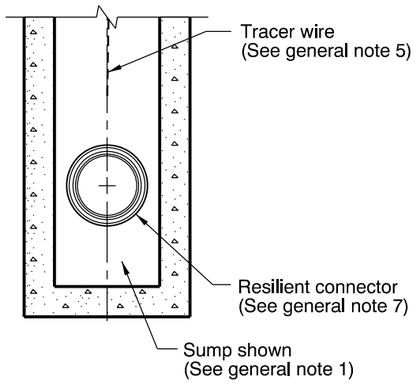
RD338



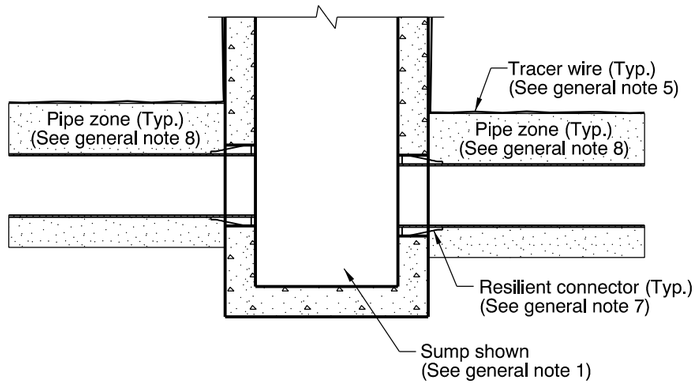
SECTION B-B



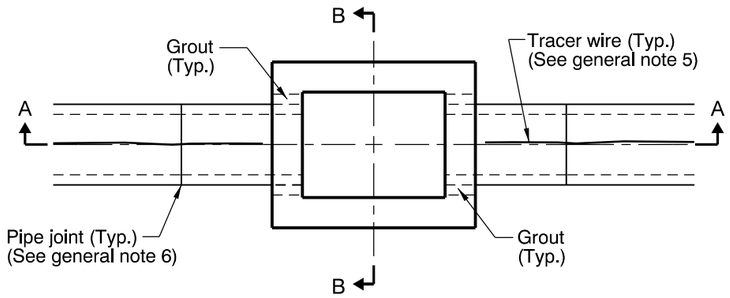
SECTION A-A



SECTION B-B

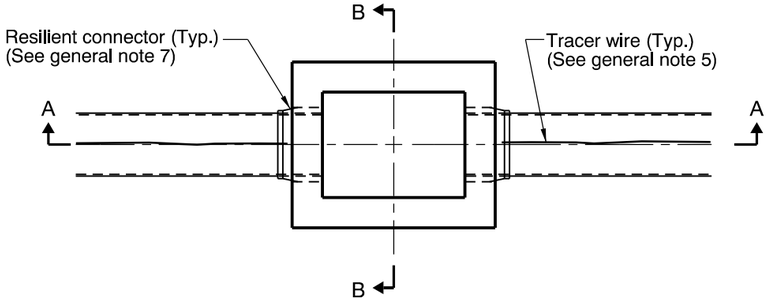


SECTION A-A



PLAN

CONNECTION OF RIGID PIPE TO STRUCTURE



PLAN

CONNECTION OF FLEXIBLE PIPE TO STRUCTURE

GENERAL NOTES FOR ALL DETAILS:

1. See Std. Drgs. RD364, RD365, and RD366 for inlet details not shown.
2. See appropriate standard drawings or special project details for other similar structures.
3. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
4. Max. pipe diameter varies with pipe material.
5. All connecting pipes shall have a tracer wire, or approved alternate. See Std. Drg. RD336 for tracer wire details.
6. When rigid pipe is used, the connecting pipe shall have a flexible, gasketted and unrestrained joint within 18" of manhole wall. Joint type varies with manufacturer.
7. When flexible pipe is used, install resilient connectors conforming to requirements of ASTM C923.
8. Pipe zone varies, see Std. Drg. RD300.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

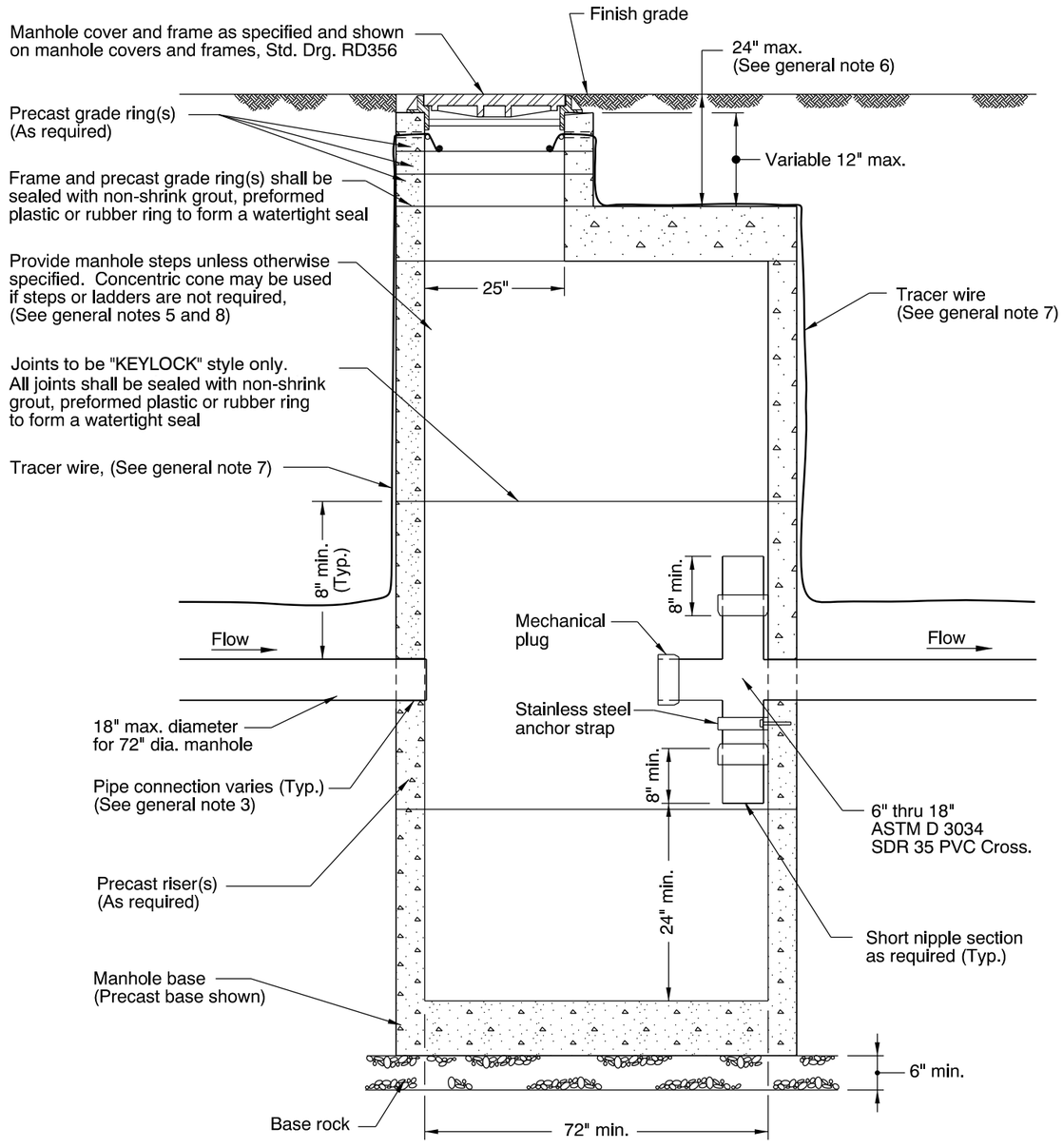
CITY OF THE DALLES STANDARD DRAWING

PIPE TO STRUCTURE CONNECTIONS

2020

DATE	REVISION DESCRIPTION

RD339



GENERAL NOTES FOR ALL DETAILS:

1. All precast products shall conform to requirements of ASTM C478.
2. Standard precast manhole section diameter shall be 72".
3. See Std. Drg. RD345 for pipe to manhole connections.
4. See Std. Drg. RD344 for manhole base section, for details not shown.
5. See Std. Drg. RD336 for manhole steps details, and flat slab top orientation.
6. Adjust 24" max.
7. See Std. Drg. RD336 for tracer wire details.
8. See Std. Dwg. RD336 for manhole steps.
9. Max. pipe diameter varies with pipe material.
10. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

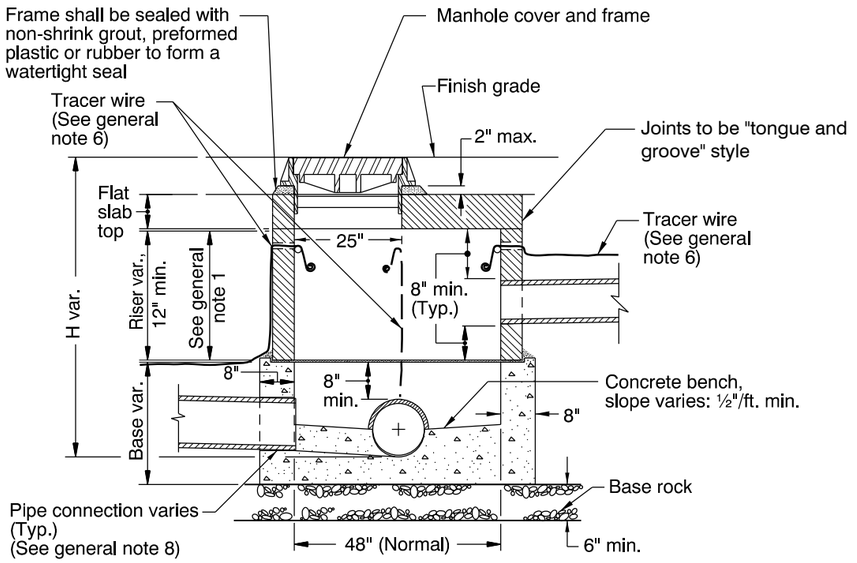
CITY OF THE DALLES STANDARD DRAWING

STORM SEWER POLLUTION CONTROL MANHOLE

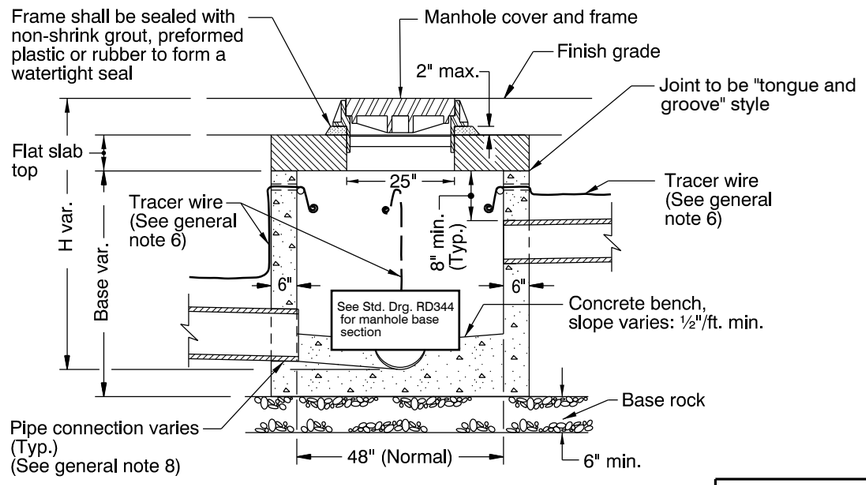
2020

DATE	REVISION DESCRIPTION
01-2018	REVISED NOTES
12-2019	REVISED JOINT NOTE

RD340



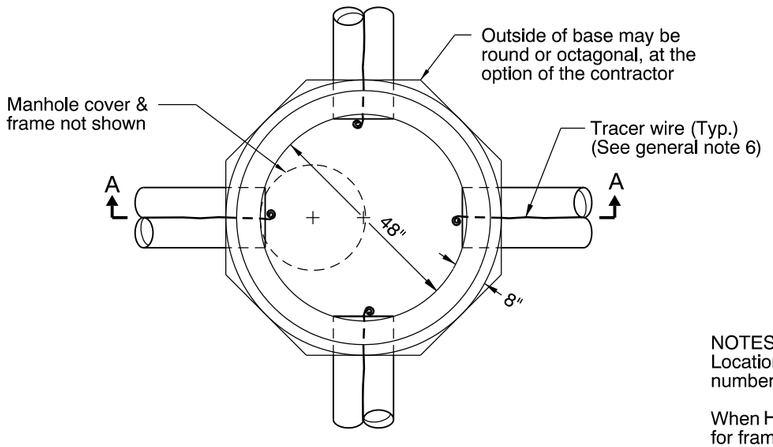
SECTION A-A
(Base, Riser & Flat Slab Top)



SECTION B-B
(Base & Flat Slab Top)

LEGEND
(See general note 3)

- Cast-in-Place concrete
- Precast concrete
- 1: 2 cement mortar
- Sewer pipe

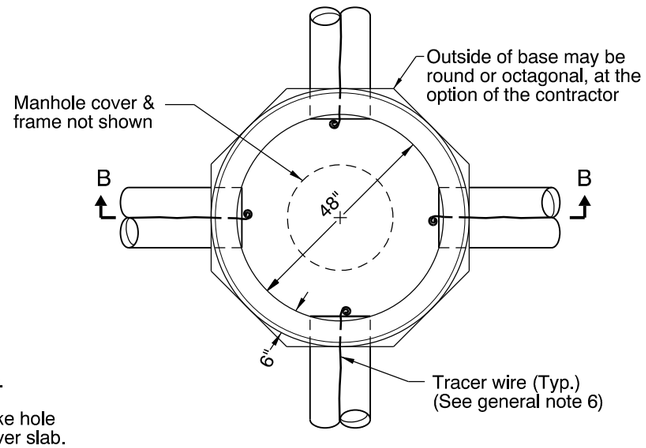


TOP VIEW
(Base, Riser & Flat Slab Top)

NOTES:
Location, elevation, and number of pipe(s) varies.

When H=42" or less make hole for frame in center of cover slab.

When H=42" or less omit steps.



TOP VIEW
(Base & Flat Slab Top)

GENERAL NOTES FOR ALL DETAILS:

1. Minimum length if laterals or connections are inserted: outside diameter of pipe + 17".
2. Use Section B-B when length of riser becomes less than minimum shown.
3. Base may be precast or cast-in-place.
4. All precast products shall conform to the requirements of ASTM C478.
5. See Std. Drg. RD336 for manhole steps details, and flat slab top orientation.
6. See Std. Drg. RD336 for tracer wire details.
7. See Std. Drg. RD344 for manhole base section.
8. See Std. Drg. RD345 for pipe to manhole connections.
9. See Std. Drg. RD356 for manhole covers and frames.
10. All concrete shall be commercial grade concrete.
11. Max. pipe diameter varies with pipe material.
12. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

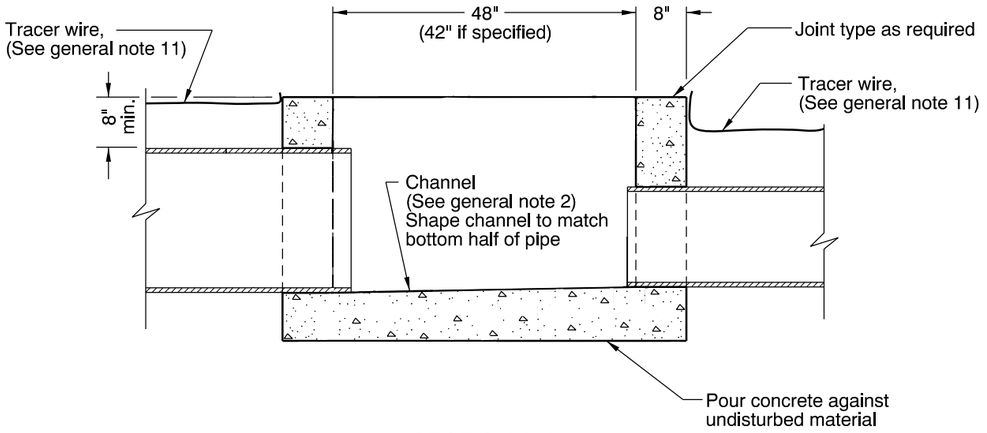
CITY OF THE DALLES STANDARD DRAWING

SHALLOW MANHOLES

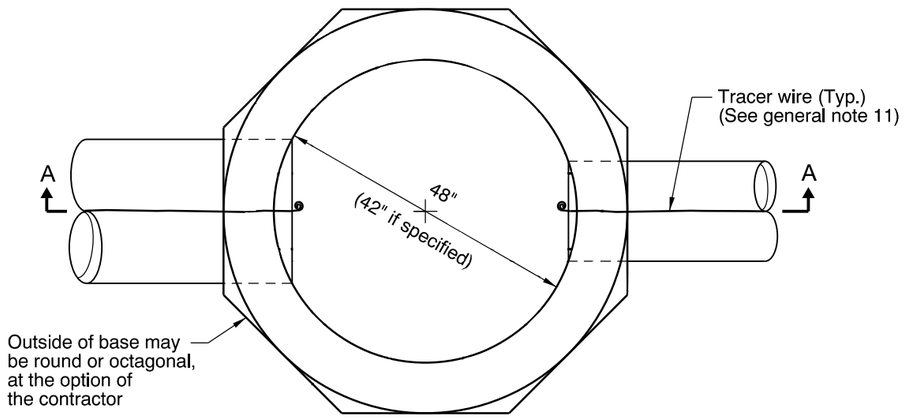
2020

DATE	REVISION DESCRIPTION

RD342



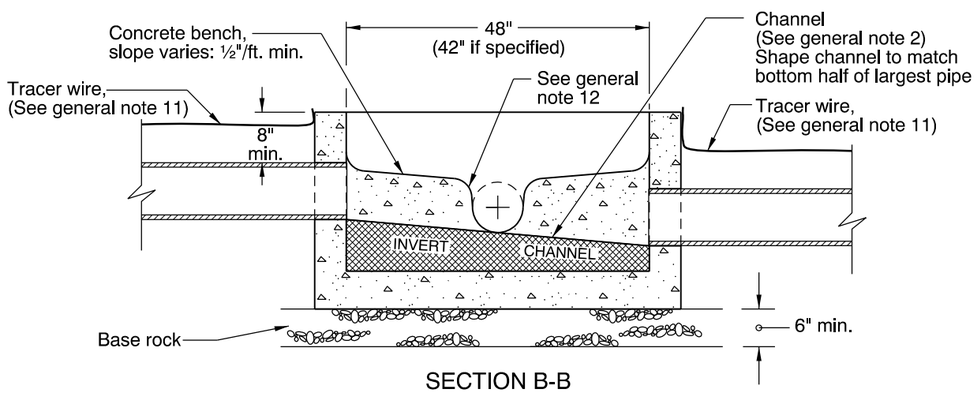
SECTION A-A



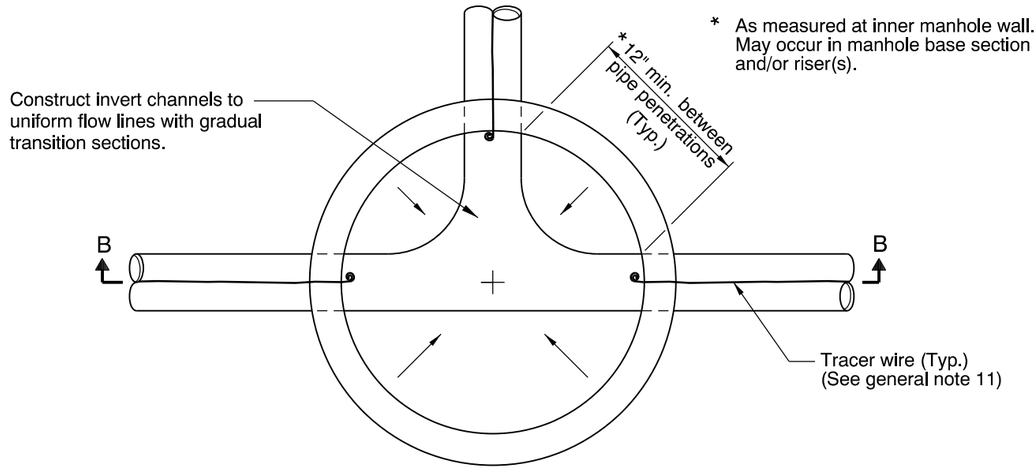
PLAN

CAST IN PLACE MANHOLE BASE

(For invert channel details, see precast option at right)



SECTION B-B



* As measured at inner manhole wall. May occur in manhole base section and/or riser(s).

PLAN

PRECAST MANHOLE BASE

GENERAL NOTES FOR ALL DETAILS:

1. All concrete shall be commercial grade concrete.
2. Channels shall be constructed to provide smooth slopes and radii to outlet pipe.
3. Bases may be precast or cast in place.
4. Max. pipe diameter varies with pipe material.
5. Use on 42" and 48" diameter manhole.
6. Extend pipe into manhole and grout smooth. Pipe(s) may extend 2" max. beyond the interior manhole wall.
7. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
8. All precast products shall conform to the requirements of ASTM C478.
9. See Std. Drg. RD345 for pipe to manhole connections.
10. See Std. Drg. RD336 for manhole steps details.
11. See Std. Drg. RD336 for tracer wire details.
12. At spring line of pipe, extend channel up to crown line on 12:1 batter.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

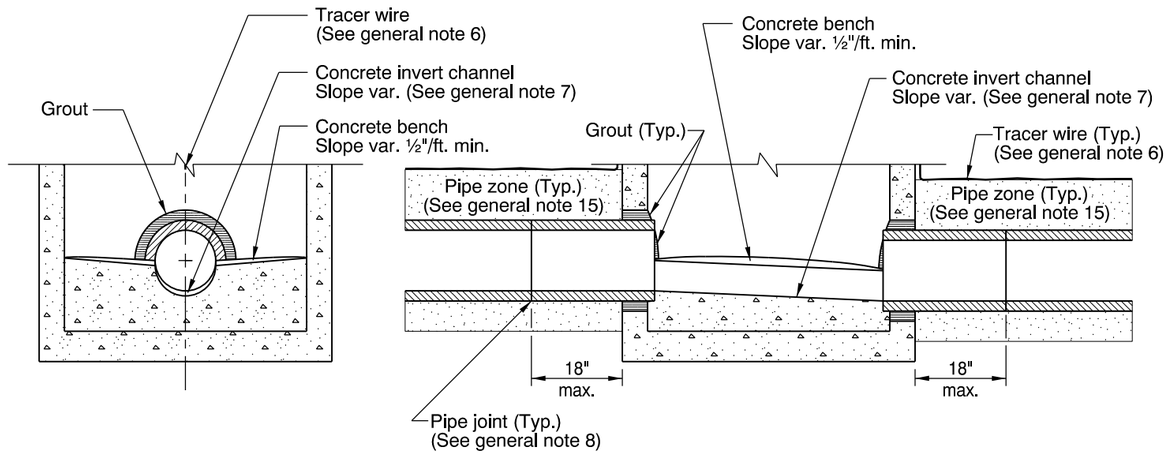
CITY OF THE DALLES STANDARD DRAWING

STANDARD MANHOLE BASE SECTION

2020

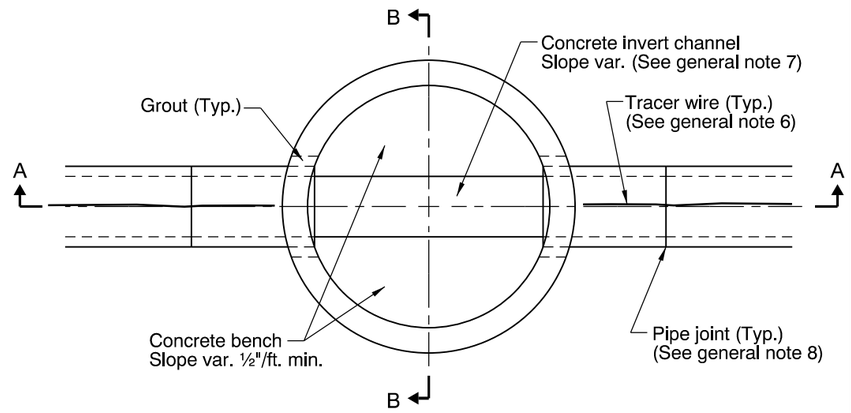
DATE	REVISION DESCRIPTION

RD344



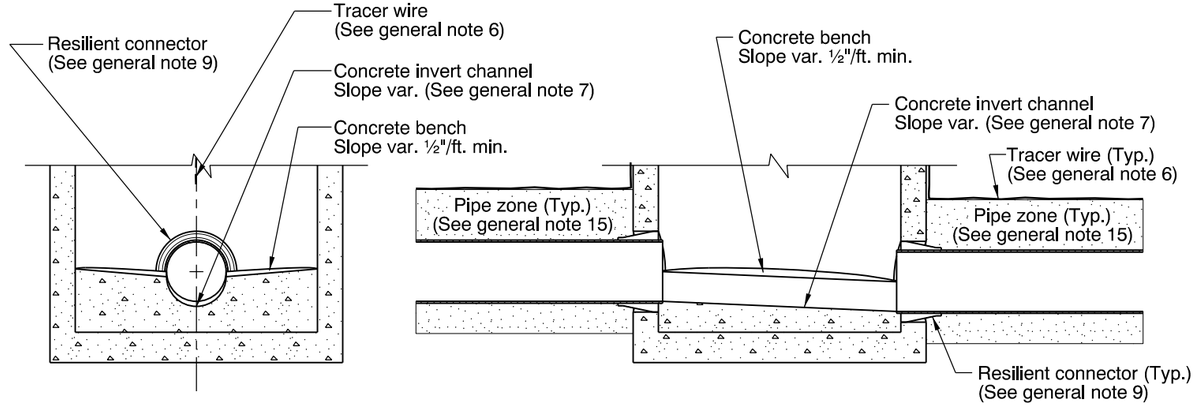
SECTION B-B

SECTION A-A



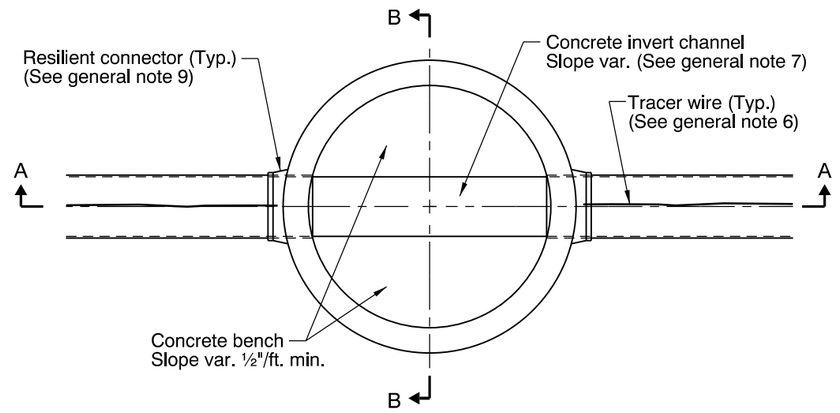
PLAN

CONNECTION OF RIGID PIPE TO MANHOLE



SECTION B-B

SECTION A-A



PLAN

CONNECTION OF FLEXIBLE PIPE TO MANHOLE

GENERAL NOTES FOR ALL DETAILS:

1. All precast sections shall conform to requirements of ASTM C478.
2. Manhole base sections may be precast or cast-in-place.
3. All concrete shall be commercial grade concrete.
4. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
5. Max. pipe diameter varies with pipe material.
6. All connecting pipes shall have a tracer wire, or approved alternate. See Std. Drg. RD336 for tracer wire details.
7. Invert channels shall be constructed to provide smooth slopes and radii to outlet pipe.
8. When rigid pipe is used, the connecting pipe shall have a flexible, gasketted and unrestrained joint within 18" of manhole wall. Joint type varies with manufacturer.
9. When flexible pipe is used, install resilient connectors conforming to requirements of ASTM C923.
10. See Std. Drgs. RD335, RD336, and RD338 for details not shown.
11. See Std. Drg. RD336 for manhole steps details.
12. See Std. Drg. RD342 for shallow manholes.
13. See Std. Drg. RD344 for manhole base section.
14. See Std. Drg. RD356 for manhole covers and frames, manhole adjustment rings, etc.
15. Pipe zone varies, see Std. Drg. RD300.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

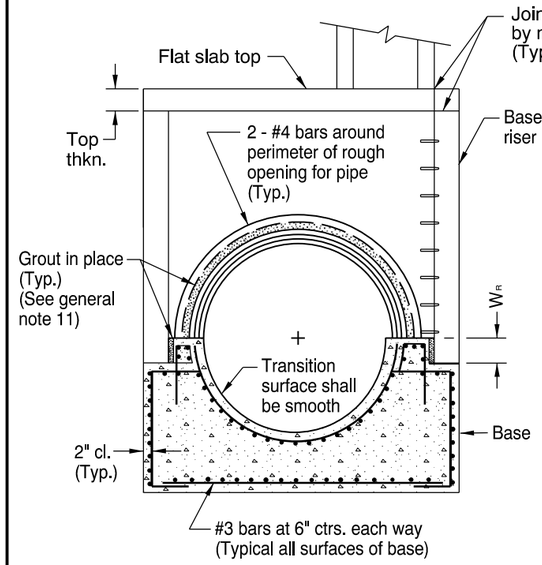
CITY OF THE DALLES STANDARD DRAWING

PIPE TO MANHOLE CONNECTIONS

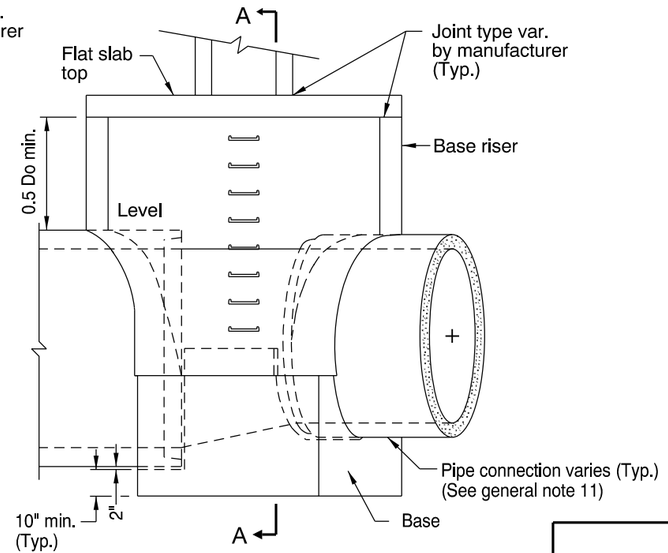
2020

DATE	REVISION DESCRIPTION

RD345



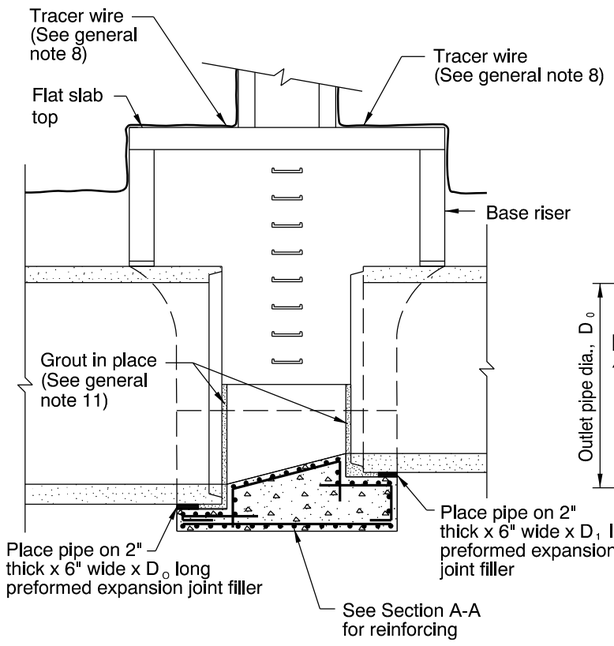
SECTION A-A



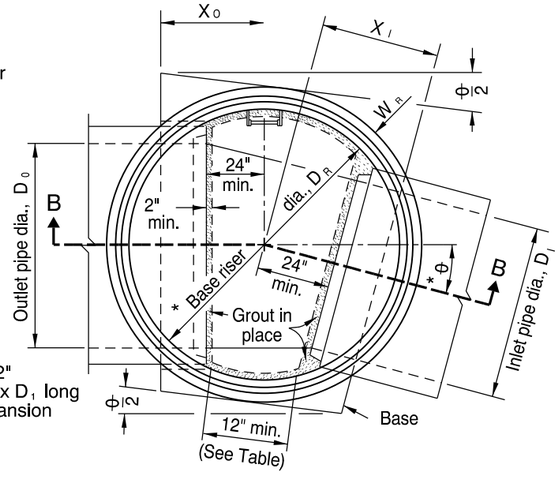
MANHOLE BASE ELEVATION

Dia. of largest pipe in manhole (Inch)	* ⊖ max when $D_I = D_O$	* Base Riser D_R (Inch)	* Base Riser W_R (Inch)	* Base Riser Top Thkn. (Inch)	Base X_O $X_I = X_O$ when $D_I = D_O$ (Feet)	Base X_I when $D_I < D_O$ $D_I = (D_O - 6")$ (Feet)	Base X_I when $D_I < D_O$ $D_I = (D_O - 12")$ (Feet)	Base X_I when $D_I < D_O$ $D_I = (D_O - 18")$ (Feet)
30"	75°	60"	6"	10"	2.42	2.63	2.75	2.89
36"	67°	72"	7"	10"	2.75	2.97	3.15	3.29
42"	60°	72"	7"	10"	2.75	2.97	3.15	3.29
48"	54°	84"	8"	10"	3.02	3.27	3.48	3.66
54"	49°	84"	8"	10"	3.02	3.27	3.48	3.66
60"	45°	96"	9"	12"	3.25	3.54	3.78	3.99
66"	42°	96"	9"	12"	3.25	3.54	3.78	3.99
72"	39°	108"	10"	12"	3.48	3.79	4.06	4.29
78"	36°	108"	10"	12"	3.48	3.79	4.06	4.29
84"	34°	120"	11"	12"	3.69	4.03	4.32	4.57
90"	32°	120"	11"	12"	3.69	4.03	4.32	4.57
96"	30°	126"	11½"	12"	3.79	4.15	4.45	4.71

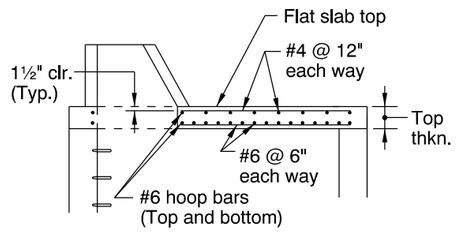
* A special design using a larger Base Riser diameter D_R may be required to obtain specified 12" min. dimension when ⊖ angle exceeds ⊖ max.



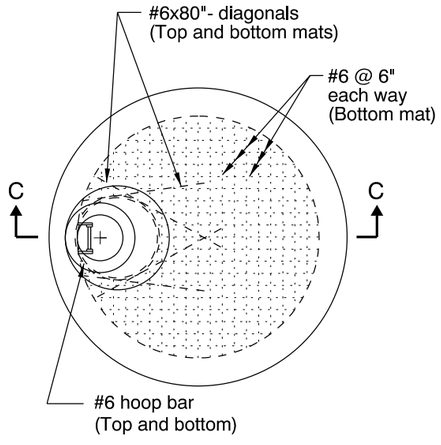
DEVELOPED SECTION B-B
ALONG PIPE CENTERLINE



MANHOLE BASE PLAN



SECTION C-C



MANHOLE FLAT SLAB TOP PLAN
(Bottom reinf. mat shown)
(Manhole I.D. >4', Δ10' 6")

GENERAL NOTES FOR ALL DETAILS:

1. All concrete shall be Class 4000. All precast products shall conform to requirements of ASTM C478.
2. All reinforcing steel shall conform to ASTM Specification A706 or AASHTO M31 (ASTM A615), Grade 60. The following splice lengths shall be used (unless shown otherwise):

Bar Size	4	5	6
Uncoated	16"	20"	24"

3. All reinforcement shall be placed 2" clear of the nearest face of the concrete unless shown otherwise.
4. Eccentric reducing cones or eccentric reducing flat slabs designed in accordance with AASHTO M199 shall be placed on top of the base riser as required by the contract plans. Eccentric reducing flat slabs shall be designed to support a load of 120 lb/ft in addition to the dead load of the slab, the risers above the slab, and the earth overburden above the slab.
5. Base riser to be pre-cast unless otherwise shown on the plans.
6. Cast-in-Place concrete, shown thus:
7. See Std. Drg. RD336 for manhole steps details, and flat slab top orientation.
8. See Std. Drg. RD336 for tracer wire details.
9. See Std. Dwg. RD336 for manhole steps.
10. Max. pipe diameter varies with pipe material.
11. See Std. Drg. RD345 for pipe to manhole connections.
12. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

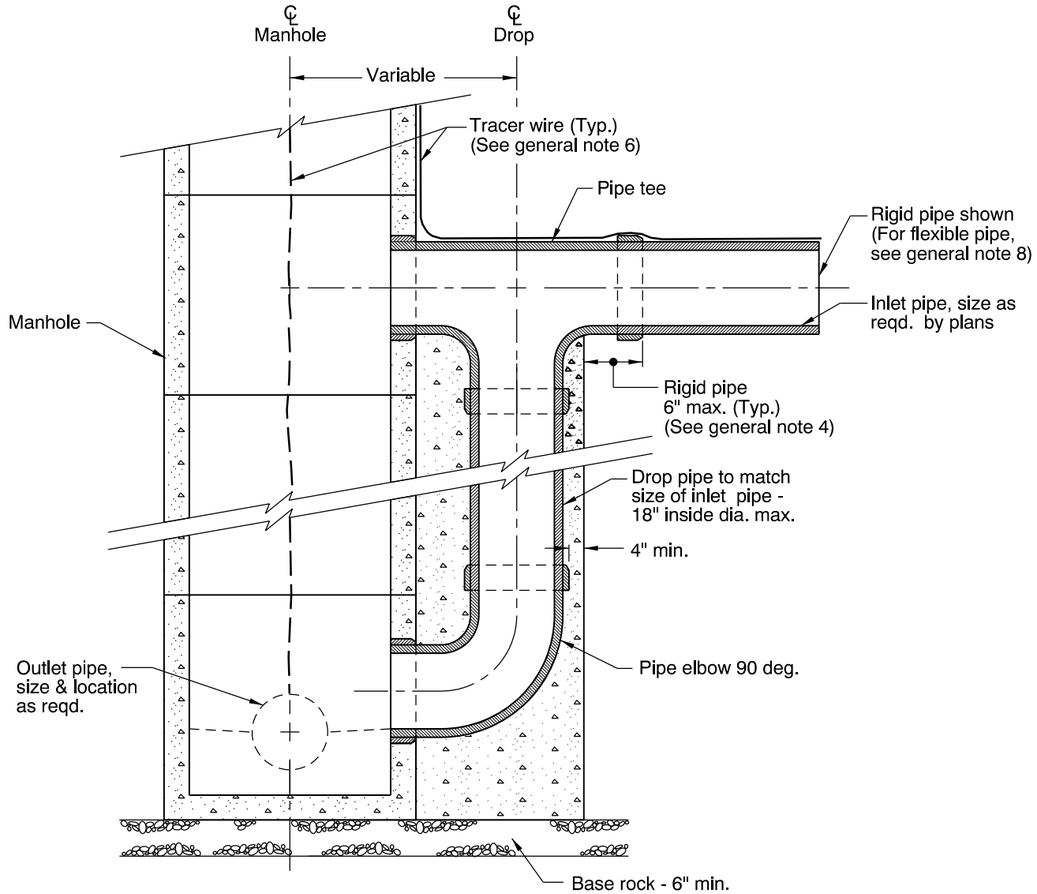
CITY OF THE DALLES STANDARD DRAWING

LARGE PRECAST MANHOLE

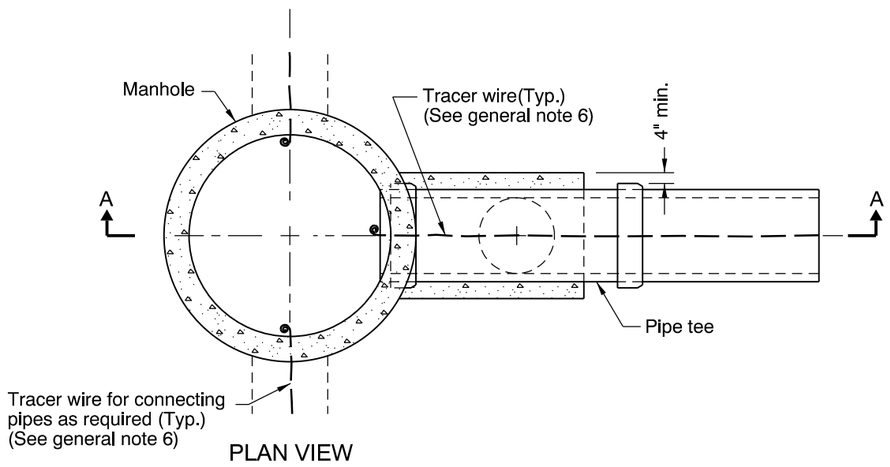
2020

DATE	REVISION DESCRIPTION

RD346



SECTION A-A



PLAN VIEW

GENERAL NOTES FOR ALL DETAILS:

1. See appropriate manhole standard drawings for details not shown.
2. Concrete encasement shall be commercial grade concrete.
3. Pipe material as required by plans.
4. When rigid pipe is used the connecting pipe shall have a flexible, gasketted, and unrestrained joint within 6" of concrete encasement.
5. See Std. Drg. RD336 for manhole steps details.
6. See Std. Drg. RD336 for tracer wire details.
7. Max. pipe diameter varies with pipe material.
8. Flexible pipe use commercially available rubber boot or manhole adaptor, and omit joint within 6" of concrete encasement.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

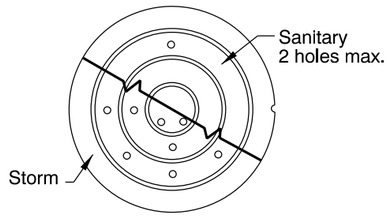
CITY OF THE DALLES STANDARD DRAWING

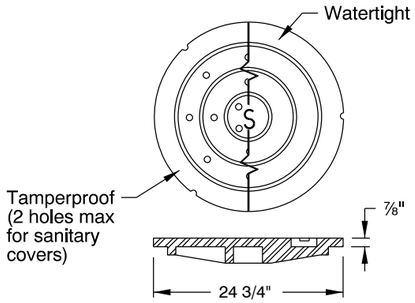
OUTSIDE DROP MANHOLES

2020

DATE	REVISION DESCRIPTION

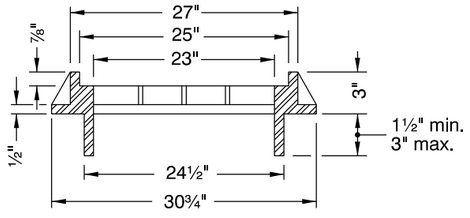
RD352



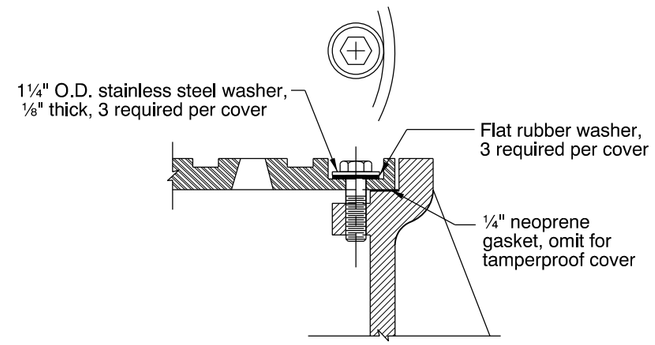


CAST IRON TAMPERPROOF & WATERTIGHT COVER

(Frames available in standard or suburban pattern)



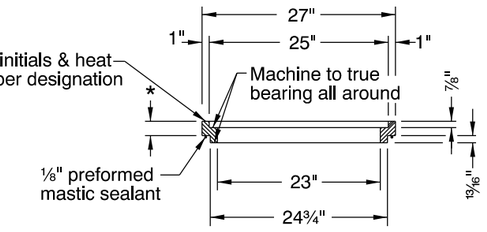
CAST IRON SUBURBAN MANHOLE FRAME



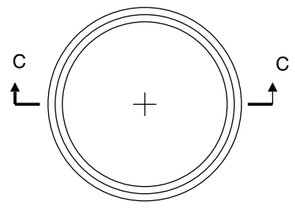
NOTE:
3 reqd., equally spaced, ½" x 1½" pentagonal or hexagonal head, bronze or stainless steel. Install frame so that one bolt boss is located over the manhole ladder. (See general note 8)

BOLT-DOWN DETAIL
(FOR TAMPERPROOF AND WATERTIGHT)

* Std. depths 1½", 2", 2½" & 3"
Matl. to be grey cast iron ASTM A 48, Class 35B. Tolerance on non-machined surfaces to be ±0.06", see general note 6

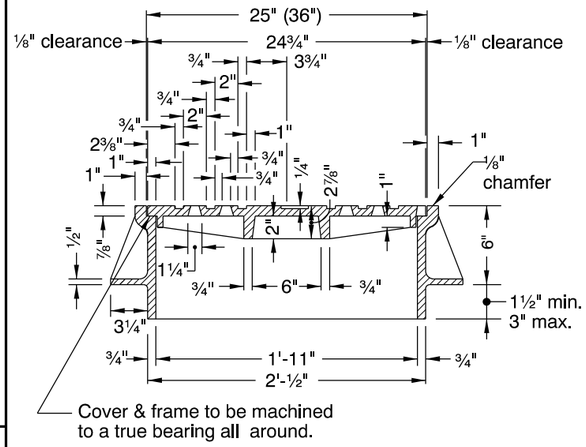


SECTION C-C



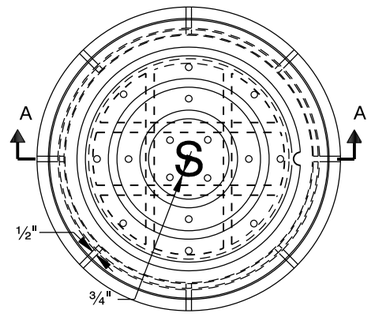
MANHOLE ADJUSTMENT RING
For use with Standard Manhole Frame

STANDARD MANHOLE COVER, FRAME & GRATE



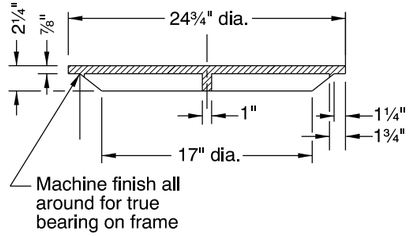
SECTION A-A

36" min. diameter cover is reqd. for manholes with depths of 24' or greater. (See general note 4)

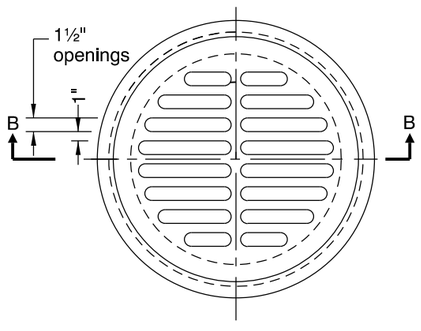


NOTE:
Coat outside of frame with asphalt, where frame is to be placed in conc. pvmt., conc. gutter, or walk.

PLAN
MANHOLE COVER & FRAME



SECTION B-B



For use with Standard Manhole Frame
(See general note 7)

PLAN
MANHOLE GRATE

GENERAL NOTES FOR ALL DETAILS:

1. Tamperproof covers reqd. on sanitary or storm drain manhole where located in pedestrian ways or easement areas. Covers for sanitary manholes shall have 2 holes maximum.
2. Watertight covers required if located where cover may be submerged (no holes).
3. Covers and frames shall be stamped with manufacturer's initials, heat number and point of origin.
4. See Std. Dwg. RD336 for manhole steps.
5. See Std. Drg. RD360 for manhole frame adjustment.
6. See ODOT's QPL for alternate manhole adjustment rings.
7. Manhole grate allowed only in locations not subject to bicycle or pedestrian use.
8. See ODOT's QPL for alternate bolt-down products.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

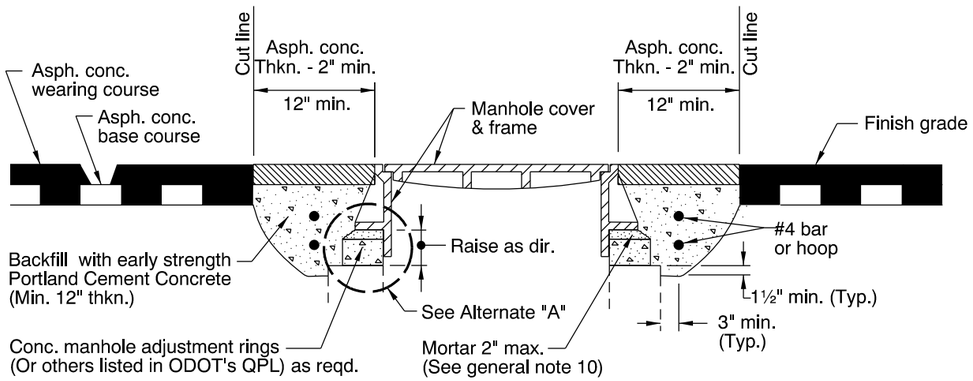
CITY OF THE DALLES STANDARD DRAWING

MANHOLE COVERS AND FRAMES

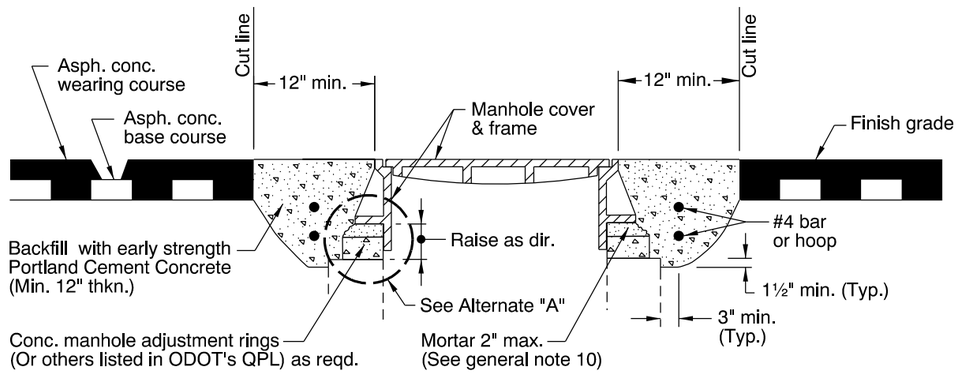
2020

DATE	REVISION DESCRIPTION
01-2018	REVISED NOTES

RD356



METHOD "A"



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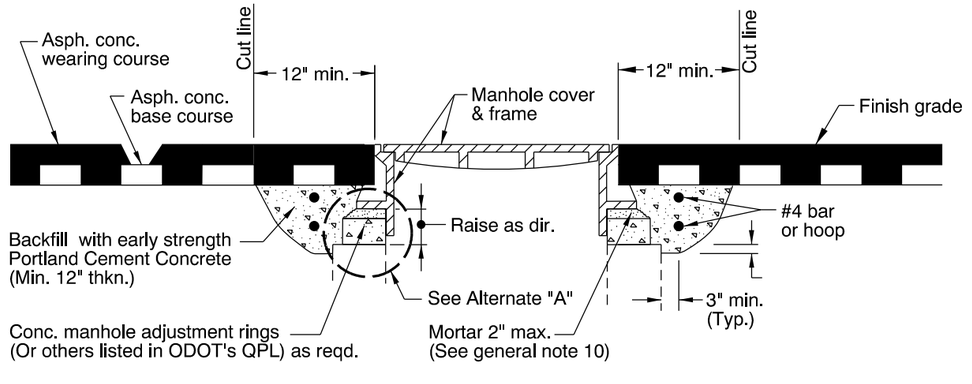
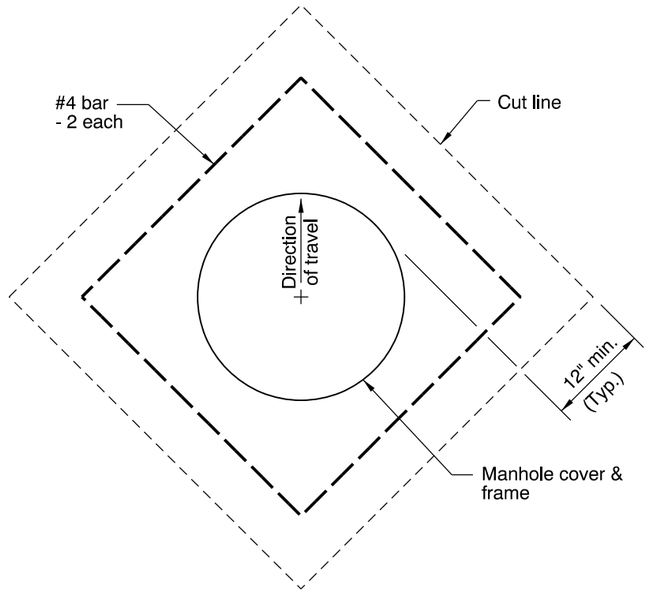
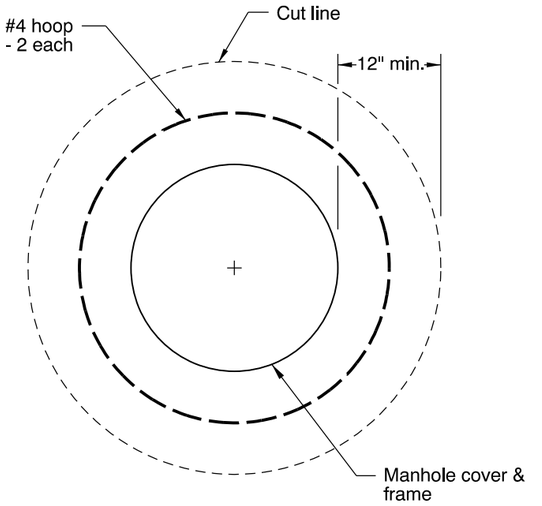


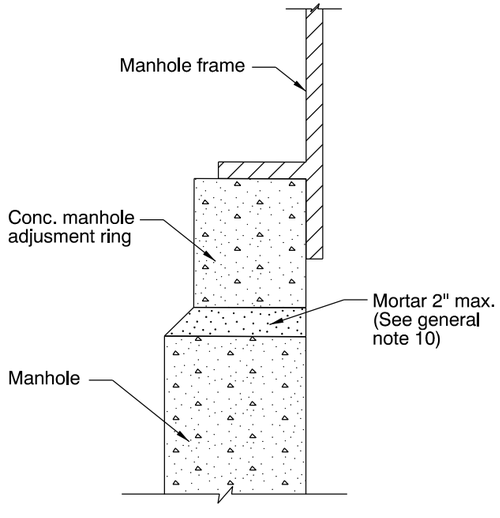
METHOD "C"



PLAN
SQUARE CUT



PLAN
CIRCULAR CUT



ALTERNATE "A"

GENERAL NOTES FOR ALL DETAILS:

1. Cover manhole with building paper and const. asph. conc. base course and wearing courses.
2. Saw cut square or circular excavation around manhole 12" min. from manhole frame.
3. Raise manhole cover and frame to finish grade by installing conc. manhole adjustment rings and leveling mortar, as shown.
4. Backfill with early strength Portland Cement Concrete. All concrete shall be commercial grade concrete.
5. Protect from traffic loading until conc. has cured to 3000 psi.
6. Apply tack coat to edges of existing pavement before installing patch.
7. Finish joint with asphalt seal and sand.
8. See Std. Drg. RD336 for manhole steps details.
9. See appropriate manhole standard drawings for details not shown.
10. Use epoxy for synthetic grade rings.
11. See Std. Drg. RD336 for tracer wire details.
12. See Std. Drg. RD356 for manhole covers and frames.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

MANHOLE FRAME ADJUSTMENT

2020

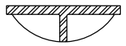
DATE	REVISION DESCRIPTION
07-2015	ADDED DETAIL & REVISED NOTES

21-JUL-2015

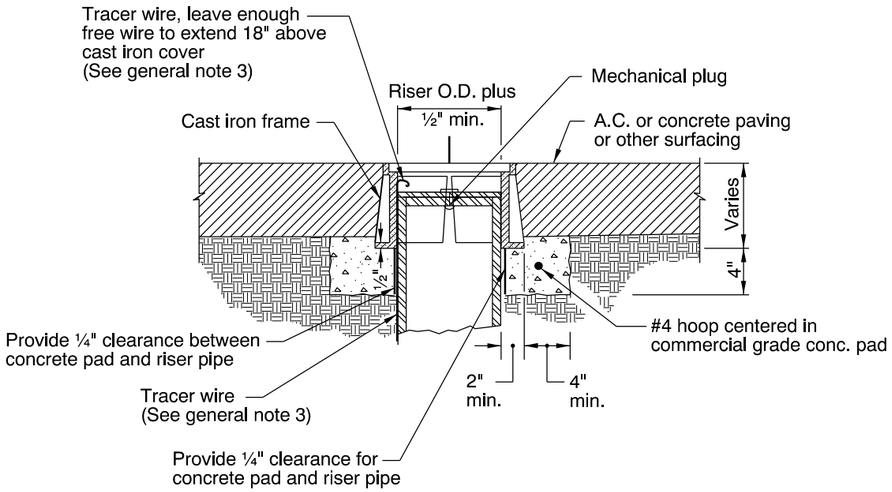
rd360.dgn

RD360

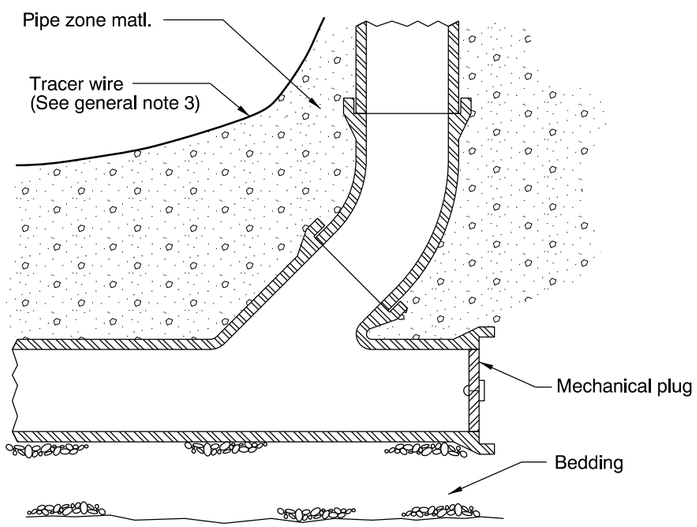
Effective Date: January 1, 2020 - December 31, 2020 RD360



CAST IRON COVER



CAST IRON FRAME



CLEANOUT

FRAMES AND COVERS

4" SERVICE CLEANOUT: OLYMPIC FOUNDRY 041814 FRAME, or approved equal
OLYMPIC FOUNDARY 18-5122 COVER, or approved equal
8" OR LARGER CLEANOUT: OLYMPIC FOUNDRY M1018DT FRAME AND COVER,
or approved equal.

GENERAL NOTES FOR ALL DETAILS:

1. Casting shall meet H20 load requirement.
2. Provide riser size and material to match carrier pipe.
3. See Std. Drg. RD336 for tracer wire details.
4. All concrete shall be commercial grade concrete.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

SANITARY CLEANOUT

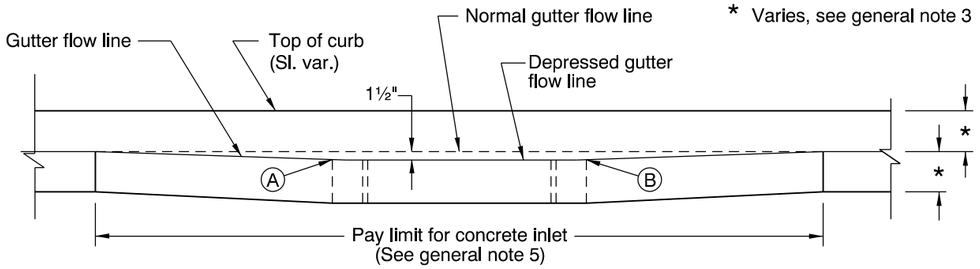
2020

DATE	REVISION DESCRIPTION

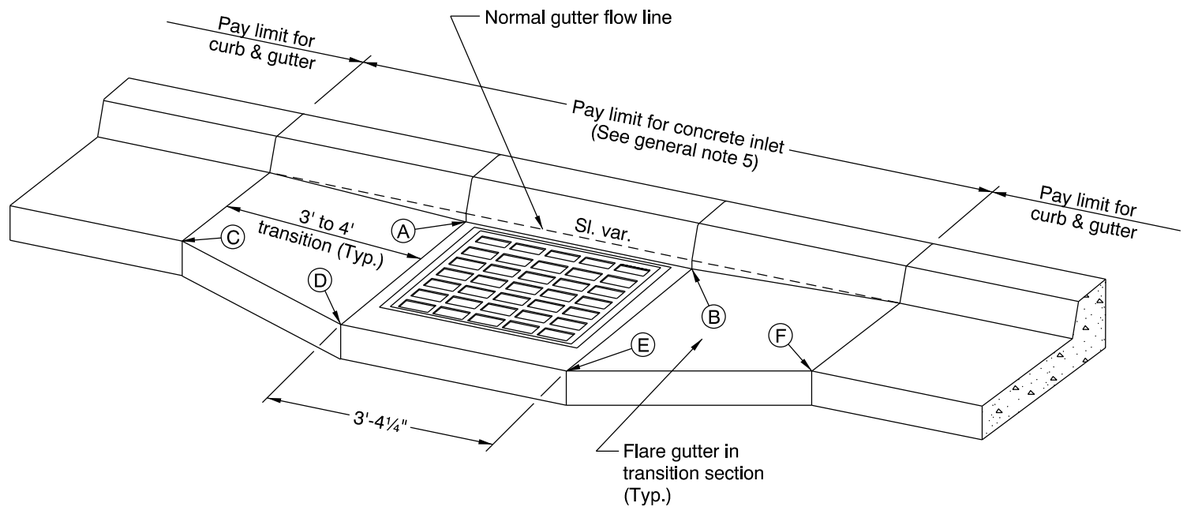
RD362

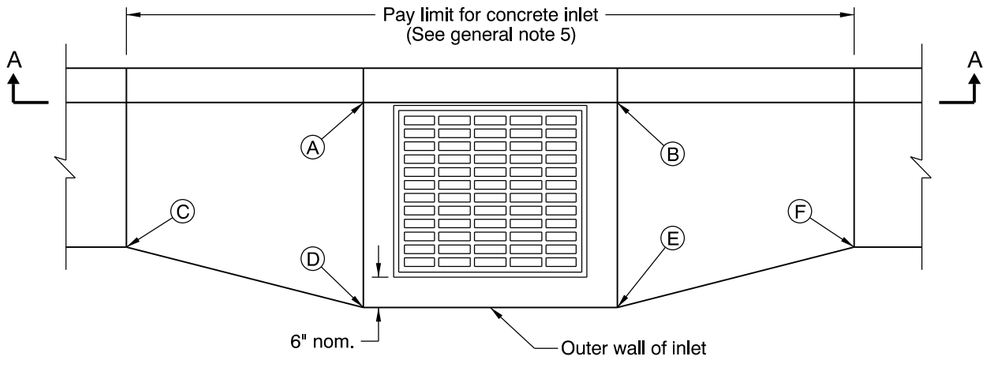
NOTES:

1. Provide 1½" local depression at points A & B.
2. Match normal pvmt. grade at points C, D, E & F.
3. Vary transition section slopes to match above points.



SECTION A-A





PLAN VIEW

GENERAL NOTES FOR ALL DETAILS:

1. For inlet details, see appropriate inlet standard drawing(s).
2. For frame and grate details, see Std. Drg. RD365.
3. For curb details, see Std. Drgs. RD700 & RD701.
4. All concrete shall be commercial grade concrete.
5. Pay limit for inlet is expanded when curb and gutter are monolithic.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

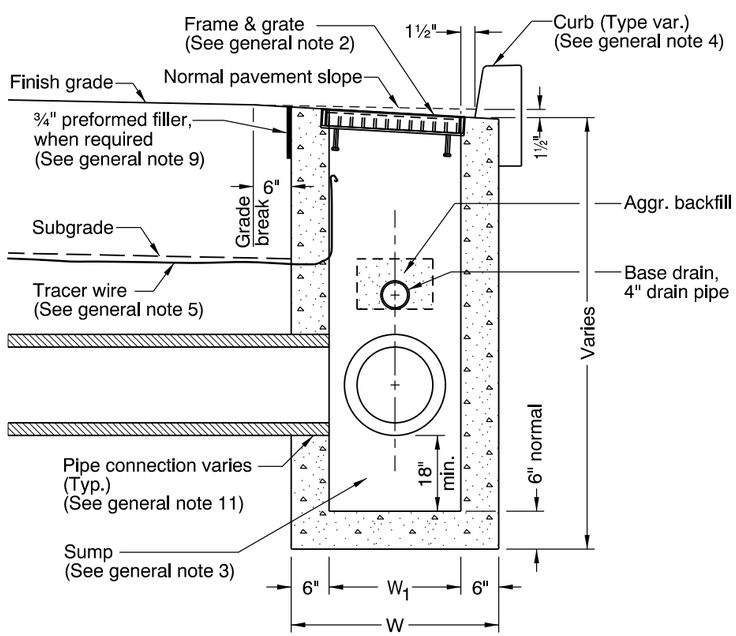
GUTTER TRANSITION AT INLET

2020

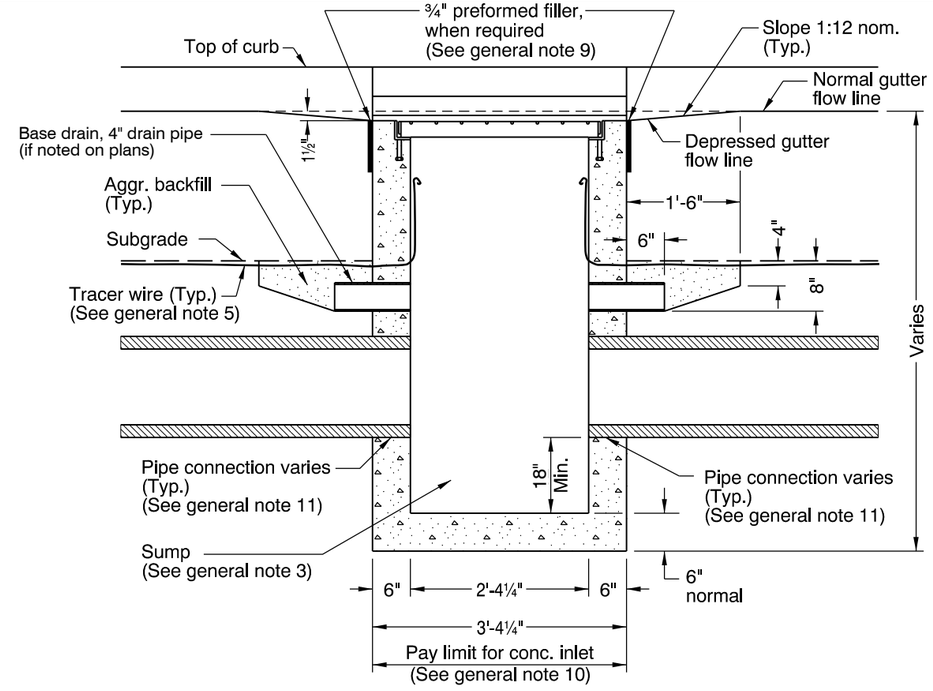
DATE	REVISION DESCRIPTION
07-2015	REVISED NOTES

RD363

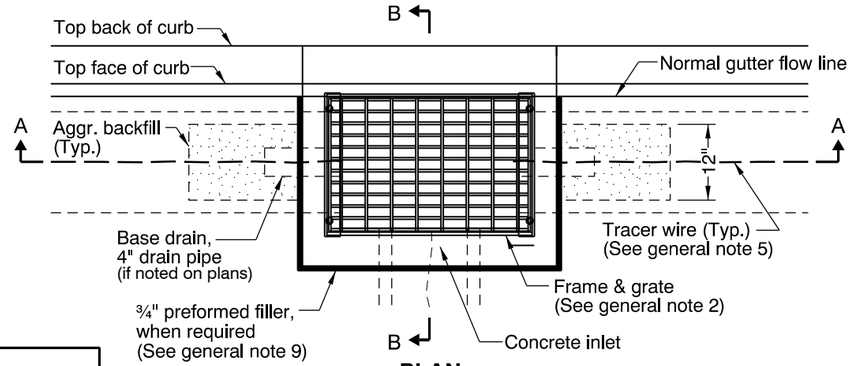
Effective Date: January 1, 2020 - December 31, 2020 RD363



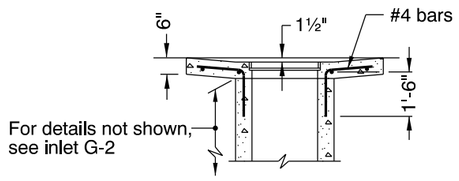
SECTION B - B



SECTION A - A



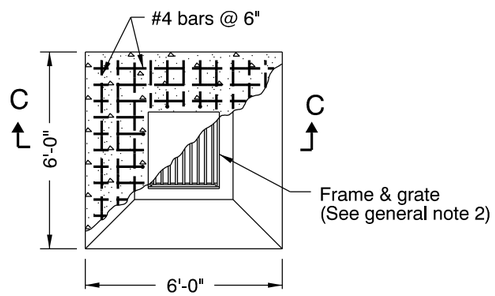
PLAN
TYPE G-1, G-2, G-2M



SECTION C-C

NOTE:

All reinforcement to be placed 2" clear of nearest face of concrete unless shown or noted otherwise



PLAN
TYPE G-2MA

TABLE A		
INLET TYPE	W	W_1
G-1	2'-8⅞"	1'-8⅞"
G-2, G-2M, G-2MA	3'-3⅜"	2'-3⅜"

GENERAL NOTES FOR ALL DETAILS:

1. Where precast inlets are used as an alternate to cast-in-place inlets, a 4" compacted leveling bed of 3/4"-0" crushed aggregate shall be provided. All precast inlets shall conform to requirements of ASTM C913.
2. Graphics show G-1 inlet with Type 2 grate. See Table A for inlet dimensions.
   Type 1 grate allowed only in locations not subject to bicycle or pedestrian use.
   For frame and grate details, see Std. Drg. RD365.
3. Provide 18" sump unless otherwise approved by Engineer.
4. For curb details, see Std. Drgs. RD700 & RD701.
5. See Std. Drg. RD336 for tracer wire details, or approved alternate.
6. Max. pipe diameter varies with pipe material.
7. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
8. All concrete shall be commercial grade concrete.
9. ¾" preformed filler (in concrete pavement or gutter only) to extend through thickness of concrete.
10. See Std. Drg. RD363 for gutter transition section, when curb and gutter are required.
11. See Std. Drg. RD339 for pipe to structure connections.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

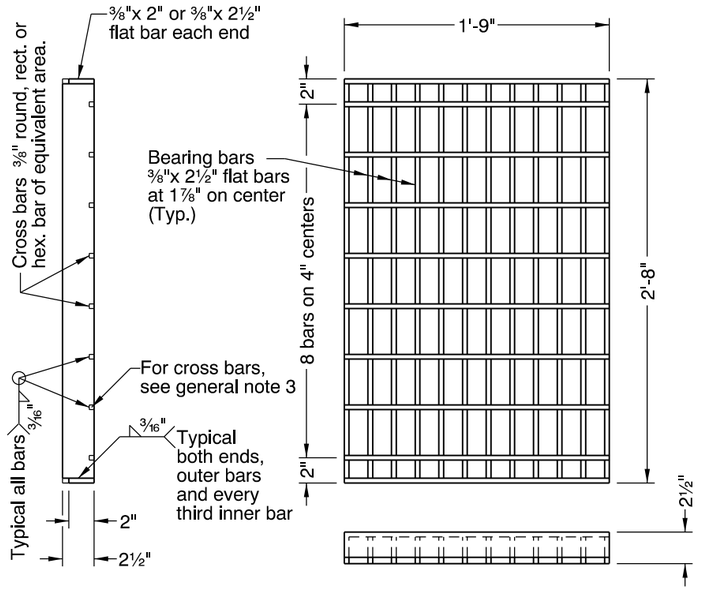
CITY OF THE DALLES STANDARD DRAWING

CONCRETE INLETS
TYPE G-1, G-2, G-2M, & G-2MA

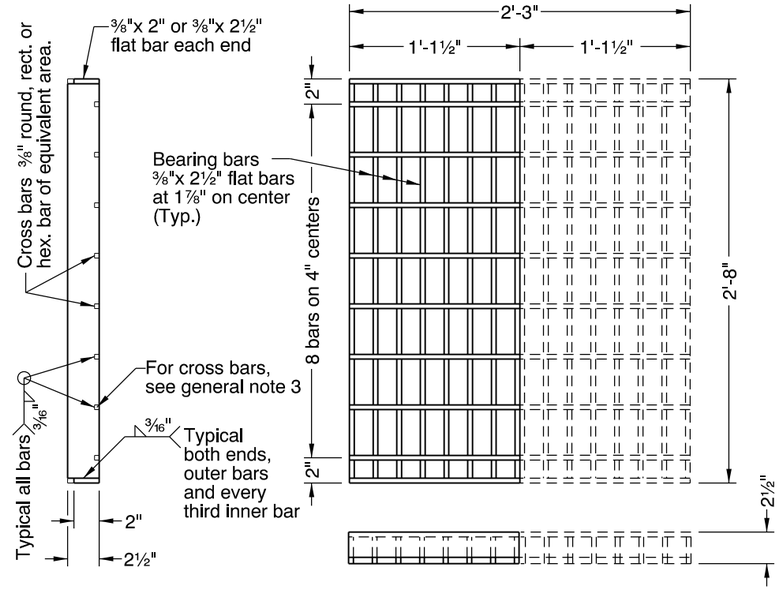
2020

DATE	REVISION DESCRIPTION
07-2015	REVISED NOTES

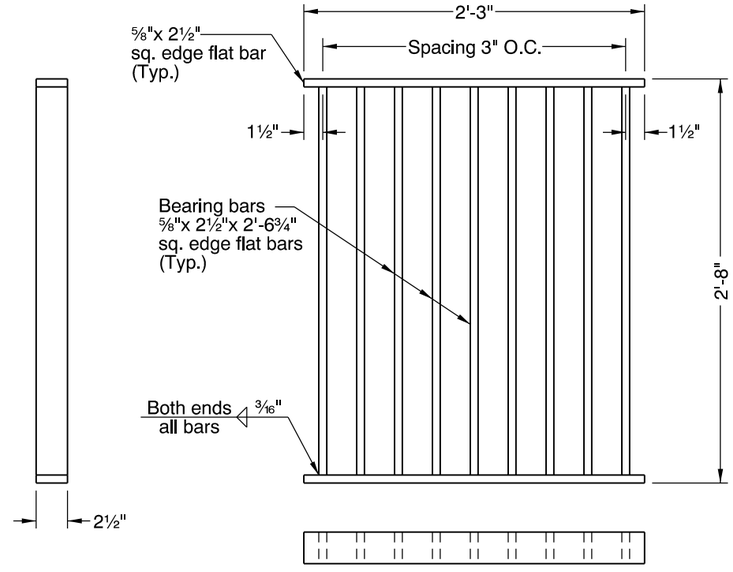
RD364



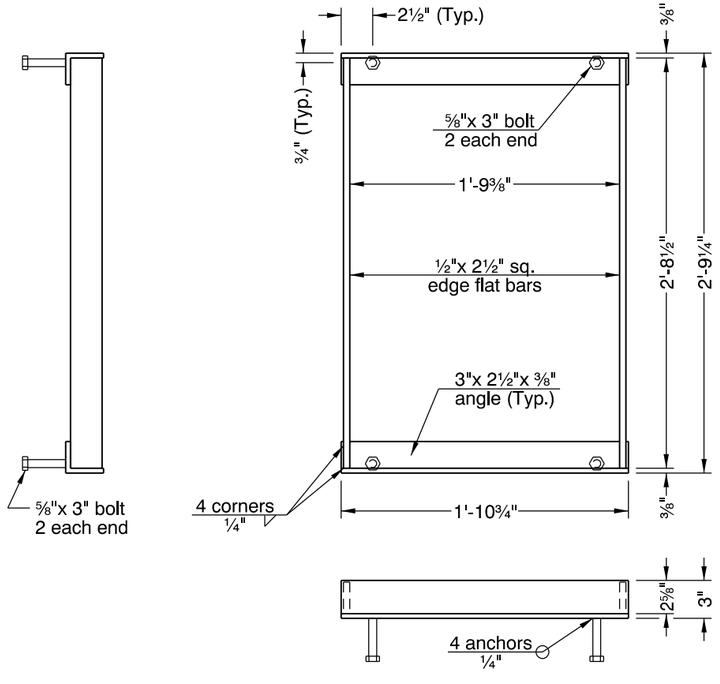
G-1, CG-1 GRATE
(TYPE 2)
(Bicycle-safe)



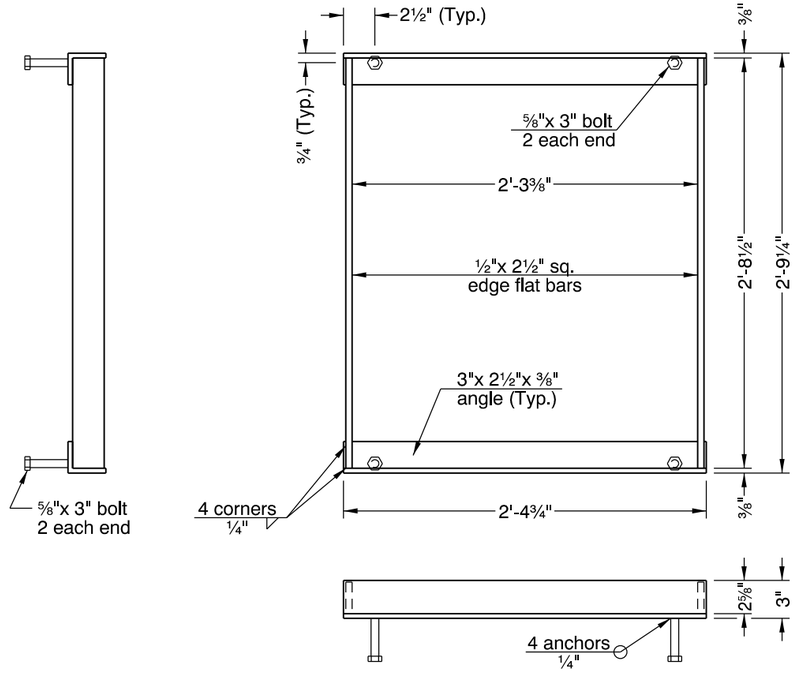
G-2, G-2M, G-2MA, CG-2 GRATE
(TYPE 2)
(Bicycle-safe)
(2 grates required per inlet, as shown)



G-2, G-2M, G-2MA, CG-2 GRATE
(TYPE 1)
(See general note 2)



G-1, CG-1 FRAME



G-2, G-2M, G-2MA, CG-2 FRAME

GENERAL NOTES FOR ALL DETAILS:

1. For inlet details, see appropriate inlet standard drawing(s).
2. Type 1 grate allowed only in locations not subject to bicycle or pedestrian use.
3. ⅜" cross bars shall be flush with the top of grate surface and may be fillet welded, resistance welded or electroforged to bearing bars.
4. Hot dip galvanize after fabrication.
5. Cast iron grate and frame are acceptable alternates. See ODOT's QPL.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

FRAMES & GRATES FOR CONCRETE INLETS

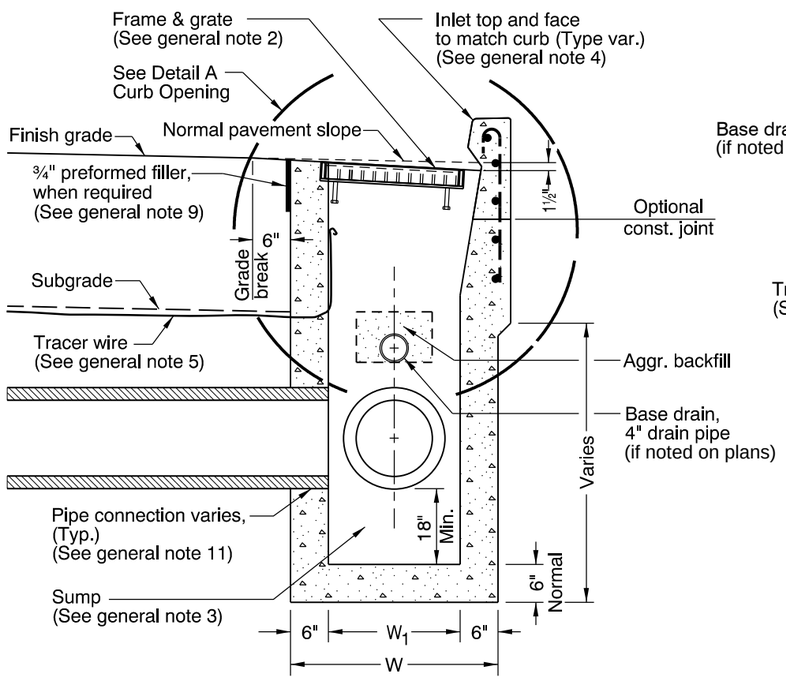
2020

DATE	REVISION DESCRIPTION

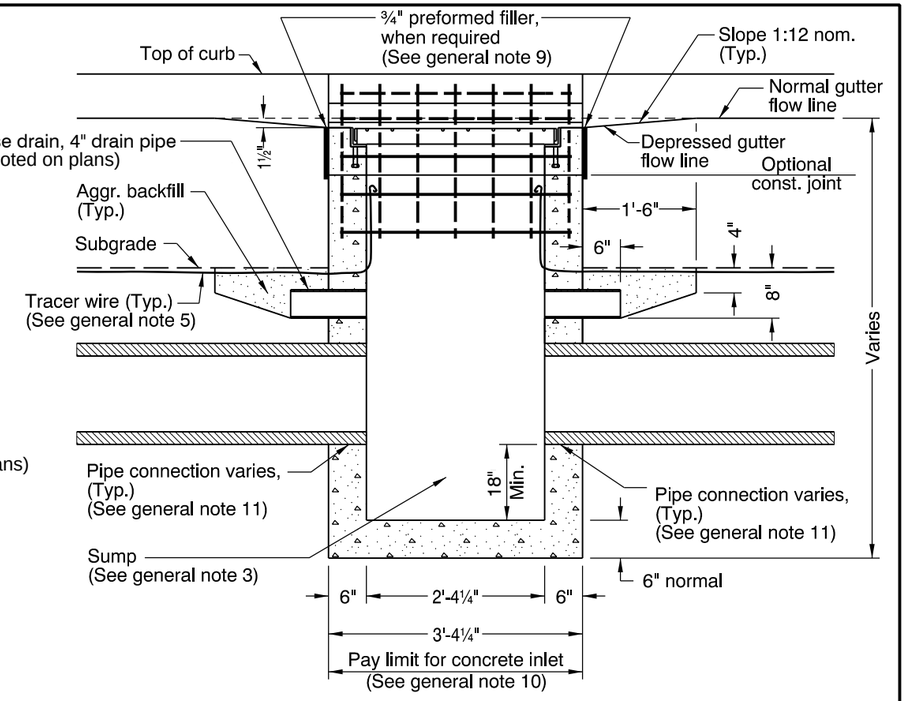
RD365

GENERAL NOTES FOR ALL DETAILS:

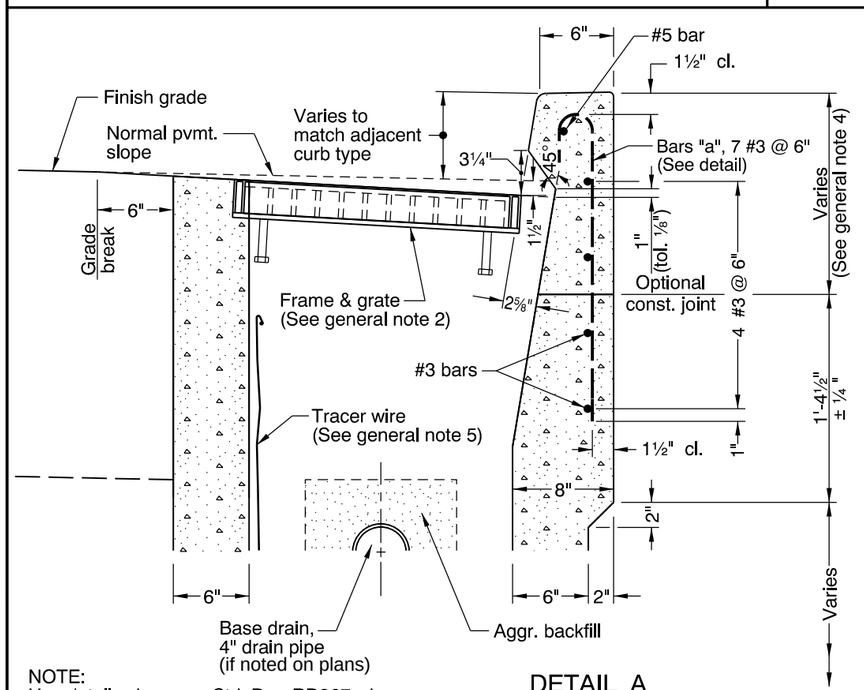
1. Where precast inlets are used as an alternate to cast-in-place inlets, a 4" compacted leveling bed of sand or ¼"-0 crushed aggregate shall be provided. All precast inlets shall conform to requirements of ASTM C913.
2. Graphics show CG-1 inlet with Type 2 grate. See Table A for inlet dimensions. Type 1 grate allowed only in locations not subject to bicycle or pedestrian use. For frame and grate details, see Std. Drg. RD365.
3. Provide 18" sump unless otherwise approved by Engineer.
4. For curb details, see Std. Drgs. RD700 & RD701.
5. See Std. Drg. RD336 for tracer wire details, or approved alternate.
6. Max. pipe diameter varies with pipe material.
7. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
8. All concrete shall be commercial grade concrete.
9. ¾" preformed filler (in concrete pavement or gutter only) to extend through thickness of concrete.
10. See Std. Drg. RD363 for gutter transition section, when curb and gutter are required. (Pay limit for inlet is expanded when curb and gutter are monolithic)
11. See Std. Drg. RD339 for pipe to structure connections.



SECTION B - B

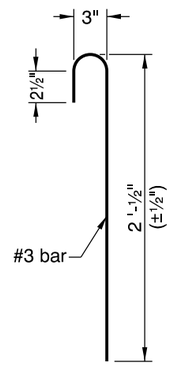


SECTION A - A



NOTE:
Use details shown on Std. Drg. RD367 when curb inlet channels are used.

DETAIL A
CURB OPENING

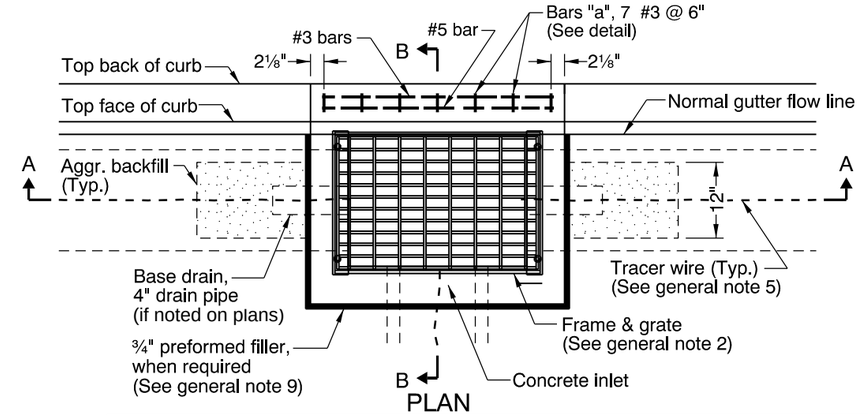


BAR "a" DETAILS

TABLE A		
INLET TYPE	W	W_1
CG-1	2'-8⅞"	1'-8⅞"
CG-2	3'-3⅜"	2'-3⅜"

NOTES:

1. #3 "a" bars to be placed during curb construction.
2. All bars to be placed 1½" clear of nearest face of concrete unless shown or noted otherwise.
3. All bars shall be full length.



PLAN

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications.

CITY OF THE DALLES STANDARD DRAWING

CONCRETE INLETS
TYPE CG-1, CG-2

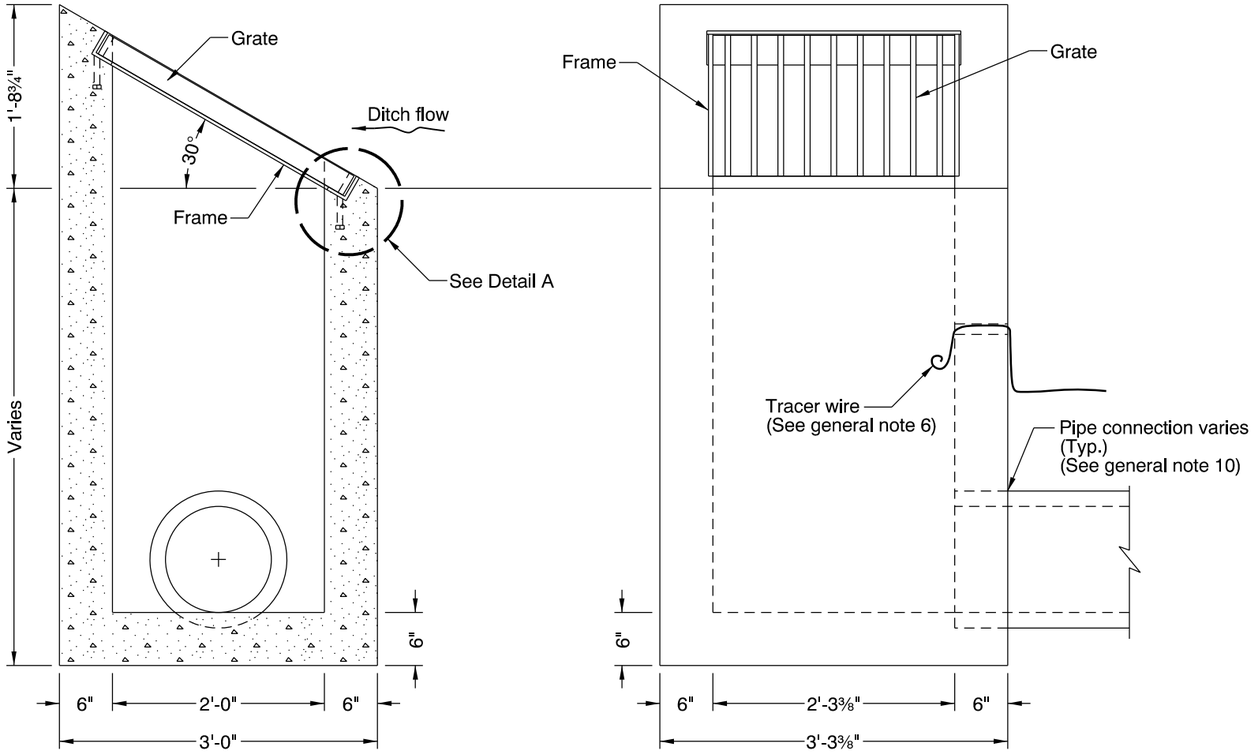
2020

DATE	REVISION DESCRIPTION
07-2015	REVISED NOTES

Effective Date: January 1, 2020 - December 31, 2020

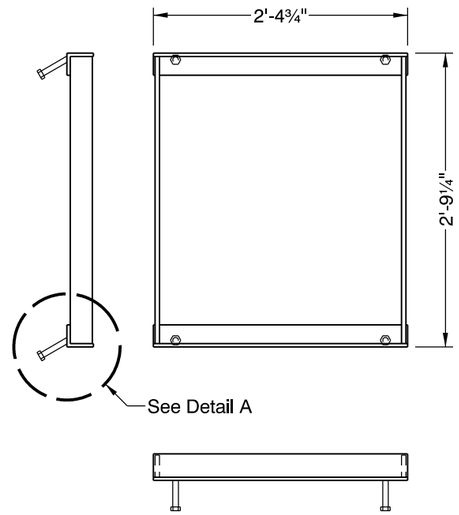
RD366

RD366

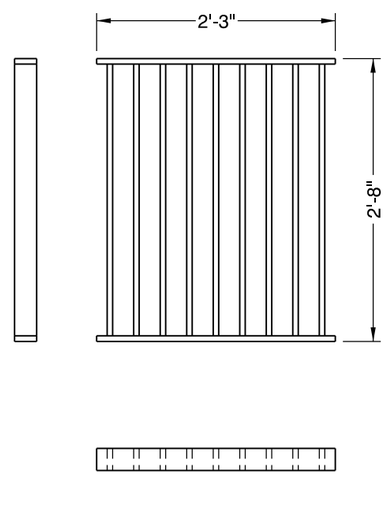


SECTION A - A

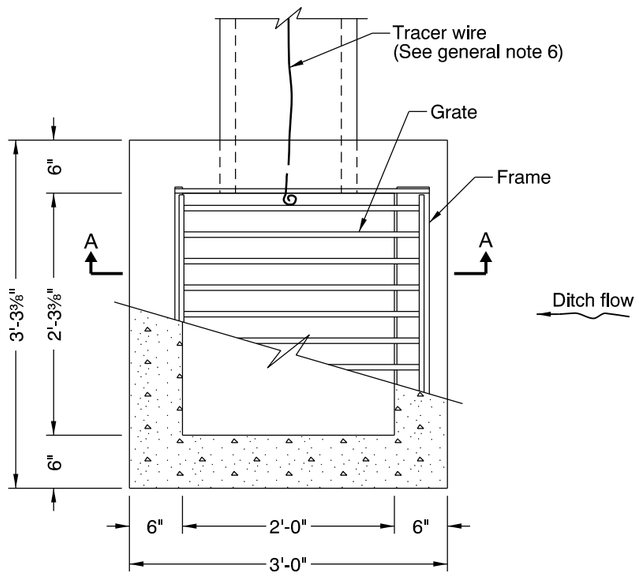
ELEVATION



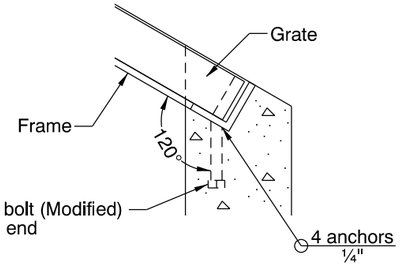
G-2 FRAME
(See general note 2)



G-2 GRATE (TYPE 1)
(See general note 2)



PLAN



DETAIL A
(Anchor bolt modication, see general note 2)

GENERAL NOTES FOR ALL DETAILS:

1. All concrete shall be commercial grade concrete.
2. For frame & grate details not shown, see Std. Drg. RD365.
   Modify anchor bolt attachment to frame as shown in Detail A.
   G-2 (Type 2) grates may be used if approved by the engineer.
3. Catch basin, frame, and grates shall meet H20 loading.
4. Provide 18" sump unless otherwise approved by Engineer.
   For sump details, see Std. Drg. RD364
5. ⅝" cross bars shall be flush with the grate surface and may be fillet welded, resistance welded or electroforged to bearing bars.
6. See Std. Drg. RD336 for tracer wire details, or approved alternate.
7. Max. pipe diameter varies with pipe material.
8. Do not use in locations where inlet can be struck by an errant vehicle, or provide shielding of inlet.
9. Inlet base may be cast-in-place or precast. Where precast inlet base is used as an alternate, a 4" compacted leveling bed of 3/4"-0" crushed aggregate shall be provided.
   All precast inlets shall conform to requirements of ASTM C913.
10. See Std. Drg. RD339 for pipe to structure connections.
11. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

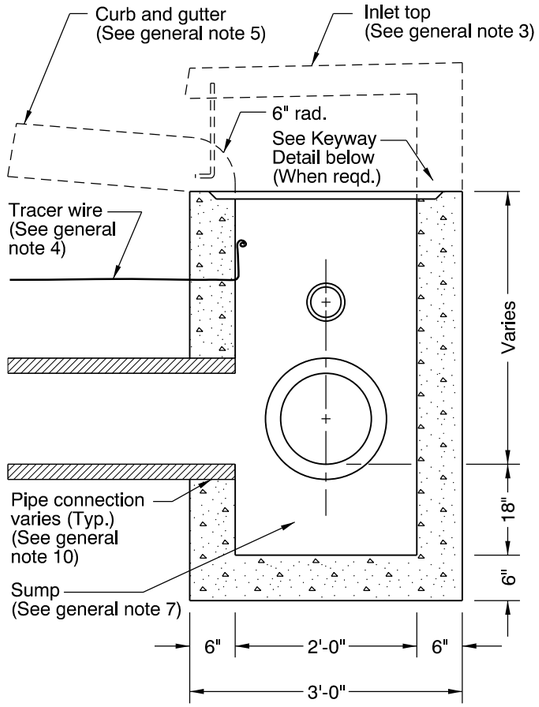
DITCH INLET
TYPE D

2020

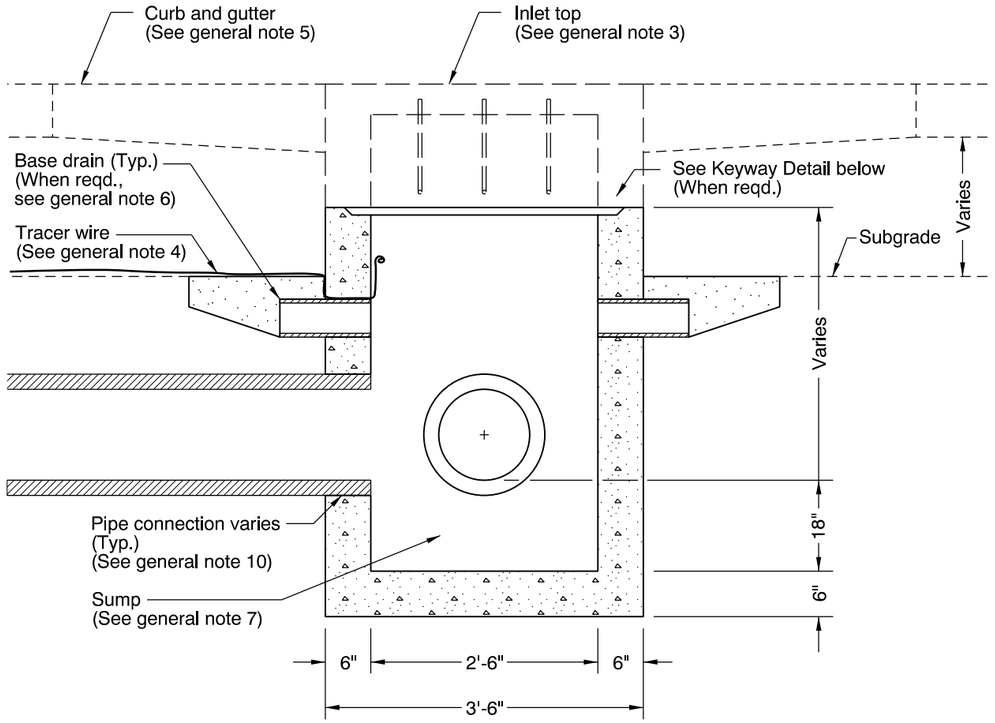
DATE	REVISION DESCRIPTION
07-2015	REVISED DETAILS & NOTE

RD370

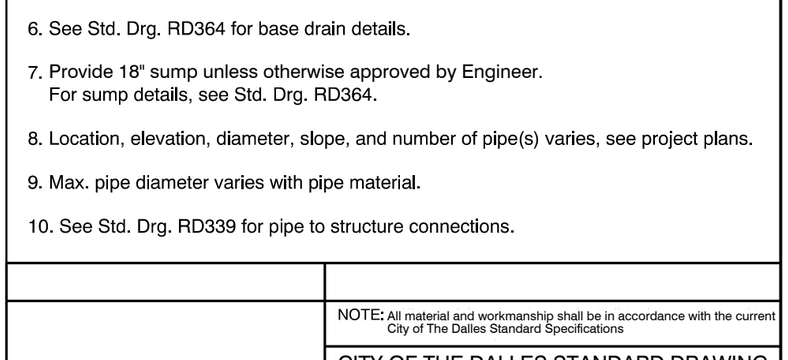
Effective Date: January 1, 2020 - December 31, 2020 RD370



SECTION B - B



SECTION A - A

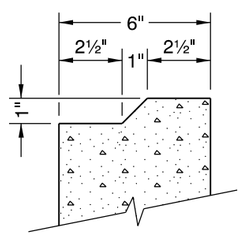


PLAN

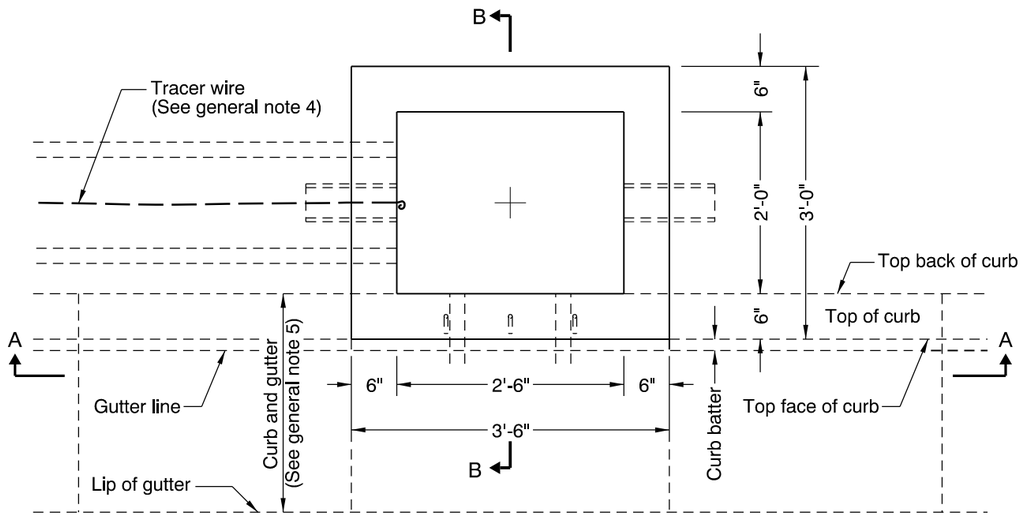
PAY LIMIT

GENERAL NOTES FOR ALL DETAILS:

1. All concrete shall be commercial grade concrete.
2. Inlet base may be cast-in-place or precast. Where precast inlet base is used as an alternate, a 4" compacted leveling bed of sand or ¼"-0 crushed aggregate shall be provided. All precast inlets shall conform to requirements of ASTM C913.
3. See Std. Drgs. RD372 & RD373 for inlet top details.
4. See Std. Drg. RD336 for tracer wire details, or approved alternate.
5. See Std. Drgs. RD700 & RD701 for curb and gutter details.
6. See Std. Drg. RD364 for base drain details.
7. Provide 18" sump unless otherwise approved by Engineer. For sump details, see Std. Drg. RD364.
8. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
9. Max. pipe diameter varies with pipe material.
10. See Std. Drg. RD339 for pipe to structure connections.



KEYWAY DETAIL



PLAN

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

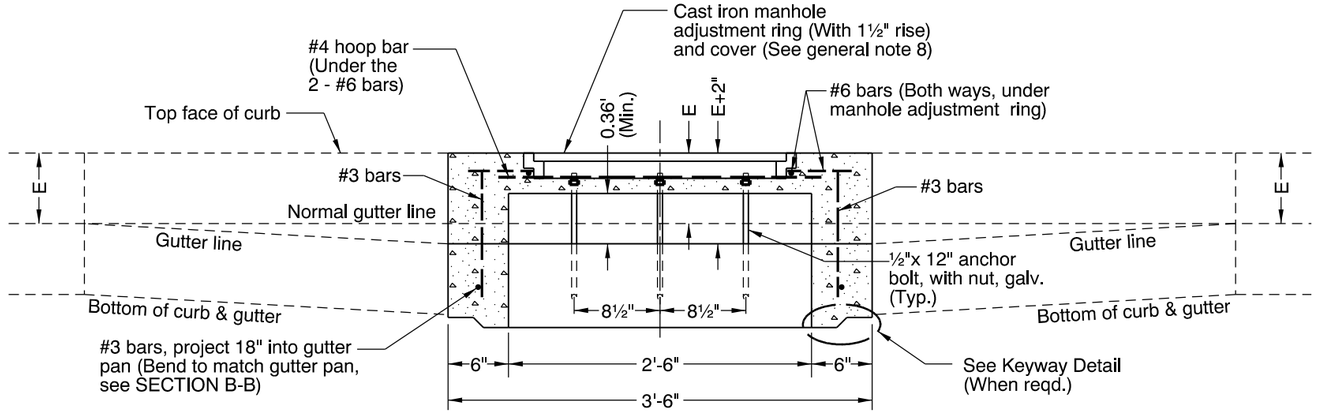
CITY OF THE DALLES STANDARD DRAWING

CONCRETE INLET BASE
TYPE CG-3

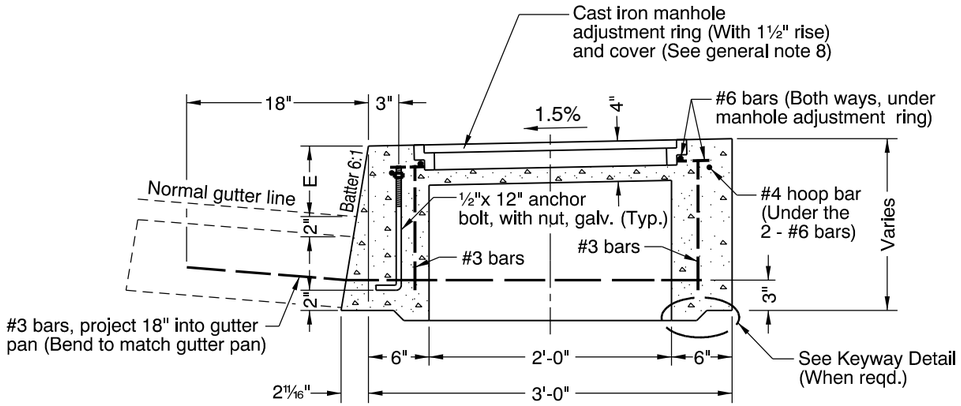
2020

DATE	REVISION DESCRIPTION
07-2015	REVISED DETAIL, REVISED AND ADDED NOTES

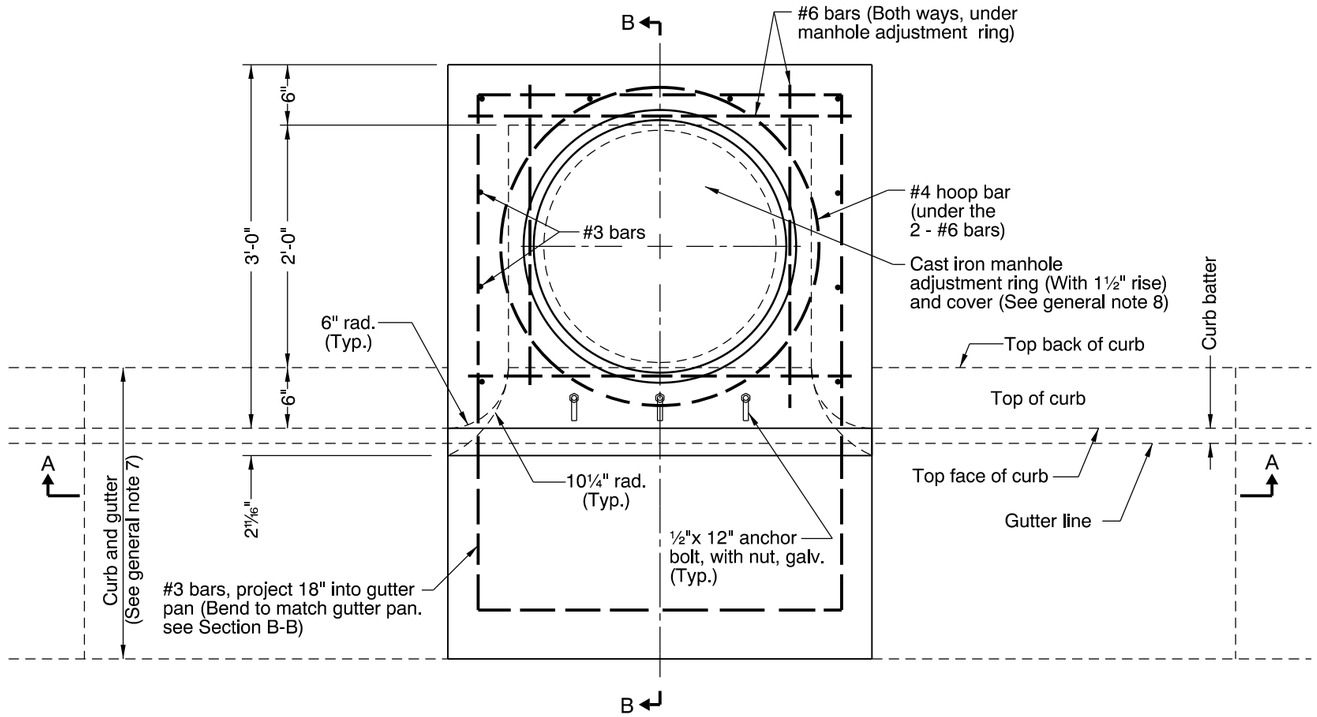
RD371



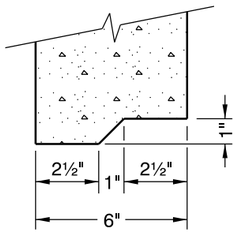
SECTION A - A



SECTION B - B



PLAN



KEYWAY DETAIL

GENERAL NOTES FOR ALL DETAILS:

1. All concrete shall be commercial grade concrete.
2. Inlet top may be cast-in-place or precast. All precast inlets shall conform to requirements of ASTM C913.
3. All reinforcement shall be 2" clear of nearest face of conc., unless otherwise shown.
4. Vary anchor bolt length and reinforcing bar placement as required by curb exposure E (see note 7 below).
5. See Std. Drg. RD371 for inlet base details.
6. See Std. Drg. RD371 for inlet pay limit.
7. See Std. Drgs. RD700 & RD701 for curb and gutter details.
8. See Std. Drg. RD356 for cast iron manhole adjustment ring and cover.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

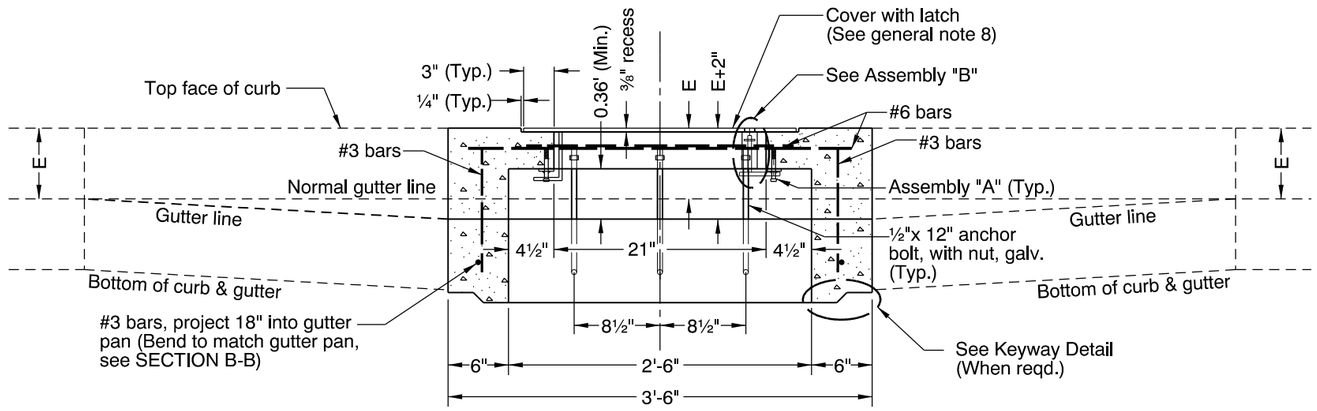
CITY OF THE DALLES STANDARD DRAWING

CONCRETE INLET TOP, OPTION 1
TYPE CG-3

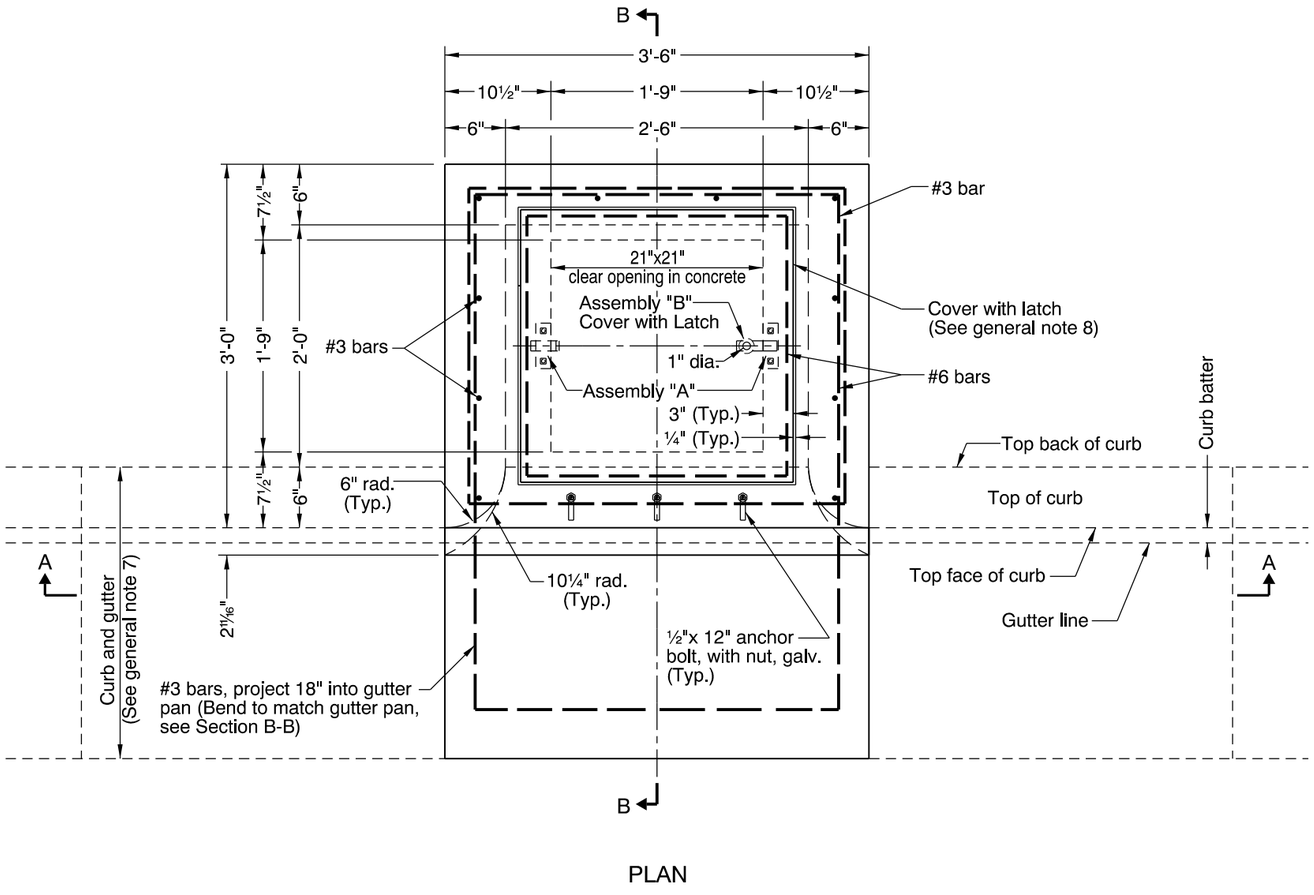
2020

DATE	REVISION DESCRIPTION
07-2015	REVISED AND ADDED NOTES

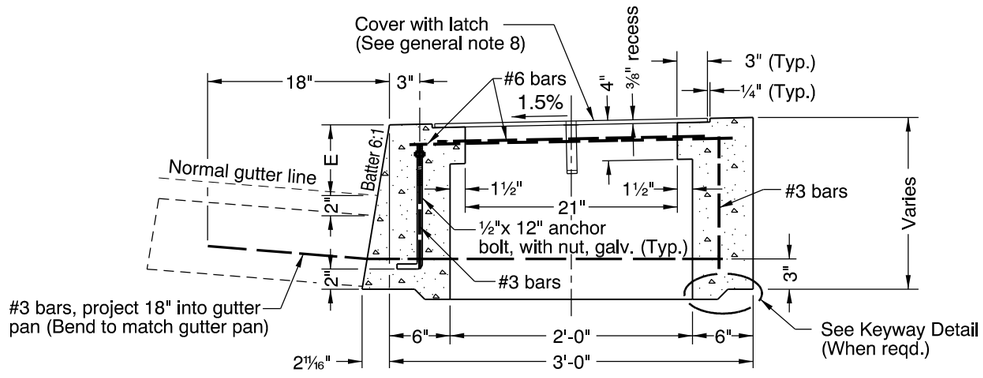
RD372



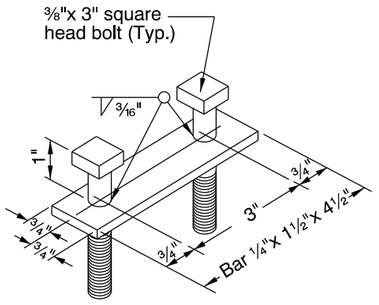
SECTION A - A



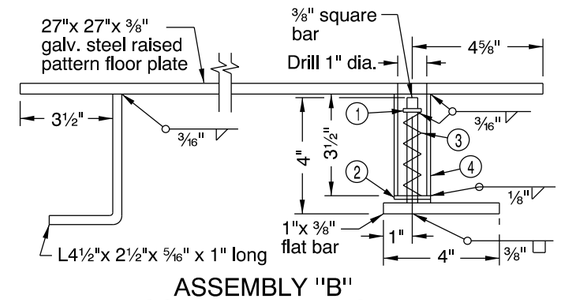
PLAN



SECTION B - B



ASSEMBLY "A"



ASSEMBLY "B"
COVER WITH LATCH

① Washer used as spring stop. Weld washer to ⅜" square bar, ⅜" from end.

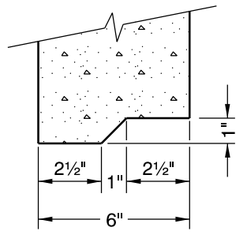
② 1¼" dia. washer used as a tube plug. Weld to tubing.

③ 90 lb comp. spring.

④ 1¼"x 0.125 tubing.

GENERAL NOTES FOR ALL DETAILS:

1. All concrete shall be commercial grade concrete.
2. Inlet top may be cast-in-place or precast. All precast inlets shall conform to requirements of ASTM C913.
3. All reinforcement shall be 2" clear of nearest face of conc., unless otherwise shown.
4. Vary anchor bolt length and reinforcing bar placement as required by curb exposure E (see note 7 below).
5. See Std. Drg. RD371 for inlet base details.
6. See Std. Drg. RD371 for inlet pay limit.
7. See Std. Drgs. RD700 & RD701 for curb and gutter details.
8. Provide cover with latch per Assembly A & Assembly B, hot dip galvanize after fabrication. Mount cover with latch flush with finish grade, in ⅜" deep concrete recess, with ¼" horizontal clearance on all sides.



KEYWAY DETAIL

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

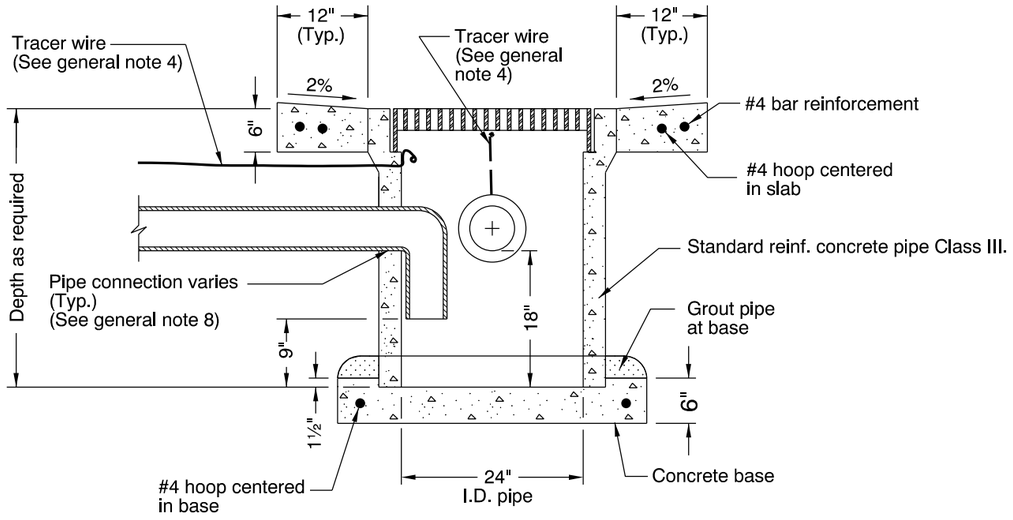
CITY OF THE DALLES STANDARD DRAWING

CONCRETE INLET TOP, OPTION 2
TYPE CG-3

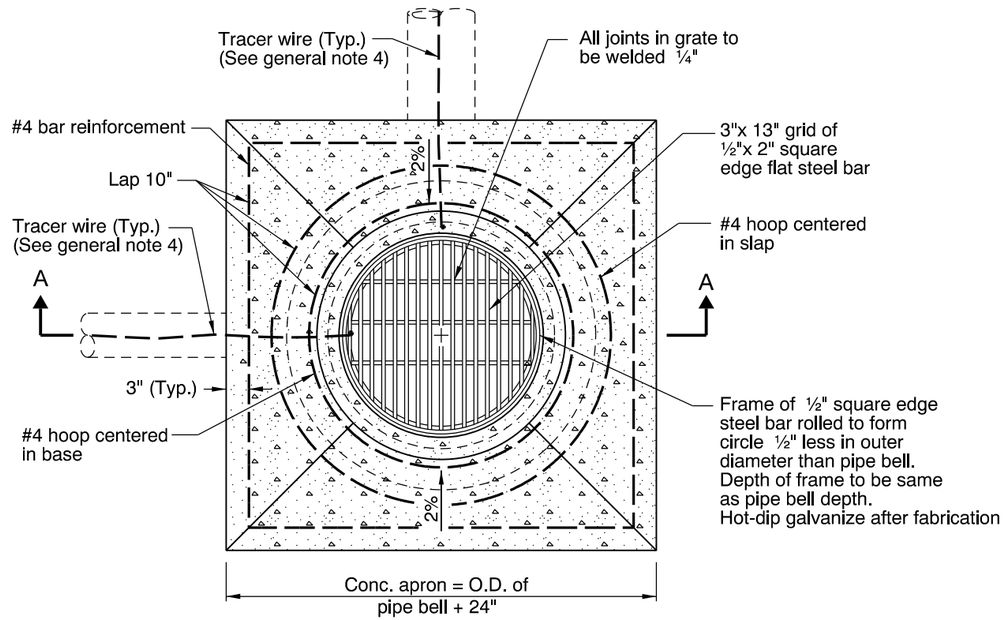
2020

DATE	REVISION DESCRIPTION
07-2015	REVISED AND ADDED NOTES

RD373



SECTION A-A



PLAN

GENERAL NOTES FOR ALL DETAILS:

1. Grates shall be bicycle-safe.
2. Precast concrete inlets may be used when specified or approved. All precast inlets shall conform to requirements of ASTM C913.
3. Anchor vertical leg of inlet pipe if not a glued joint.
4. See Std. Drg. RD336 for tracer wire details.
5. All reinforcement shall be 2" clear of nearest face of conc., unless otherwise shown.
6. Max. connecting pipe diameter varies with pipe material.
7. All concrete shall be commercial grade concrete.
8. See Std. Drg. RD339 for pipe to structure connections.
9. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

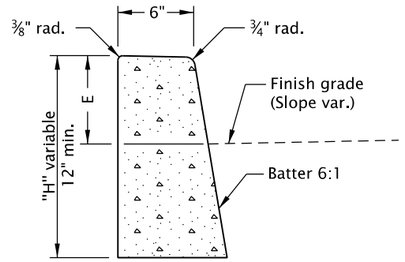
CITY OF THE DALLES STANDARD DRAWING

AREA DRAINAGE BASIN OR FIELD INLET

2020

DATE	REVISION DESCRIPTION

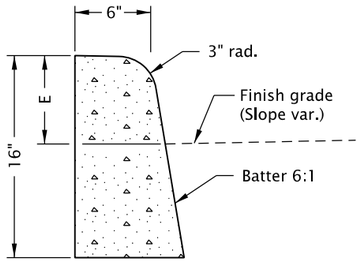
RD374



City of The Dalles Standard **"H"=16"**

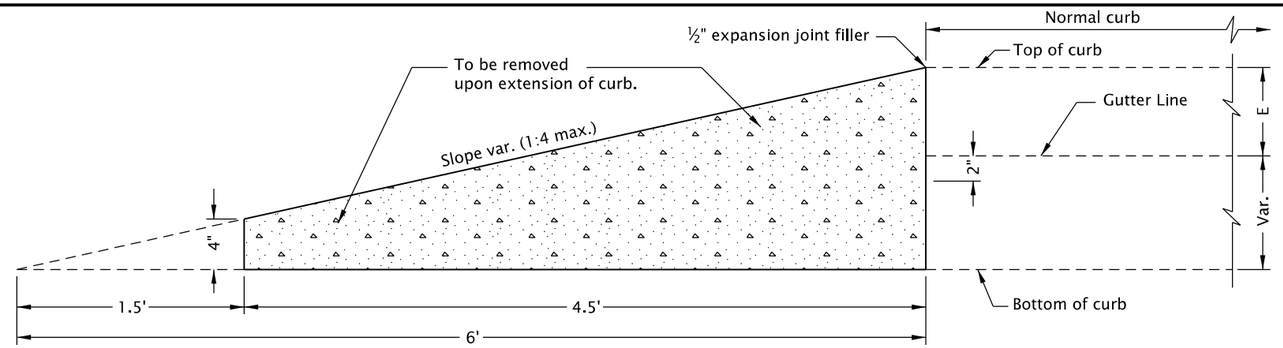
STANDARD CURB

(See general note 11)

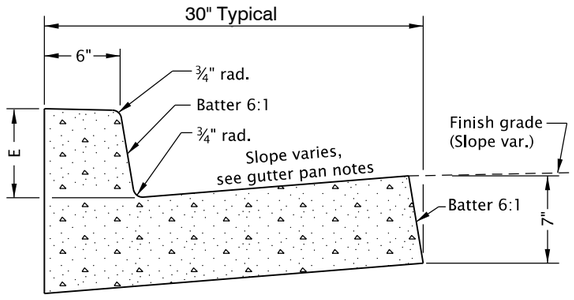


MOUNTABLE CURB

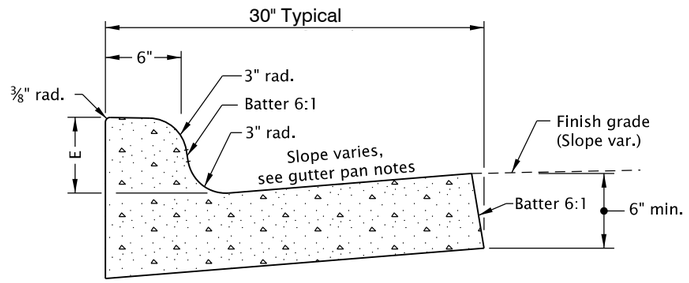
(See general note 11)



CURB ENDING DETAIL



CURB AND GUTTER



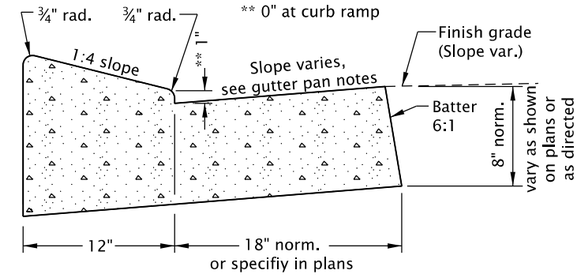
MOUNTABLE CURB AND GUTTER

GUTTER PAN NOTES:

Slope 5.0% normal.

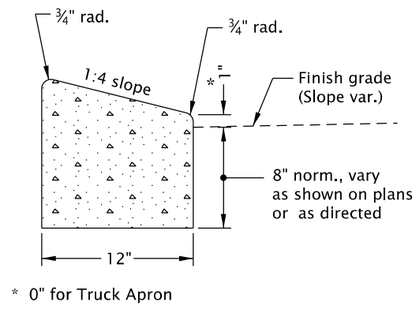
Slope 4.0% max. at curb ramps.

Vary slope as reqd. for drainage.
Vary where shown on plans



LOW PROFILE MOUNTABLE CURB AND GUTTER

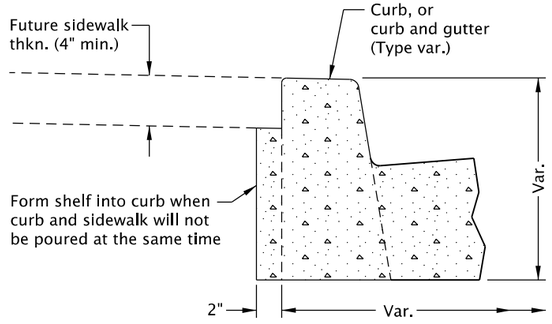
(Where shown on plans)



* 0" for Truck Apron

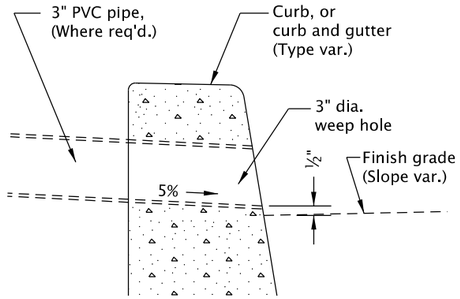
LOW PROFILE MOUNTABLE CURB

(See general note 11)



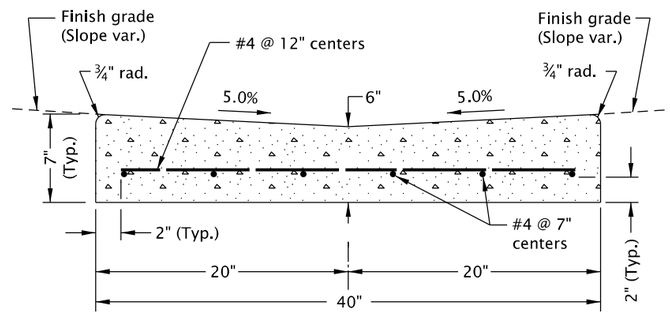
MODIFICATION FOR KEYWAY

(Where shown on plans)



WEEP HOLE DETAIL

(Where shown on plans, and allowed by jurisdiction)



VALLEY GUTTER

GENERAL NOTES FOR ALL DETAILS:

1. Curb exposure "E" = 6", as measured vertically from flowline to highest point on curb. Vary as shown on plans or directed.
2. Const. expansion joints at 200' maximum spacing, and at points of tangency, and at ends of each driveways.
3. Const. contraction joints at 15' maximum spacing, and at ends of each inlet and curb ramp.
4. Transitions shall be used to connect curbs of different exposures "E". ("E" Is the total vertical dimension of those curb surfaces having a slope of 1:1 or steeper). Minimum desirable transition length shall be 20' for each 1" difference in "E".
5. Tops of all curbs shall slope toward the roadway at 1.5% max. (Max. 2.0% finished surface slope), unless otherwise shown, or as directed.
6. Dimensions are nominal, vary to conform with curb machine approved by the engineer.
7. Dimensions adjacent to radii are measured to the point of intersection of curb surfaces.
8. For sidewalk details, and monolithic curb & sidewalk, see Std. Dwg. RD720 & RD721.
9. For drainage curbs, see Std. Dwg. RD701.
10. For curb ramp details, see Std. Dwg. RD755.
11. On or along state highways, curb and gutter is required at curb ramp.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

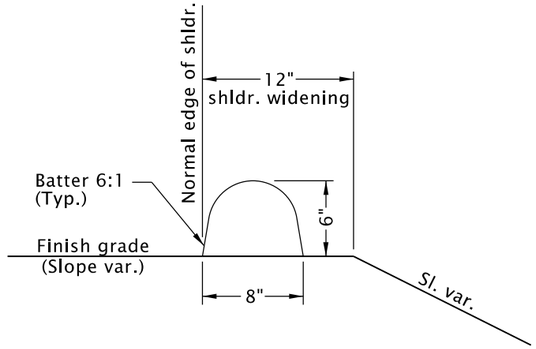
CITY OF THE DALLES STANDARD DRAWING

CURBS

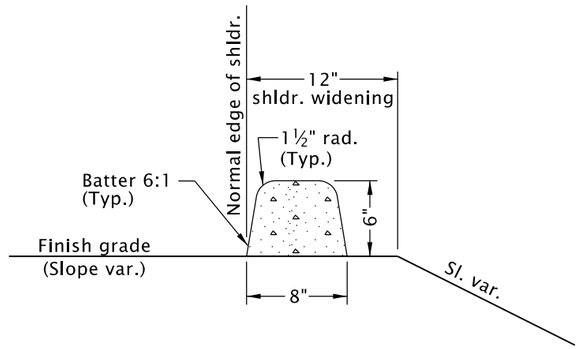
2020

DATE	REVISION DESCRIPTION
01-2018	REVISED & ADDED NOTES
05-2018	REVISED NOTE
07-2018	ADDED DETAIL & REVISED NOTES

RD700

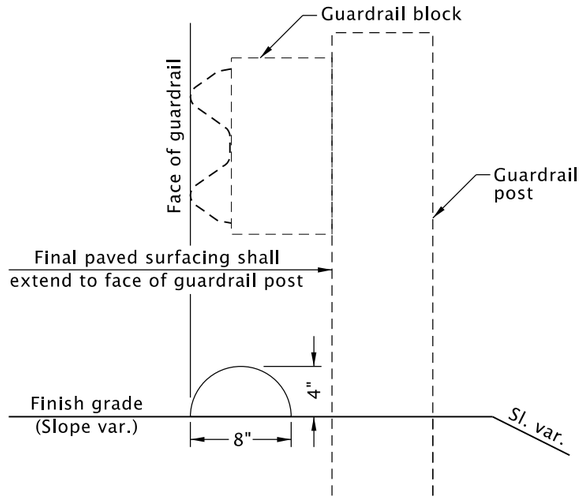


ASPHALT CONCRETE

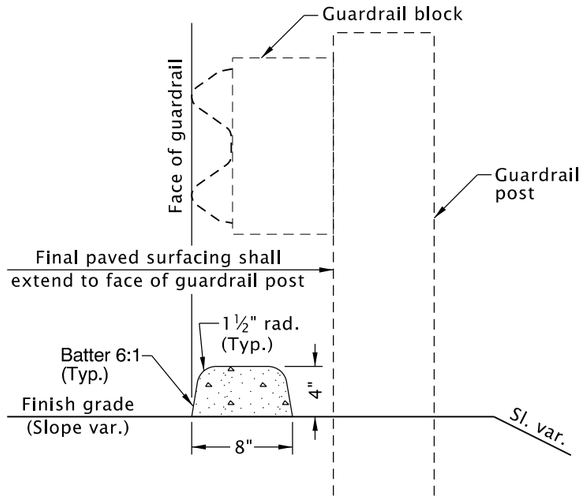


PORTLAND CEMENT CONCRETE

DRAINAGE CURBS
(See general note 4)



ASPHALT CONCRETE



PORTLAND CEMENT CONCRETE

DRAINAGE CURBS UNDER GUARDRAIL
(See general note 4)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. For PCC drainage curbs, construct curb expansion joints at 200' maximum spacing, and at points of tangency.
2. For PCC drainage curbs, construct curb contraction joints at 15' maximum spacing.
3. Dimensions are nominal, vary to conform with curb machine approved by the engineer.
4. When bonding to dense graded ACP, apply epoxy cement between surfaces.
5. When drainage curb is required, curb alignment shall be the same as face of guardrail, as shown above. When a run of drainage curb, or any part thereof, is placed under guardrail, curb height shall be 4".
6. For other curb types, see Std. Dwg. RD700.
7. For guardrail details not shown, see Std. Dwg. RD400.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

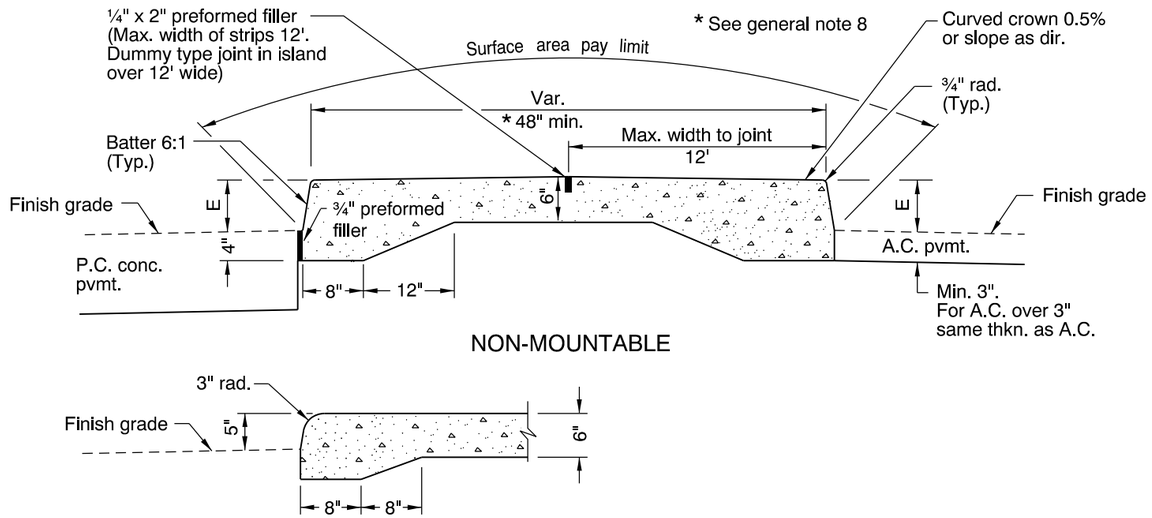
CITY OF THE DALLES STANDARD DRAWING

DRAINAGE CURBS

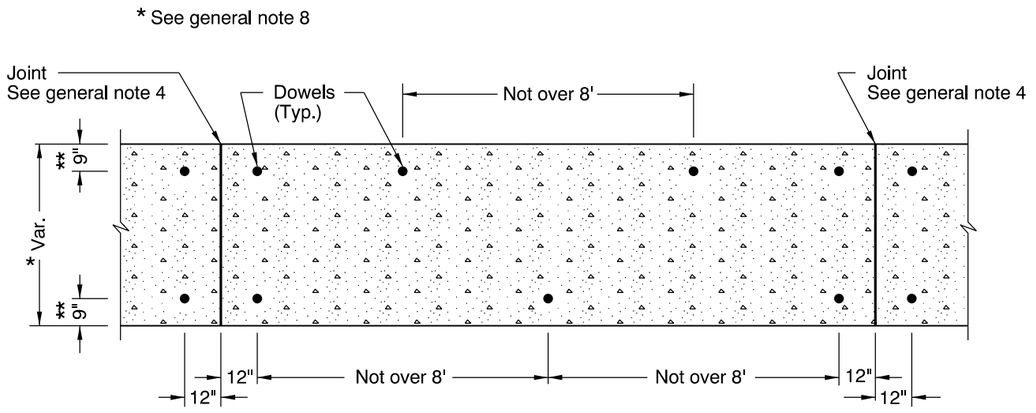
2020

DATE	REVISION DESCRIPTION
06-2019	REVISED NOTES

RD701

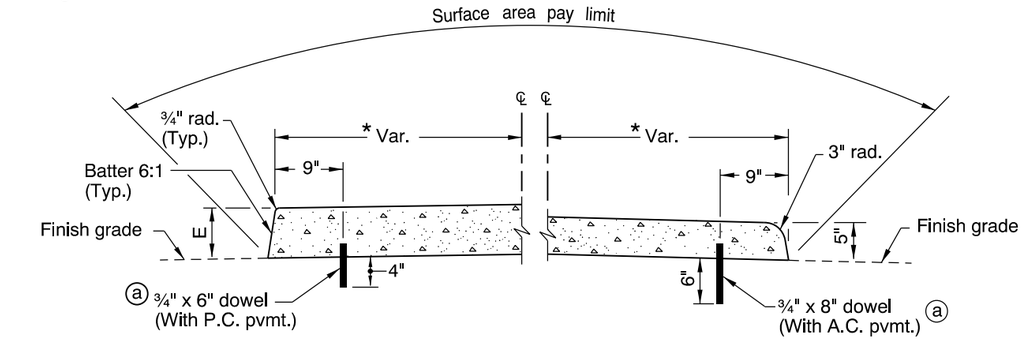


TYPE A



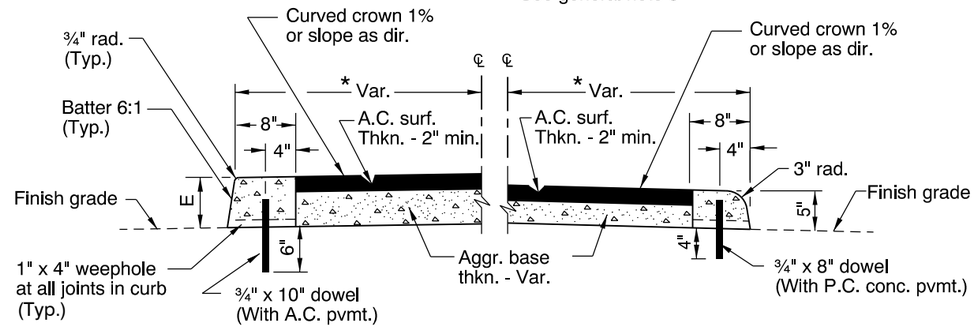
DOWEL PLAN
FOR TYPE C OR TYPE CA ISLANDS & TRANSITIONS
(ON SURFACE OF NEW OR EXISTING PAVEMENT)

**Also see below for type CA island requirement.



Ⓐ No dowels reqd. for Type C islands 5' wide or wider

TYPE C



TYPE CA

GENERAL NOTES FOR ALL DETAILS:

1. Curb exposure "E" = 6" normal. Vary as shown on plans or as directed.
2. Standard batter is shown. Vary as shown on typical section or as directed.
3. Transverse joints in conc. islands to match joints in conc. pvmt. and to be of same type (Omit dowels in expansion joints).
4. Set joint spacing 200' max. for expansion and 15' max. for contraction.
5. Place preformed filler along one side of conc. islands in conc. pvmt. and around all curved ends.
6. Dowels shall be ¾" dia. with length as shown.
   In new conc. pvmt. set dowels before conc. hardens.
   In extg. conc. pvmt. drill holes 1½" dia. and grout dowels in.
   In A.C. pvmt. drive dowels.
7. For transitions to traffic separators, see Std. Drg. RD706.
8. Minimum island width is 48". For accessible route islands, see Std. Drg. RD710.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

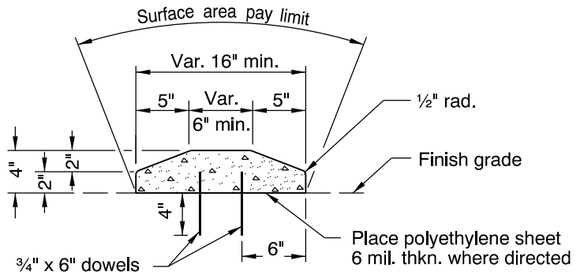
CITY OF THE DALLES STANDARD DRAWING

ISLANDS

2020

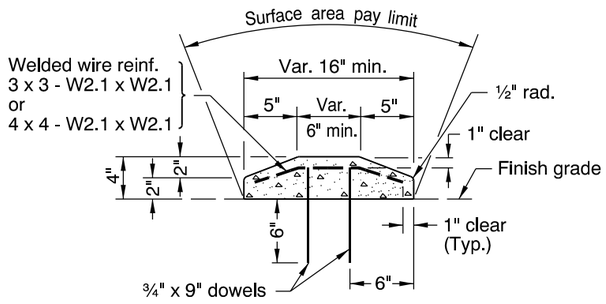
DATE	REVISION DESCRIPTION

RD705



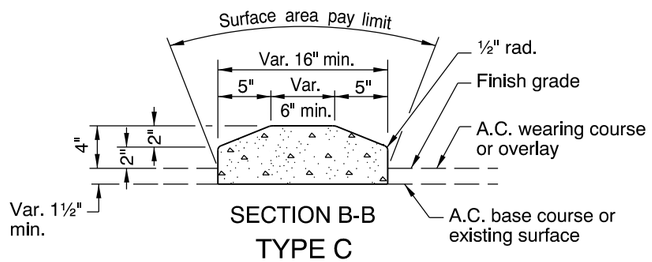
SECTION B-B

TYPE A
TRAFFIC SEPARATOR ON P.C. CONC. PVMT.



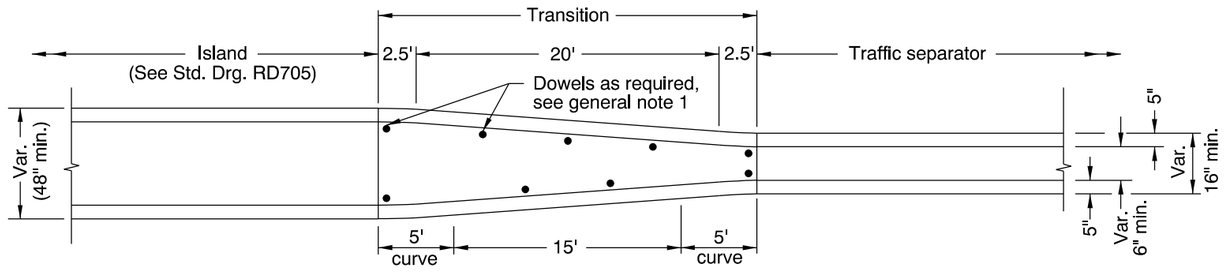
SECTION B-B

TYPE B
TRAFFIC SEPARATOR ON EXTG. A.C. PVMT.

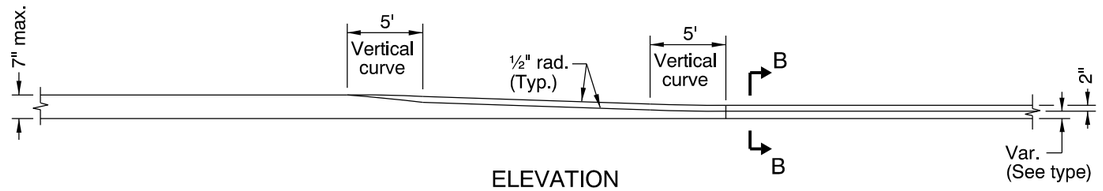


SECTION B-B

TYPE C
TRAFFIC SEPARATOR ON NEW A.C. PVMT. OR ON EXISTING A.C. PVMT. WITH OVERLAY

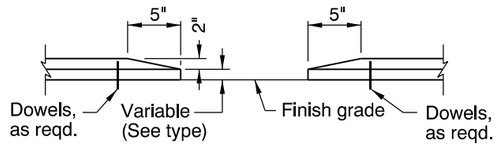


PLAN

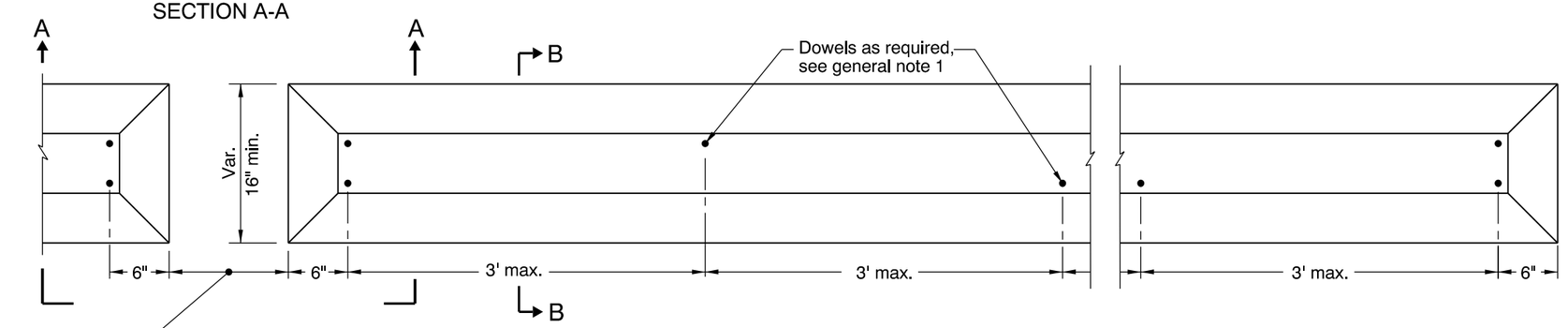


ELEVATION

TRANSITION FROM ISLAND TO TRAFFIC SEPARATOR



SECTION A-A



CONCRETE TRAFFIC SEPARATOR

GENERAL NOTES FOR ALL DETAILS:

1. In transitions conform to dowel plan per Std. Drg. RD705.
2. Standard slope face is shown. Vary as shown on typical section or as directed.
3. Transverse joints in conc. traffic separators and transitions to match joints in conc. pvmt. and to be of same type (Omit dowels in expansion joints).
4. Set joint spacing 200' max. for expansion and 15' max. for contraction.
5. Place preformed filler along one side of conc. transitions in conc. pvmt. and around all curved ends.
6. Dowels shall be ¾" dia. with length as shown. In new conc. pvmt. set dowels before conc. hardens. In extg. conc. pvmt. drill holes 1½" dia. and grout dowels in. In A.C. pvmt. drive dowels.
7. Site conditions normally require a project specific drain opening spacing design, which considers roadway conditions (sheet flow limits, cross slope, superelevation, profile, pavement type, lane and shoulder widths, etc.).

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

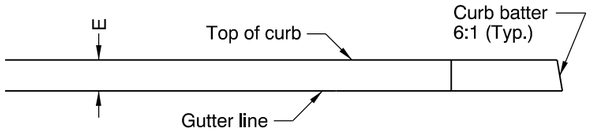
CITY OF THE DALLES STANDARD DRAWING

TRAFFIC SEPARATORS AND TRANSITIONS

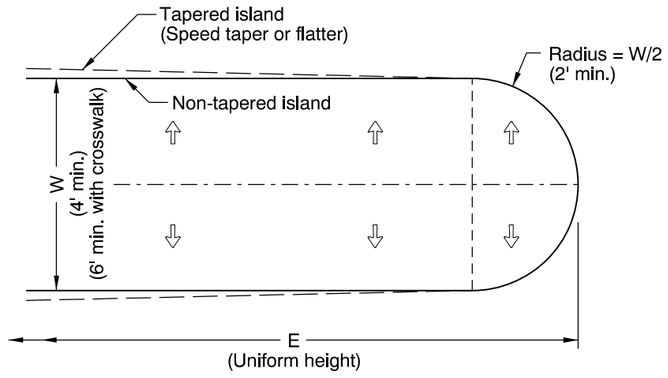
2020

DATE	REVISION DESCRIPTION

RD706

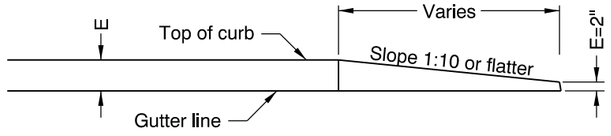


ELEVATION

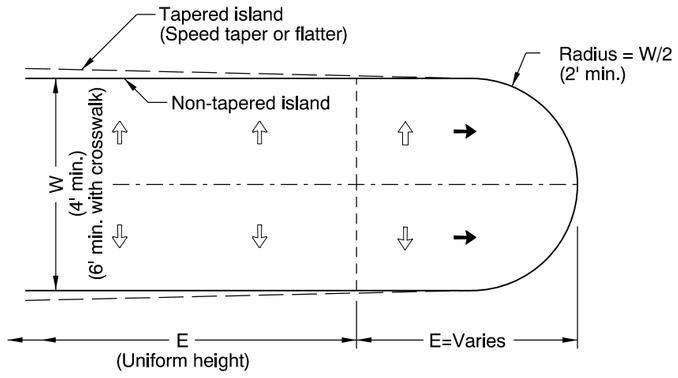


PLAN

OPTION "A"

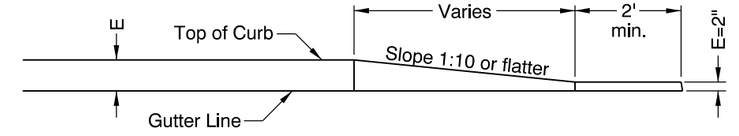


ELEVATION

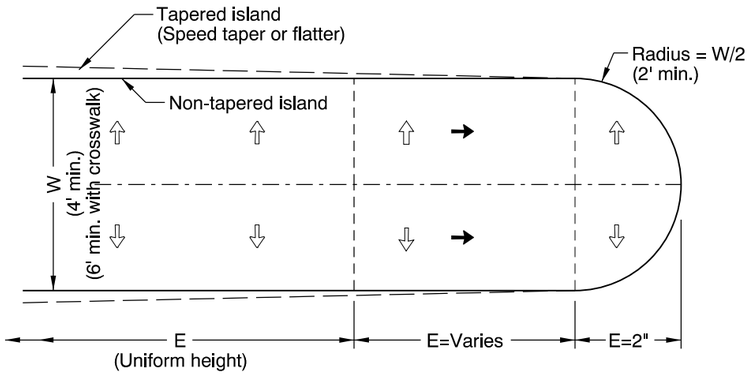


PLAN

OPTION "B"



ELEVATION



PLAN

OPTION "C"

GENERAL NOTES FOR ALL DETAILS:

1. Curb type and median width as shown on plans or as directed.
2. Curb exposure "E" = 6" normal. Vary as shown on plans or as directed.
3. Standard batter is shown. Vary as shown on typical section or as directed.
4. See Std. Drgs. RD700, RD701, RD705, RD706 & RD710 for additional details.
5. Site conditions normally require a project specific design, which considers roadway conditions (sheet flow limits, cross slope, superelevation, profile, pavement type, lane and shoulder widths, etc.).
6. See Std. Drg. RD710 for accessible route islands.

⇨ Slope (2% normal)
➔ Slope (varies)
E Curb exposure

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

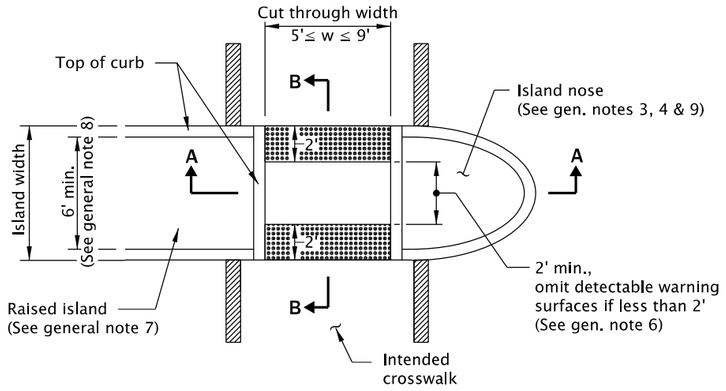
ISLAND NOSE TREATMENTS

2020

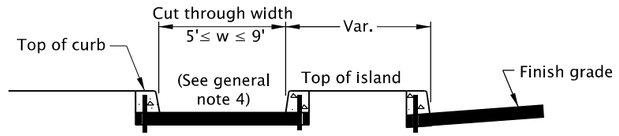
DATE	REVISION DESCRIPTION
07-2015	REVISED NOTES

RD707

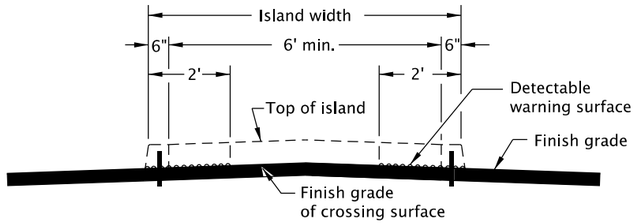
Effective Date: January 1, 2020 - December 31, 2020 RD707



PLAN VIEW



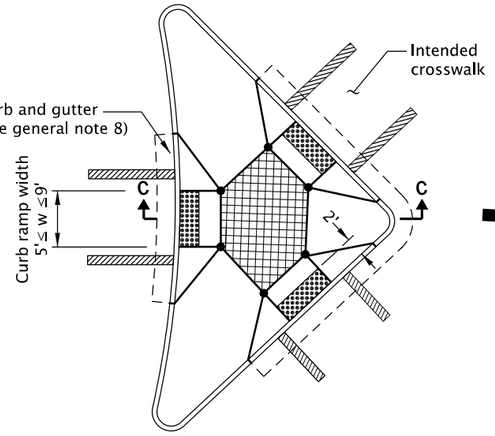
SECTION A-A



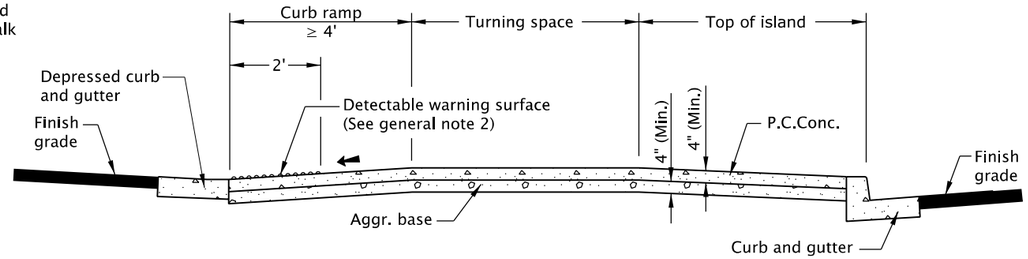
SECTION B-B

RAISED MEDIAN ISLAND DETAIL

(A.C. pavement shown)

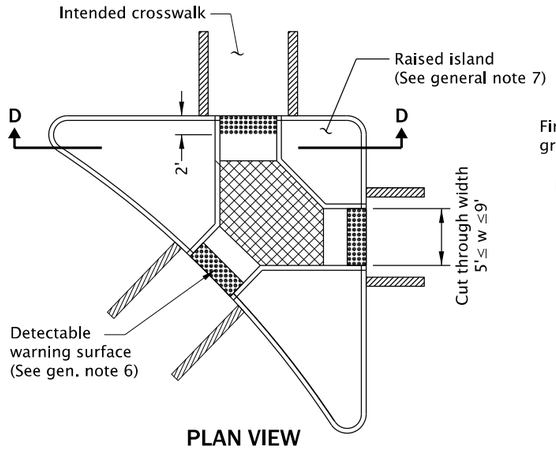


PLAN VIEW

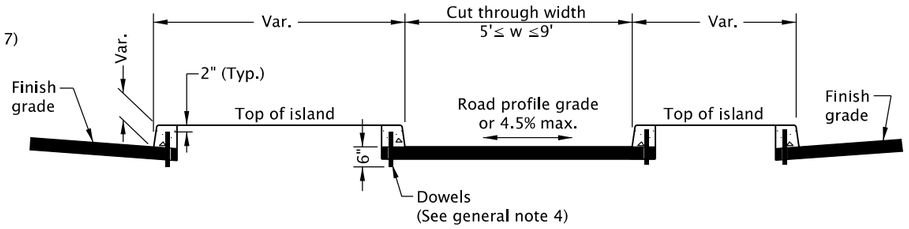


SECTION C-C

PARTIALLY LOWERED ISLAND DETAIL



PLAN VIEW



SECTION D-D

CUT THROUGH ISLAND DETAIL

(A.C. pavement shown)

RAISED RIGHT TURN CHANNELIZATION ISLAND

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Accessible route islands are based on ODOT applicable Standards.
2. Place detectable warning surface at the back of curb for a minimum depth of 2' at curb ramp that is adjacent to traffic. For details not shown, see Std. Dwgs. RD758 & RD759.
3. The min. area of islands that contain signal poles, pedestals, etc., shall be 75 sq. ft. Square feet to be measured to outer perimeter of entire island.
4. For cut through islands dowel each island segment to the pvmt. with a min. of 2, ¾" dia. dowels. Dowel the nose section of the raised median island with a minimum of 2, ¾" dia. dowels. Place dowels as directed. See Std. Dwg RD705.
5. Align curb ramps for lowered or partially lowered island and cut through island with the crosswalk.
6. Detectable warning surfaces shall be separated by a 2.0 ft minimum length of walkway without detectable warnings. Where no curb, the detectable warning surface shall be placed at the edge of roadway.
7. Curb type and island width as shown on plans or as directed. Type A or Type CA islands are acceptable alternates, see Std. Dwg. RD705.
8. Curb and gutter is required at curb ramps.
9. See project plans for details not shown. See Std. Dwg. RD707 for island nose treatment. See Std. Dwg. RD705 for expansion and contraction joint spacing. See Std. Dwgs. RD700, RD701, RD705, RD706 & RD755 for additional details. See TM Standard Drawings for signal pole, pedestrian pedestal, crosswalk markings, and related details.
10. Details intended for pedestrian route only. For multi-use path, see project plans for specific details.

LEGEND:

Turning space
When not constrained 4.5' x 4.5' (4' x 4' min. finished surface).
When constrained 4.5' x 5.5' (4' x 5' min. finished surface with longer dimension in direction of pedestrian street crossing).
The landing area shall have a slope of 1.5% max. (Max. 2.0% finished surface slope).

Detectable warning surface

⇦ Slope 1.5% max. (Max. 2.0% finished surface slope)

◄ Slope 7.5% max. (Max. 8.3% finished surface slope)

● Zero curb exposure

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

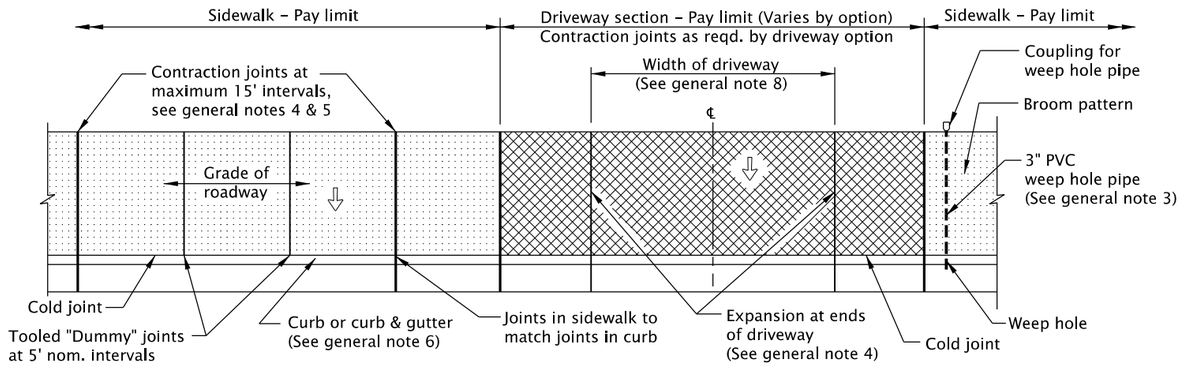
CITY OF THE DALLES STANDARD DRAWING

ACCESSIBLE ROUTE ISLANDS

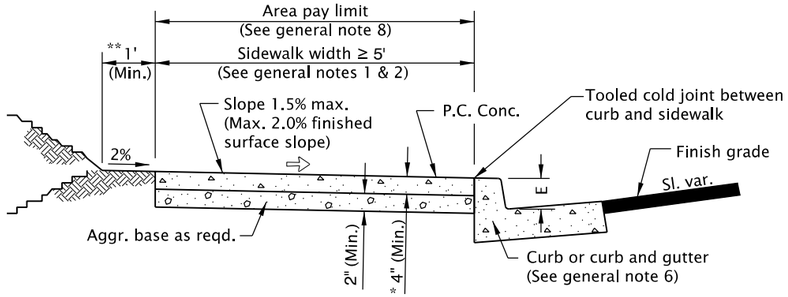
2020

DATE	REVISION DESCRIPTION
01-2018	REVISED DETAILS, REVISED & ADDED NOTES
03-2018	REVISED DETAILS & NOTES
09-2018	REVISED DETAILS & NOTES
01-2019	REVISED DETAILS & NOTES
06-2019	REVISED DETAILS & NOTES

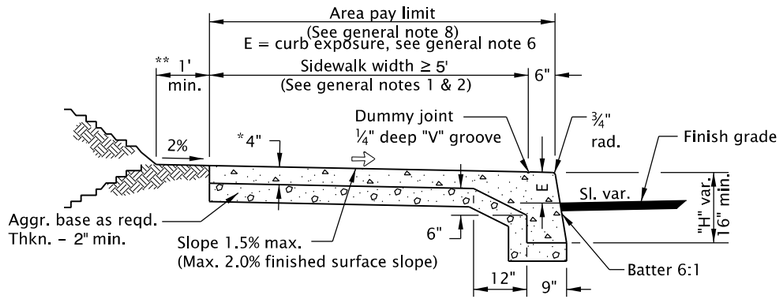
RD710



TYPICAL PLAN VIEW - CURB LINE SIDEWALK



TYPICAL CURB SIDEWALK CROSS SECTION



TYPICAL MONOLITHIC CURB & SIDEWALK CROSS SECTION

E = curb exposure, see general note 6

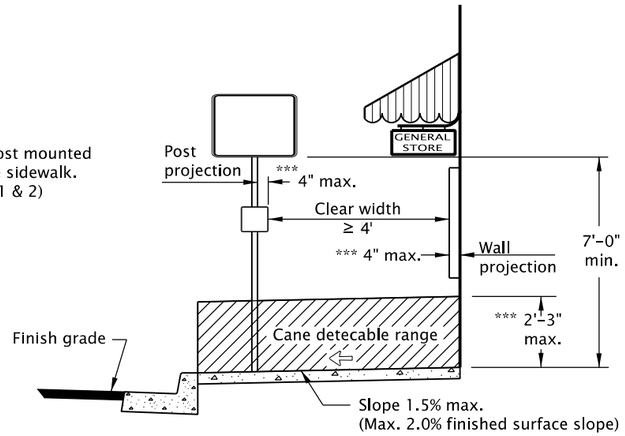
* Min. 4" or as specified in plans. A thickness ≥ 6" if sidewalk is intended as portion of a driveway or mountable curb is used.

** Provide compacted backfill adjacent to curb and sidewalk

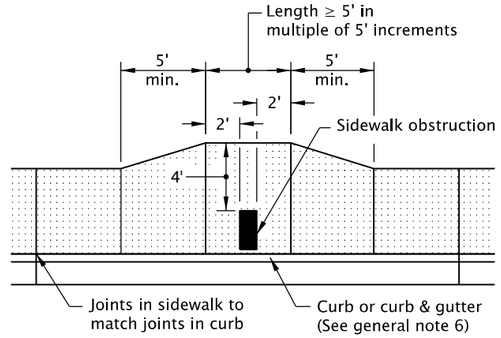
Monolithic Curb & Sidewalk shall only be used where approved by City Engineer

*** Objects with base below 2'-3" may protrude any distance as long as the 4' circulation path is maintained. When an object with a base higher than 2'-3" protrudes further than 4" provide a detection below protrusion to delineate edge.

Building, wall, or post mounted obstruction outside sidewalk. (See general notes 1 & 2)



CLEAR CIRCULATION PATH



REQUIRED SIDEWALK WIDENING AROUND OBSTRUCTIONS

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Include additional paved or unpaved 2' shy distance to vertical faces higher than 5' such as retaining walls, sound walls, fences and buildings.
2. Curb type and sidewalk width as shown on plans or as directed. On sidewalks 8' and wider, provide a longitudinal joint at the midpoint.
3. Install 3" pvc weep hole pipes in sidewalks where shown on plans, and allowed by jurisdiction. Place contraction joint over top of pipe. See Std. Dwg. RD700 for weep hole details.
4. Provide expansion joints around poles, posts, boxes, at ends of each driveway, and other fixtures which protrude through or against the structures. For sidewalk, monolithic curb & sidewalk, const. expansion joints at 45' maximum spacing. See Std. Dwg. RD722 for expansion joints details.
5. Const. contraction joints at 15' maximum spacing, and at ends of each curb ramp. See Std. Dwg. RD722 for contraction joints details.
6. For curb details, see Std. Dwgs. RD700 & RD701. City of The Dalles Standard : E=6".
7. Sidewalk details are based on ODOT applicable standards.
8. Fully lowered sidewalk shown; see project plans for the diveway design specified. For driveway details not shown, see Std. Dwgs. RD725, RD730, RD735, RD740, RD745 & RD750.
9. See project plans for details not shown.

LEGEND

- Sidewalk pay limit.
- Driveway pay limit, varies by option, (See general note 8).
- ⇦ Slope 1.5% max. (Max. 2.0% finished surface slope)

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

CURB LINE SIDEWALKS

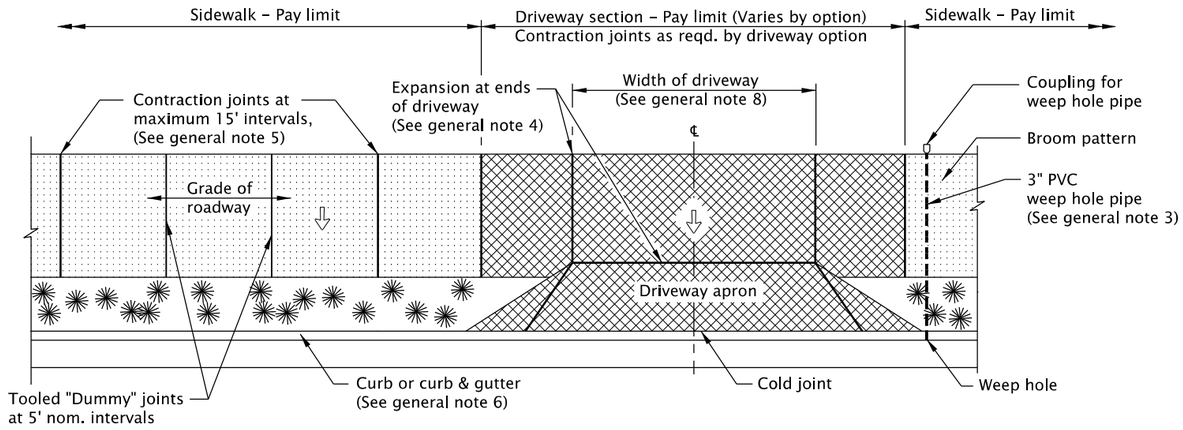
2020

DATE	REVISION DESCRIPTION
01-2018	REVISED NOTE
07-2018	REVISED DETAIL & NOTES
01-2019	REMOVED, REVISED DETAILS & NOTES
06-2019	ADDED & REVISED NOTES

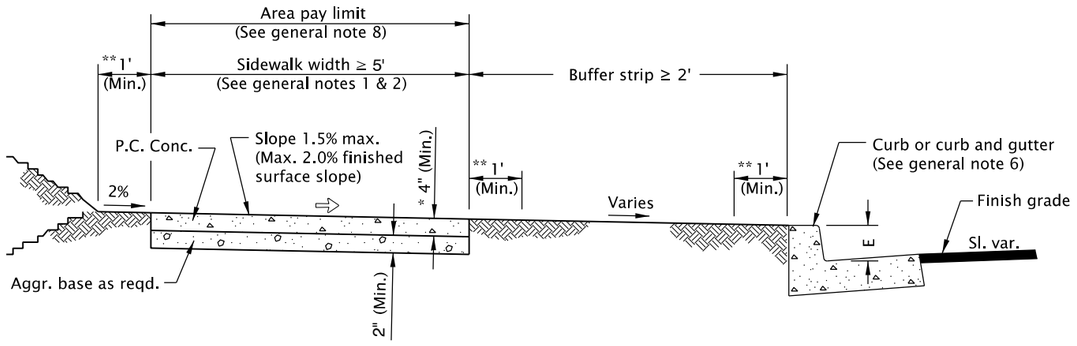
RD720

Effective Date: January 1, 2020 - December 31, 2020

RD720



TYPICAL PLAN VIEW - SEPARATED SIDEWALK



TYPICAL SETBACK SIDEWALK CROSS SECTION

E = curb exposure, see general note 6

* Min. 4" or as specified in plans. A thickness 6" if sidewalk is intended as portion of a driveway or mountable curb is used.

** Provide compacted backfill adjacent to curb and sidewalk

LEGEND

Sidewalk pay limit.

Driveway pay limit, varies by option, (See general note 8).

⇦ Slope 1.5% max. (Max. 2.0% finished surface slope)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Include additional paved or unpaved 2' shy distance to vertical faces higher than 5' such as retaining walls, sound walls, fences and buildings.
2. Curb type and sidewalk width as shown on plans or as directed. On sidewalks 8' and wider, provide a longitudinal joint at the midpoint.
3. Install 3" pvc weep hole pipes in sidewalks where shown on plans, and allowed by jurisdiction. Place contraction joint over top of pipe. See Std. Dwg. RD700 for weep hole details.
4. Provide expansion joints around poles, posts, boxes, at ends of each driveway, and other fixtures which protrude through or against the structures. For sidewalk, monolithic curb & sidewalk, const. expansion joints at 45' maximum spacing. See Std. Dwg. RD722 for expansion joint details.
5. Const. contraction joints at 15' maximum spacing, and at ends of each curb ramp. See Std. Dwg. RD722 for contraction joint details.
6. Curb and gutter shown; see project plans for the curb design specified. For curb details, see Std. Dwgs. RD700 & RD701. City of The Dalles Standard: E=6"
7. Sidewalk details are based on ODOT applicable standards.
8. Driveway encroaches into sidewalk shown; see project plans for the driveway design specified. For driveway details not shown, see Std. Dwgs. RD725, RD730, RD735, RD740, RD745 & RD750.
9. See project plans for details not shown.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

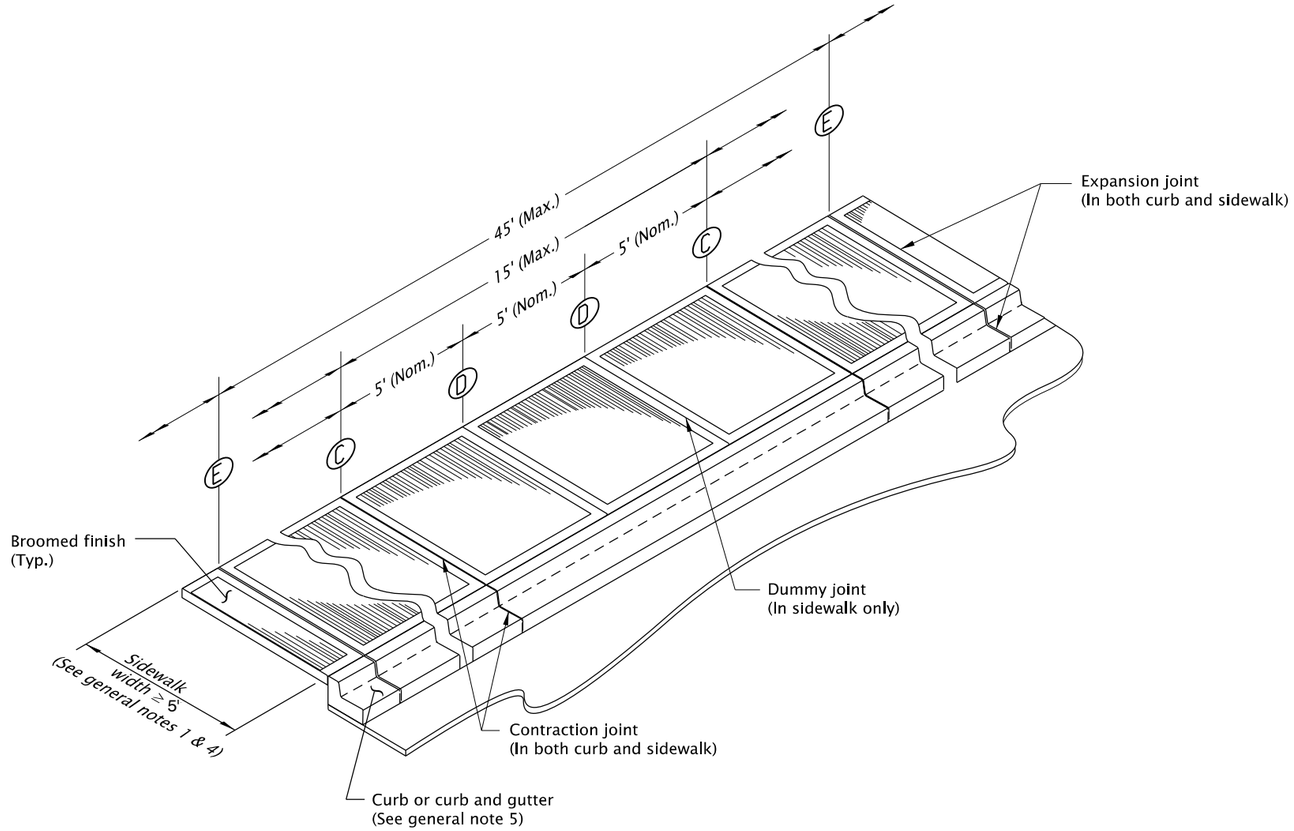
CITY OF THE DALLES STANDARD DRAWING

SEPARATED SIDEWALKS

2020

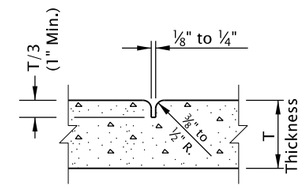
DATE	REVISION DESCRIPTION
01-2019	DRAWING CREATED
06-2019	ADDED NOTES

RD721

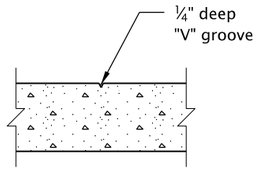


JOINT DETAIL

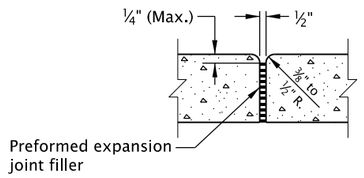
(Curb line sidewalk with curb and gutter shown)



Ⓒ **CONTRACTION JOINT**
(See general note 3)



Ⓓ **DUMMY JOINT**



Ⓔ **EXPANSION JOINT**
(See general note 2)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. See Std. Dwgs. RD 720 & RD721 for Concrete Sidewalk Details.
   See project plans for sidewalk width, placement and design specified.
2. Provide expansion joints around poles, boxes at ends of each driveway and other fixtures which protrude through or against the structures.
   For sidewalk, monolithic curb and sidewalk, construction expansion joints at 45' max. spacing.
3. Const. contraction joints at 15' max. spacing, and at each curb ramp.
4. On sidewalks 8' and wider, provide a longitudinal joint at the midpoint.
5. See Std. Dwgs. RD700 & RD701 for Concrete Curb Details.
   See project plans for the curb design specified.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

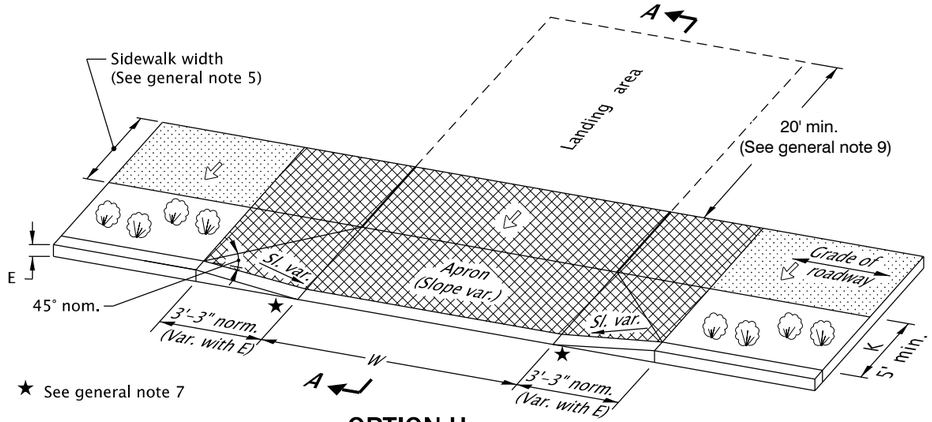
SIDEWALK JOINTS

2020

DATE	REVISION DESCRIPTION
06-2019	DRAWING CREATED

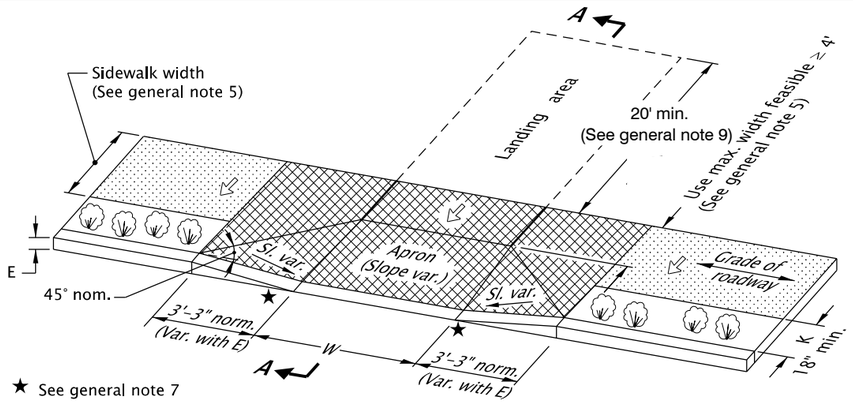
RD722

RD722

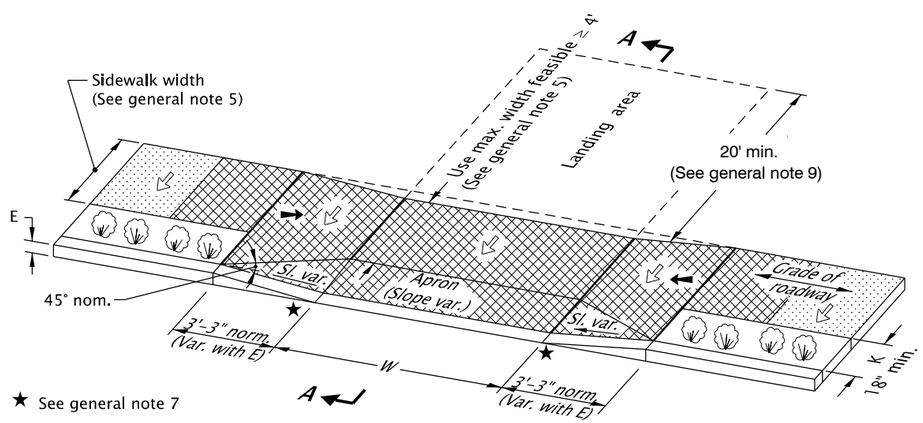


OPTION H
TYPICAL SEPARATED SIDEWALK DRIVEWAY

(Use one of the options below if slope requirements shown in Section A–A cannot be met)

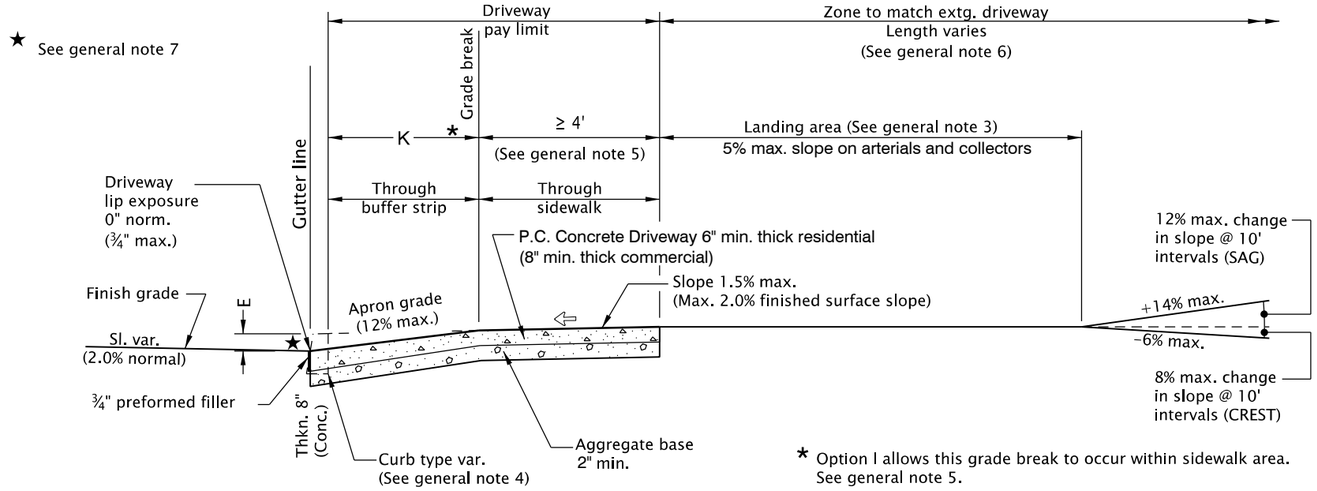


OPTION I
DRIVEWAY ENCROACHES INTO SIDEWALK



OPTION J
LOWERED SIDEWALK

RD740



SECTION A-A

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Details are based on ODOT applicable standards.
2. Only use details allowed by the City Engineer.
3. The following dimensions are as shown on plans, or as directed: driveway width, driveway slope, sidewalk width, buffer strip width, curb exposure, driveway lip exposure, landing area length and width. See project plans for details not shown.
4. Curb, gutter, and sidewalk types varies, see plans.
   See Std. Dwgs. RD700 & RD701 for curb details.
   See Std. Dwg. RD721 for sidewalk details.
   See Std. Dwg. RD722 for joint details.
5. A greater than or equal 4' unobstructed clear passage with cross slope 1.5% max. (Max. 2.0% finished surface slope) is required behind driveway apron.
6. Where existing driveway is in good condition, and meets slope requirements, construct only as much as required for satisfactory connection with new work.
7. Check the gutter flow depth at driveway locations to assure that the design flood does not overtop the back of sidewalk at driveway. If overtopping occurs place an inlet at upstream side of driveway or perform other approved design mitigation.
8. Construct a full deph expansion joints with 1#2" (In) preformed joint filler at ends of each driveway. Tooled joints are required at all driveway slope break lines.
9. 20' min. of the driveway behind the sidewalk should be surfaced to prevent tracking of gravel onto the sidewalk.

LEGEND:

- Sidewalk
- Driveway pay limit (See project plans for details not shown)
- ⇦ Slope 1.5% max. (Max. 2.0% finished surface slope) (Normal sidewalk cross slope)
- ⬅ Slope 7.5% max. (Max. 8.3% finished surface slope)

W Width of driveway
K Buffer strip width
E Curb exposure

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

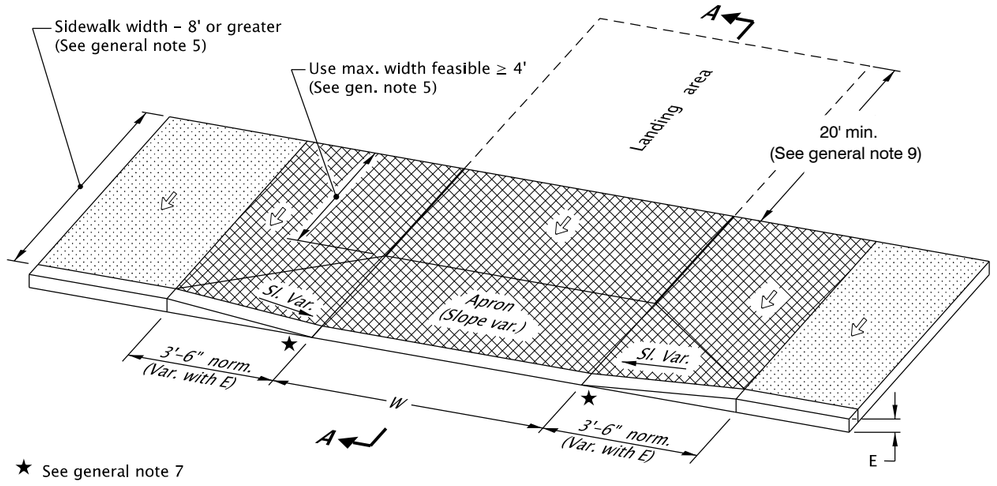
NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

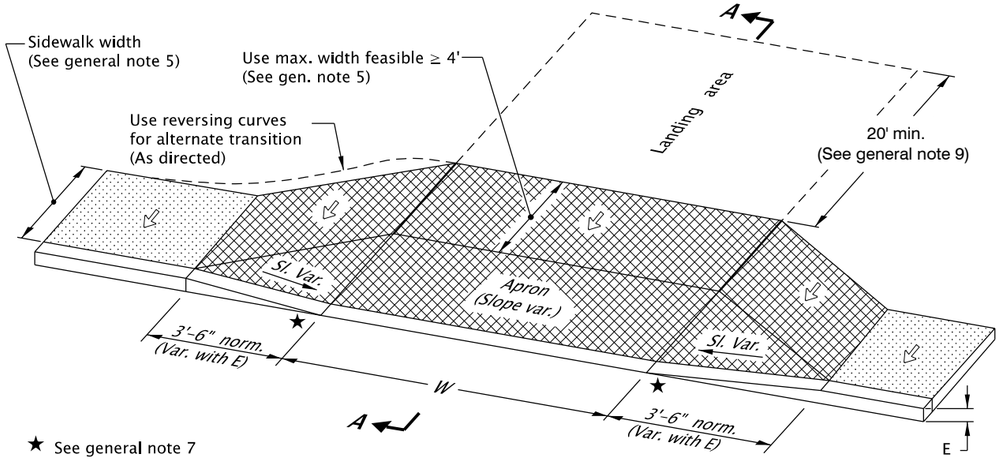
SEPARATED SIDEWALK DRIVEWAYS OR ALLEYS (OPTIONS H, I & J)

2020

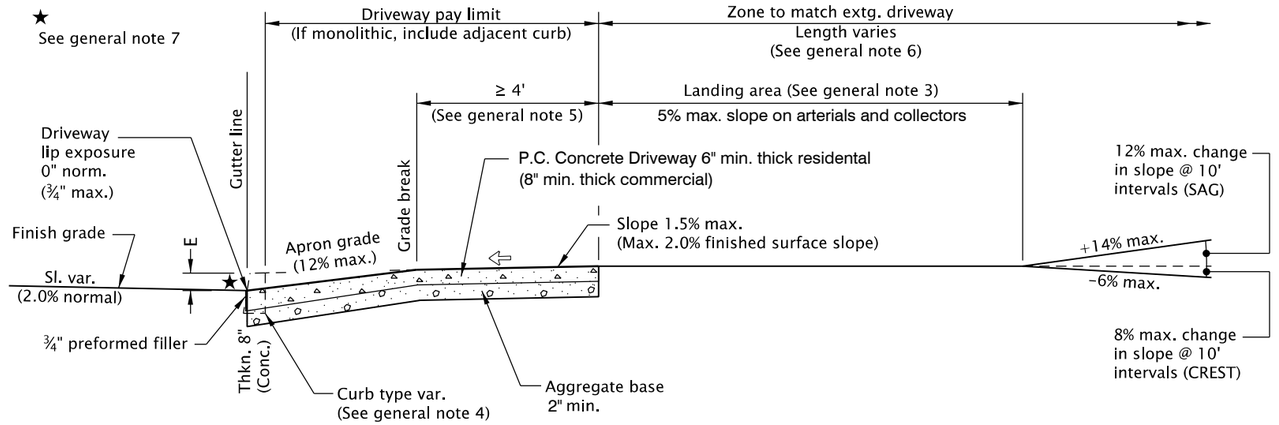
DATE	REVISION DESCRIPTION
01-2018	REVISED & ADDED NOTES
07-2018	REVISED NOTE
01-2019	REVISED DETAILS & NOTES
06-2019	REVISED DETAILS & NOTES



OPTION K
DRIVEWAY IN WIDE (8' OR GREATER) SIDEWALK



OPTION L
SIDEWALK WRAPPED AROUND DRIVEWAY



SECTION A-A

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Details are based on ODOT applicable standards.
2. Only use details allowed by the City Engineer.
3. The following dimensions are as shown on plans, or as directed: driveway width, driveway slope, sidewalk width, curb exposure, driveway lip exposure, landing area length and width. See project plans for details not shown.
4. Curb, gutter, and sidewalk types varies, see plans.
   See Std. Dwgs. RD700 & RD701 for curb details.
   See Std. Dwg. RD720 for sidewalk details
   See Std. Dwg. RD722 for joint details.
5. A greater than or equal 4' unobstructed clear passage with cross slope 1.5% max. (Max. 2.0% finished surface slope) is required behind driveway apron.
6. Where existing driveway is in good condition, and meets slope requirements, construct only as much as required for satisfactory connection with new work.
7. Check the gutter flow depth at driveway locations to assure that the design flood does not overtop the back of sidewalk at driveway. If overtopping occurs place an inlet at upstream side of driveway or perform other approved design mitigation.
8. Construct a full deph expansion joints with 1#2" (In) preformed joint filler at ends of each driveway. Tooled joints are required at all driveway slope break lines.
9. 20' min. of the driveway behind the sidewalk should be surfaced to prevent tracking of gravel onto the sidewalk.
10. Monolithic curb & sidewalk shall retain thickened edge through lowered profile, to accommodate driveway use. See Std. Dwg. RD720 for details.

LEGEND:

	Sidewalk
	Driveway pay limit (If monolithic, include adjacent curb) (See project plans for details not shown)
⇦	Slope 1.5% max. (Max. 2.0% finished surface slope) (Normal sidewalk cross slope)
W	Width of driveway
E	Curb exposure

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

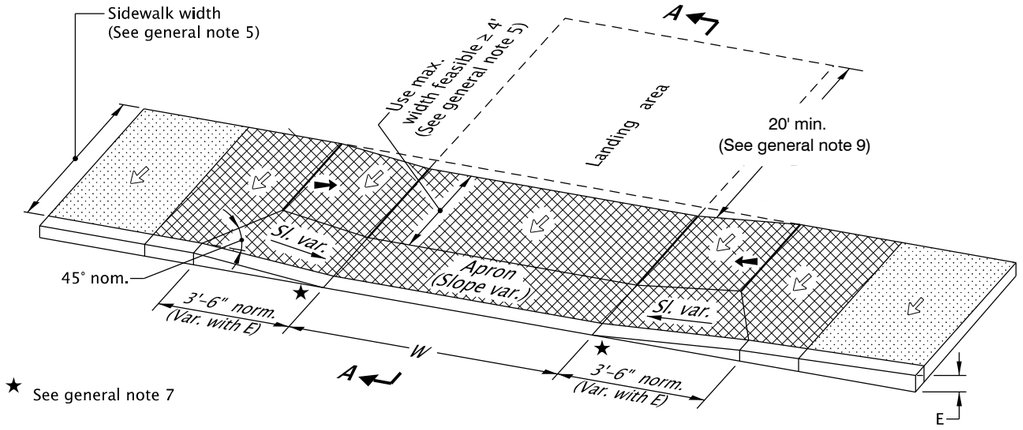
CITY OF THE DALLES STANDARD DRAWING

CURB LINE SIDEWALK DRIVEWAYS OR ALLEYS (OPTIONS K & L)

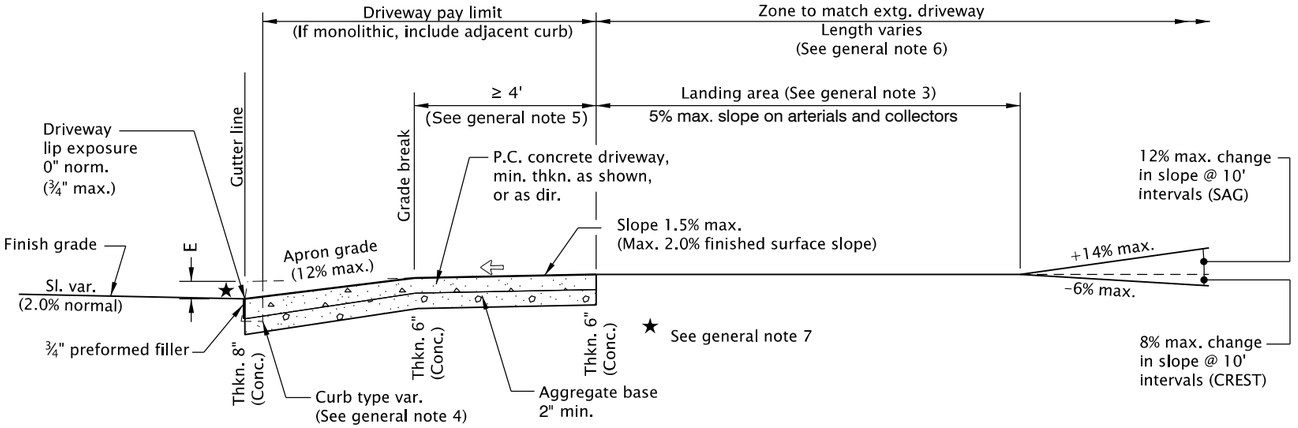
2020

DATE	REVISION DESCRIPTION
01-2018	REVISED & ADDED NOTES
07-2018	REVISED NOTE
01-2019	REVISED DETAILS & NOTES
06-2019	REVISED DETAILS & NOTES

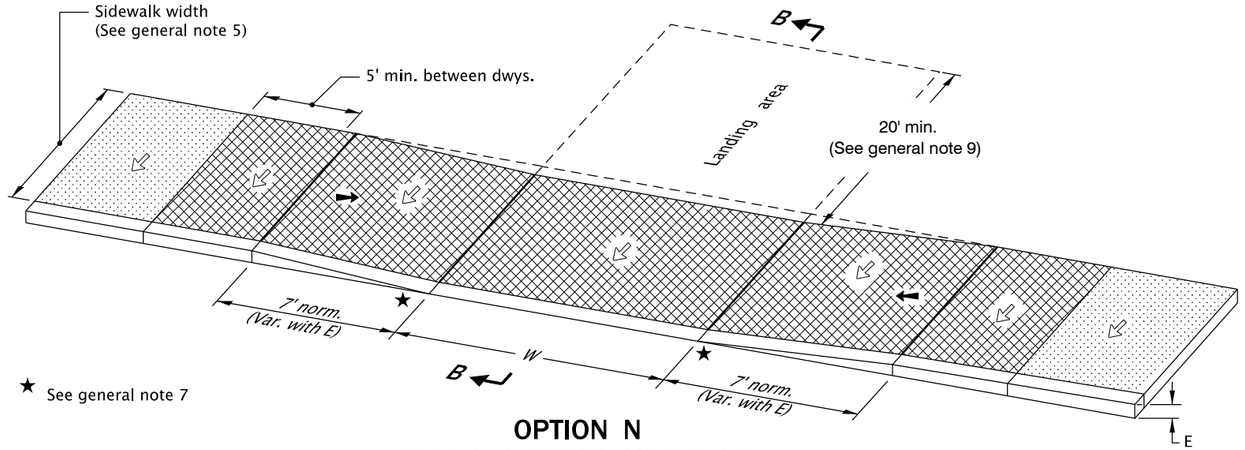
RD745



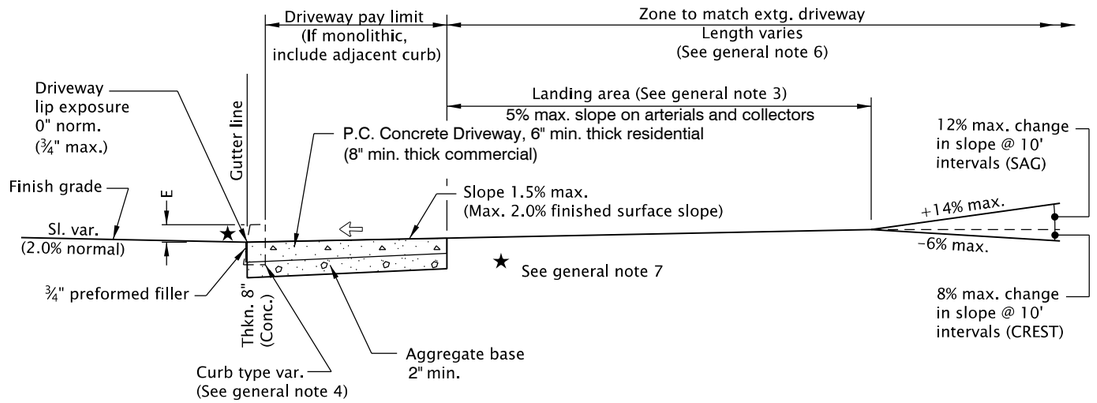
OPTION M
PARTIALLY LOWERED SIDEWALK



SECTION A-A



OPTION N
FULLY LOWERED SIDEWALK



SECTION B-B

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Details are based on ODOT applicable standards.
2. Only use details allowed by City Engineer.
3. The following dimensions are as shown on plans, or as directed: driveway width, driveway slope, sidewalk width, curb exposure, driveway lip exposure, landing area length and width. See project plans for details not shown.
4. Curb, gutter, and sidewalk types varies, see plans.
   See Std. Dwgs. RD700 & RD701 for curb details.
   See Std. Dwg. RD720 for sidewalk details
   See Std. Dwg. RD722 for joint details.
5. A greater than or equal 4' unobstructed clear passage with cross slope 1.5% max. (Max. 2.0% finished surface slope) is required behind driveway apron.
6. Where existing driveway is in good condition, and meets slope requirements, construct only as much as required for satisfactory connection with new work.
7. Check the gutter flow depth at driveway locations to assure that the design flood does not overtop the back of sidewalk at driveway. If overtopping occurs place an inlet at upstream side of driveway or perform other approved design mitigation.
8. Construct a full deph expansion joints with 1#2" (In) preformed joint filler at ends of each driveway. Tooled joints are required at all driveway slope break lines.
9. 20' min. of the driveway behind the sidewalk should be surfaced to prevent tracking of gravel onto the sidewalk.
10. Monolithic curb & sidewalk shall retain thickened edge through lowered profile, to accommodate driveway use. See Std. Dwg. RD720 for details.

LEGEND:

- Sidewalk
- Driveway pay limit (If monolithic, include adjacent curb) (See project plans for details not shown)
- ⇦ Slope 1.5% max. (Max. 2.0% finished surface slope) (Normal sidewalk cross slope)
- ⬅ Slope 7.5% max. (Max. 8.3% finished surface slope)
- W Width of driveway
- E Curb exposure

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

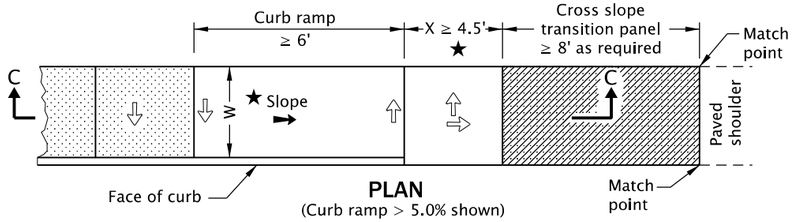
CITY OF THE DALLES STANDARD DRAWING

CURB LINE SIDEWALK DRIVEWAYS OR ALLEYS (OPTIONS M & N)

2020

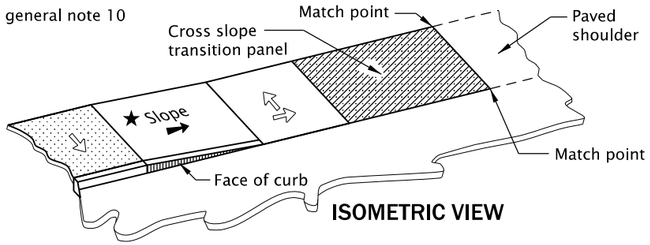
DATE	REVISION DESCRIPTION
01-2018	REVISED & ADDED NOTES
07-2018	REVISED NOTE
01-2019	REVISED DETAILS & NOTES
06-2019	REVISED DETAILS & NOTES

RD750



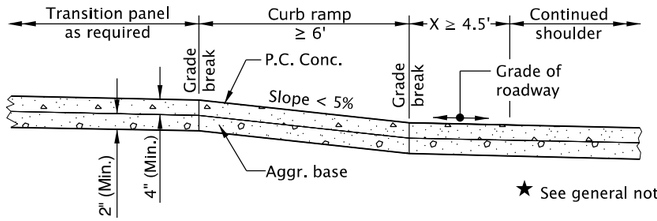
PLAN
(Curb ramp > 5.0% shown)

★ See general note 10

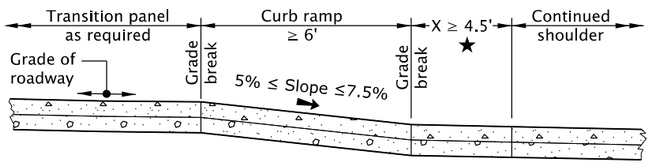


ISOMETRIC VIEW

SHOULDER OPTION

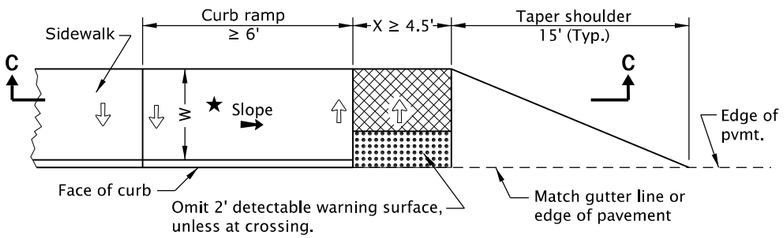


★ See general note 10



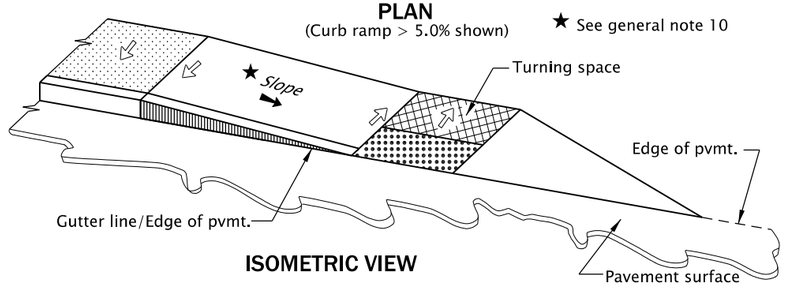
★ See general note 10

SECTION C-C



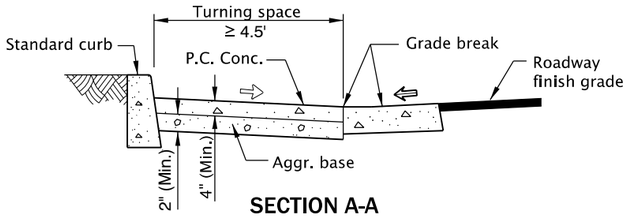
PLAN
(Curb ramp > 5.0% shown)

★ See general note 10

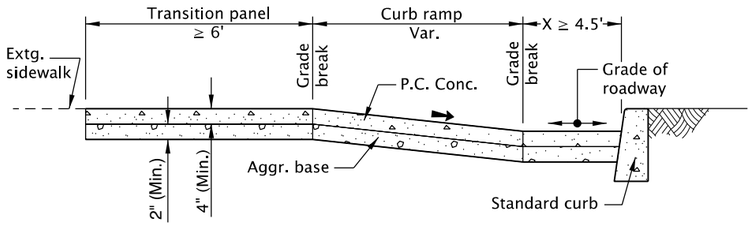


ISOMETRIC VIEW

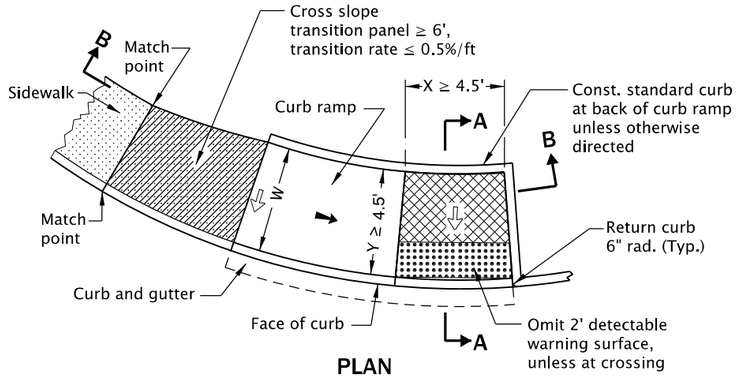
TAPER OPTION



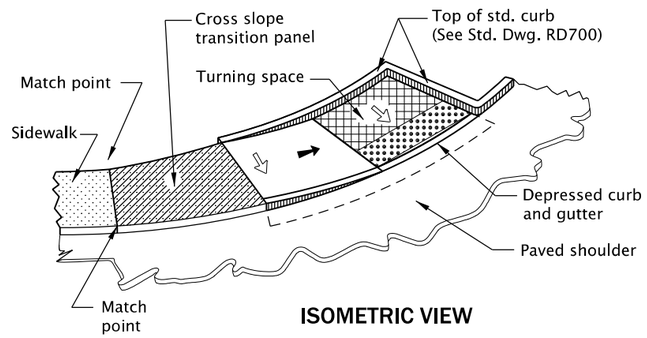
SECTION A-A



SECTION B-B



PLAN



ISOMETRIC VIEW

CURBED OPTION

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb ramp details are based on ODOT applicable Standards.
2. See project plans for details not shown.
   See Std. Dwgs. RD700 & RD701 for curbs.
   See Std. Dwgs. RD720 & RD721 for sidewalks.
   See Std. Dwgs. TM503 & TM530 for crosswalk markings, widths, etc.
   See Std. Dwg. RD755 for curb ramp details not shown.
   See Traffic Standard Drawings for signal pole and pedestrian pedestal details.
3. Tooled joints are required at all curb ramp grade break lines.
4. Curb ramp slopes shown are relative to the true level horizon (Zero bubble).
5. Check the gutter flow depth to assure that the design flood does not overtop the back of sidewalk. If overtopping occurs place an inlet at upstream side or perform other approved design mitigation.
6. When a shared use path terminates, the curb ramp shall be the full width of the path and generally use taper or shoulder option. If curbed option is used, the turning space x-dimension should be minimum 8' wide to enable bicycles to ride from ramp to shoulder.
7. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.
8. Curb and gutter is required at curb ramps.
9. All end of sidewalk options can be used for curved or tangent roadway sections.
10. When the slope of the curb ramp is greater than 5.0%, a min. landing space of 4.5' x 4.5' with a 1.5% max. slope (2.0% finished surface) is required at the bottom of the curb ramp. See section C-C.

LEGEND:

- Sidewalk
- Transition panel
- Turning space
  When not constrained 4.5' x 4.5' (4' x 4' min. finished surface).
  When constrained 4.5' x 5.5' (4' x 5' min. finished surface with longer dimension in direction of pedestrian street crossing). The landing area shall have a slope of 1.5% max. (Max. 2.0% finished surface slope).
- Detectable warning surface
- ⇦ Slope 1.5% max.
  (Max. 2.0% finished surface slope)
  (Normal sidewalk cross slope)
- ⬅ Slope 7.5% max.
  (Max. 8.3% finished surface slope)
- ⇦ Counter slope
  4% max. ascending or descending,
  slope as required for drainage
- W New construction sidewalk width.
  See contract plans for dimension.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

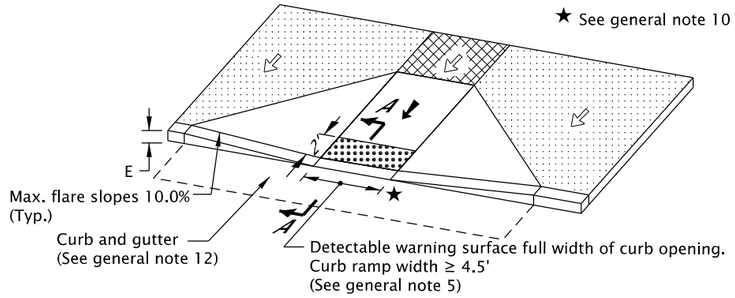
CITY OF THE DALLES STANDARD DRAWING

CURB RAMP AND TURNING SPACE (FOR ENDS OF SIDEWALKS)

2020

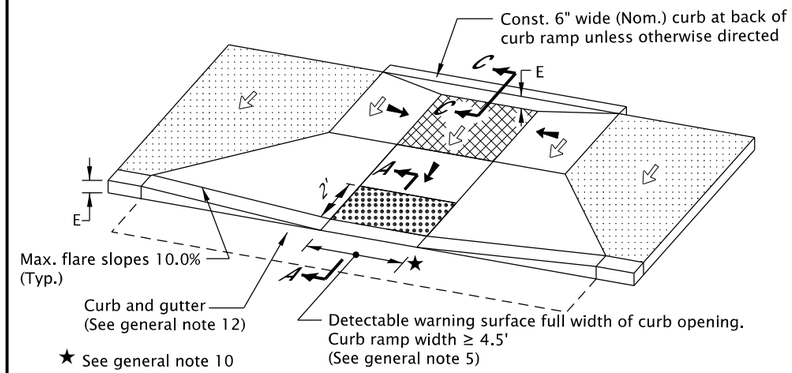
DATE	REVISION DESCRIPTION
01-2018	ADDED TAPER OPTION DETAIL, REVISED DETAIL, REVISED & ADDED NOTES
03-2018	ADDED SHOULDER OPTION DETAIL, REVISED DETAILS & NOTES
07-2018	REVISED DETAILS & NOTES
01-2019	REVISED DETAILS & NOTES
06-2019	REVISED DETAILS & NOTES

RD754

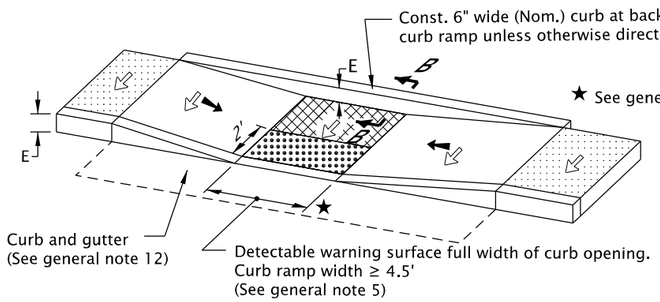


PERPENDICULAR CURB RAMP DETAIL

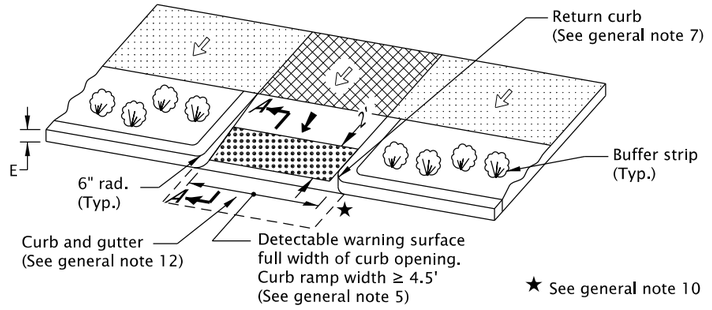
(Use "Parallel Curb Ramp Detail" or "Combination Curb Ramp Detail" when reqd. turning space cannot be obtained)



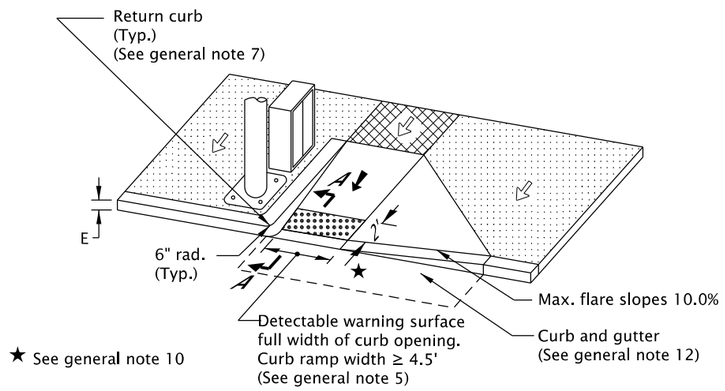
COMBINATION CURB RAMP DETAIL



PARALLEL CURB RAMP DETAIL

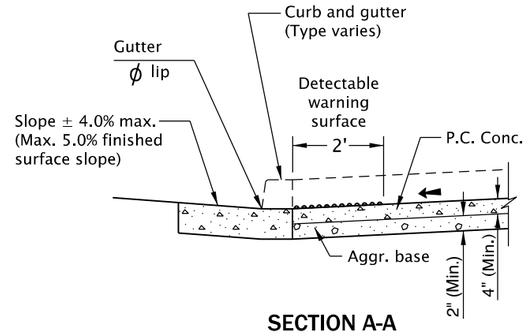


PERPENDICULAR CURB RAMP DETAIL (THROUGH BUFFER STRIP)



PERPENDICULAR CURB RAMP DETAIL (WITH SINGLE FLARE)

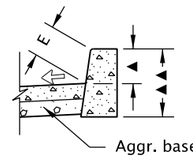
(Use "Parallel Curb Ramp Detail" or "Combination Curb Ramp Detail" when reqd. turning space cannot be obtained)



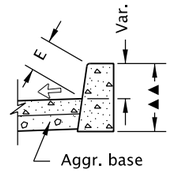
SECTION A-A

▲ Match curb exposure

▲▲ Match curb total height



SECTION B-B



SECTION C-C

LEGEND:

- Sidewalk
- Turning space
  When not constrained 4.5' x 4.5' (4' x 4' min. finished surface).
  When constrained 4.5' x 5.5' (4' x 5' min. finished surface with longer dimension in direction of pedestrian street crossing).
  For the purposes of this application, a max. 2.0% finished surface slope (for drainage) is considered level.
- Detectable warning surface
- ⇦ Slope 1.5% max. (Max. 2.0% finished surface slope) (Normal sidewalk cross slope)
- ⬅ Slope 7.5% max. (Max. 8.3% finished surface slope)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb ramp details are based on ODOT applicable standards.
2. See Std. Dwgs. RD700 & RD701 for curbs. See Std. Dwgs. RD720 & RD721 for sidewalks. See Std. Dwgs. TM503 & TM530 for crosswalk markings, widths, etc.
3. Tooled dummy joints are required at all curb ramp grade break lines.
4. Curb ramp slopes shown are relative to the true level horizon (Zero bubble).
5. Place detectable warning surface at the back of curb for a minimum depth of 2' at curb ramp that is adjacent to traffic. For details not shown, see Std. Dwgs. RD758 & RD759.
6. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.
7. Return curb may be provided in lieu of flared slope only if protected from traverse travel by landscaping. Return curb shall not reduce width of approaching sidewalk.
8. Curb ramps for paths intersecting a roadway should be full width of path, excluding flares. When a curb ramp is used to provide bicycle access from a roadway to a sidewalk, the curb ramp should be 8' wide.
9. For curb ramp placement options, see Std. Dwgs. RD756 & RD757.
10. Check the gutter flow depth at curb ramp locations to assure that the design flood does not overtop the back of sidewalk at curb ramp. Place an inlet at upstream side of curb ramp or perform other approved design mitigation.
11. Site conditions normally require a project specific design. See project plans for details not shown.
12. Curb and gutter is required at curb ramps.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

CURB RAMP DETAILS

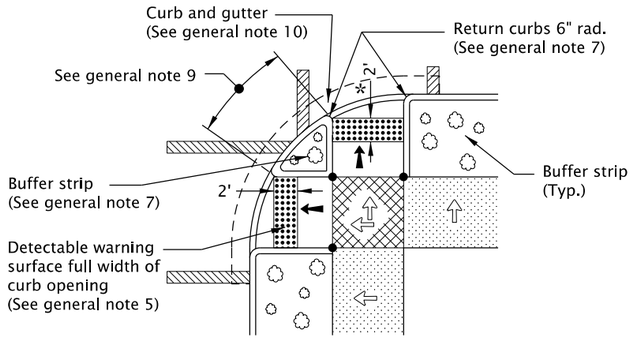
2020

DATE	REVISION DESCRIPTION
01-2018	REVISED DETAILS, REVISED & ADDED NOTES
07-2018	REVISED DETAILS, REVISED & ADDED NOTES
01-2019	REVISED DETAIL & ADDED DIAGRAM
06-2019	REVISED DETAILS & NOTES
11-2019	REVISED NOTES

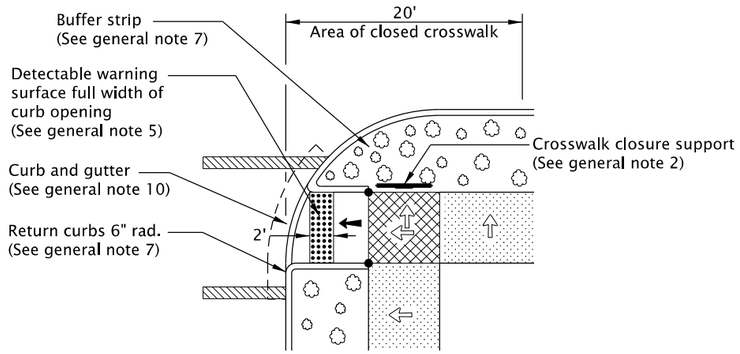
RD755

Effective Date: January 1, 2020 - December 31, 2020

RD755

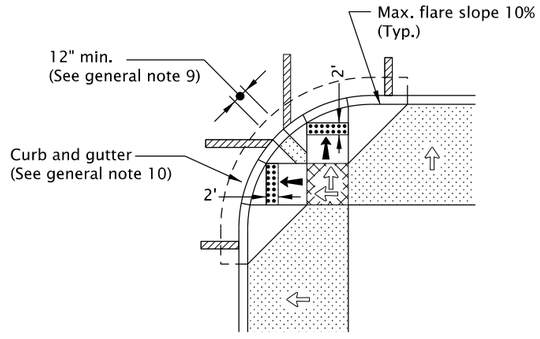


CURB RAMPS WITH LANDSCAPED BUFFER STRIP

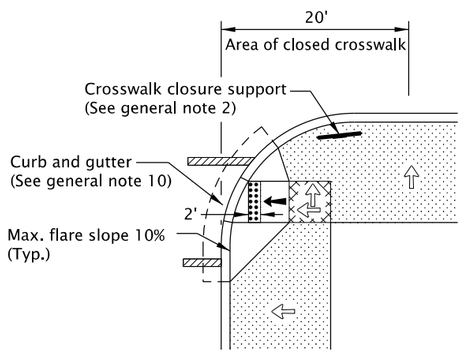


CURB RAMPS WITH CROSSWALK CLOSURE

OPTION "A"

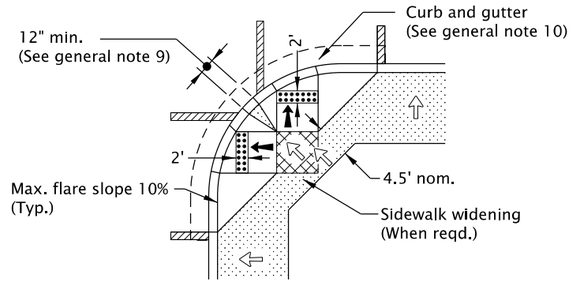


CURB RAMPS FOR WIDE SIDEWALKS

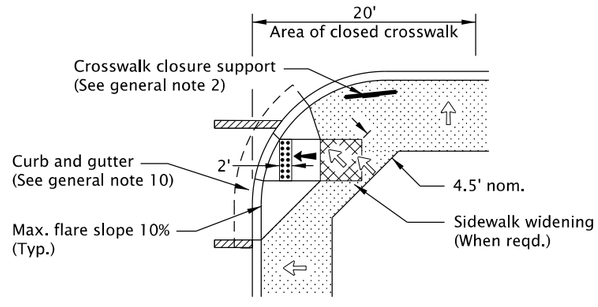


CURB RAMPS WITH CROSSWALK CLOSURE

OPTION "B"



CURB RAMPS FOR NARROW SIDEWALKS



CURB RAMPS WITH CROSSWALK CLOSURE

OPTION "C"

LEGEND:

- Marked or intended crossing location
- Sidewalk
- Detectable warning surface
- Turning space
  When not constrained 4.5' x 4.5' (4' x 4' min. finished surface).
  When constrained 4.5' x 5.5' (4' x 5' min. finished surface with longer dimension in direction of pedestrian street crossing).
  For the purposes of this application, a max. 2.0% finished surface slope (for drainage) is considered level.
- ⇦ Slope 1.5% max. (Max. 2.0% finished surface slope) (Normal sidewalk cross slope)
- ⬅ Slope 7.5% max. (Max. 8.3% finished surface slope)
- ● Zero curb exposure

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb ramp details are based on ODOT applicable standards.
2. See project plans for details not shown.
   See Std. Dwgs. RD700 & RD701 for curbs.
   See Std. Dwgs. RD720 & RD721 for sidewalks.
   See Std. Dwgs. TM503 & TM530 for crosswalk marking, widths, etc.
   See Std. Dwg. RD755 for curb ramp details.
   See Std. Dwg. TM240 for crosswalk closure detail.
   See Traffic Standard Drawings for signal pole and pedestrian pedestal details.
3. Tooled joints are required at all curb ramp grade break lines.
4. Curb ramp slopes shown are relative to the true level horizon (Zero bubble).
5. Place detectable warning surface at the back of curb for a minimum depth of 2' at curb ramp that is adjacent to traffic. For details not shown, see Std. Dwgs. RD758 & RD759.
6. Check the gutter flow depth to assure that the design flood does not overtop the back of sidewalk. Place an inlet at upstream side or perform other approved design mitigation.
7. Return curb may be provided in lieu of flared slope only if protected from traverse travel by landscaping. Return curb shall not reduce width of approaching sidewalk.
8. Curb ramps for paths intersecting a roadway should be full width of path, excluding flares. When a curb ramp is used to provide bicycle access from a roadway to a sidewalk, the curb ramp should be 8' wide.
9. When 2 curb ramps are immediately adjacent as in Options B & C, the curb exposure (E) between the adjacent side flares may range between 3" and full design exposure.
10. Curb and gutter is required at curb ramps.
11. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

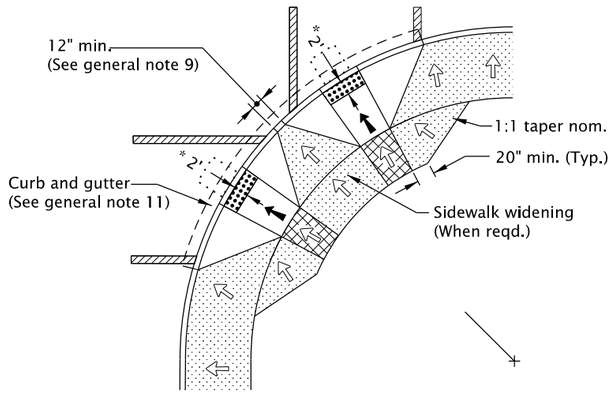
CITY OF THE DALLES STANDARD DRAWING

CURB RAMP LAYOUT OPTIONS SMALL RADII

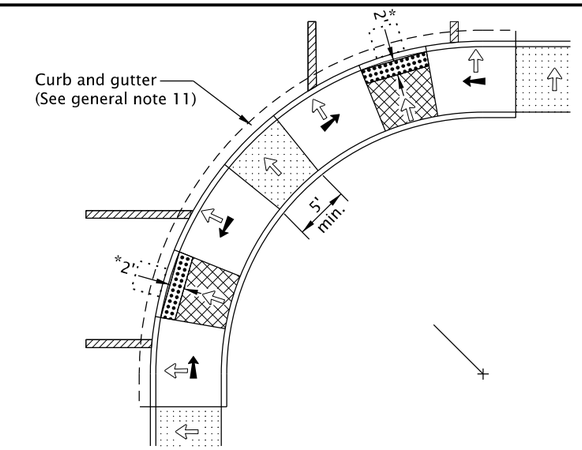
2020

DATE	REVISION DESCRIPTION
01-2018	REVISED DETAILS, REVISED & ADDED NOTES
07-2018	REVISED DETAIL & NOTES
01-2019	ADDED DIAGRAM DETAIL, REVISED DETAILS & NOTES
06-2019	REVISED DETAIL & NOTES

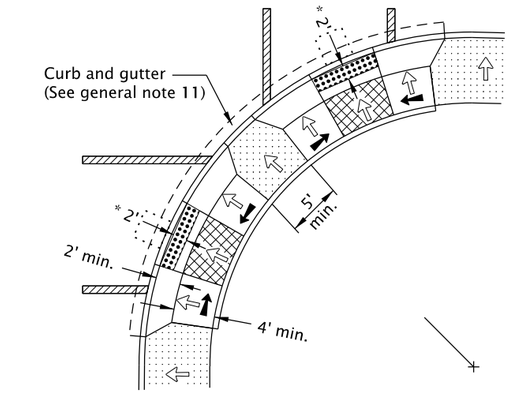
RD756



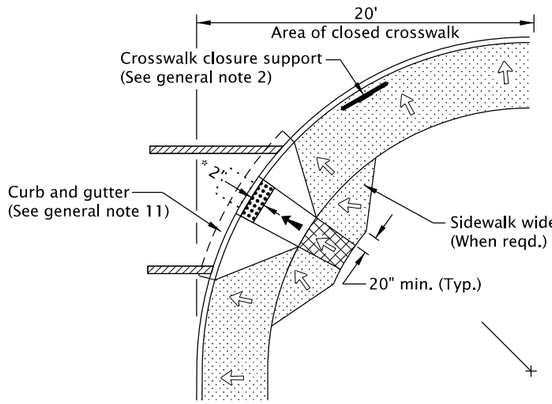
CURB RAMPS FOR NARROW SIDEWALKS



CURB RAMPS FOR NARROW SIDEWALKS

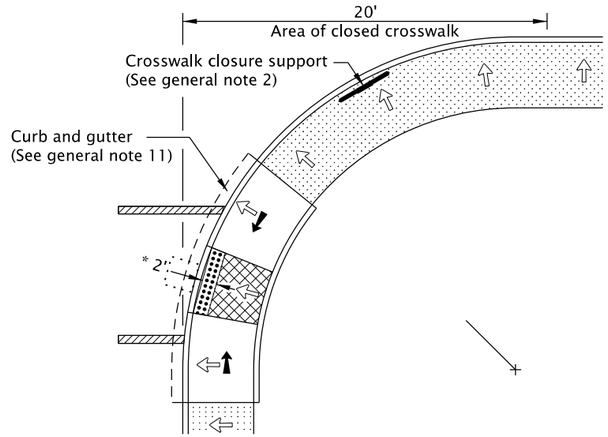


CURB RAMPS FOR WIDE SIDEWALKS



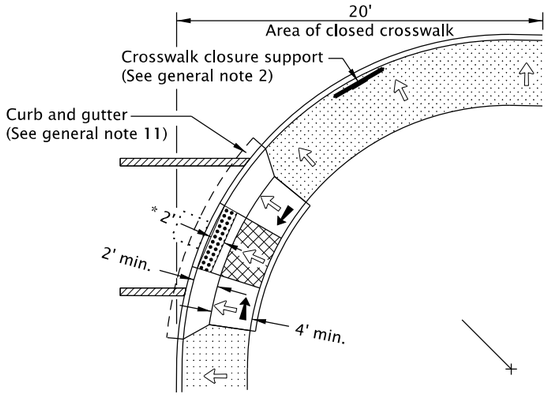
CURB RAMPS WITH CROSSWALK CLOSURE

OPTION "G"



CURB RAMPS WITH CROSSWALK CLOSURE

OPTION "H"



CURB RAMPS WITH CROSSWALK CLOSURE

OPTION "I"

LEGEND:

- Marked or intended crossing location
- Sidewalk
- Detectable warning surface
- Turning space
  When not constrained 4.5' x 4.5' (4' x 4' min. finished surface).
  When constrained 4.5' x 5.5' (4' x 5' min. finished surface with longer dimension in direction of pedestrian street crossing).
  For the purposes of this application, a max. 2.0% finished surface slope (for drainage) is considered level.
- Slope 1.5% max.
  (Max. 2.0% finished surface slope)
  (Normal sidewalk cross slope)
- Slope 7.5% max.
  (Max. 8.3% finished surface slope)
- * 2' See general note 5
- 4' x 4' clear space

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb ramp details are based on ODOT applicable standards.
2. See project plans for details not shown.
   See Std. Dwgs. RD700 & RD701 for curbs.
   See Std. Dwgs. RD720 & RD721 for sidewalks.
   See Std. Dwgs. TM503 & TM530 for crosswalk markings, widths, etc.
   See Std. Dwg. RD755 for curb ramp details.
   See Std. Dwg. TM240 for crosswalk closure detail.
   See Traffic Standard Drawings for signal pole and pedestrian pedestal details.
3. Tooled joints are required at all curb ramp slope break lines.
4. Curb ramp slopes shown are relative to the true level horizon (Zero bubble).
5. Place detectable warning surface in the lower 2' of curb ramp that is adjacent to traffic.
   For details not shown, see Std. Dwgs. RD758 & RD759.
6. Check the gutter flow depth to assure that the design flood does not overtop the back of sidewalk.
   If overtopping occurs place an inlet at upstream side or perform other approved design mitigation.
7. Return curb may be provided in lieu of flared slope only if protected from traverse travel by landscaping.
   Return curb shall not reduce width of approaching sidewalk.
8. Curb ramps for paths intersecting a roadway should be full width of path, excluding flares.
   When a curb ramp is used to provide bicycle access from a roadway to a sidewalk, the curb ramp should be 8' wide.
9. When 2 curb ramps are immediately adjacent as in Option G, the curb exposure (E) between the adjacent side flares may range between 3" and full design exposure.
10. Only use options allowed by City Engineer.
11. Curb and gutter is required at curb ramps.
12. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

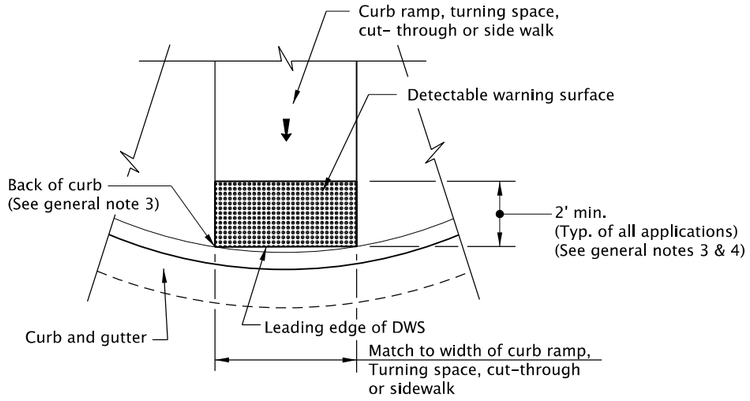
CITY OF THE DALLES STANDARD DRAWING

CURB RAMP LAYOUT OPTIONS LARGE RADII

2020

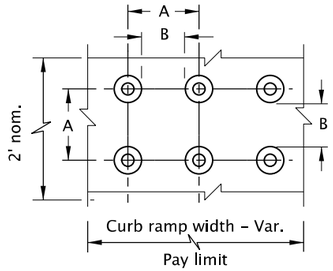
DATE	REVISION DESCRIPTION
01-2018	REVISED DETAILS, REVISED & ADDED NOTES
07-2018	REVISED NOTES
09-2018	ADDED DIAGRAM & REVISED NOTE
01-2019	REVISED DETAILS & NOTES
06-2019	REVISED DETAILS & NOTES

RD757

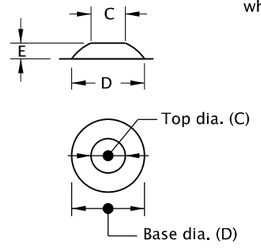


DETECTABLE WARNING SURFACE DETAIL

	A	B	C	D	E
MIN.	1.60"	0.65"	0.45"	0.90"	0.20"
MAX.	2.40"	--	0.91"	1.40"	0.20"



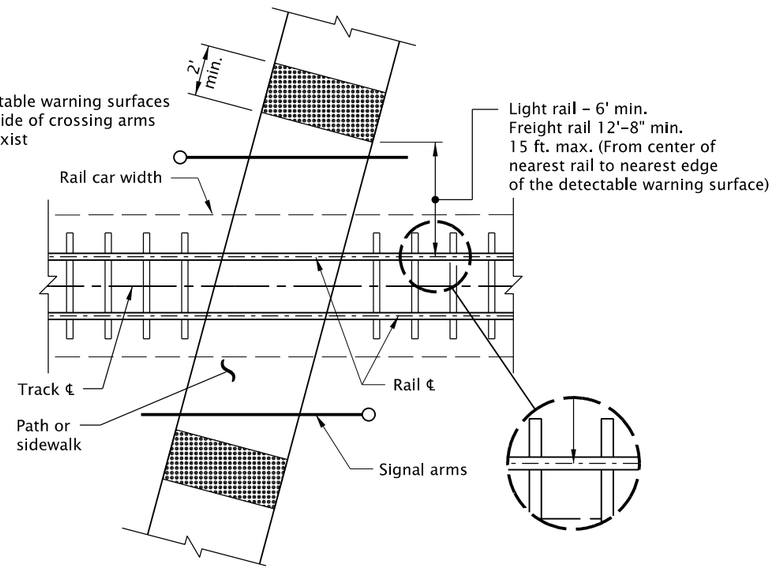
TRUNCATED DOME SPACING



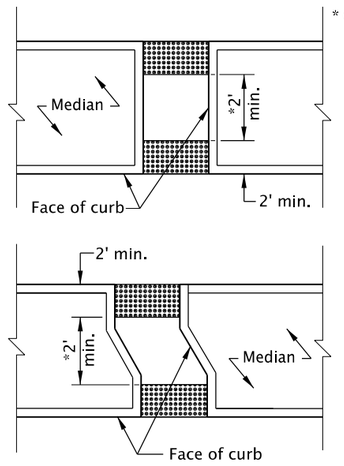
TRUNCATED DOME

TRUNCATED DOME DETAILS

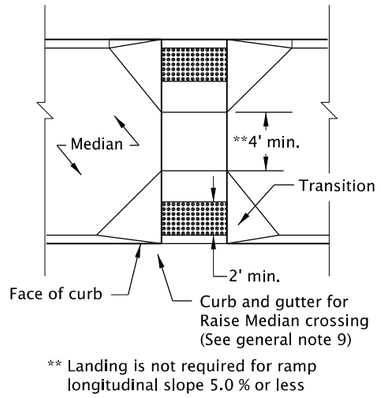
NOTE: Detectable warning surfaces shall be outside of crossing arms where they exist



AT-GRADE RAIL CROSSING



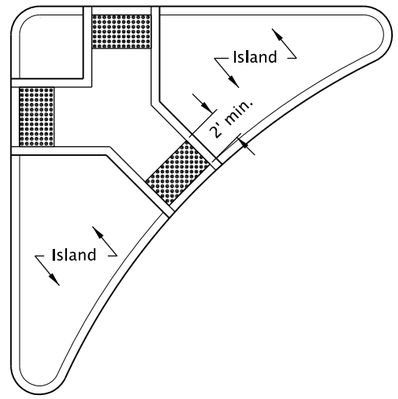
CUT-THROUGH
(Asph. Conc. surface shown)



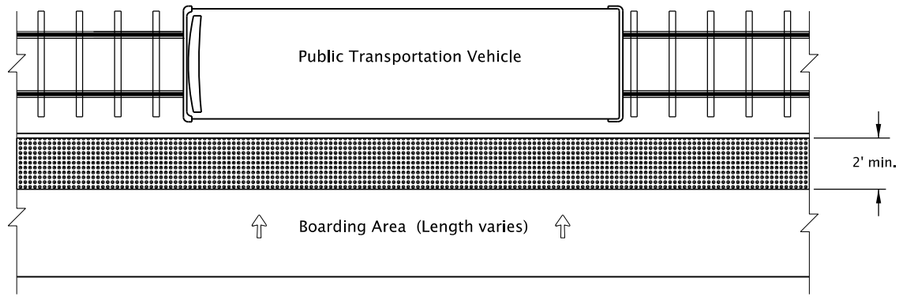
** Landing is not required for ramp longitudinal slope 5.0 % or less

RAISED MEDIAN
(P.C. Conc. surface shown)

RAISED MEDIAN ISLAND



RAISED RIGHT TURN CHANNELIZATION ISLAND



PUBLIC TRANSPORTATION PLATFORM
(See general note 6)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Detectable warning surface details & locations are based on ODOT applicable Standards.
2. See project plans for details not shown.
   See Std. Dwgs. RD700 & RD701 for curbs.
   See Std. Dwgs. RD720 & RD721 for sidewalks.
   See Std. Dwgs. TM503 & TM530 for crosswalk markings, widths, etc.
   See Std. Dwgs. RD705 & RD710 for islands.
3. The detectable warning surface shall extend the full width of the curb ramp, or other roadway entrance as applicable. A gap of up to 2 inches on each side of the detectable warning surface is permitted (Measured at the leading corners of the detectable warning surface panel).
4. Detectable warning surface shall be placed at the back of curb for a minimum depth of 2 ft. at curb ramps that adjacent to traffic. Detectable warning surface may be radial or rectangular, but must comply with the truncated dome size and spacing standards. Detectable warning surface may be cut to meet necessary shape as shown in plans. Color to be safety yellow if no color specified in construction note. Alternative colors must be approved by City Engineer.
5. Detectable warning surface shall be used in the following locations:
   a) Curb ramps at street crossings (See Std. Dwgs. RD755, RD756, & RD757).
   b) Crossing islands (Accessible Route Islands), (See Std. Dwg. RD710).
   c) Rail crossings (See detail).
6. Where public transportation stations (rail, bus, etc.) use platform boarding, detectable warning surface shall be placed along the full edge length of the station, when not protected by platform screens or guards.
7. Detectable warning surface shall not be used on the following locations:
   a) End of sidewalk transitions that are not at a crosswalk (See Std. Dwg. RD754).
   b) Driveways, unless constructed with curb return. (See Std. Dwgs. RD725, RD730, RD735, RD740, RD745, & RD750).
   c) Parking lots.
8. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.
9. Detectable warning surfaces shall be separated by a 2.0 ft minimum length of walkway without detectable warnings. Where the island has no curb, the detectable warning surface shall be placed at the edge of roadway.

Detectable warning surface

Slope 7.5% max.
(Max. 8.3% finished surface slope)

Slope 1.5% max.
(Max. 2.0% finished surface slope)
(Normal sidewalk cross slope)

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications.

CITY OF THE DALLES STANDARD DRAWING

DETECTABLE WARNING SURFACE DETAILS & PLACEMENT LOCATIONS

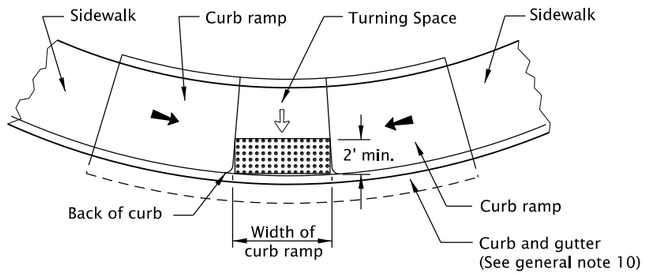
2020

DATE	REVISION DESCRIPTION
09-2018	REVISED DETAILS & NOTES
01-2019	REVISED DETAILS & NOTES
06-2019	REVISED NOTE

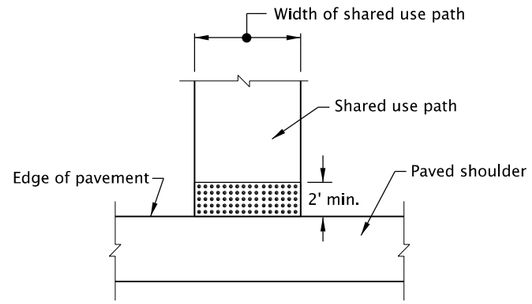
RD758

Effective Date: January 1, 2020 - December 31, 2020

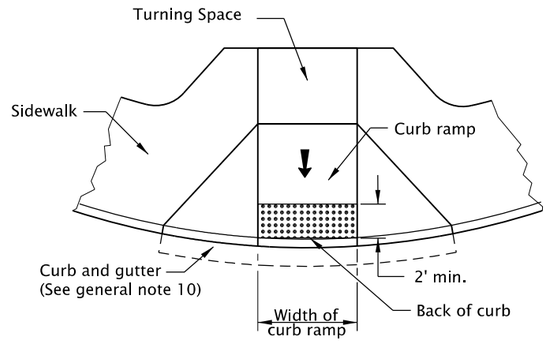
RD758



PARALLEL CURB RAMP



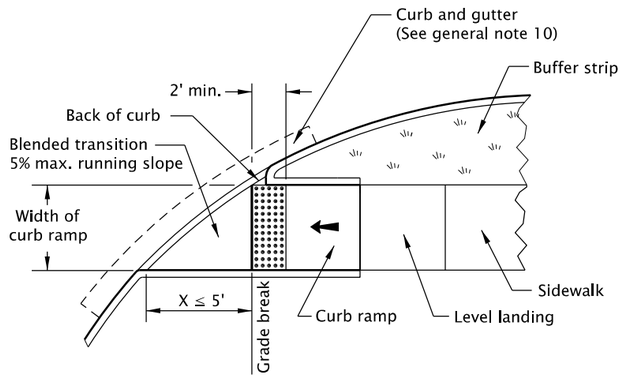
SHARED-USE PATH CONNECTION



PERPENDICULAR CURB RAMP

GRADE BREAK IN FRONT OF CURB

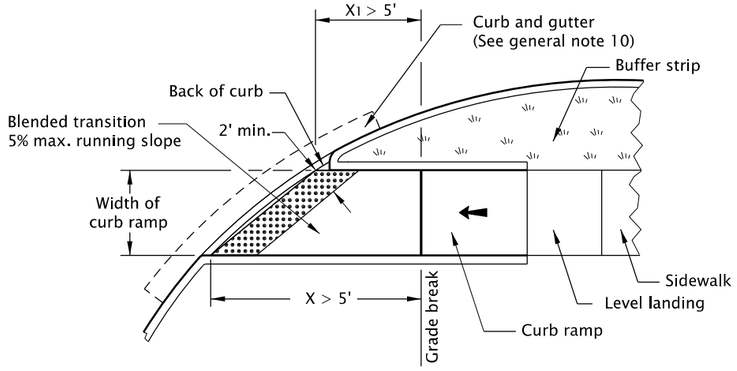
(Detectable warning surface shall be placed in the lower 2' at the back of curb ramp that is adjacent to traffic)



CURB RAMP CROSSING

GRADE BREAK ≤ 5 FT. FROM BACK OF CURB

(Detectable warning surface shall be placed on the bottom of the curb ramp directly above the grade break)



CURB RAMP CROSSING

GRADE BREAK (X or X1) > 5 FT. FROM BACK OF CURB

(Detectable warning surface shall be placed in the lower 2' at the back of curb ramp that is adjacent to traffic)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Detectable warning surface details & locations are based on ODOT applicable Standards.
2. See project plans for details not shown.
   See Std. Dwgs. RD700 & RD701 for curbs.
   See Std. Dwg. RD720 for sidewalks.
   See Std. Dwgs. TM503 & TM530 for crosswalk markings, widths, etc.
   See Std. Dwgs. RD705 & RD710 for islands.
3. The Detectable Warning Surface shall extend the full width of the curb ramp, or other roadway entrance as applicable. A gap of up to 2 inches on each side of the Detectable warning surface is permitted (Measured at the leading corners of the detectable warning surface panel).
4. Detectable warning surface shall be placed at the back of curb for a minimum depth of 2 ft. at curb ramps that adjacent to traffic. Detectable warning surface may be radial or rectangular, but must comply with the truncated dome size and spacing standards. Detectable warning surface may be cut to meet necessary shape as shown in plans. Color to be safety yellow if no color specified in construction note. For detectable warning surface on or along state highway, alternative colors must be approved.
5. Detectable warning surface shall be used in the following locations:
   a) Curb ramps (See Std. Dwgs. RD755, RD756, & RD757).
   b) Crossing islands (Accessible Route Islands), (See Std. Dwg. RD710).
   c) Rail crossings (See Std. Dwg. RD758).
6. Where public transportation stations (rail, bus, etc.) use platform boarding, detectable warning surface shall be placed along the full edge length of the station, when not protected by platform screens or guards (See Std. Dwg. RD758).
7. Detectable warning surface shall not be used on the following locations:
   a) End of sidewalk transitions that are not at a crosswalk, (See Std. Dwg. RD754).
   b) Driveways, unless constructed with curb return, (See Std. Dwgs. RD725, RD730, RD735, RD740, RD745, & RD750).
   c) Parking lots.
8. **Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.**
9. Where no curb is present, the detectable warning surface shall be placed at the edge of the roadway.
10. Curb and gutter is required at curb ramps.
11. Detectable warning surface placement for perpendicular ramps vary as shown.

Detectable warning surface

Slope 1.5% max.
(Max. 2.0% finished surface slope)

Slope 7.5% max.
(Max. 8.3% finished surface slope)

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

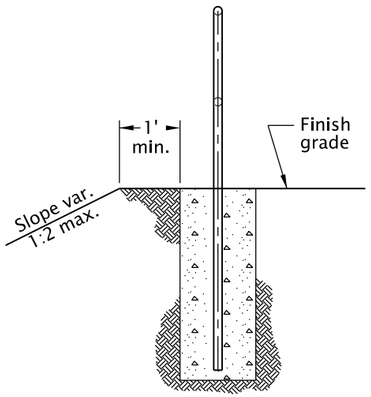
CITY OF THE DALLES STANDARD DRAWING

DETECTABLE WARNING SURFACE DETAILS & PLACEMENT LOCATIONS

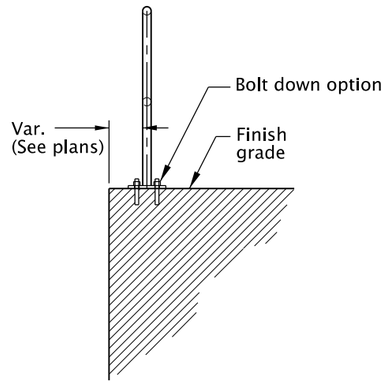
2020

DATE	REVISION DESCRIPTION
07-2018	REPLACED DRAWING TITLE, REVISED DETAILS & NOTES
09-2018	REVISED DETAIL & NOTES
01-2019	REVISED DETAIL & NOTES
06-2019	REVISED DETAIL & NOTES

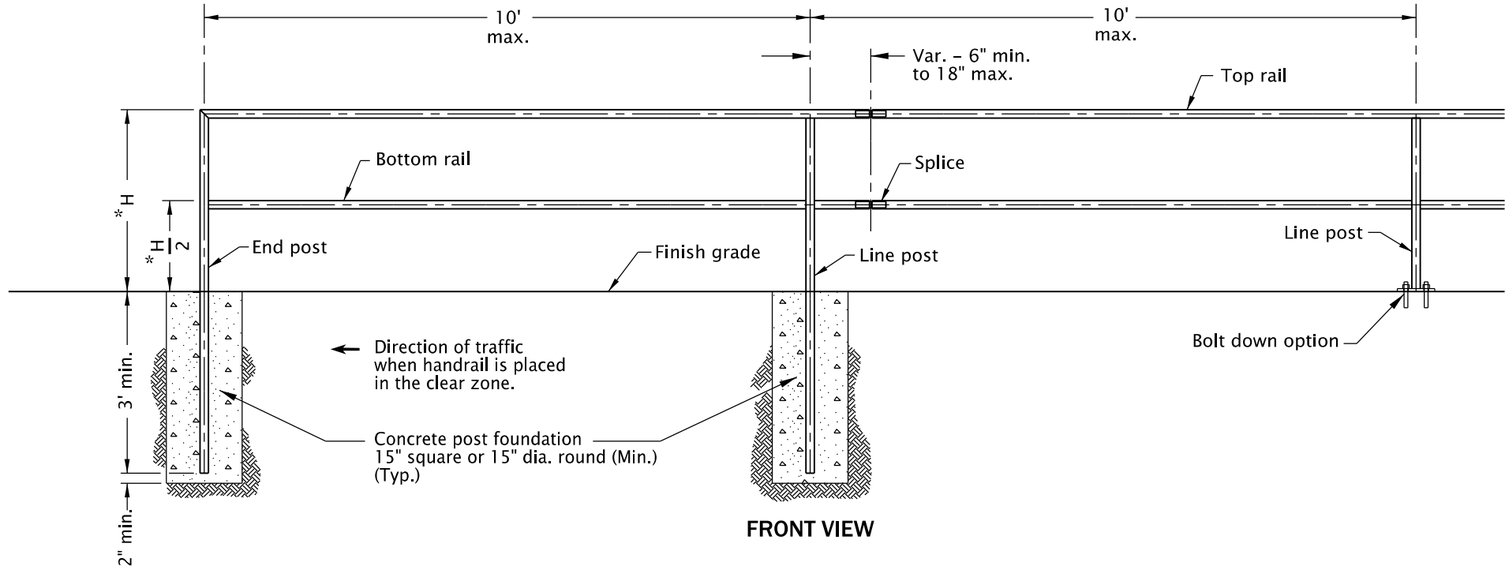
RD759



SIDE VIEW (ON GRADE)

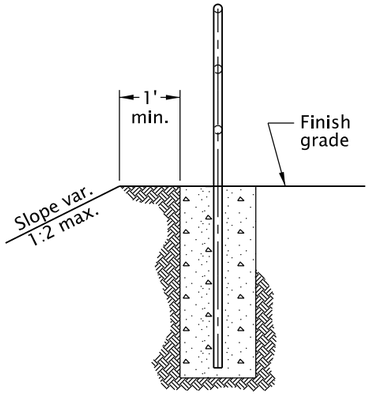


SIDE VIEW (ON STRUCTURE)
(See general note 4)

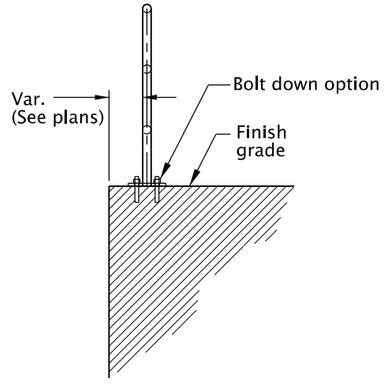


FRONT VIEW

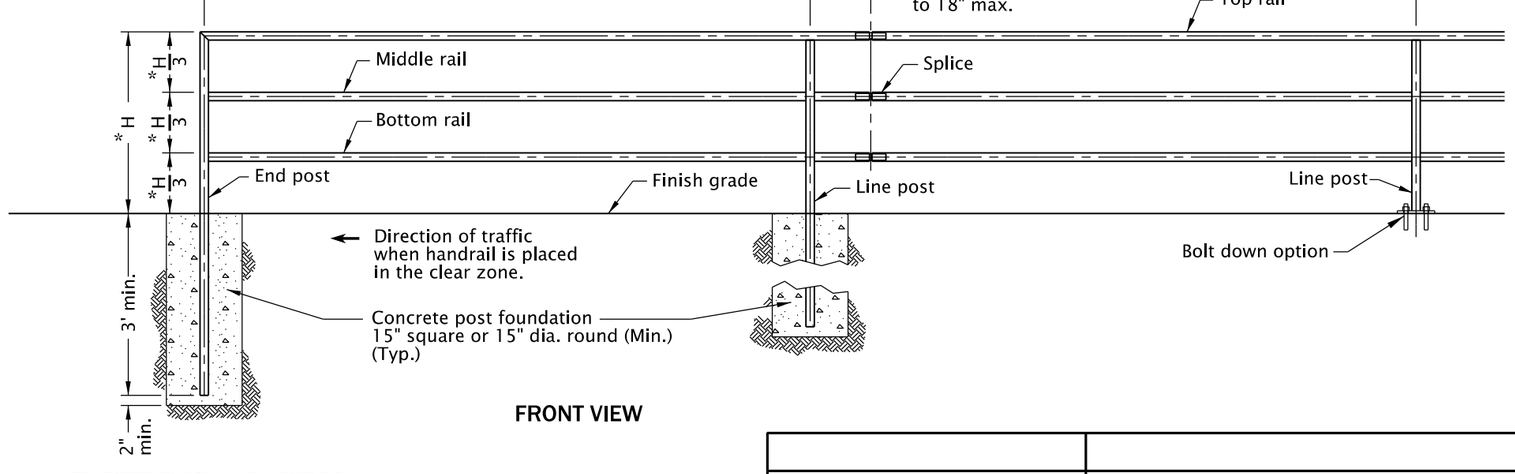
TWO RAIL HANDRAIL



SIDE VIEW (ON GRADE)



SIDE VIEW (ON STRUCTURE)
(See general note 4)

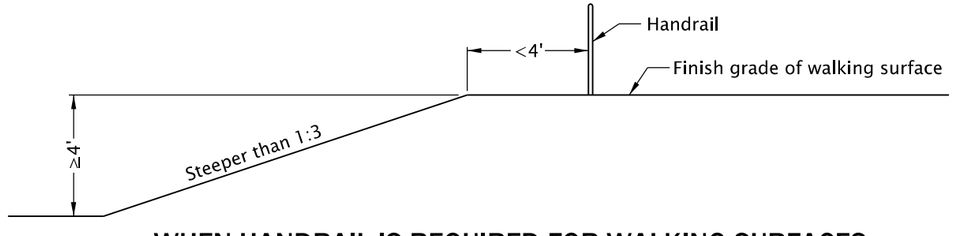


FRONT VIEW

THREE RAIL HANDRAIL

GENERAL NOTES FOR ALL DETAILS:

1. Handrail details are based on ODOT applicable standards.
2. See Std. Dwg. RD771 for details not shown.
3. Hot-dip galvanize all metal parts after fabrication.
4. Structure varies, see project plans.
5. Handrail height (H) shall be constant within a run.
6. All concrete shall be commercial grade concrete.
7. See Std. Dwg. RD120 for concrete stairway.
8. See project plans for details not shown.



WHEN HANDRAIL IS REQUIRED FOR WALKING SURFACES

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications.

CITY OF THE DALLES STANDARD DRAWING

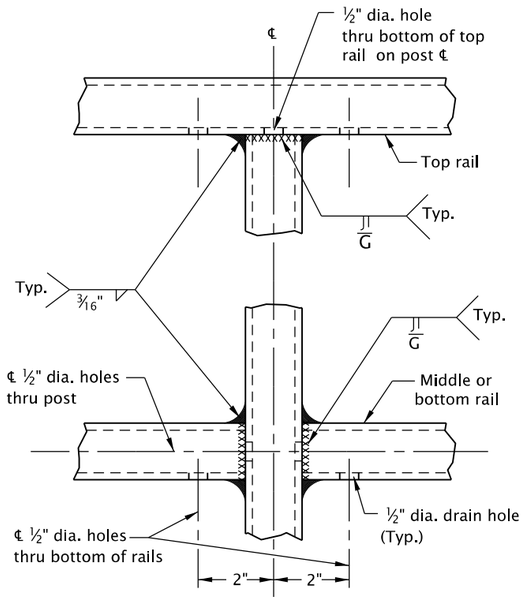
PEDESTRIAN HANDRAIL

2020

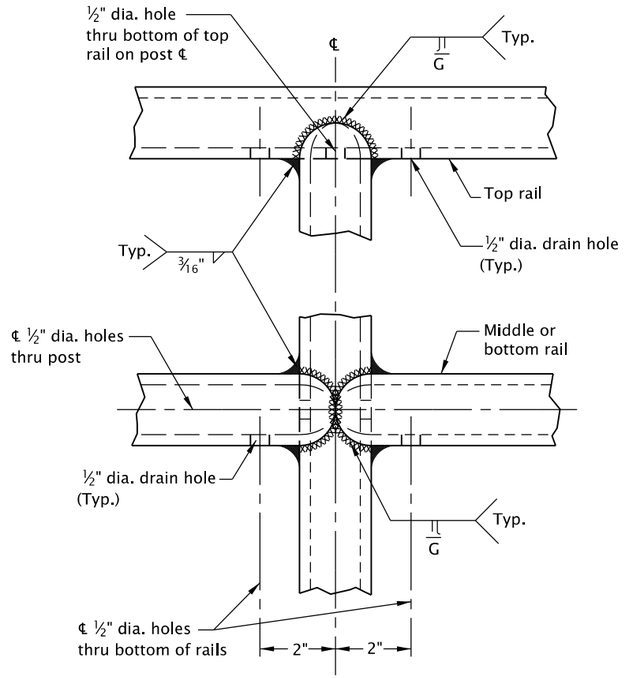
DATE	REVISION DESCRIPTION
07-2018	REVISED NOTES

RD770

Effective Date: January 1, 2020 - December 31, 2020 RD770



WELD DETAILS FOR STEEL TUBING



WELD DETAILS FOR STEEL PIPE

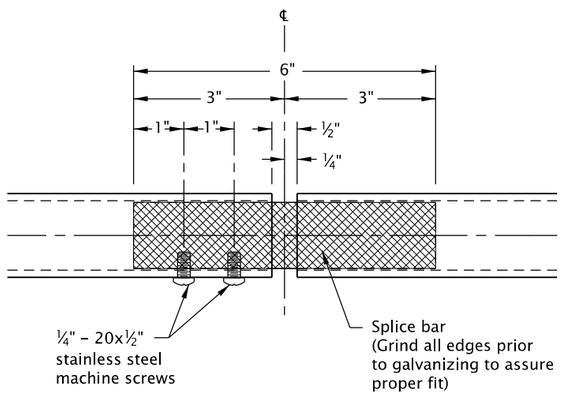
MATERIAL TABLES

STEEL PIPE POST & RAIL MEMBERS				ROUND SPLICE BAR
NOM. DIA.	SCH.	O.D.	I.D.	O.D.
1¼"	40	1.660"	1.380"	1¼"
1½"	10	1.900"	1.682"	1½"
	40	1.900"	1.610"	

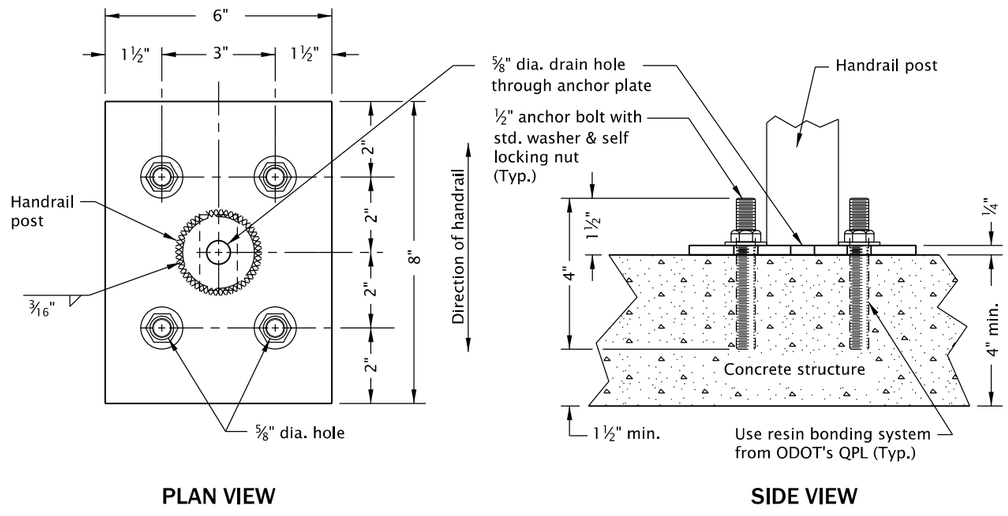
SQUARE STRUCTURAL STEEL TUBING POST & RAIL MEMBERS		SQUARE SPLICE BAR
Outside Dimensions	Wall Thickness	Outside Dimensions
1½"x1½"	⅛"	1"x1 "
	3/16"	¾"x¾"

GENERAL NOTES FOR ALL DETAILS:

1. Handrail details are based on ODOT applicable standards.
2. Select materials from tables. Posts and rails shall be identical material. Structural steel tubing shall conform to ASTM specification A500, grade B.
3. Posts shall be vertical. The top rail shall be continuous over a minimum of two posts.
4. On structure, the railing shall conform to the vertical alignment of the structure. Rails shall have a splice in the post space occurring at expansion joints.
5. On grade, rails shall have splices at intervals not to exceed 100'.
6. Hot-dip galvanize all metal parts after fabrication.
7. See Std Dwg. RD770 for details not shown.
8. See Std Dwg. RD120 for concrete stairway.
9. See project plans for details not shown.



SPLICE DETAIL



ANCHOR PLATE FOR BOLT DOWN OPTION

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications.

CITY OF THE DALLES STANDARD DRAWING

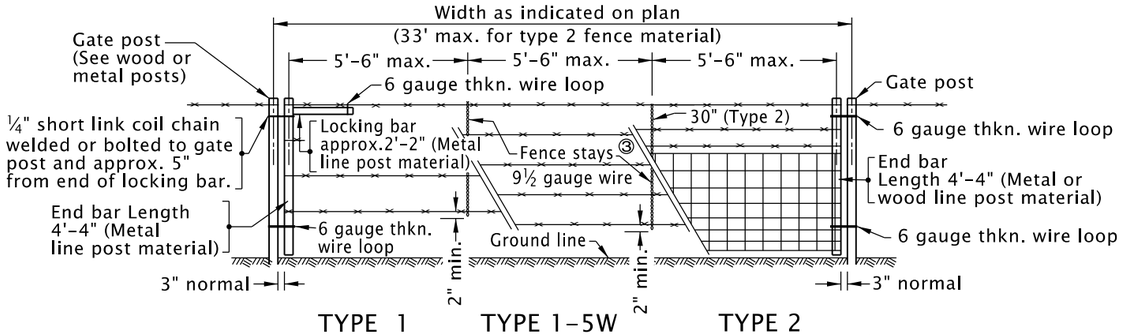
PEDESTRIAN HANDRAIL DETAILS

2020

DATE	REVISION DESCRIPTION
07-2018	REVISED NOTES

RD771

Effective Date: January 1, 2020 - December 31, 2020



TYPE 1 — Fence material ①②

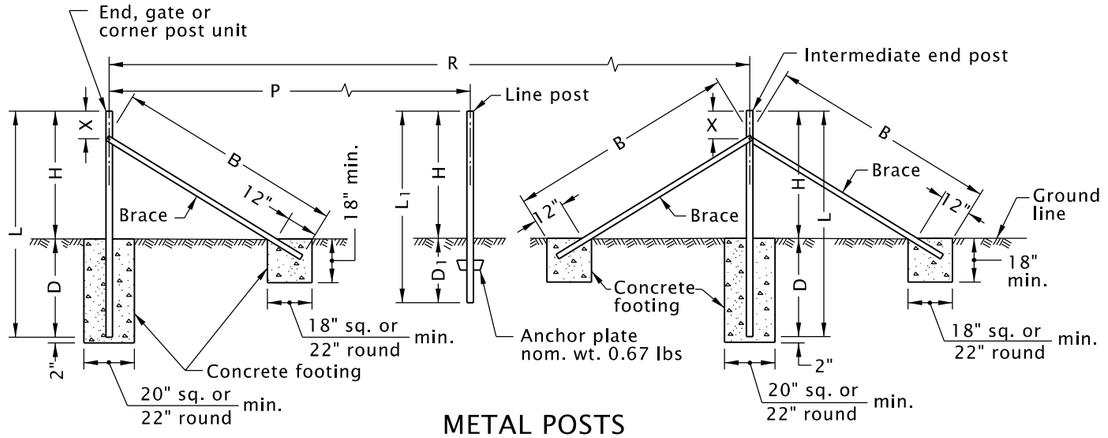
TYPE 1-5W — Fence material ①②

TYPE 2 — Fence material ①②

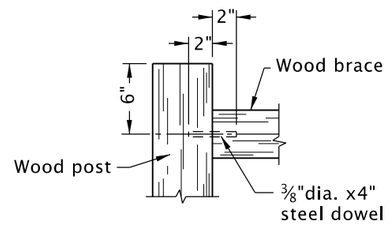
NOTES:

① Match adjointing fence type.
② For details not shown see fence type.
③ For wooden stays, see Type 1 fence details.

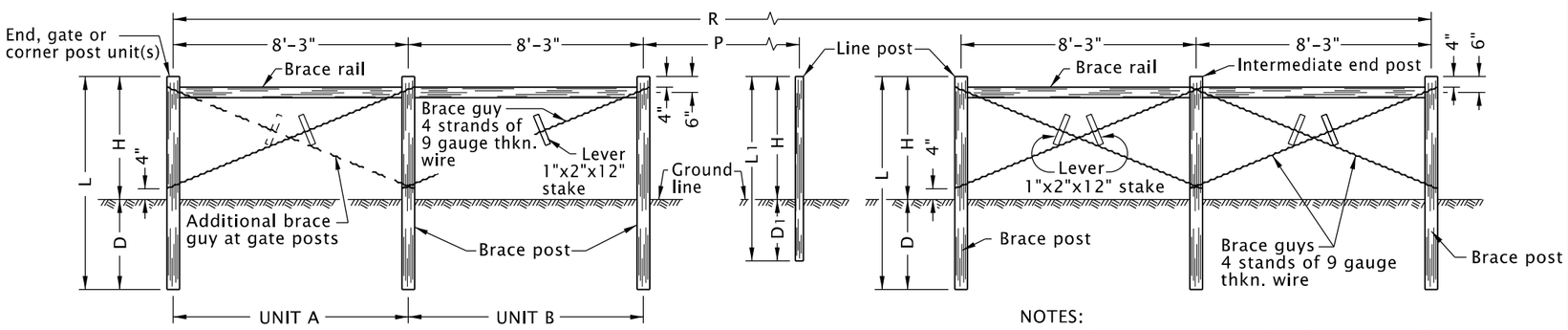
GATEWAY



METAL POSTS



BRACE RAIL CONNECTION



For units required see Table 1

WOOD POSTS

NOTES:

1. For dimensions indicated by letter see Table 2.
2. Line post spacing same as dimension P.
3. For cross sectional dimensions of members see Table 3.

① Fence stays 9½ gauge thkn. wire

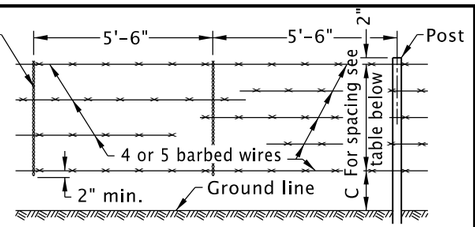


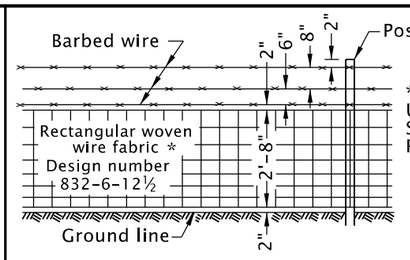
TABLE OF DIMENSIONS

FENCE	C	SPACING	NO. OF WIRES
Type 1	14"	12"	4
Type 1-5W	10"	10"	5

① NOTE:

Wooden Stays to be used in areas of heavy snowfall or snow drifts over 36". Stays to be 2"x2"x52" min. length, sound, untreated Douglas Fir, Western Hemlock or Western Pine, spaced as shown for wire stays and to rest firmly on the ground. Horizontal wires to be stapled are: single wires and a minimum of 4 wires for woven wire fabric.

TYPES 1 , & 1-5W



* U.S. Dept. of Commerce Simplified Practice Recommendation R9-47.

② NOTE:

For wooden stays, see Type 1 fence details

② TYPE 2

TABLE 1 (For wood posts)

FENCE	R (ft)	UNITS REQUIRED
Types 1, 1-5W & 2	20 or Less	* None
	20-330	A
	Over 330	A & B

* Unit A required at gate post.

Either Unit A or Units A & B are required in existing fence line at intersection with new fence line.

TABLE 2

FENCE	R max.	P	L min.	L1 min.	H	D min.	D1 min.	B min.	X min.-max.
All Types	660'	16'-6"	7'-6"	6'-6"	4'-4"	3'-2"	2'-2"	7'-8"	9"-22"

TABLE 3

MEMBER	WOOD			METAL		
	* ROUND		SQUARE	SHAPE	WEIGHT PER (ft) nominal	SIZE nominal
	DIAMETER OF SMALL END (in)		SIZE nominal (in)			
	min.-max.	min. avg.				
Line Post	3" to 4"	3"	‡ 3"x3"	Tee Channel ⓐ or U-bar	1.33 lb	ASTM A-702
Brace or Brace Rail	3½" to 5½"	4"	4"x4"	Tubular	ⓑ	1½" +/- O.D.
				ⓐ Angle	3.19 lb	2"x2"x¼"
Other Post	4" to 7"	5"	‡ 5"x5"	Tubular	b	2⅜" O.D.
				ⓐ Angle	4.1 lb	2½"x2½"x¼"

* Max. taper 1":48".

‡ Max. allowable size 1" additional in each dimension.

ⓐ In accordance with ASTM A 702.

ⓑ In accordance with AASHTO M 181.

GENERAL NOTES FOR ALL DETAILS:

1. For dimensions indicated by letter see Table 2.
2. Line post spacing same as dimension P.
3. For shapes, weights and dimensions of members see Table 3.
4. All concrete shall be commercial grade concrete.
5. See Std. Drg. RD820 for fence gates.
6. See project plans for details not shown.

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CITY OF THE DALLES STANDARD DRAWING

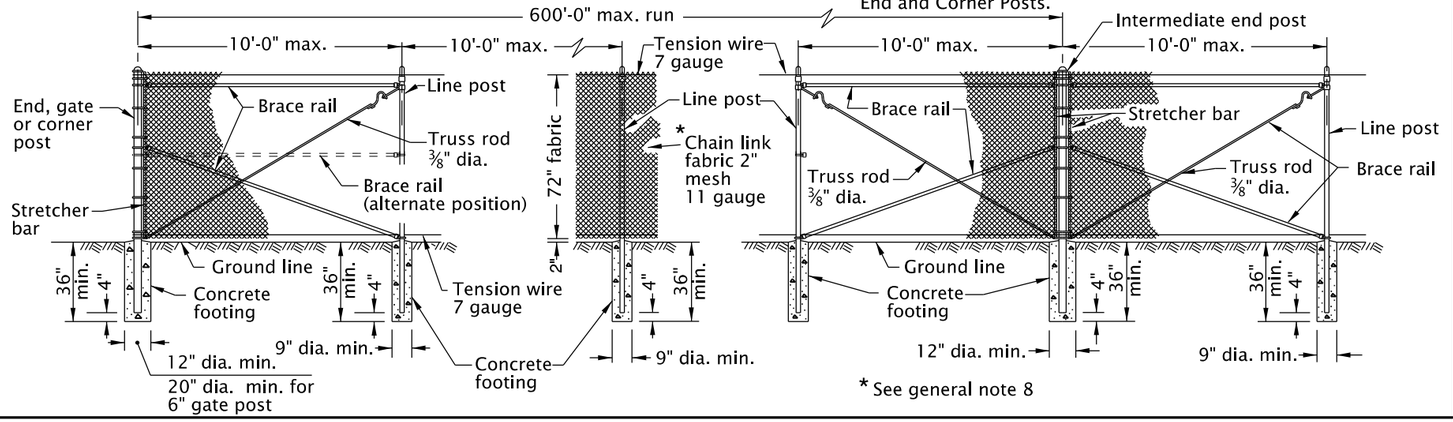
BARBED AND WOVEN WIRE FENCES

2020

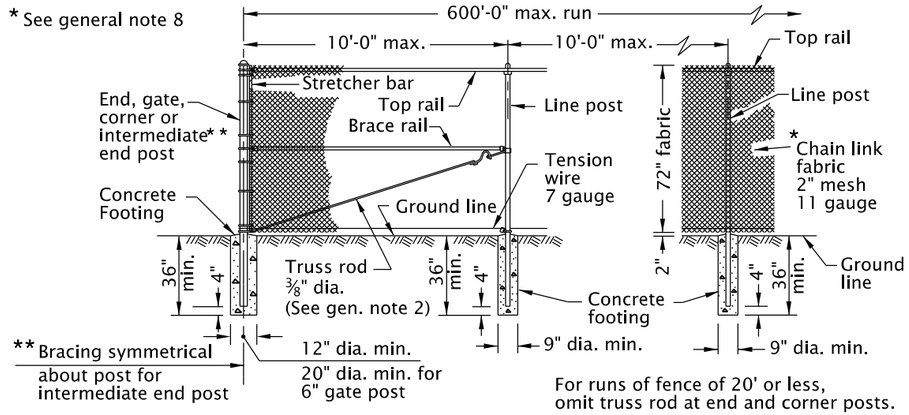
DATE	REVISION DESCRIPTION

RD810

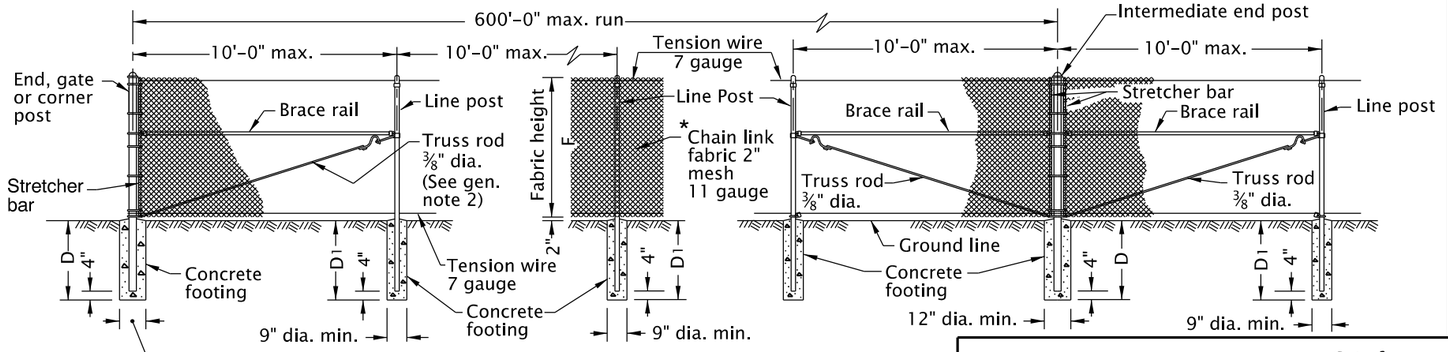
TYPE CL-6



TYPE CL-6R



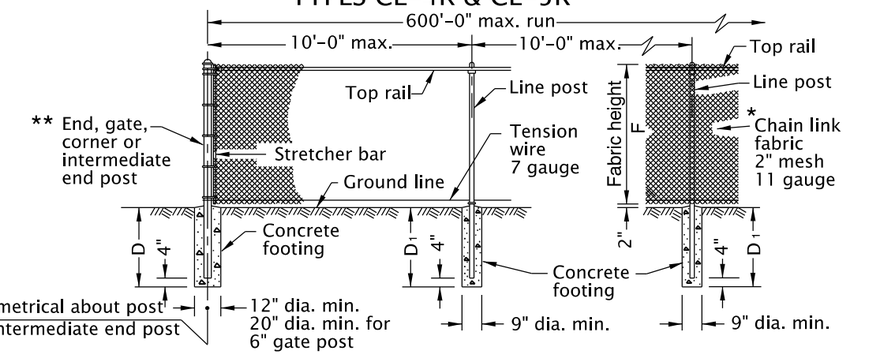
TYPES CL-4 & CL-5



TYPE	D min. (in)	D1 min. (in)	F nom. (in)
CL-4	30	24	48
CL-5	36	36	60

* See general note 8

TYPES CL-4R & CL-5R



* See general note 8

TYPE	D min. (in)	D1 min. (in)	F nom. (in)
CL-4R	30	24	48
CL-5R	36	36	60

For runs of fence of 20' or less, omit truss rod at end and corner posts.

GATES

* See general note 8

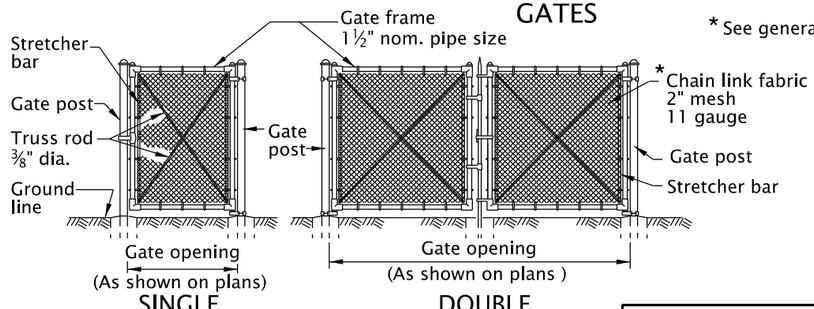


TABLE 1

TYPE	MEMBER								GATE OPENING (ft)		GATE POSTS	
	BRACE AND TOP RAILS		LINE POSTS				END, CORNER & INTERMEDIATE END POST					
	TUBULAR		TUBULAR		H-SECTION		TUBULAR				TUBULAR	
	Fence Industry (in)	Nom. Dia. (in)	Fence Industry (in)	Nom. Dia. (in)	Size (in)	Wt. lb/ft	Fence Industry (in)	Nom. Dia. (in)	SINGLE GATE	DOUBLE GATE	Fence Industry (in)	Nom. Dia. (in)
STEEL CL-4 & CL-4R CL-5 & CL-5R	1⅝	1¼	1⅞	1½	1⅞ x 1⅝	2.72	2⅜	2	Up thru 6	Up thru 12	2⅞	2½
STEEL CL-6 & CL-6R	1⅝	1¼	2⅜	2	2¼ x 2	4.10	2⅞	2½	7 thru 13	13 thru 26	4	3½
									14 thru 18	27 thru 36	6⅝	6

NOTE: For CL-8, CL-8R, CL-10 & CL-10R, the CL-6 & CL-6R hardware is minimum and does not include slat wind loading.

GENERAL NOTES FOR ALL DETAILS:

1. Do not use top rail where fence can be struck by an errant vehicle.
2. Fittings shown are illustrative of use and not specific as to design.
3. Gate posts on each side of a gate opening to be the same size. At a double gate installation with unequal width gates, size of both posts to be as indicated for a single gate installation of the wider gate width.
4. For cross sectional dimensions of members, see Table 1.
5. Posts and rails with sections not shown that meet the requirements of AASHTO M181 are acceptable alternates. See ODOT's QPL for acceptable alternates.
6. All concrete shall be commercial grade concrete.
7. All chain link fabric top and bottom selvage shall be knuckled finish.
8. Chain link fabric for the fence to be installed with pickets shall be 9 gauge wire woven in 3½" by 5½" diamond mesh.
9. See project plans for details not shown.

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NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

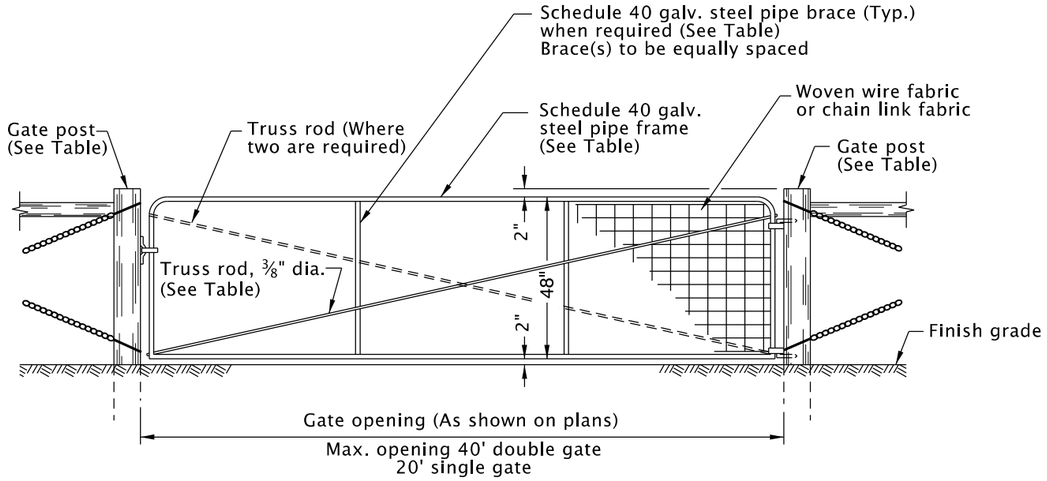
CITY OF THE DALLES STANDARD DRAWING

CHAIN LINK FENCE

2020

DATE	REVISION DESCRIPTION

RD815



GATE COMPONENTS								GATE POSTS ①②					
								WOOD				STEEL	
GATE OPENING (ft)		SCHEDULE 40 GALV. STEEL PIPE FRAME		SCHEDULE 40 GALV. STEEL PIPE BRACE			TRUSS RODS	* ROUND			SQUARE	SCHEDULE 40 GALV. STEEL PIPE	
								DIA. OF SMALL END (in)			NOM. SIZE (in)	NOM. DIA. (in)	MIN. WT. (lb/ft)
SINGLE GATE	DOUBLE GATE	NOM. DIA. (in)	MIN. WT. (lb/ft)	NUMBER	NOM. DIA. (in)	MIN. WT. (lb/ft)		Min.	Max.	Min. Avg.			
UP thru 6	UP thru 12	1	1.68	–	–	–	–	5	7	6	6x6	2½	5.79
7 thru 11	13 thru 22	1¼	2.27	1	1	1.68	1	5	7	6	6x6	3½	9.11
12 thru 16	23 thru 32	1½	2.72	2	1¼	2.27	2	7	9	8	8x8	6	18.97
17 thru 20	33 thru 40	2	3.65	2	1¼	2.27	2	9	11	10	10x10	6	18.97

① Gate posts on each side of a gate opening to be the same size. At a double gate installation with unequal width gates, size of both posts to be as indicated for single gate installation of the wider gate width.

② For length, setting and bracing details see end posts, Std. Dwg. RD810.

* Max. taper 1" in 4'

GENERAL NOTES FOR ALL DETAILS:

1. Gates shown are for use with Fence Types 1, 1-5W and 2.
2. See Std. Dwg. RD810 for details not shown.
3. See project plans for details not shown.

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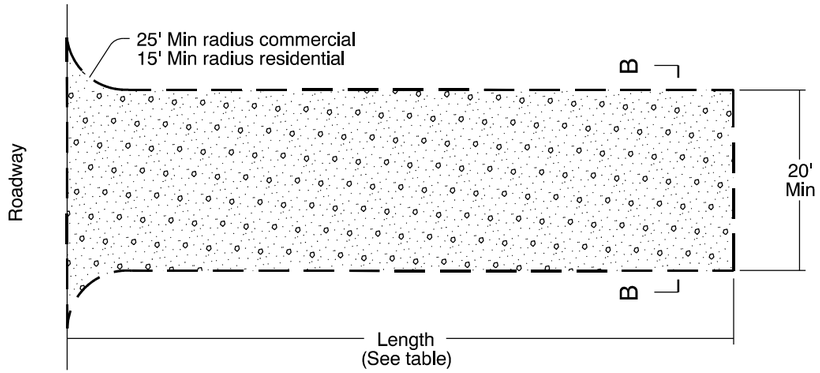
CITY OF THE DALLES STANDARD DRAWING

FENCE GATES

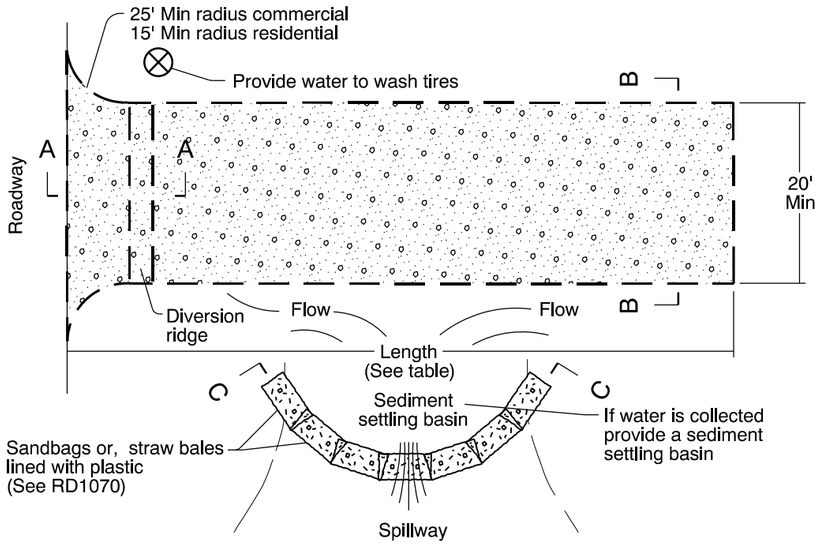
2020

DATE	REVISION DESCRIPTION

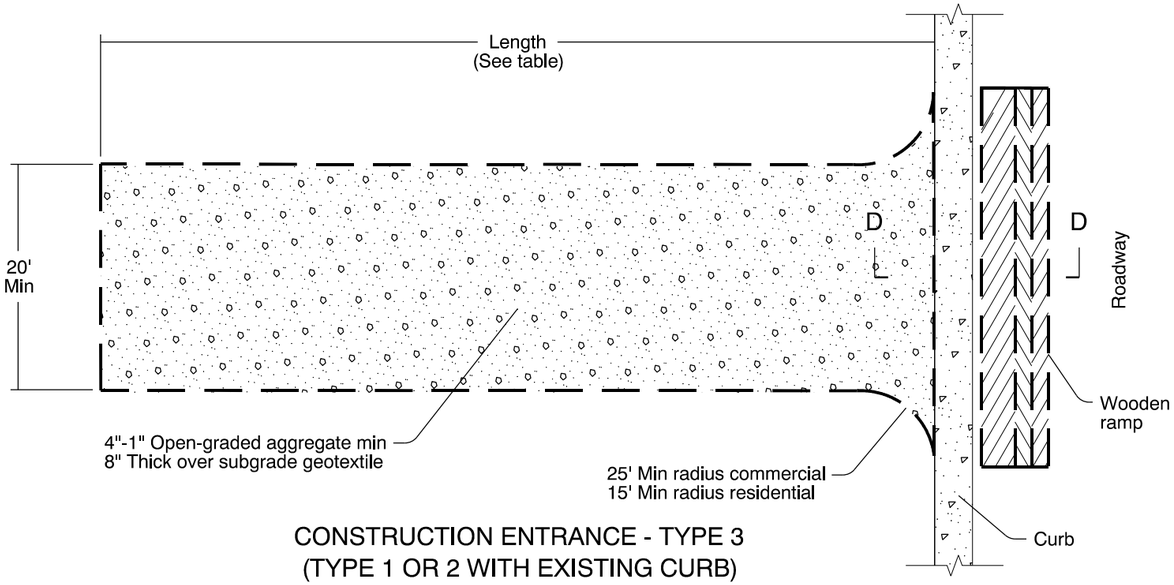
RD820



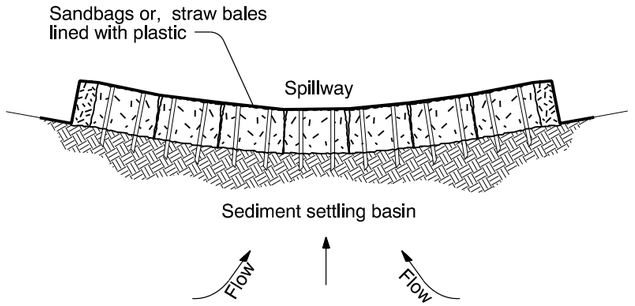
CONSTRUCTION ENTRANCE - TYPE 1



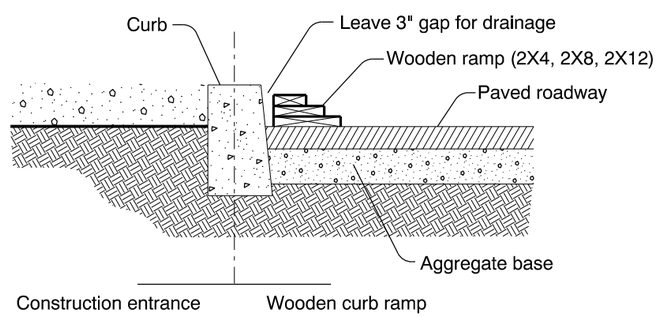
CONSTRUCTION ENTRANCE - TYPE 2



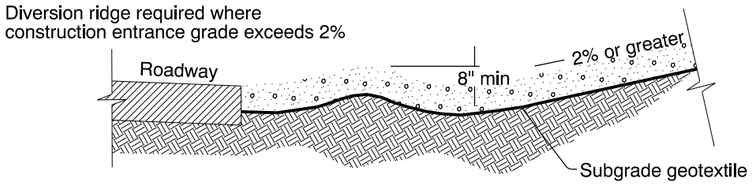
CONSTRUCTION ENTRANCE - TYPE 3
(TYPE 1 OR 2 WITH EXISTING CURB)



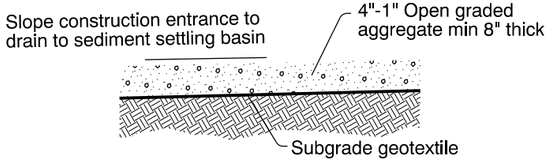
SECTION C-C



WOODEN CURB RAMP SECTION D-D



SECTION A-A



SECTION B-B

Notes:

1. The type 1 entrance is a simple entrance without a diversion ridge or settling basin.
2. The wooden ramp may be used on either type 1 or type 2 entrances in situations where there is curb and the curb is not removed for the construction entrance.

CONSTRUCTION ENTRANCE TABLE MINIMUM LENGTH	
Length (FT)	Area Of Exposed Soil (Acre)
20	0.25
50	0.25 < A < 1.0
100	A > 1.0

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CITY OF THE DALLES STANDARD DRAWING

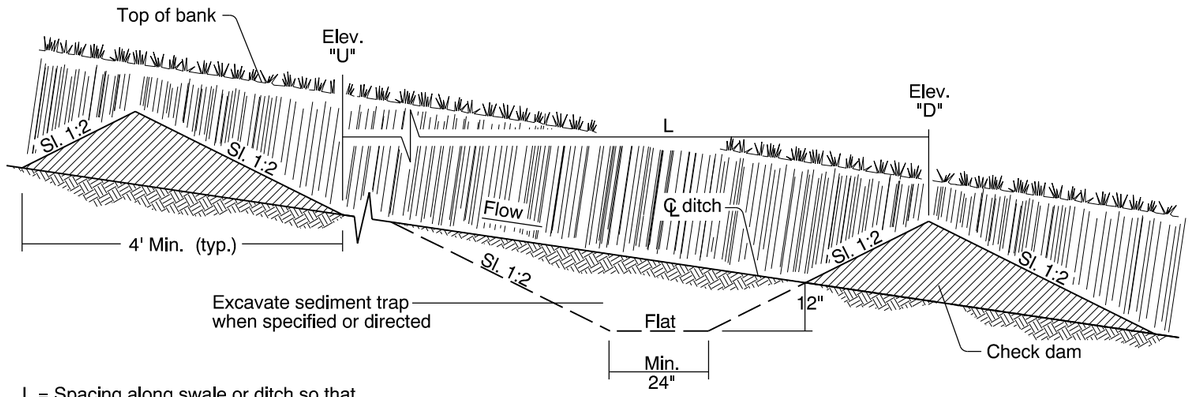
CONSTRUCTION ENTRANCES

2020

DATE	REVISION DESCRIPTION

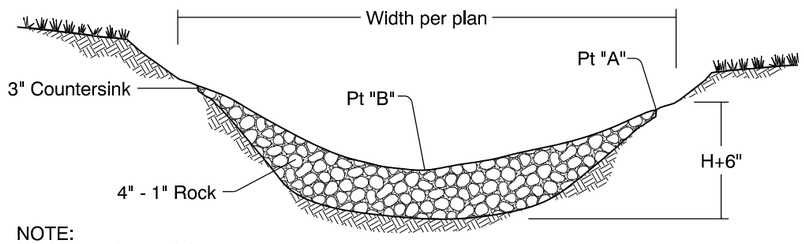
RD1000

Effective Date: January 1, 2020 - December 31, 2020 **RD1000**



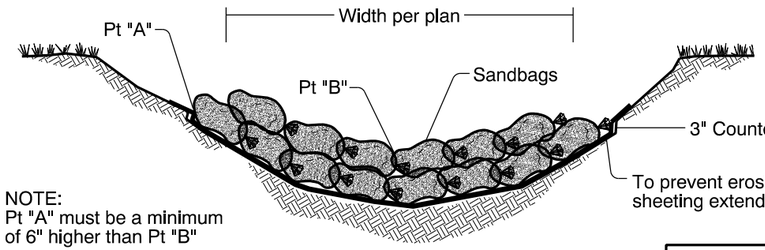
L = Spacing along swale or ditch so that Elevation "U" equals Elevation "D".

TYPICAL PROFILE SECTION CHECK DAMS (SHOWN WITH AGGREGATE)



NOTE:
Pt "A" must be a minimum of 6" higher than Pt "B"

AGGREGATE CHECK DAM - TYPE 1



NOTE:
Pt "A" must be a minimum of 6" higher than Pt "B"

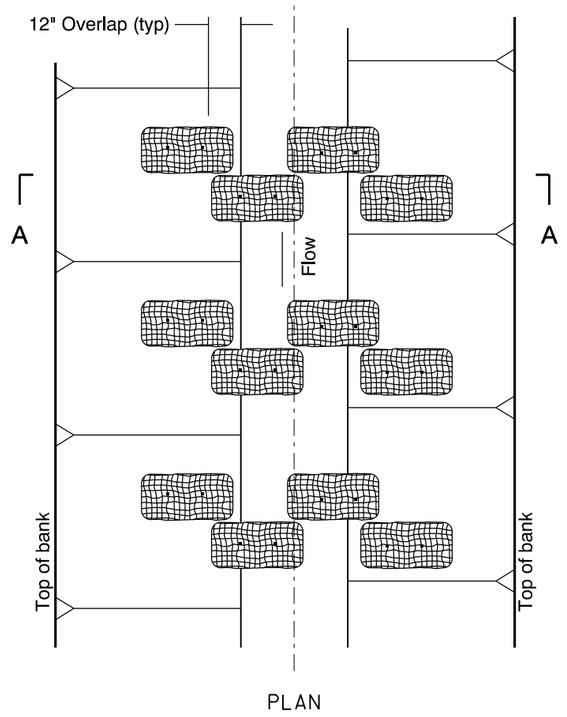
SANDBAG CHECK DAM - TYPE 4

NOTES:

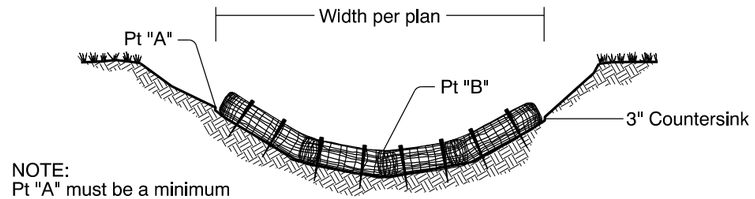
1. Type 3 - stake biofilter bags with two 2" X 2" X 18" (min) wood stakes per bag. Drive stakes a minimum of 6" into the ground and flush with the top of the bags. Omit stakes if placed over paved surfaces. Overlap bags 6" min at each joint.
2. Type 4 - Tightly abut or overlap ends of sandbags at each joint.
3. Spacing between check dams for all check dam types shall comply with the typical profile section shown above.

MAXIMUM CHECK DAM SPACING "L"				
Ditch Grade	H=8"	H=12"	H=18"	H=24"
10%	**	**	15'	20'
9%	**	**	16'	22'
8%	**	**	18'	25'
7%	**	**	21'	28'
6%	**	16'	25'	33'
5%	**	20'	30'	40'
4%	16'	25'	37'	50'
3%	22'	33'	50'	66'
2%	33'	50'	75'	100'

** Not Allowed H = Min dam height



PLAN



NOTE:
Pt "A" must be a minimum of 6" higher than Pt "B"

SECTION A-A

BIOFILTER BAG CHECK DAM - TYPE 3

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

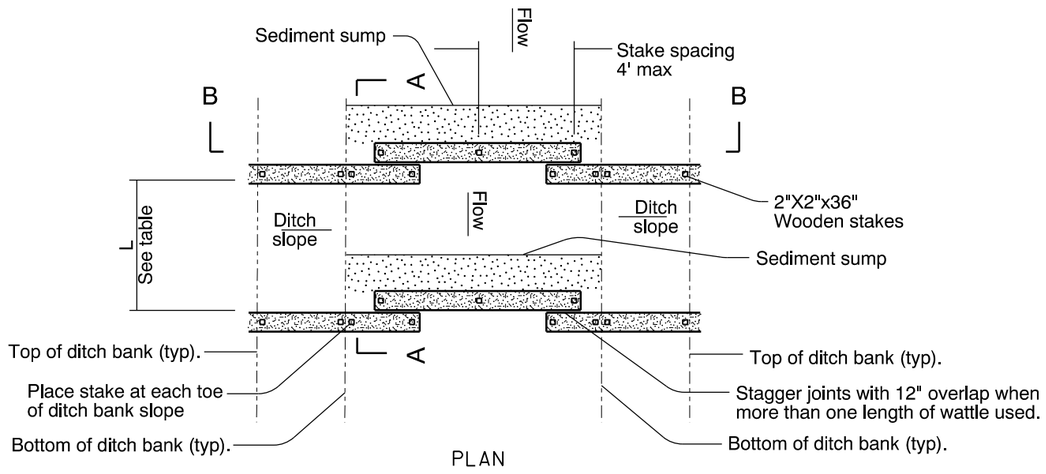
CHECK DAMS TYPE 1, 3 AND 4

2020

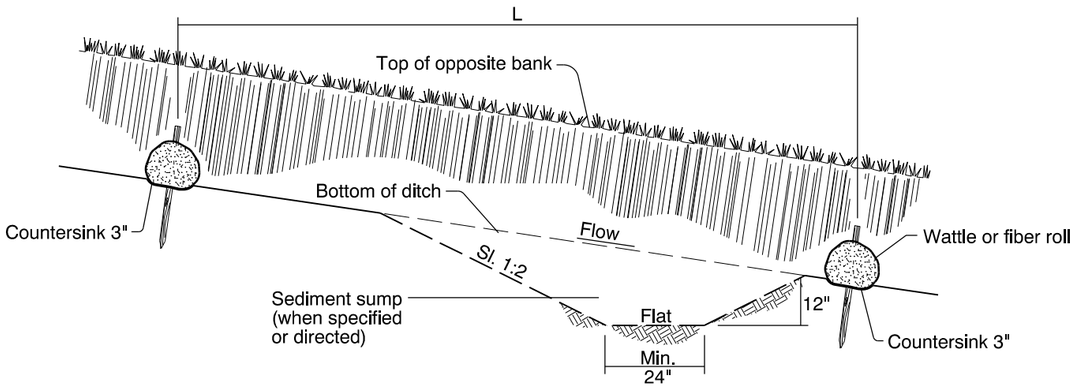
DATE	REVISION DESCRIPTION

RD1005

Effective Date: January 1, 2020 - December 31, 2020 **RD1005**

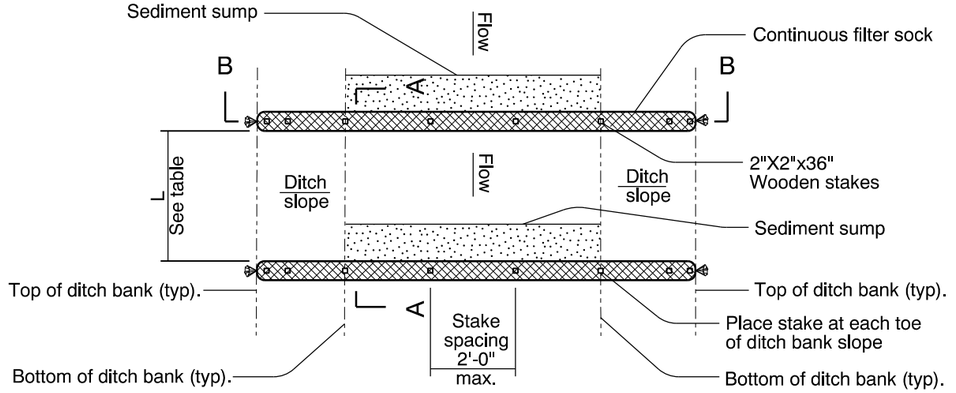


PLAN

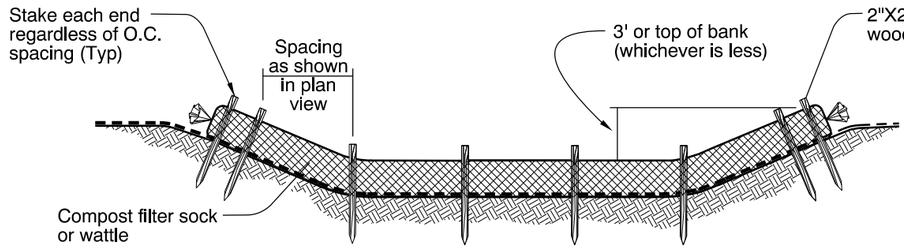


SECTION A-A

WATTLE / FIBER ROLL CHECK DAM - TYPE 2



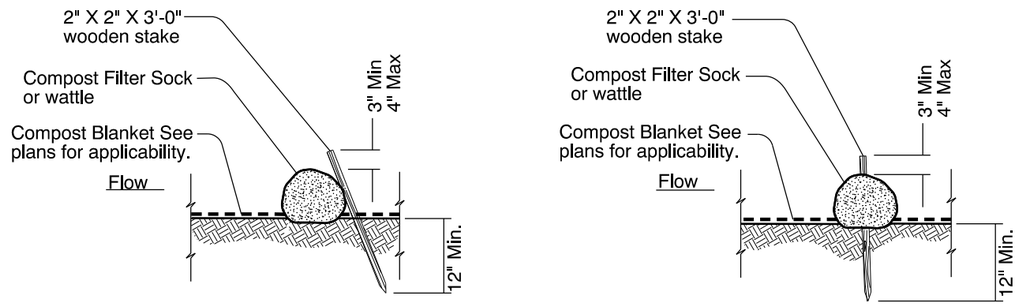
PLAN



SECTION B-B

Note:
For stacking options refer to RD1032.

COMPOST FILTER SOCK CHECK DAM - TYPE 6



ALTERNATIVE 1 (Staking)

ALTERNATIVE 2 (Staking)

FIBER ROLL STAKING

MAXIMUM CHECK DAM SPACING "L"				
Ditch Grade	H=8"	H=12"	H=18"	H=24"
10%	**	**	15'	20'
9%	**	**	16'	22'
8%	**	**	18'	25'
7%	**	**	21'	28'
6%	**	16'	25'	33'
5%	**	20'	30'	40'
4%	16'	25'	37'	50'
3%	22'	33'	50'	66'
2%	33'	50'	75'	100'

** Not Allowed H = Min dam height

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

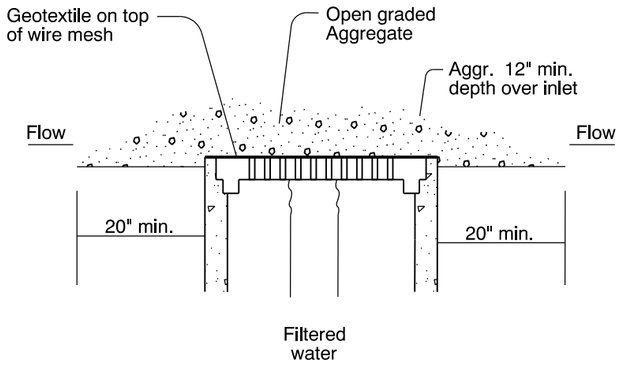
CITY OF THE DALLES STANDARD DRAWING

CHECK DAMS
TYPE 2 AND 6

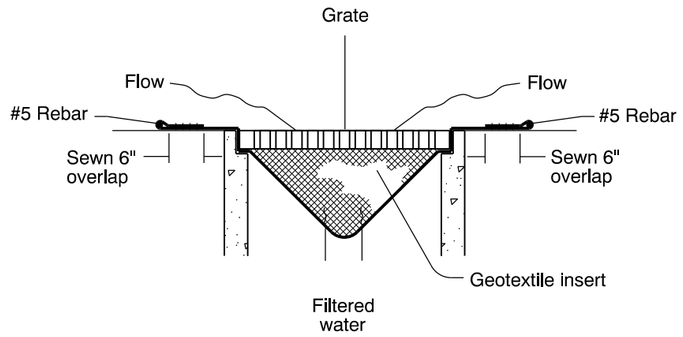
2020

DATE	REVISION DESCRIPTION

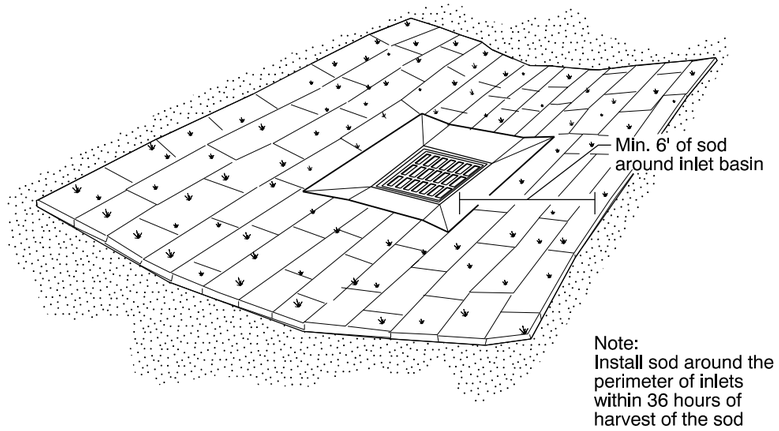
RD1006



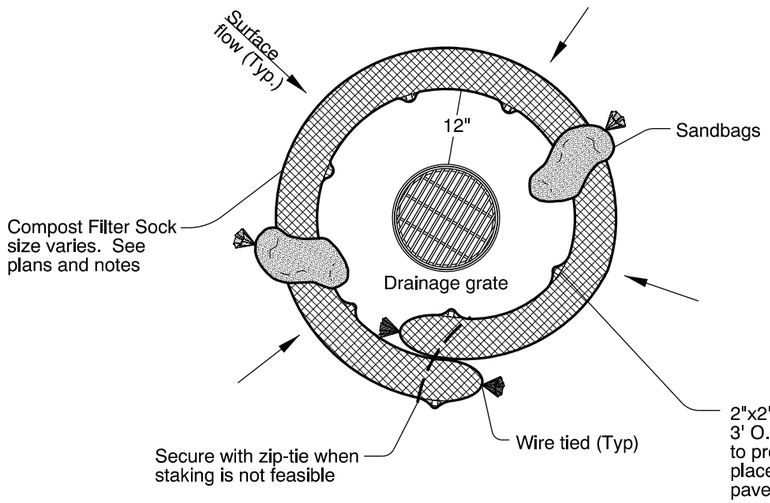
GEOTEXTILE/WIRE MESH/AGGREGATE - TYPE 2



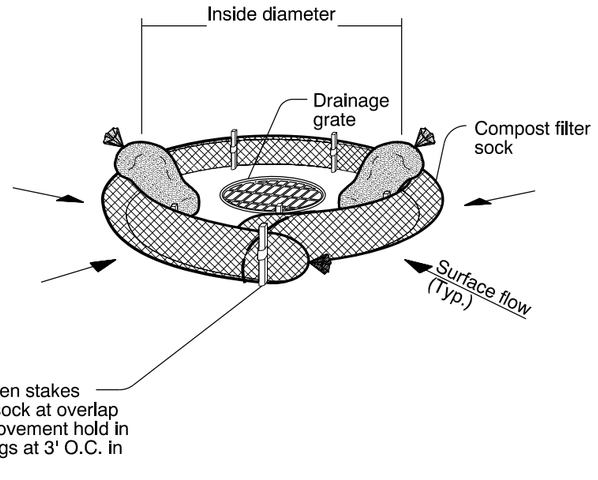
PREFABRICATED FILTER INSERT - TYPE 3



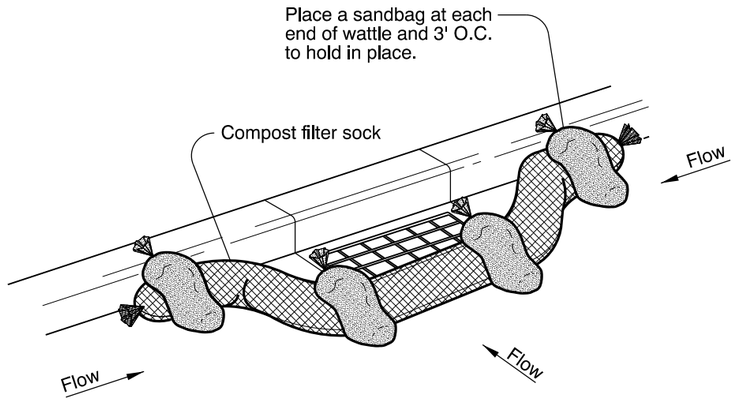
SOD PROTECTION - TYPE 6



AREA DRAIN PLAN



AREA DRAIN PERSPECTIVE VIEW



CURB INLET PERSPECTIVE VIEW

COMPOST FILTER SOCK OR WATTLE - TYPE 7

* Use sandbags to hold wattles in place. Sandbags are not necessary for compost filter socks

Notes:

Type 2 - Geotextile/wire mesh/aggregate
Place the wire mesh over the grate.
Place sediment fence geotextile over the wire mesh and perimeter area around structure.
Install aggregate over the geotextile fabric.

Type 3 - Prefabricated filter inserts
Install prefabricated filter inserts according to the plans. Special provisions, and manufacturer recommendations.
Prefabricated inserts with provisions for overflow are allowed only when accompanied by additional BMP to prevent the potential of sediments entering project storm systems.
Field fabricated inserts are not allowed.

Type 7 - Compost filter sock
Drive 2"X2" wood stakes a minimum of 6" into ground and flush with the top of the sock.
Overlap ends of sock per manufacturers recommendations (1' min, 3' max).
Use 8" to 12" dia sock on curbside in traffic areas.
Use 12" to 18" dia sock in non-traffic areas or areas where the larger sock can be used safely.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

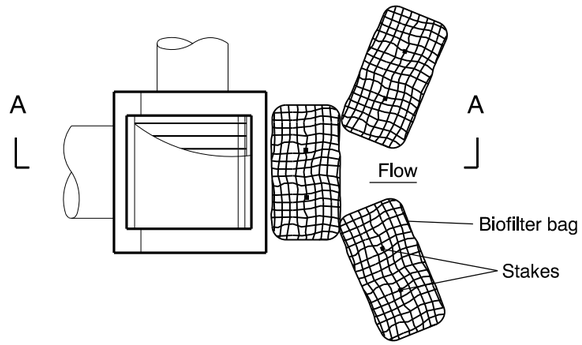
INLET PROTECTION TYPE 2, 3, 6 AND 7

2020

DATE	REVISION DESCRIPTION

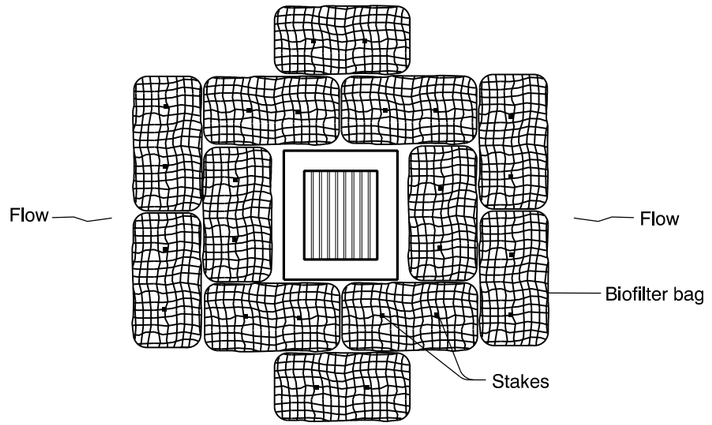
RD1010

Effective Date: January 1, 2020 - December 31, 2020 **RD1010**



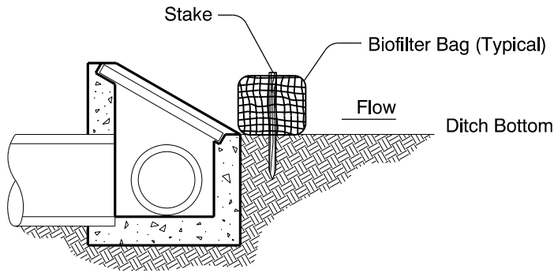
PLAN

DITCH INLET



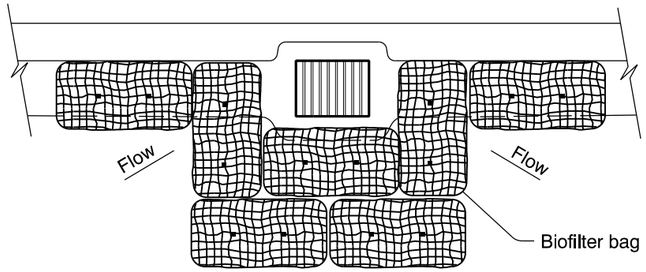
PLAN

AREA DRAIN



SECTION A-A

DITCH INLET



PLAN

CATCH BASIN

BIOFILTER BAGS - TYPE 4

Note:

1. Stake biofilter bags with 2'X2" wood stakes, use a minimum 2 stakes per bag.
   Drive stakes a minimum of 6" into the ground and flush with the top of the bags.
2. Omit stakes when bags are placed on pavement surface.
3. Overlap all bag joints 6".

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

INLET PROTECTION TYPE 4

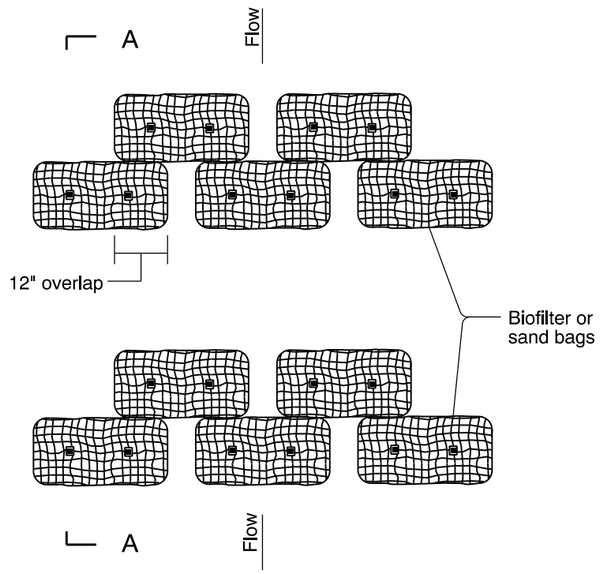
2020

DATE	REVISION DESCRIPTION

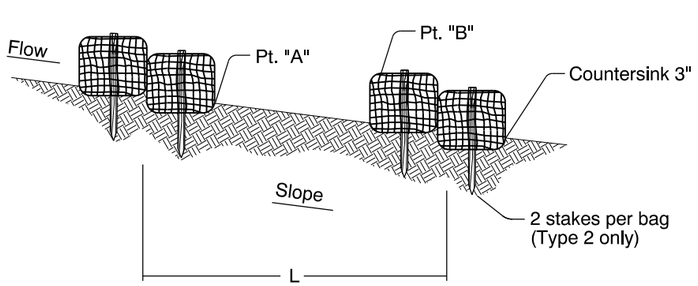
Effective Date: January 1, 2020 - December 31, 2020

RD1015

RD1015

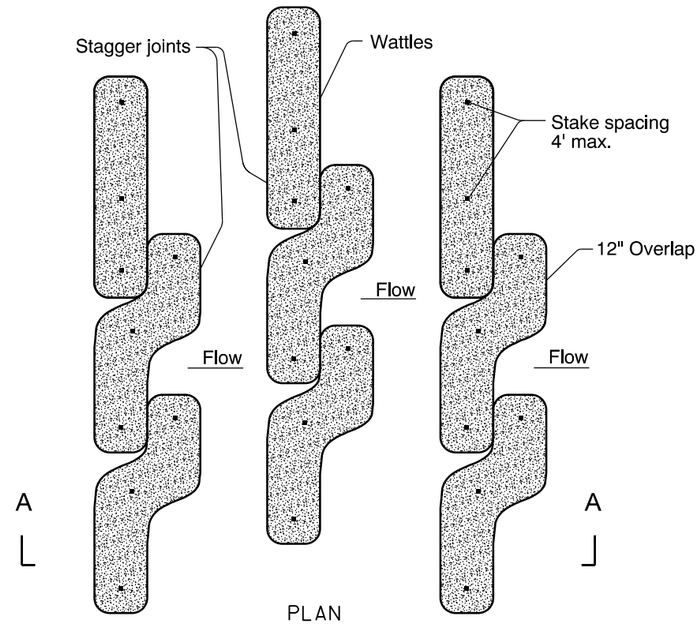


PLAN

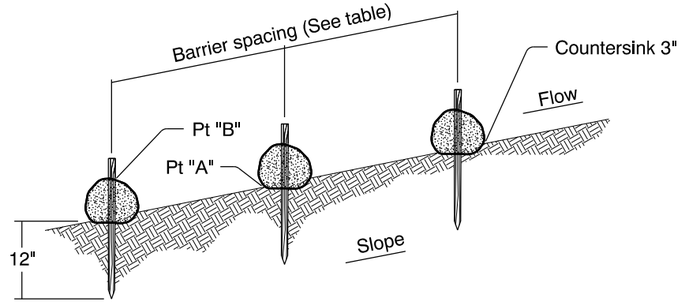


SECTION A-A

BIOFILTER BAG / SAND BAG BARRIER - TYPE 2 AND 4



PLAN



SECTION A-A

FIBER ROLL BARRIER - TYPE 3

Notes:

1. For type 2 barrier, drive stakes flush with top of bag and into undisturbed ground a min. of 12".
   Omit stakes if bags are placed on paved surface.

2. For type 2 and 4 barrier, space bags (L) so that the elevation of point "A" is less than or equal to the elevation of point "B".

   Type 2 - Biofilter bags
   Type 3 - Wattles
   Type 4 - Sand bags

BARRIER SPACING

INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS		
% SLOPE	% SLOPE	MAXIMUM SPACING ON SLOPE
10% Flatter	1:10 or Flatter	300'
10 > % ≥ 15	10 > X ≥ 7.5	150'
15 > % ≥ 20	7.5 > X ≥ 5	100'
20 > % ≥ 30	5 > X ≥ 3	50'
Steeper than 30%	Steeper than 1:3	25'

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

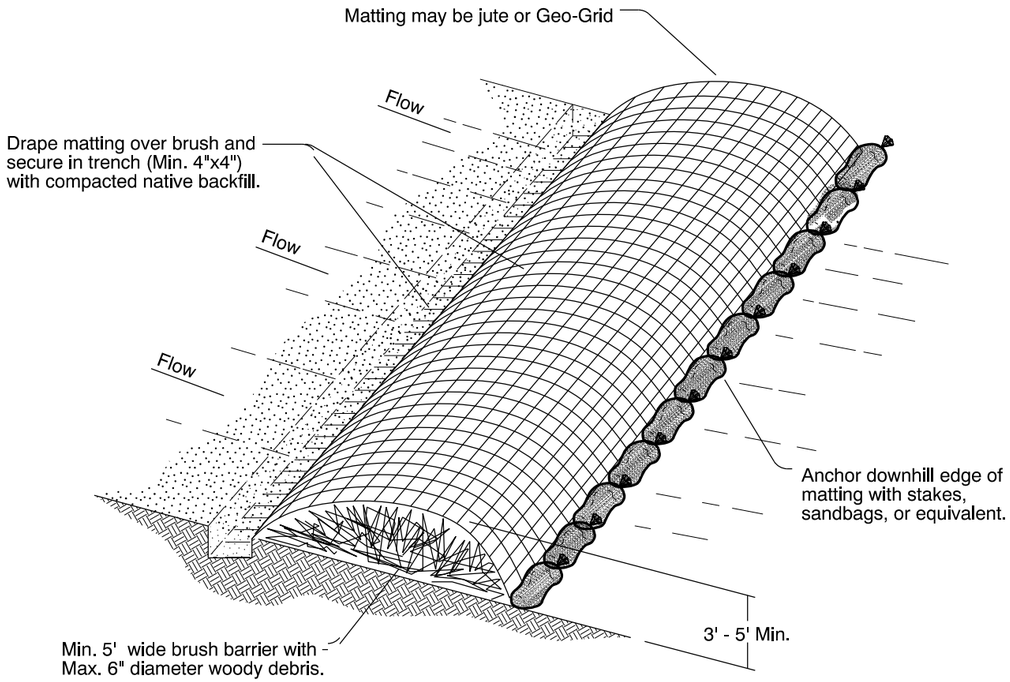
SEDIMENT BARRIER TYPE 2, 3 AND 4

2020

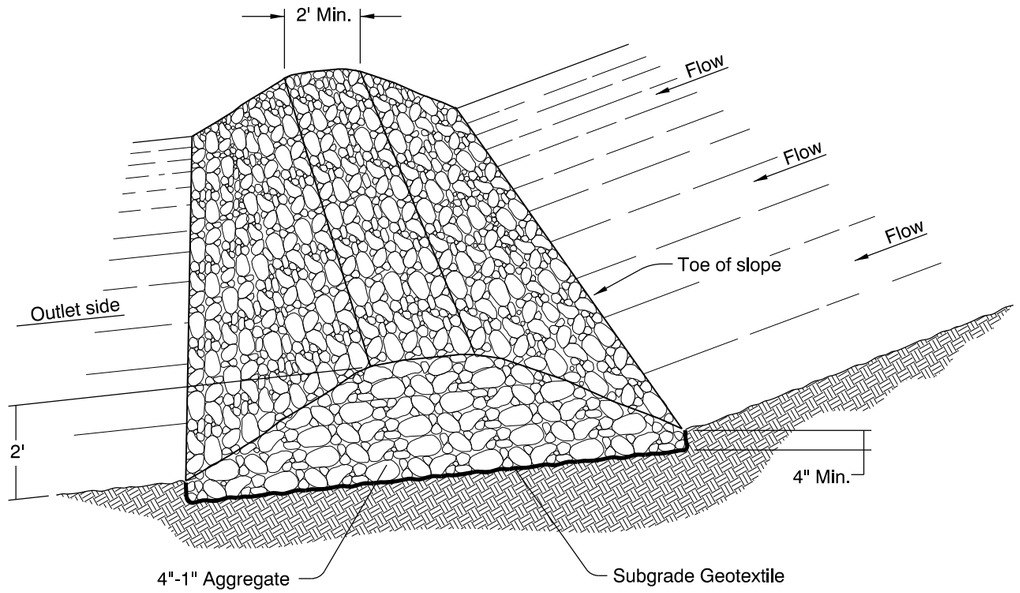
DATE	REVISION DESCRIPTION

RD1030

Effective Date: January 1, 2020 - December 31, 2020 **RD1030**



BRUSH BARRIER - TYPE 5



AGGREGATE BARRIER - TYPE 6

NOTES:

1. Direct diverted flows from the outlet side of the rock filter berm/dams onto a stabilized area, such as vegetation and or rock, or into a sediment trapping facility.
2. Embed barrier a min. of 4" into the existing ground/embankments.
3. Use 1:3 or flatter side slope. Within the safety clear zone, use 1:6 or flatter side slopes.
4. Use 4"-1" clean aggregate.

RD1031

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

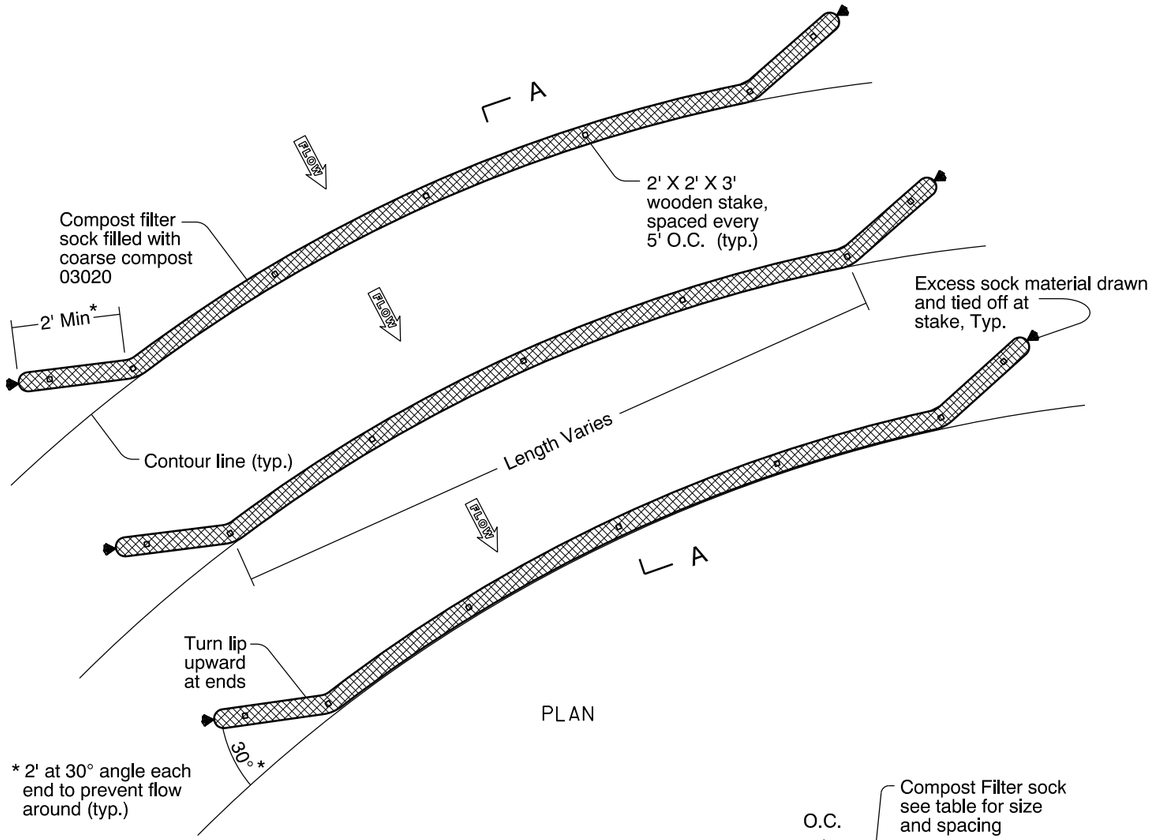
NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

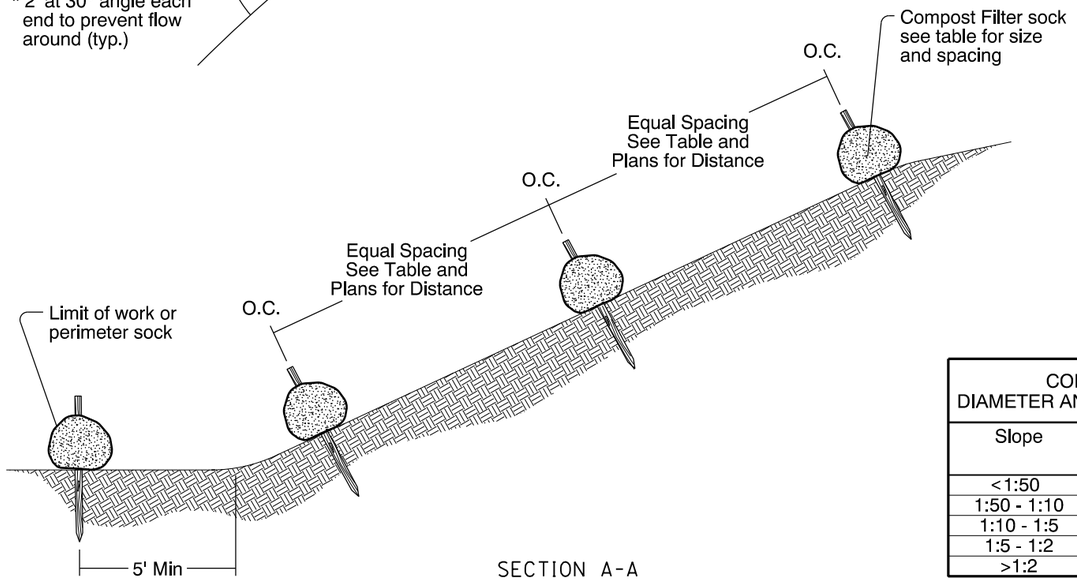
SEDIMENT BARRIER TYPE 5 AND 6

2020

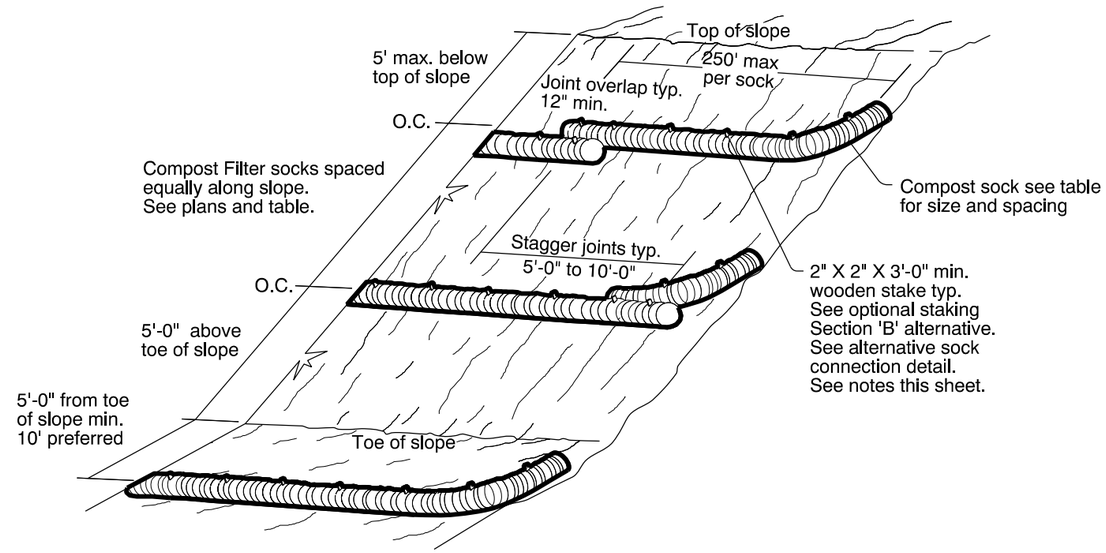
DATE	REVISION DESCRIPTION



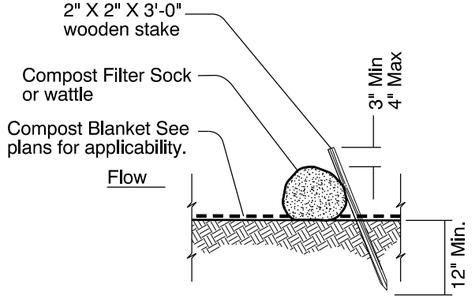
PLAN



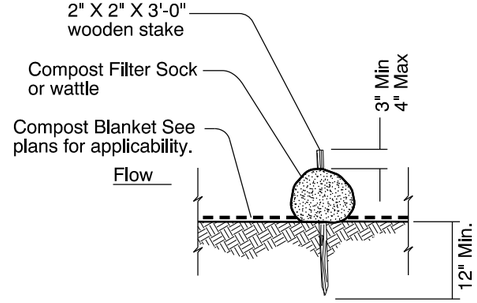
SECTION A-A



SLOPE APPLICATION - PERSPECTIVE VIEW



ALTERNATIVE 1 (Staking)



ALTERNATIVE 2 (Staking)

COMPOST FILTER SOCK DIAMETER AND SPACING BASED ON SLOPE		
Slope	Spacing (Ft)	Diameter (In)
<1:50	250	8
1:50 - 1:10	125	12
1:10 - 1:5	100	12
1:5 - 1:2	50	18
>1:2	25	18

COMPOST FILTER SOCK

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

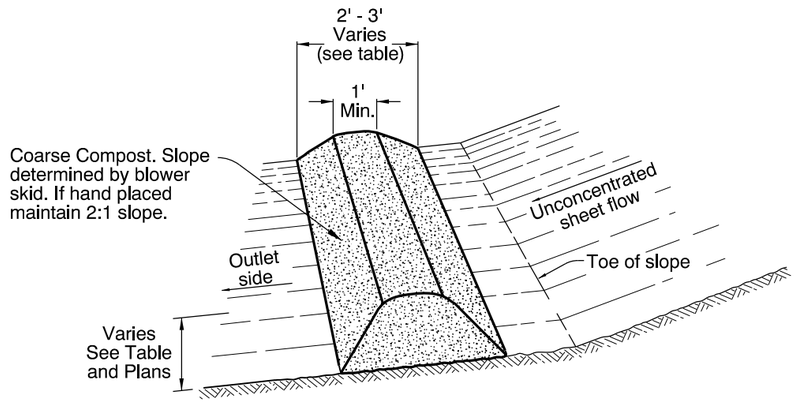
SEDIMENT BARRIER TYPE 8

2020

DATE	REVISION DESCRIPTION

RD1032

Effective Date: January 1, 2020 - December 31, 2020 **RD1032**

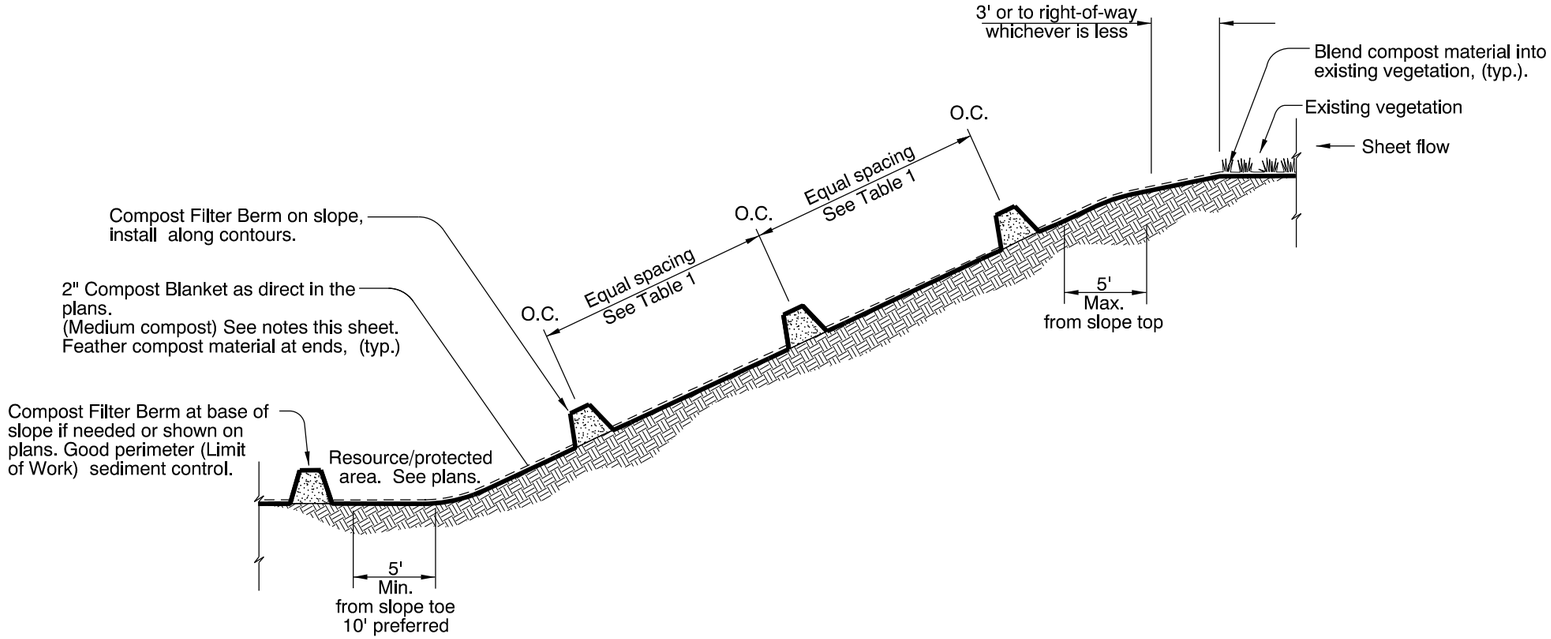


COMPOST FILTER BERM - TYPE 9

Compost Filter Berm Dimensions and Spacing Based on Slope				
Slope	Berm Spacing	Berm Dimensions		
		Height	Bottom width	Top width
< 50:1	250 ft	1 ft	2 ft (min)	1 ft
50:1 - 10:1	125 ft	1 ft	2 ft (min)	1 ft
10:1 - 5:1	100 ft	1 ft	2 ft (min)	1 ft
3:1 - 2:1	50 ft	1.3 ft	2.6 ft (min)	1 ft
> 2:1		1.5 ft	3 ft (min)	1 ft

Compost Filter Berm General Notes

1. Compost filter berm's are sediment control devices for areas where runoff occurs as sheet flow. See Section 00280, City of The Dalles Standard Specifications.
2. The maximum drainage area for a continuous berm shall be 1/4 acre per 100 linear feet of filter berm.
3. Where possible, berm's should be placed away from the toe of slopes a minimum of 5 feet (10 feet preferred) to allow for energy dissipation and sediment storage.
4. Direct the outlet side of filter berm, located at base of slope, onto a stabilized area, such as vegetation and/or aggregate.
5. Place filter berm's along or on the ground contour with the ends of the filter berm turned up slope per details. Adequate area shall be provided behind berm for ponding.
6. Compost filter berm may be vegetated with temporary or permanent seeding after placement.
7. If placed in area with existing ground vegetation, cut vegetation to 2-4 inches above grade at berm footprint. Do not remove existing vegetation or cut back outside berm footprint unless directed by Agency.
8. If soils are exposed apply compost blanket per details and specifications.



COMPOST FILTER BERM SERIES

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

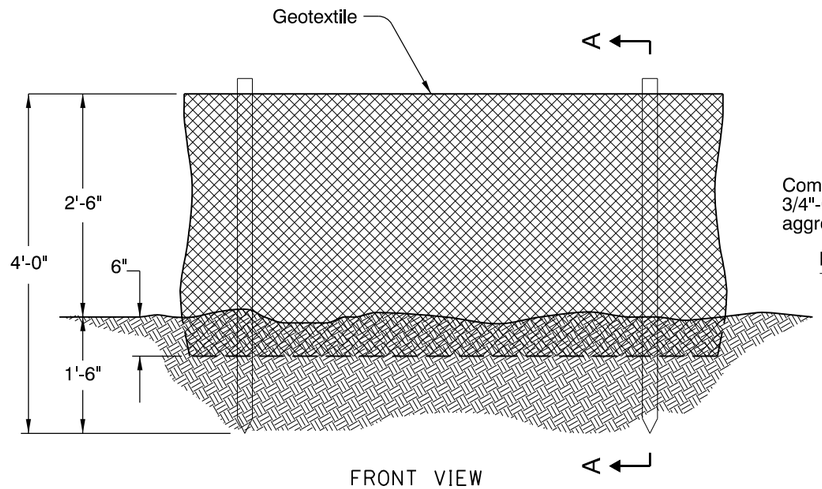
SEDIMENT BARRIER TYPE 9

2020

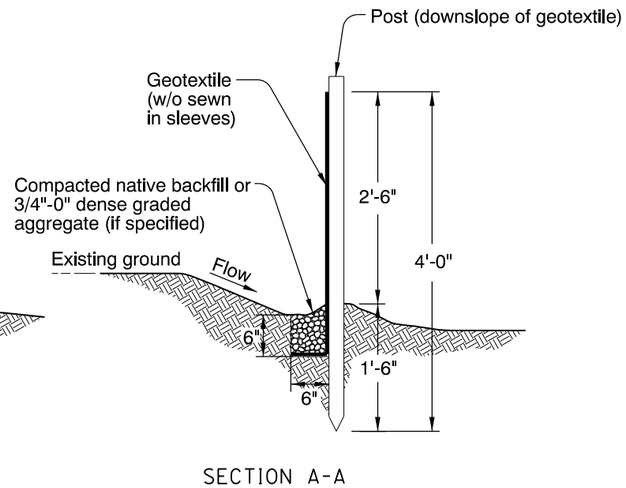
DATE	REVISION DESCRIPTION

RD1033

Effective Date: January 1, 2020 - December 31, 2020 **RD1033**

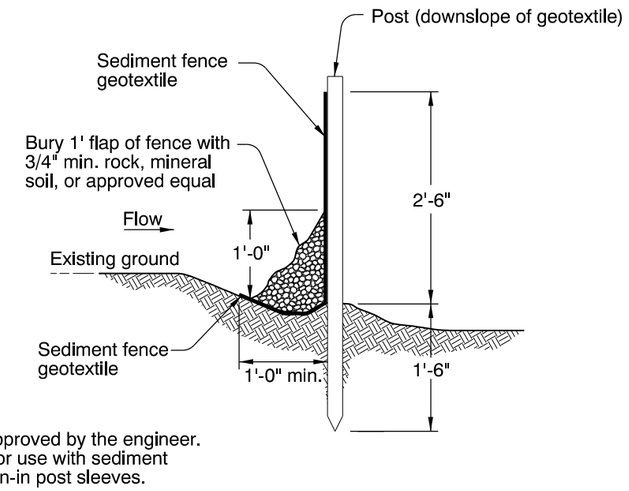


FRONT VIEW



SECTION A-A

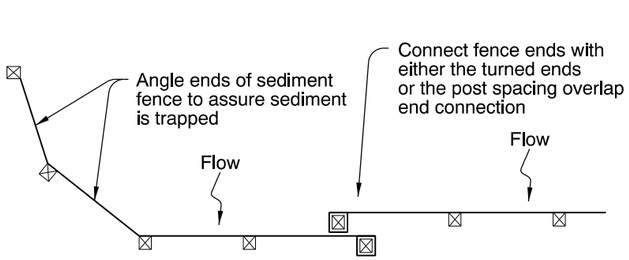
SEDIMENT FENCE AND GEOTEXTILE BURY DETAIL - TYPE 1



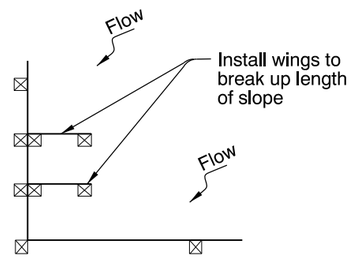
NOTES:

1. Use must be approved by the engineer.
2. Not approved for use with sediment fencing with sewn-in post sleeves.

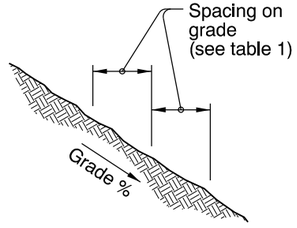
ALTERNATE SEDIMENT FENCE W/O TRENCHING - TYPE 2



PLAN VIEW



TERMINATION AT CORNER OR PROPERTY LINE

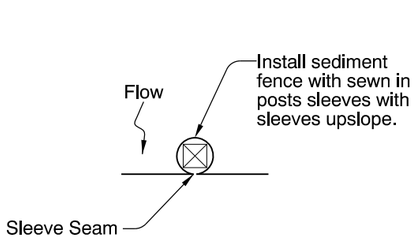


NOTES:

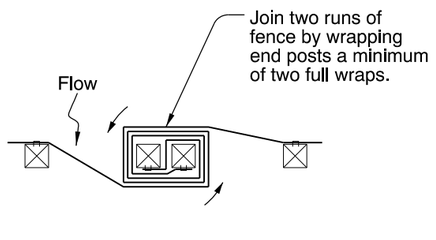
1. Use 2" X 2" wood fence posts.
2. Posts to be installed on downhill side of sediment fence geotextile. Position posts to prevent separation from geotextile.
3. Compact filter fabric trench backfill and soil on uphill side of fence.
4. Locate fence no closer than three feet to the toe of a slope.
5. Wing spacing shall comply with table 1.

TABLE 1
FENCE SPACING
FOR GENERAL APPLICATION

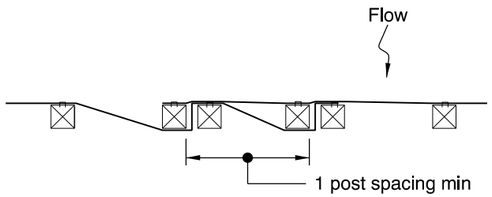
INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS	
GRADE	MAXIMUM SPACING ON GRADE
Grade < 10%	300'
10% ≤ Grade < 15%	150'
15% ≤ Grade < 20%	100'
20% ≤ Grade < 30%	50'
30% ≤ Grade	25'



GEOTEXTILE WITH POST SLEEVES



TURNED ENDS CONNECTION



POST SPACING OVERLAP CONNECTION

GEOTEXTILE END CONNECTIONS

TABLE 2

POST SPACING	
6'	Sediment Fence with Geotextile elongation less than 50%
4'	Sediment Fence with Geotextile elongation 50% or more

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NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

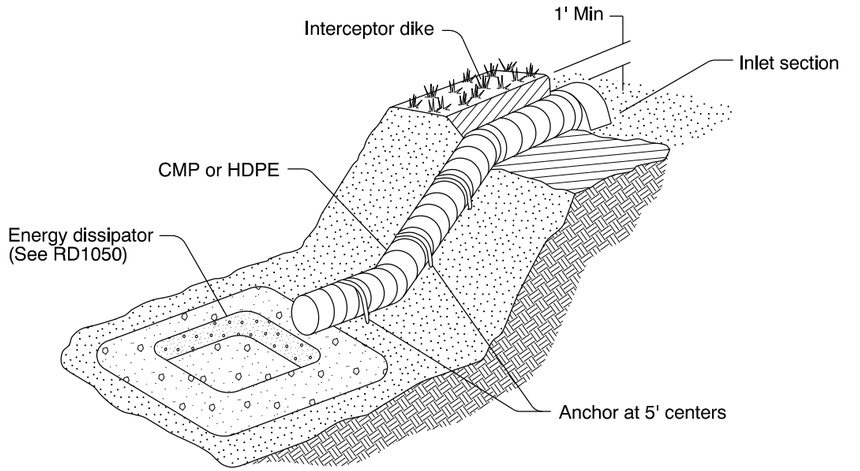
SEDIMENT FENCE

2020

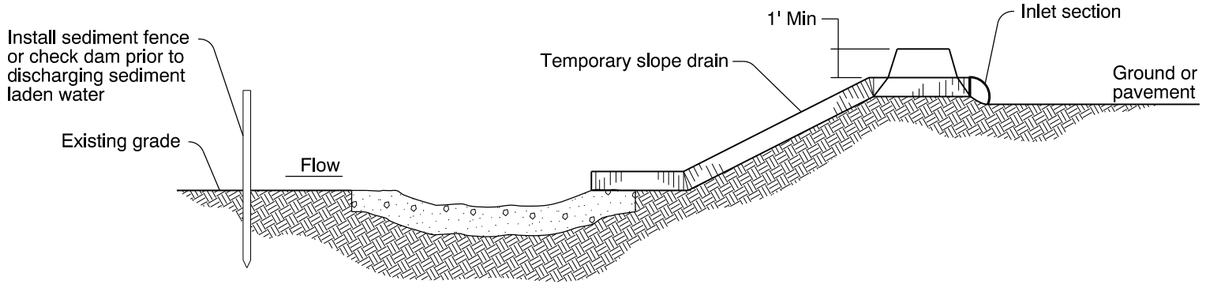
DATE	REVISION DESCRIPTION

RD1040

Effective Date: January 1, 2020 - December 31, 2020 **RD1040**



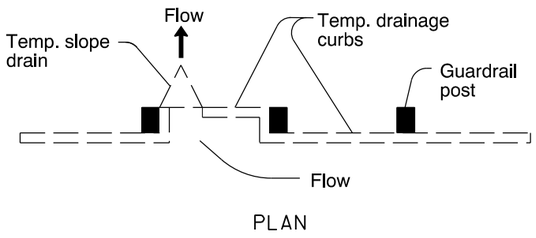
PERSPECTIVE



PROFILE

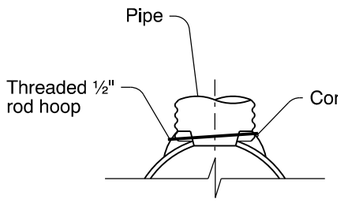
Notes:

1. Temporary slope drains shall be used at the top of fill slopes as the embankment is constructed to prevent erosion.
2. Temporary drainage curbs shall be used in conjunction with temporary slope drains to prevent erosion on completed slopes and to direct flow into end section.
3. All dimensions not indicated will be as directed.

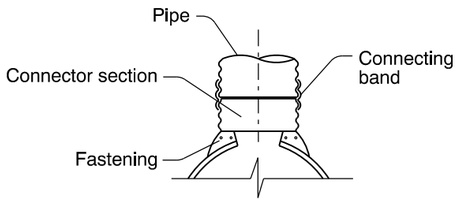


PLAN

TEMPORARY DRAIN AT GUARDRAIL

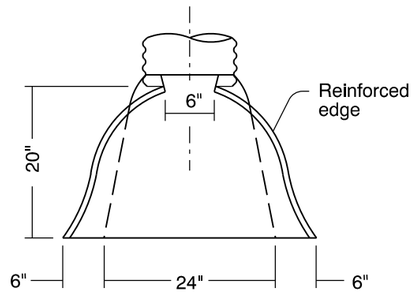


OPTION-1

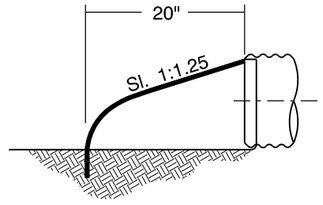


OPTION-2

CONNECTION DETAILS

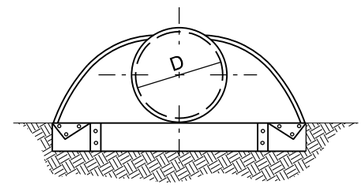


PLAN



SIDE VIEW

TABLE FOR PIPE SIZE		
PIPE		CONTRIBUTING AREA TO SLOPE DRAIN (sq ft)
Slope (min.)	D in. (min.)	
3.8%	6	A < 200
2.5%	8	200 ≤ A < 500
1.9%	10	500 ≤ A < 850
1.5%	12	850 ≤ A < 1400
-	SPECIAL DESIGN REQD.	1400 ≤ A



FRONT VIEW

INLET SECTION DETAILS

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

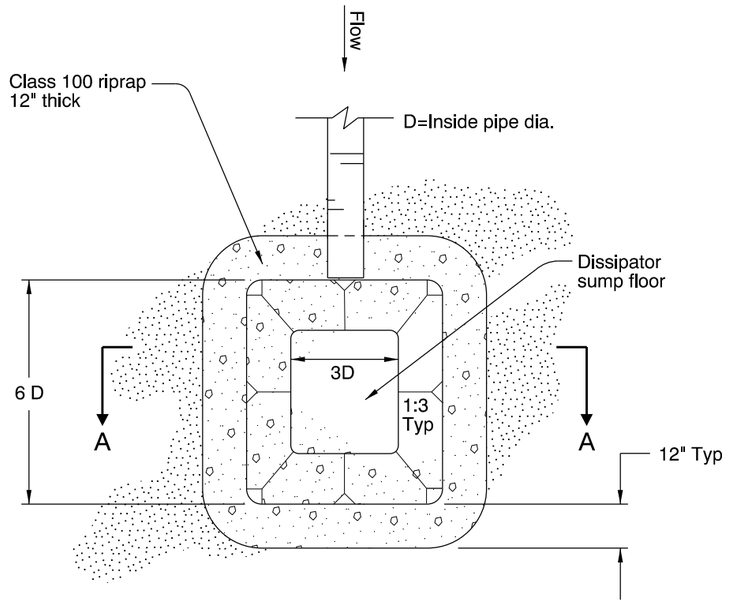
CITY OF THE DALLES STANDARD DRAWING

TEMPORARY SLOPE DRAIN WITH ENERGY DISSIPATOR

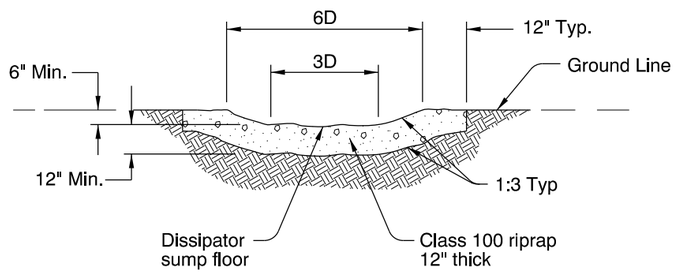
2020

DATE	REVISION DESCRIPTION

RD1045



PLAN



SECTION A-A

NOTE:

All dimensions not indicated will be as directed.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

TEMPORARY SCOUR BASIN/ ENERGY DISSIPATOR

2020

DATE	REVISION DESCRIPTION

RD1050

Effective Date: January 1, 2020 - December 31, 2020 **RD1050**

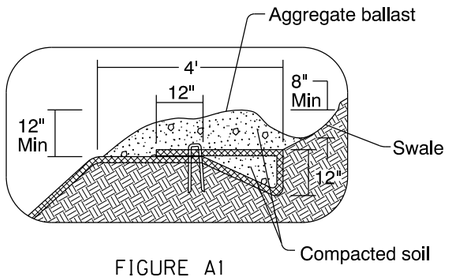


FIGURE A1

TOP OF BANK ANCHOR TRENCH, H>3' AND TERMINAL SLOPE

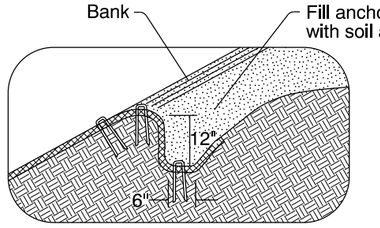


FIGURE A2

TOP OF BANK ANCHOR TRENCH, H<3'

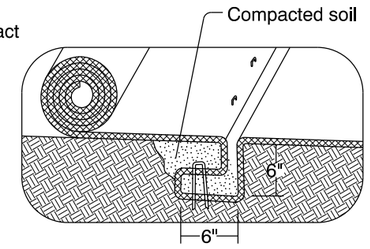


FIGURE A3

CHANNEL CHECK SLOT

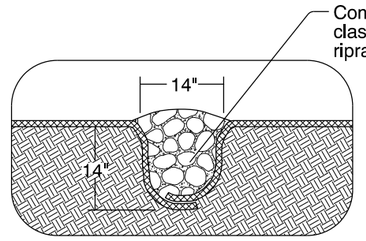


FIGURE A4

CHANNEL CHECK SLOT WITH ROCK BACKFILL

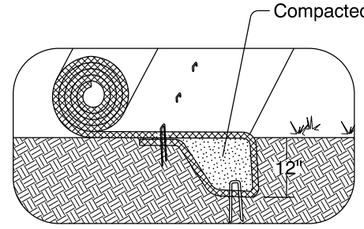
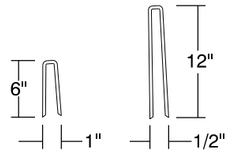
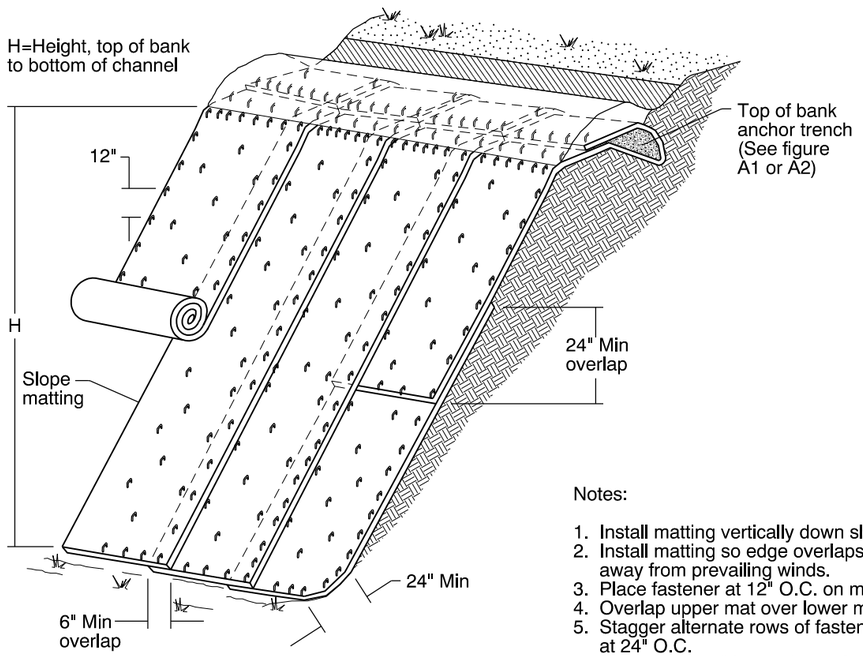


FIGURE A5

INITIAL CHANNEL ANCHOR TRENCH



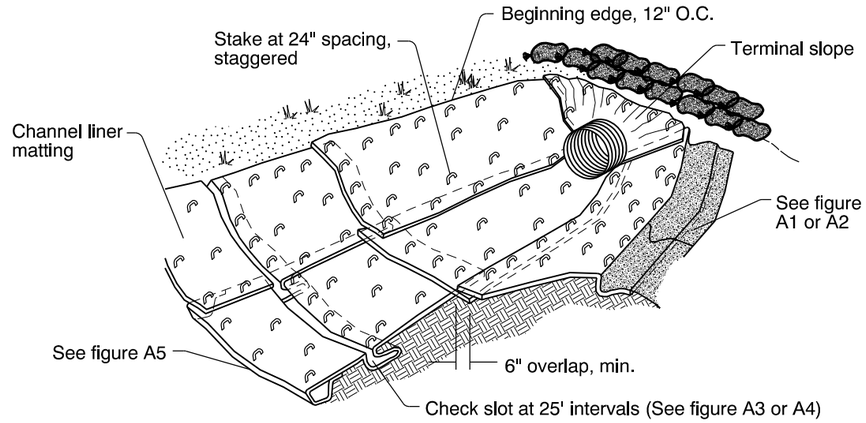
STAPLES



Notes:

1. Install matting vertically down slope
2. Install matting so edge overlaps are shingled away from prevailing winds.
3. Place fastener at 12" O.C. on matting edges
4. Overlap upper mat over lower mat, and fasten.
5. Stagger alternate rows of fasteners placed at 24" O.C.
6. Extend mat 24" beyond toe of slope; Fold mat back under 4" and fasten.

SLOPE ISOMETRIC VIEW



CHANNEL ISOMETRIC VIEW

Notes:

1. Install channel liner matting, in the direction of water flow. Anchor upstream end of mat with check slot for culvert outfalls, place mat under pipe 12" minimum upstream from pipe outlet.
2. Construct check slots across channel bottom at 25' spacing and at the end of each mat (Fig. A3 or A4).
3. Overlap side channel liner matting edges 6" over the center channel liner matting and fasten edges 12" O.C. Continue overlap and stapling pattern for each additional side channel liner mat.
4. Lap upstream matting end 12" over beginning edge of downstream matting. Fasten 12" O.C.
5. Anchor top edge of side channel matting in trench and fasten 12" O.C. (Fig. A2).
6. Fasten matting interior at 24" O.C. with staggered spacing.
7. Construct initial anchor trench at downstream end of matting and terminal slope anchor at upstream end.

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NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

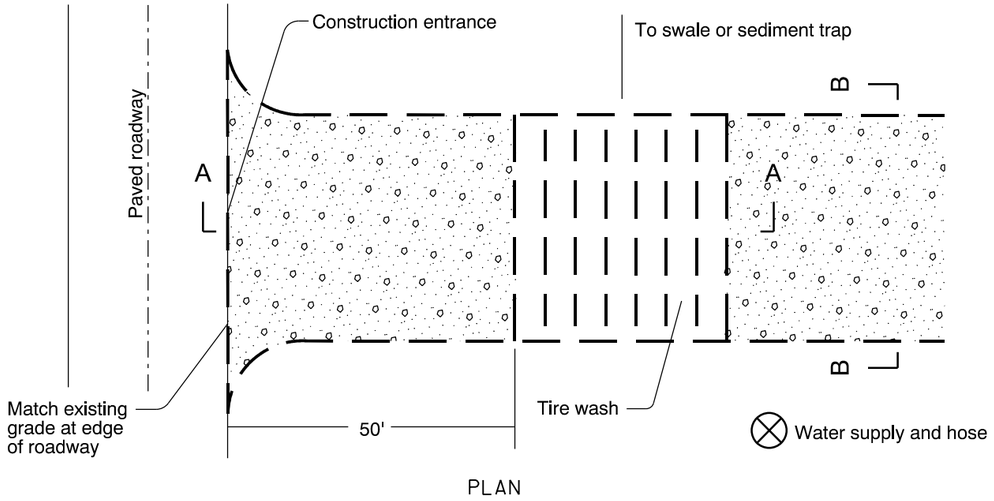
CITY OF THE DALLES STANDARD DRAWING

SLOPE AND CHANNEL MATTING

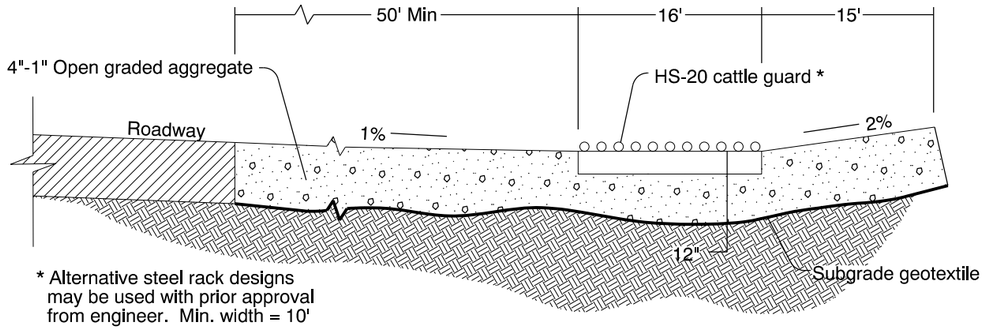
2020

DATE	REVISION DESCRIPTION

RD1055

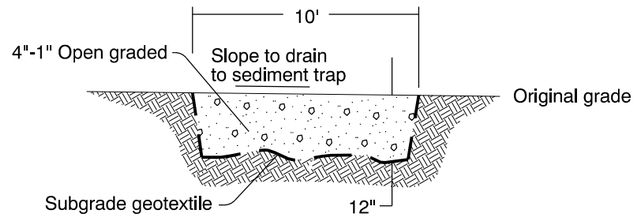


PLAN



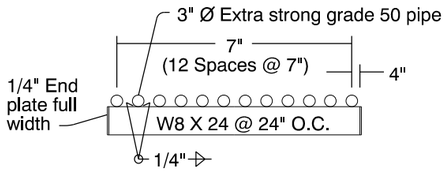
* Alternative steel rack designs may be used with prior approval from engineer. Min. width = 10'

SECTION A-A

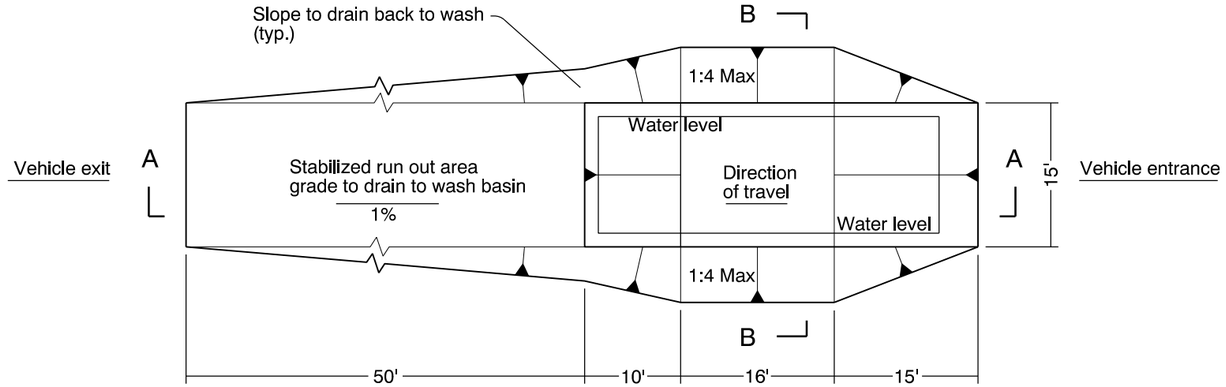


SECTION B-B

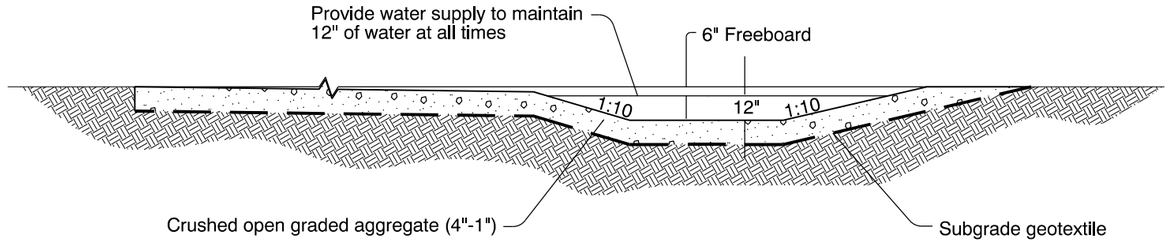
TIRE WASH - TYPE 1 (Manual Hose Wash)



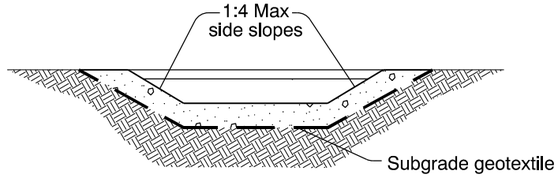
HS-20 CATTLE GUARD



PLAN



SECTION A-A



SECTION B-B

TIRE WASH - TYPE 2

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

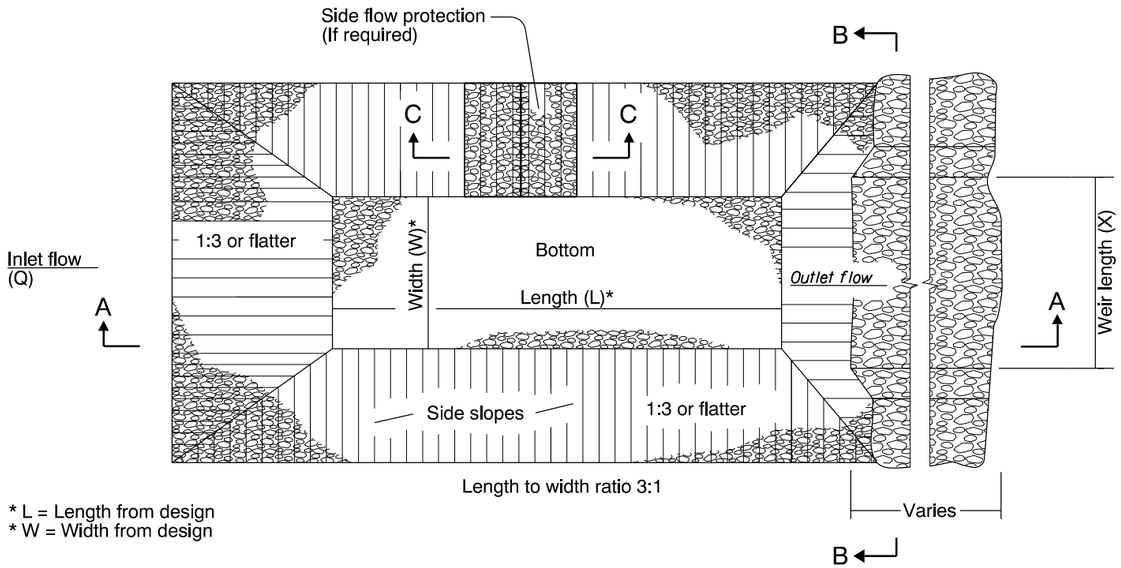
TIRE WASH FACILITY TYPE 1 AND 2

2020

DATE	REVISION DESCRIPTION

RD1060

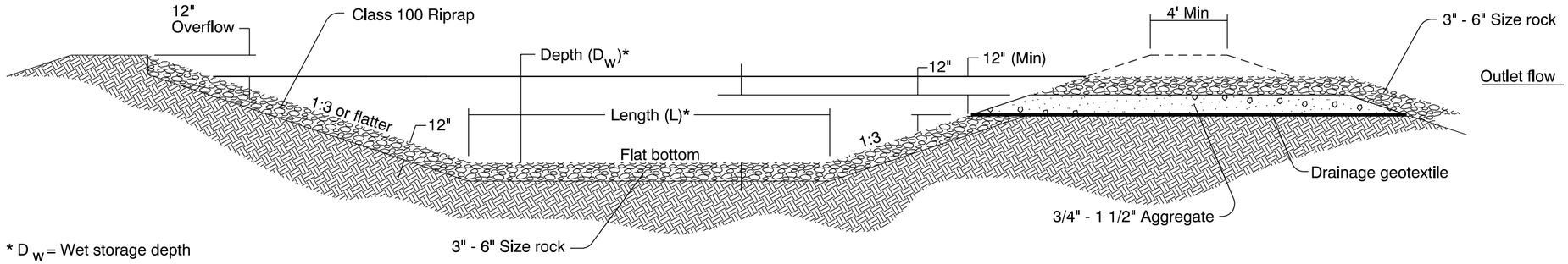
Effective Date: January 1, 2020 - December 31, 2020 **RD1060**



Note:
Trap may be formed by berm or by partial or complete excavation.

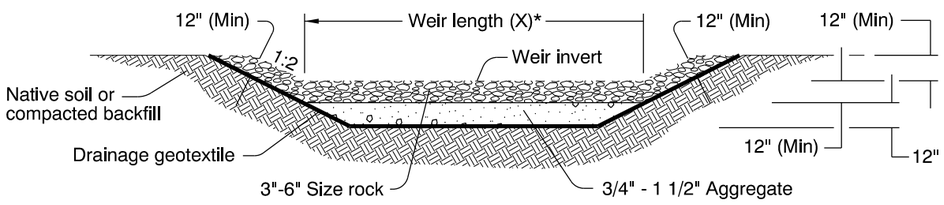
* L = Length from design
* W = Width from design

PLAN



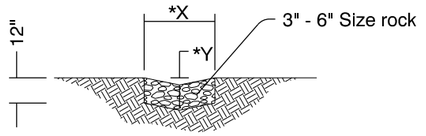
* D_w = Wet storage depth

SECTION A-A



* X per plans

SECTION B-B



* X per plans
* Y per plans

SECTION C-C

SEDIMENT TRAP

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

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CITY OF THE DALLES STANDARD DRAWING

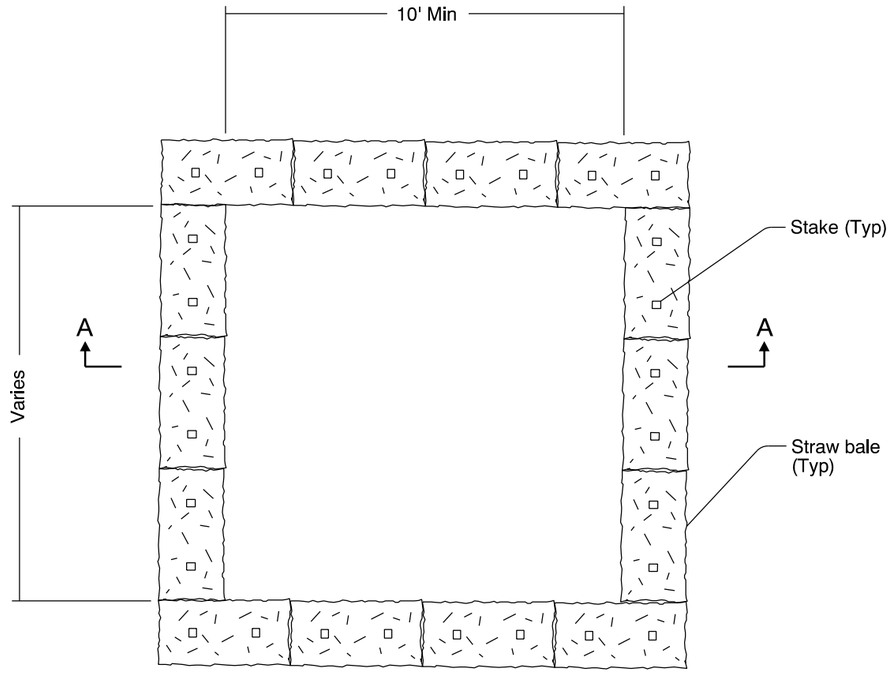
SEDIMENT TRAP

2020

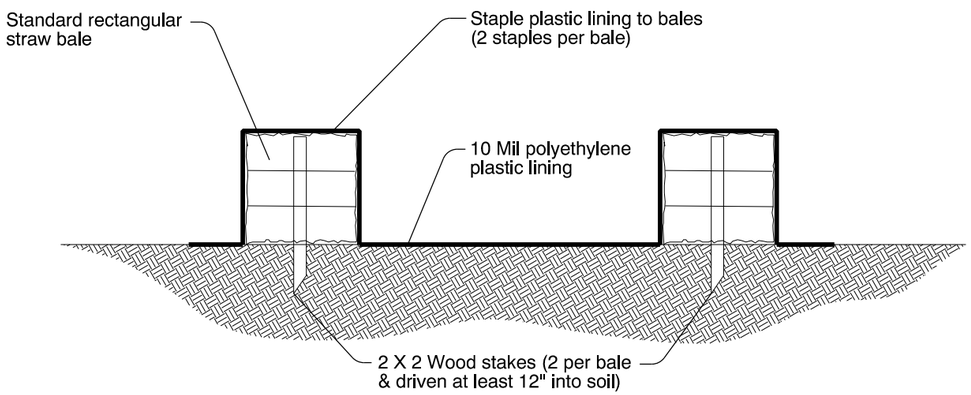
DATE	REVISION DESCRIPTION

RD1065

Effective Date: January 1, 2020 - December 31, 2020 **RD1065**

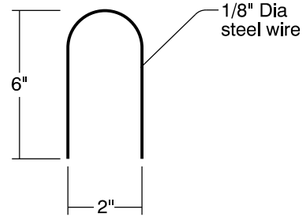


PLAN



SECTION A-A

CONCRETE TRUCK WASH OUT FACILITY



STAPLE DETAIL

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current City of The Dalles Standard Specifications

CITY OF THE DALLES STANDARD DRAWING

CONCRETE TRUCK WASH OUT

2020

DATE	REVISION DESCRIPTION

RD1070

Effective Date: January 1, 2020 - December 31, 2020 **RD1070**