Filterra Standard Plan Notes

Construction & Installation

A. Each unit shall be constructed at the locations and elevations according to the sizes shown on the approved drawings. Any modifications to the elevation or location shall be at the direction of and approved by the Engineer.

B. If the Filterra® is stored before installation, the top slab must be placed on the box using the 2x4 wood provided, to prevent any contamination from the site. All internal fittings supplied (if any), must be left in place as per the delivery.

C. The unit shall be placed on a compacted sub-grade with a minimum 6-inch gravel base matching the final grade of the curb line in the area of the unit. The unit to be placed such that the unit and top slab match the grade of the curb in the area of the unit. Compact undisturbed sub-grade materials to 95% of maximum density at +1- 2% of optimum moisture. Unsuitable material below sub-grade shall be replaced to the site engineer's approval.

D. Outlet connections shall be aligned and sealed to meet the approved drawings with modifications necessary to meet site conditions and local regulations.

E. Once the unit is set, the internal wooden forms and protective mesh cover must be left intact. Remove only the temporary wooden shipping blocks between the box and top slab. The top lid should be sealed onto the box section before backfilling, using a non-shrink grout, butyl rubber or similar waterproof seal. The boards on top of the lid and boards sealed in the unit's throat must **NOT** be removed. The Supplier (Americast or its authorized dealer) will remove these sections at the time of activation. Backfilling should be performed in a careful manner, bringing the appropriate fill material up in 6" lifts on all sides. Precast sections shall be set in a manner that will result in a watertight joint. In all instances, installation of Filterra® unit shall conform to ASTM specification C891 "Standard Practice for Installation of Underground Precast Utility Structures", unless directed otherwise in contract documents.

F. Curb and gutter construction (where present) shall ensure that the flow-line of the Filterra® units is at a greater elevation than the flow-line of the bypass structure or relief (drop inlet, curb cut or similar). Failure to comply with this guideline may cause failure and/or damage to the Filterra® environmental device.

G. Each Filterra® unit must receive adequate irrigation to ensure survival of the living system during periods of drier weather. This may be achieved through gutter flow or through the tree grate.

Activation

A. Activation of the Filterra® unit is performed ONLY by the Supplier. Purchaser is responsible for Filterra® inlet protection and subsequent clean out cost. This process cannot commence until the project site is fully stabilized and cleaned (full landscaping, grass cover, final paving and street sweeping completed), negating the chance of construction materials contaminating the Filterra® system. Care shall be taken during construction not to damage the protective throat and top plates.

B. Activation includes installation of plant(s) and mulch layers as necessary.

Maintenance

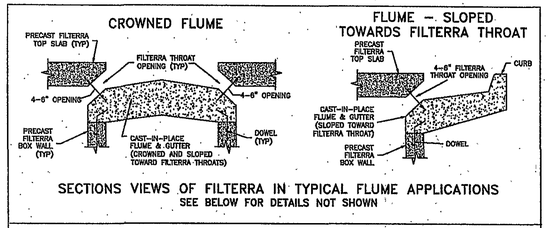
A. Each correctly installed Filterra® unit is to be maintained by the Supplier, or a Supplier approved contractor for a minimum period of 1 year. The cost of this service is to be included in the price of each Filterra® unit. Extended maintenance contracts are available at extra cost upon request.

B. Annual maintenance consists of a maximum of (2) scheduled visits. The visits are scheduled seasonally; the spring visit aims to clean up after winter loads including salts and sands. The fall visit helps the system by removing excessive leaf litter.

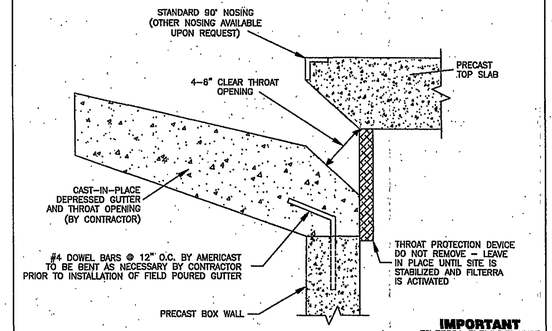
C. Each maintenance visit consists of the following tasks.

1. Filterra® unit inspection
2. Foreign debris, silt, mulch & trash removal
3. Filter media evaluation and recharge as necessary
4. Plant health evaluation and pruning or replacement as necessary
5. Replacement of mulch
6. Disposal of all maintenance refuse items
7. Maintenance records updated and stored (reports available upon request)

D. The beginning and ending date of Supplier's obligation to maintain the installed system shall be determined by the Supplier at the time the system is activated. Owners must promptly notify the Supplier of any damage to the plant(s), which constitute(s) an integral part of the bioretention technology.



SECTIONS VIEWS OF FILTERRA IN TYPICAL FLUME APPLICATIONS
SEE BELOW FOR DETAILS NOT SHOWN



SECTION VIEW
STANDARD FILTERRA THROAT OPENING

IMPORTANT
FILTERRA FLOWLINE MUST BE AT A HIGHER ELEVATION THAN BYPASS FLOWLINE (DROP INLET OR OTHER)

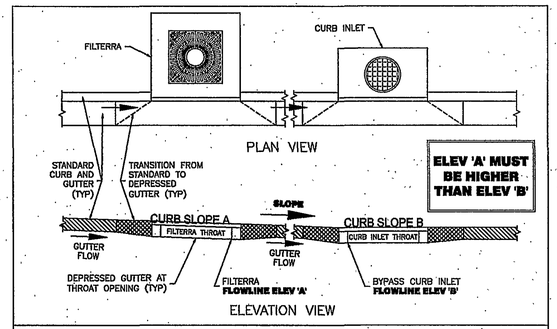
MODIFICATIONS OF DRAWINGS ARE ONLY PERMITTED BY WRITTEN AUTHORIZATION FROM FILTERRA
DRAWING AVAILABLE IN TIFF FILE FORMAT.

AMERICAST®

DATE: 02–27–06 | DWG: CGT–4

FILTERRA® THROAT OPENING AND GUTTER OR FLUME DETAIL

filterra®
US PAT 6,277,274 AND 6,569,321



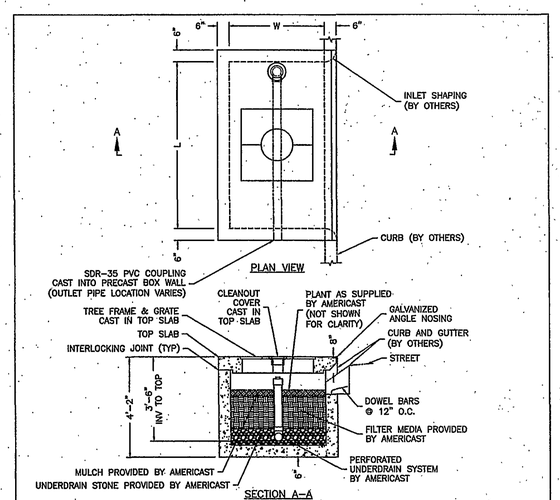
MODIFICATIONS OF DRAWINGS ARE ONLY PERMITTED BY WRITTEN AUTHORIZATION FROM FILTERRA

AMERICAST®

DATE: 07–07–06 | DWG: FLP–2

FILTERRA® TYPICAL FLOWLINE AND OULET PIPE RELATIONSHIP

filterra®
US PAT 6,277,274 AND 6,569,321



	DESIGNATION	L	W	TREE GRATE QTY & SIZE	OUTLET PIPE
ST #1	6 x 4	6'–0"	4'–0"	(1) 3x3	4" SDR–35 PVC
	8 x 4	8'–0"	4'–0"	(1) 3x3	4" SDR–35 PVC
	8 x 6	8'–0"	6'–0"	(1) 4x4	4" SDR–35 PVC
	10 x 6	10'–0"	6'–0"	(1) 4x4	6" SDR–35 PVC
	12 x 4	12'–0"	4'–0"	(2) 3x3	4" SDR–35 PVC
	12 x 6	12'–0"	6'–0"	(2) 4x4	6" SDR–35 PVC
	13 x 7	13'–0"	7'–0"	(2) 4x4	6" SDR–35 PVC

MODIFICATIONS OF DRAWINGS ARE ONLY PERMITTED BY WRITTEN AUTHORIZATION FROM FILTERRA
DRAWING AVAILABLE IN TIF FILE FORMAT.

AMERICAST®

DATE: 09–04–07 | DWG: FTNW–3

PRECAST FILTERRA® UNIT NARROW WIDTH CONFIGURATION

filterra®
US PAT 6,277,274 AND 6,569,321

FILTERRA PROJECT INFORMATION FORM	
Structure ID #	1
Structure Size LxW	6'X4'
Filterra Drainage Area (Ac.)	0.15
Runoff Coefficient (C factor)	0.89
Top Curb Elev A	1126.80
Flowline Elev A	1126.30
Curb Slope A	4.29%
Filterra Invert Out	1123.30
Top Curb Elev B	
Flowline Elev B	1126.21
Curb Slope B	4.29%
ByPass Structure Invert In	1123.00
Modified Structure (Y/N)	NO
Grate or Top Options	NONE

SUMMARY OF STORMWATER MAMAGEMENT DESIGN

1. ROOF RUNOFF IS DISCHARGED TO SURFACE SPLASH BLOCKS AND DIRECTED TO THE REAR OF THE PROPERTY. ONE HALF OF THE TOTAL BUILDING IS DRAINING TO THE FILTERRA STRUCTURE.

2. PARKING AREAS DRAIN TO CURB LINES AND FLOW TO FILTERRA STRUCTURES, SIZED PER MANUFACTURER'S REQUIREMENTS PER TECHNICAL BULETIN NO. 6. HIGH FLOWS BYPASS THE FILTERRA STRUCTURE & IS DISCHARGED AT THE PROPERTY LINE, DRAINING TO AN EXISTING STORMWATER MANAGEMENT POND.

3. STORMWATER QUANTITY REQUIREMENTS ARE IDENTIFIED ON THE UTILITY SHEET, DESCRIBING THE INCREASED RUNOFF AND THE EFFECT ON THE EXISTING STORMWATER MANAGEMENT POND.

4. ACCESS FROM THE PUBLIC ROAD TO THE FILTERRA STRUCTURES IS AVAILABLE BY MEANS OF THE PARKING LOT TRAVEL PATHS. AN EASEMENT EXHIBIT WILL BE RECORDED WITH THE SWM/BMP FACILITIES AGREEMENT.

5. MAINTENANCE REQUIREMENTS OF THESE ITEMS ARE SPECIFIED BY THE MANUFACTURE OF EACH ITEM AND ATTACHED TO THE STORMWATER MANAGEMENT/BMP FACILITIES MAINTENANCE AGREEMENT.

parker
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COMMONWEALTH OF VIRGINIA
PAUL J. BROWN
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5-19-2009
PROFESSIONAL ENGINEER

Comprehensive Site Plan for Oakey's Renovations & Addition
5416 Airport Road, N.W.
Tax No. 6640108
City of Roanoke, Virginia

REVISIONS:

Address City Review Comments PJB 05-19-2009

DESIGNED BY:	PJB
DRAWN BY:	PJB
CHECKED BY:	PJB
SCALE:	1" = 20'
DATE:	April 22, 2009

SHEET TITLE:
Stormwater Quality Structure Details

C06
06 OF 09
PROJECT NUMBER:
08-0306-03