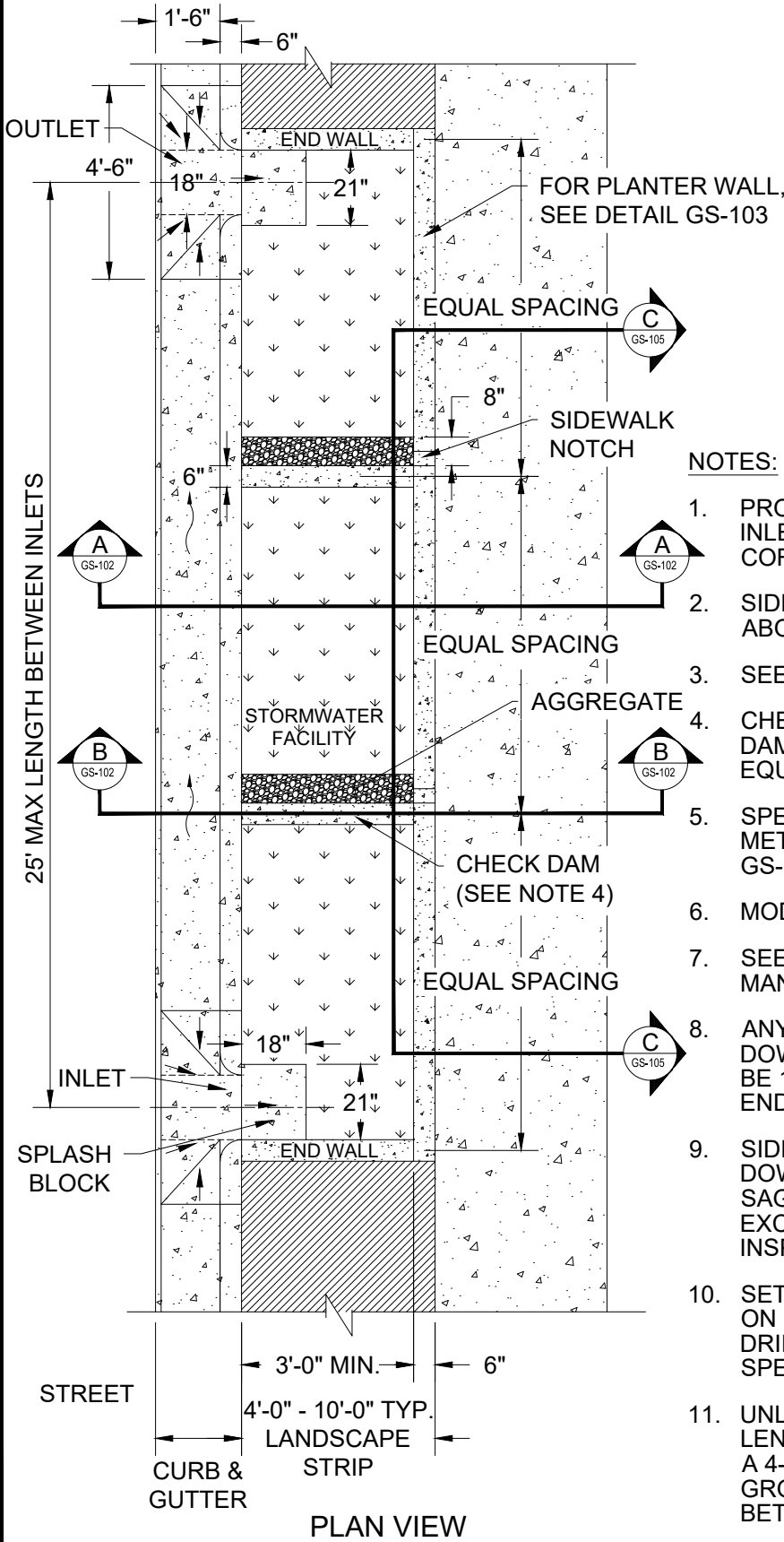
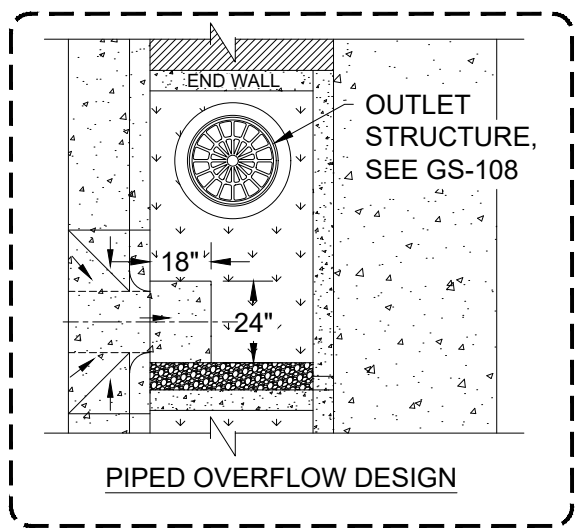


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PLAN VIEW



PIPED OVERFLOW DESIGN

NOTES:

1. PROVIDE STATIONS AND ELEVATIONS AT EVERY INLET, OUTLET, CHECK DAM, PLANTER WALL CORNER, AND SIDEWALK NOTCH.
2. SIDEWALK NOTCH ELEVATION MUST BE SET ABOVE INLET AND OUTLET ELEVATIONS.
3. SEE DETAIL GS-104 FOR INLET DETAILS.
4. CHECK DAMS REQUIRED PER GS-105. CHECK DAMS SHALL BE EQUALLY SPACED TO CREATE EQUALLY SIZED CELLS.
5. SPECIAL REQUIREMENTS FOR WATER LINES, METERS, AND FIRE HYDRANTS; SEE DETAIL GS-109.
6. MODIFIED CURB AND GUTTER: SEE DETAIL GS-103.
7. SEE GRESHAM STORMWATER MANAGEMENT MANUAL FOR PLANTING GUIDANCE.
8. ANY ADDITIONAL INLETS SHALL BE LOCATED ON DOWNSTREAM SIDE OF CHECK DAMS AND SHALL BE 18" X 24" IF NOT LOCATED ADJACENT TO AN END WALL.
9. SIDEWALK NOTCHES TO BE LOCATED AT DOWNSTREAM SIDE OF EACH CHECK DAM, AT ANY SAG OR LOW POINT, AND AT INTERVALS NOT EXCEEDING 15 FEET OR AS DIRECTED BY THE INSPECTOR.
10. SET ONE "DRAINS TO RIVER" BUTTON CENTERED ON SIDEWALK TOE KICK BEFORE CONCRETE HAS DRIED. CONTACT CITY OF GRESHAM FOR BUTTON SPECIFICATIONS (TYPICAL).
11. UNLESS APPROVED BY THE MANAGER, MAXIMUM LENGTH OF SINGLE PLANTER SHALL BE 100 FEET. A 4-FOOT STEP-OUT AREA WITH NO ABOVE GROUND INFRASTRUCTURE SHALL BE PROVIDED BETWEEN ADJACENT PLANTERS.

NTS

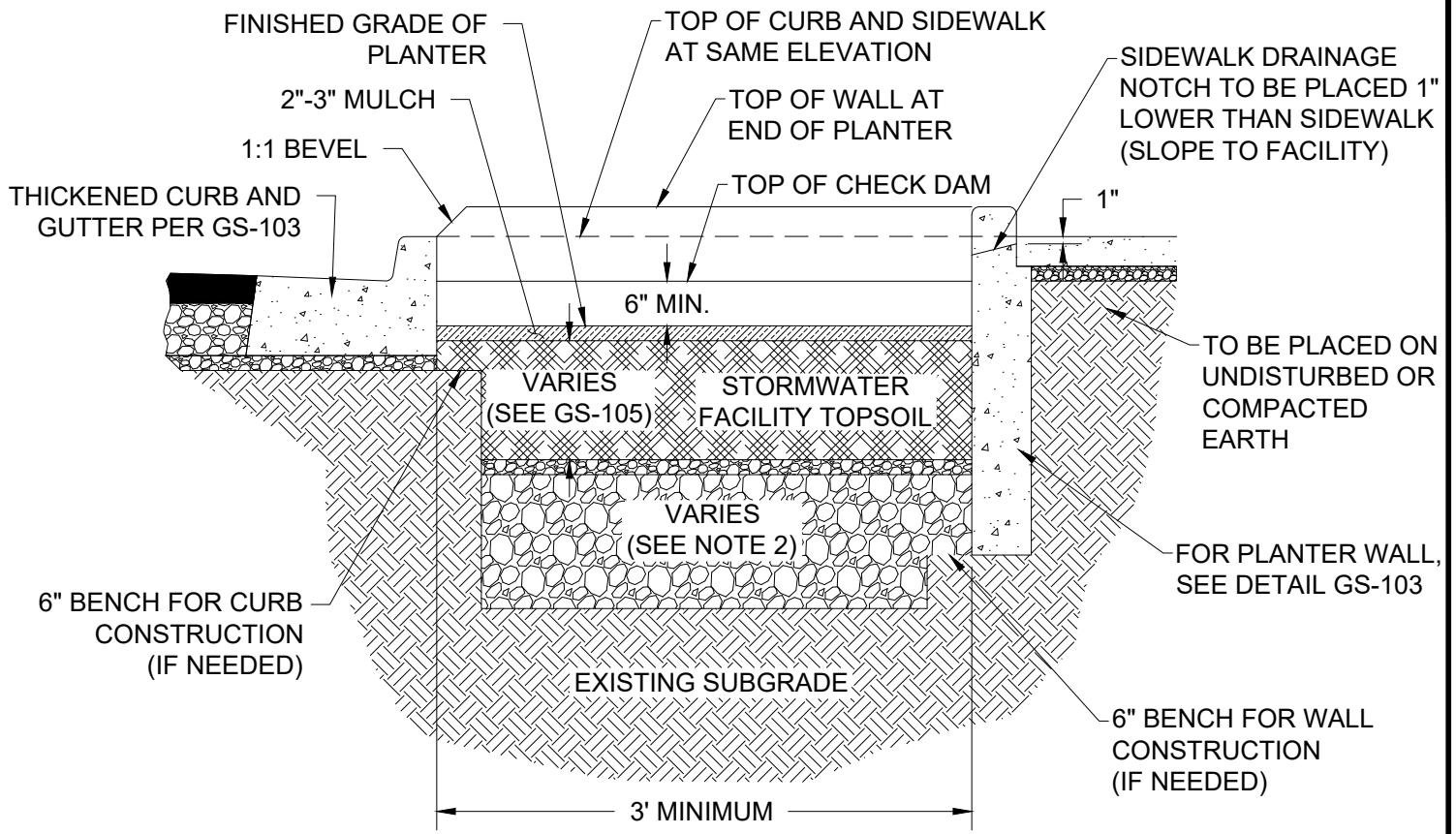
CITY OF GRESHAM

PLANTER PLAN VIEW

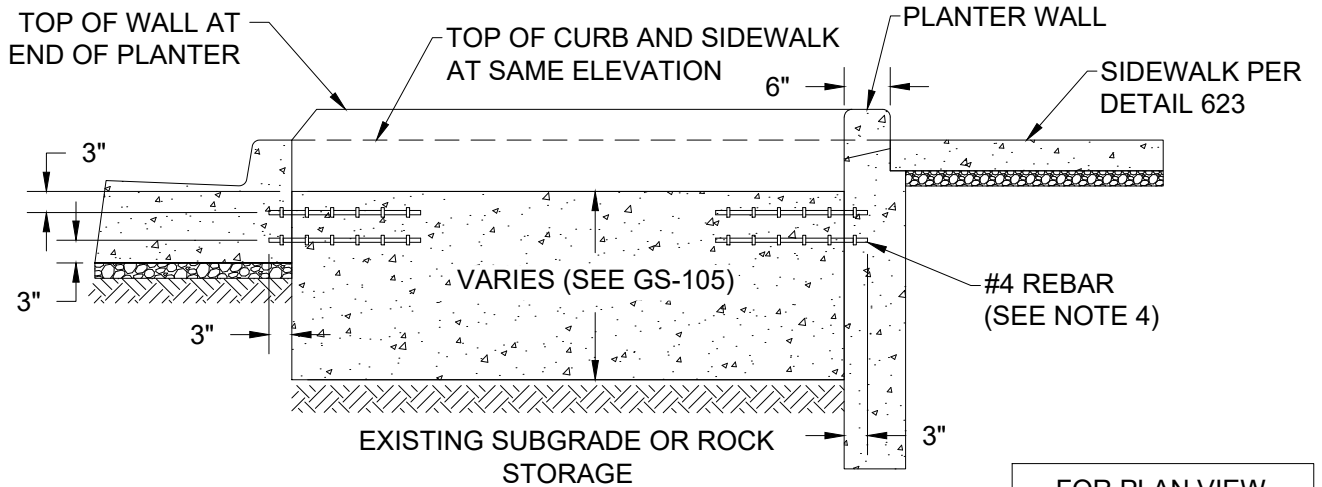
PWS VERSION: JULY 2026

DRAWN	KRB
REV. DATE	OCT 2025
APPR.	
DETAIL NO.	GS-101

FILENAME: y:\inter-departmental\development engineering projects\public works standards\2.0 pws revision copy\details\cad - all\gs\_green streets\gs-102.dwg, Plotted 4/20/2026 11:32 AM, By: Anthony Dollowitch, ANSI FULL BLEED A (8.50 X 11.00 INCHES)



**SECTION A-A**



**SECTION B-B**

FOR PLAN VIEW REFER TO GS-101

**NOTES:**

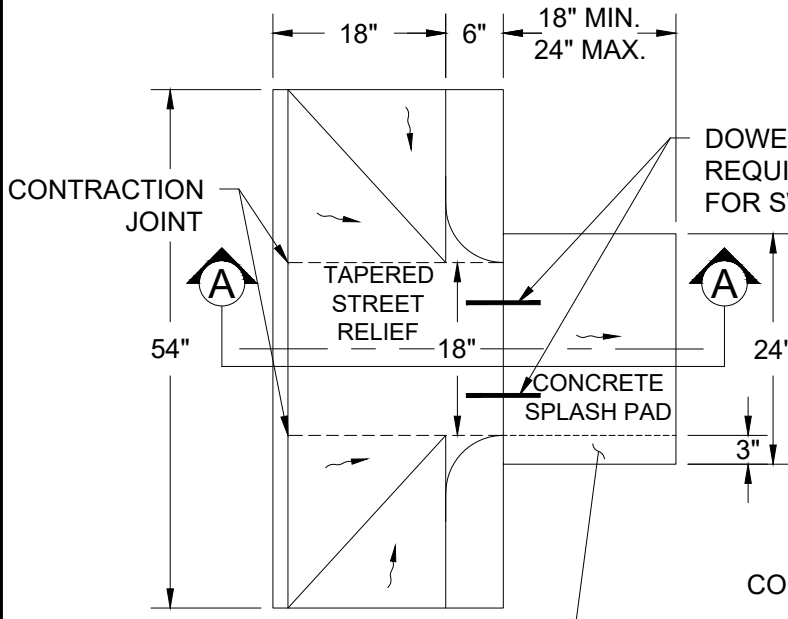
1. STORMWATER FACILITY TOPSOIL SHALL BE PER THE CITY'S STORMWATER MANAGEMENT MANUAL.
2. SEE GS-107 TO DETERMINE WHEN AGGREGATE AND UNDERDRAINS ARE REQUIRED.
3. AFTER INITIAL EXCAVATION AND WALL CONSTRUCTION, FRACTURE AND LOOSEN THE NATIVE SOIL TO A DEPTH OF 12" BELOW DEPTH WHERE STORMWATER FACILITY TOPSOIL WILL BE PLACED. DO NOT TILL.
4. EMBED OR EPOXY SET 12" MIN. LENGTH #4 REBAR INTO CURB AND PLANTER WALL.

NTS

<p><b>CITY OF GRESHAM</b></p>	<p><b>PLANTER SECTION VIEW</b></p>	<p>DRAWN KRB</p>
		<p>REV. DATE JAN 2024</p>
		<p>APPR.</p>
		<p>DETAIL NO. GS-102</p>
<p>PWS VERSION: JULY 2026</p>		

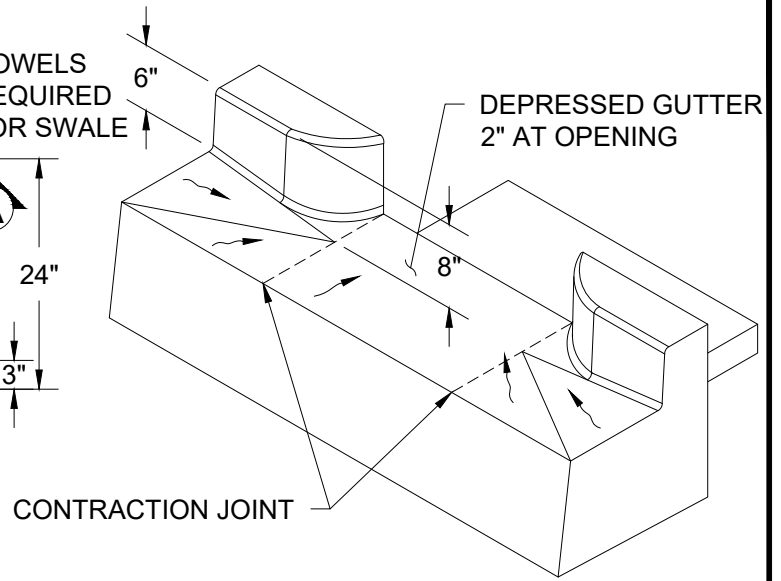


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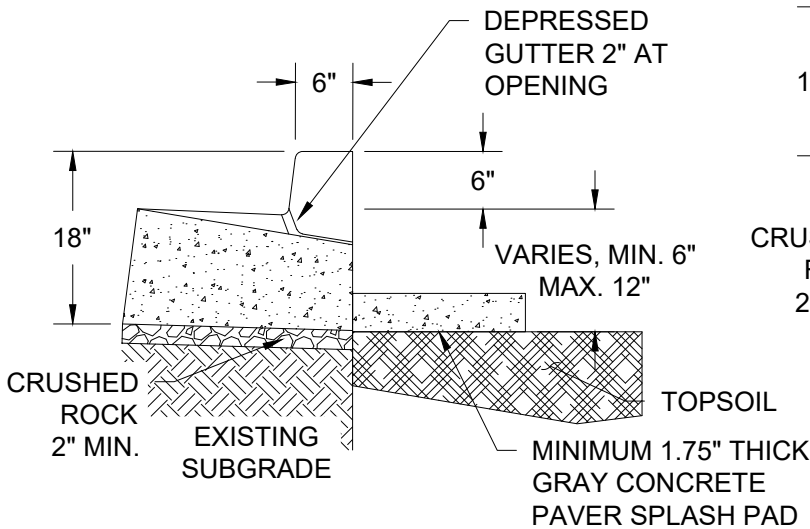


DECREASE PAD SIZE BY 3" IF LOCATED AT END OF PLANTER

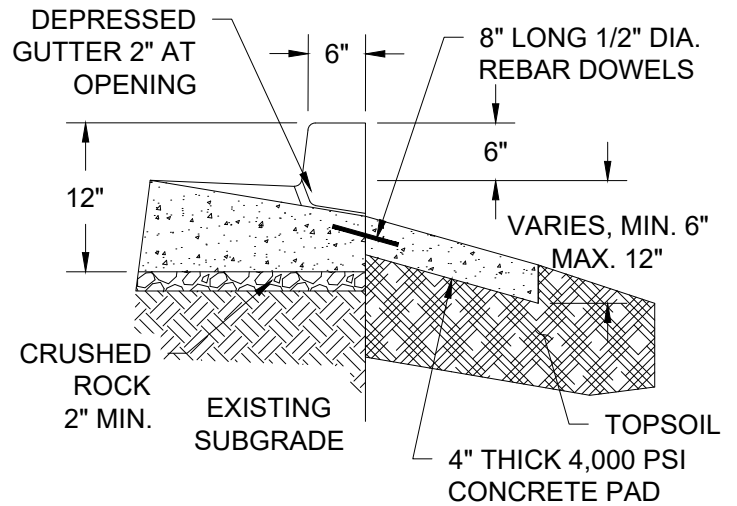
**PLAN**



**ISOMETRIC**



**SECTION A-A (PLANTER)**



**SECTION A-A (SWALE)**

**NOTES:**

1. REFER TO GS-103 FOR THICKENED MONOLITHIC CURB AND GUTTER. IF PRESENT, MATCH GUTTER PAN WIDTH OF ADJACENT CURB AND GUTTER.
2. SEE CHECK DAM DETAIL GS-105 FOR DISTANCE TO TOP OF SPLASH PAD.

NTS

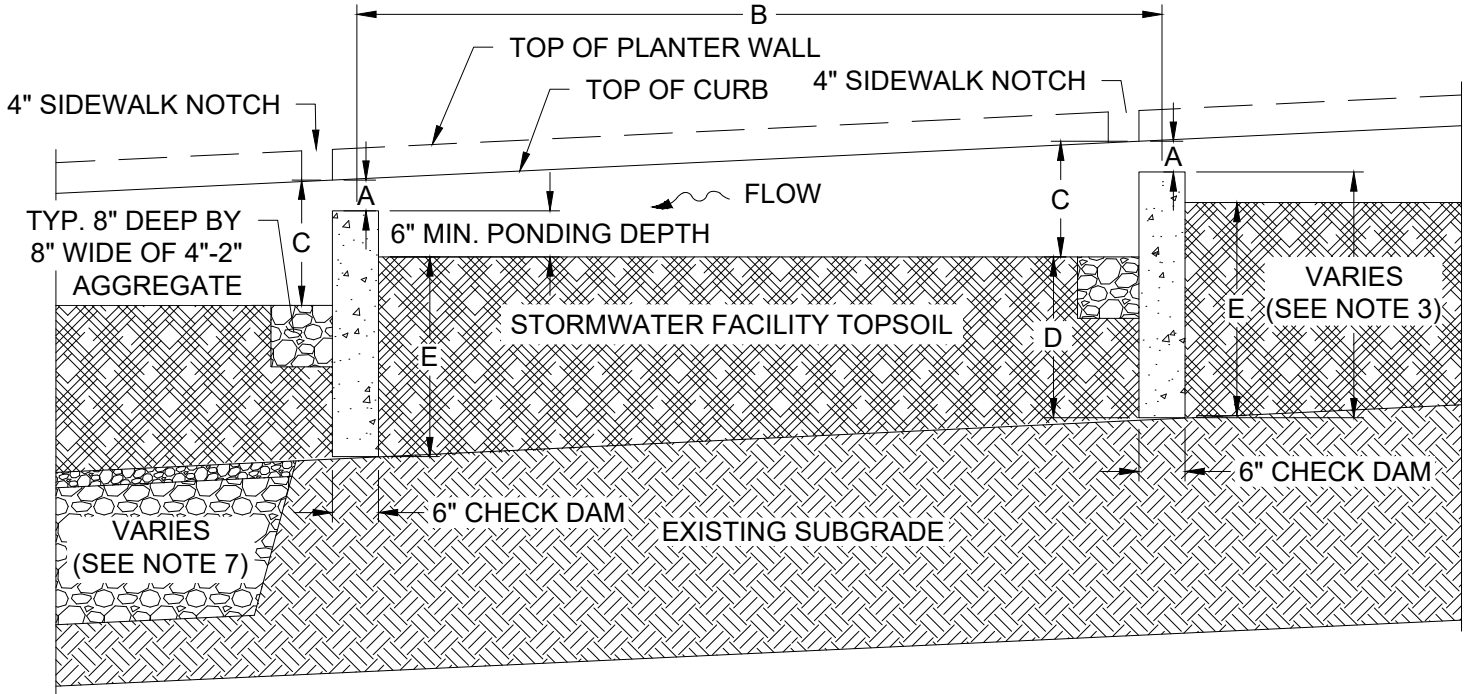
**CITY OF GRESHAM**

**CONCRETE CURB INLET AND SPLASH PAD**

PWS VERSION: JULY 2026

DRAWN	AAD
REV. DATE	MARCH 2026
APPR.	
DETAIL NO.	GS-104

FILENAME: y:\inter-departmental\development engineering\projects\public works standards\2.0 pws revision copy details\cad - all\gs\_green streets\gs-105.dwg, Plotted 4/20/2026 11:32 AM, By: Anthony Dollowitch, ANSI FULL BLEED A (8.50 X 11.00 INCHES)



### SECTION C-C

ROAD GRADE	A (SEE NOTE 2)	MIN B	MAX B	C	D	E
>8%-15%	4"	5'	10'	18"	SEE GS-107 FOR DIMENSIONS	D + 8"
>4%-8%	5"	7.5'	15'	15"		D + 6"
0%-4%	6"	12.5'	25'	12"		D

**NOTES:**

- WEIR WALL TO BE PLACED ON UNDISTURBED NATIVE SOIL, OR ON AGGREGATE IF REQUIRED.
- TOP OF WEIR WALL SHALL BE A MINIMUM OF 1" BELOW THE UPSTREAM INLET GUTTERLINE ELEVATION.
- WEIR WALL WIDTH IS 6". HEIGHT VARIES DEPENDING ON ROAD GRADE.
- DIMENSION B VARIES BASED ON EQUAL SPACING REQUIREMENT ON GS-101.
- SIDEWALK DRAINAGE NOTCHES TO BE LOCATED IMMEDIATELY DOWNSTREAM OF EACH WEIR WALL.
- SIDEWALK NOTCH TO BE 1" LOWER THAN SIDEWALK AND SLOPED TO FACILITY. WIDTH IS 4" AND MINIMUM DEPTH 5" WHEN 4" TOE KICK PLANNED FOR.
- SEE GS-107 TO DETERMINE WHEN AGGREGATE AND UNDERDRAIN ARE REQUIRED.

NTS

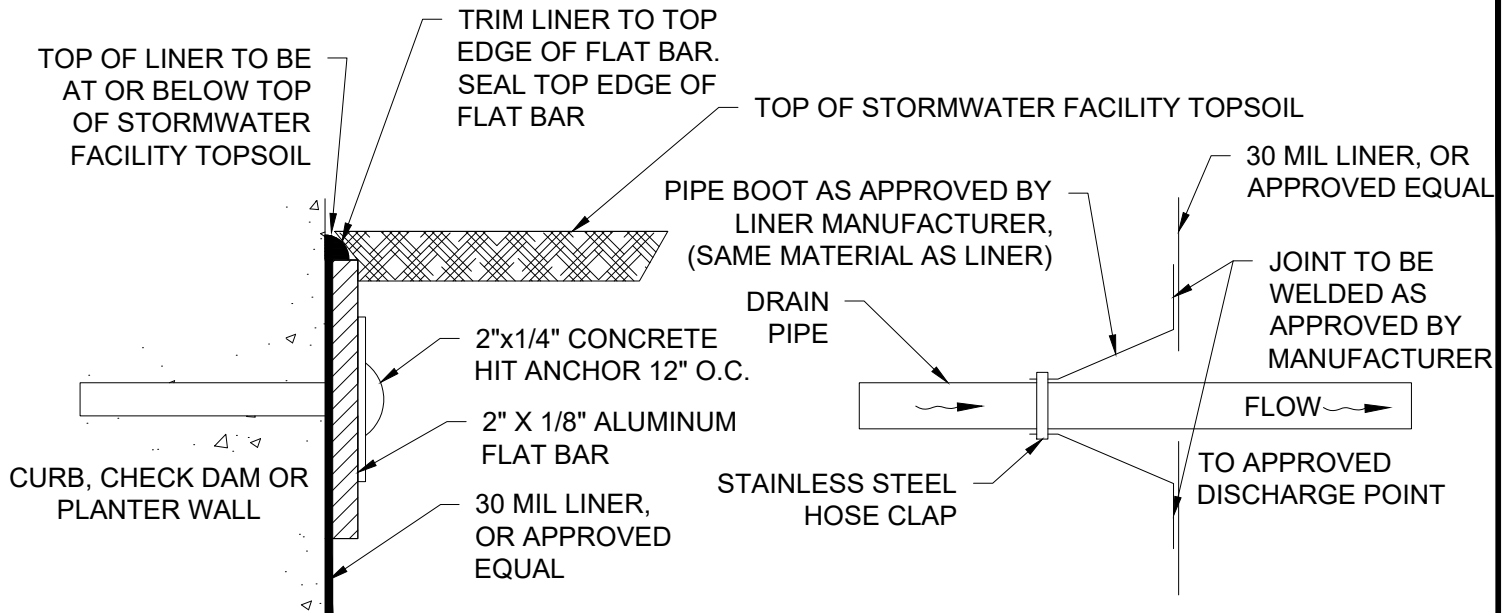
**CITY OF GRESHAM**

## CONCRETE WEIR WALL FOR PLANTER

PWS VERSION: JULY 2026

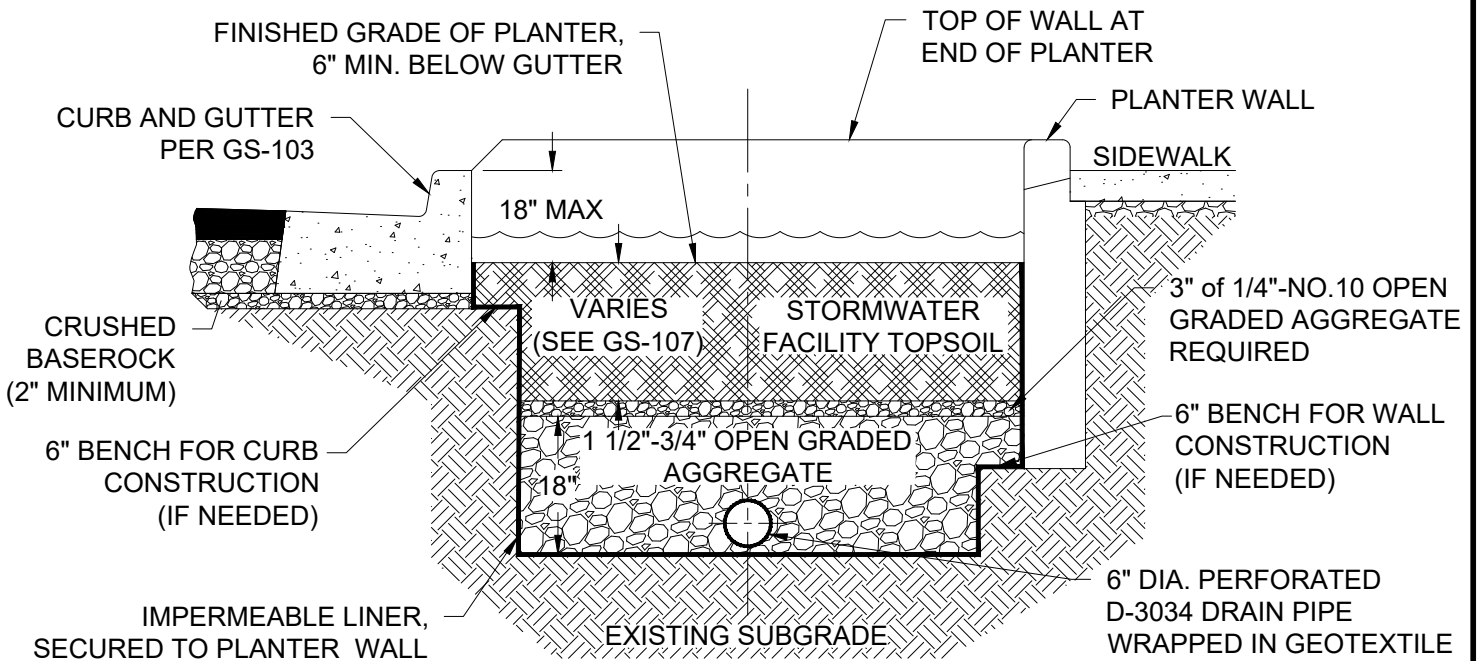
DRAWN	KRB
REV. DATE	MARCH 2026
APPR.	
DETAIL NO.	GS-105

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**LINER ATTACHMENT**

**PIPE BOOT**



**LINED PLANTER WITH UNDERDRAIN**

**NOTES:**

1. MONOLITHIC CONCRETE ON SIDES AND BOTTOM PREFERRED OVER USE OF HDPE LINER.
2. FULL LINER REQUIRED IN HILLSIDE AND GEOLOGIC RISK OVERLAY DISTRICTS, CONTAMINATED SOILS, OR IN UNCONSOLIDATED FILL WITH OVERFLOW INTERCEPTED BY INLET TO STORMWATER SYSTEM. SEE GS-107.

NTS

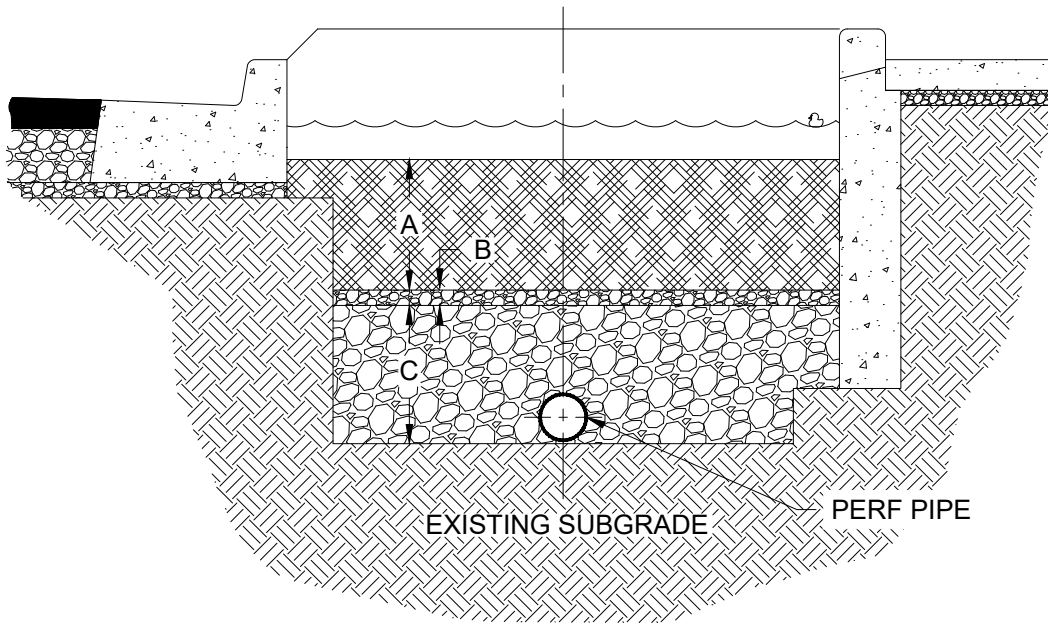
**CITY OF GRESHAM**

**LINER ATTACHMENT AND PIPE BOOT**

PWS VERSION: JULY 2026

DRAWN	DRO
REV. DATE	OCT 2025
APPR.	
DETAIL NO.	GS-106

FILENAME: y:\inter-departmental\development engineering projects\public works standards\2.0 pws revision copy\details\cad - all\gs\_green streets\gs-107.dwg, Plotted 4/20/2026 11:32 AM, By: Anthony Dollowitch, ANSI FULL BLEED A (8.50 X 11.00 INCHES)



CONDITION	A	B	C	6" PERF PIPE
GROUP A AND B SOILS	12" (MIN) TOPSOIL	0"	0"	NA
GROUP C AND D SOILS	18" (MIN) TOPSOIL	0"	0"	NA
LINED FACILITIES	24" (MIN) TOPSOIL	3" OF 1/4"-NO. 10 OPEN GRADED AGGREGATE	18" MIN. 1 1/2"-3/4" OPEN GRADED AGGREGATE	REQUIRED

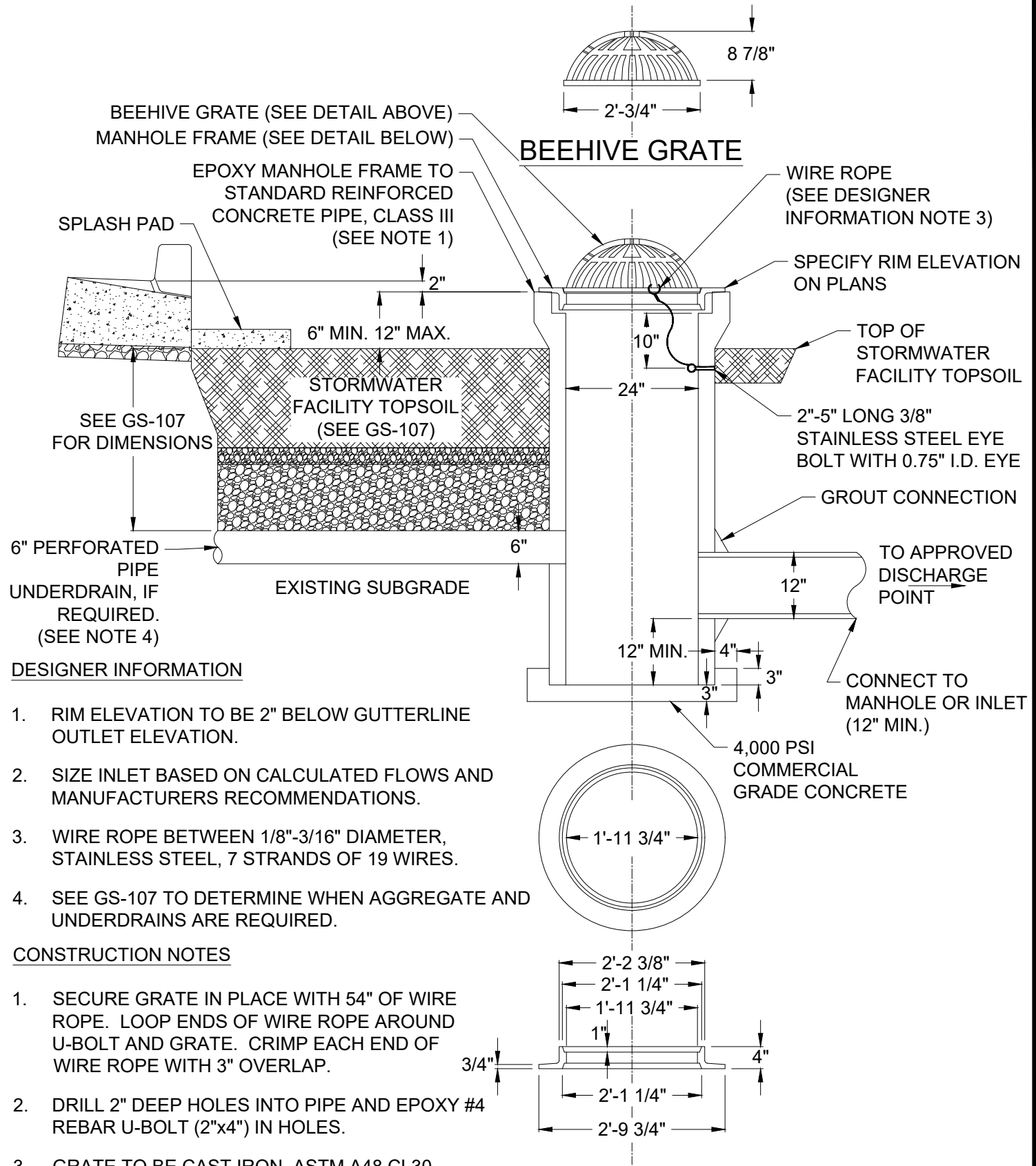
**NOTES:**

1. SEE STORMWATER MANAGEMENT MANUAL FOR DETAILS ON STORMWATER FACILITY TOPSOIL SPECIFICATIONS.
2. LINED FACILITIES ONLY ALLOWED FOR STEEP SLOPES (>20%), UNCONSOLIDATED FILL (WITH SLOPES OR LOW INFILTRATION SOILS) OR IN CONTAMINATED SOILS, SEE GS-106 FOR DETAILS ON LINED FACILITIES.
3. TREES INCLUDED IN PLANTERS MUST FOLLOW GS-112. TREES ARE NOT ALLOWED IN LINED FACILITIES OR TO HAVE ROCK OR UNDERDRAIN UNDER PORTIONS OF THE FACILITY WHERE TREES WILL BE PLANTED.
4. MAXIMUM LENGTH OF PERFORATED PIPE IS 60 INCHES.

NTS

<p><b>CITY OF GRESHAM</b></p>	<p><b>UNDERDRAIN AND ROCK REQUIREMENTS</b></p>	<p>DRAWN <b>AAD</b></p>
		<p>REV. DATE <b>MARCH 2026</b></p>
		<p>APPR.</p>
		<p>DETAIL NO. <b>GS-107</b></p>
<p>PWS VERSION: JULY 2026</p>		

FILENAME: y:\inter-departmental\development engineering projects\public works standards\2.0 pws revision copy\details\cad - all\gs\_green\_streets\gs-108.dwg, Plotted 4/20/2026 11:32 AM, By: Anthony Dollowitch, ANSI FULL BLEED A (8.50 X 11.00 INCHES)



**DESIGNER INFORMATION**

1. RIM ELEVATION TO BE 2" BELOW GUTTERLINE OUTLET ELEVATION.
2. SIZE INLET BASED ON CALCULATED FLOWS AND MANUFACTURERS RECOMMENDATIONS.
3. WIRE ROPE BETWEEN 1/8"-3/16" DIAMETER, STAINLESS STEEL, 7 STRANDS OF 19 WIRES.
4. SEE GS-107 TO DETERMINE WHEN AGGREGATE AND UNDERDRAINS ARE REQUIRED.

**CONSTRUCTION NOTES**

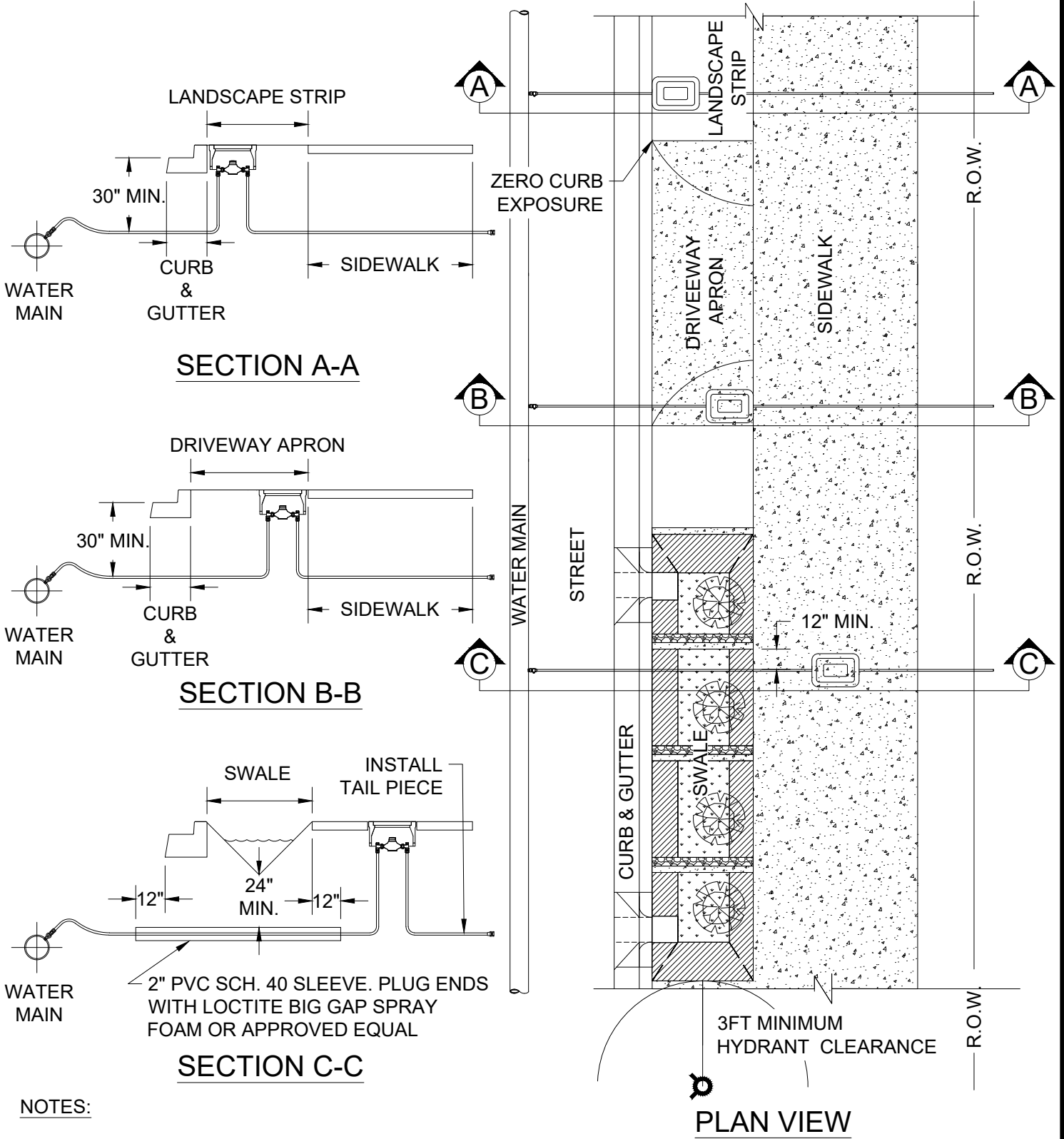
1. SECURE GRATE IN PLACE WITH 54" OF WIRE ROPE. LOOP ENDS OF WIRE ROPE AROUND U-BOLT AND GRATE. CRIMP EACH END OF WIRE ROPE WITH 3" OVERLAP.
2. DRILL 2" DEEP HOLES INTO PIPE AND EPOXY #4 REBAR U-BOLT (2"x4") IN HOLES.
3. GRATE TO BE CAST IRON, ASTM A48 CL30.
4. PIPE CONNECTIONS TO BEEHIVE TO BE CORED.

**24"x4" REVERSIBLE MANHOLE FRAME**

NTS

<p><b>CITY OF GRESHAM</b></p>	<p><b>BEEHIVE OVERFLOW</b></p>	<p>DRAWN DRO</p>
		<p>REV. DATE APRIL 2026</p>
		<p>APPR.</p>
		<p>DETAIL NO. GS-108</p>
<p>PWS VERSION: JULY 2026</p>		

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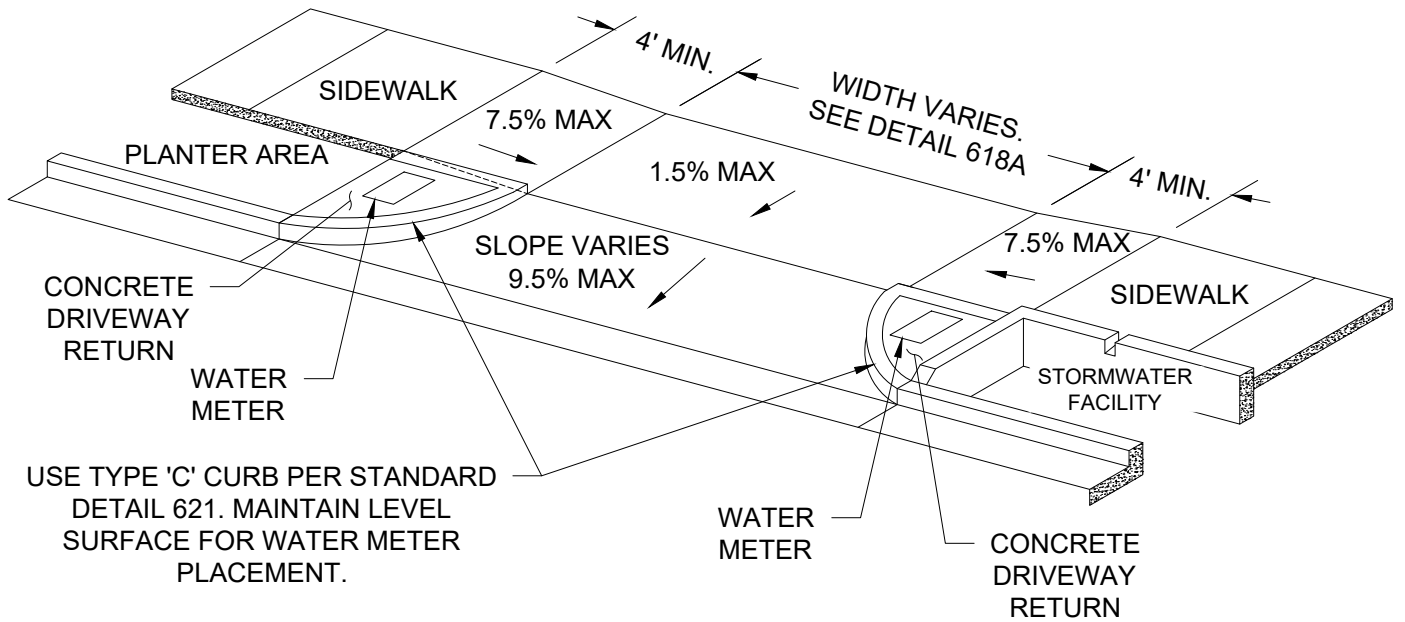
**NOTES:**

1. REFER TO FIRE HYDRANT ASSEMBLY STANDARD DETAIL 501A. HYDRANTS MUST HAVE MIN 3FT CLEARANCE FROM THE EDGE OF STORMWATER FACILITY.
2. REFER TO 1" SERVICE ASSEMBLY, STANDARD DETAIL 502.

NTS

<p><b>CITY OF GRESHAM</b></p>	<p><b>STORMWATER FACILITY, METER AND HYDRANT LOCATIONS</b></p>	<p>DRAWN AAD</p>
		<p>REV. DATE MARCH 2026</p>
		<p>APPR.</p>
		<p>DETAIL NO. GS-109</p>
<p>PWS VERSION: JULY 2026</p>		

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NOTES:

1. SEE ALSO DETAIL 618A
2. STORMWATER FACILITY WIDTH VARIES. SEE STANDARD STREET CROSS SECTIONS. (4' MINIMUM)
3. CURB RADIUS SHALL MATCH STORMWATER FACILITY WIDTH.
4. SLOPES SHOWN ARE RELATIVE TO HORIZONTAL.
5. WATER METER LIDS IN CONCRETE DRIVEWAY RETURN SHALL BE TRAFFIC RATED.

NTS

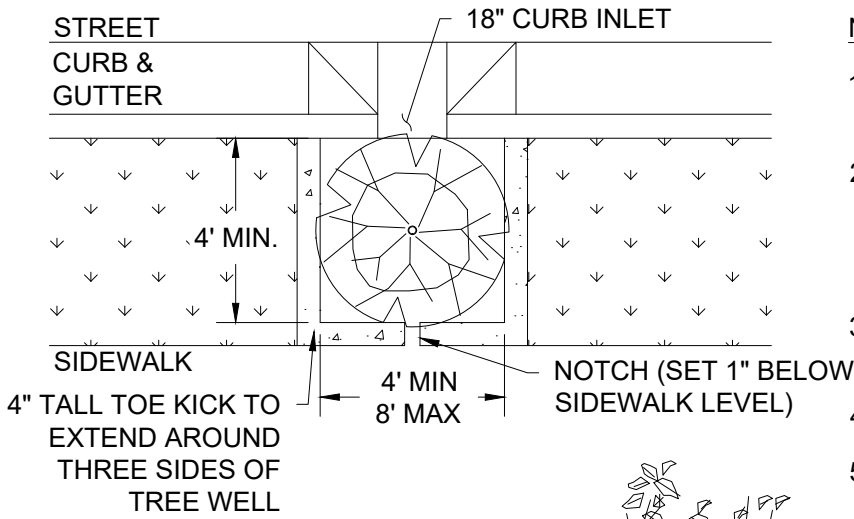
CITY OF GRESHAM

STORMWATER FACILITY RESIDENTIAL DRIVEWAY APPROACH

PWS VERSION: JULY 2026

DRAWN	AAD
REV. DATE	MARCH 2026
APPR.	
DETAIL NO.	GS-110

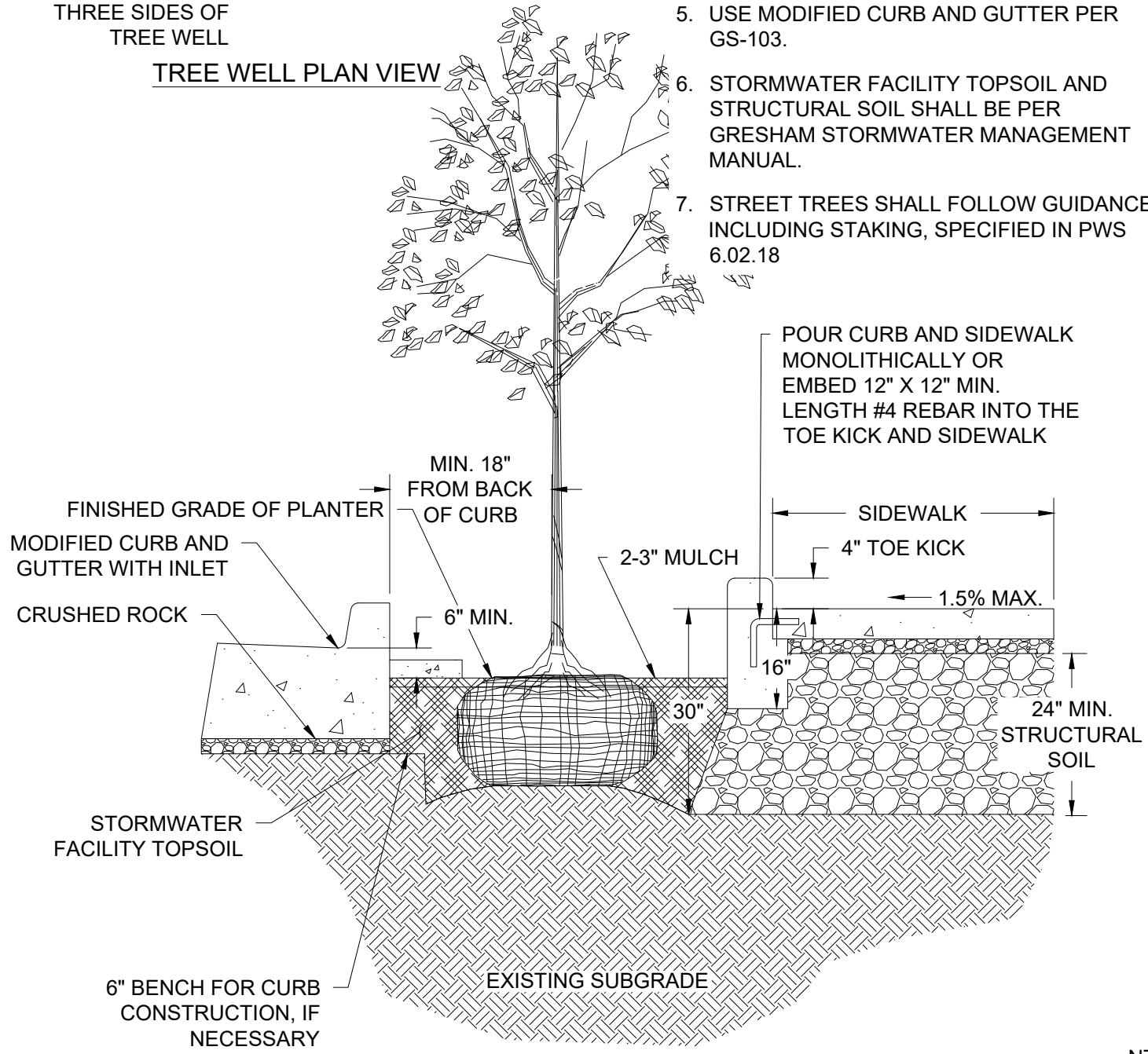
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**TREE WELL PLAN VIEW**

**NOTES:**

1. REMOVE WIRE AND BURLAP FROM ROOT BALL PRIOR TO BACKFILLING.
2. PLANT TREE ON PEDESTAL OF NATIVE SOIL. ADJUST HEIGHT AS NEEDED TO SET TOP OF ROOT BALL A MINIMUM OF 1"-2" ABOVE TOPSOIL SURFACE.
3. SET ONE "DRAINS TO RIVER" BUTTON INTO CURB BEFORE CONCRETE HAS DRIED.
4. SEE GS-104 FOR CURB INLET DETAILS.
5. USE MODIFIED CURB AND GUTTER PER GS-103.
6. STORMWATER FACILITY TOPSOIL AND STRUCTURAL SOIL SHALL BE PER GRESHAM STORMWATER MANAGEMENT MANUAL.
7. STREET TREES SHALL FOLLOW GUIDANCE, INCLUDING STAKING, SPECIFIED IN PWS 6.02.18



NTS

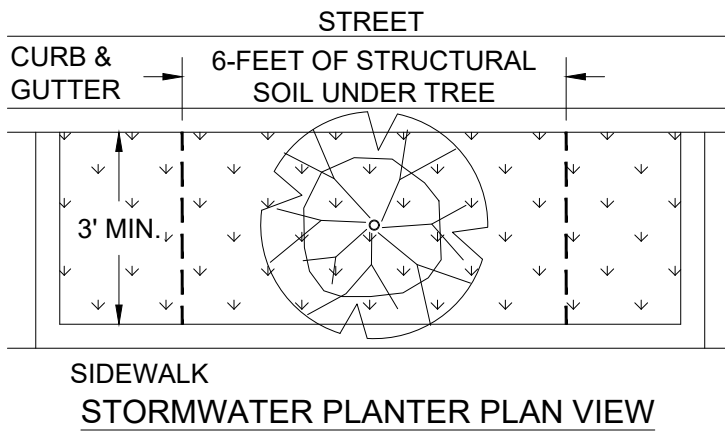


**STORMWATER TREE WELL WITH STRUCTURAL SOIL**

PWS VERSION: JULY 2026

DRAWN	AAD
REV. DATE	MARCH 2026
APPR.	
DETAIL NO.	GS-111

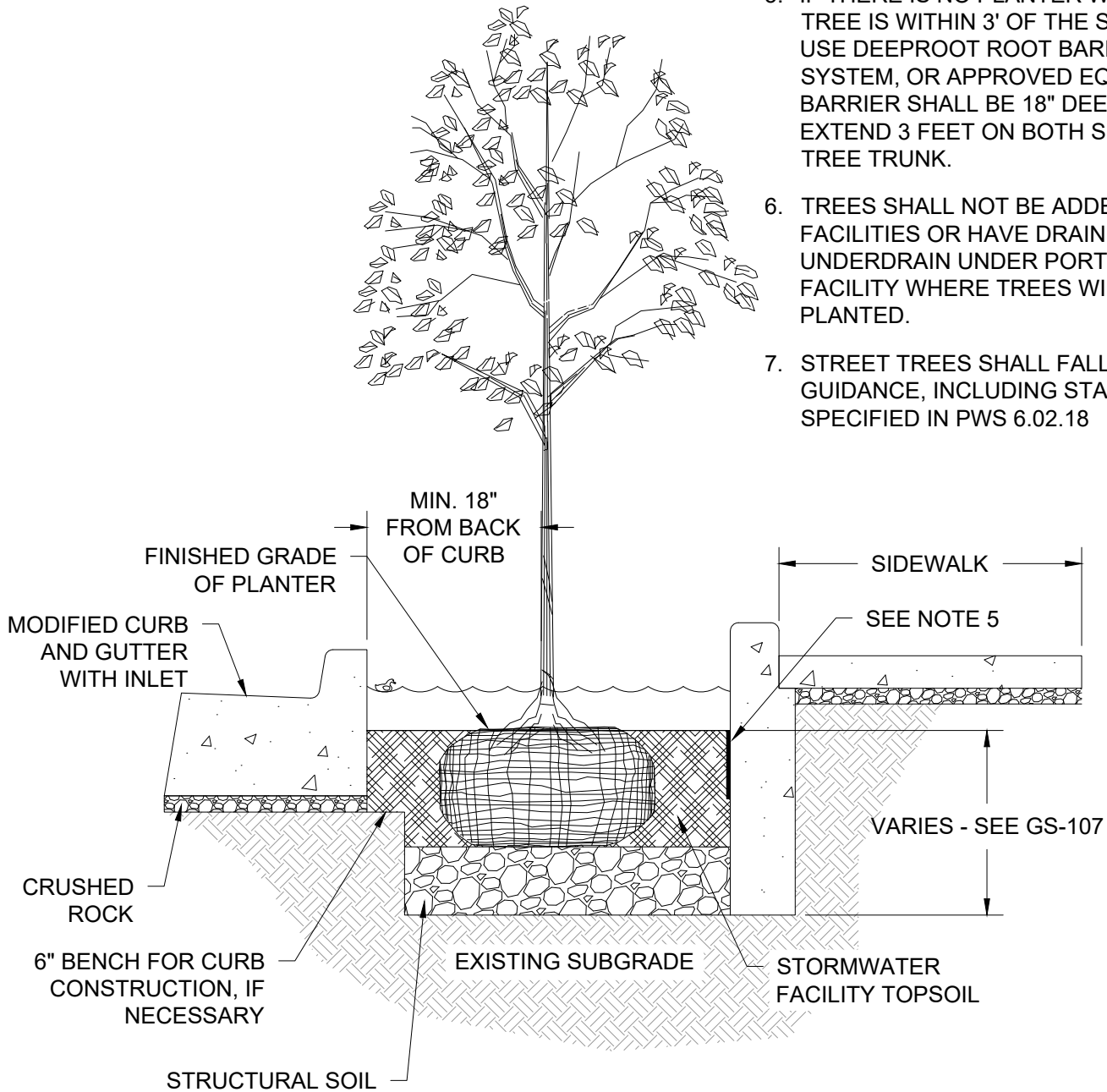
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**STORMWATER PLANTER PLAN VIEW**

**NOTES:**

1. TREES MUST BE SELECTED FROM LIST OF APPROVED STORMWATER TREES, UNLESS APPROVED BY THE CITY.
2. REMOVE WIRE AND BURLAP FROM ROOT BALL PRIOR TO BACKFILLING.
3. SET TOP OF ROOT BALL A MINIMUM OF 1"-2" ABOVE TOPSOIL SURFACE.
4. 3FT MINIMUM WIDTH FOR PLANTERS WITH TREES.
5. IF THERE IS NO PLANTER WALL AND THE TREE IS WITHIN 3' OF THE SIDEWALK, USE DEEPROOT ROOT BARRIER SYSTEM, OR APPROVED EQUAL. ROOT BARRIER SHALL BE 18" DEEP AND EXTEND 3 FEET ON BOTH SIDES OF THE TREE TRUNK.
6. TREES SHALL NOT BE ADDED TO LINED FACILITIES OR HAVE DRAIN ROCK OR UNDERDRAIN UNDER PORTIONS OF THE FACILITY WHERE TREES WILL BE PLANTED.
7. STREET TREES SHALL FOLLOW GUIDANCE, INCLUDING STAKING, SPECIFIED IN PWS 6.02.18



NTS

**CITY OF GRESHAM**

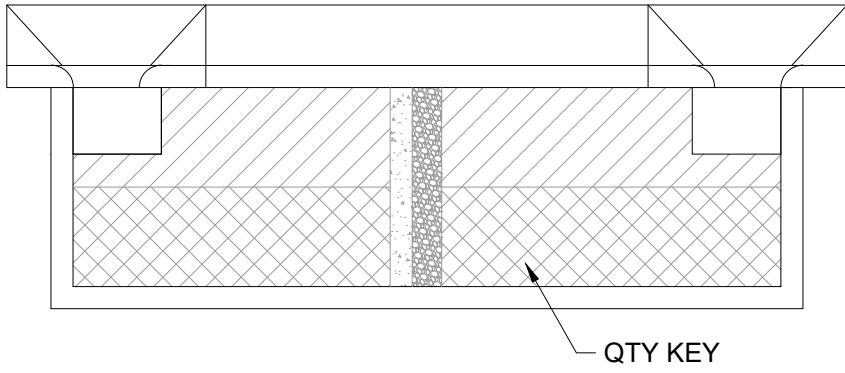
**STREET TREE PLANTING WITHIN STORMWATER PLANTER**

PWS VERSION: JULY 2026



DRAWN	KRB
REV. DATE	MARCH 2026
APPR.	
DETAIL NO.	GS-112

FILENAME: y:\inter-departmental\development\engineering\projects\public works standards\2.0 pws revision copy\details\cad - all\gs\_green\_streets\gs-113.dwg, Plotted 4/20/2026 12:13 PM, By: Anthony Dollowitch, ANSI FULL BLEED A (8.50 X 11.00 INCHES)

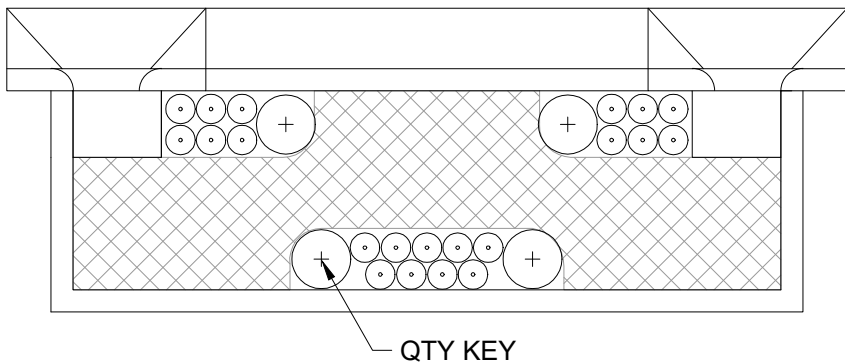
**TEMPLATE 1**



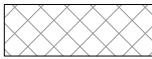


**PLANT LEGEND 1**

SYMBOL	BOTANICAL NAME COMMON NAME
	JUNCUS PATENS SPREADING RUSH
	CAREX OBNUPTA SLOUGH SEDGE



**TEMPLATE 2**



**PLANT LEGEND 2**

SYMBOL	BOTANICAL NAME COMMON NAME
	JUNCUS PATENS SPREADING RUSH
	CAREX OBNUPTA SLOUGH SEDGE
	SPIRAEA JAPONICA 'GOLD MOUND' GOLDMOUND JAPANESE SPIREA

**SAMPLE PLANTING LEGEND**

SYMBOL	BOTANIC NAME	COMMON NAME	SPACING	SQ. FOOT AREA = SPACING	X QTY.
	Xxxxxx xxxxx	xxxxx	X	X	X
	Xxxxxx xxxxx	xxxxx	X	X	X

**INSTRUCTIONS:**

1. CHOOSE A TEMPLATE AND ALTER IT TO DESIGN. THESE ARE EXAMPLES OF APPROVED PLANTING TEMPLATES. OTHER PLANTING PLANS MAY BE APPROVED.
2. PLANT LISTS AND ON-CENTER SPACING REQUIREMENTS ARE FOUND IN THE STORMWATER MANAGEMENT MANUAL.
3. PLANTING LEGEND REQUIRED. STATE PLANT SPECIES, SPACING, AND QUANTITIES.
4. PLANTING PLANS SHALL INCLUDE LABELS FOR EACH PLANT GROUP IDENTIFYING THE PLANT SPECIES AND QUANTITY IN THE GROUP.

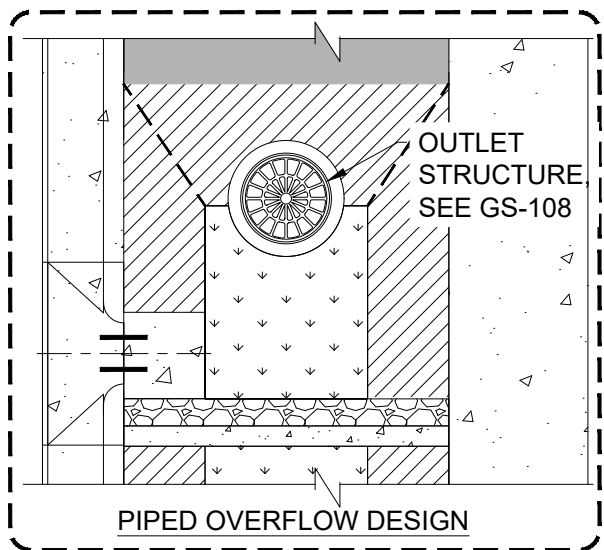
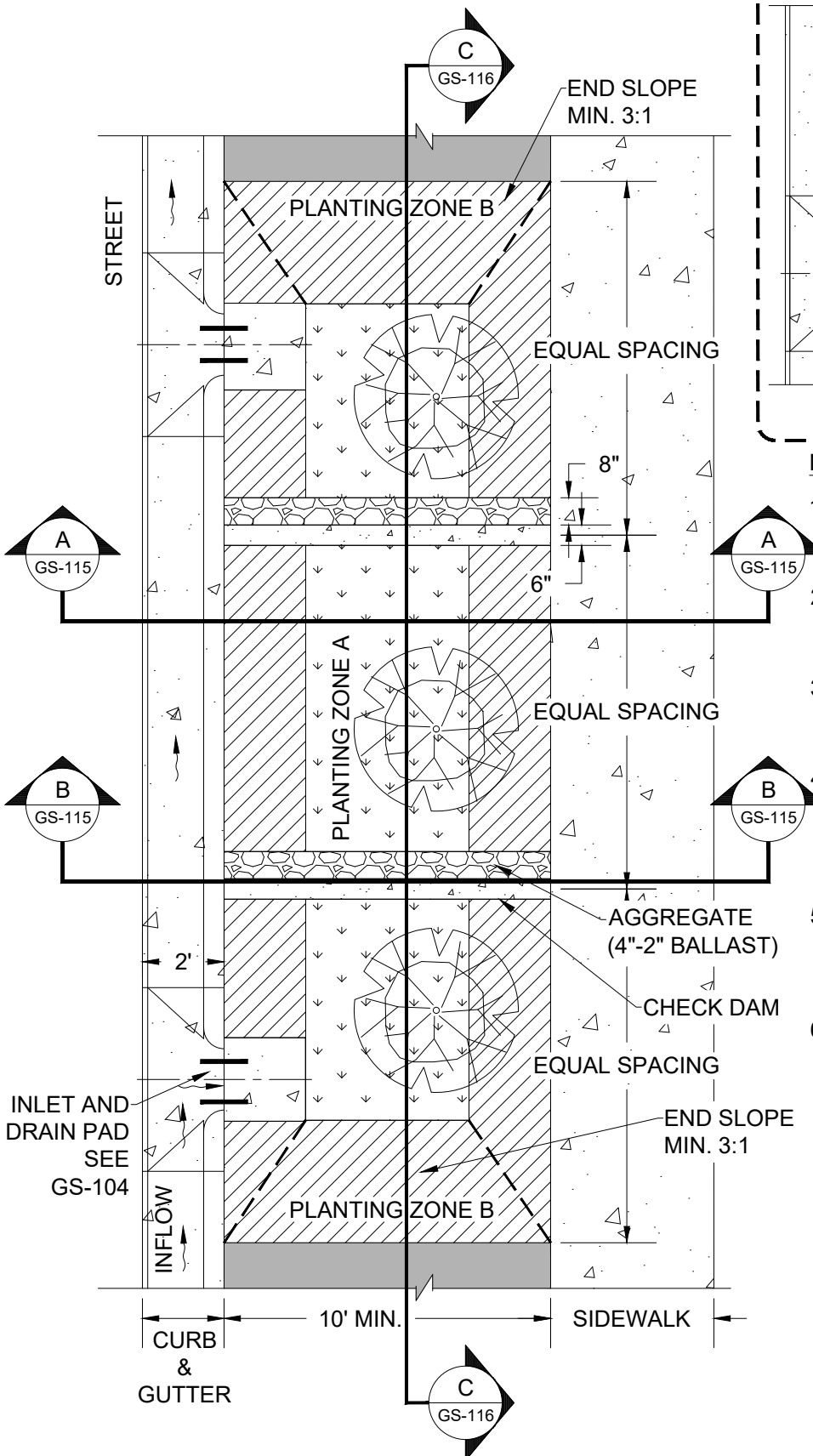
**CITY OF  
GRESHAM**

**PUBLIC FACILITY LANDSCAPING TEMPLATE**

PWS VERSION: JULY 2026

DRAWN	DRO
REV. DATE	APR 2018
APPR.	
DETAIL NO.	GS-113

FILENAME: y:\inter-departmental\development engineering projects\public works standards\2.0 pws revision copy\details\cad - all\gs\_green streets\gs-114.dwg, Plotted 4/20/2026 11:32 AM, By: Anthony Dollowitch, ANSI FULL BLEED A (8.50 X 11.00 INCHES)



**NOTES:**

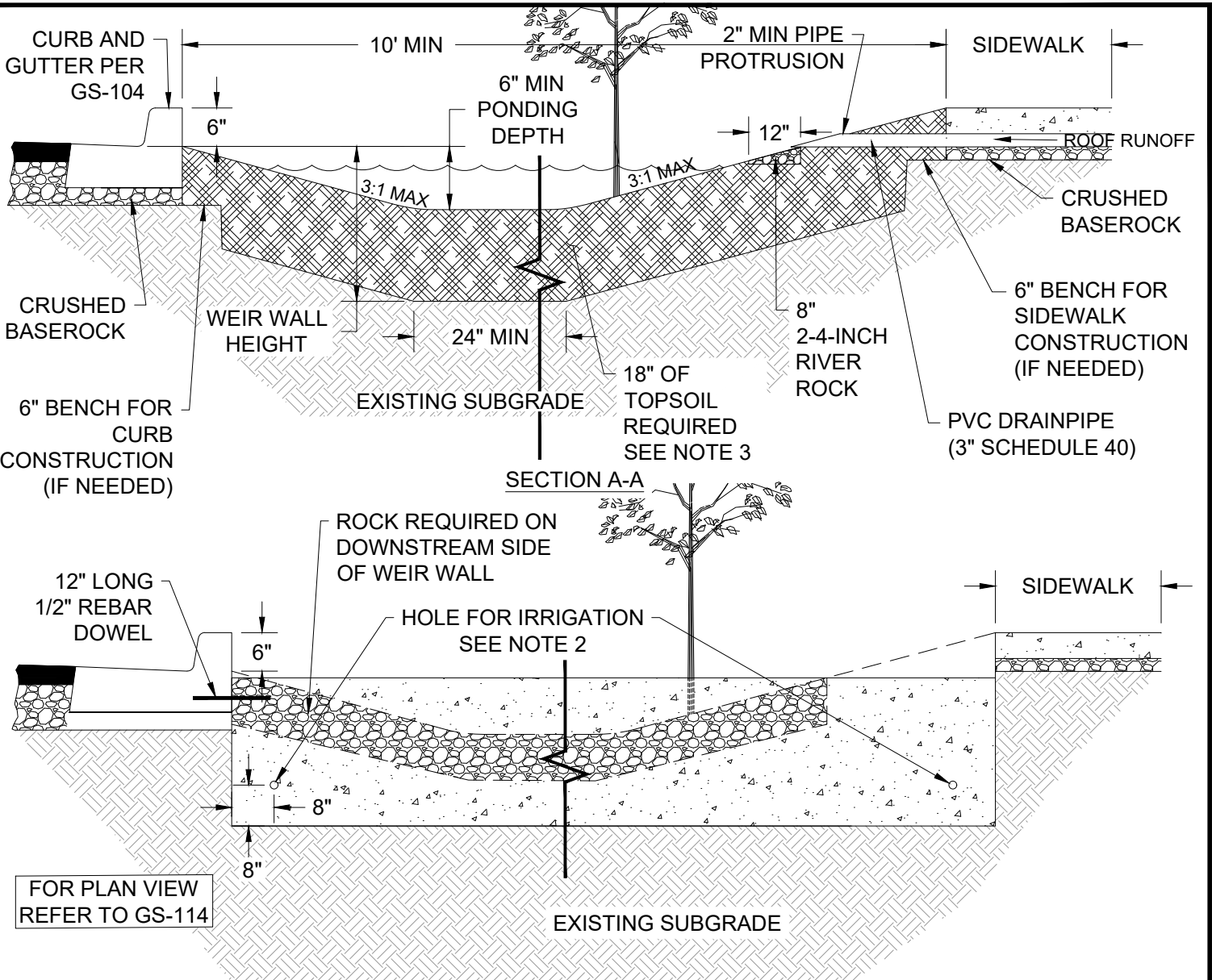
1. SPECIFIC FACILITY DIMENSIONS MUST BE SHOWN ON STORMWATER UTILITY PLAN.
2. LONGITUDINAL SLOPE OF SWALE SHALL MATCH ROAD, SEE GS-116 FOR CHECK DAM REQUIREMENTS.
3. PROVIDE STATIONS AND ELEVATIONS AT EVERY INLET, OUTLET, AND CHECK DAM.
4. SIDEWALK ELEVATION MUST BE SET ABOVE INLET AND OUTLET ELEVATIONS TO ALLOW OVERFLOW TO DRAIN TO STREET BEFORE SIDEWALK.
5. SPECIAL REQUIREMENTS FOR WATER LINES, METERS, AND FIRE HYDRANTS, SEE SHEET GS-109 FOR DETAILS.
6. SEE GRESHAM STORMWATER MANAGEMENT MANUAL FOR PLANTING GUIDANCE.

**MAX SPACING**

GRADE	CHECK DAM	INLET
0% - 3%	N/A	50'
>3%-8%	15'	30'
>8%-15%	10'	30'

<p><b>CITY OF GRESHAM</b></p>	<p><b>SWALE PLAN VIEW</b></p>	DRAWN <b>AAD</b>
		REV. DATE <b>MARCH 2026</b>
		APPR.
		DETAIL NO. <b>GS-114</b>
PWS VERSION: JULY 2026		

FILENAME: y:\inter-departmental\development\_engineering\_projects\public\_works\_standards\2.0\_pws\_revision\_copy\details\cad - all\gs\_green\_streets\gs-115.dwg, Plotted 4/20/2026 11:32 AM, By: Anthony Dollowitch, ANSI FULL BLEED A (8.50 X 11.00 INCHES)



FOR PLAN VIEW REFER TO GS-114

**NOTES:**

**SECTION B-B**

1. SEE DETAIL GS-116 FOR WEIR WALL.
2. IF IFFIGATION IS APPROVED TO PASS BETWEEN CELLS, CORE DRILL OR PORM 2" DIA. HOLE AT LOCATIONS(S) SHOWN.
3. FRACTURE AND LOOSEN THE NATIVE SOIL FOLLOWING INITIAL EXCAVATION AND BEFORE INSTALLING TOPSOIL.
4. STORMWATER FACILITY TOPSOIL SHALL BE PER THE CITY'S STORMWATER MANAGEMENT MANUAL.
5. TREES PLANTED IN SWALE SHALL BE CENTERED BETWEEN CURB AND SIDEWALK, OR SHIFTED BACK TOWARDS SIDEWALK SLIGHTLY. PLACE ROOT BALL ON NATIVE SOIL AND ENSURE TOP OF ROOT BALL IS 1-2" ABOVE FINAL TOPSOIL ELEVATION.
6. SIDEWALK ELEVATION MUST BE EQUAL TO OR HIGHER THAN TOP OF CURB TO ENSURE WATER OVERFLOWS TO GUTTER.
7. STREET TREES SHALL FOLLOW GUIDANCE, INCLUDING STAKING, SPECIFIED IN PWS 6.02.18.

NTS

<p><b>CITY OF GRESHAM</b></p>	<p><b>SWALE SECTION VIEW</b></p>		<p>DRAWN AAD</p>
	<p>PWS VERSION: JULY 2026</p>		<p>REV. DATE MARCH 2026</p>
	<p></p>		<p>APPR.</p>
	<p></p>		<p>DETAIL NO. GS-115</p>

