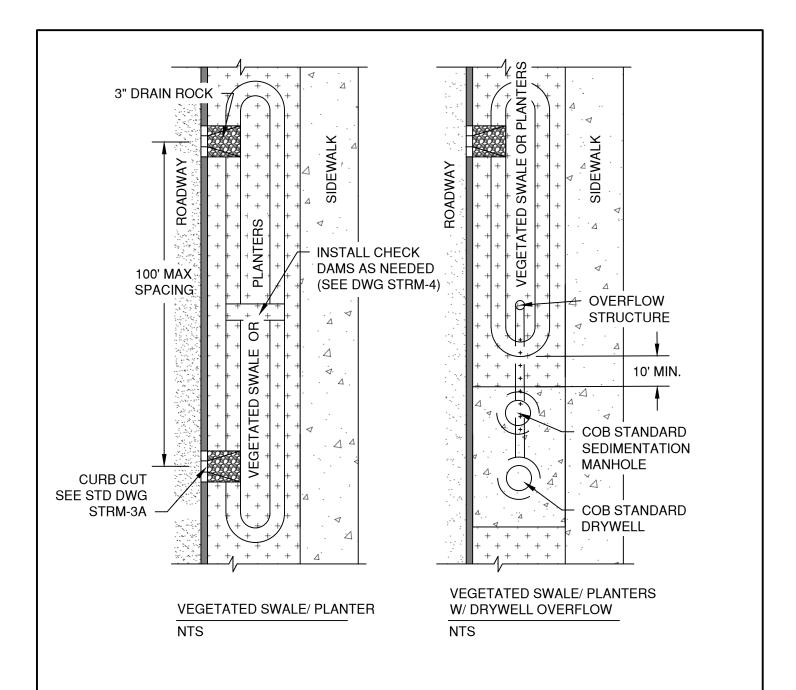


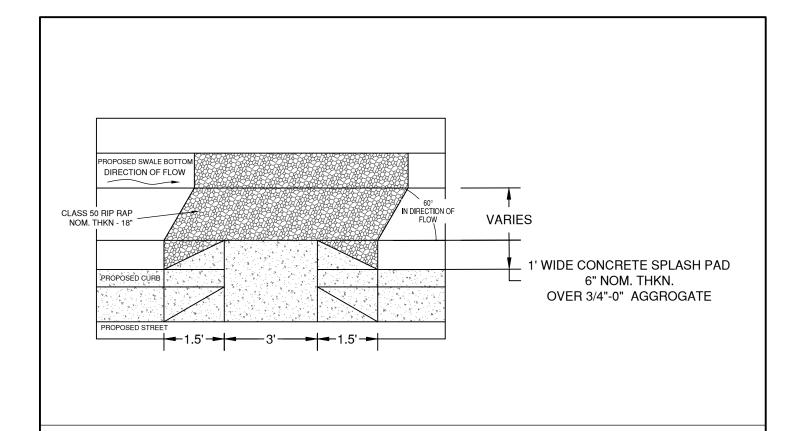
- 1. AMENDED TOPSOIL SHALL CONTAIN 20-30% TOPSOIL, 50-65% CLEAN SAND AND 5-20% COMPOST OR PEAT MOSS.
- 2. VOLUME AND DEPTH TO BE DETERMINED BY ENGINEER.
- 3. DRAIN ROCK AS REQUIRED FOR DRAINAGE CAPACITY. PEA GRAVEL TO BE USED TO PREVENT SOIL MIGRATION INTO DRAINAGE LAYER.
- 4. OPTIONAL ROCK RESERVOIR TO BE CONSTRUCTED WITH WASHED DRAIN ROCK WITH 40% VOIDS. NOT TO BE USED IN TREE WELLS.
- 5. AVOID COMPACTING SWALE AREA DURING CONSTRUCTION.
- 6. ADD HIGH POINT FLOW BYPASS TO AN APPROVED DISPOSAL POINT AS NECESSARY. OVERFLOW SHOULD PASS THROUGH A SEDIMENTATION MANHOLE OR PRE-TREATMENT PRIOR TO DISCHARGING TO A DRYWELL OR UIC.
- 7. AMENDED TOP SOIL CAN BE REPLACED WITH DRAIN ROCK FOR ROCK SWALES. ROCK SWALES CANNOT BE USED TO MEET PRETREATMENT REQUIREMENTS.
- 8. INSTALL CHECK DAMS AS REQURED AND PER DWG STRM-4.

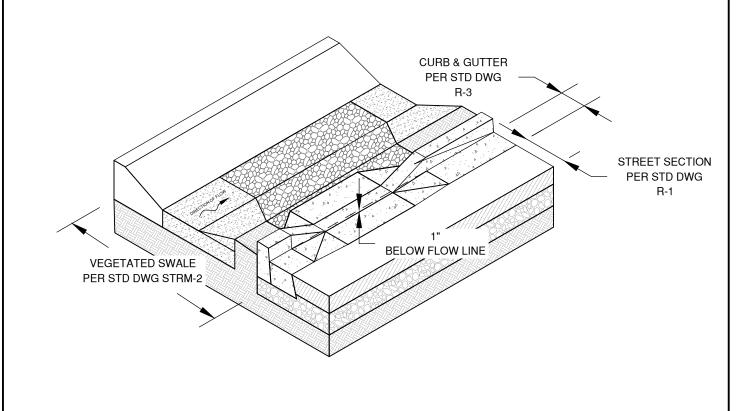
	C	ITY OF BEND	VEGETATED SWALE DETAIL	STD DWG STRM-2
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			710 NW WALL ST., BEND, OREGON 97701	
RE		(QHIN)	STANDARD DRAWING	DATE 01/31/2022
_	WN AJD STORM	AFD)	CITY OF BEND	SCALE NTS

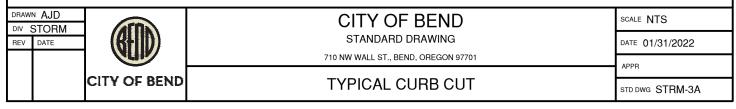


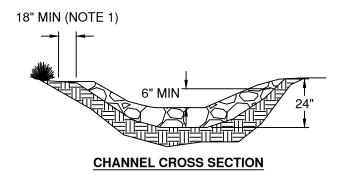
- 1. SWALE/SURFACE INFILTRATION FACILITIES NOT PERMITTED WITHIN PUES OR OVER FRANCHISE UTILITIES
- 2. VOLUME AND DEPTH TO BE DETERMINED BY ENGINEER.

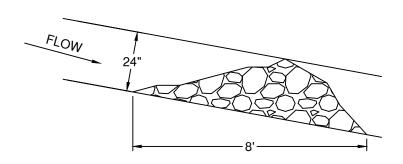
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C	ITY OF BEND	TYPICAL SWALE LAYOUT	STD DWG STRM-3



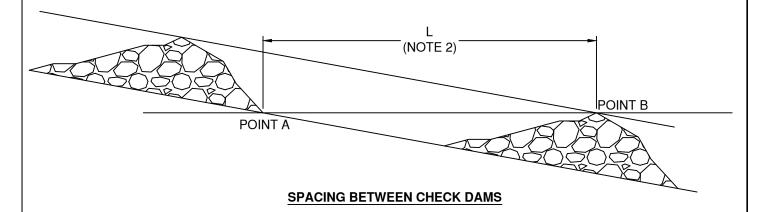






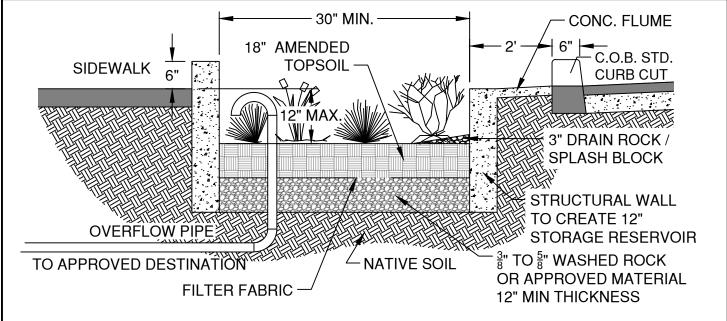


CHECK DAM PROFILE

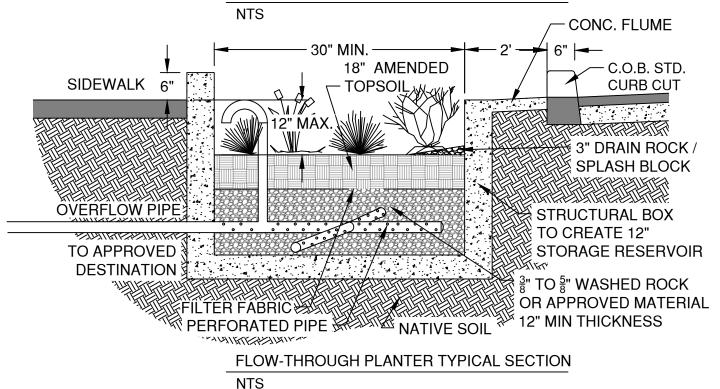


- 1. KEY STONE INTO THE CHANNEL BANKS AND EXTEND DAM A MINIMUM OF 18" TO PREVENT FLOW AROUND DAM.
- 2. L IS EQUAL TO THE DISTANCE SUCH THAT 'POINT A' AND 'POINT B' ARE OF EQUAL ELEVATION.
- 3. CHECK DAMS SHALL BE INSTALLED PER CENTRAL OREGON STORMWATER MANUAL (COSM) REQUIREMENTS.

	WN LJC STORM	(fD)	CITY OF BEND	SCALE NTS
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		CITY OF BEND	CHECK DAM DETAIL	STD DWG STRM-4
				organia Official

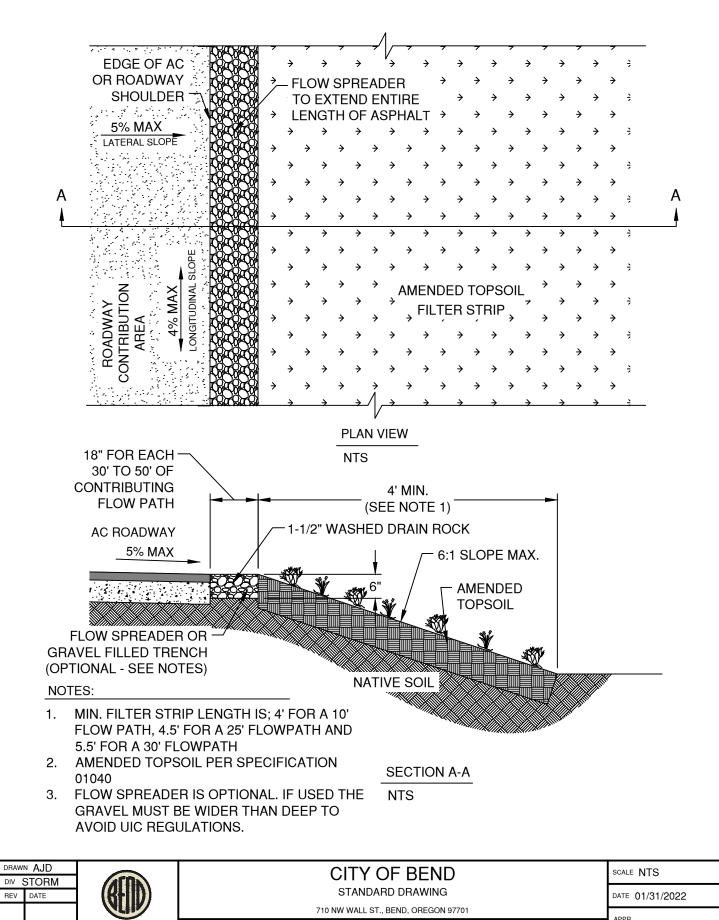


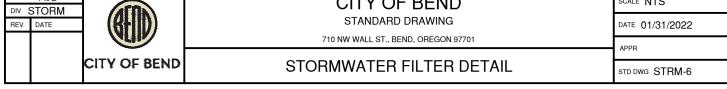
INFILTRATION PLANTER TYPICAL SECTION

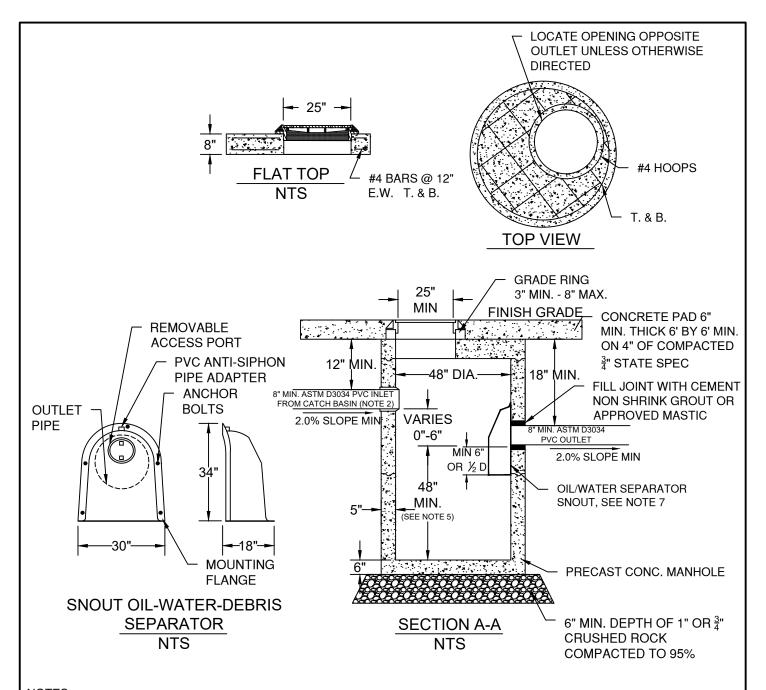


- 1. NOT FOR USE ALONG STREETS WITH POSTED SPEED ABOVE 25 MPH, UNLESS OUTSIDE THE CLEAR ZONE.
- 2. AMENDED TOPSOIL PER SPECIFICATION 01040
- 3. VOLUME AND DEPTH TO BE DETERMINED BY ENGINEER.
- 4. USE INFILTRATION PLANTER IF EXISTING SITE HAS AN INFILTRATION RATES > 0.5 IN/HR.
- 5. PLACE OVERFLOW PIPE 2" BELOW TOP OF PLANTER.
- 6. TO AVOID UIC REGULATION DO NOT USE PERFORATED PIPE OUTSIDE OF THE FLOW-THROUGH PLANTER OR WITH THE INFILTRATION PLANTER.

		CITY OF BEND	STORMWATER PLANTER DETAIL	STD DWG STRM-5
				APPR
	1		710 NW WALL ST., BEND, OREGON 97701	31/31/2322
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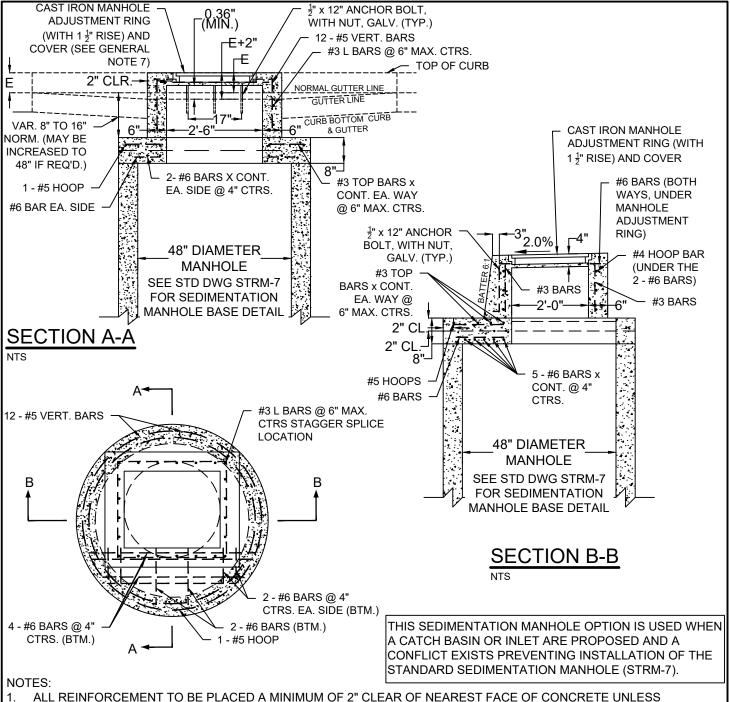






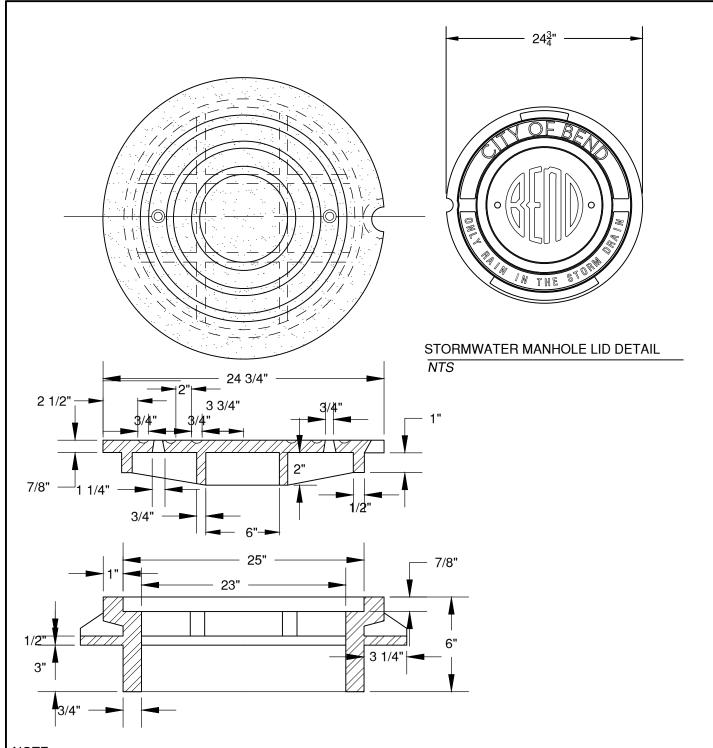
- 1. ALL PRE-CAST SECTIONS SHALL CONFORM TO REQUIREMENTS OF ASTM C-478.
- 2. AWWA C900 PIPE SHALL BE USED WITHIN TRAVEL AREAS. ASTM D3034 PIPE WHERE STORM PIPE WILL BE INSTALLED PERSANITARY SEWER REQUIREMENTS OR OUTSIDE OF TRAVEL AREAS.
- MANHOLES SHALL BE PLACED OUTSIDE SIDEWALK, APRONS & STREET SURFACES UNLESS APPROVED BY THE CITY ENGINEER.
- 4. A 3 POINT MECHANICAL ADJUSTMENT SYSTEM SUCH AS RAD'S OR APPROVED EQUAL SHALL BE USED TO ADJUST MANHOLE FRAME AND COVER TO FINISH GRADE.
- 5. SUMP SIZE TO BE DESIGNED IN ACCORDANCE WITH COSM 20 CF OF SUMP VOLUME FOR EACH 1.0 CFS DESIGN FLOW NOT LESS THAN 48" DEPTH.
- 6. MANHOLES WITH MORE THAN 3 CONNECTIONS, OR PIPES 12" OR LARGER TO BE 60" MANHOLES
- 7. OIL/WATER SEPARATOR SNOUT BMP 24R, OR APPROVED EQUAL. SECURE TO MANHOLE WITH FIVE $(5)_8^3$ "x1-12" STAINLESS STEEL RED HEAD BOLTS, WASHERS AND NUTS, OR AS APPROVED BY MANUFACTURER.

	NN AJD STORM	ACO.	CITY OF BEND	SCALE NTS
REV	_	(({{}}111))	STANDARD DRAWING	DATE 01/31/2022
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		CITY OF BEND	STORMWATER SEDIMENTATION MANHOLE	, , , , , ,
		CIT I OF BEND	STORIWIVATER SEDIMENTATION MANHOLE	STD DWG STRM-7



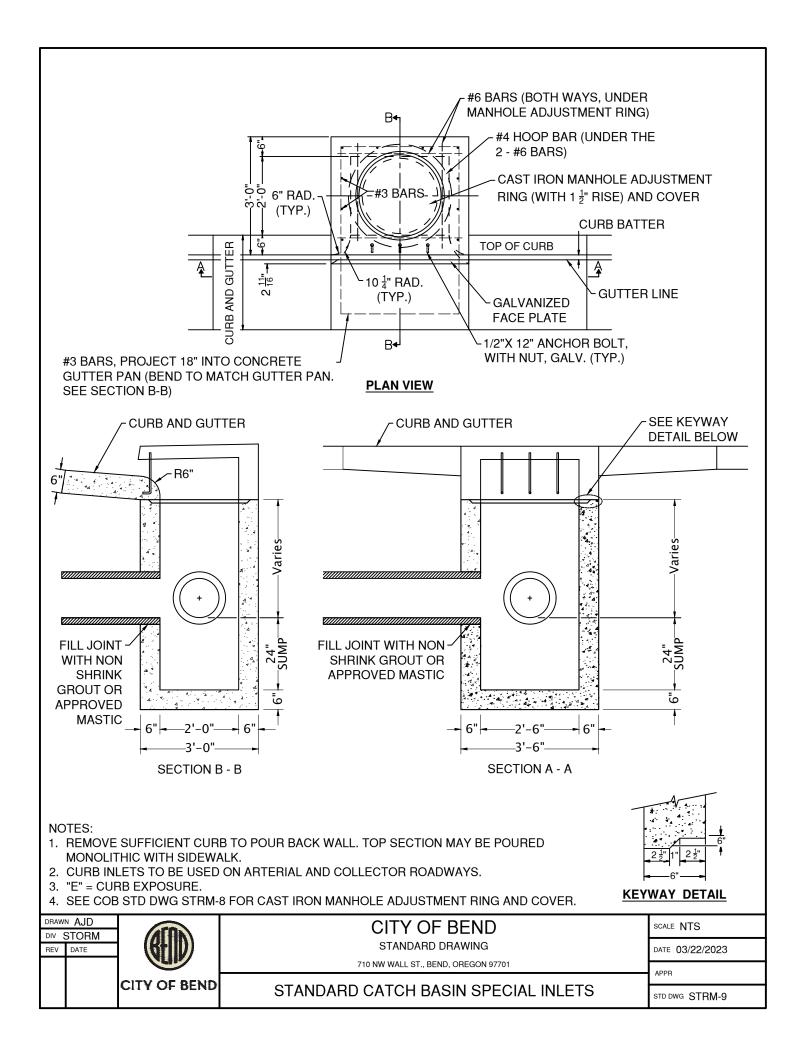
- ALL REINFORCEMENT TO BE PLACED A MINIMUM OF 2" CLEAR OF NEAREST FACE OF CONCRETE UNLESS
 OTHERWISE SHOWN OR NOTED.
- ALL PRECAST PRODUCTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C478.
- 3. ALL CONCRETE SHALL BE COMMERCIAL GRADE CONCRETE.
- INLET TOP MAY BE CAST-IN-PLACE OR PRECAST. ALL PRECAST INLETS SHALL CONFORM TO REQUIREMENTS OF ASTM C913.
- 5. VARY ANCHOR BOLT LENGTH AND REINFORCING BAR PLACEMENT AS REQUIRED BY CURB EXPOSURE E.
- 6. SEE COB STD DWG R-3 FOR CURB DETAILS.
- 7. SEE ODOT STD DWG RD356 FOR MANHOLE ADJUSTMENT RING. SEE COB STD DWG STRM-8 FOR CAST IRON MANHOLE ADJUSTMENT RING AND COVER.
- 8. SUMP SIZE TO BE DESIGNED IN ACCORDANCE WITH COSM 20 CF OF SUMP VOLUME FOR EACH 1.0 CFS DESIGN FLOW NOT LESS THAN 48" DEPTH.

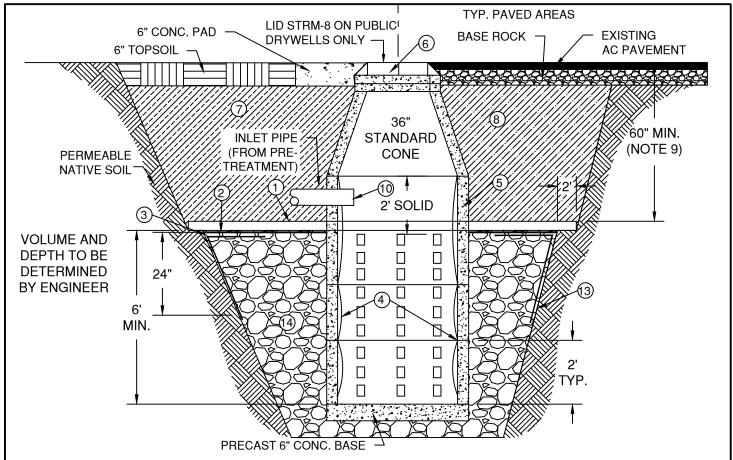
		CITY OF BEND	STORMWATER SEDIMENTATION MANHOLE - ALTERNATE	STD DWG STRM-7A
		CITY OF BENE		APPR
		CUIP	710 NW WALL ST., BEND, OREGON 97701	
REV	DATE	(RHID)	STANDARD DRAWING	DATE 01/31/2022
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-	N AJD		CITY OF BEND	SCALE NTS



- MANHOLE LID ONLY TO BE USED ON CITY OF BEND PUBLIC DRYWELLS AND SEDIMENTATION MANHOLES.
 PRIVATELY OWNED DRYWELLS AND SEDIMENT MANHOLES SHALL NOT USE A CITY OF BEND MANHOLE LID.
- 2. HINGED MANHOLE LIDS ARE NOT PERMITTED UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
- ALL MANHOLE LIDS SHALL BE PLACED OUTSIDE THE PATH OF TRAVEL OF SIDEWALKS AND DRIVEWAY
 APRONS.

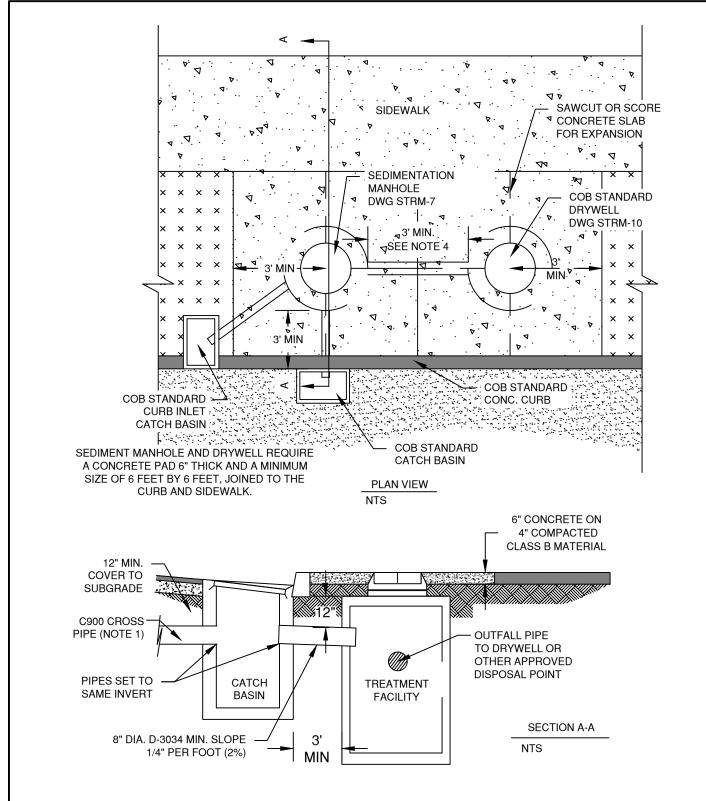
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		CITY OF BEND	STORMWATER MANHOLE LID DETAIL	STD DWG STRM-8





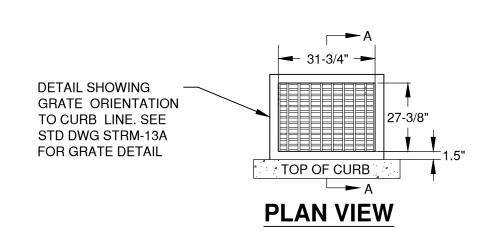
- * SEE ALSO THE CITY OF BEND STANDARDS AND SPECIFICATIONS FOR DESIGN CRITERIA
- 6" CONCRETE CAP, SECTION 00440 COMMERCIAL GRADE CONCRETE, EXTEND TO UNDISTURBED MATERIAL 2' MIN. REQUIRED WITHIN ALL CITY OF BEND RIGHT OF WAY UNLESS NOTED OTHERWISE.
- 2. MOISTURE BARRIER-2 LAYERS OF 4 MIL POLY. ON ALL ROCK INSTALLATIONS.
- NONWOVEN GEOFABRIC CONFORMING TO DRAINAGE GEOTEXTILE, OREGON TABLE 02320-1 REQUIRED ON ALL EARTH OR GRAVEL EXCAVATIONS TO 24" INTO ROCK. LAP 24" WITH MOISTURE BARRIER.
- 4. LINE INSIDE OF PERFORATED BARREL WITH HEAVY WEIGHT VINYL SCREEN, SUCH AS FULL FLOW VINYL SCREEN THAT MEETS THE REQUIREMENTS OF SPECIFICATION SECTION 00470. LINER SHALL BE FULLY AND CONTINUOUSLY ANCHORED, TOP AND BOTTOM OF EACH SECTION. ATTACH BY OVERLAPPING 12" MIN. BETWEEN JOINT OF MANHOLE CONE AND PERFORATED BARREL SECTION. INLET PIPE SHALL BE EXTENDED THROUGH THE SCREEN IF SCREEN IS ATTACHED ABOVE THE PIPE.
- 5. PRE-CAST SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-478. ALL CONCRETE SHALL BE COMMERCIAL GRADE CONCRETE
- STANDARD RING AND COVER REQUIRED IN RIGHT-OF-WAY AREAS. NO SLOTTED COVERS WILL BE ALLOWED IN LIEU OF A CATCH BASIN.
- 7. CLASS "A" BACKFILL COMPACTED TO 95.0% OPTIMUM DRY DENSITY (AASHTO T-99).
- 8. CLASS "B" BACKFILL COMPACTED TO 95.0% OPTIMUM DRY DENSITY (AASHTO T-99).
- 9. PERFORATIONS TO BE 60" BELOW EXISTING UNDISTURBED GROUND.
- 10. INLET PIPE MUST BE DESIGNED SO IT CAN BE PLUGGED IN CASE OF SPILL. ALL PIPE PENETRATIONS ARE TO BE GROUTED OR WATER-TIGHT SEALED. PIPE INLETS NOT TO ENTER DRYWELL WITH PERFORATED BARREL.
- 11. DRYWELL RIMS TO BE PLACED OUTSIDE OF SIDEWALK, APRON & STREET SURFACES UNLESS APPROVED BY THE CITY ENGINEER.
- 12. PLANS SHALL PROVIDE VOLUME AND AREA OF ROCK PLACEMENT. ROCK PLACEMENT SHALL BE OUTSIDE WATER/SEWER TRENCHES. WHERE ROCK ENTERS PRIVATE PROPERTY, A DRAINAGE EASEMENT SHALL BE RECORDED.
- 13. GEOFABRIC TO BE EXTENDED FROM THE CONCRETE CAP TO BOTTOM OF DRYWELL STRUCTURE. WHERE THE EXCAVATION IS WITHIN SOLID ROCK (NO SIDEWALL SLOUGHING), GEOFABRIC CAN BE WAIVED AT ENGINEER'S DISCRETION
- 14. CLEAN 2"-3" CRUSHED OR RIVER RUN DRAIN ROCK PER SECTION 00470.18.

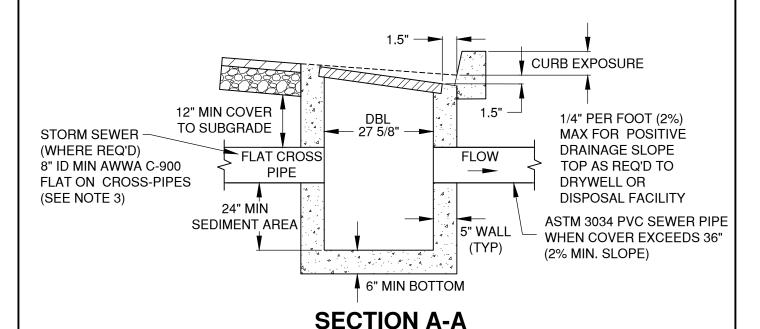
		CITY OF BEND	STANDARD PRE-CAST DRYWELL	STD DWG STRM-10
				APPR
			710 NW WALL ST., BEND, OREGON 97701	
-	DATE		STANDARD DRAWING	DATE 03/22/2023
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- 1. CROSS PIPE ELEV MAY REQUIRE OTHER UTILITIES (SEWER, WATER, ETC) TO BE LOWERED TO PROVIDE MINIMUM SEPARATIONS
- 2. ALL PIPE PENETRATIONS ARE TO BE GROUTED OR WATER TIGHT SEALED.
- 3. DRYWELL AND TREATMENT FACILITY NOT TO BE PLACED IN DRIVEWAY OR SIDEWALK UNLESS APPROVED BY THE CITY ENGINEER.
- ${\tt 4.} \ \ {\tt WHEN} \ {\tt DRY} \ {\tt UTILITIES} \ {\tt WILL} \ {\tt BE} \ {\tt INSTALLED} \ {\tt BETWEEN} \ {\tt STRUCTURES}, \ {\tt PROVIDE} \ {\tt MINIMUM} \ {\tt 5'} \ {\tt SEPARATION}.$

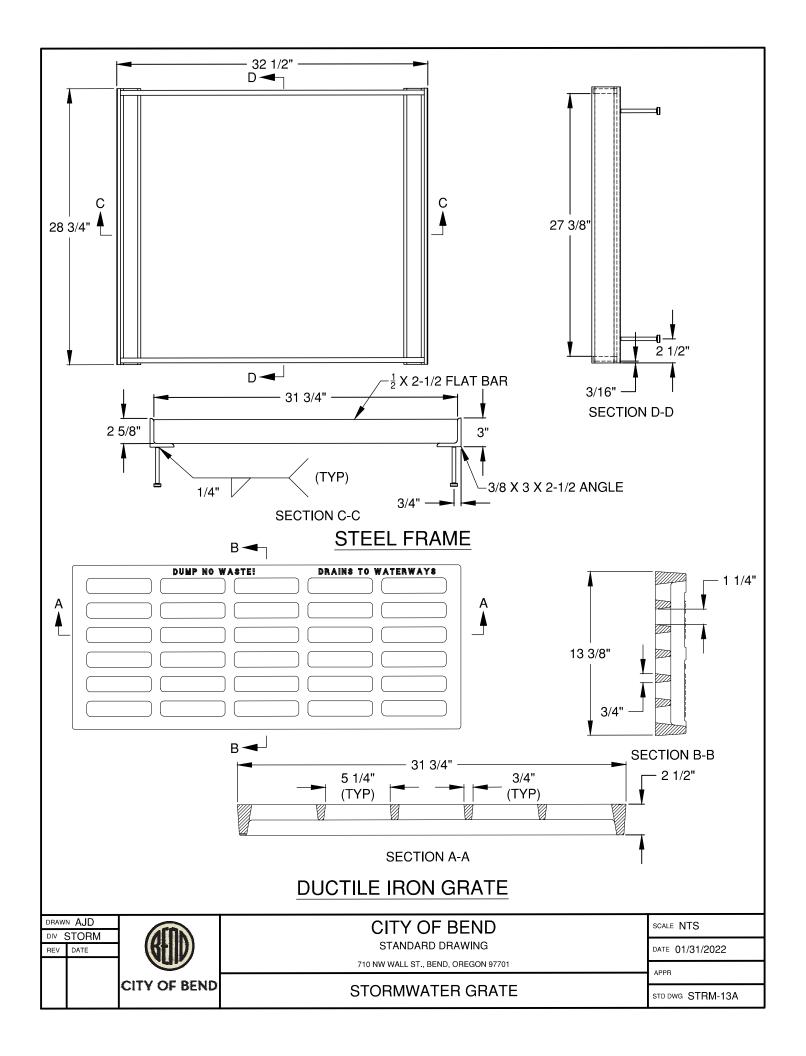
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REV	DATE		STANDARD DRAWING	DATE 01/31/2022
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		CITY OF BEND	DRYWELL W/ MANUFACTURED TREATMENT LAYOUT	STD DWG STRM-11

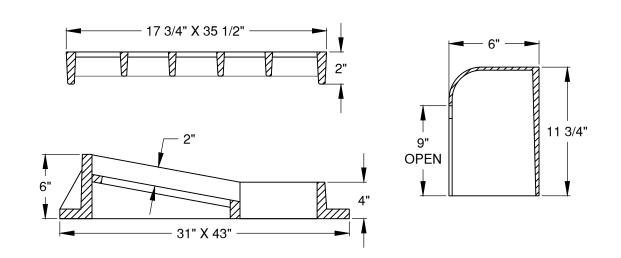




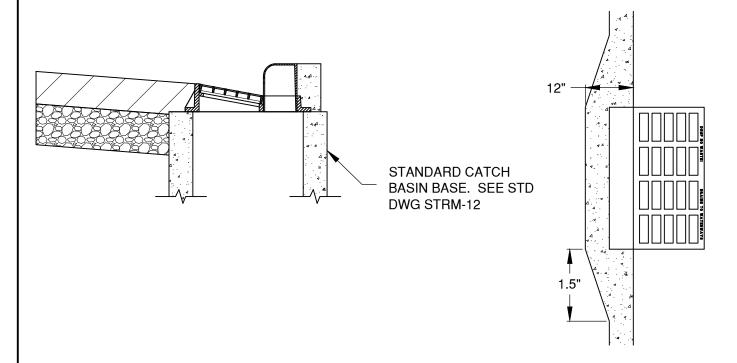
- UNLESS OTHERWISE SPECIFIED, ALL CATCH BASINS TO BE DOUBLE CATCH BASIN
- 2. BACKFILL TO BE COMPACTED TO 95% OF OPTIMUM PER SPECIFICATION SECTION 00330.43
- 3. CROSS PIPE ELEV MAY REQUIRE OTHER UTILITIES (SEWER, WATER, ETC) TO BE LOWERED TO PROVIDE MINIMUM SEPARATIONS
- 4. ALL PIPE CONNECTIONS TO BE GROUTED PER SPECIFICATION SECTION 00470.40
- 5. CONTRACTOR IS RESPONSIBLE TO KEEP CATCH BASIN CLEAN AND FREE OF SEDIMENT DURING CONSTRUCTION
- 6. CONTRACTOR IS RESPONSIBLE TO COVER AND BARRICADE ALL CATCH BASINS UNTIL GRATE IS INSTALLED
- 7. STANDARD CATCH BASINS ARE LIMITED TO LOCAL STREETS AND SHALL NOT BE USED ON ARTERIAL & COLLECTOR ROADWAYS. CURB INLETS ARE TO BE USED ON ARTERIAL & COLLECTOR ROADWAYS.
- 8. SEE DRG R-11 FOR PAVEMENT RESURFACING

_	N AJD STORM	CITY OF BEND	SCALE NTS
	DATE	STANDARD DRAWING	DATE 03/22/2023
		710 NW WALL ST., BEND, OREGON 97701	APPR
		STANDARD CATCH BASIN	STD DWG STRM-12





CAST IRON COMBINATION CATCH BASIN INLET



- 1. SEE NOTES ON STD DWG STRM-12
- 2. COMBINATION CATCH BASIN INLET TO BE USED ON COLLECTOR AND LOCAL STREETS WHEN THE ROAD GRADE EXCEED 6%

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		CITY OF BEND	COMBINATION CATCH BASIN INLET	STD DWG STRM-13B

