FACILITY PLAN AND SECTION VIEWS:

SW-300: SLOPED BASIN - WITH PARKING
SW-301: PLANTER - NO PARKING
SW-302: PLANTER - WITH PARKING 2.5 FT STEP-OUT
SW-303: PLANTER - WITH PARKING 1 FT STEP-OUT
SW-304: CURB EXTENSION - NO PLANTING STRIP
SW-305: CURB EXTENSION - WITH PLANTING STRIP

RELATED DETAILS:

SW-310: NOTCHED FOREBAY WALL FOR PLANTERS
SW-311: CARRIAGE WALK WITH TRENCH GRATE
SW-312: CHECK DAM - INFILTRATION FACILITY
SW-313: CHECK DAM - INFILTRATION FACILITY WITH ROCK
SW-314: CHECK DAM - PARTIAL INFILTRATION FACILITY WITH WEEP HOLES
SW-315: CHECK DAM - LINED FACILITY WITH WEEP HOLES
SW-316: FACILITY CONFIGURATION SECTIONS
SW-317: BEEHIVE OVERFLOW CONFIGURATION
SW-318: UNDERDRAIN WITH CLEANOUT CONFIGURATION

PLANTING GUIDLINES AND TEMPLATES:

SW-320: STREET TREES IN FACILITY NO ROCK STORAGE
SW-321: STREET TREES IN FACILITY WITH ROCK STORAGE
SW-322: PLANT SPACING FOR HERBACEOUS PLANTS, GROUNDCOVERS AND SHRUBS
SW-323: SWALES - LANDSCAPE PLANTING TEMPLATES
SW-324: PLANTERS - LANDSCAPE PLANTING TEMPLATES
SW-325: CURB EXTENSIONS - LANDSCAPE PLANTING TEMPLATES

ABBREVIATIONS:

AC	ASPHALT/CONCRETE
AP	ANGLE POINT
BI	BOTTOM OF INLET ELEVATION
BP	BEGINNING POINT
CDN	CHECK DAM NOTCH ELEVATION
CN	CURB NOTCH ELEVATION
EL	ELEVATION
EX./EXIST	EXISTING
EOC	EDGE OF CONCRETE
EOP	EDGE OF PAVEMENT
EP	END POINT
FL	GUTTER FLOW LINE ELEVATION
PC	POINT OF CURVATURE
PT	POINT OF TANGENCY
ROW	RIGHT-OF-WAY
SF	STORMWATER FACILITY
S/W	SIDEWALK ELEVATION
TC	TOP OF CURB ELEVATION
VSF	VEGETATED STORMWATER FACILITY

Bureau of Environmental Services
CITY OF PORTLAND, OREGON
2020 STORMWATER MANAGEMENT MANUAL

SWMM Detail Title

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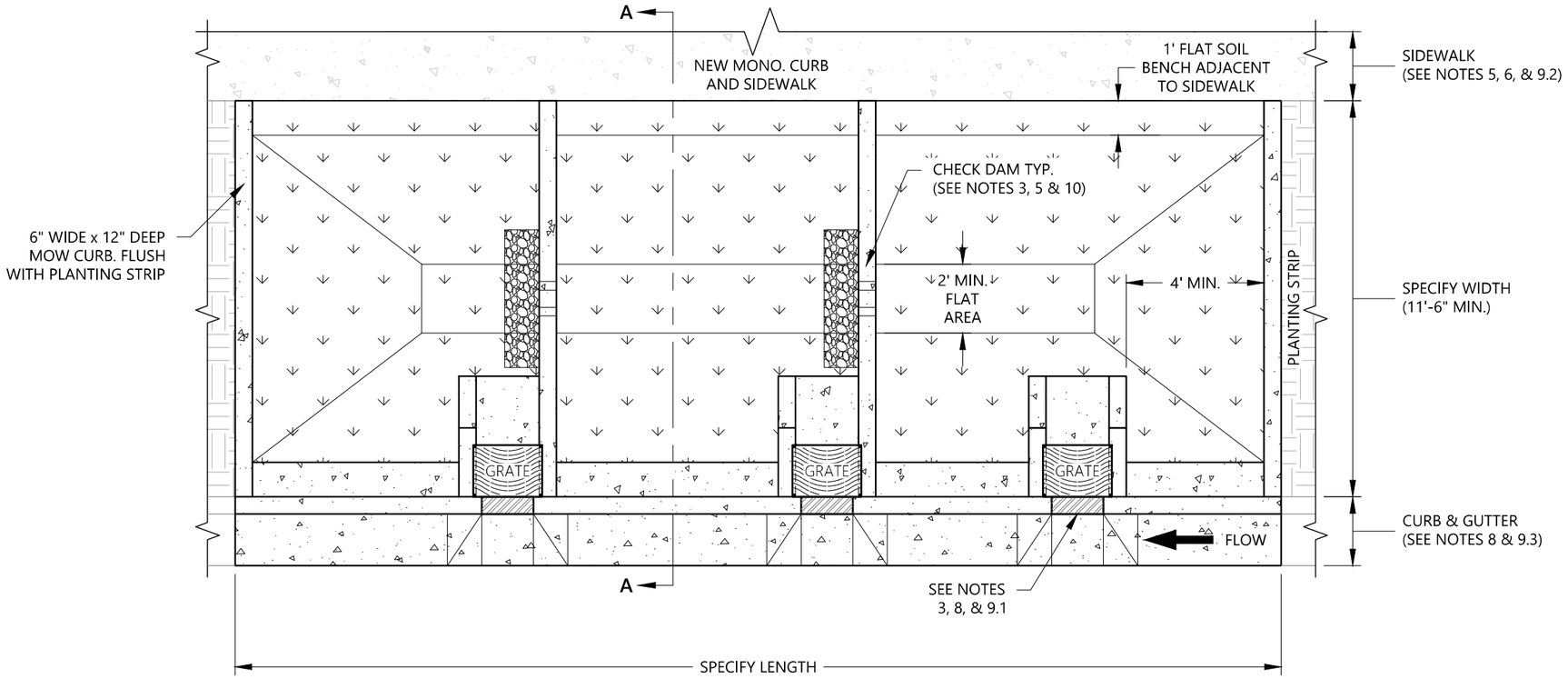
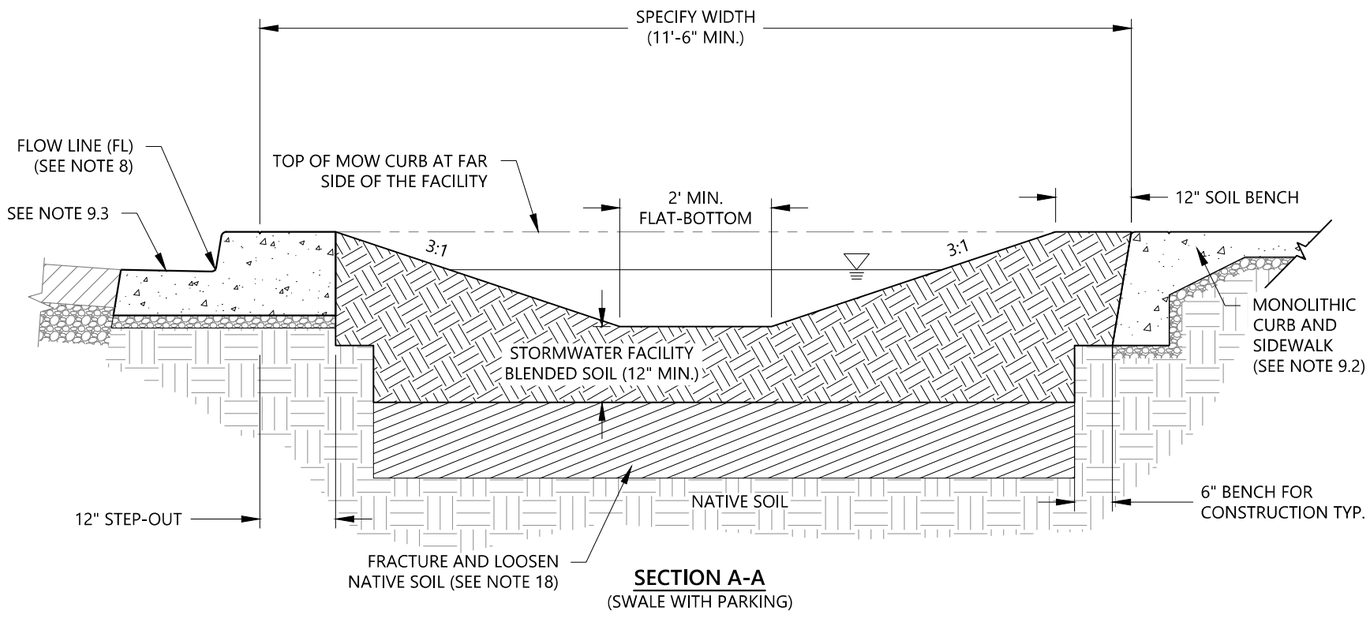


PLAN VIEW
(SWALE WITH PARKING SHOWN)



SECTION A-A
(SWALE WITH PARKING)

DESIGNER INFORMATION:

1. Adapt this plan and section view example to your engineered design. Maximize surface storage.
2. Area and depth of facility are based upon engineering calculations and right-of-way constraints.
3. Provide beginning and ending stations for each facility. Provide stations and/or dimensions and elevations for each inlet, outlet, check dam, notch and wall corner.
4. Show liner, slotted pipe, 24" depth stormwater facility blended soil, and aggregate in section when used. Refer to SWMM detail SW-316: Stormwater Configuration Sections.
5. Sidewalk elevation must be set above check dam and inlet elevations to allow overflow to drain to street before sidewalk.
6. Detail assumes top-of-curb and top-of-sidewalk at approximately same elevation. Modify detail if site conditions are different
7. Proposed utility lines to be located out of facility, or per details P-331, P-332, and P-333.
8. Depress gutter pan Flow Line (FL) 2-in to Bottom of Inlet (BI).

RELATED DETAILS AND RESOURCES:

9. City of Portland Standard Drawings:
   - 9.1. P-304: Concrete Inlet, Type Metal with Channel and Grate (1FT Step-out).
   - 9.2. P-551: Sidewalks, Typical Monolithic Curb and Sidewalk.
   - 9.3. P-540: Curbs, 18" Modified Curb and Gutter typ. When adjacent to a bike lane use 12" gutter pan.
   - 9.4. P-332: Utility Coordination Water Service Line Sleeving.
   - 9.5. P-333: Utility Coordination Water Asset Clearances.
10. Stormwater Management Manual Details:
   - 10.1. SW-312: Check Dam - Infiltration Facility.
   - 10.2. SW-313: Check Dam - Infiltration Facility with Rock.
   - 10.3. SW-314: Check Dam - Partial Infiltration Facility with Weep Holes.
   - 10.4. SW-315: Check Dam Lined Facility with Weep Holes.

CONSTRUCTION NOTES:

11. In facilities that are unlined, fracture and loosen soil - DO NOT TILL - to a depth of 12-in below stormwater facility blended soil excavation before installing aggregates or blended soil.

IMPORTANT: Utility conflicts and existing conditions can create major design variables. Locate utilities and survey existing conditions prior to beginning design work and include information on design drawings.

The Portland Bureau of Transportation (PBOT), Portland Water Bureau (PWB), and Bureau of Environmental Services (BES) are responsible for the review and approval of Stormwater Swales in the public right of way. Stormwater facilities in Wellhead Protection Areas may require special containment measures as required by City Code 21.35.

For more information contact:
PBOT (503) 823-7884
BES (503) 823-7761
PWB (503) 823-7368
Urban Forestry (503) 823-8733

Bureau of Environmental Services
CITY OF PORTLAND, OREGON
2020 STORMWATER MANAGEMENT MANUAL

SWMM Detail Title

SLOPED BASIN - WITH PARKING 1 FT STEP-OUT PLAN AND SECTION VIEWS

Effective Date: 12-14-2020	SWMM Detail No. SW-300
Calc. Book No.: N/A	
Baseline Report Date: N/A	

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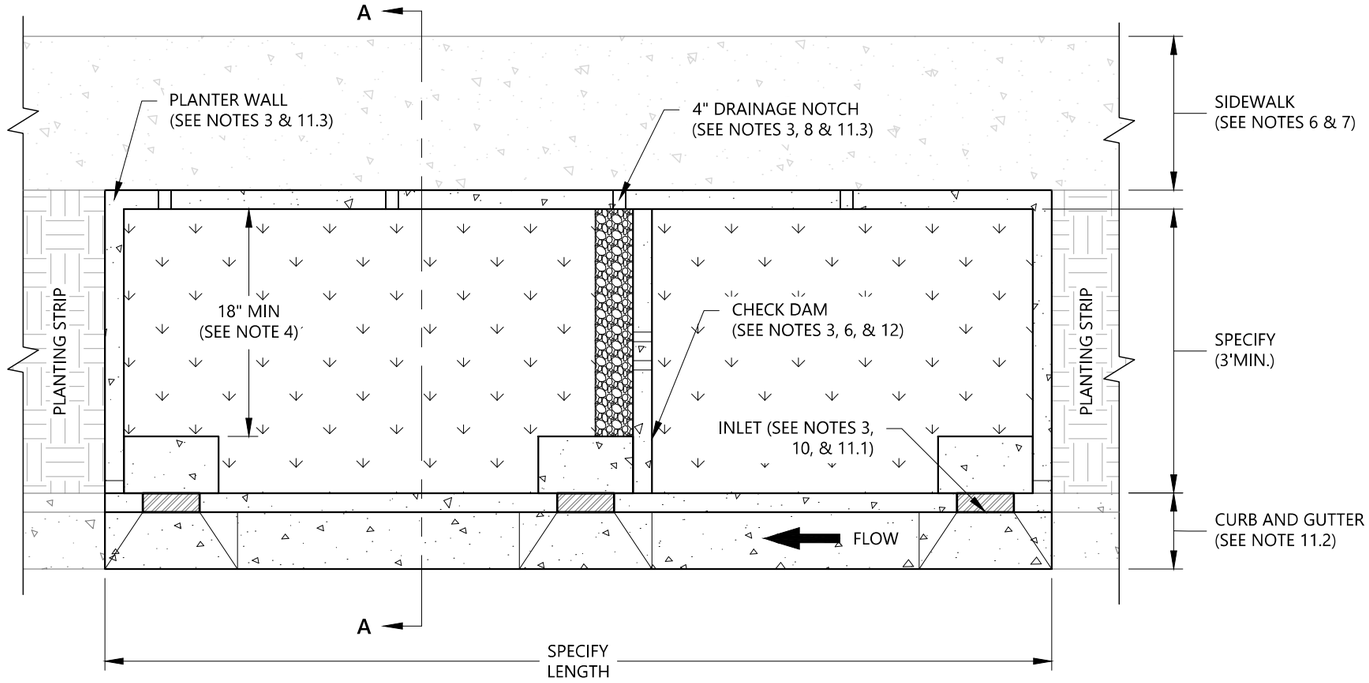
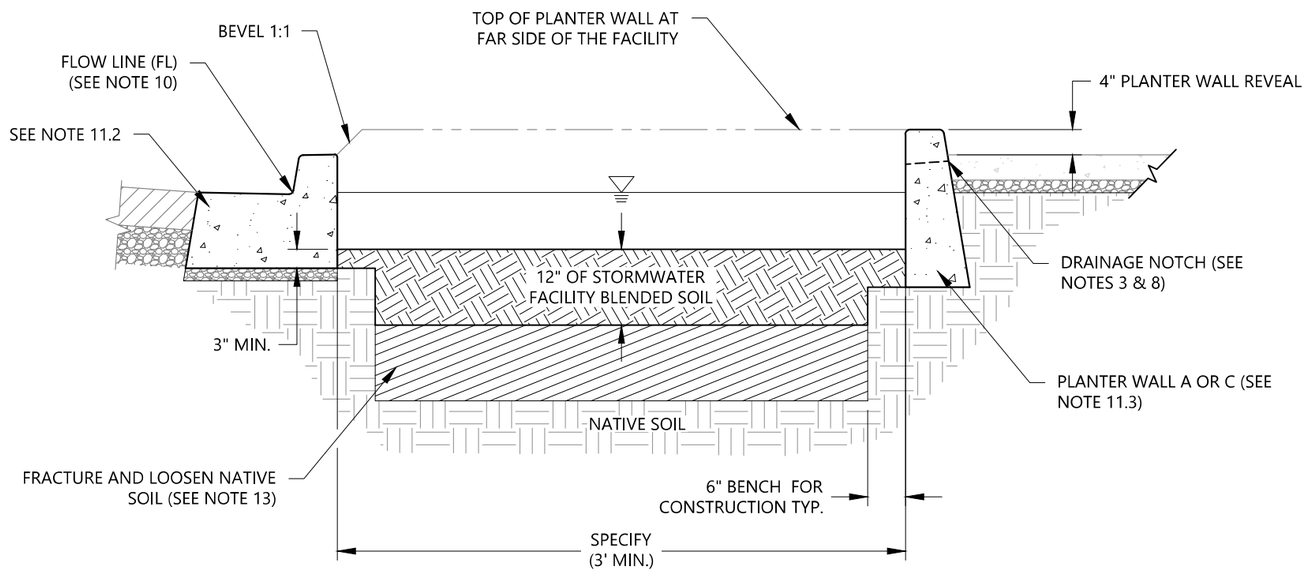


PLAN VIEW
(PLANTER WITHOUT PARKING)



SECTION A-A
(PLANTER WITHOUT PARKING)

DESIGNER INFORMATION:

1. Adapt this plan and section view example to your engineered design. Maximize surface storage.
2. Area and depth of facility are based upon engineering calculations and right-of-way constraints.
3. Provide beginning and ending stations for each facility. Provide stationing and/or dimensions and elevations at each inlet, outlet, check dam, notch, and wall corner
4. If less than 18-in between splash pad and planter wall, then extend pad to wall.
5. Show liner, slotted pipe, 24" depth stormwater facility blended soil, and aggregate in section when used. Refer to SWMM detail SW-316: Stormwater Configuration Sections.
6. Sidewalk elevation must be set above check dam and inlet elevations to allow overflow to drain to street before sidewalk.
7. Detail assumes top-of-curb and top-of-sidewalk at approximately the same elevation. Modify detail if site conditions are different
8. Place drainage notch at low point in sidewalk. Space additional notches 6-ft apart.
9. Proposed utility lines to be located out of facility, or per details P-331, P-332, and P-333.
10. Depress gutter pan Flow Line (FL) 2-in to Bottom of Inlet (BI).

RELATED DETAILS AND RESOURCES:

11. City of Portland Standard Drawings:
    - 11.1. P-300: Concrete Inlet, Type Metal.
    - 11.2. P-540: Curbs, 18" Thickened Curb and Gutter typ. When adjacent to a bike lane use 12" Thickened Curb and Gutter.
    - 11.3. P-307: Planter Walls.
    - 11.4. P-332: Utility Coordination Water Service Line Sleeving.
    - 11.5. P-333: Utility Coordination Water Asset Clearances.
12. Stormwater Management Details:
    - 12.1. SW-312: Check Dam - Infiltration Facility.
    - 12.2. SW-313: Check Dam - Infiltration Facility with Rock.
    - 12.3. SW-314: Check Dam - Partial Infiltration Facility with Weep Holes.
    - 12.4. SW-315: Check Dam - Lined Facility with Weep Holes.

CONSTRUCTION NOTES:

13. In facilities that are unlined, fracture and loosen soil - DO NOT TILL - to a depth of 12" below stormwater facility blended soil excavation before installing aggregates or blended soil.

IMPORTANT: Utility conflicts and existing conditions can create major design variables. Locate utilities and survey existing conditions prior to beginning design work and include information on design drawings.

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2020 STORMWATER MANAGEMENT MANUAL

SWMM Detail Title

PLANTER - NO PARKING PLAN AND SECTION VIEWS

Effective Date: 12-14-2020	SWMM Detail No. SW-301
Calc. Book No.: N/A	
Baseline Report Date: N/A	

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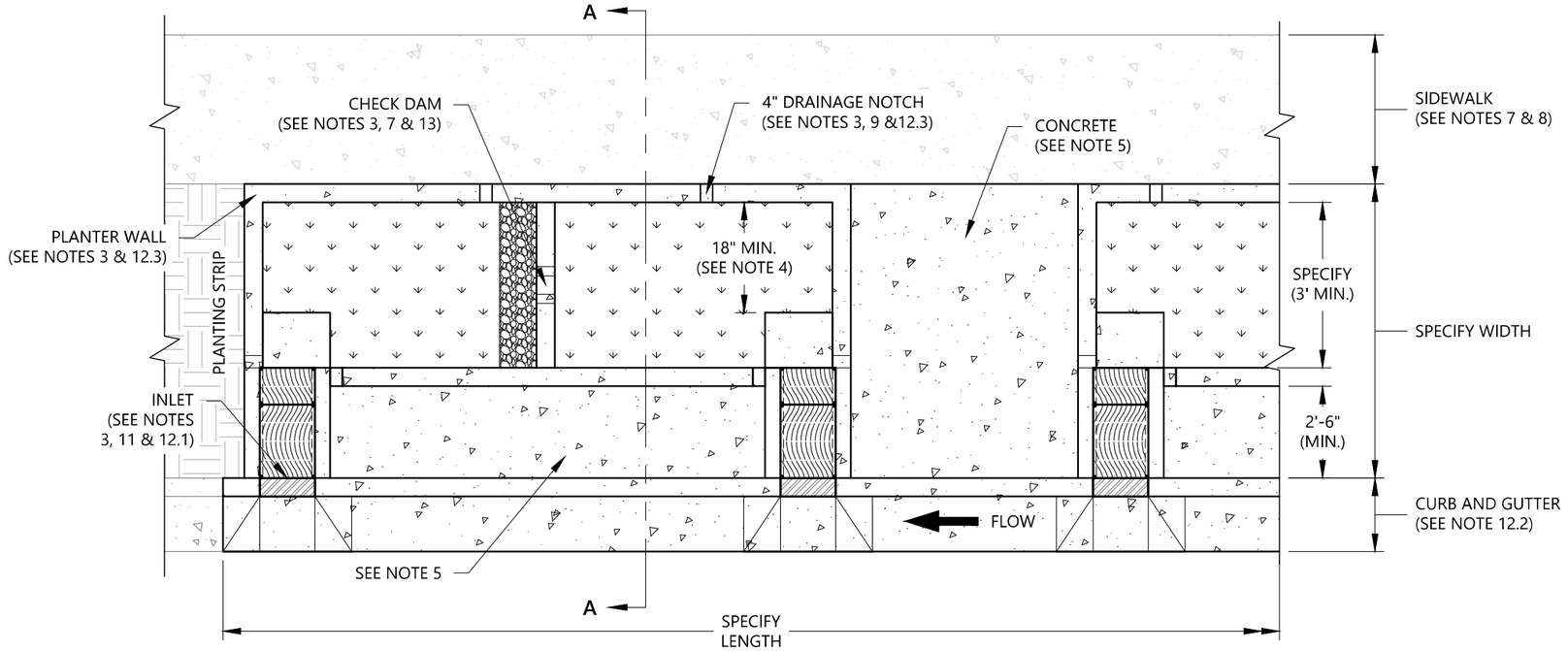
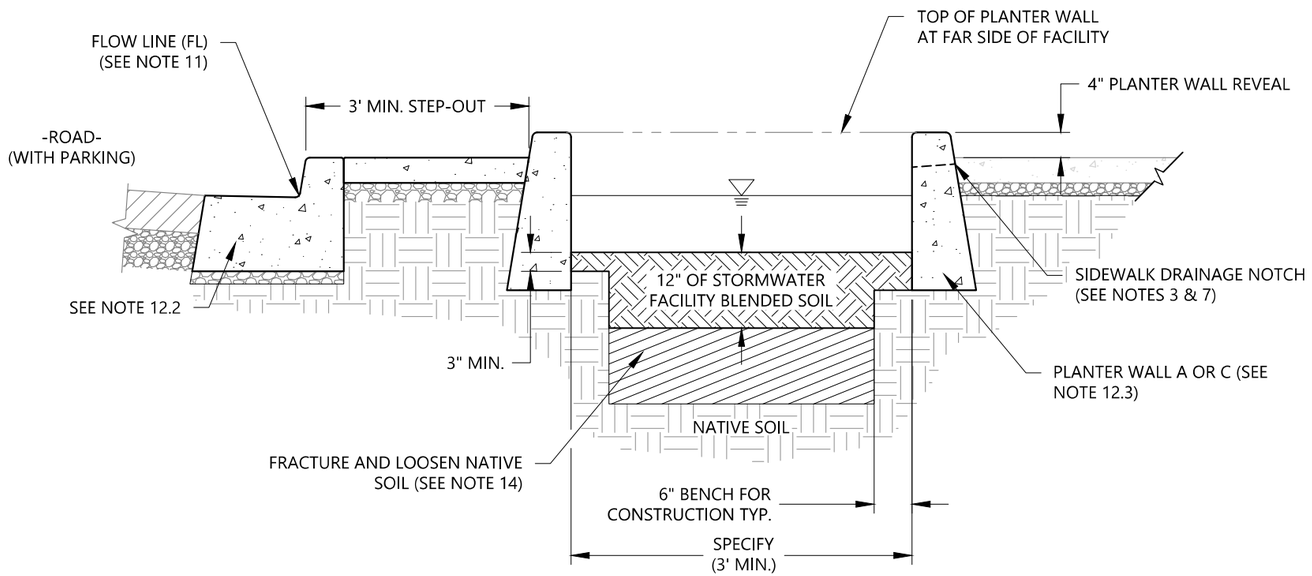


PLAN VIEW
(PLANTER WITH PARKING)



SECTION A-A
(PLANTER WITH PARKING, 3-FT STEP-OUT)

DESIGNER INFORMATION:

1. Adapt this plan and section view example to your engineered design. Maximize surface storage.
2. Area and depth of facility are based upon engineering calculations and right-of-way constraints.
3. Provide beginning and ending stations for each facility. Provide stationing and/or dimensions, and elevations at each inlet, outlet, check dam, notch and wall corner.
4. If less than 18-in between splash pad and planter wall, then extend pad to wall.
5. May use concrete per City Standards, or pavers as approved by PBOT.
6. Show liner, slotted pipe, 24" depth stormwater facility blended soil, and aggregate in section when used. Refer to SWMM detail SW-316: Facility Configuration Sections.
7. Sidewalk elevation must be set above check dam and inlet elevations to allow overflow to drain to street before sidewalk.
8. Detail assumes top-of-curb and top-of-sdiewalk at approximately the same elevation. Modify detail if site conditions are different.
9. Place drainage notch at low point in sidewalk. Space additional notches 6-ft apart.
10. Proposed utility lines to be located out of facility, or per details P-331, P-332, and P-333.
11. Depress gutter pan Flow Line (FL) 2-in to Bottom of Inlet (BI).

RELATED DETAILS AND RESOURCES:

12. City of Portland Standard Drawings:
    - 12.1. P-303: Concrete Inlet, Type Metal with Channel and Grate (2.5 FT Step-out).
    - 12.2. P-540: Curbs, 18" Thickened Curb and Gutter, 18" Curb and Gutter, typ. When adjacent to bike lane use 12" Thickened Curb and Gutter.
    - 12.3. P-307: Planter Walls.
    - 12.4. P-332: Utility Coordination Water Service Line Sleeving.
    - 12.5. P-333: Utility Coordination Water Asset Clearances.
13. Stormawater Management Manual Details:
    - 13.1. SW-312: Check Dam - Infiltration Facility.
    - 13.2. SW-313: Check Dam - Infiltration Facility with Rock.
    - 13.3. SW-314: Check Dam - Partial Infiltration Facility with Weep Holes.
    - 13.4. SW-315: Check Dam - Lined Facility with Weep Holes.

CONSTRUCTION NOTES:

14. In facilities that are unlined, fracture and loosen soil - DO NOT TILL - to a depth of 12" below stormwater facility blended soil excavation before installing aggregates or blended soil.

IMPORTANT: Utility conflicts and existing conditions can create major design variables. Locate utilities and survey existing conditions prior to beginning design work and include information on design drawings.

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Bureau of Environmental Services
CITY OF PORTLAND, OREGON
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SWMM Detail Title

PLANTER - WITH PARKING 2.5 FT STEP-OUT PLAN AND SECTION VIEWS

Effective Date: 12-14-2020	SWMM Detail No. SW-302
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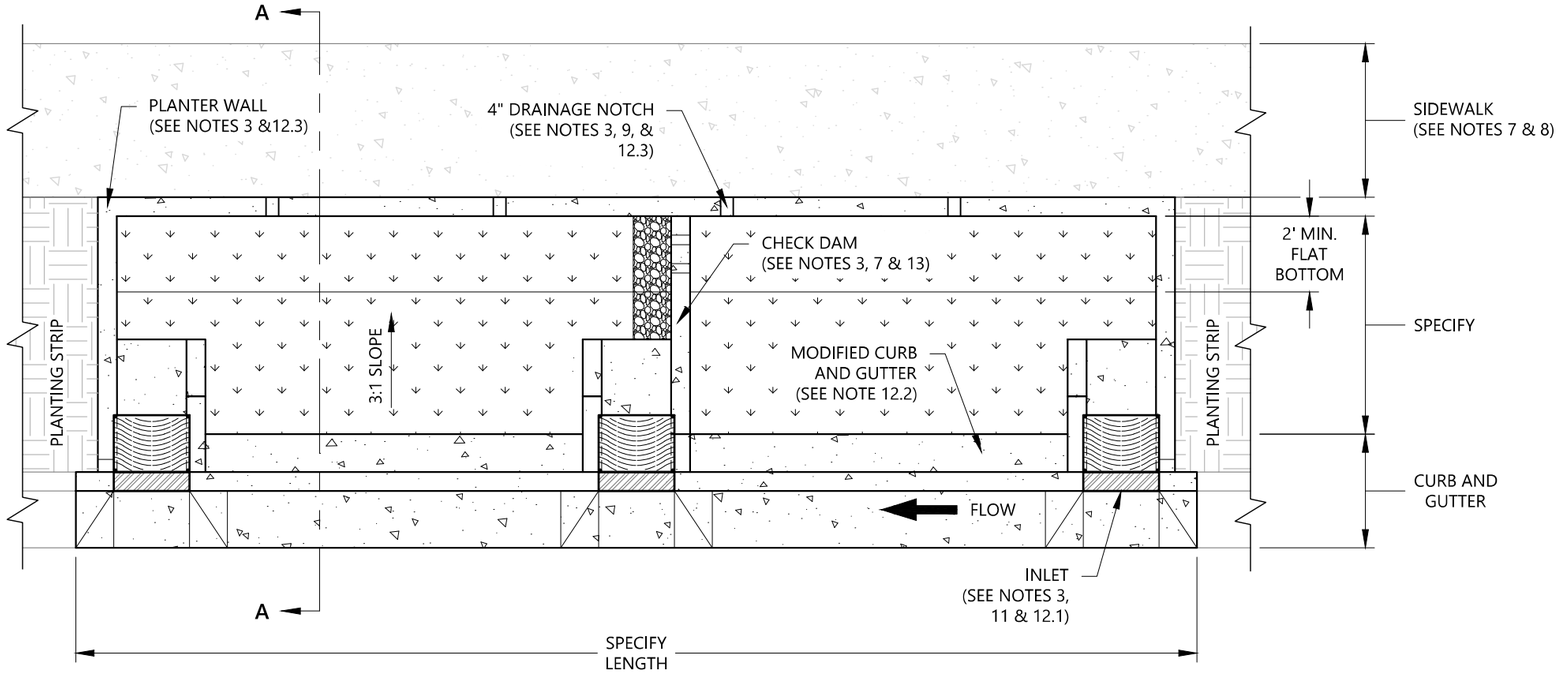
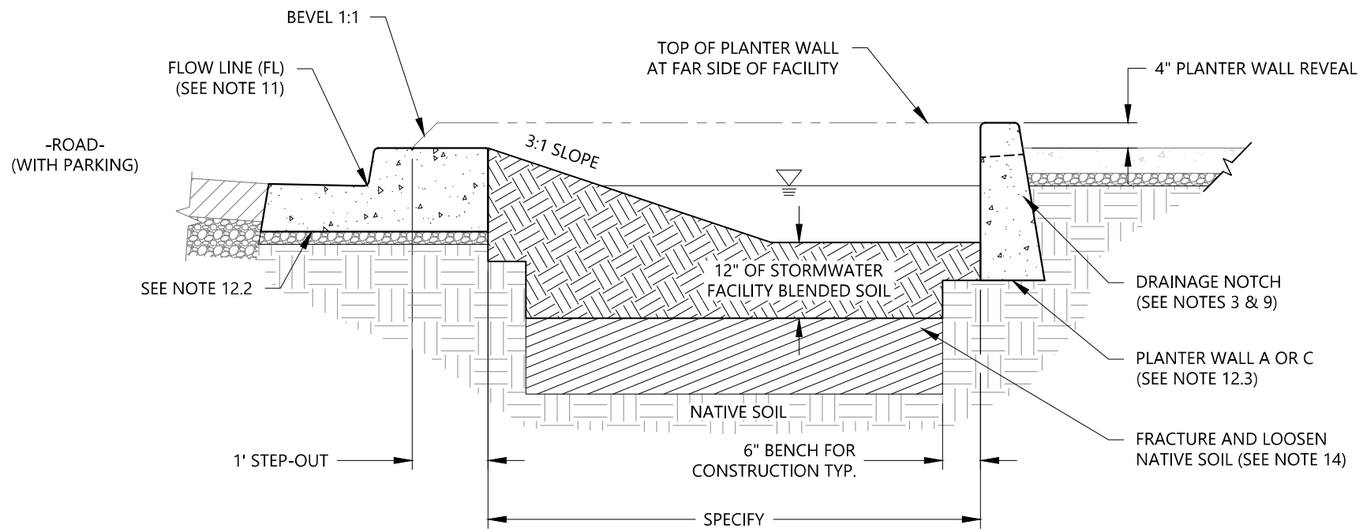


PLAN VIEW
(PLANTER WITH PARKING)



SECTION A-A
(PLANTER WITH PARKING, 1 FT STEP-OUT)

DESIGNER INFORMATION:

1. Adapt this plan and section view example to your engineered design. Maximize surface storage.
2. Area and depth of facility are based upon engineering calculations and right-of-way constraints.
3. Provide beginning and ending stations for each facility. Provide stations and/or dimensions and elevations at each inlet, outlet, check dam, notch and wall corner.
4. If less than 18-in between splash pad and planter wall, then extend pad to wall.
5. Slope stormwater facility blended soil down to flat bottom area with 3:1 slope
6. Show liner, slotted pipe, 24" depth stormwater facility blended soil, and aggregate in section when used. Refer to SWMM detail SW-316: Stormwater Configuration Section.
7. Sidewalk elevation must be set above check dam and inlet elevations to allow overflow to drain to street before sidewalk.
8. Detail assumes top-of-curb and top-of-sidewalk at approximately the same elevation. Modify this detail if site conditions are different.
9. Place drainage notch at low point in sidewalk. Space additional notches 6-ft apart.
10. Proposed utility lines to be located out of facility, or per details P-331, P-332, and P-333.
11. Depress gutter pan Flow Fine (FL) 2-in to Bottom of Inlet (BI).

RELATED DETAILS AND RESOURCES:

12. City of Portland Standard Drawings:
    - 12.1. P-304: Concrete Inlet, Type Metal with Channel and Grate (1 FT Step-out).
    - 12.2. P-540: Curbs, Modified Curb and Gutter, typ. When adjacent to a bike lane use a 12" gutter pan.
    - 12.3. P-307: Planter Walls.
    - 12.4. P-332: Utility Coordination Water Service Line Sleeving.
    - 12.5. P-333: Utility Coordination Water Asset Clearances.
13. Stormwater Management Manual:
    - 13.1. SW-312: Check Dam - Infiltration Facility
    - 13.2. SW-313: Check Dam - Infiltration Faiclity with Rocks
    - 13.3. SW-314: Check Dam - Partial Infiltration Facility with Weep Holes
    - 13.4. SW-315: Check Dam - Lined Facility with Weep Holes.

CONSTRUCTION NOTES:

14. In facilities that are unlined, fracture and loosen soil - DO NOT TILL - to a depth of 12-in below stormwater facility blended soil excavation before installing aggregates or blended soil.

IMPORTANT: Utility conflicts and existing conditions can create major design variables. Locate utilities and survey existing conditions prior to beginning design work and include information on design drawings.

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Bureau of Environmental Services
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SWMM Detail Title

PLANTER - WITH PARKING 1 FT STEP-OUT PLAN AND SECTION VIEWS

Effective Date: 12-14-2020	SWMM Detail No. SW-303
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Baseline Report Date: N/A	

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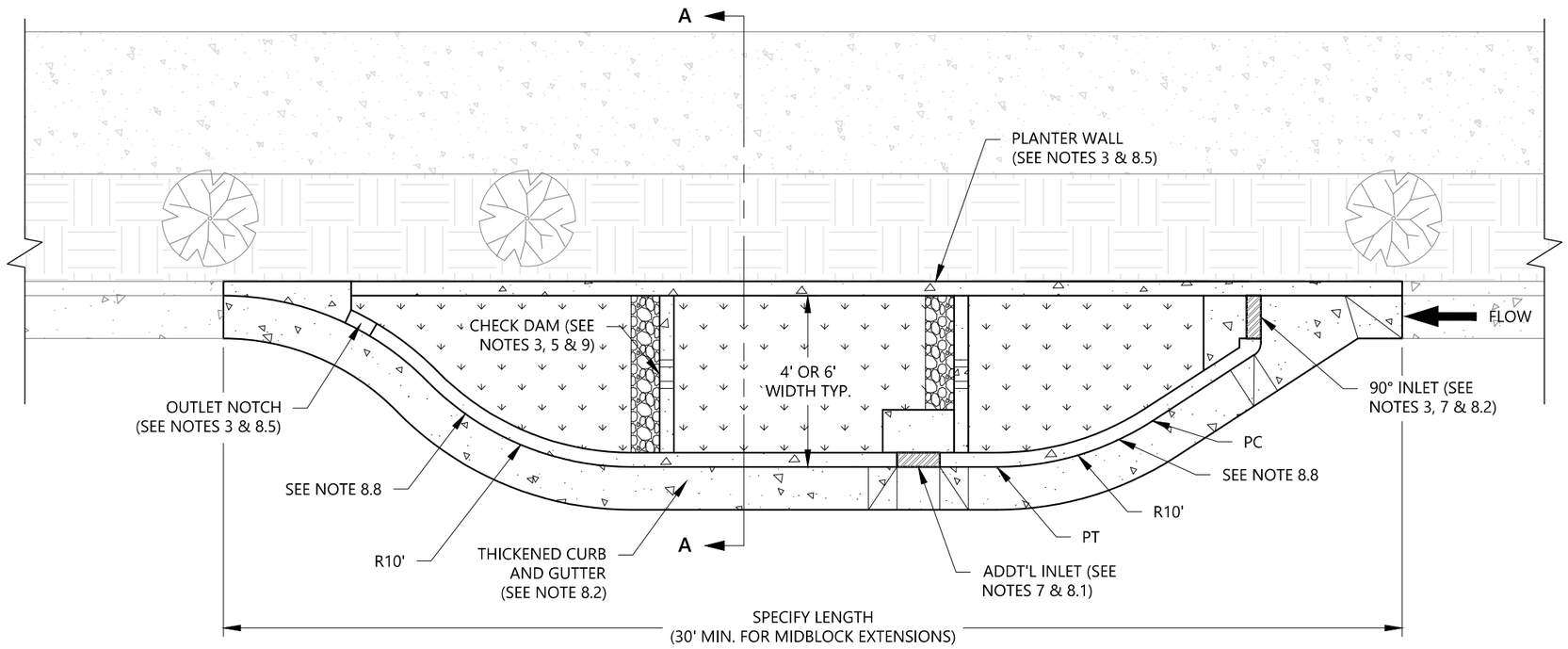
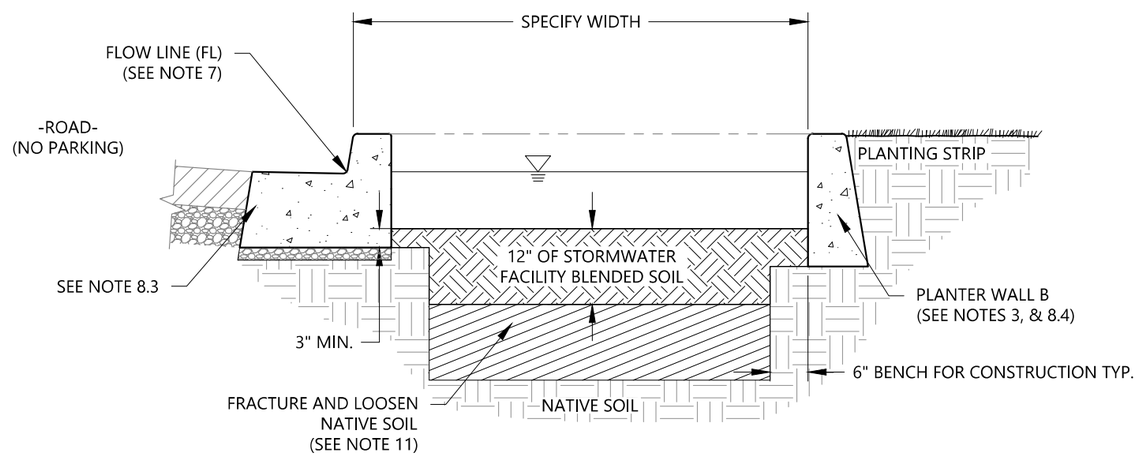


PLAN VIEW
(CURB EXTENSION NO PARKING)



SECTION A-A

DESIGNER INFORMATION:

1. Adapt this plan and section view example to your engineered design. Maximize surface storage.
2. Area and depth of facility are based upon engineering calculations and right-of-way constraints.
3. Provide beginning and ending stations for each facility. Provide stationing and/or dimensions and elevations at each inlet, outlet, check dam, notches and wall corners.
4. Show liner, slotted pipe, 24" depth stormwater facility blended soil, and rock gallery in section when required. Refer to SWMM Detail SW-316: Facility Configuration Sections.
5. Sidewalk elevation must be set above check dam and inlet elevations to allow overflow to drain to street before sidewalk.
6. Proposed utility lines to be located out of facility or per details P-331, P-332 and P-333.
7. Depress gutter pan Flow Line (FL) 2-in to Bottom of Inlet (BI).

RELATED DETAILS AND RESOURCES:

8. City of Portland Standard Drawings:
   - 8.1. P-300: Concrete Inlet, Type Metal
   - 8.2. P-301: Concrete Inlet, Type Metal (Rotated)
   - 8.3. P-540: Curbs, 18" Thickened Curb and Gutter, typ. When adjacent to a bike lane use 12" Thickened Curb and Gutter.
   - 8.4. P-307: Planter Walls
   - 8.5. P-308: Curb Extension Outlet Notch
   - 8.6. P-332: Utility Coordination Water Service Line Sleeving
   - 8.7. P-333: Utility Coordination Water Asset Clearances
   - 8.8. P-434: Pavement Markings Standard Detail Blocks, Curb Extension Detail and Midblock Curb Extension Pavement Markings
9. Stormwater Management Manual:
   - 9.1. SW-312: Check Dam - Infiltration Facility
   - 9.2. SW-313: Check Dam - Infiltration Facility with Rock
   - 9.3. SW-314: Check Dam - Partial Infiltration Facility with Weep Holes
   - 9.4. SW-315: Check Dam - Lined Facility with Weep Holes

CONSTRUCTION NOTES:

10. In facilities that are unlined, fracture and loosen soil - DO NOT TILL - to a depth of 12-in below stormwater facility blended soil excavation before installing aggregates or blended soil.

IMPORTANT: Utility conflicts and existing conditions can create major design variables. Locate utilities and survey existing conditions prior to beginning design work and include information on design drawings.

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PWB (503) 823-7368
Urban Forestry (503) 823-8733

Bureau of Environmental Services
CITY OF PORTLAND, OREGON
2020 STORMWATER MANAGEMENT MANUAL

SWMM Detail Title

CURB EXTENSION NO PLANTING STRIP PLAN AND SECTION VIEWS

Effective Date: 12-14-2020	SWMM Detail No. SW-304
Calc. Book No.: N/A	
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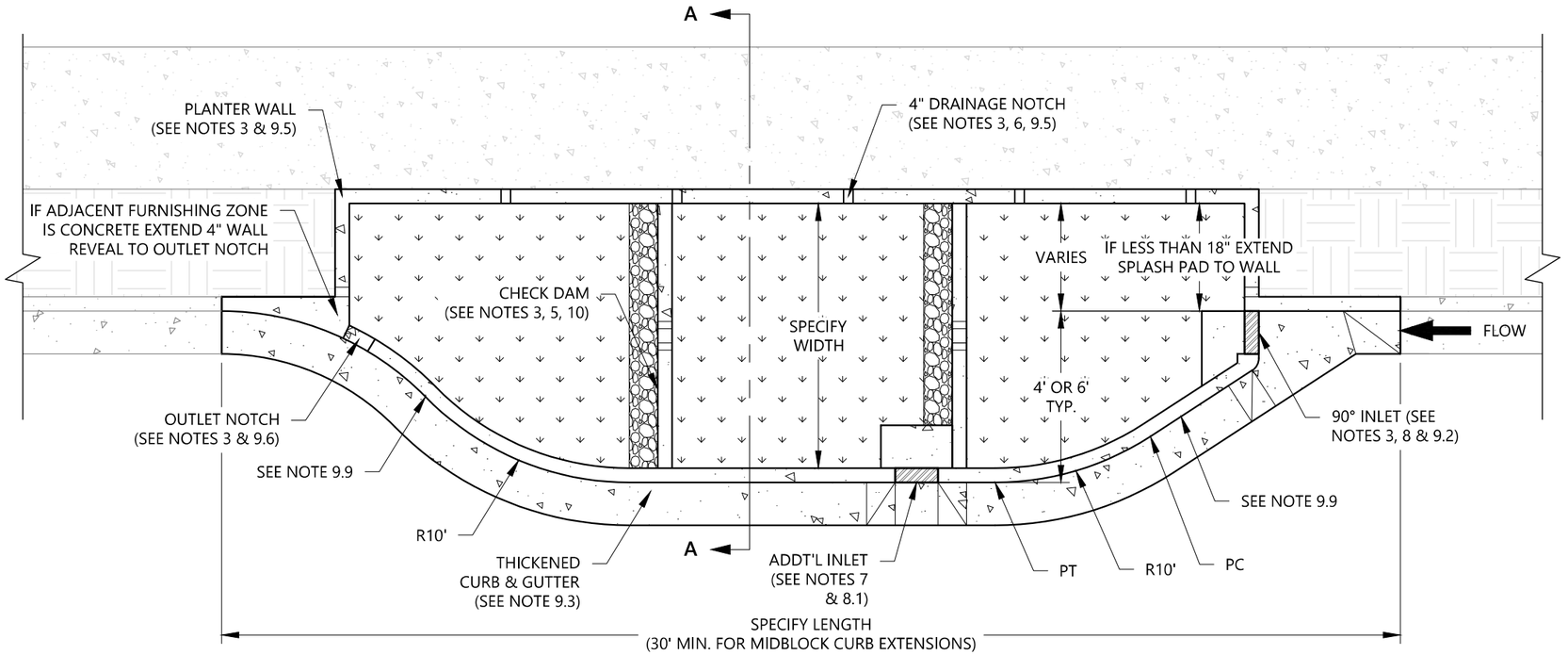
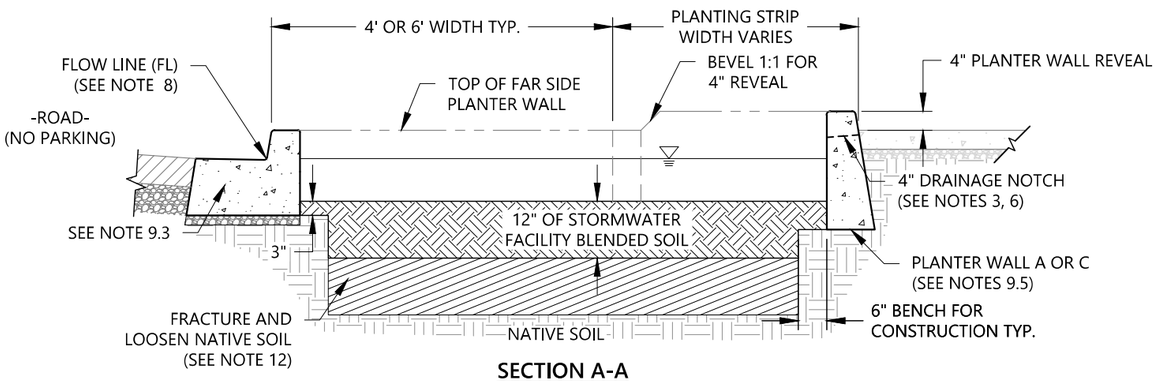
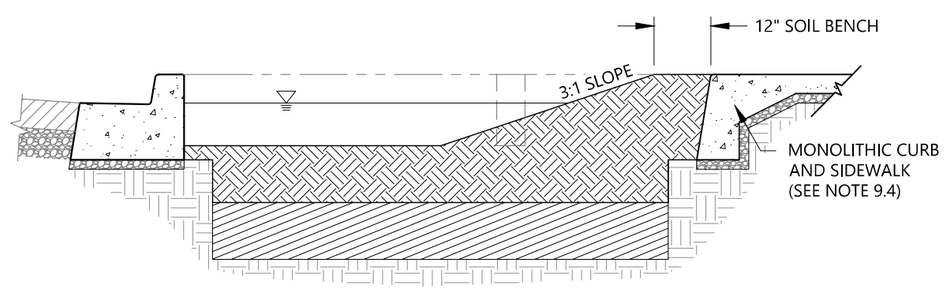


PLAN VIEW
(CURB EXTENSION NO PARKING)



SECTION A-A



SECTION A-A
(ALTERNATIVE)

DESIGNER INFORMATION:

1. Adapt this plan and section view example to your engineered design. Maximize surface storage.
2. Area and depth of facility are based upon engineering calculations and right-of-way constraints.
3. Provide beginning and ending stations for each facility. Provide stationing and/or dimensions and elevations at each inlet, outlet, check dam, notches and wall corners.
4. Show liner, slotted pipe, 24" depth stormwater facility blended soil, and rock gallery in section when required. Refer to SWMM Detail SW-316: Facility Configuration Sections.
5. Sidewalk elevation must be set above check dam and inlet elevations to allow overflow to drain to street before sidewalk.
6. Place 4-in wide drainage notch at low point in sidewalk. Space additional notches 6-ft apart.
7. Proposed utility lines to be located out of facility or per details P-331, P-332, and P-333.
8. Depress gutter pan Flow Line (FL) 2-in to Bottom of Inlet (BI).

RELATED DETAILS AND RESOURCES:

9. City of Portland Standard Drawings:
   - 9.1. P-300: Concrete Inlet, Type Metal
   - 9.2. P-301: Concrete Inlet, Type Metal (Rotated)
   - 9.3. P-540: Curbs, 18" Thickened Curb and Gutter, typ. When adjacent to a bike lane use 12" Thickened Curb and Gutter.
   - 9.4. P-551: Sidewalks, Monolithic Curb and Sidewalk
   - 9.5. P-307: Planter Walls
   - 9.6. P-308: Curb Extension Outlet Notch
   - 9.7. P-332: Utility Coordination Water Service Line Sleeving
   - 9.8. P-333: Utility Coordination Water Asset Clearances
   - 9.9. P-434: Pavement Marking Standard Detail Blocks, Curb Extension Detail and Midblock Curb Extension Pavement Markings
10. Stormwater Management Manual:
   - 10.1. SW-312: Check Dam - Infiltration Facility
   - 10.2. SW-313: Check Dam - Infiltration Facility with Rock
   - 10.3. SW-314: Check Dam - Partial Infiltration Facility with Weep Holes
   - 10.4. SW-315: Check Dam - Lined Facility with Weep Holes

CONSTRUCTION NOTES:

11. In facilities that are unlined, fracture and loosen soil - DO NOT TILL - to a depth of 12-in below stormwater facility blended soil excavation before installing aggregates or blended soil.

IMPORTANT: Utility conflicts and existing conditions can create major design variables. Locate utilities and survey existing conditions prior to beginning design work and include information on design drawings.

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SWMM Detail Title

CURB EXTENSION WITH PLANTING STRIP PLAN AND SECTION VIEWS

Effective Date: 12-14-2020	SWMM Detail No. SW-305
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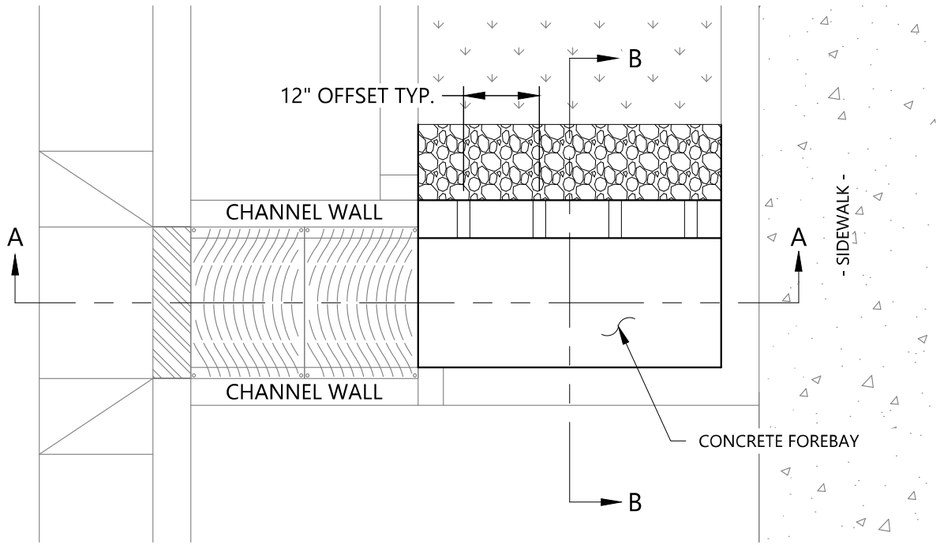
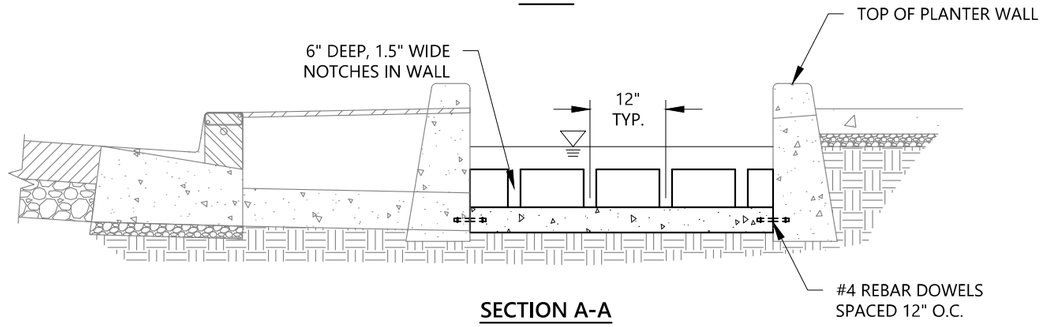
Baseline Report Date: N/A	

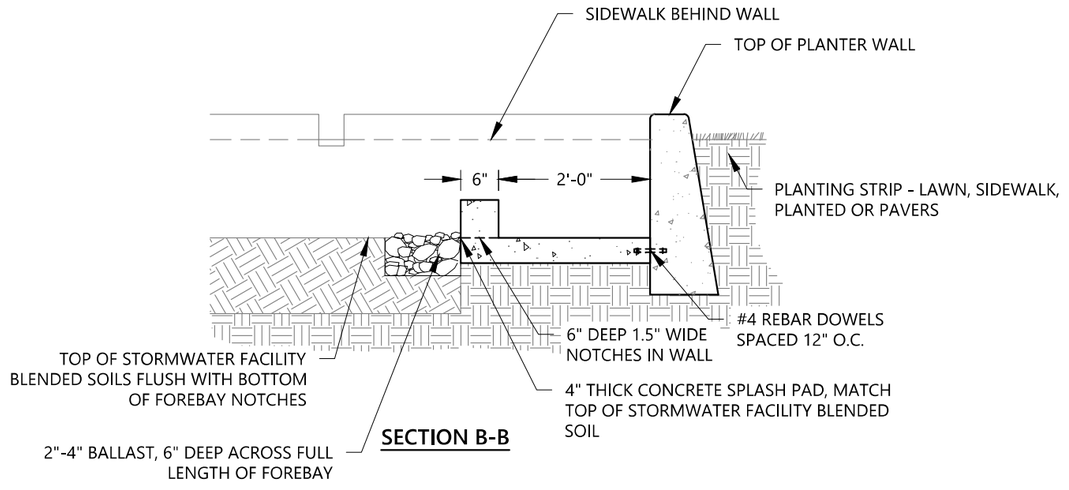
2020SWMM-DETAILS.DWG 12/9/20 11:16 AM SPEREZ



PLAN



SECTION A-A



SECTION B-B

DESIGNER INFORMATION:

1. INLET TYPE MAY VARY, 3-FT STEP-OUT SHOWN. ADAPT THESE PLAN AND SECTIONS TO YOUR DESIGN AS REQUIRED.
2. AN 18-IN GUTTER IS TYPICAL. FOR FACILITIES ADJACENT TO BIKE LANES, A 12-IN GUTTER IS REQUIRED.

RELATED DETAIL AND RESOURCES:

4. REFER TO CITY OF PORTLAND STANDARD DRAWING P-540: CURBS, 18" THICKENED CURB AND GUTTER.
5. REFER TO CITY OF PORTLAND STANDARD DRAWINGS P-300, P-303, P-304, AND P-305 FOR INLETS.
6. REFER TO CITY OF PORTLAND STANDARD DRAWING P-307 FOR PLANTER WALLS.

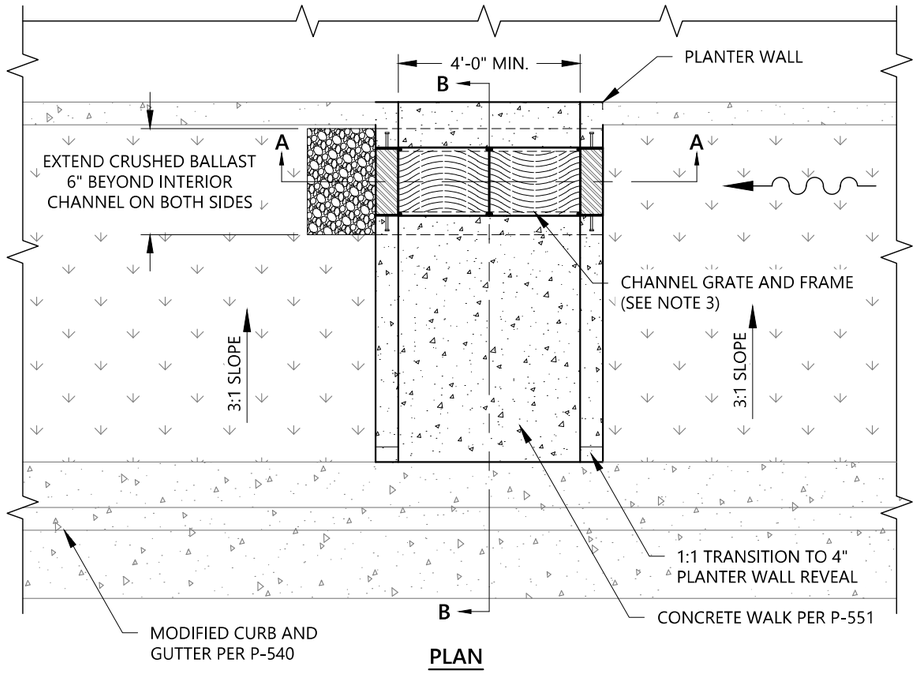
Bureau of Environmental Services
CITY OF PORTLAND, OREGON
2020 STORMWATER MANAGEMENT MANUAL

SWMM Detail Title

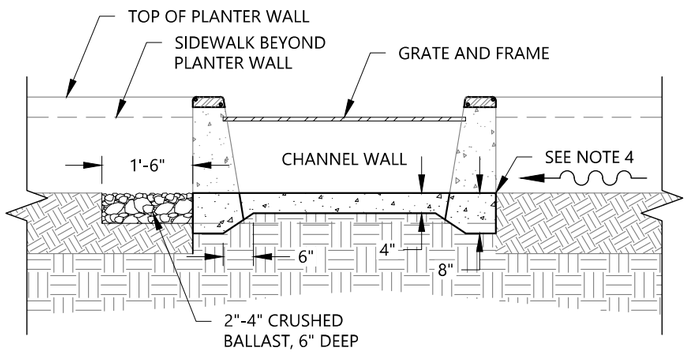
NOTCHED FOREBAY WALL FOR PLANTERS

Effective Date: 12-14-2020	SWMM Detail No. SW-310
Calc. Book No.: N/A	
Baseline Report Date: N/A	

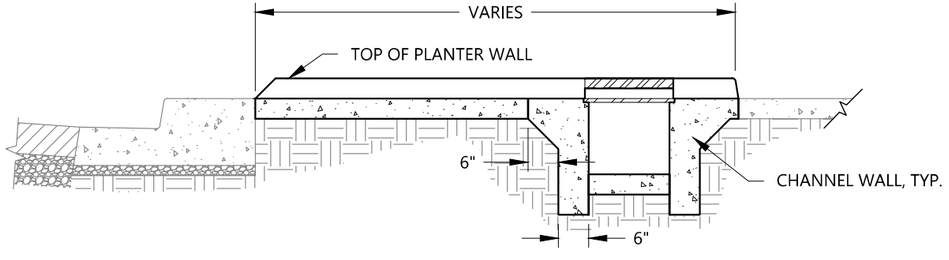
2020SWMM-DETAILS.DWG 12/9/20 11:16 AM SPEREZ



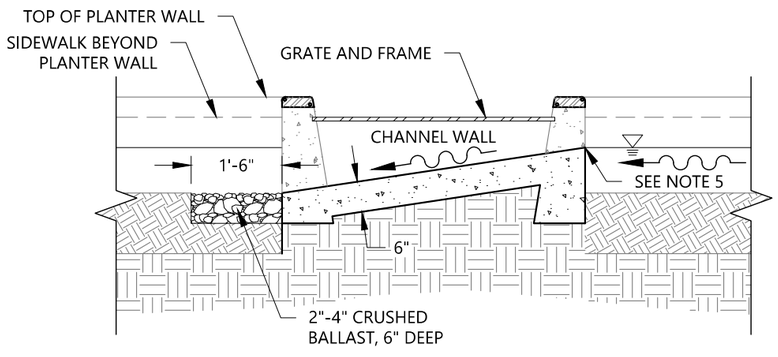
PLAN



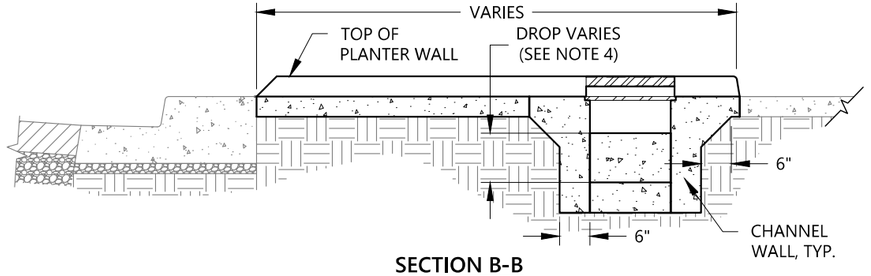
SECTION A-A



SECTION B-B



SECTION A-A
(CHANNEL AS CHECK DAM)



SECTION B-B
(CHANNEL AS CHECK DAM)

DESIGNER INFORMATION:

1. AVOID USING THIS DETAIL IF STOPPING AND STARTING THE FACILITY IS POSSIBLE.

2. DETAIL DEPICTED WITH COMBINATION SWALE/PANTER. MODIFY DETAIL TO USE WITH OTHER CROSS SECTIONS.

3. CHANNEL GRATE FRAME SHELF VARIES PER MANUFACTURER. REFER TO MANUFACTURER'S RECOMMENDATIONS, AND ADJUST CHANNEL OPENING AS REQUIRED. 2% MAXIMUM CROSS SLOPE ON GRATE**. GRATE AND FRAME SYSTEM TO MEET THE FOLLOWING REQUIREMENTS:

   3.1. OLYMPIC FOUNDRY INC. SM50 18"X24" "TWS" ADA GRATE AND FRAME, OR APPROVED EQUAL.
   3.2. CAST IRON, WITH NATURAL FINISH
   3.3. GRATE SHALL BE ADA COMPLIANT.
   3.4. IN TWO OPPOSITE CORNERS, BOLT GRATE TO FRAME. COUNTERSINK, DRILL, AND TAP FOR SS 6-SIDED HEX HEAD BOLT.
   3.5. BOLTS TO HAVE ANTI-SEIZE THREAD LUBRICANT APPLIED AT INSTALLATION.

4. SEE SECTION A-A. MATCH CONCRETE CHANNEL TO TOP OF STORMWATER FACILITY BLENDED SOILS, TYP. BOTH SIDES. CHANNEL SLOPE TO MATCH FACILITY SLOPE.

5. SEE SECTION B-B (CHANNEL AS CHECK DAM). SET TOP OF CHANNEL ELEVATION PER DESIGNED PONDING DEPTH. SLOPE CHANNEL TO BE FLUSH WITH FACILITY GRADE AT DOWNSTREAM CELL.

** USE 1.5% SLOPE MAXIMUM DESIGN SLOPE FOR CONSTRUCTION TOLERANCE.

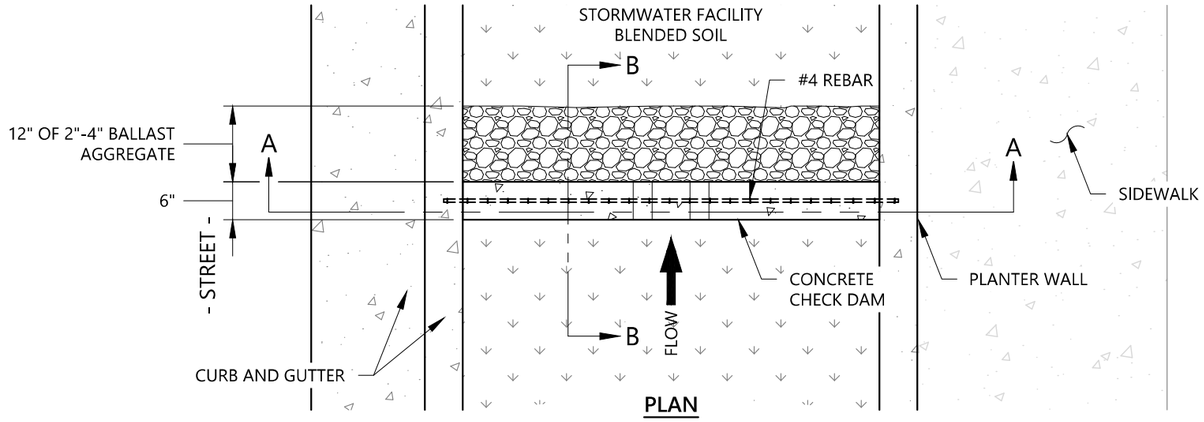
Bureau of Environmental Services
CITY OF PORTLAND, OREGON
2020 STORMWATER MANAGEMENT MANUAL

SWMM Detail Title

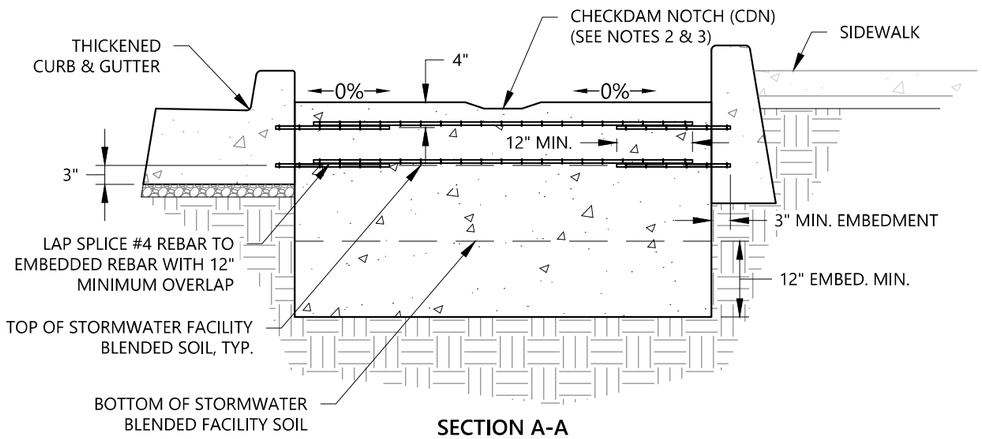
CARRIAGE WALK WITH TRENCH GRATE

Effective Date: 12-14-2020	SWMM Detail No. SW-311
Calc. Book No.: N/A	
Baseline Report Date: N/A	

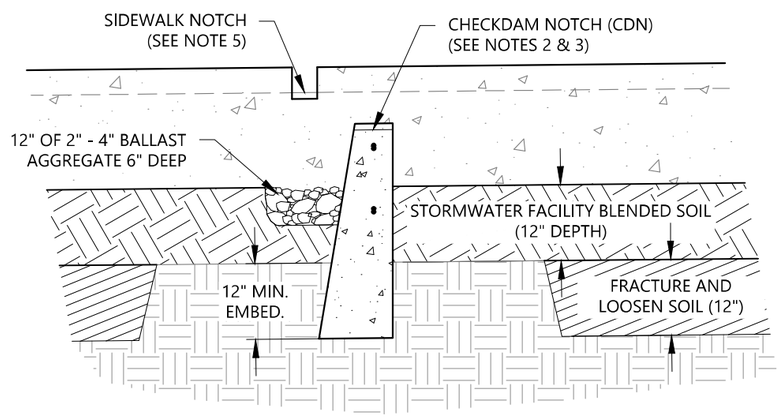
2020SWMM-DETAILS.DWG 12/9/20 11:16 AM SPEREZ



PLAN



SECTION A-A



SECTION B-B
(SEE NOTE 1)

DESIGNER INFORMATION:

1. USE THIS DETAIL FOR FACILITIES WITH >2" PER HOUR NATIVE INFILTRATION RATE, OR FOR FACILITIES DESIGNED FOR COMPLETE INFILTRATION OF THE 10-YEAR EVENT
2. CHECK DAM NOTCH (CDN) ELEVATION TO BE WHICHEVER IS LOWEST: EQUAL TO THE FLOW LINE ELEVATION AT THE UPSTREAM INLET OF THE FACILITY; 2" BELOW THE ELEVATION OF THE SIDEWALK ADJACENT TO THE CHECK DAM; OR 2" BELOW THE ELEVATION OF THE TOP-OF-CURB (TOC) ADJACENT TO THE. IF IT IS NOT THEN CONTACT INSPECTOR FOR DIRECTION.
3. ENSURE THAT THE CHECK DAM ELEVATIONS DO NOT CAUSE STORMWATER TO OVERFLOW TO SIDEWALK, OR BACKWATER INTO THE STREET.
4. A PARTIAL LINER MAY BE REQUIRED ON THE STREET SIDE OR SIDEWALK SIDE DEPENDING ON EXISTING CONDITIONS, REFER TO CONSTRUCTION DRAWINGS. ATTACH LINER PER CITY OF PORTLAND STANDARD DRAWING P-340.
5. WHERE FEASIBLE, LOCATE SIDEWALK DRAINAGE NOTCHES IMMEDIATELY DOWNSTREAM OF CONCRETE CHECK DAMS TO MINIMIZE DROP FROM SIDEWALK TO FACILITY SOIL.

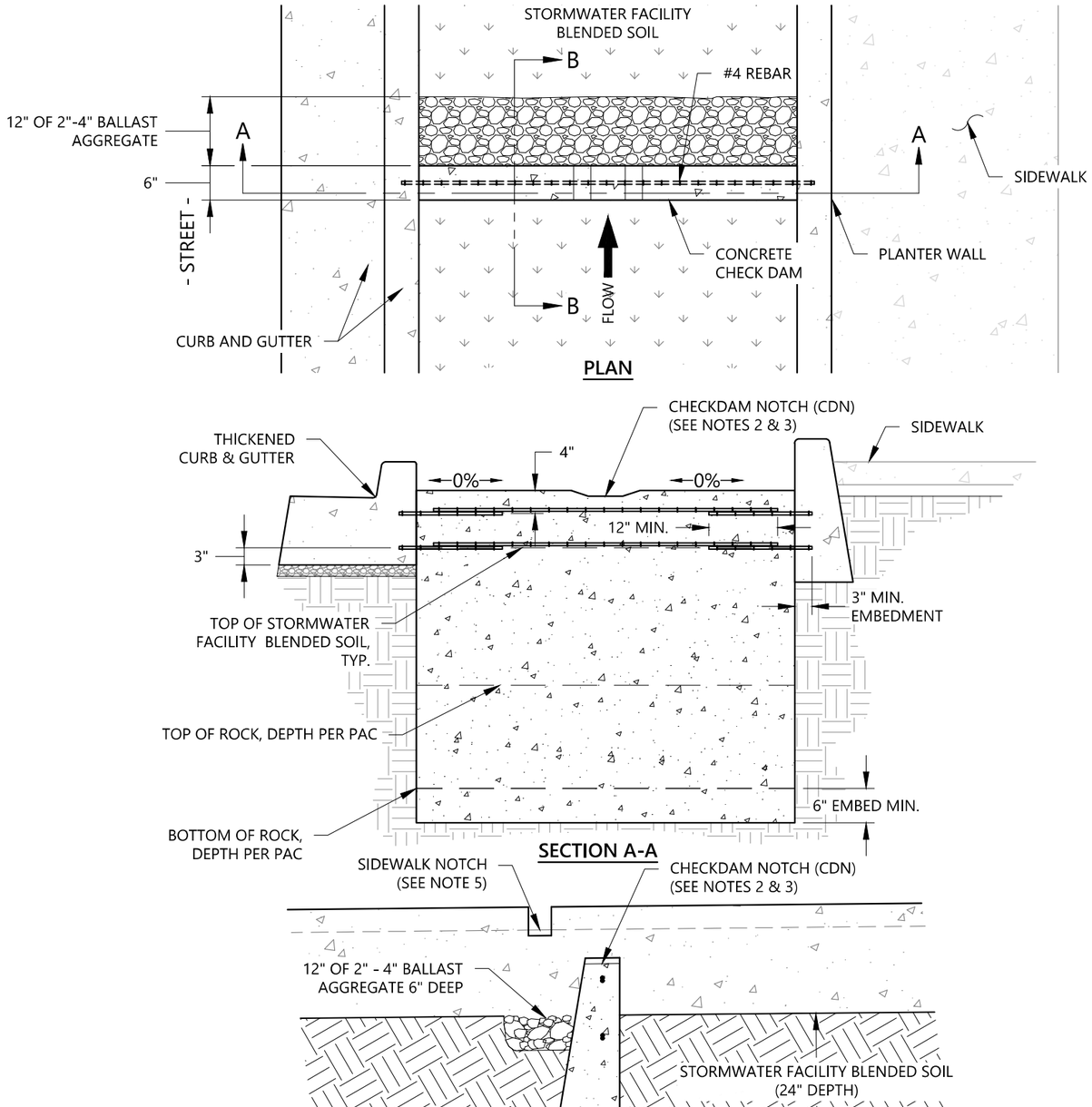
Bureau of Environmental Services
CITY OF PORTLAND, OREGON
2020 STORMWATER MANAGEMENT MANUAL

SWMM Detail Title

CHECK DAM - INFILTRATION FACILITY

Effective Date: 12-14-2020	SWMM Detail No. SW-312
Calc. Book No.: N/A	
Baseline Report Date: N/A	

2020SWMM-DETAILS.DWG 12/9/20 11:16 AM SPEREZ



DESIGNER INFORMATION:

1. USE THIS DETAIL FOR FACILITIES WITH >2" PER HOUR NATIVE INFILTRATION RATE WHEN THE PAC REQUIRES ROCK.
2. CHECK DAM NOTCH (CDN) ELEVATION TO BE WHICHEVER IS LOWEST: EQUAL TO THE FLOW LINE ELEVATION AT THE UPSTREAM INLET OF THE FACILITY; 2" BELOW THE ELEVATION OF THE SIDEWALK ADJACENT TO THE CHECK DAM; OR 2" BELOW THE ELEVATION OF THE TOP-OF-CURB (TOC) ADJACENT TO THE. IF IT IS NOT THEN CONTACT INSPECTOR FOR DIRECTION.
3. ENSURE THAT THE CHECK DAM ELEVATIONS DO NOT CAUSE STORMWATER TO OVERFLOW TO SIDEWALK, OR BACKWATER INTO THE STREET.
4. A PARTIAL LINER MAY BE REQUIRED ON THE STREET SIDE OR SIDEWALK SIDE DEPENDING ON EXISTING CONDITIONS, REFER TO CONSTRUCTION DRAWINGS. ATTACH LINER PER CITY OF PORTLAND STANDARD DRAWING P-340.
5. WHERE FEASIBLE, LOCATE SIDEWALK DRAINAGE NOTCHES IMMEDIATELY DOWNSTREAM OF CONCRETE CHECK DAMS TO MINIMIZE DROP FROM SIDEWALK TO FACILITY SOIL.

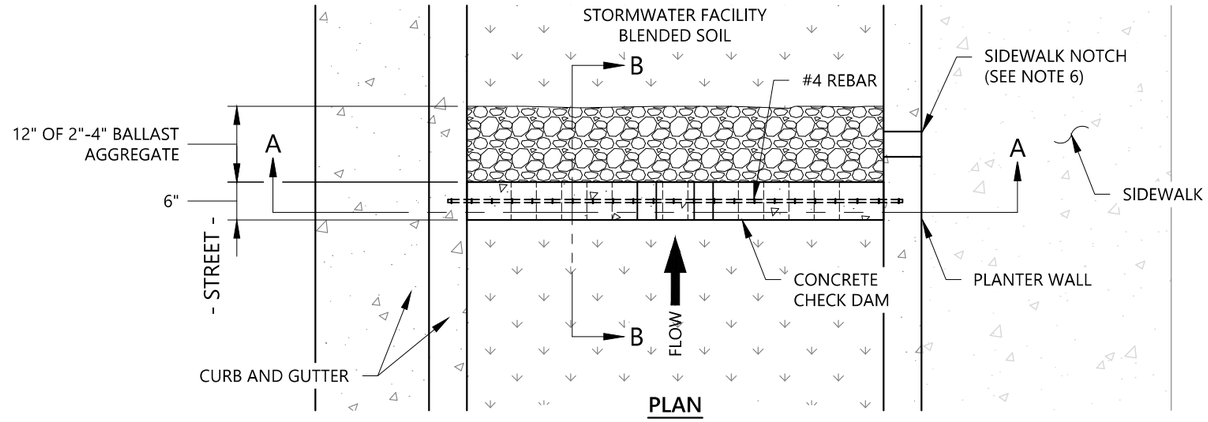
Bureau of Environmental Services
CITY OF PORTLAND, OREGON
2020 STORMWATER MANAGEMENT MANUAL

SWMM Detail Title

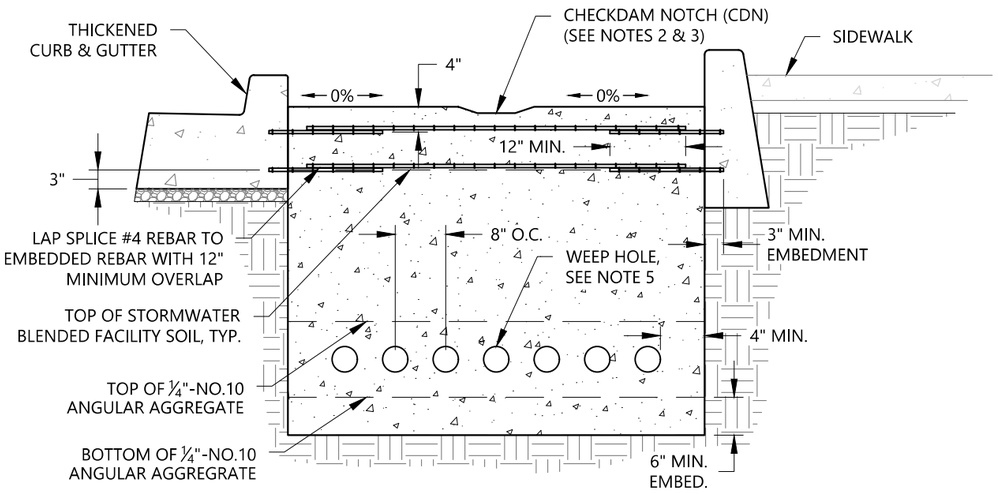
CHECK DAM INFILTRATION FACILITY WITH ROCK

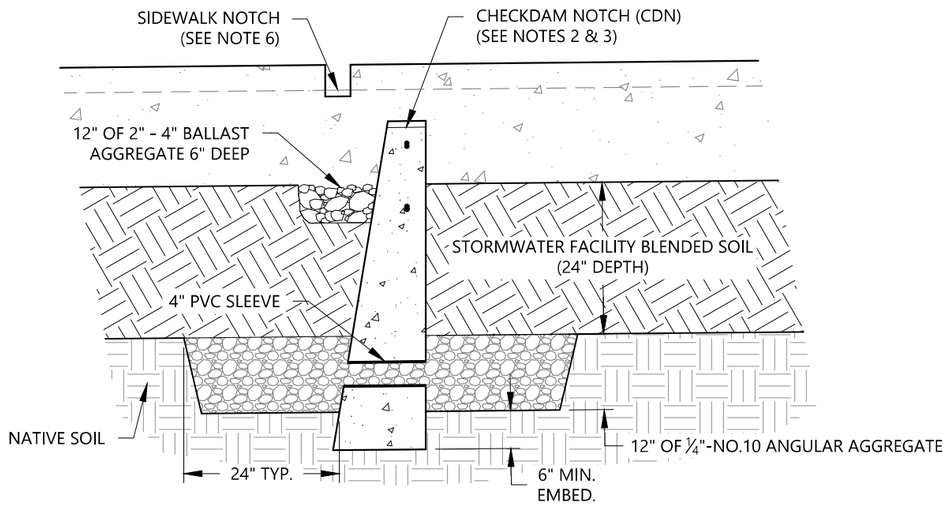
Effective Date: 12-14-2020	SWMM Detail No. SW-313
Calc. Book No.: N/A	
Baseline Report Date: N/A	

2020SWMM-DETAILS.DWG 12/9/20 11:16 AM SPEREZ



PLAN





SECTION B-B
(SEE NOTE 1)

DESIGNER INFORMATION:

1. USE THIS DETAIL FOR FACILITIES WITH <2" PER HOUR NATIVE SOIL INFILTRATION RATES WITH AN UNDERDRAIN AT THE DOWNSTREAM END OF THE FACILITY.
2. CHECK DAM NOTCH (CDN) ELEVATION TO BE WHICHEVER IS LOWEST: EQUAL TO THE FLOW LINE ELEVATION AT THE UPSTREAM INLET OF THE FACILITY; 2" BELOW THE ELEVATION OF THE SIDEWALK ADJACENT TO THE CHECK DAM; OR 2" BELOW THE ELEVATION OF THE TOP-OF-CURB (TOC) ADJACENT TO THE. IF IT IS NOT THEN CONTACT INSPECTOR FOR DIRECTION.
3. ENSURE THAT THE CHECK DAM ELEVATIONS DO NOT CAUSE STORMWATER TO OVERFLOW TO SIDEWALK, OR BACKWATER INTO THE STREET.
4. A PARTIAL LINER MAY BE REQUIRED ON THE STREET SIDE OR SIDEWALK SIDE DEPENDING ON EXISTING CONDITIONS, REFER TO CONSTRUCTION DRAWINGS. ATTACH THE LINER PER CITY OF PORTLAND STANDARD DRAWING P-340.
5. CONSTRUCT 4" WEEP HOLES 8" ON CENTER WITH AT LEAST 4" BETWEEN OUTSIDE EDGE OF WEEP HOLES AND EDGE OF CHECKDAMS
6. WHERE FEASIBLE, LOCATE SIDEWALK DRAINAGE NOTCHES IMMEDIATELY DOWNSTREAM OF CONCRETE CHECK DAMS TO MINIMIZE DROP FROM SIDEWALK TO FACILITY SOIL.

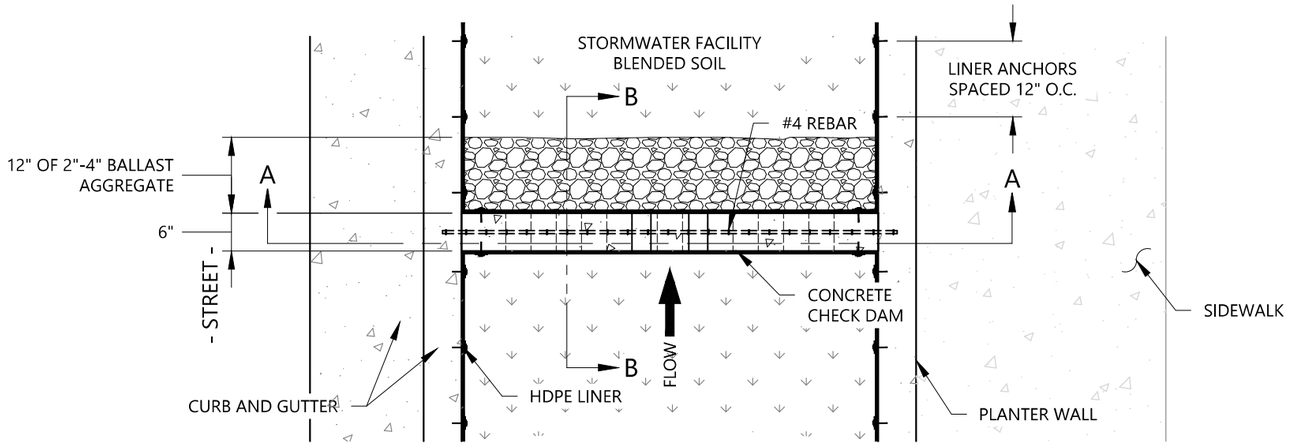
Bureau of Environmental Services
CITY OF PORTLAND, OREGON
2020 STORMWATER MANAGEMENT MANUAL

SWMM Detail Title

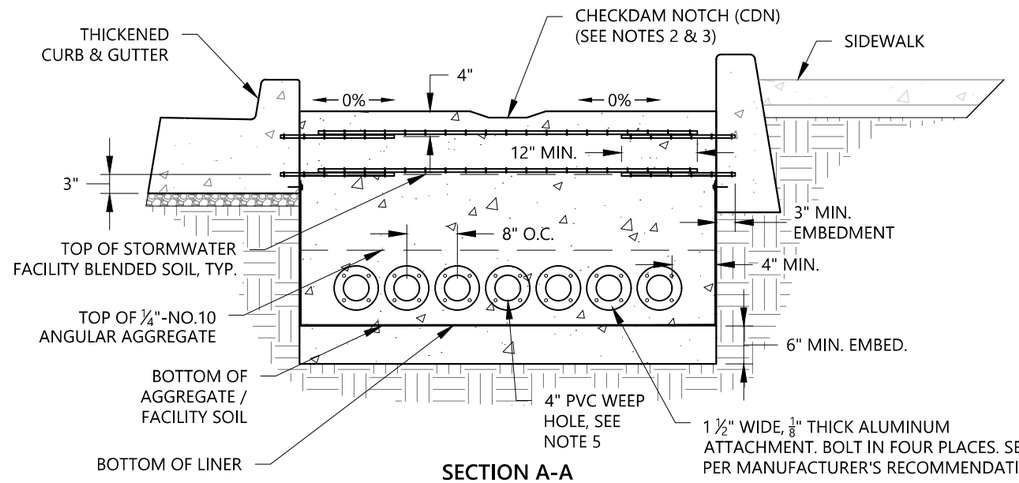
CHECK DAM
PARTIAL INFILTRATION FACILITY WITH WEEP HOLES

Effective Date: 12-14-2020	SWMM Detail No. SW-314
Calc. Book No.: N/A	
Baseline Report Date: N/A	

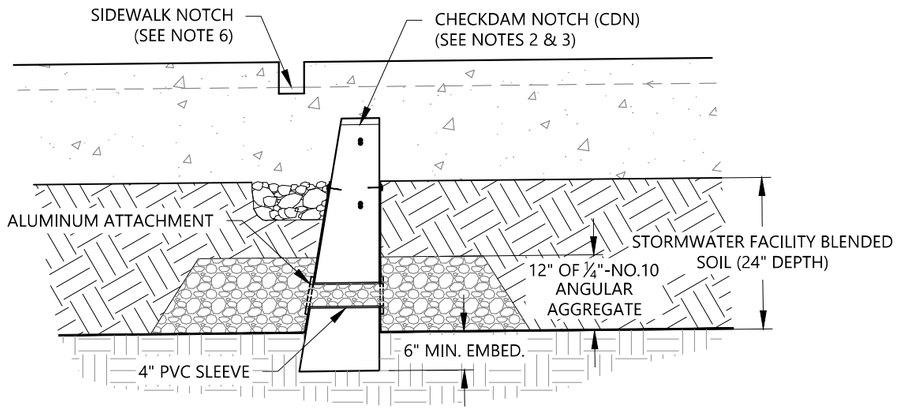
2020SWMM-DETAILS.DWG 12/9/20 11:16 AM SPEREZ



PLAN



SECTION A-A



SECTION B-B
(SEE NOTE 1)

DESIGNER INFORMATION:

1. USE THIS DETAIL FOR FULLY LINED NON-INFILTRATING FACILITIES.
2. CHECK DAM NOTCH (CDN) ELEVATION TO BE WHICHEVER IS LOWEST: EQUAL TO THE FLOW LINE ELEVATION AT THE UPSTREAM INLET OF THE FACILITY; 2" BELOW THE ELEVATION OF THE SIDEWALK ADJACENT TO THE CHECK DAM; OR 2" BELOW THE ELEVATION OF THE TOP-OF-CURB (TOC) ADJACENT TO THE. IF IT IS NOT THEN CONTACT INSPECTOR FOR DIRECTION.
3. ENSURE THAT THE CHECK DAM ELEVATIONS DO NOT CAUSE STORMWATER TO OVERFLOW TO SIDEWALK, OR BACKWATER INTO THE STREET.
4. REFER TO CITY OF PORTLAND STANDARD DRAWING P-340 FOR LINER ATTACHMENT DETAILS.
5. CONSTRUCT 4" WEEP HOLES 8" ON CENTER WITH AT LEAST 4" BETWEEN OUTSIDE EDGE OF WEEP HOLES AND EDGE OF CHECK DAM.
6. WHERE FEASIBLE, LOCATE SIDEWALK DRAINAGE NOTCHES IMMEDIATELY DOWNSTREAM OF CONCRETE CHECK DAMS TO MINIMIZE DROP FROM SIDEWALK TO FACILITY SOIL.

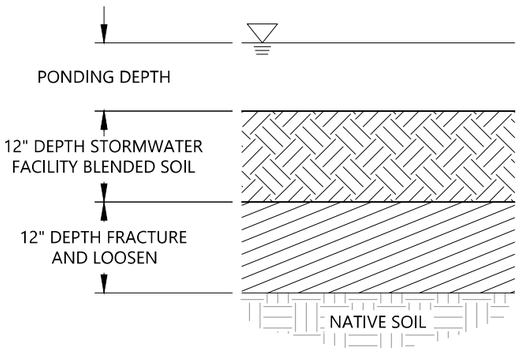
Bureau of Environmental Services
CITY OF PORTLAND, OREGON
2020 STORMWATER
MANAGEMENT MANUAL

SWMM Detail Title

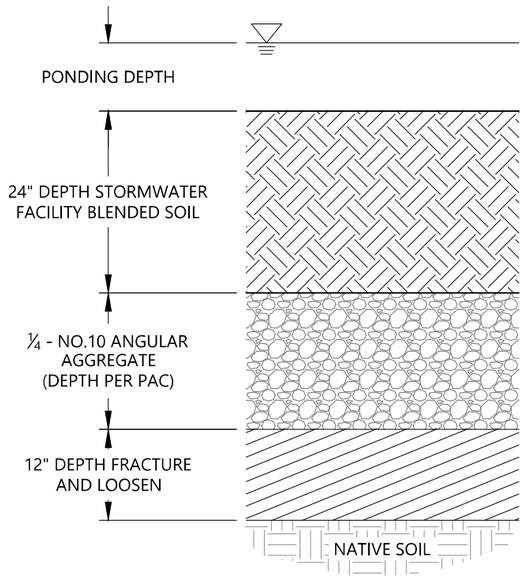
CHECK DAM
LINED FACILITY
WITH WEEP HOLES

Effective Date: 12-14-2020	SWMM Detail No. SW-315
Calc. Book No.: N/A	
Baseline Report Date: N/A	

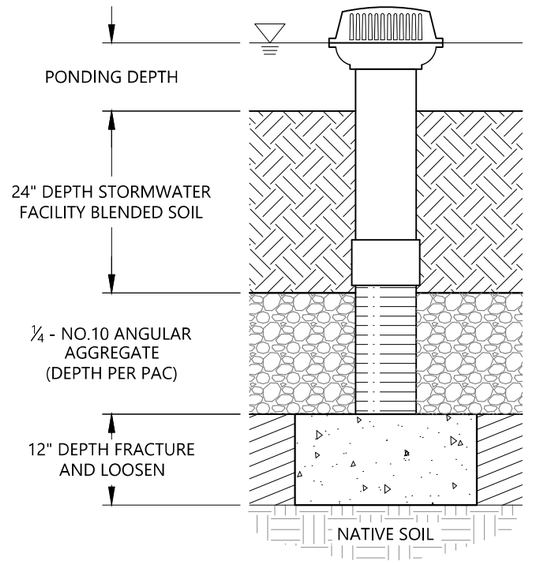
2020SWMM-DETAILS.DWG 12/9/20 11:16 AM SPEREZ



INFILTRATION



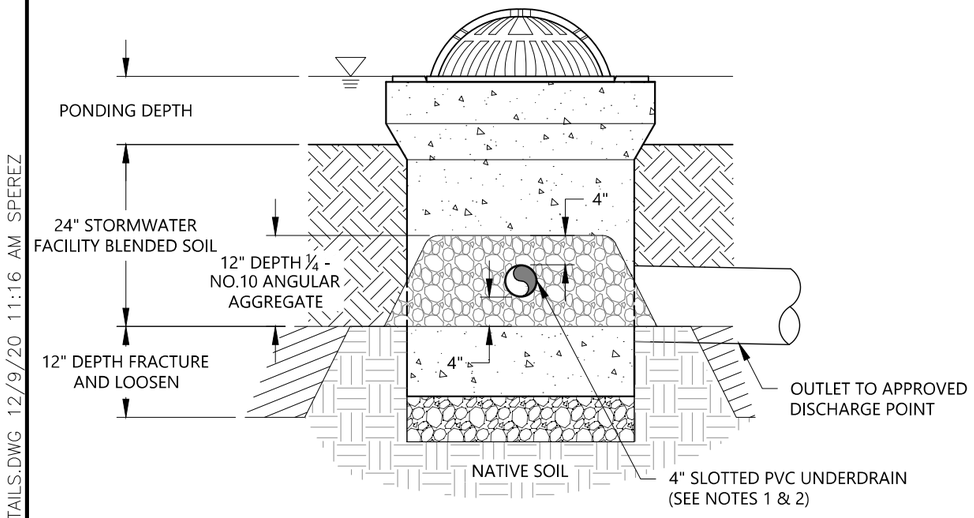
INFILTRATION WITH ROCK



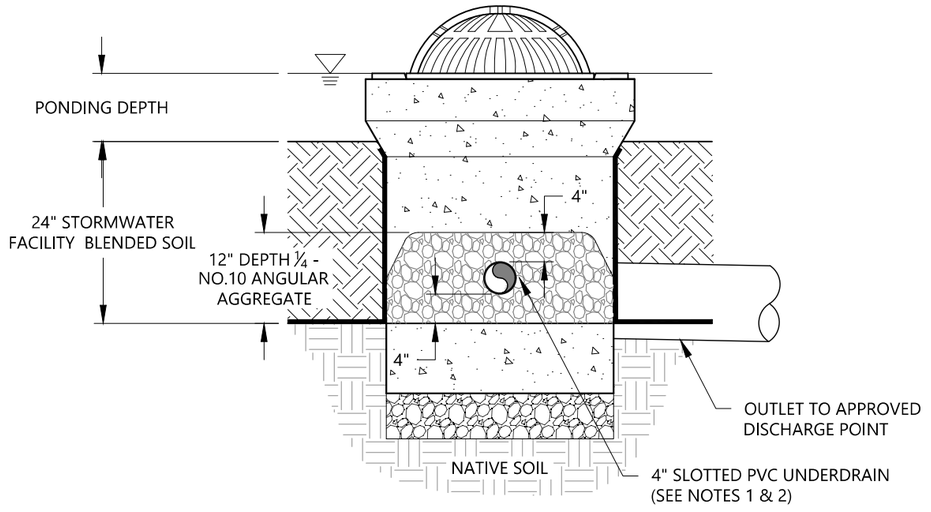
HYBRID
(OVERFLOW DIRECTED TO DRAIN ROCK)

DESIGNER INFORMATION:

1. SET THE 4-IN SLOTTED PVC UNDERDRAIN PIPE 4" ABOVE THE LINER OR THE BOTTOM OF EXCAVATION, AND COVER WITH 4" OF AGGREGATE.
2. RUN UNDERDRAIN PIPE A MAXIMUM OF ¼ THE LENGTH OF THE FACILITY.
3. SEE DETAILS SW-317/318 BEEHIVE OVERFLOW CONFIGURATION AND UNDERDRAIN WITH CLEANOUT FOR ADDITIONAL DESIGN GUIDANCE.
4. HYBRID FACILITIES MUST BE REGISTERED AS A UIC.



PARTIAL INFILTRATION
(OVERFLOW AND UNDER DRAIN REQUIRED)



LINED
(OVERFLOW AND UNDER DRAIN REQUIRED)

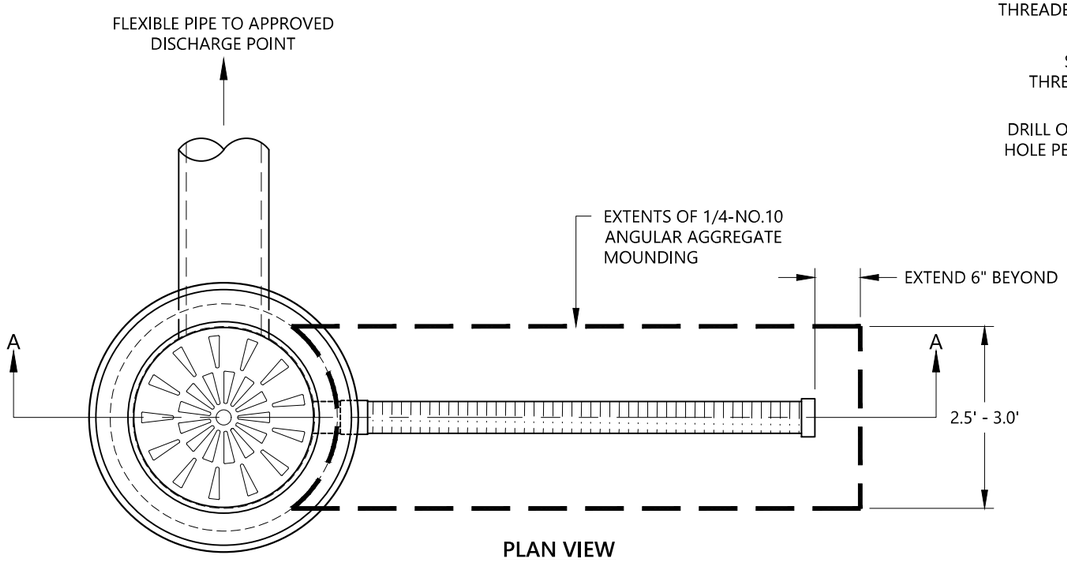
Bureau of Environmental Services
CITY OF PORTLAND, OREGON
2020 STORMWATER MANAGEMENT MANUAL

SWMM Detail Title

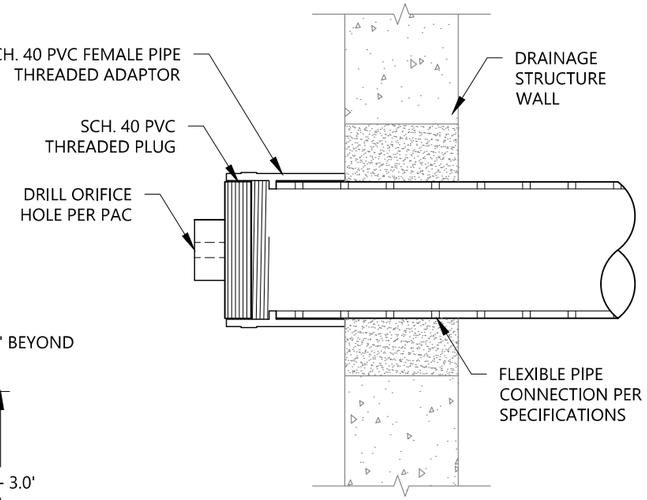
FACILITY CONFIGURATION SECTIONS

Effective Date: 12-14-2020	SWMM Detail No.
Calc. Book No.: N/A	SW-316
Baseline Report Date: N/A	

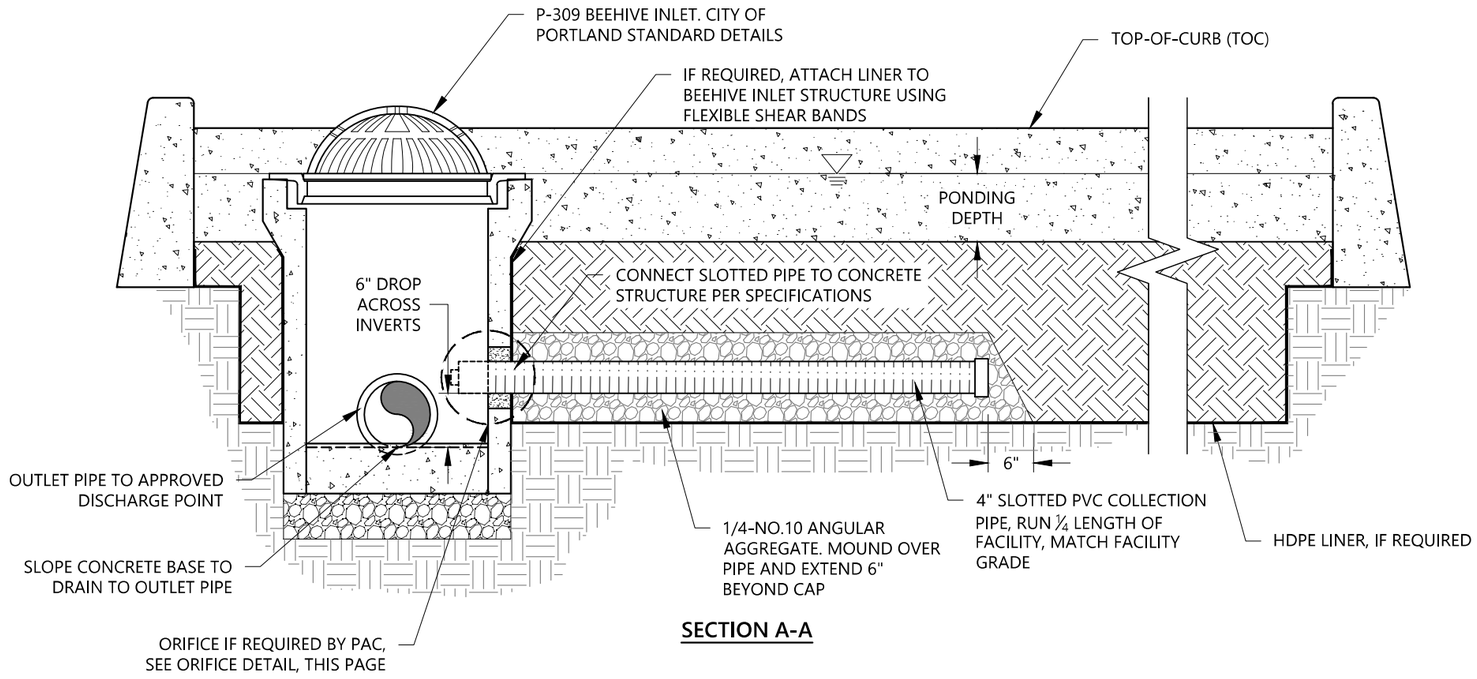
2020SWMM-DETAILS.DWG 12/9/20 11:16 AM SPEREZ



PLAN VIEW



ORIFICE DETAIL



SECTION A-A

DESIGNER INFORMATION:

1. EXAMPLE SHOWN IS FOR A LINED FACILITY. MODIFY DETAIL FOR UNLINED FACILITY.
2. IF CONNECTING TO A COMBINATION SEWER MAINTENANCE HOLE INSTALLTION OF A SWING-CHECK BACKWATER VALVE OR APPROVED EQUAL IS REQUIRED TO PREVENT ODOR EMISSIONS.
3. PRE-DRILL ORIFICE BEFORE INSTALLATION. SMOOTH AND/OR SAND ORIFICE REMOVING ROUGH EDGES. CLEAR PIPE OF ALL DEBRIS BEFORE INSTALLING ORIFICE CAP.

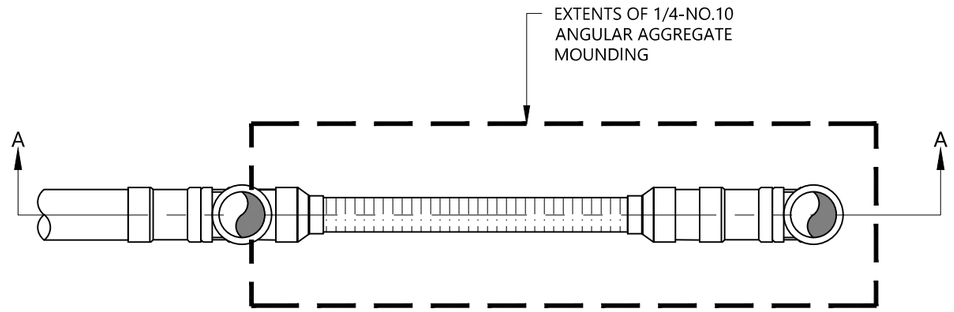
Bureau of Environmental Services
CITY OF PORTLAND, OREGON
2020 STORMWATER MANAGEMENT MANUAL

SWMM Detail Title

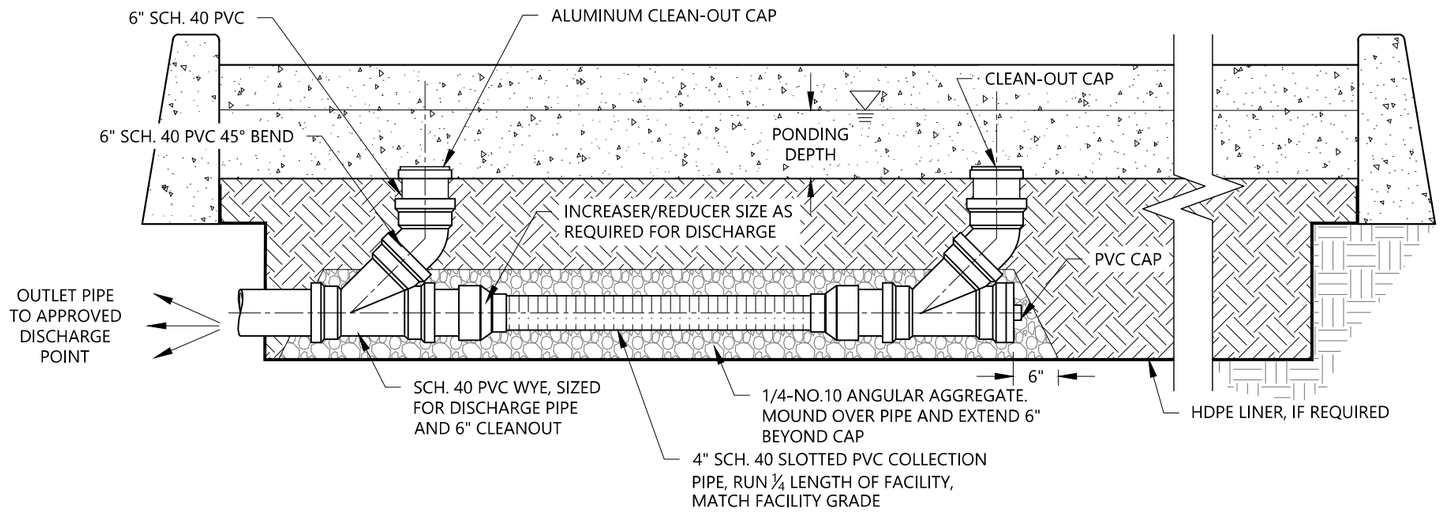
OVERFLOW CONFIGURATION
BEEHIVE OVERFLOW STRUCTURE

Effective Date: 12-14-2020	SWMM Detail No. SW-317
Calc. Book No.: N/A	
Baseline Report Date: N/A	

2020SWMM-DETAILS.DWG 12/9/20 11:16 AM SPEREZ



PLAN



SECTION A-A

DESIGNER INFORMATION:

1. EXAMPLE SHOWN IS FOR A LINED FACILITY. MODIFY DETAIL FOR UNLINED FACILITIES.

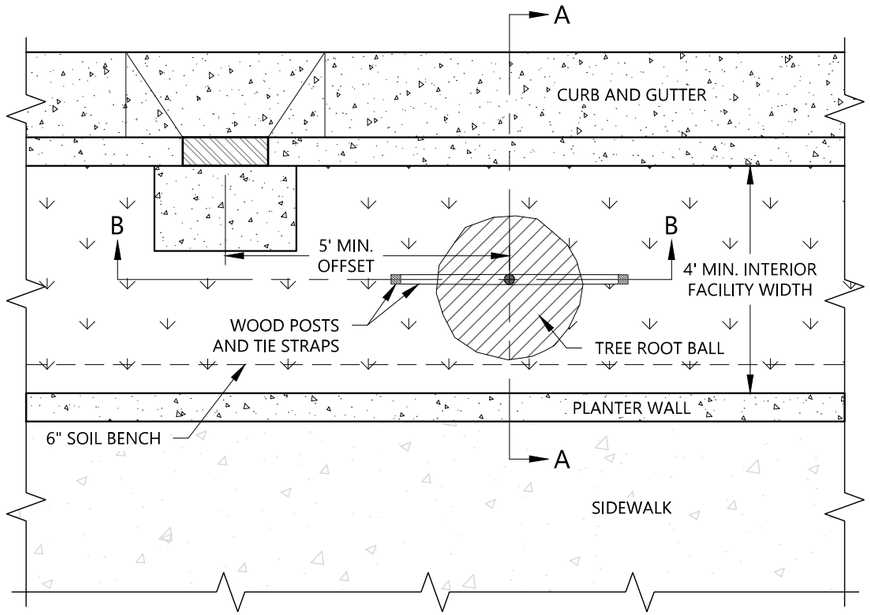
Bureau of Environmental Services
CITY OF PORTLAND, OREGON
2020 STORMWATER MANAGEMENT MANUAL

SWMM Detail Title

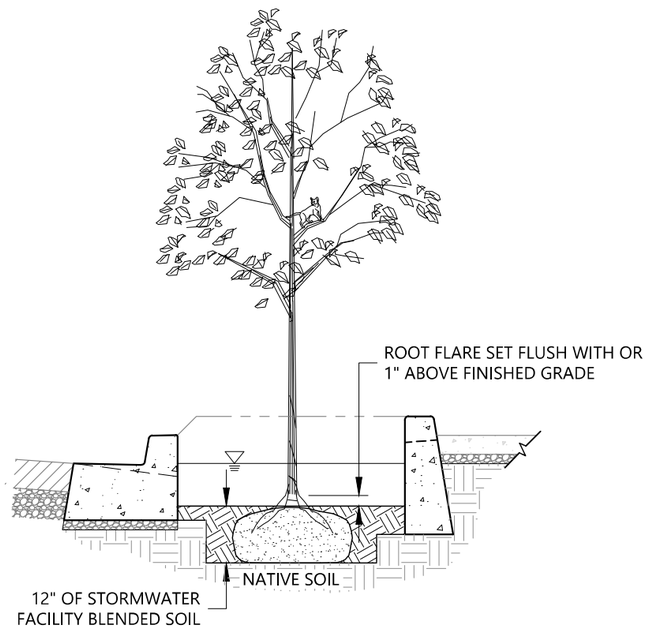
UNDERDRAIN WITH CLEANOUT

Effective Date: 12-14-2020	SWMM Detail No. SW-318
Calc. Book No.: N/A	
Baseline Report Date: N/A	

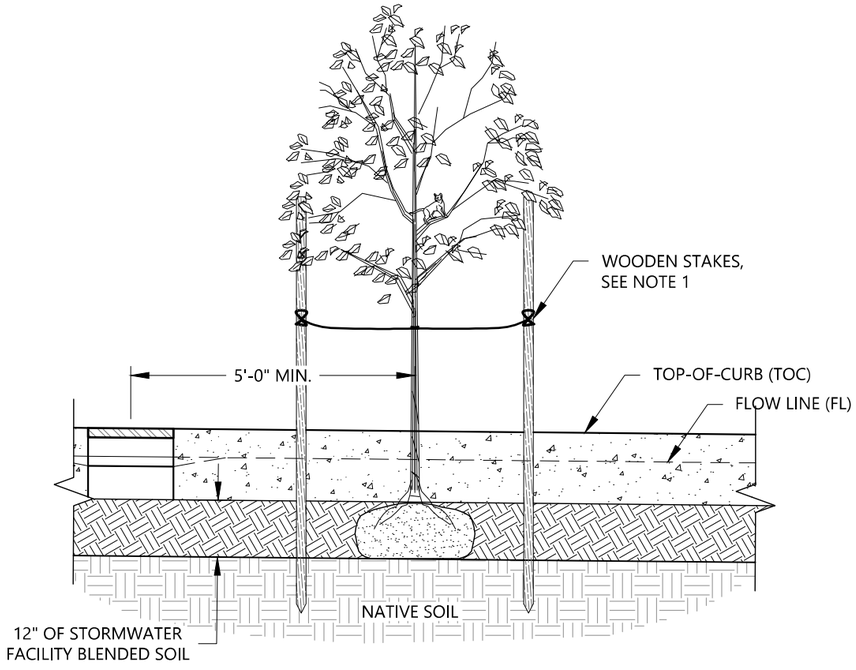
2020SWMM-DETAILS.DWG 12/9/20 11:16 AM SPEREZ



PLAN VIEW



SECTION A-A
(STREET TREE IN FACILITY
WITHOUT ROCK GALLERY)



LONGITUDINAL SECTION B-B
(STREET TREE IN FACILITY WITHOUT ROCK GALLERY)

DESIGNER INFORMATION:

1. REFER TO CITY OF PORTLAND STANDARD DRAWING P-581: TYPICAL STREET TREE INSTALLATION, FOR TREE INSTALLATION GUIDANCE.
2. STORMWATER FACILITY CONSTRUCTION AND BLENDED SOIL REQUIREMENTS, SEE CITY OF PORTLAND STANDARD CONSTRUCTION SPECIFICATIONS SECTIONS 00415 AND 01040.14(D).
3. ALL PROPOSED TREE SPECIES AND LOCATION MUST BE APPROVED BY URBAN FORESTRY TITLE 11 PERMIT (503-823-8733) AND BES.
4. INCLUDE STREET TREES ON PLANS.
5. SHOW LINER IF USED.
6. OFFSET TREE TRUNK A MINIMUM OF 5' FROM INLETS.
7. IT IS PROHIBITED TO INCLUDE AN EXISTING TREE WITHIN THE BOUNDARY OF A NEW STORMWATER FACILITY.
8. STREET TREE PLANTING MUST ADHERE TO THE CITY OF PORTLAND STREET TREE PLANTING STANDARDS.
9. A 6' LONG 12" DEEP 80 MIL HDPE ROOT BARRIER MAY BE REQUIRED IN THE ABSENCE OF A PLANTER WALL, AS DIRECTED BY URBAN FORESTRY

CONSTRUCTION NOTES:

1. CONTACT URBAN FORESTRY FOR TREE PERMITTING AT (503) 823-8733.
2. CONTACT BES FOR TREE INSTALLATION ASSISTANCE.
3. SET ROOT FLARE FLUSH WITH OR 1" ABOVE FINISHED GRADE.
4. REMOVE ALL TWINE, WIRE, ROOT BAGS, BURLAP, AND ALL OTHER NURSERY MATERIALS FROM TREE PRIOR TO BACKFILLING.
5. DEPTH OF EXCAVATION FOR TREE WILL DEPEND ON SIZE OF ROOT BALL.
6. IN FACILITIES THAT ARE UNLINED, FRACTURE AND LOOSEN SOIL BEFORE INSTALLING BLENDED SOIL

IMPORTANT: Location of trees must meet clearance requirements established by the City of Portland. Utility conflicts and existing conditions can affect tree placement. Locate utilities prior to installing trees.

For specific clearance requirements contact:

PBOT	(503) 823-7884
PWB	(503) 823-7368
BES	(503) 823-7761
Urban Forestry	(503) 823-8733

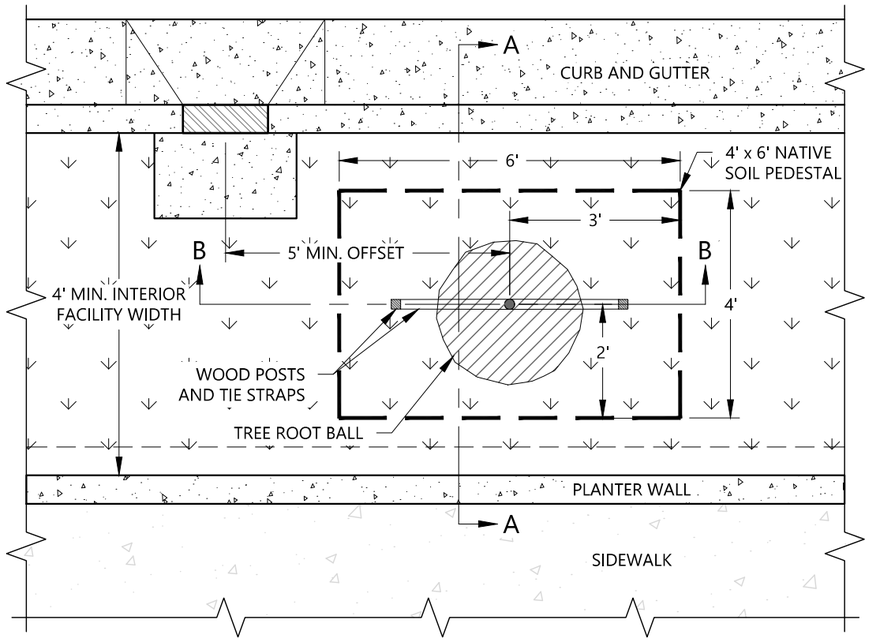
Bureau of Environmental Services
CITY OF PORTLAND, OREGON
2020 STORMWATER MANAGEMENT MANUAL

SWMM Detail Title

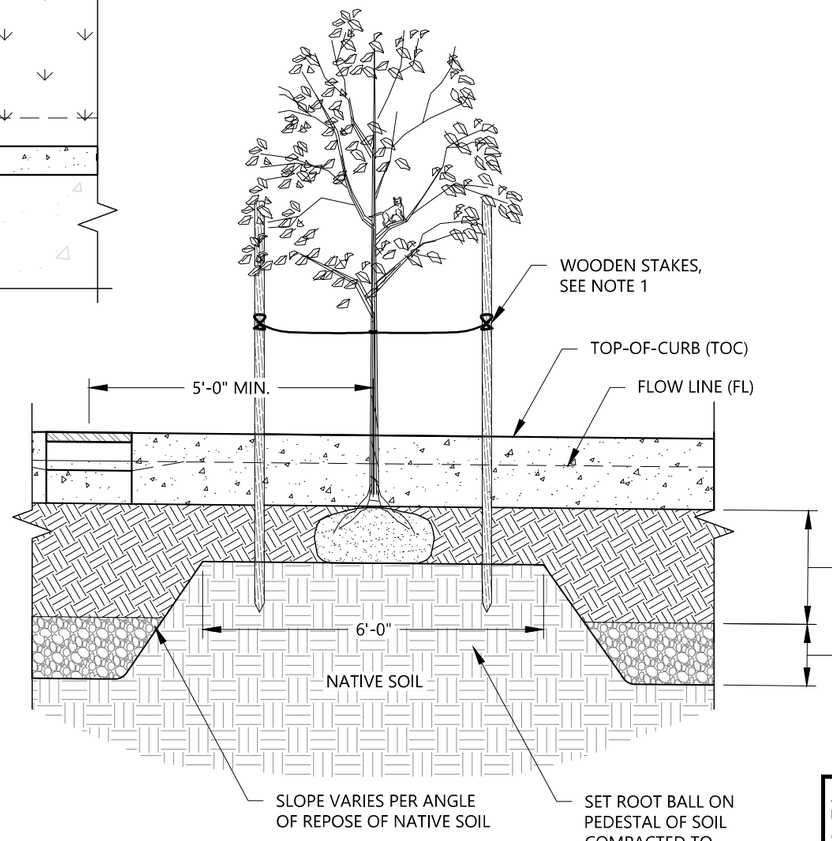
STREET TREES IN FACILITY NO ROCK GALLERY

Effective Date: 12-14-2020	SWMM Detail No. SW-320
Calc. Book No.: N/A	
Baseline Report Date: N/A	

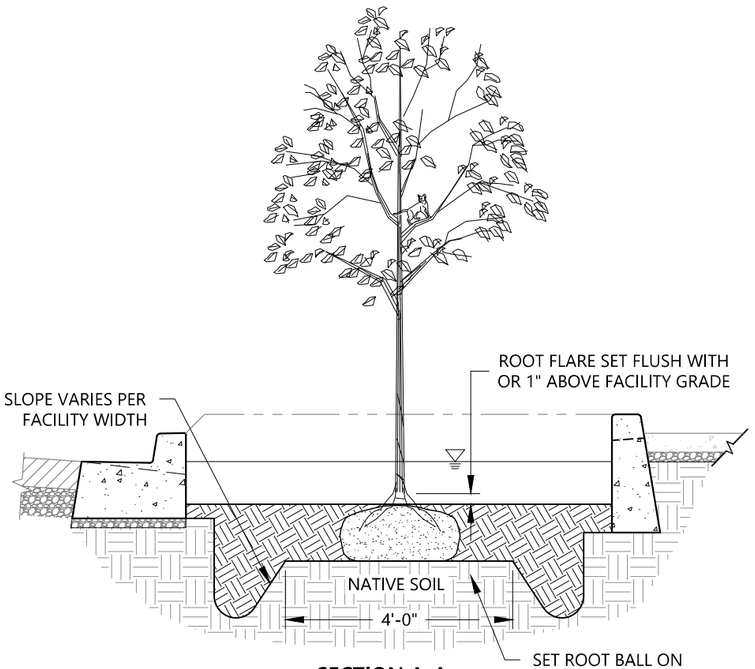
2020SWMM–DETAILS.DWG 12/9/20 11:16 AM SPEREZ



PLAN VIEW



LONGITUDINAL SECTION B-B
(STREET TREE IN FACILITY WITH ROCK GALLERY)



SECTION A-A
(STREET TREE IN FACILITY WITH ROCK GALLERY)

DESIGNER INFORMATION:

1. REFER TO CITY OF PORTLAND STANDARD DRAWING P-581: TYPICAL STREET TREE INSTALLATION, FOR TREE INSTALLATION GUIDANCE.
2. STORMWATER FACILITY CONSTRUCTION AND BLENDED SOIL REQUIREMENTS, SEE CITY OF PORTLAND STANDARD CONSTRUCTION SPECIFICATIONS SECTIONS 00415 AND 01040.14(D).
3. ALL PROPOSED TREE SPECIES AND LOCATIONS MUST BE APPROVED BY URBAN FORESTRY TITLE 11 PERMIT (503-823-8733), AND BES.
4. INCLUDE TREE PEDESTAL AND STREET TREE VIEWS ON PLANS.
5. SHOW LINER IF USED.
6. OFFSET TREE TRUNK A MINIMUM OF 5' FROM INLETS.
7. IT IS PROHIBITED TO INCLUDE AN EXISTING TREE WITHIN THE BOUNDARY OF A NEW STORMWATER FACILITY.
8. STREET TREE PLANTING MUST ADHERE TO CITY OF PORTLAND STREET TREE PLANTING STANDARDS.
9. A 6' LONG 12" DEEP 80 MIL HDPE ROOT BARRIER MAY BE REQUIRED IN THE ABSENCE OF A PLANTER WALL, AS DIRECTED BY URBAN FORESTRY.

CONSTRUCTION NOTES:

1. CONTACT URBAN FORESTRY FOR TREE PERMITTING AT (503) 823-8733.
2. CONTACT BES FOR TREE INSTALLATION ASSISTANCE.
3. STAKE, OR MARK CENTER OF PEDESTAL FOR FUTURE PLANTING.
4. SET ROOT BALL ON "PEDESTAL " OF MOUNDED COMPACTED NATIVE SOIL AS NEEDED TO ACCOMMODATE ROOT BALL AND PER STANDARD DRAWING P-581.
5. SET ROOT FLARE FLUSH WITH OR 1" ABOVE FINISHED GRADE.
6. REMOVE ALL TWINE, WIRE, ROOT BAGS, BURLAP, AND ALL OTHER NURSERY MATERIALS FROM TREE PRIOR TO BACKFILLING.
7. DEPTH OF EXCAVATION FOR TREE WILL DEPEND ON SIZE OF ROOT BALL.
8. IN FACILITIES THAT ARE UNLINED, FRACTURE AND LOOSEN SOIL BEFORE INSTALLING AGGREGATES OR BLENDED SOIL.

IMPORTANT: Location of trees must meet clearance requirements established by the City of Portland. Utility conflicts and existing conditions can affect tree placement. Locate utilities prior to installing trees.

For specific clearance requirements contact:

PBOT	(503) 823-7884
PWB	(503) 823-7368
BES	(503) 823-7761
Urban Forestry	(503) 823-8733

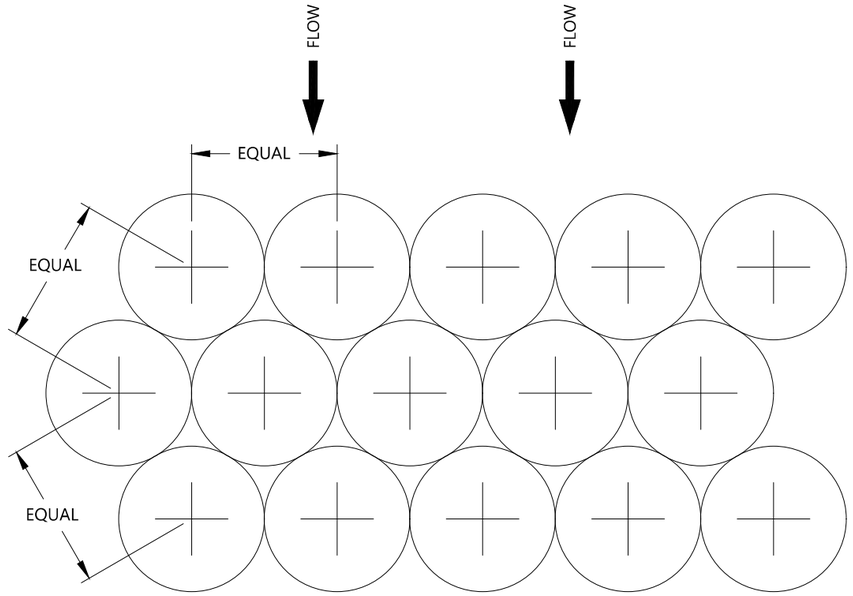
Bureau of Environmental Services
CITY OF PORTLAND, OREGON
2020 STORMWATER MANAGEMENT MANUAL

SWMM Detail Title

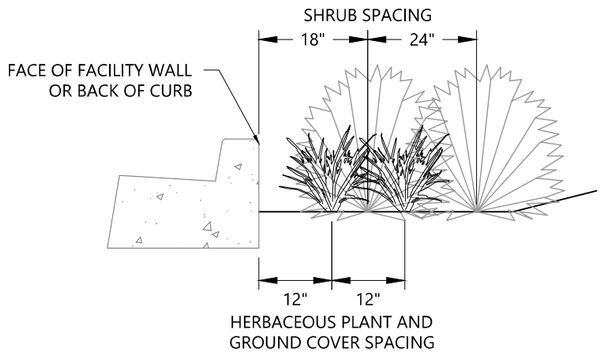
STREET TREES IN FACILITY WITH ROCK GALLERY

Effective Date: 12-14-2020	SWMM Detail No. SW-321
Calc. Book No.: N/A	
Baseline Report Date: N/A	

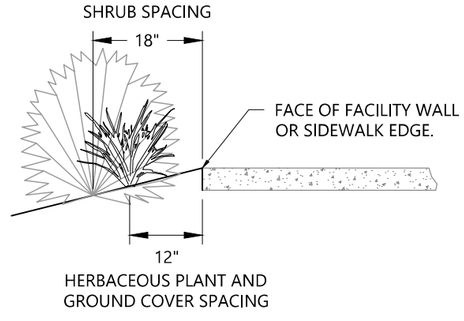
2020SWMM-DETAILS.DWG 12/9/20 11:16 AM SPEREZ



PLAN VIEW



STREET SIDE OF FACILITY
ELEVATION VIEW



SIDEWALK SIDE OF FACILITY
ELEVATION VIEW

DESIGNER INFORMATION:

1. ALL PLANTS SHALL BE PLANTED AT EQUAL TRIANGULAR SPACING ON CENTER (O.C.) PER SPACING SPECIFIED ON THE PLANTING LEGEND.

2. PLANTS SHALL BE LOCATED SET BACK FROM FACILITY EDGES AS FOLLOWS:

   2.1. HERBACEOUS PLANTS AND GROUNDCOVERS: 12" FROM CENTER OF PLANT TO FACE OF FACILITY WALL, BACK OF CURB OR SIDEWALK EDGE.
   2.2. SHRUBS: 18" FROM CENTER OF PLANT TO FACE OF FACILITY WALL, BACK OF CURB OR SIDEWALK EDGE.

3. INTERIOR PLANT SPACING MAY BE SLIGHTLY ADJUSTED TO ACHIEVE DESIRED EDGE SETBACKS.

Bureau of Environmental Services
CITY OF PORTLAND, OREGON
2020 STORMWATER MANAGEMENT MANUAL

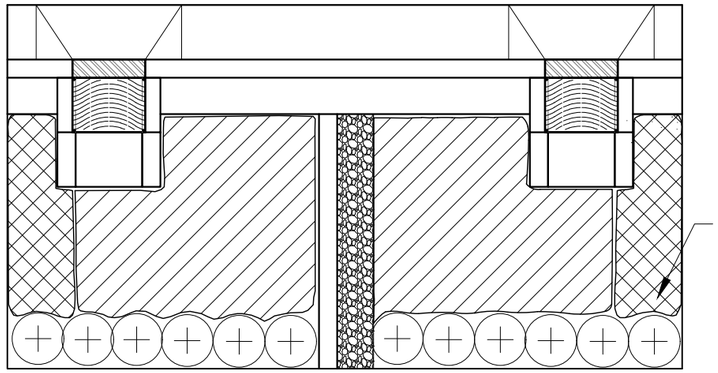
SWMM Detail Title

PLANT SPACING FOR HERBACEOUS PLANTS GROUNDCOVERS AND SHRUBS

Effective Date: 12-14-2020	SWMM Detail No. SW-322
Calc. Book No.: N/A	
Baseline Report Date: N/A	

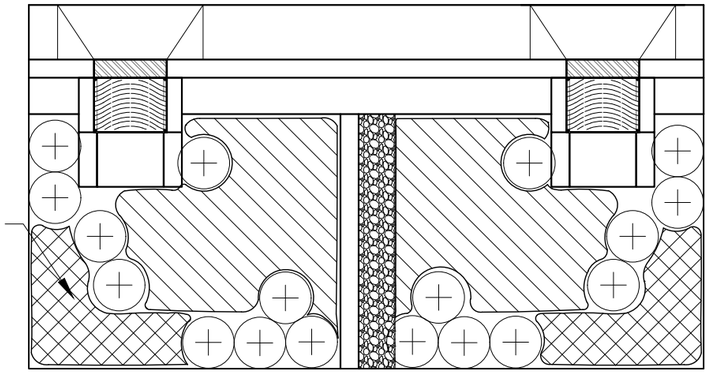
2020SWMM-DETAILS.DWG 12/9/20 11:16 AM SPEREZ

TEMPLATE 1



QTY KEY

TEMPLATE 2



DESIGNER INFORMATION:

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 SECTION 4.2.2
3. PLANTING LEGEND REQUIRED. STATE PLANT SPECIES, SPACING, AND QUANTITIES PER ZONE A AND ZONE B AND PER FACILITY. INCLUDE THE SQUARE FOOTAGE OF ZONE A AND B.
4. PLANTING PLANS SHALL INCLUDE LABELS FOR EACH PLANT GROUP IDENTIFYING THE PLANT SPECIES AND QUANTITY IN THE GROUP.
5. SEE DETAIL SW-322 FOR PLANT SPACING.
6. SEE SECTION 4.9.5, LANSCAPE PLAN REQUIREMENTS, FOR SUBMITTAL REQUIREMENTS.

KEY 1 Recommended Plants

Symbol	*Botanical Name* Common Name	Spacing
ZONE A		
	Carex obnupta Slough Sedge	12" O.C.
	Juncus patens Spreading rush	12" O.C.
ZONE B		
	Mahonia repens Creeping oregon grape	24" O.C.
	Spiraea x bumalda 'Goldflame' Goldflame spirea	24" O.C.
	Rubus calycinoides Creeping raspberry	12" O.C.

KEY 2 Recommended Plants

Symbol	*Botanical Name* Common Name	Spacing
ZONE A		
	Carex obnupta Slough Sedge	12" O.C.
	Juncus patens Spreading rush	12" O.C.
ZONE B		
	Cornus sericea 'Kelseyi' Dwarf Red-Twig Dogwood	24" O.C. OR AS SHOWN
	Spiraea x bumalda 'Goldmound' Goldmound spirea	24" O.C. OR AS SHOWN
	Fragaria chiloensis Coastal Strawberry	12" O.C.

SAMPLE PLANTING LEGEND

				SQ. FOOT AREA - ZONE A		X
				SQ. FOOT AREA - ZONE B		X
SYMBOL	BOTANIC NAME	COMMON NAME	SIZE (IN)	SPACING (IN)	QTY. ZONE A	QTY. ZONE B
	Xxxxx xxxxx	xxxxx	X	X	X	X
	Xxxxx xxxxx	xxxxx	X	X	X	X

Bureau of Environmental Services
CITY OF PORTLAND, OREGON
2020 STORMWATER MANAGEMENT MANUAL

SWMM Detail Title

PLANTING TEMPLATE - SWALE

Effective Date: 12-14-2020
Calc. Book No.: N/A
Baseline Report Date: N/A

SWMM Detail No.
SW-323

2020SWMM-DETAILS.DWG 12/9/20 11:16 AM SPEREZ

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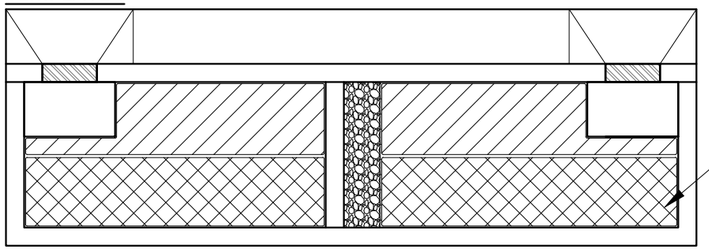
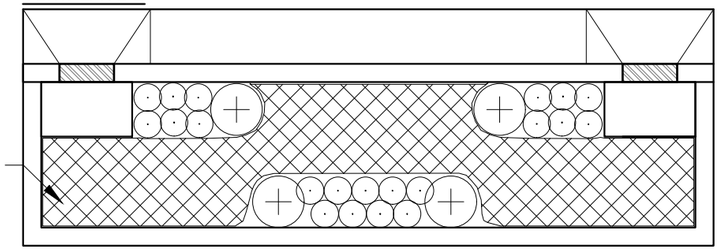


TEMPLATE 2



DESIGNER INFORMATION:

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 SECTION 4.2.2.
3. PLANTING LEGEND REQUIRED. STATE PLANT SPECIES, SPACING, AND QUANTITIES PER ZONE A AND ZONE B AND PER FACILITY. INCLUDE THE SQUARE FOOTAGE OF ZONE A AND B.
4. PLANTING PLANS SHALL INCLUDE LABELS FOR EACH PLANT GROUP IDENTIFYING THE PLANT SPECIES AND QUANTITY IN THE GROUP.
5. SEE DETAIL SW-322 FOR PLANT SPACING.
6. SEE SECTION 4.9.5, LANSCAPE PLAN REQUIREMENTS, FOR SUBMITTAL REQUIREMENTS.

KEY 1 Recommended Plants

Symbol	*Botanical Name* Common Name	Spacing
ZONE A		
	Juncus patens Spreading rush	12" O.C.
	Carex obnupta Slough sedge	12" O.C.

KEY 2 Recommended Plants

Symbol	*Botanical Name* Common Name	Spacing
ZONE A		
	Carex obnupta Slough sedge	12" O.C.
	Liriope muscari "Big Blue" Big blue lily turf	12" O.C.
	Cornus sericea 'Kelseyi' Kelsey dogwood	24" O.C. OR AS SHOWN

SAMPLE PLANTING LEGEND

				SQ. FOOT AREA - ZONE A	X
SYMBOL	BOTANIC NAME	COMMON NAME	SIZE (IN)	SPACING (IN)	QTY. ZONE A
	Xxxxx xxxxx	xxxxx	X	X	X
	Xxxxx xxxxx	xxxxx	X	X	X

Bureau of Environmental Services
CITY OF PORTLAND, OREGON
2020 STORMWATER MANAGEMENT MANUAL

SWMM Detail Title

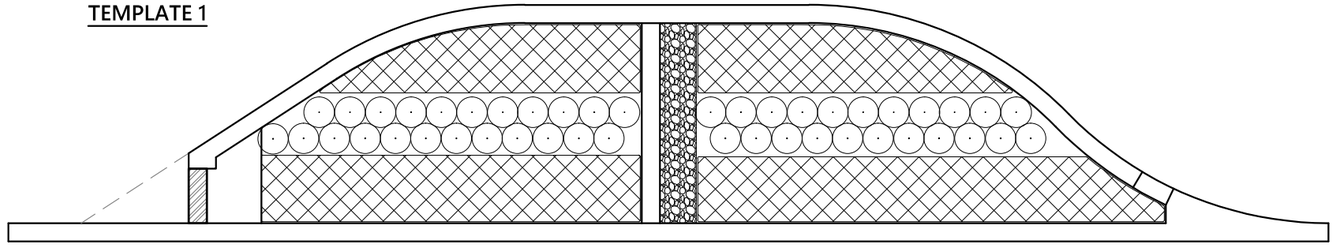
PLANTING TEMPLATE - PLANTER

Effective Date: 12-14-2020
Calc. Book No.: N/A
Baseline Report Date: N/A

SWMM Detail No.
SW-324

2020SWMM-DETAILS.DWG 12/9/20 11:16 AM SPEREZ

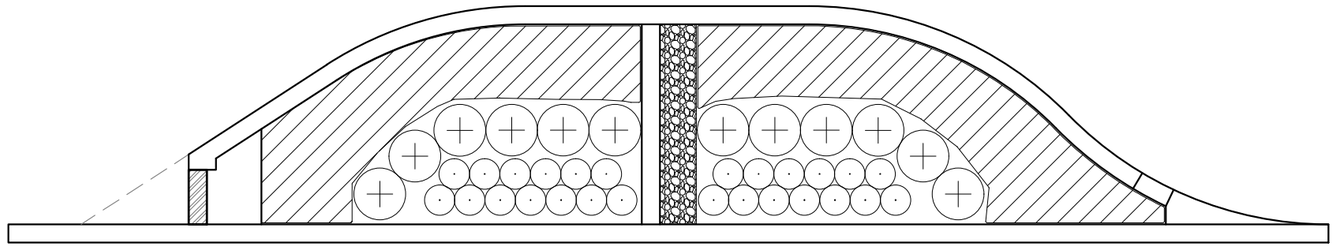
TEMPLATE 1



KEY 1 Recommended Plants

Symbol	*Botanical Name* Common Name	Spacing
ZONE A		
	Carex obnupta Slough sedge	12" O.C.
	Juncus patens Spreading rush	12" O.C.

TEMPLATE 2



KEY 2 Recommended Plants

Symbol	*Botanical Name* *Common Name*	Spacing
ZONE A		
	Juncus patens Spreading Rush	12" O.C.
	Carex morrowii 'Ice Dance' Ice Dance Sedge	12" O.C.
	Spiraea x bumalda 'Goldflame' Goldflame spirea	24" O.C.

SAMPLE PLANTING LEGEND

				SQ. FOOT AREA - ZONE A	X
SYMBOL	BOTANIC NAME	COMMON NAME	SIZE (IN)	SPACING (IN)	QTY. ZONE A
	Xxxxx xxxxx	xxxxx	X	X	X
	Xxxxx xxxxx	xxxxx	X	X	X

DESIGNER INFORMATION:

1. CHOOSE A TEMPLATE AND ALTER IT TO DESIGN. THESE ARE EXAMPLES OF APPROVED PLANTING TEMPLATES. OTHER PLANTING PLANS MAY BE APPROVED.
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3. PLANTING LEGEND REQUIRED. STATE PLANT SPECIES, SPACING, AND QUANTITIES PER ZONE A AND ZONE B AND PER FACILITY. INCLUDE THE SQUARE FOOTAGE OF ZONE A AND B.
4. PLANTING PLANS SHALL INCLUDE LABELS FOR EACH PLANT GROUP IDENTIFYING THE PLANT SPECIES AND QUANTITY IN THE GROUP.
5. SEE DETAIL SW-322 FOR PLANT SPACING.
6. SEE SECTION 4.9.5, LANSCAPE PLAN REQUIREMENTS, FOR SUBMITTALL REQUIREMENTS.

Bureau of Environmental Services
CITY OF PORTLAND, OREGON
2020 STORMWATER MANAGEMENT MANUAL

SWMM Detail Title

PLANTING TEMPLATE
CURB EXTENSION

Effective Date: 12-14-2020	SWMM Detail No. SW-325
Calc. Book No.: N/A	
Baseline Report Date: N/A	

2020SWMM-DETAILS.DWG 12/9/20 11:16 AM SPEREZ