

ATTACHMENT C

RAINWISE DETAILS

**Please Ignore any RainWise Garden
Information. This Solicitation is for
Cistern Only.**



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ABBREVIATIONS:

COS	CITY OF SEATTLE
CSO	COMBINED SEWER OVERFLOW
GPM	GALLONS PER MINUTE
PVC	POLYVINYL CHLORIDE
SF	SQUARE FEET

REFERENCE MATERIALS:

- RAINWISE SIZING AND REBATE TABLES AND CISTERN REBATE CALCULATOR
https://rainwise.seattle.gov/city/seattle/contractor_corner
- SEATTLE STORMWATER MANUAL
<http://www.seattle.gov/dpd/codes/dr/dr2009-17.pdf>
- RAIN GARDEN HANDBOOK FOR WESTERN WASHINGTON
<https://fortress.wa.gov/ecy/publications/publications/1310027.pdf>
- SEATTLE GREEN FACTOR PLANT LIST
http://www.seattle.gov/dpd/cs/groups/pan/@pan/documents/web_informational/dpds021347.pdf
- SEATTLE RIGHT-OF-WAY IMPROVEMENTS MANUAL
<http://www.seattle.gov/transportation/rowmanual/manual/>
- SEATTLE STANDARD SPECIFICATIONS
http://www.seattle.gov/util/engineering/standard_plans_&_specs
- SEATTLE STANDARD PLANS
http://www.seattle.gov/util/Engineering/Standard_Plans_&_Specs/
- SEATTLE SIDE SEWER PERMIT REQUIREMENTS
<http://www.seattle.gov/dpd/permits/permittypes/sidesewer/>
- SEATTLE DIRECTOR'S RULES
<http://web6.seattle.gov/dpd/dirrulesviewer/>
- SEATTLE LAND USE CODE
<http://www.seattle.gov/dpd/codesrules/codes/landuse/>



RAINWISE GENERAL NOTES:

1. ALL WORK SHALL CONFORM TO THE 2014 CITY OF SEATTLE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION THE CITY OF SEATTLE STANDARD PLANS, 2011 EDITION; CITY OF SEATTLE DIRECTORS RULES: 5-2009, 4-2001, 15-2009, 16-2009, 17-2009, 18-2009; AND CODES ADOPTED BY REFERENCE INCLUDING THE SEATTLE BUILDING CODE AND SEATTLE FIRE CODE.
2. IN ACCORDANCE WITH SECTIONS 4.2.5, 6.4.2, AND 6.3 OF DIRECTORS' RULES: 2009-005 SPU AND 17-2009 DPD THE OVERFLOW CONVEYANCE MUST SAFELY CONVEY THE 25-YEAR STORM.
3. ALL CONVEYANCE PIPE DOWNSTREAM OF THE EXISTING DOWNSPOUT MUST MEET RAINWISE REQUIREMENTS.
4. DOWNSPOUT TO RAIN GARDEN PIPES SHALL BE A MINIMUM OF 3-INCHES IN DIAMETER. SEE SHEET 3 FOR COMPLETE SIZING REQUIREMENTS.
5. RAIN GARDEN OVERFLOW PIPES SHALL BE A MINIMUM OF 4-INCHES IN DIAMETER. SEE SHEET 7 FOR COMPLETE SIZING REQUIREMENTS.
6. CISTERN OVERFLOW PIPES SHALL BE A MINIMUM OF 3-INCHES IN DIAMETER. SEE SHEET 10 FOR COMPLETE SIZING REQUIREMENTS.
7. CISTERNS WITH HIGH TIPPING POTENTIAL SHALL BE RESTRAINED TO PREVENT OVERTURNING.
8. PIPES IN CONTACT WITH GROUND SHALL BE SCHEDULE 40 PVC OR APPROVED EQUAL.
9. PIPES NOT IN CONTACT WITH THE GROUND SHALL BE PVC SCHEDULE 40, SDR 35, OR ABS.
10. PIPES NOT FULLY BURIED SHALL BE ANCHORED TO RESIST MOVEMENT.
11. PER UPC 2.3.3 PIPES SHALL NOT BE EXPOSED TO DIRECT SUNLIGHT. PIPES MAY BE PAINTED BY HOMEOWNERS IF THE HOMEOWNER AGREES, IN WRITING, TO PERFORM SUCH WORK.
12. PER UPC 2.5.2 PIPES SHALL BE SUPPORTED EVERY 4-FEET HORIZONTAL, AT CHANGES IN DIRECTION, AND EVERY EIGHT VERTICAL FEET.
13. ROOF DRAINAGE GREATER THAN 2,000 SQUARE FEET **REQUIRES CONSULTATION WITH RAINWISE INSPECTOR.**
14. FLOW CONTROL OUTLET MUST REMAIN OPEN DURING THE WET SEASON (SEPTEMBER TO MAY).

RAINWISE SITE REQUIREMENTS

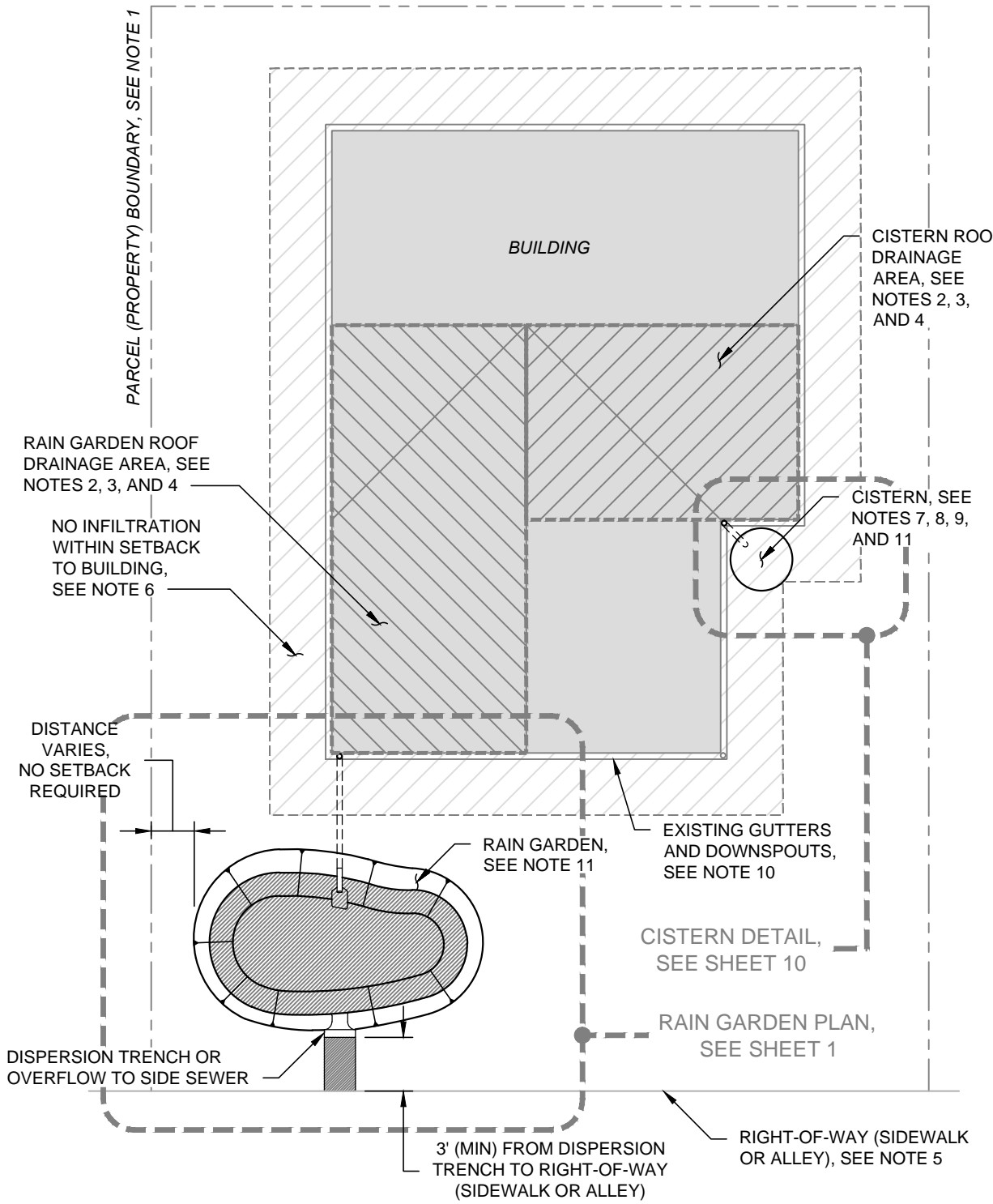


RAINWISE SITE REQUIREMENTS:

1. SUBJECT PARCEL MUST BE IN A QUALIFYING CSO BASIN.
2. A MINIMUM OF 400 SQUARE FEET OF ROOF DRAINAGE AREA MUST BE COLLECTED AND CONVEYED TO RAIN GARDEN OR CISTERN TO QUALIFY FOR REBATE.
3. ROOF DRAINAGE GREATER THAN 2,000 SQUARE FEET **REQUIRES CONSULTATION WITH RAINWISE INSPECTOR.**
4. PROJECTS INFILTRATING MORE THAN 2,000 SQUARE FEET OF IMPERVIOUS SURFACE MUST ADHERE TO THE SEATTLE STORMWATER MANUAL.
5. NO MORE THAN 1,000 SQUARE FEET OF CONTRIBUTING IMPERVIOUS SURFACE MAY OVERFLOW TO CITY SIDEWALK AT A SINGLE LOCATION. SYSTEMS IN EXCESS OF 1,000 SQUARE FEET SHALL HAVE TWO OR MORE OVERFLOWS (AS NECESSARY), EACH SEPARATED BY A DISTANCE OF 10 FEET OR MORE.
6. INFILTRATION PROHIBITED WITHIN 5 FEET OF FOUNDATION WALL FOR DWELLING WITHOUT BASEMENT AND WITHIN 10 FEET OF FOUNDATION WALL FOR DWELLING WITH BASEMENT UP TO 5 FEET DEEP. FOR BASEMENTS DEEPER THAN 5 FEET, INFILTRATION PROHIBITED WITHIN A DISTANCE OF 2 TIMES THE BASEMENT DEPTH MEASURED FROM FOUNDATION WALL. CONVEYANCE WITHIN THIS SETBACK MUST BE IMPERVIOUS (I.E., LINED OR PIPED).
7. QUALIFYING CISTERNS MUST BE A MINIMUM OF 200 GALLONS, HAVE A 1/4 INCH DIAMETER LOW FLOW ORIFICE, AND A MINIMUM HEAD OF 3.0 FEET.
8. ROUTE CISTERN OVERFLOWS TO RAIN GARDEN, RIGHT-OF-WAY, OR SANITARY SEWER.
9. CISTERN SITING SHALL CONFORM TO SETBACK AND YARD REQUIREMENTS SET FORTH IN SEATTLE LAND USE CODE. FOR SINGLE FAMILY RESIDENTIAL APPLICATIONS, SEE SECTION 23.44.014: YARDS.
10. REMOVE DOWNSPOUT PIPING AND PLUG AND SEAL GUTTER INLETS AT ALL ABANDONED DOWNSPOUT LOCATIONS.
11. FOR RAIN GARDEN AND CISTERN SIZING, REFER TO RAINWISE SIZING TABLES.

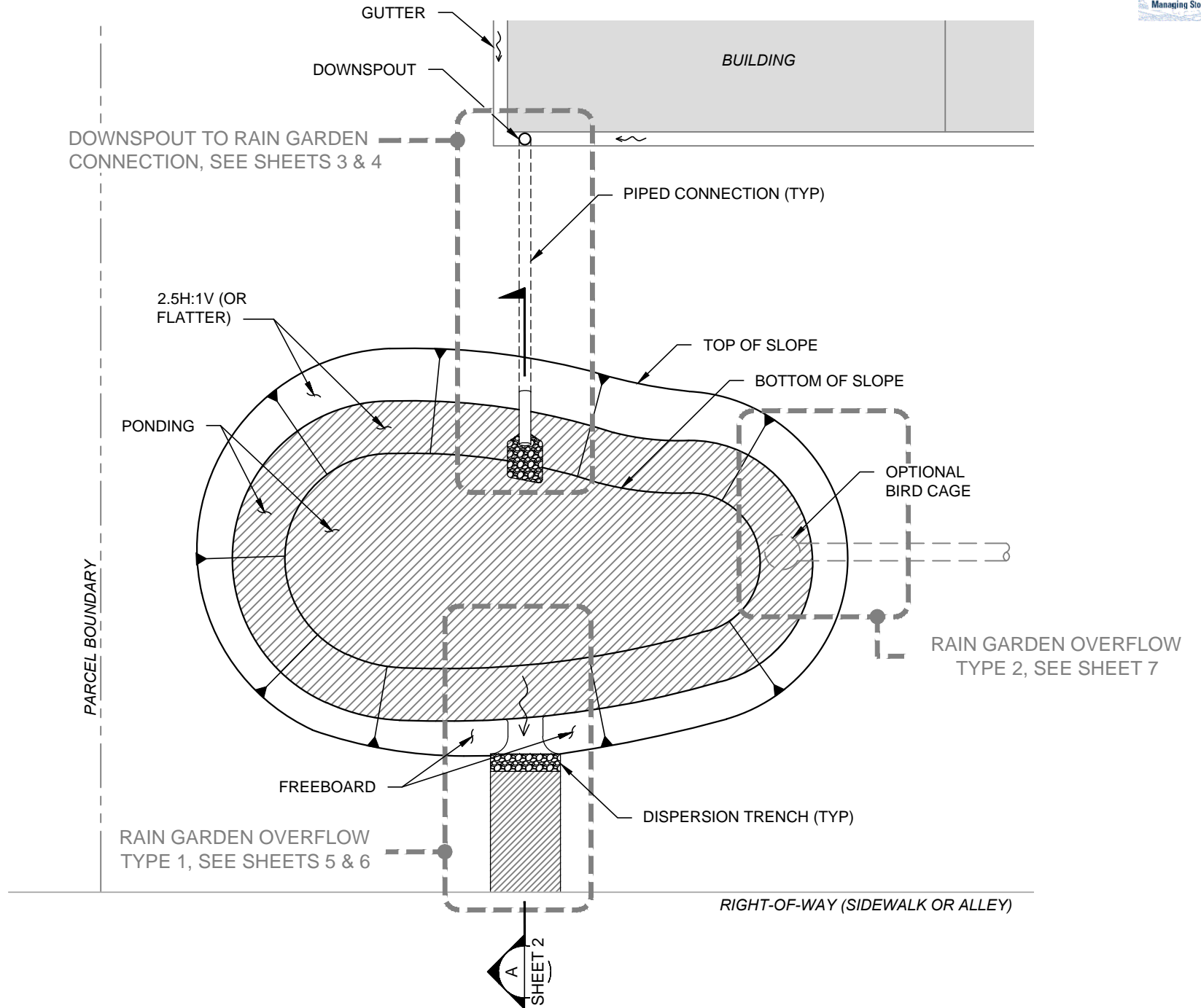
REFERENCE MATERIALS:

- RAINWISE SIZING AND REBATE TABLES AND CISTERN REBATE CALCULATOR
https://rainwise.seattle.gov/city/seattle/contractor_corner
- SEATTLE LAND USE CODE
<http://www.seattle.gov/dpd/codesrules/codes/landuse/>

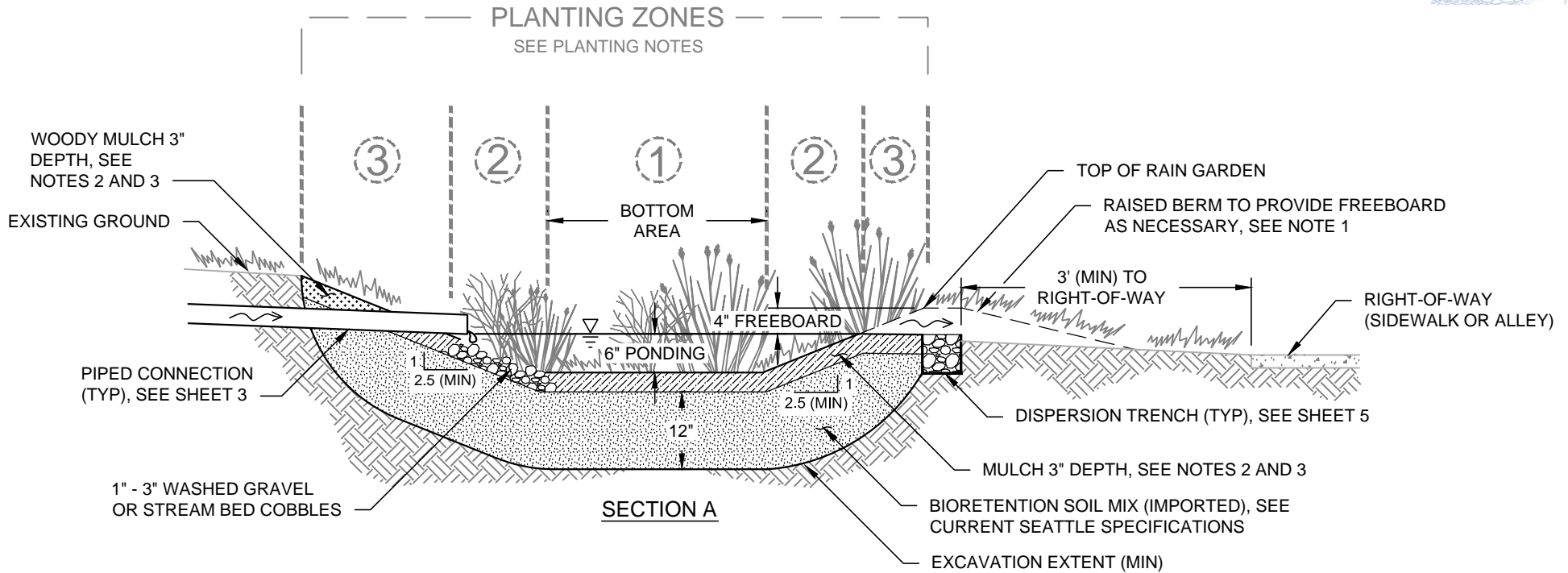


RAIN GARDEN PLAN

SHEET **1**
RAINWISE DETAILS
12/22/2014



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PLANTING NOTES:

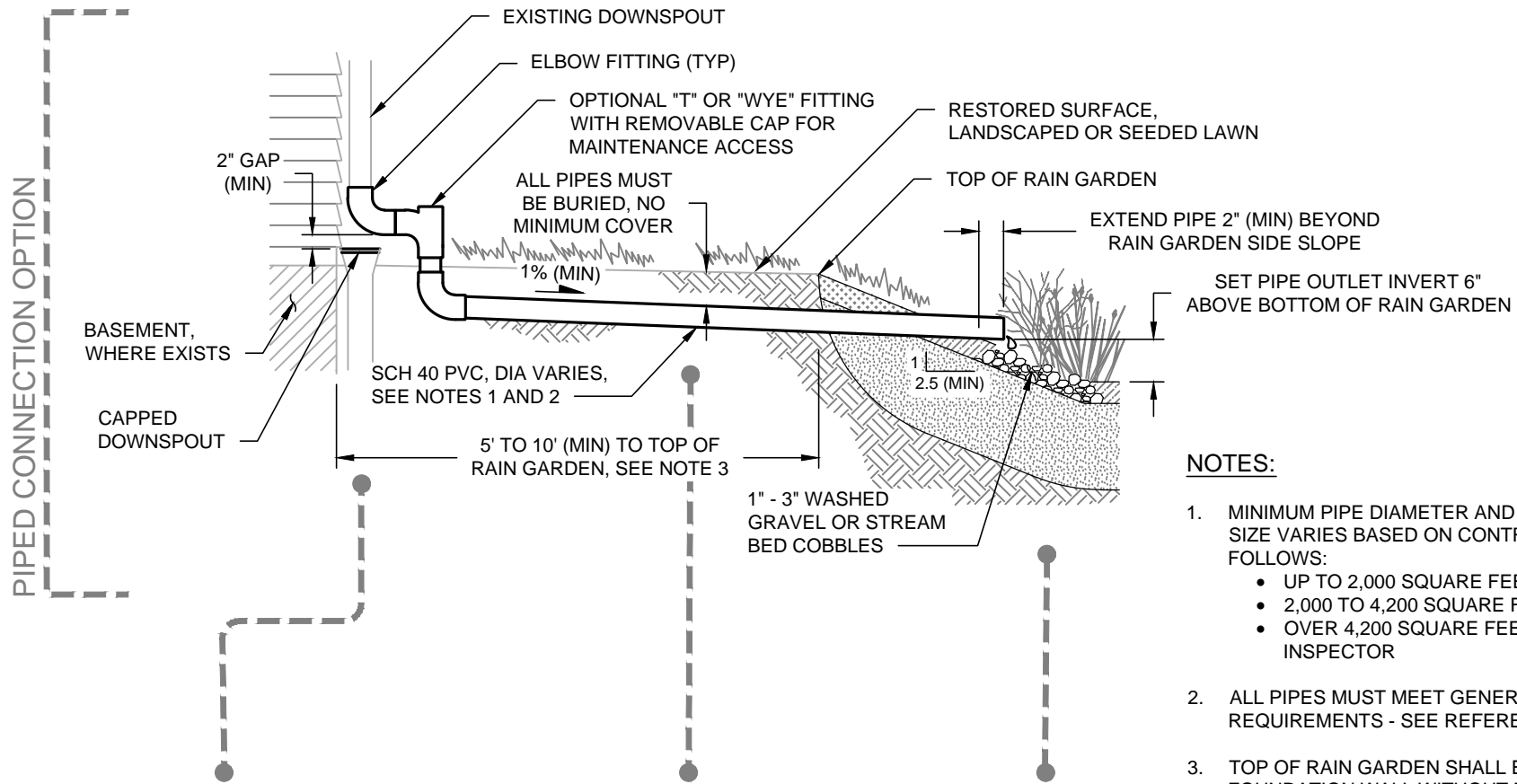
1. REFER TO THE RAIN GARDEN HANDBOOK FOR WESTERN WASHINGTON AND THE SEATTLE GREEN FACTOR PLANT LIST FOR GUIDANCE ON PLANT SELECTION SITING AND SPACING BY ZONE.
2. PLANT MATERIAL MUST BE PERENNIAL AND ADAPTED TO THE CONDITIONS ENCOUNTERED IN ITS LOCATION IN THE RAIN GARDEN.
3. EVERGREEN AND DECIDUOUS VEGETATION MAY BE USED BUT THE MAJORITY OF MATERIAL MUST PROVIDE A SIGNIFICANT ABOVE GROUND PRESENCE YEAR ROUND.
4. PLANT MATERIAL MUST BE OF A SUFFICIENT DENSITY TO ACHIEVE A MINIMUM OF 80% CANOPY COVER AFTER THE 3 YEAR ESTABLISHMENT PERIOD.
5. RAIN GARDEN PLANTING DESIGN SHOULD MINIMIZE COMPACTION OF BIORETENTION SOIL THROUGH PLANNED ACCESS. ANNUAL PLANTS REQUIRING SOIL DISTURBANCE FOR HARVESTING (E.G., CARROTS) OR YEARLY REPLANTING ARE NOT PERMITTED.

NOTES:

1. RAISED BERM SHALL BE FIRM, UNDISTURBED, NON-YIELDING NATIVE SOIL OR DISTURBED SITE SOILS COMPACTED WITH 12 POUND HAND TAMPER IN 3 INCH LIFTS. IF SITE SOILS ARE SANDY, CONSIDER IMPORTING DENSER, NON-PERMISSIVE SOILS FOR RAISED BERM.
2. WOODY MULCH PREFERRED, ROCK MULCH OR BARK CHIP MULCH NOT PERMITTED.
3. MULCH SHALL COMPLY WITH REQUIREMENTS FOR "COARSE MULCH" SET FORTH IN SEATTLE STANDARD SPEC 9-14.4 (8) FOR WET SEASON CONSTRUCTION.
4. ROCK MULCH / DRY STREAMS ARE NOT PERMITTED WITHIN THE RAIN GARDEN.

REFERENCE MATERIALS:

- RAIN GARDEN HANDBOOK FOR WESTERN WASHINGTON
http://www.seattle.gov/util/groups/public/@spu/@usm/documents/webcontent/02_008087.pdf
- SEATTLE GREEN FACTOR PLANT LIST
http://www.seattle.gov/dpd/cs/groups/pan/@pan/documents/web_informational/dps021347.pdf
- SEATTLE RIGHT-OF-WAY IMPROVEMENTS MANUAL
<http://www.seattle.gov/transportation/rowmanual/manual/>
- SEATTLE STANDARD SPECIFICATIONS
http://www.seattle.gov/util/engineering/standard_plans_&_specs

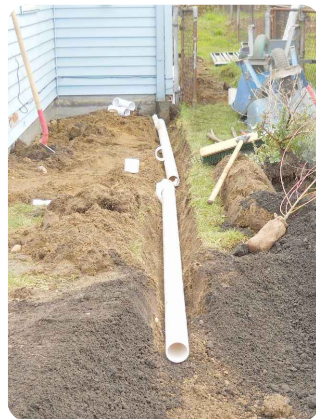


NOTES:

1. MINIMUM PIPE DIAMETER AND ASSOCIATED FITTING SIZE VARIES BASED ON CONTRIBUTING AREA AS FOLLOWS:
 - UP TO 2,000 SQUARE FEET: 3 INCH DIAMETER
 - 2,000 TO 4,200 SQUARE FEET: 4 INCH DIAMETER
 - OVER 4,200 SQUARE FEET: CONSULT RAINWISE INSPECTOR
2. ALL PIPES MUST MEET GENERAL PIPING REQUIREMENTS - SEE REFERENCE SHEET B.
3. TOP OF RAIN GARDEN SHALL BE 5 FEET (MIN) FROM FOUNDATION WALL WITHOUT BASEMENT AND 10 FEET (MIN) FROM FOUNDATION WALL WITH BASEMENT UP TO 5 FEET DEEP. FOR BASEMENTS DEEPER THAN 5 FEET, TOP OF RAIN GARDEN SHALL BE A DISTANCE OF 2 TIMES THE BASEMENT DEPTH FROM FOUNDATION WALL.



ELBOW FITTINGS AND CAPPED DOWNSPOUT AT EXISTING DOWNSPOUT

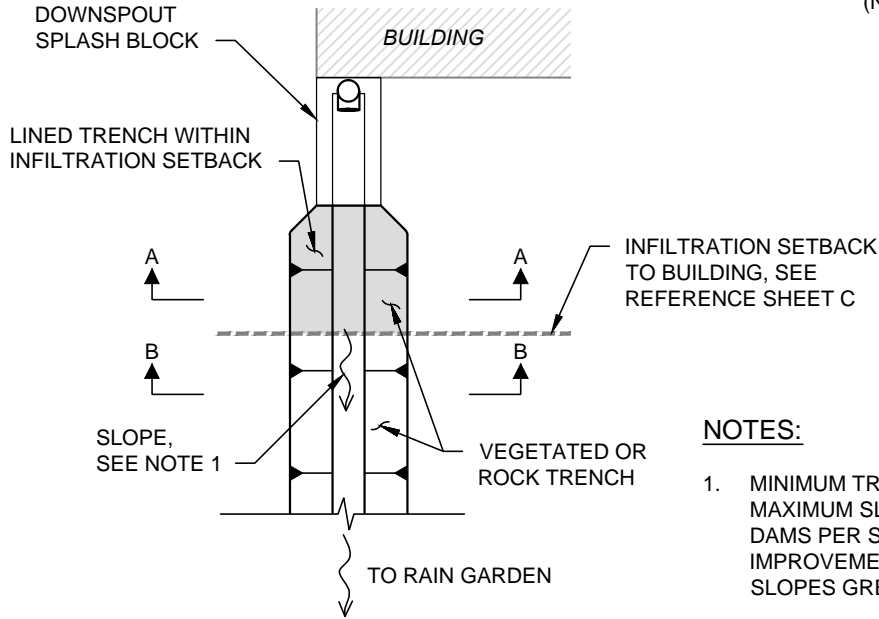


DOWNSPOUT TO RAIN GARDEN PIPED CONNECTION



WASHED GRAVEL OR STREAM BED COBBLES AT PIPE OUTLET

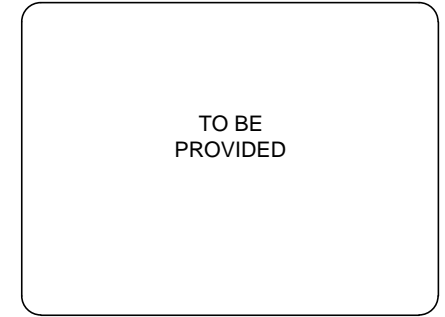
DOWNPOUT TO RAIN GARDEN CONNECTIONS (2 OF 2)



SECTION B (NO LINER) ← → SECTION A (LINER)



DOWNPOUT TO RAIN GARDEN
 ROCK TRENCH CONNECTION



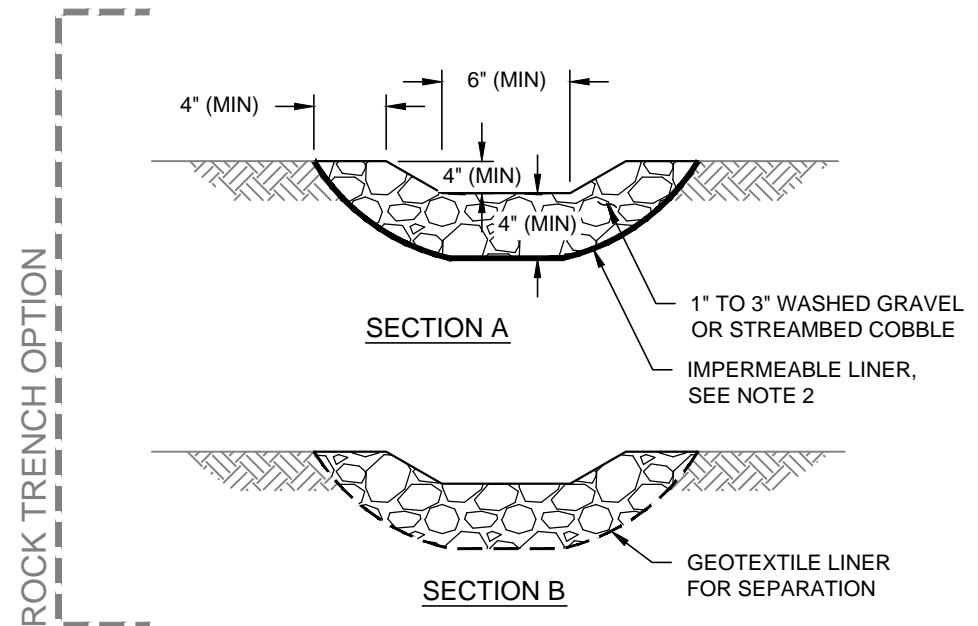
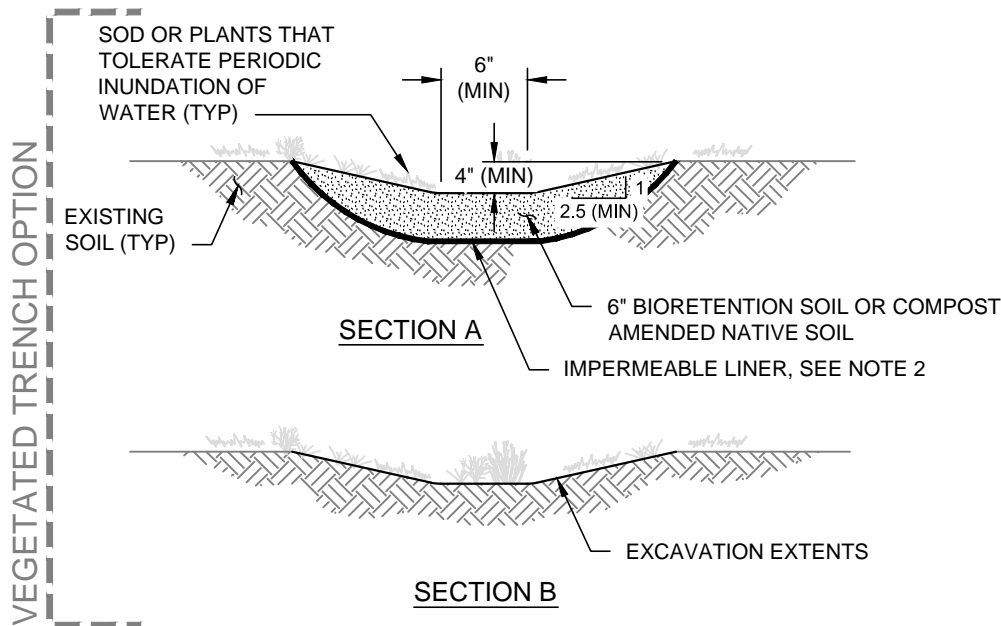
DOWNPOUT TO RAIN GARDEN
 VEGETATED TRENCH CONNECTION

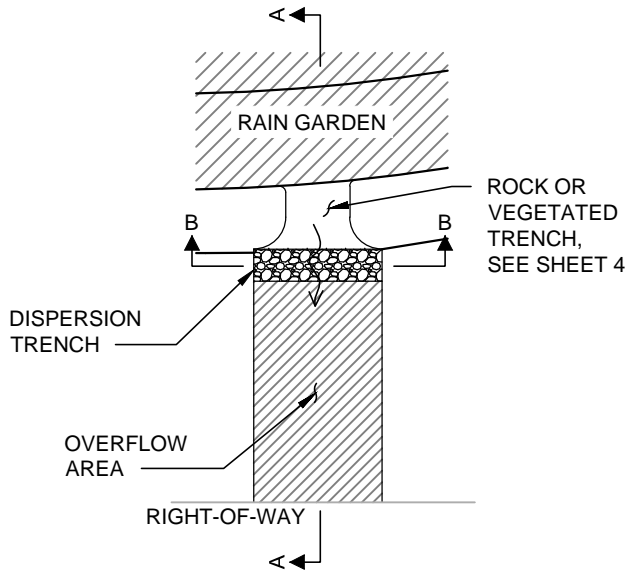
NOTES:

1. MINIMUM TRENCH SLOPE SHALL BE 1%. MAXIMUM SLOPE SHALL BE 4%. INSTALL CHECK DAMS PER SEATTLE RIGHT-OF-WAY IMPROVEMENT MANUAL (FIGURE 6-20) FOR SLOPES GREATER THAN 4%.
2. IMPERMEABLE LINER SHALL COMPLY WITH REQUIREMENTS FOR "DITCH LINER" SET FORTH IN SEATTLE STANDARD SPEC 9-37.2, TABLE 4.

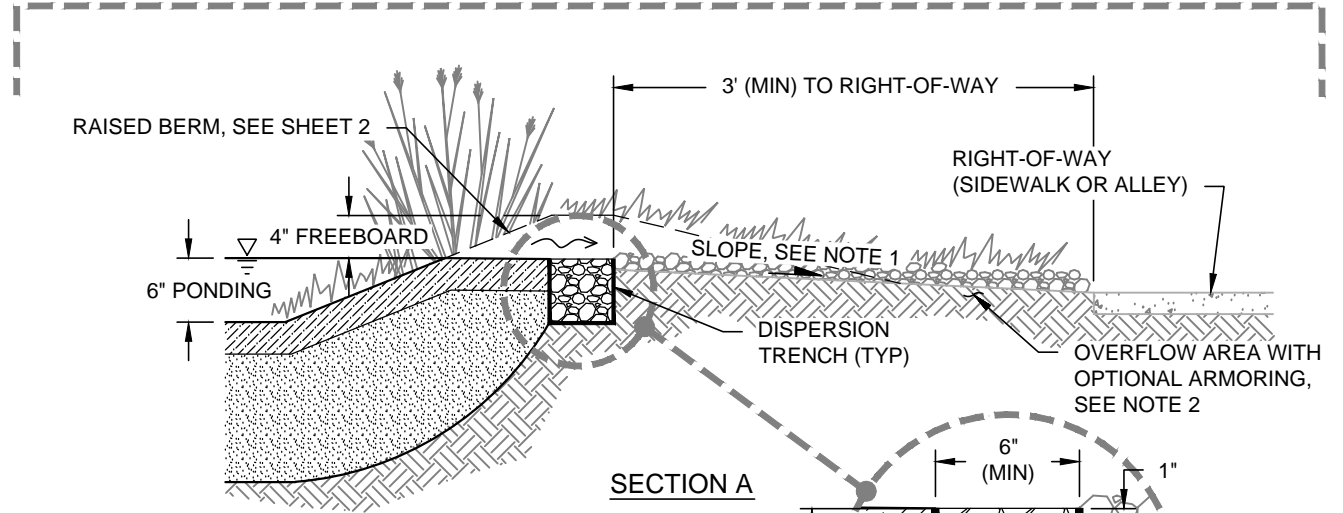
REFERENCE MATERIALS:

- SEATTLE RIGHT-OF-WAY IMPROVEMENTS MANUAL
<http://www.seattle.gov/transportation/rowmanual/manual/>
- SEATTLE STANDARD SPECIFICATIONS
http://www.seattle.gov/util/engineering/standard_plans_&_specs



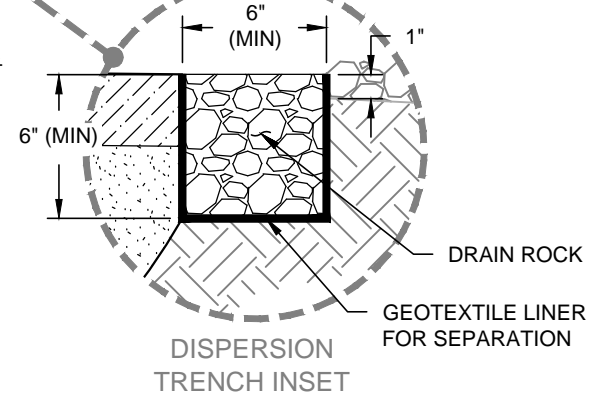


DISPERSION TRENCH OPTION



DISPERSION TRENCH WITH OVERFLOW ARMORING

SECTION A

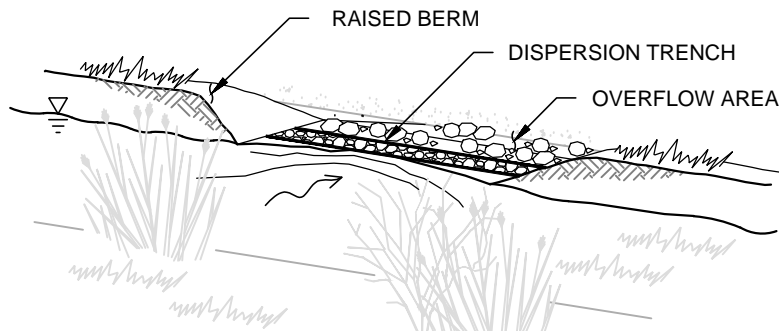


NOTES:

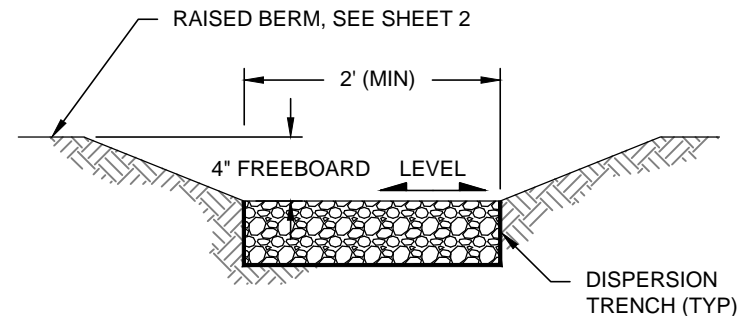
1. MINIMUM OVERFLOW AREA SLOPE SHALL BE 1%. MAXIMUM SLOPE SHALL BE 4%. INSTALL CHECK DAMS PER SEATTLE RIGHT-OF-WAY MANUAL (FIGURE 6-20) FOR SLOPES GREATER THAN 4%.
2. OVERFLOW AREA SHALL BE VEGETATED OR ARMORED WITH 1 INCH TO 3 INCH WASHED GRAVEL OR STREAM BED COBBLES.

REFERENCE MATERIALS:

- SEATTLE RIGHT-OF-WAY IMPROVEMENTS MANUAL <http://www.seattle.gov/transportation/rowmanual/manual/>

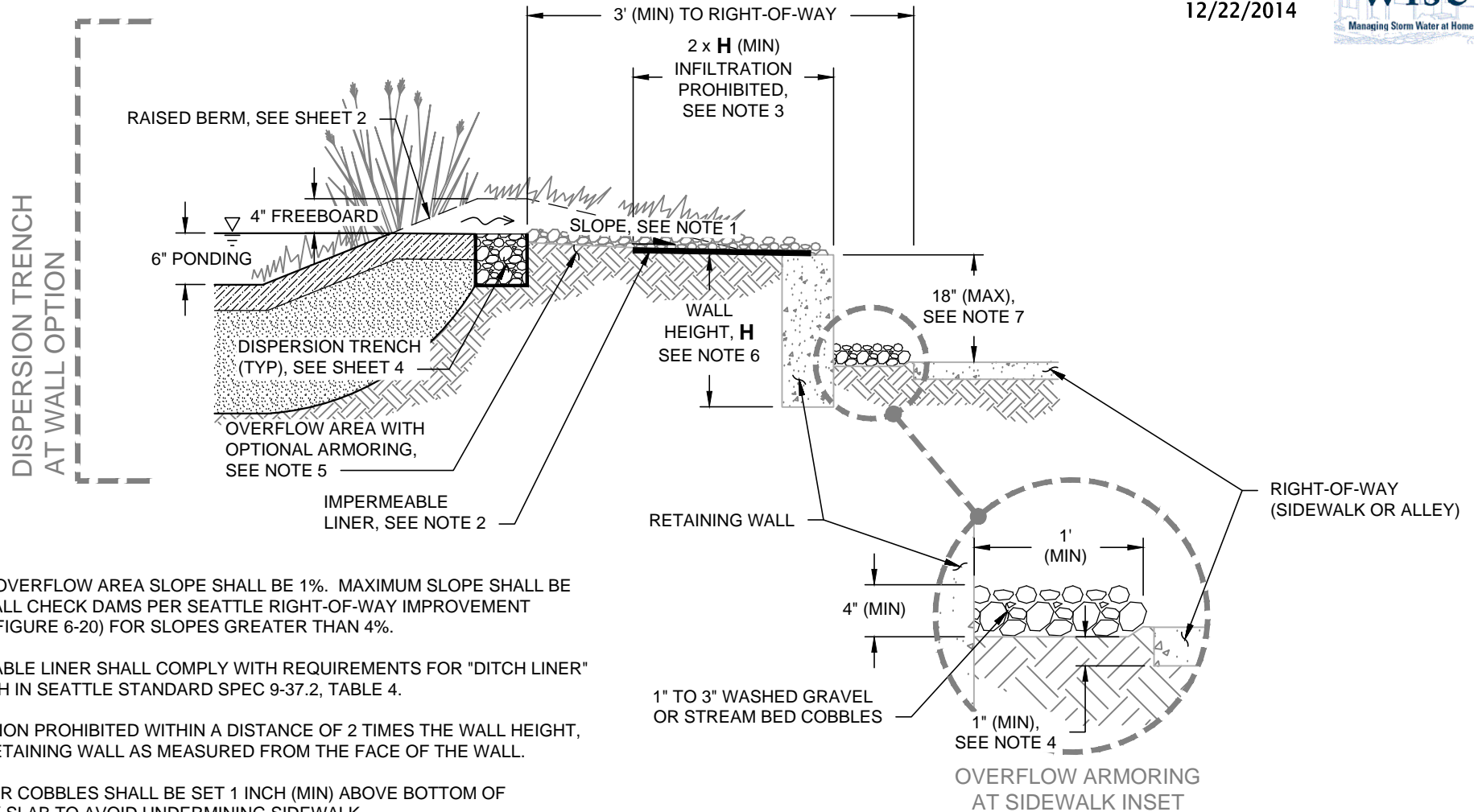


ISOMETRIC



SECTION B

RAIN GARDEN OVERFLOW TYPE 1 - SURFACE OVERFLOWS (2 OF 2)

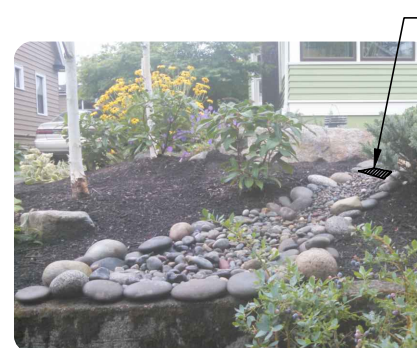


NOTES:

1. MINIMUM OVERFLOW AREA SLOPE SHALL BE 1%. MAXIMUM SLOPE SHALL BE 4%. INSTALL CHECK DAMS PER SEATTLE RIGHT-OF-WAY IMPROVEMENT MANUAL (FIGURE 6-20) FOR SLOPES GREATER THAN 4%.
2. IMPERMEABLE LINER SHALL COMPLY WITH REQUIREMENTS FOR "DITCH LINER" SET FORTH IN SEATTLE STANDARD SPEC 9-37.2, TABLE 4.
3. INFILTRATION PROHIBITED WITHIN A DISTANCE OF 2 TIMES THE WALL HEIGHT, H, OF A RETAINING WALL AS MEASURED FROM THE FACE OF THE WALL.
4. GRAVEL OR COBBLES SHALL BE SET 1 INCH (MIN) ABOVE BOTTOM OF SIDEWALK SLAB TO AVOID UNDERMINING SIDEWALK.
5. OVERFLOW AREA SHALL BE VEGETATED OR ARMORED WITH 1 INCH TO 3 INCH WASHED GRAVEL OR STREAM BED COBBLES.
6. RETAINING WALL HEIGHT MEASURED FROM TOE OF WALL TO TOP OF WALL.
7. FOR DISCHARGE OVER RETAINING WALLS, MAXIMUM ALLOWABLE DROP FROM TOP OF WALL TO RIGHT-OF-WAY SURFACE IS 18 INCHES.

REFERENCE MATERIALS:

- SEATTLE RIGHT-OF-WAY IMPROVEMENTS MANUAL
<http://www.seattle.gov/transportation/rowmanual/manual/>
- SEATTLE STANDARD SPECIFICATIONS
http://www.seattle.gov/util/engineering/standard_plans_&_specs

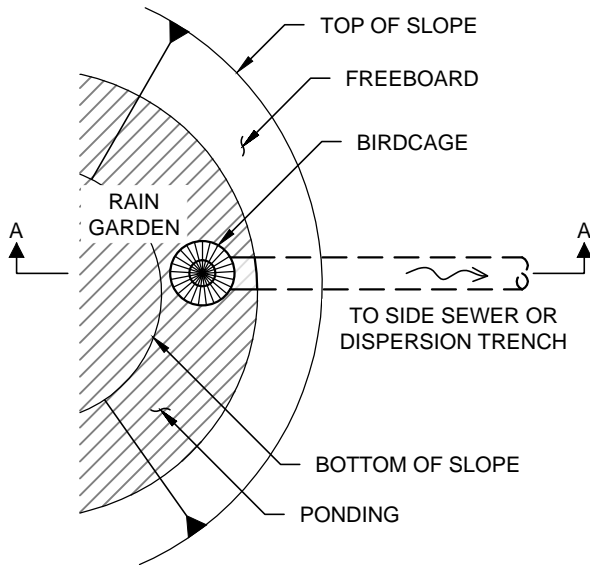


OVERFLOW AREA WITH ARMORING
(VIEW FROM RIGHT-OF-WAY)

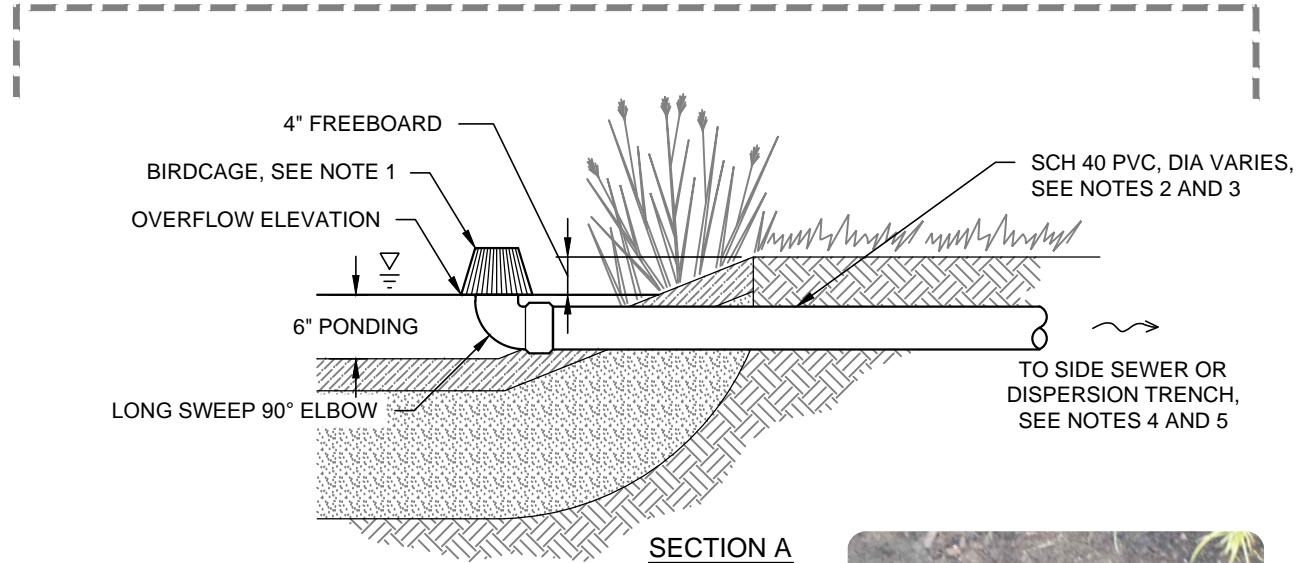


OVERFLOW AREA WITH ARMORING
(VIEW FROM RAIN GARDEN)

RAIN GARDEN OVERFLOW TYPE 2 - SUBSURFACE OVERFLOWS



BIRDCAGE OVERFLOW



BIRDCAGE OVERFLOW

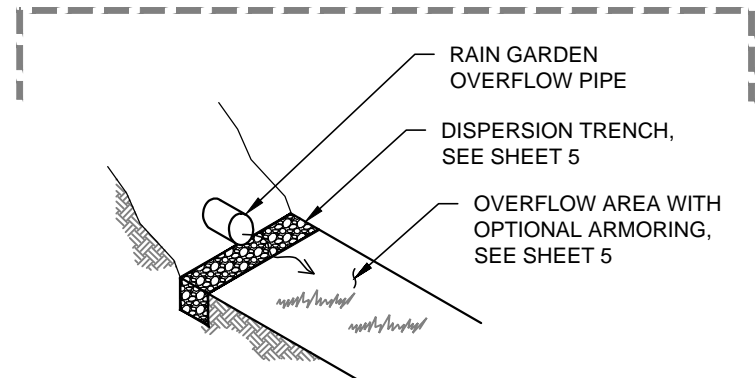
NOTES:

1. BIRDCAGE MUST BE MADE OF UV STABILIZED MATERIAL.
2. MINIMUM PIPE DIAMETER AND ASSOCIATED FITTING SIZE VARIES BASED ON CONTRIBUTING AREA AS FOLLOWS:
 - UP TO 4,200 SQUARE FEET: 4 INCH DIAMETER
 - OVER 4,200 SQUARE FEET: CONSULT RAINWISE INSPECTOR
3. ALL PIPES MUST MEET GENERAL PIPING REQUIREMENTS - SEE REFERENCE SHEET B.
4. CONNECTIONS TO SIDE SEWER REQUIRE A SEPARATE SIDE SEWER PERMIT AND INSPECTION.
5. ALL CONNECTIONS TO A SIDE SEWER SHALL COMPLY WITH REQUIREMENTS FOR DESIGN AND CONSTRUCTION OF DRAINAGE WATER DISCHARGES SET FORTH IN DIRECTOR'S RULES 4-2011 AND 5-2011 AND SIDE SEWER INSTALLATION REQUIREMENTS SET FORTH IN SEATTLE STANDARD PLAN NO. 283.

REFERENCE MATERIALS:

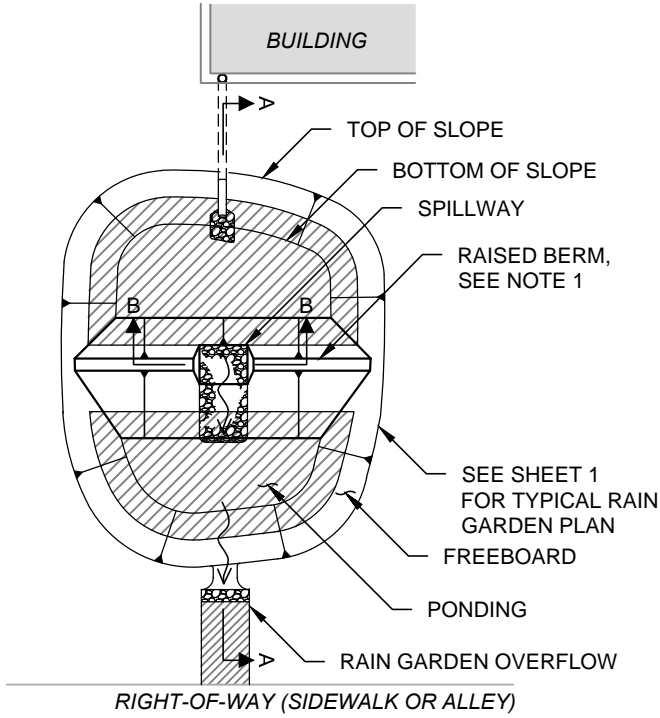
- SEATTLE SIDE SEWER PERMIT REQUIREMENTS:
<http://www.seattle.gov/dpd/permits/permittypes/sidesewer/default.htm>
- SEATTLE DIRECTOR'S RULES:
<http://web6.seattle.gov/dpd/dirrulesviewer/>
- SEATTLE STANDARD PLANS:
http://www.seattle.gov/util/Engineering/Standard_Plans_&_Specs/

DISPERSION TRENCH



TERRACED RAIN GARDEN PLAN

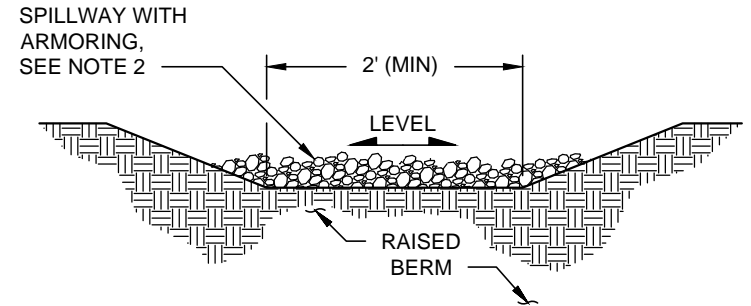
TERRACED RAIN GARDEN SECTION



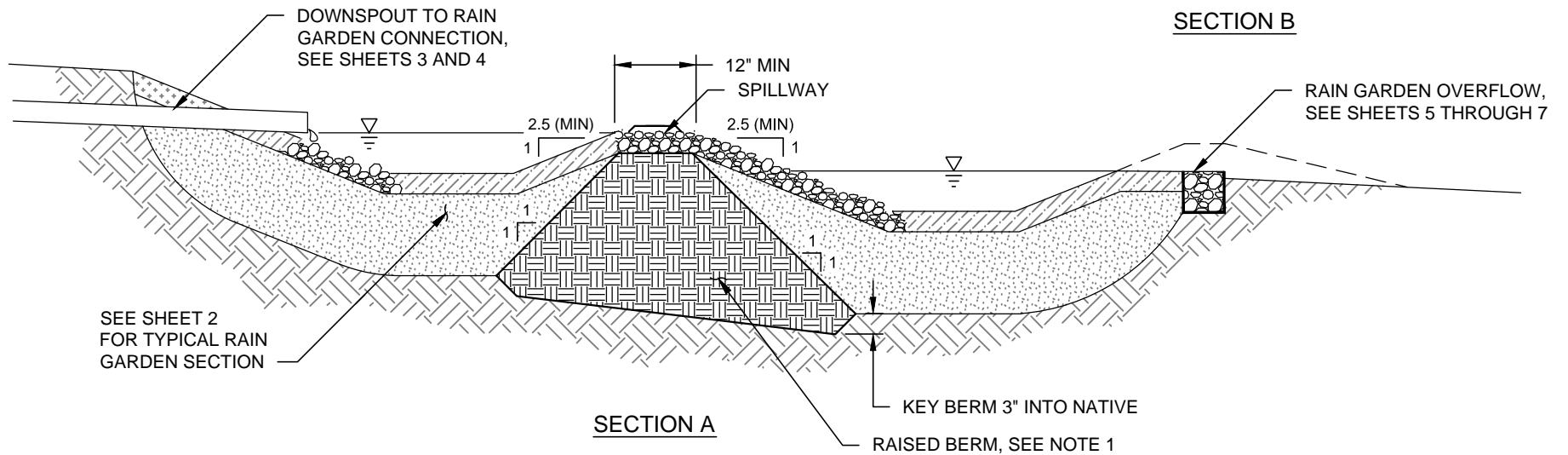
TERRACED RAIN GARDENS

NOTES:

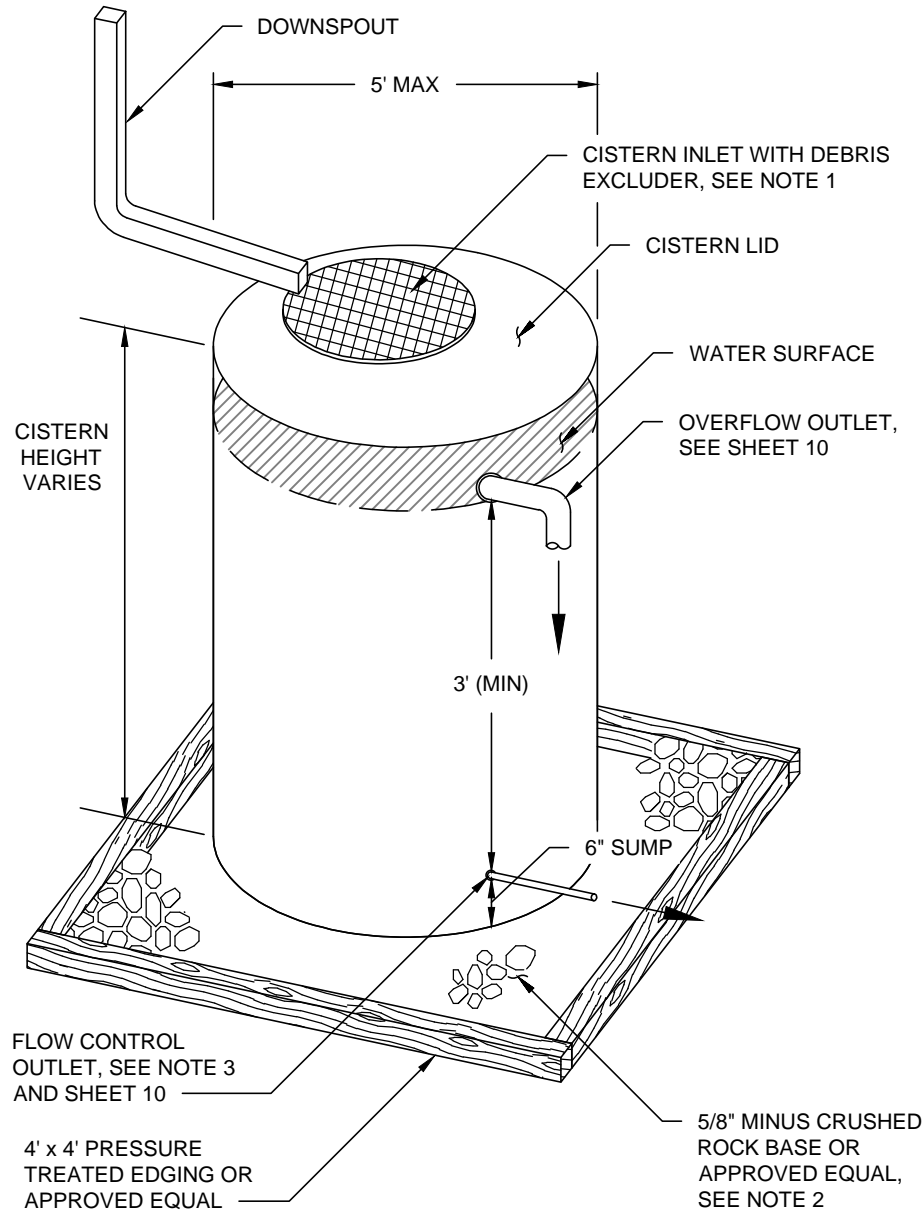
1. RAISED BERM SHALL BE FIRM, UNDISTURBED, NON-YIELDING NATIVE SOIL OR DISTURBED SITE SOILS COMPACTED WITH 12 POUND HAND TAMPER IN 3 INCH LIFTS. IF SITE SOILS ARE SANDY, CONSIDER IMPORTING DENSER, NON-PERMISSIVE SOILS FOR RAISED BERM.
2. ARMOR SPILLWAY WITH 1 INCH TO 3 INCH WASHED GRAVEL OR STREAMBED COBBLES.



SECTION B



SECTION A

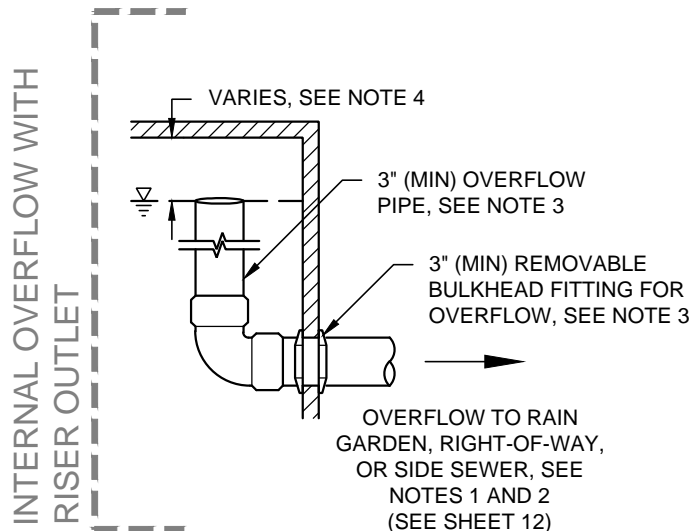
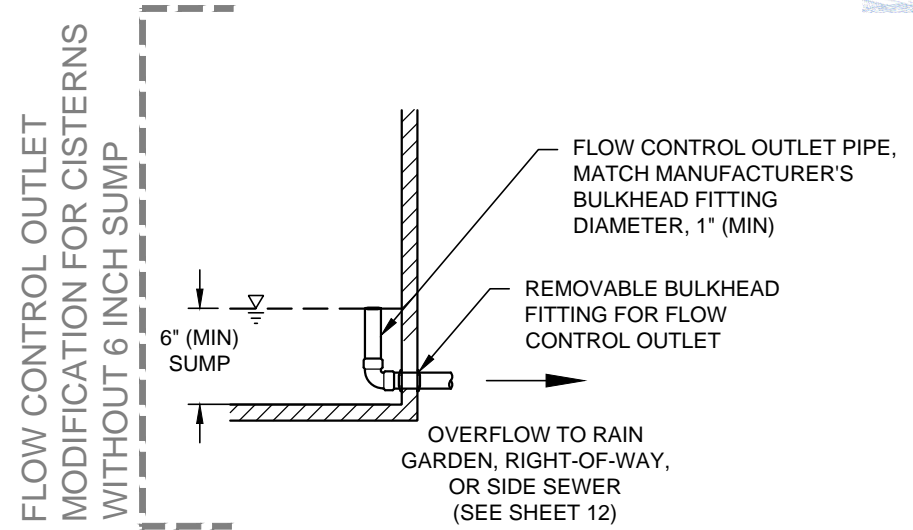
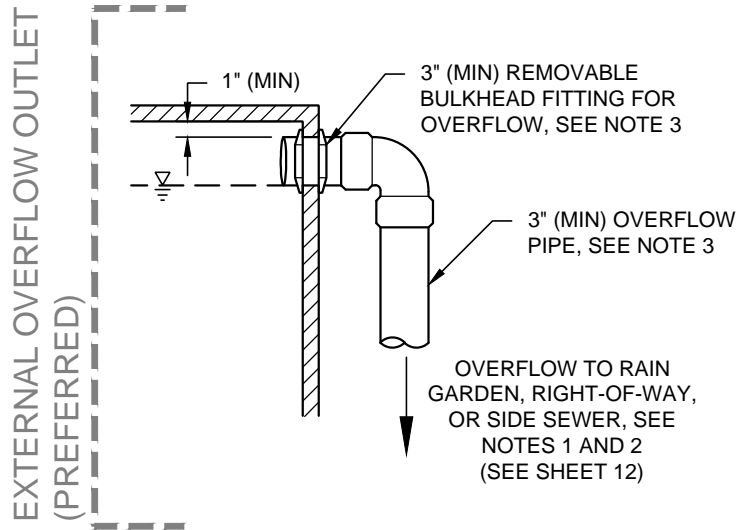


NOTES:

1. PROVIDE DEBRIS EXCLUDER WITH 1/16 INCH MINIMUM SCREEN CAPACITY AT CISTERN INLET.
2. CRUSHED ROCK BASE SHALL BE COMPACTED WITH 12 POUND HAND TAMPER TO FORM LEVEL, NON-YIELDING BASE FOR CISTERN. EXTEND BASE BEYOND EDGE OF CISTERN. BASE DIMENSIONS WILL VARY BY CISTERN.
3. FLOW CONTROL OUTLET SHALL INCLUDE A UNIFORM 1/4 INCH DIAMETER INSPECTABLE AND CLEANABLE ORIFICE. NO ADDITIONAL VALVES OR FLOW RESTRICTOR PERMITTED DOWNSTREAM OF FLOW CONTROL OUTLET. SEE SHEET 13 FOR AN EXAMPLE CONFIGURATION.

GENERAL NOTES:

- A. ALL ENTRIES MUST BE SECURED AS TO BE CHILD PROOF.
- B. CISTERNS WITH HIGH TIPPING POTENTIAL SHALL BE RESTRAINED TO PREVENT OVERTURNING.
- C. SYSTEM MUST BE DESIGNED TO PROVIDE ACCESS AND EGRESS TO CISTERN AND CISTERN FITTINGS FOR CLEANING AND REMOVAL OF SEDIMENT AND ALGAE. ACCESS SHALL BE THROUGH REMOVABLE LID OR 6 INCH (MINIMUM) INSPECTION PORT. CLEANOUT SHALL BE PROVIDED AT BOTTOM OF TANK (VIA BOTTOM BULKHEAD FITTING).
- D. CISTERNS OVER 6.5 FEET TALL OR WITH STORAGE CAPACITY GREATER THAN 1,100 GALLONS REQUIRE CONSULTATION WITH RAINWISE INSPECTOR.
- E. ALL CISTERN PIPING MATERIALS SHALL BE RIGID. 12 LINEAR INCHES OF 2 INCH (MAXIMUM) DIAMETER FLEXIBLE PIPE MAY BE USED TO CONNECT TERMINUS OF FLOW CONTROL OUTLET TO OVERFLOW PIPING.
- F. OVERFLOW AND LOW FLOW PIPE CONFIGURATIONS (FITTINGS AND PIPE LENGTH) MAY VARY BY CISTERN. PIPE SUPPORT TO BE PROVIDED WITHIN 2 FEET OF UNIONS AND AT LEAST EVERY 4 FEET OF PIPE RUN. SEE SHEET 10.
- G. PLASTIC CISTERNS MUST BE U.V. STABILIZED. ALL CISTERNS MUST BE NON-COLLAPSABLE, WATERTIGHT, AND OF DURABLE MATERIAL TO PROVIDE A LONG SERVICE LIFE.
- H. TO PREVENT FREEZING DAMAGE, ALL EXPOSED PIPE MUST BE FREE DRAINING.
- I. PROVIDE WATER TIGHT FITTINGS AT ALL CISTERN CONNECTIONS.
- J. LOCATE CISTERNS TO AVOID OBSTRUCTION OF UTILITIES, WINDOWS, OR OTHER SITE FEATURES THAT REQUIRE REGULAR ACCESS.
- K. SEE REFERENCE SHEET C FOR CISTERN SETBACK REQUIREMENTS.
- L. SEE SHEET 11 FOR DESIGN REQUIREMENTS FOR CISTERNS IN SERIES.



NOTES:

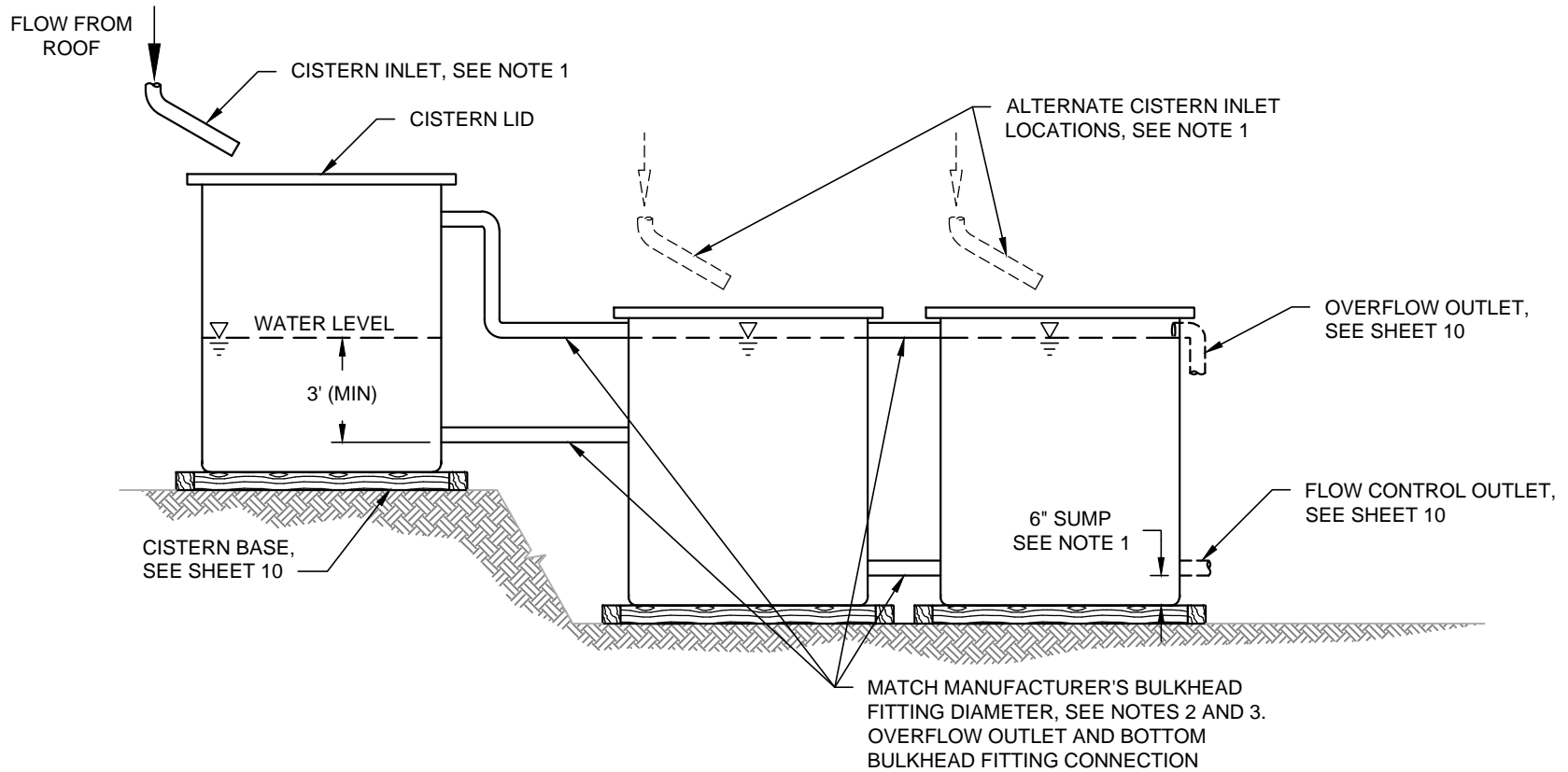
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2. ALL CONNECTIONS TO A SIDE SEWER SHALL COMPLY WITH REQUIREMENTS FOR DESIGN AND CONSTRUCTION OF DRAINAGE WATER DISCHARGES SET FORTH IN DIRECTOR'S RULES 4-2011 AND 5-2011 AND SIDE SEWER INSTALLATION REQUIREMENTS SET FORTH IN SEATTLE STANDARD PLAN NO. 283.
3. MINIMUM PIPE DIAMETER AND ASSOCIATED FITTING SIZE VARIES BASED ON CONTRIBUTING AREA AS FOLLOWS:
 - UP TO 2,000 SQUARE FEET: 3 INCH DIAMETER
 - 2,000 TO 4,200 SQUARE FEET: 4 INCH DIAMETER
 - OVER 4,200 SQUARE FEET: CONSULT RAINWISE INSPECTOR
4. CLEARANCE AT TOP OF OVERFLOW VARIES BASED ON OVERFLOW PIPE DIAMETER AS FOLLOWS:
 - 3 INCH PIPE DIAMETER: PROVIDE 4 INCHES CLEARANCE
 - 4 INCH PIPE DIAMETER: PROVIDE 5 INCHES CLEARANCE

GENERAL NOTE:

- A. PROVIDE MODIFIED FLOW CONTROL OUTLET FOR CISTERNS MANUFACTURED WITH SUMPS LESS THAN 6 INCHES.

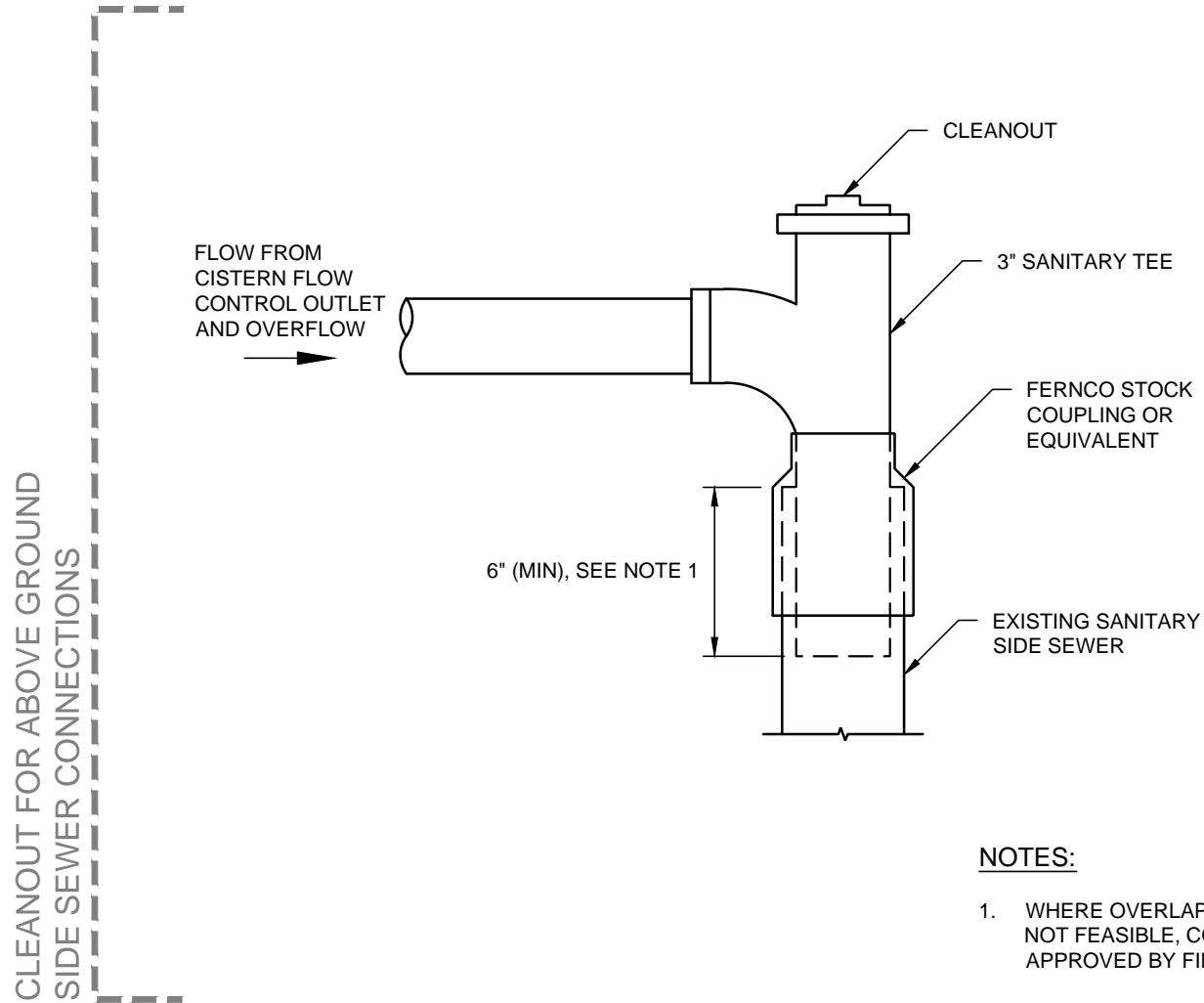
REFERENCE MATERIALS:

- SEATTLE SIDE SEWER PERMIT REQUIREMENTS:
<http://www.seattle.gov/dpd/permits/permittypes/sideseWER/default.htm>
- SEATTLE DIRECTOR'S RULES:
<http://web6.seattle.gov/dpd/dirrulesviewer/>
- SEATTLE STANDARD PLANS:
http://www.seattle.gov/util/Engineering/Standard_Plans_&_Specs/



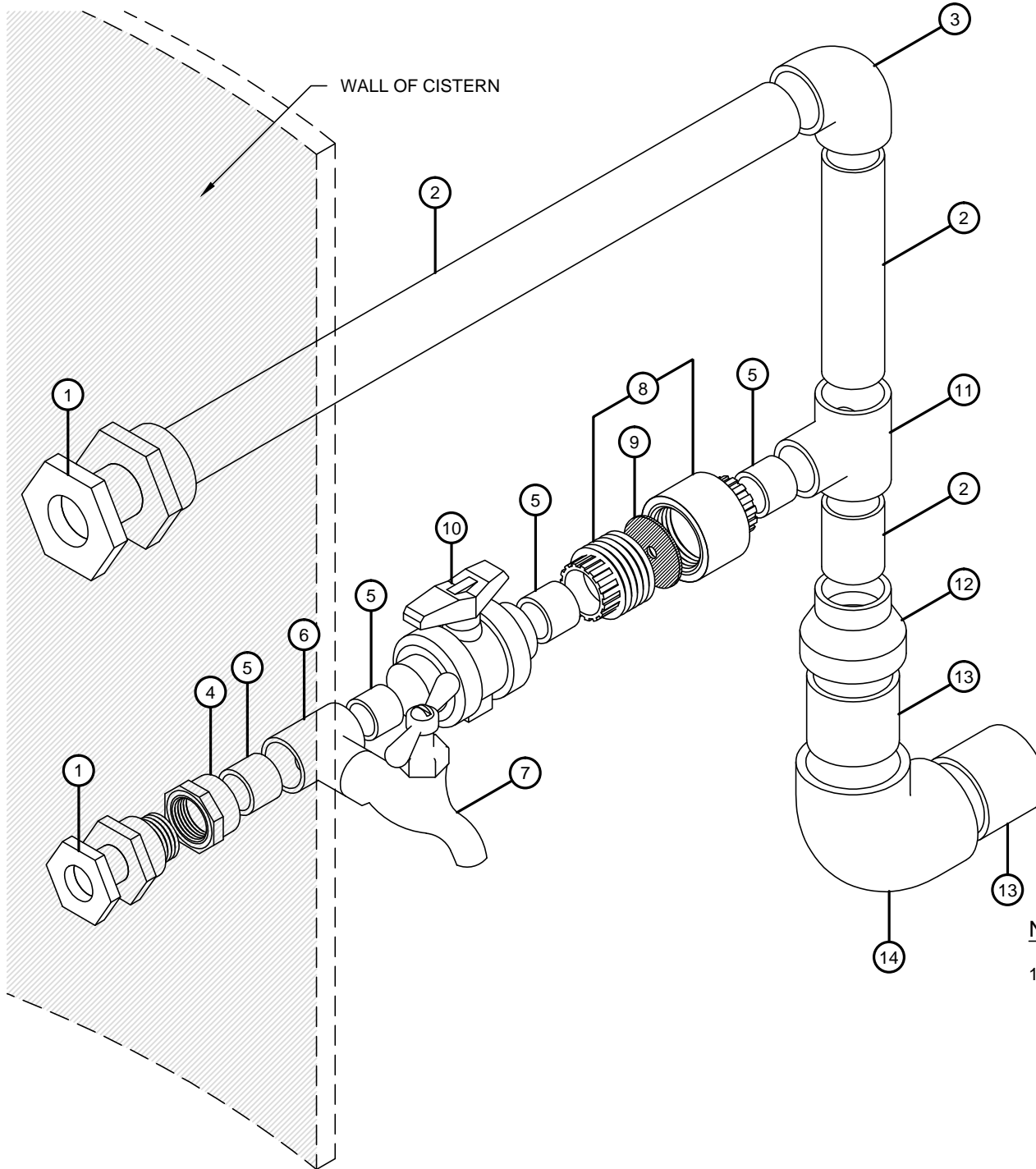
NOTES:

1. CISTERN INLET(S) MAY BE CONNECTED TO ANY CISTERN IN THE SERIES PROVIDED A 6 INCH SUMP IS INCLUDED AT THE INLET AND OUTLET CISTERN.
2. OVERFLOW OUTLET AND BOTTOM BULKHEAD FITTING CONNECTION SHALL BE PROVIDED FOR EACH CISTERN IN SERIES.
3. ALL CONNECTING PIPES SHALL BE ACCESSIBLE FOR MAINTENANCE, FREE DRAINING, AND INSULATED PER REQUIREMENTS ON SHEET 10.



NOTES:

1. WHERE OVERLAP DISTANCE OF 6" IS NOT FEASIBLE, CONNECTION SHALL BE APPROVED BY FIELD ENGINEER.



- ① REMOVABLE BULKHEAD FITTING
- ② 3" (TYP) SCH 40 PVC PIPE
- ③ 3" (TYP) PVC SCH 40 SLP x SLP ELBOW
- ④ 1-1/2" FPT x 1-1/2" SLP ADAPTER
- ⑤ 1-1/2" SCH 40 PVC PIPE 10'
- ⑥ 1-1/2" x 1-1/2" x 1/2" SLP-SLP-FPT TEE
- ⑦ 1/2" x 3/4" BRASS MPT x MHT HOSE BIBB (OPTIONAL)
- ⑧ 1-1/2" SCH 80 PVC UNION SLP-SLP
- ⑨ 1-1/2" x 1/4" BLACK NEOPRENE WASHER
- ⑩ 1-1/2" SLP BALL VALVE SCH 40
- ⑪ 3" (TYP) x 3" (TYP) x 1-1/2" SLP REDUCING TEE
- ⑫ 4" x 3" PVC-DWV H-H COUPLING, AS NEEDED
- ⑬ 3" OR 4" SCH 40 PIPE PVC
- ⑭ 3" OR 4" SCH 40 PVC ELBOW

NOTES:

1. CISTERN OUTLETS MAY DISCHARGE TO THE FOLLOWING LOCATIONS:
 - ABOVE GROUND TO SIDE SEWER (SEE SHEET 12)
 - BELOW GROUND TO RAIN GARDEN
 - BELOW GROUND TO DISPERSION TRENCH
 - BELOW GROUND TO SIDE SEWER PER SEATTLE SIDE SEWER PERMIT

ATTACHMENT D

DAVIS BACON WAGE RATES **(Residential Construction)**

**Any change to the Wage Rates
prior to signing a Contract will
be included in an Addendum to
this Solicitation.**

(See the following pages)

"General Decision Number: WA20210091 01/29/2021

Superseded General Decision Number: WA20200091

State: Washington

Construction Type: Residential

County: King County in Washington.

RESIDENTIAL CONSTRUCTION PROJECTS (consisting of single family homes and apartments up to and including 4 stories).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.95 for calendar year 2021 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.95 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2021. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/01/2021
1	01/29/2021

BRWA0001-018 06/01/2017

	Rates	Fringes
BRICK POINTER/CAULKER/CLEANER....	\$ 39.46	16.15
BRICKLAYER.....	\$ 39.46	16.15

* ELEV0019-001 01/01/2021

Rates	Fringes
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ELEVATOR MECHANIC.....\$ 57.73 36.365+a+b

FOOTNOTE:

- a. PAID VACATION: Employer contributes 8% of regular hourly rate as vacation pay credit for employees with more than 5 years of service, and 6% for 6 months to 5 years of service.
- b. PAID HOLIDAYS: New Years Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Friday after Thanksgiving, and Christmas Day.

LABO0238-001 06/01/2019

Rates Fringes

LABORER (Mason Tender -
Cement/Concrete).....\$ 28.21 13.00

LABO0242-001 06/01/2019

Rates Fringes

LABORER (Mason Tender - Brick)...\$ 40.36 11.94

PAIN0005-011 07/01/2013

Rates Fringes

PAINTER (Drywall
Finishing/Taping Only).....\$ 33.88 15.77

PAIN0188-006 10/01/2020

Rates Fringes

GLAZIER.....\$ 34.80 13.56

PLAS0528-003 06/01/2020

Rates Fringes

CEMENT MASON/CONCRETE FINISHER...\$ 45.80 18.54

SFWA0699-001 04/01/2020

Rates Fringes

SPRINKLER FITTER.....\$ 40.71 24.78

SHEE0066-049 06/01/2019

Rates Fringes

SHEET METAL WORKER (Excluding HVAC Duct Installation).....\$ 56.09 28.02

TEAM0690-010 01/01/2019

Rates Fringes

TRUCK DRIVER

GROUP 3.....	\$ 28.16	17.40
GROUP 4.....	\$ 28.49	17.40
GROUP 5.....	\$ 28.60	17.40
GROUP 6.....	\$ 28.76	17.40
GROUP 7.....	\$ 29.30	17.40
GROUP 8.....	\$ 29.62	17.40

TRUCK DRIVERS CLASSIFICATIONS

GROUP 3: Trucks, side, end, bottom and articulated end dump (3 yards to and including 6 yds.)

GROUP 4: Trucks, side, end, bottom and articulated end dump (over 6 yds. to & including 12 yds.)

GROUP 5: Trucks, side, end, bottom and articulated end dump (over 12 yds. to & including 20 yds.)

GROUP 6: Trucks, side, end, bottom and articulated end dump (over 20 yds. to & including 40 yds.)

GROUP 7: Truck, side, end, bottom and articulated end dump (over 40 yds. to & including 100 yds.)

GROUP 8: Trucks, side, end, bottom and articulated end dump (over 100 yds.)

FOOTNOTE A - Anyone working on a HAZMAT job, where HAZMAT certification is required, shall be compensated as a premium, in addition to the classification working in as follows:

LEVEL C-D: - \$.50 PER HOUR - This level may use an air purifying respirator or additional protective clothing.

LEVEL A-B: - \$1.00 PER HOUR - Uses supplied air in conjunction with a chemical splash suit or fully encapsulated suit with a self-contained breathing apparatus.

Employees shall be paid Hazmat pay in increments of four(4) and eight(8) hours.

SUWA2011-011 06/27/2014

Rates Fringes

CARPENTER.....\$ 24.57 4.86

DRYWALL HANGER AND METAL STUD

INSTALLER.....\$ 24.59 0.00

ELECTRICIAN.....	\$ 35.14	11.18
LABORER: Common or General.....	\$ 18.41	3.20
OPERATOR:		
Backhoe/Excavator/Trackhoe.....	\$ 32.74	15.15
OPERATOR: Bobcat/Skid		
Steer/Skid Loader.....	\$ 17.53	0.00
OPERATOR: Bulldozer.....	\$ 29.63	0.00
OPERATOR: Concrete Pump.....	\$ 33.57	15.15
PAINTER (Brush, Roller, and		
Spray).....	\$ 20.82	7.44
PLUMBER.....	\$ 32.25	7.97
ROOFER.....	\$ 23.12	2.90
SHEET METAL WORKER (HVAC Duct		
Installation Only).....	\$ 29.67	13.78

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator

U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"