

# INFILTRATION SYSTEMS DESIGN NOTES AND GUIDANCE

**PURPOSE:**

INFILTRATION SYSTEMS RETAIN RAINWATER RUNOFF BY PROVIDING SURFACE STORAGE, SUBSURFACE STORAGE AND INFILTRATION INTO NATIVE SOIL. THE STORAGE IN INFILTRATION SYSTEMS CAN ALSO REDUCE THE PEAK FLOW ENTERING SEWERS AND REMOVE RAINWATER FROM ENTERING SEWERS.

**DESIGNER NOTES & GUIDELINES:**

1. THE DESIGNER MUST ADAPT PLAN AND SECTION DRAWINGS TO ADDRESS SITE-SPECIFIC CONDITIONS.
2. SYSTEM SURFACE AREA, PONDING DEPTH, SOIL DEPTH, AND AGGREGATE STORAGE DEPTH MUST BE SIZED TO MEET PROJECT HYDROLOGIC PERFORMANCE GOALS.
3. PONDING AND SYSTEM DRAWDOWN TIME (i.e., TIME FOR MAXIMUM SURFACE PONDING TO DRAIN THROUGH THE SYSTEM AFTER THE END OF A STORM) RECOMMENDATIONS:
  - 24 HOUR MAXIMUM SURFACE PONDING DRAWDOWN
  - 72 HOUR MAXIMUM DRAWDOWN FOR RTT SOIL AND AGGREGATE STORAGE
4. INFILTRATION SYSTEMS MAY BE DESIGNED USING AGGREGATE STORAGE OR PROPRIETARY STORAGE SYSTEMS. ALL PROPOSED PRODUCTS FOR USE IN RIGHT-OF-WAYS MUST MEET CITY OF VANCOUVER SPECIFICATIONS REGARDING LOADING CAPACITY OF RIGHT-OF-WAY INFRASTRUCTURE.
5. WHEN FACILITY CONSTRUCTION IMPACTS EXISTING SIDEWALK, ALL SAW CUTS MUST ADHERE TO CITY OF VANCOUVER REQUIREMENTS. SAW CUTS SHOULD BE ALONG SCORE LINES AND ANY DISTURBED SIDEWALK PANELS SHOULD BE REPLACED IN THEIR ENTIRETY.
6. GI FACILITIES IN PUBLIC RIGHT OF WAY SHALL BE DESIGNED WITH A SAFE, DESIGNATED OVERLAND FLOW PATH TO THE STREET IN THE EVENT THAT THE OVERFLOW STRUCTURE IS OBSTRUCTED OR CLOGGED. THIS FLOW PATH SHOULD BE REFLECTED IN SITE GRADING AND LABELED ON GI DRAWINGS.
7. THE DESIGNER MUST EVALUATE UTILITY SURVEYS FOR POTENTIAL UTILITY CROSSINGS OR CONFLICTS.
8. MINIMUM UTILITY SETBACKS AND PROTECTION MEASURES MUST CONFORM TO CURRENT CITY OF VANCOUVER ASSET PROTECTION STANDARDS AND OTHER UTILITY PROVIDER REQUIREMENTS.
9. DESIGN OF SUBSURFACE INFILTRATION FACILITIES MUST ALWAYS BE BASED ON SITE-SPECIFIC GEOTECHNICAL ANALYSIS AND MUST CONSIDER THE POTENTIAL IMPACT OF INCREASED INFILTRATION ON SURROUNDING INFRASTRUCTURE.

RELATED DETAILS	
EDGE TREATMENTS:	GI 3.5 - GI 3.6
INLETS:	GI 2.1 - GI 2.5
UNDERDRAINS:	GI 3.7
MONITORING WELL	GI 3.2
CLEANOUTS	GI 3.4
INSPECTION CHAMBERS	GI 3.3
CATCHBASINS	GI 3.1 - GI 3.8

RELATED SPECIFICATIONS	COV SPEC NO.
- DRY WELLS	***
- INFILTRATION TRENCHES	***
- AGGREGATES AND GRANULAR MATERIALS	31 05 17S
- DRAINAGE FABRIC	31 32 19
- ENGINEERED SOIL	32 91 22S

\*\*\*TEMPLATE ONLY. AVAILABLE UPON REQUEST FROM THE GII BRANCH.

**LAYOUT REQUIREMENTS:**

1. REFER TO THE CITY OF VANCOUVER ACCESSIBILITY STRATEGY, STANDARD DRAWINGS AND CONSTRUCTION SPECIFICATIONS FOR RIGHT-OF-WAY, PARKING SPACE, AND ACCESSIBLE PATH REQUIREMENTS.
2. LOCATE CURB CUTS AND GUTTER MODIFICATIONS TO AVOID CONFLICTS WITH ACCESSIBILITY REQUIREMENTS (E.G., LOCATE OUTSIDE OF CROSSWALKS OR PARKING LAYBYS)

**DESIGNER CHECKLIST (MUST SPECIFY, AS APPLICABLE):**

- SYSTEM WIDTH AND LENGTH
- DEPTH OF PONDING (IF APPLICABLE)
- DEPTH OF SYSTEM
- DEPTH AND TYPE OF AGGREGATE STORAGE
- SURFACE ELEVATION AT UPSLOPE AND DOWNSLOPE ENDS OF FACILITY
- DIMENSIONS AND DISTANCE TO EVERY MUNICIPAL SERVICE/UTILITY WITHIN 10m OF THE FACILITY
- ELEVATIONS OF EVERY INLET, OUTLET, STRUCTURE RIM AND PIPE INVERT
- TYPE AND DESIGN OF COMPONENTS (E.G., EDGE TREATMENTS, INLETS/GUTTER MODIFICATIONS, UTILITY CROSSINGS, LINER, AND PLANTING DETAILS)

REV.	REVISION DATE	APPROVED

INFILTRATION SYSTEMS  
DESIGN NOTES AND GUIDANCE

ISSUE DATE: FEBRUARY 2026  
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**SUB-SURFACE INFILTRATION SYSTEM DRAWING DESCRIPTIONS**

GI6.0A	INFILTRATION SYSTEM DESIGN NOTES	THE SUB-SURFACE INFILTRATION SYSTEMS DESIGN NOTES PROVIDE GUIDANCE TO DESIGNERS ON HOW TO USE AND ADAPT THE TEMPLATE STANDARDS IN THIS SECTION.
GI6.0B	INFILTRATION SYSTEM DRAWING DESCRIPTIONS	THIS DRAWING DESCRIBES THE PURPOSE AND INTENDED USE OF EACH SUB-SURFACE INFILTRATION SYSTEM DRAWING.
GI6.1	BOULEVARD INFILTRATION TRENCH	THIS STANDARD DEPICTS AN INFILTRATION TRENCH BENEATH A BOULEVARD AREA. IT IS FUNCTIONALLY SIMILAR TO A ROADWAY INFILTRATION TRENCH BUT WITH ADDITIONAL OPTIONS FOR SUBSURFACE AGGREGATE AND IMPERMEABLE LINER USE.
GI6.2	BOULEVARD DRY WELL	DRY WELLS DIRECT ROAD RUNOFF INTO A PERFORATED INSPECTION CHAMBER SURROUNDED BY LOOSE AGGREGATE. THESE SYSTEMS CAN ENCOURAGE INFILTRATION IN AREAS WHERE AN INFILTRATION TRENCH IS INFEASIBLE DUE TO SITE CONSTRAINTS. OVERFLOW FROM DRY WELLS IS DIRECTED INTO CITY SEWERS.
GI6.3	ROADWAY INFILTRATION TRENCH	THIS STANDARD DEPICTS AN INFILTRATION TRENCH BENEATH A PORTION OF ROADWAY DIRECTLY ADJACENT TO A CURB. INFILTRATION TRENCHES ARE FUNCTIONALLY SIMILAR TO TREE TRENCHES BUT ARE DESIGNED UNDER HARDSCAPES. THEY REQUIRE CATCHBASINS TO DIRECT RUNOFF INTO PERFORATED DISTRIBUTION PIPES THAT DRAIN INTO THE VOIDS OF SUBSURFACE AGGREGATE. THE INFILTRATION AREA OF A TREE TRENCH IS OFTEN CONFINED TO MINIMIZE POTENTIAL IMPACTS ON SURROUNDING INFRASTRUCTURE. APPROVAL OF THESE SYSTEMS IS DETERMINED ON A SITE BY SITE BASIS AT THE DISCRETION OF THE CITY ENGINEER.

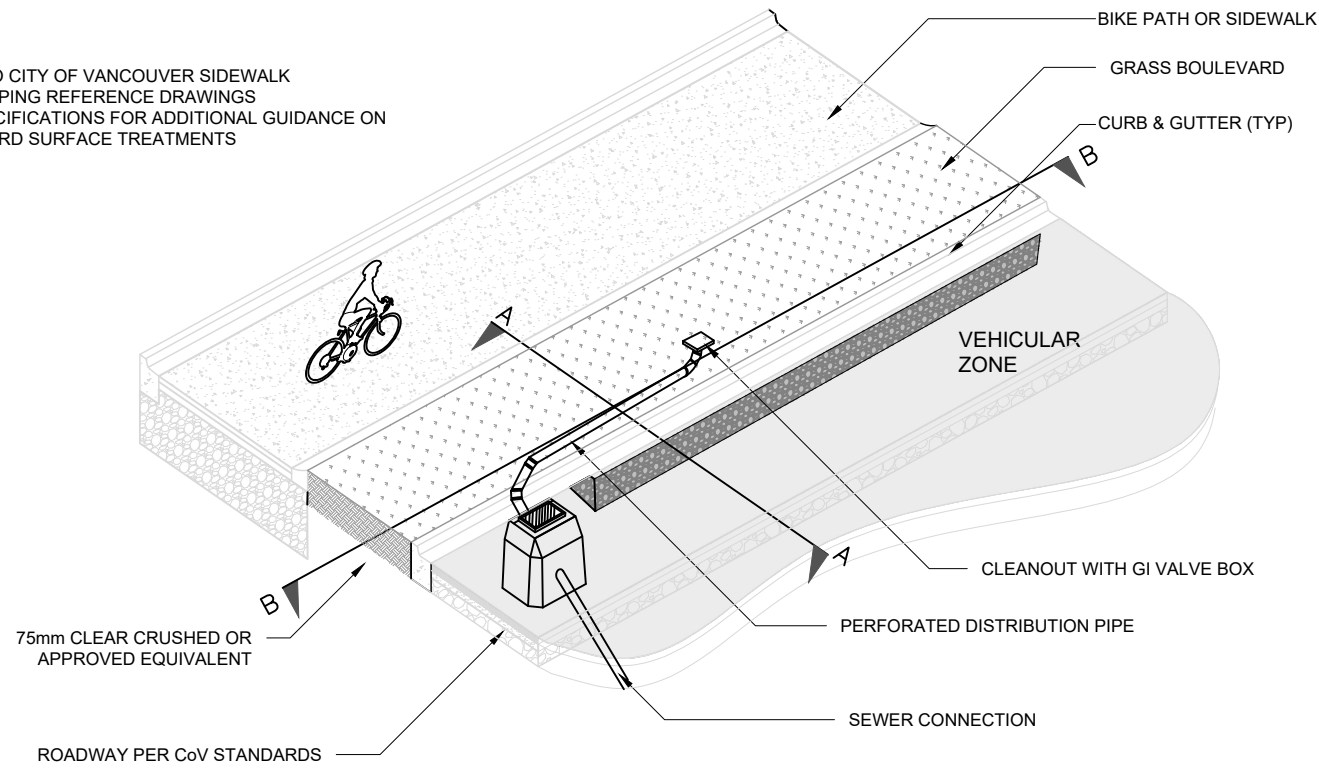
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**INFILTRATION SYSTEMS  
DRAWING DESCRIPTIONS**

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CONCEPTUAL AXONOMETRIC

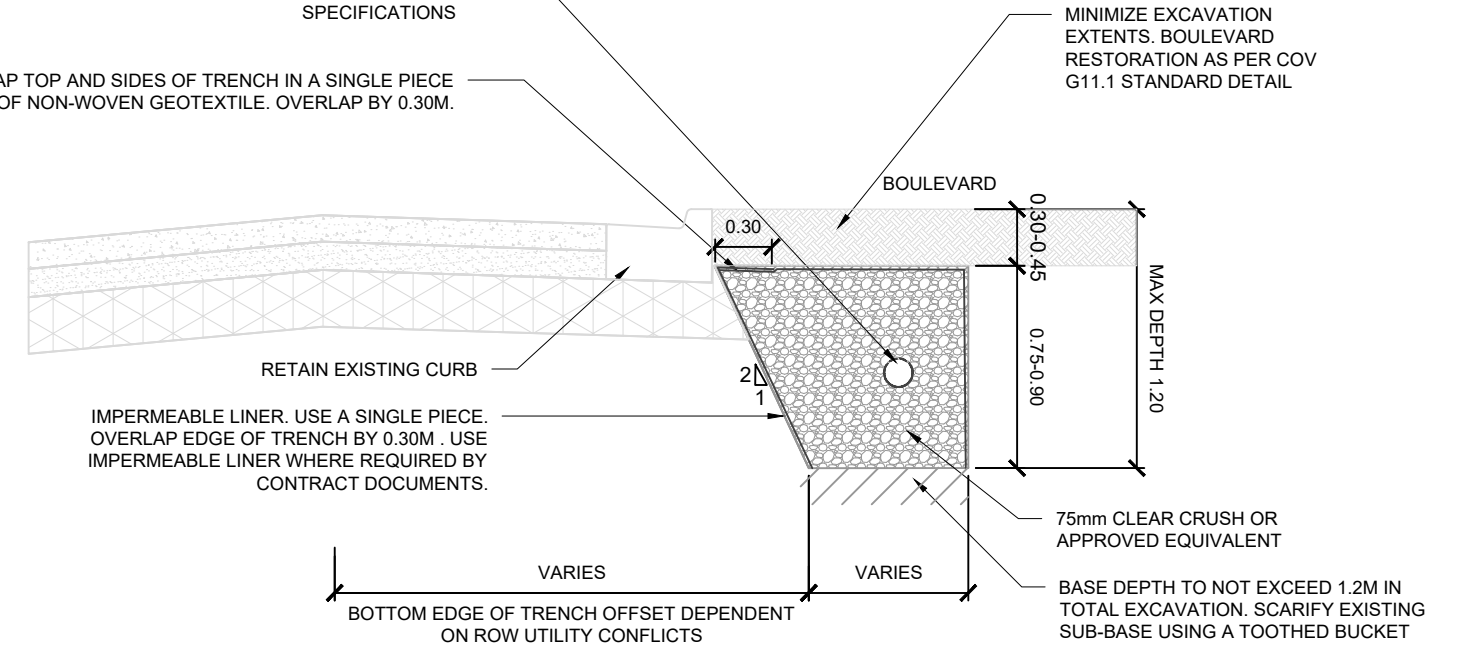
REFER TO CITY OF VANCOUVER SIDEWALK LANDSCAPING REFERENCE DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL GUIDANCE ON BOULEVARD SURFACE TREATMENTS



SECTION A-A

PERFORATED DISTRIBUTION PIPE: 150MMØ FACTORY PERFORATED PVC PIPE LAID W/ 0% SLOPE. ELEVATION OF PIPE AND ORIENTATION OF HOLES TO PROJECT SPECIFICATIONS

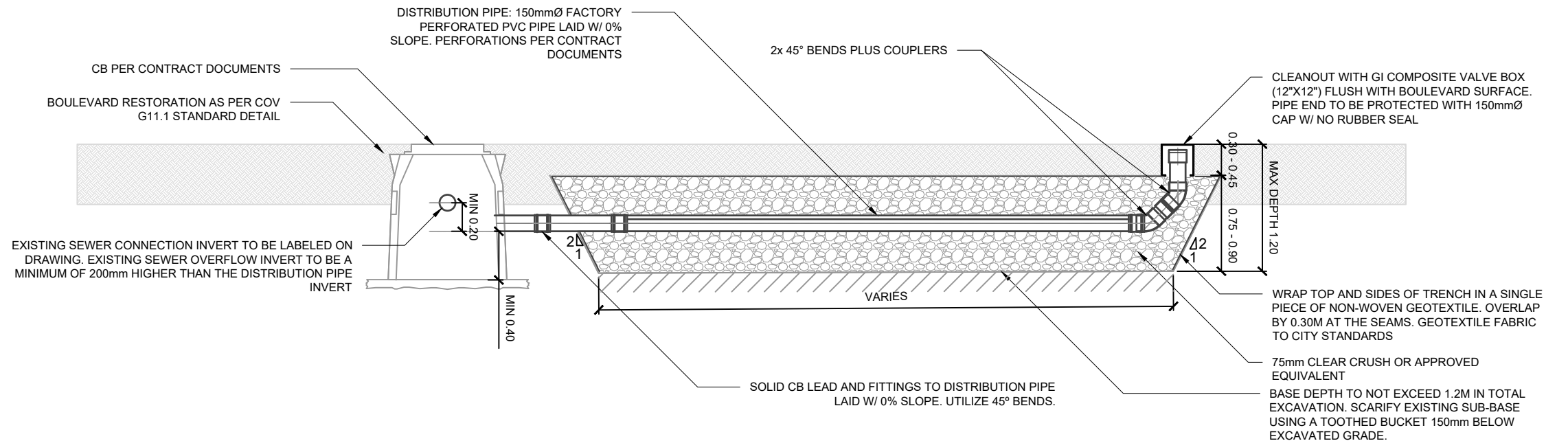
WRAP TOP AND SIDES OF TRENCH IN A SINGLE PIECE OF NON-WOVEN GEOTEXTILE. OVERLAP BY 0.30M.



SECTION B-B

DISTRIBUTION PIPE: 150mmØ FACTORY PERFORATED PVC PIPE LAID W/ 0% SLOPE. PERFORATIONS PER CONTRACT DOCUMENTS

CB PER CONTRACT DOCUMENTS  
BOULEVARD RESTORATION AS PER COV G11.1 STANDARD DETAIL



NOTES

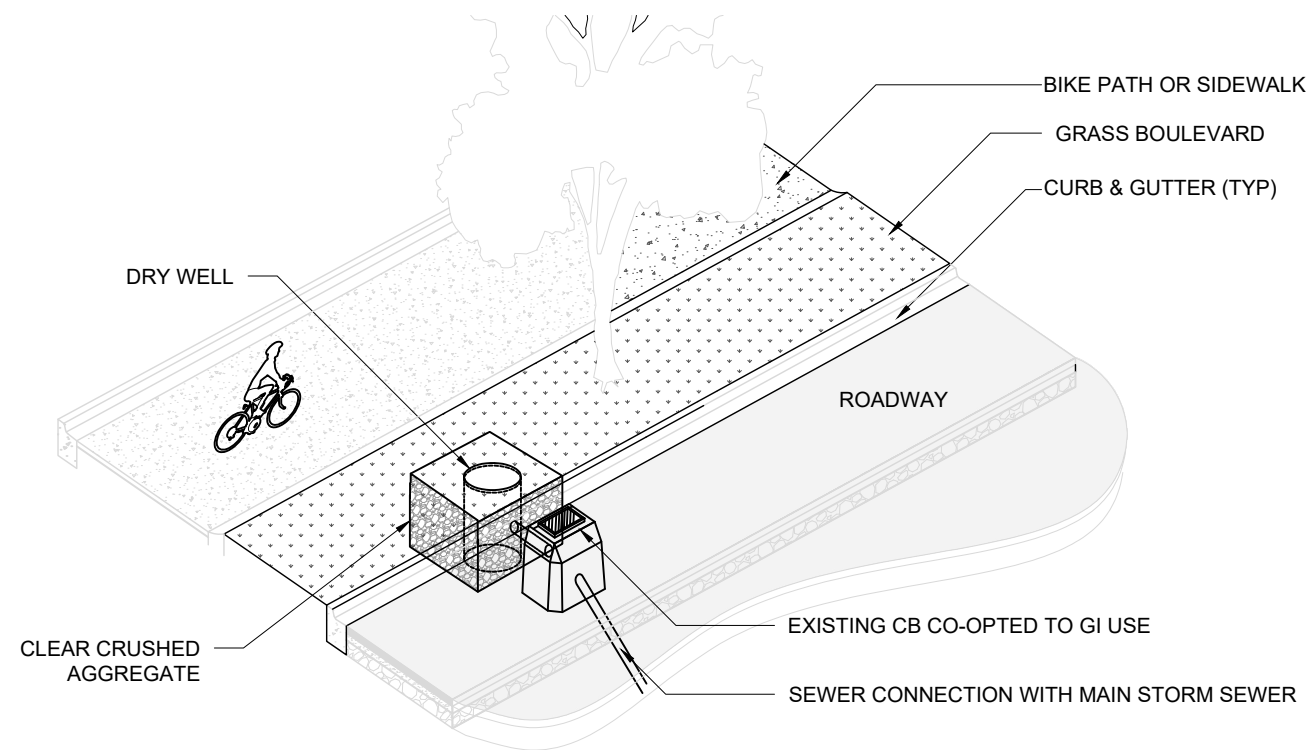
1. LABEL AND DISPLAY ALL UTILITIES AND/OR SERVICES THAT CROSS BELOW OR THROUGH THE INFILTRATION TRENCH ALONG WITH THEIR INVERT ELEVATIONS
2. SHOW ALL UTILITY PROTECTION MEASURES AND SETBACKS FOR SERVICES AND/OR UTILITY CONFLICTS
3. ECOWASTE RECYCLED GRANITE (25mm) MAY BE USED AS AN ALTERNATIVE FOR CoV #15 IN BOULEVARD INFILTRATION SYSTEMS
4. PRE-SURVEY OF THE EXISTING CATCH BASIN (CB) CONDITIONS MUST BE CONDUCTED. THE PICTURES OF CBS ( INSIDE AND OUTSIDE ) , WELL ORGANIZED AND CORRELATED WITH THE CB LOCATION, ARE SUFFICIENT.
5. CORE OPENING IN THE EXISTING CB WALL TO SUIT PVC PERFORATED PIPE CONNECTION. GROUT ANNULAR OPENING AROUND THE PIPE WITH NON-SHRINK GROUT.
6. COV REPRESENTATIVE ( SEWER MAINTENANCE INSPECTOR) SHALL INSPECT AND APPROVE THE CONNECTION PRIOR TO THE PIPE BEING BURIED. CONTACT SEWERS AT 604-871-6170 TO ARRANGE FOR INSPECTION. PROVIDE AT LEAST 48 HOURS NOTIFICATION.

INFILTRATION SYSTEMS  
BOULEVARD INFILTRATION TRENCH

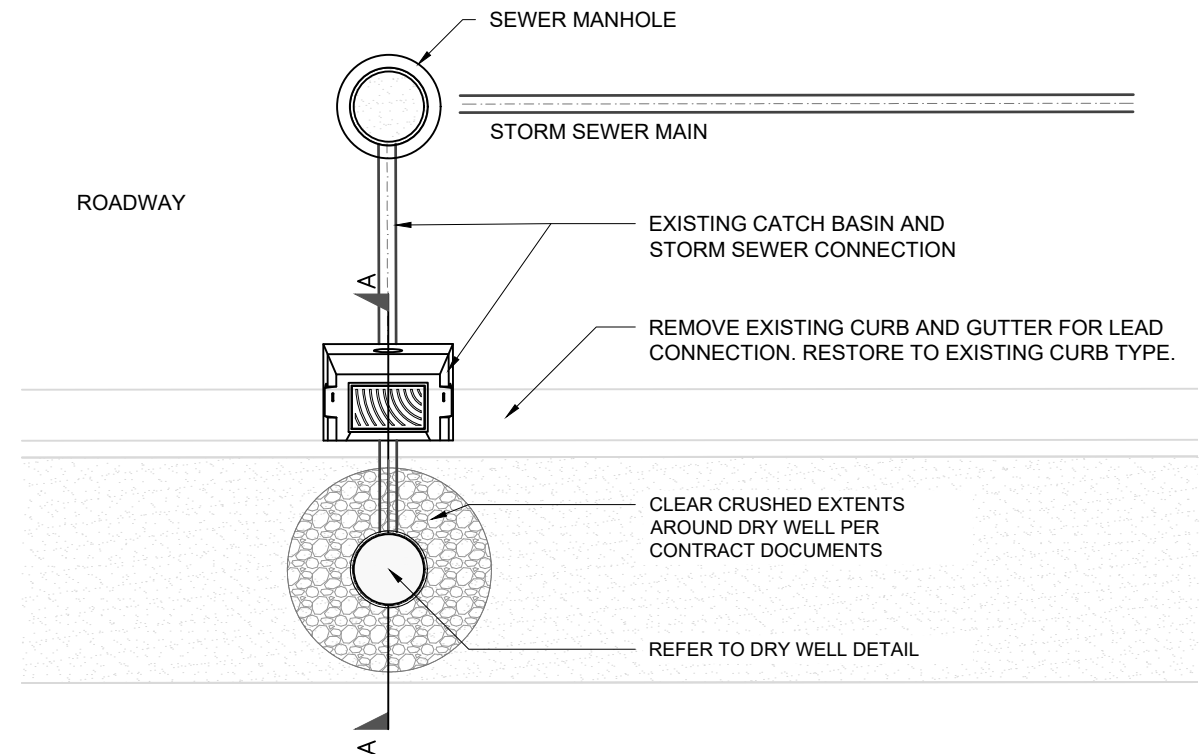
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CONCEPTUAL AXONOMETRIC



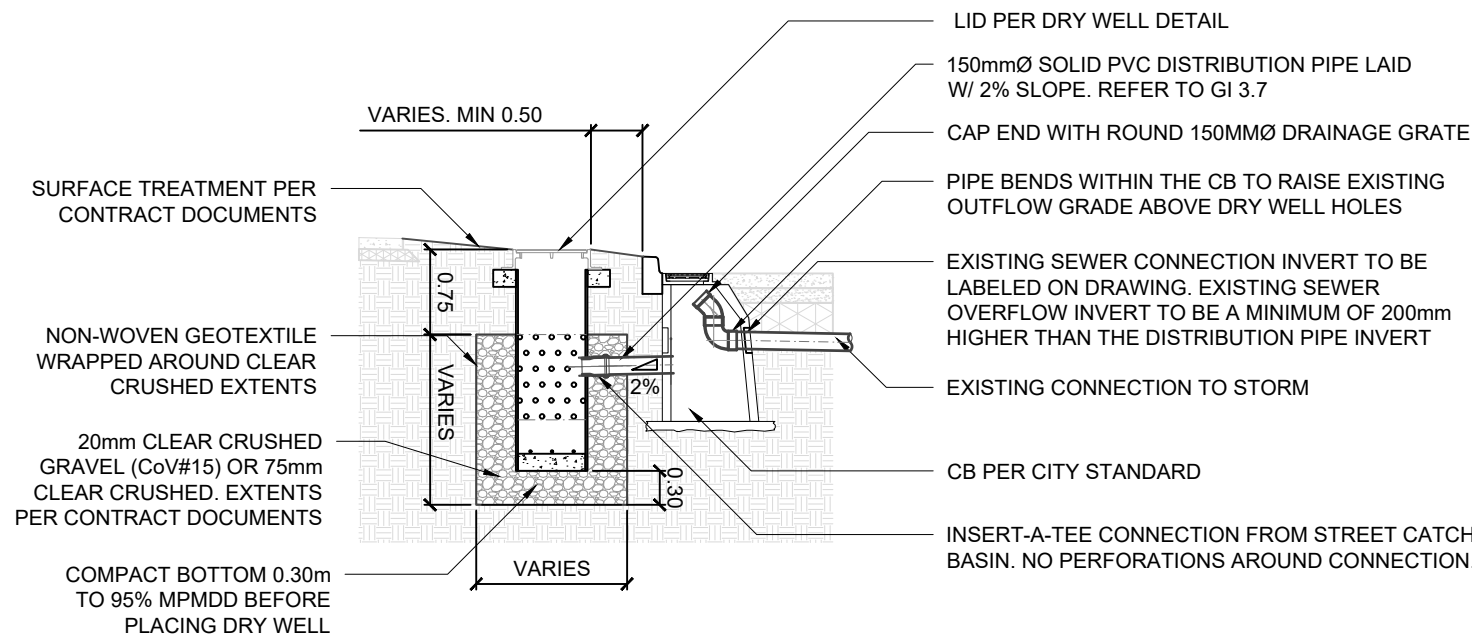
PLAN VIEW



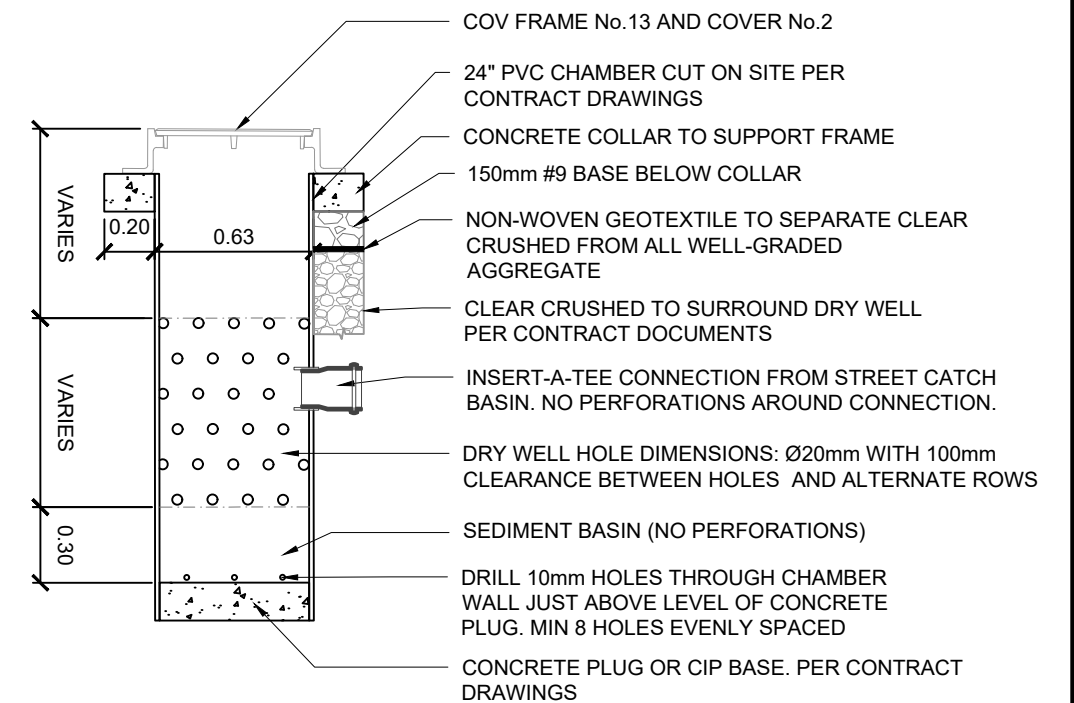
NOTES

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5. CORE OPENING IN THE EXISTING CB WALL TO SUIT PVC PERFORATED PIPE CONNECTION. GROUT ANNULAR OPENING AROUND THE PIPE WITH NON-SHRINK GROUT.
6. COV REPRESENTATIVE (SEWER MAINTENANCE INSPECTOR) SHALL INSPECT AND APPROVE THE CONNECTION PRIOR TO THE PIPE BEING BURIED. CONTACT SEWERS AT 604-871-6170 TO ARRANGE FOR INSPECTION. PROVIDE AT LEAST 48 HOURS NOTIFICATION.

SECTION A-A



DRY WELL DETAIL

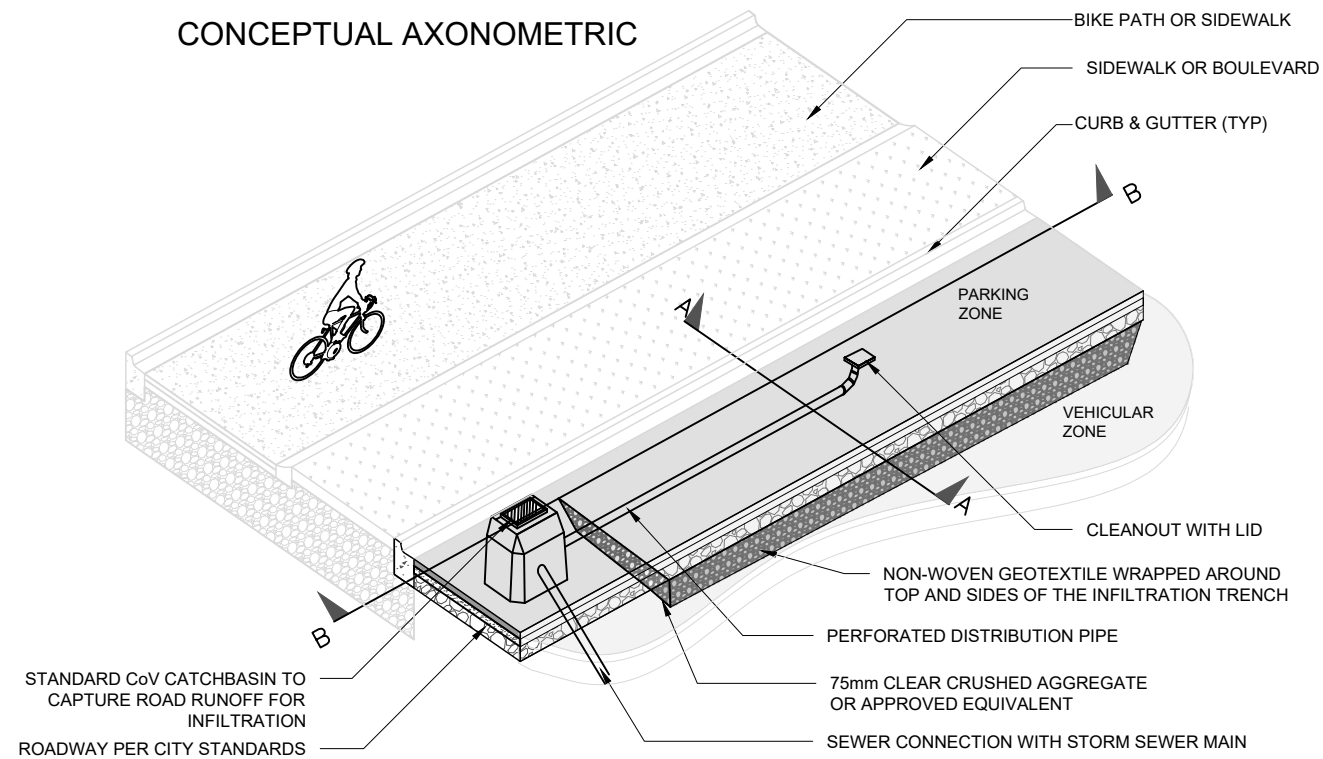


INFILTRATION SYSTEMS  
BOULEVARD DRY WELL

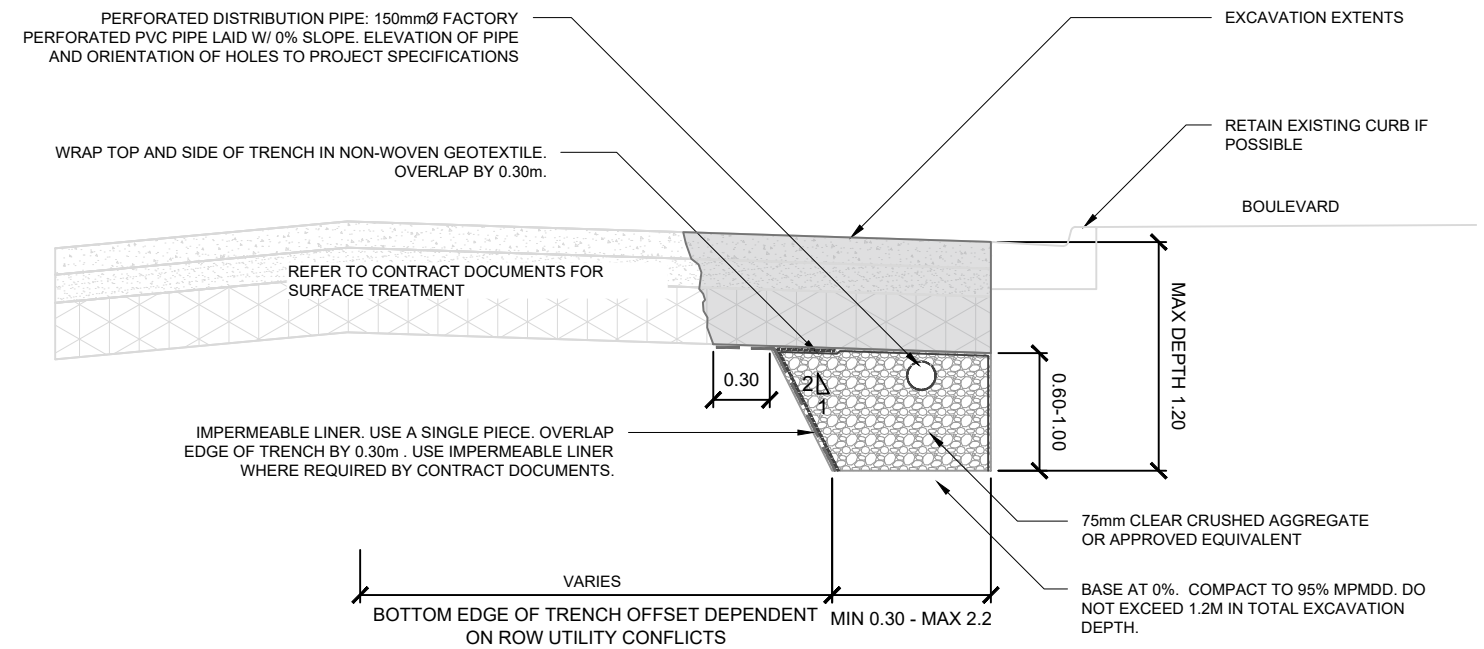
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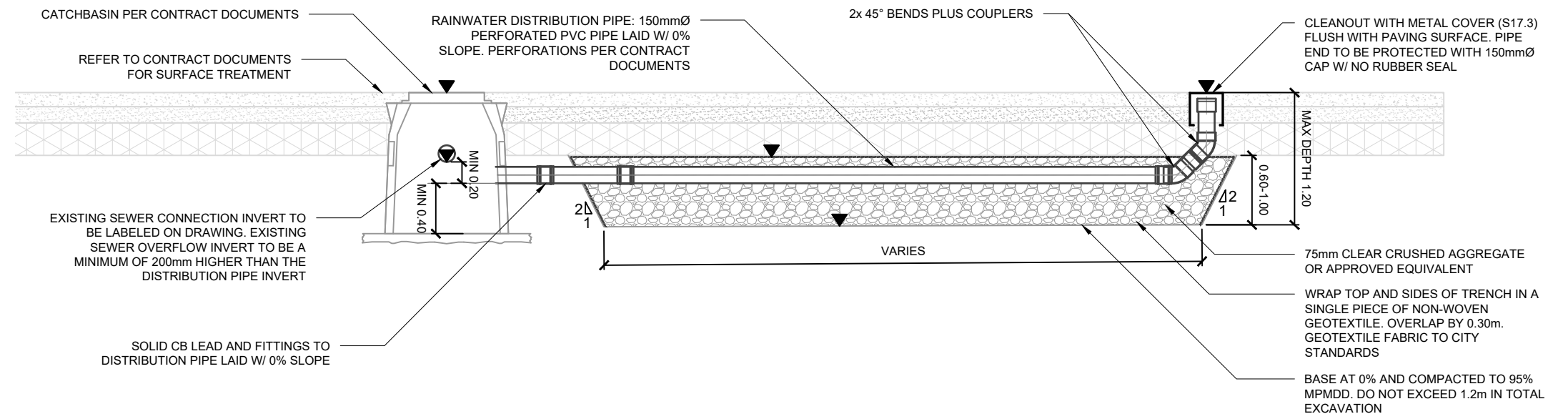
SECTION A-A



NOTES

1. ROADWAY INFILTRATION TRENCHES ARE APPROVED ON A SITE BY SITE BASIS AND AT THE DISCRETION OF THE CITY ENGINEER
2. LABEL AND DISPLAY ALL UTILITIES AND/OR SERVICES THAT CROSS BELOW OR THROUGH THE INFILTRATION TRENCH ALONG WITH THEIR INVERT ELEVATIONS
3. SHOW ALL UTILITY PROTECTION MEASURES AND SETBACKS FOR SERVICES AND/OR UTILITY CONFLICTS
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6. COV REPRESENTATIVE (SEWER MAINTENANCE INSPECTOR) SHALL INSPECT AND APPROVE THE CONNECTION PRIOR TO THE PIPE BEING BURIED. PROVIDE AT LEAST 48 HOURS NOTIFICATION.
7. ▼ INDICATES THAT AN ELEVATION MUST BE SPECIFIED AT THIS LOCATION ON CONTRACT DRAWINGS

SECTION B-B



INFILTRATION SYSTEMS  
ROADWAY INFILTRATION TRENCH

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