

As-Built SWMF Certification for [REDACTED]

LDA# [REDACTED]

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[Redacted]

[Redacted]

[Redacted]

Stormwater Specialist
Arlington County Department of Environmental Services
2100 Clarendon Blvd., Suite 705
Arlington, VA 22201

RE: **Stormwater Management System Certification**

[Redacted]
E [Redacted], LDA [Redacted], SWM# [Redacted]-[Redacted], VAR [Redacted]

Dear Sir or Madam:

Stormwater management facilities [2 LEVEL 1 VEGETATED ROOFS] were required as part of the above referenced project date [Redacted].

Pursuant to 9VAC25-970-55 and Arlington County Code Chapter 60-8, I hereby certify that to the best of my knowledge and belief the stormwater management facilities shown on these record drawings have been constructed in accordance with the approved plans and specifications.

[Redacted] _____

Name

[Redacted] _____

Virginia License

[Redacted] _____

Signature

[Redacted] _____

Date



"Certify means to state or declare a professional opinion based on sufficient and appropriate onsite inspections, material tests, as-built survey data, and information provided by other professionals and the contractor, conducted during or after construction."

Enclosures:

1. Record Drawings
2. Construction Inspection Checklist
3. Material Tickets
4. Photographs during installation



Construction Inspection Checklist: Green / Vegetated Roof

Address/ Location: _____ Building Permit #: _____
 LDA Permit #: _____ SWM#: _____
 Contractor: _____ Telephone: _____
 Certifying Professional*: _____ Telephone: _____
 Date Started: 6/22/20 Final Inspection Date: 7/31/20

*Certifying professional must be a licensed Professional Engineer (PE), Landscape Architect (LA), or Land Surveyor (LS).

The following checklist provides a basic outline of the anticipated items for the construction inspection of green/ vegetated roofs. An experienced installer should be retained to construct the vegetated roof system. Given the diversity of extensive vegetated roof designs, there is no typical step-by-step construction sequence for proper installation. Inspectors should provide the following information and the timing of inspection verification as needed to document the facility was constructed properly as per the approved plans and VDEQ Design Specification No. 5. The standard for design of this practice is based on the [Virginia Stormwater BMP Clearinghouse](#) and the [Arlington County Stormwater Guidance Manual](#).

All items should be checked when completed. **Items labeled “Certification of...” must be crossed off, dated and initialed by the certifying inspector.**

For items requiring installation by a “certified” installer, corresponding certifications must be attached.

PRE-CONSTRUCTION MEETING		DATE
<input checked="" type="checkbox"/>	Conduct a pre-construction meeting with the contractor designated to install the green / vegetated roof, the person completing this checklist, and the County DES Stormwater Specialist inspector (schedule via stormwaterreview@arlingtonva.us).	4/1/20

DECK CONSTRUCTION		DATE
<input checked="" type="checkbox"/>	Roof constructed with proper slope and material?	4/21/20
<input checked="" type="checkbox"/>	Roof dimensions meet required dimension per approved plans? Verify green roof dimensions and surface area (if multiple installations, submit a plat showing locations, and square footage): GR #1: 1718 sf. GR #2: 1454 sf	4/21/20

WATERPROOFING		DATE
<input checked="" type="checkbox"/>	Waterproofing installed properly per manufacturer’s specifications?	4/21/20
<input checked="" type="checkbox"/>	Does waterproofing system require installation by an applicator “certified” by the manufacturer? (If yes, a copy of the certification is required)	6/14/20
<input checked="" type="checkbox"/>	Flood test* performed to ensure system is watertight? (Attach flood test report) *Flood test consists of placing at least 2” of water over the membrane for 48 hours to confirm the integrity of the waterproofing system.	6/14/20

GREEN ROOF COMPONENTS		DATE
Verify the type of vegetated roof system installed: <input checked="" type="checkbox"/> Tray System <input type="checkbox"/> Built In Place System		
<input checked="" type="checkbox"/>	Do the root barrier, insulation, moisture retention layer, filter fabric and drainage layers meet plan specifications? (Attach invoices and manufacturers certifications)	6/18/20
<input checked="" type="checkbox"/>	Does the growing media meet plan specifications? (Attach receipts and photos) Verify depth of growing media installed: <u>4.6"</u>	6/18/20
<input checked="" type="checkbox"/>	Does the metal curbing and flashing meet plan specifications?	6/18/20
<input type="checkbox"/>	Are all seams, joints and edges caulked and sealed with approved grade of caulk or sealant?	N/A
<input type="checkbox"/>	Do pedestals, pavers and non-vegetated areas meet plan specifications? Verify location and type: _____	N/A

PLANTINGS / VEGETATION		DATE
Verify the type of vegetated roof system installed: <input checked="" type="checkbox"/> Tray System <input type="checkbox"/> Built In Place System		
<input checked="" type="checkbox"/>	Does the vegetation layer meet plan specifications? (Attach invoices) Verify vegetation source: __ plugs __ seeds <input checked="" type="checkbox"/> pre-grown mat __ species mixture __ coverage	6/18/20
<input checked="" type="checkbox"/>	Do the number and type of plants meet the approved planting plan? (Attach photos, if multiple installations submit photo of each location)	6/18/20

COMMENTS (CLARIFICATION, DEVIATIONS, ETC.)	DATE

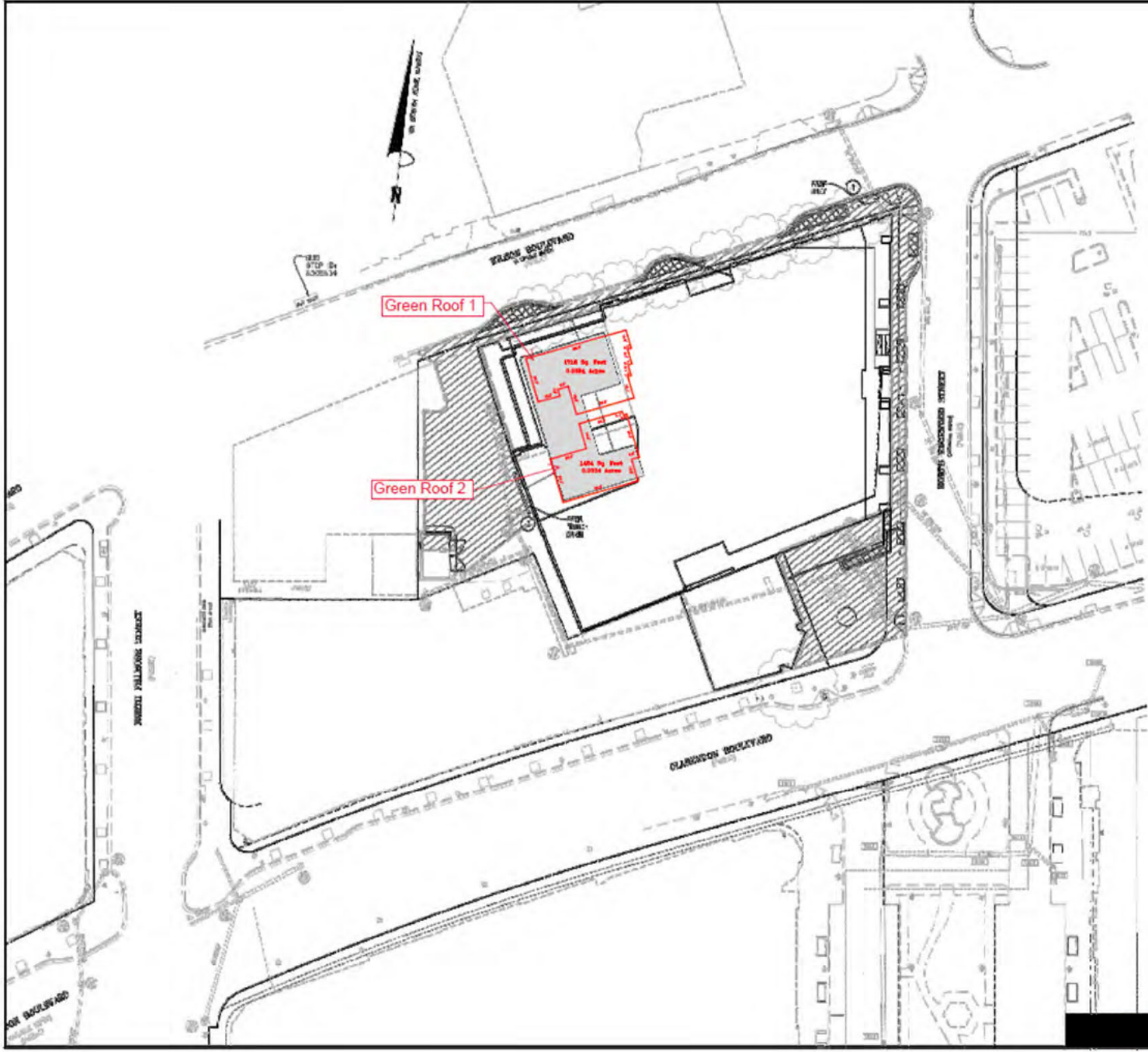
All items checked above have been inspected by me (or by an individual under my responsible charge) and have been completed to my satisfaction and meet the approved plans (or deviations are noted here).




Signature:  Date: 9/30/2020

Certifying Professional's License/Number (or Seal): 

- See attached sealed final location survey with the installed stormwater management facilities appropriately labeled and certification letter

Vegetated Roof As-Built



-  IMPAVED AREA (1371 SF OR 1286 AC)
-  PAVED AREA (918 SF OR 8437 AC)
-  GREEN ROOF (1208 SF OR 1079 AC)

SWM NARRATIVE

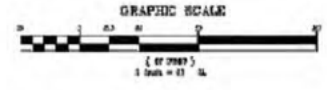
THE SWM PURPOSE IS TO PREPARE FOR ALL STORAGE CAPABILITY FOR UNDESIRABLE SOLIDS AND SEALS OF SOLID RESOURCES BY PROVIDING GRADE ROOF, THE LOCAL DRAINAGE CAN BE CONTROLLED BY THE PROVIDED LATCHED DRAINAGE.

STORAGE CAPACITY COMPUTATIONS ARE CALCULATED VIA SWMM MODEL BASED ON DRAINAGE PATTERN AND LATCHING. IT IS ASSUMED THAT THE LOCAL DRAINAGE IS UNDESIRABLE SOLIDS.

THESE IS AN ESTIMATED CAPACITY REQUIREMENT FOR THE SITE DUE TO THE POOR DRAINAGE DRAINAGE FOR THE 1-HEAR AND 1-5-HEAR AND LEAD TO THE PRE-EXISTING SWM DRAINAGE DRAINAGE DRAINAGE AND PLACE PROVISIONS AND SWM REQUIREMENTS FOR THE SITE FOR SWM DRAINAGE.

Green Roof	As-Built Area	Level
1	1718 sf	Roof
2	1454 sf	Roof

 (NOTED AS-BUILT)



SCALE
DATE
PROJECT
REVISIONS



ARLINGTON
VIRGINIA

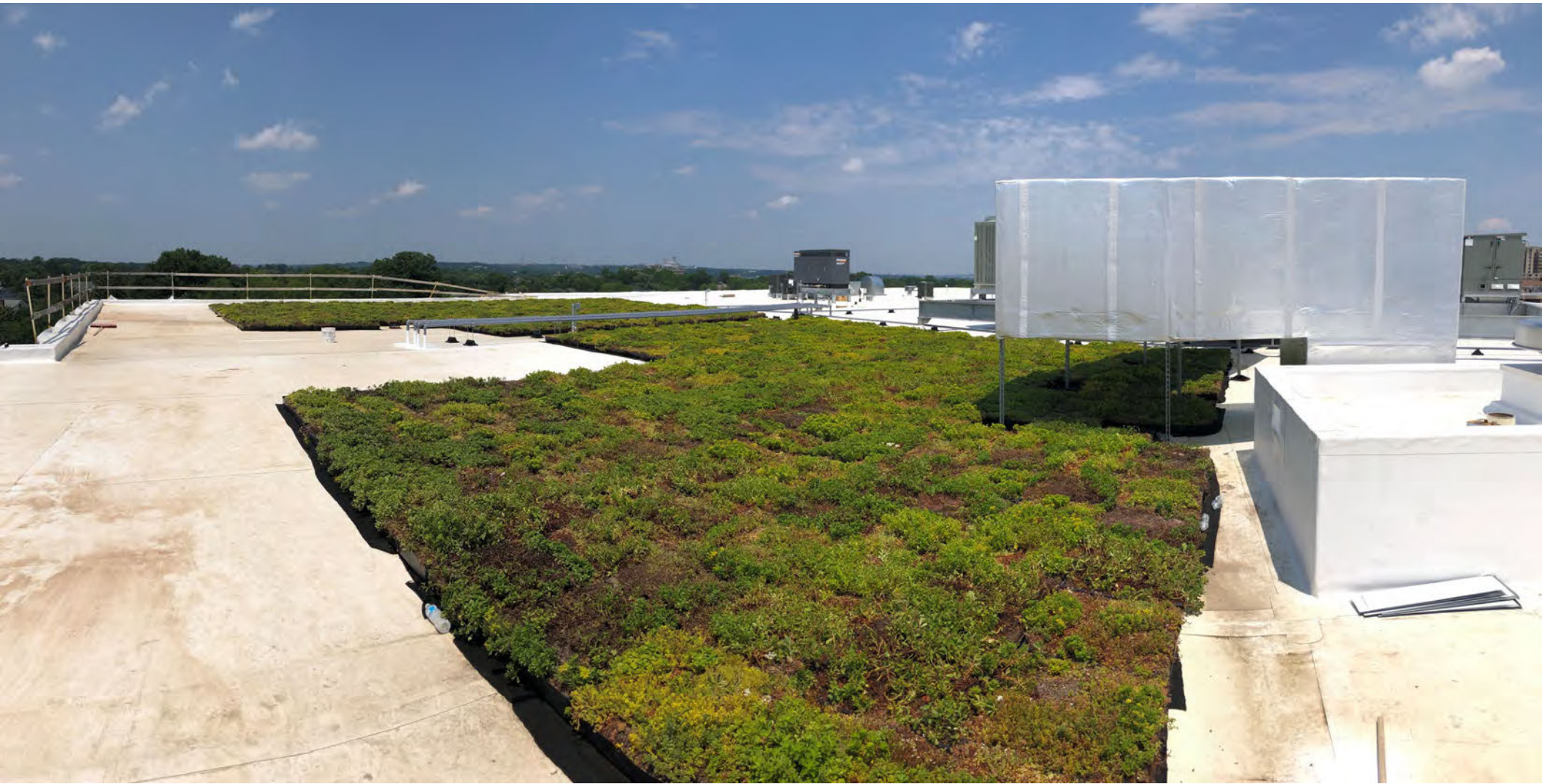
DEPARTMENT OF
ENGINEERING SERVICES

PROJECT NO. 2019-001
DATE: 08/14/2019

Vegetated Roof Photos









**POWER
BLADE™**

5

KOBALT

4

3

**11
35ft
in**

2

$\frac{1}{2}$
 $\frac{3}{8}$
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Vegetated Roof
Receipts, Specification,
and Other Required
Documents

Packing Slip

Date	P.O. No.	S.O. No.
6/14/2020	[REDACTED]	[REDACTED]

INVOICE
PAID

PROJECT: [REDACTED]
 Attn: [REDACTED]
 [REDACTED]

Ship Date	Ship Via	FOB
6/18/2020	[REDACTED]	Origin

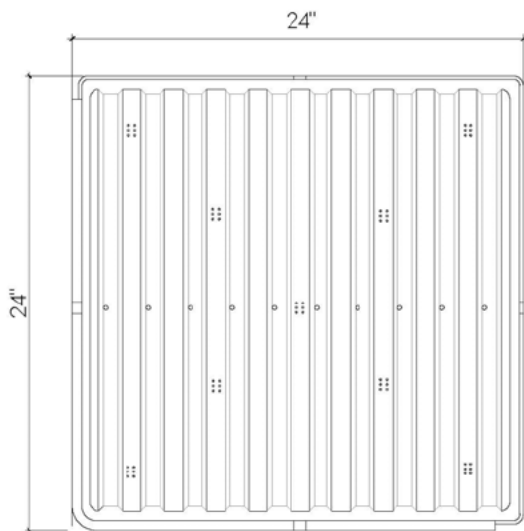
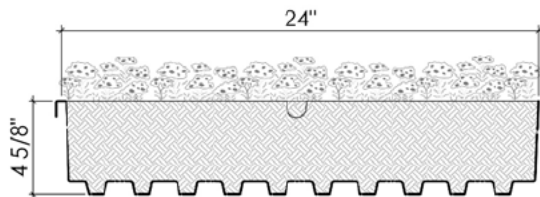
Item	Description	Shipped	Ordered
Module CGT4 Deposit	AUSTIN EXPEDITING *** P.O. #8003 *** CGT Pre-grown Module (24x24x4)		220
Module CGT4 Deposit	*** P.O. #7736 *** CGT Pre-grown Module (24x24x4)		220
Module CGT4 Deposit	*** P.O. #7823 *** CGT Pre-grown Module (24x24x4)		48
Module CGT4 Deposit	NORIEGA TRANSPORT *** P.O. #8003 *** CGT Pre-grown Module (24x24x4)		115
Module CGT4 Deposit	*** P.O. #7736 *** CGT Pre-grown Module (24x24x4)		115
Module CGT4 Deposit	*** P.O. #7823 *** CGT Pre-grown Module (24x24x4)		220
Module CGT4 Deposit			220
Module CGT4 Deposit			45
Module CGT4 Deposit			45
Module CGT4 Deposit			115
Module CGT4 Deposit			115

[REDACTED]

Phone #	Fax #	E-mail
[REDACTED]	[REDACTED]	[REDACTED]



Project Name:	[Redacted]
Contractor:	[Redacted]
Spec Section:	[Redacted]
Manufacturer:	Columbia Green Technologies
Submitted Product:	Pre-Grown Tray System



PLAN VIEW



Pre-Grown Tray System

(Patented: 7,603,808)

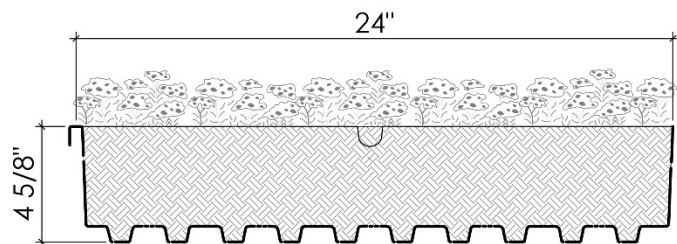
Product NUMBER: PL4300

Description:

The pre-grown tray provides a turnkey solution that meets or exceeds all guidelines for Green Roofs. The trays are easy to install and feature interlocking edges which prevent shifting or migration of growing media onto the roof membrane. At 24" x 24" x 4.625" deep, the pre-grown tray is appropriate for extensive and semi-intensive vegetative roof profiles. The modules are pre-grown with plants (most commonly sedum) selected by the project designer and shipped to the job site with approximately 90%+ vegetation coverage.



Comprised of a heavy duty recycled polypropylene, the Columbia Green Technologies' Tray system is designed with a channelized bottom to maximize stormwater retention. It can reduce both the amount and rate of stormwater run-off and is capable of retaining up to 70% of annual precipitation. Detailed stormwater retention calculations and hydrographs are available upon request.



Planting Options:

- Plants are grown per the project specifications, provided they are appropriate for the local climate zone and sufficient lead time has been provided. Please contact Columbia Green Technologies for more information.

LEED Information:

- Post-Consumer Recycled Content: 88%
- Manufacturing Location: Washougal, WA 98671

Declare Label for Materials Transparency:



The Declare Label is a voluntary disclosure of building material ingredients which offers Living Building Challenge and other project teams concerned about building product ingredients a guide for product specification. We are pleased to announce that our tray system is 'Red List Free' which means it doesn't contain "worst in class" materials, chemicals, and elements known to pose serious risks to human health and the greater ecosystem. www.declareproducts.com

Wind Uplift:

- ANSI/SPRI RP-14 Wind Design Standard for Vegetative Roof Systems is the only Wind Uplift standard for the United States.
- Due to the interlocking design, The Planted-In-Place Tray is considered a #2 Ballast system (Increased wind uplift resistance).
- Please request a copy of the ANSI/SPRI RP-14 User Guide.

System Weight:

Includes 2 lbs/s.f. (cuttings) for plant material weight

System Depth	Dry Weight	Saturated Weight
4.625" Media Depth	15 - 20 lbs./ft ²	25 - 30 lbs./ft ²

** System weights vary by region due to variances in growing media weight contact your local representative for more information.*

Packaging/Component Size:

Empty Tray:	
Thickness:	100 MIL.
Dimension:	24"W. x 24"L. X 4.625"
Coverage:	4 ft ²
Weight:	3.6 lbs.
Packaging:	Stacked – 400 trays/pallet
Pre-Vegetated Tray:	
Typical Weight for Handling Purposes Only:	+/- 100 lbs. each

Installation:

1. Prior to installation, it is the Project Representative's responsibility to consult with a registered structural engineer to determine whether the structure is adequately reinforced to withstand the weight of a fully saturated vegetative tray.
2. Perform tray installation only after a representative from the roofing membrane manufacturer has inspected the membrane and found it to be in accordance with the membrane manufacture's Specifications.
3. Place the vegetative trays directly on the roofing membrane or protective layer as determined by the membrane manufacture.
4. Using the interlocking sides, overlap the vegetative trays.
5. After all trays have been installed, irrigate plant material to ensure growth.

Storage:

- Upon delivery, move plants out of direct sun to a cool location and remove cellophane wrapping.
- Trays may be left unstacked for a maximum of 12-hours, provided they are kept in the shade.
- Water 2-3 times per week until the trays are installed on the roof.
- Store away from sources of ignition and extremely high temperatures.

Precautions:

- Confirm with a certified Structural Engineer that the structure can support the saturated weight of the vegetative roof system.
- To facilitate drainage a minimum roof slope of 1/8" in 12" min. must be provided.
- System components should not be installed when the weather is below 45 °F (7.2 °C) or above 95 °F (35 °C).
- Do not drag modules into position.
- Use caution when lifting trays.
- Check roof drains regularly to ensure there are no obstructions to impede water flow.
- Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.
- Wear impermeable protective clothing, eye wear and self-contained breathing apparatus when cutting trays.

Pre-Grown Tray Plant Mix:

The sedums in this mix are selected for hardiness and grown outdoors so that they are acclimated and have a proven ability to survive wind, cold, heat, drought, and tough environments that limit plant choices. Each pregrown tray contains the following species:

Plant Name	Deciduous / Evergreen	Flower Color	Winter Interest	Zone	Soil Depth	Mature Height	Width
<i>Sedum spurium 'Fuldaglut'</i>	Deciduous	Red	Yes	5-10	3-4"	4-6"	6-8"
<i>Sedum spurium 'John Creech'</i>	Deciduous	Pink	Yes	3-10	3-4"	4-6"	6-8"
<i>Sedum spurium 'Red Carpet'</i>	Deciduous	Red	Yes	3-7	3-4"	3-4"	8-10"
<i>Sedum kamtschaticum</i>	Deciduous	Yellow	Yes	4-7	3-4"	5-6"	6-8"
<i>Sedum kamtsch. 'Variegatum'</i>	Deciduous	Yellow-Red	No	4-10	3-4"	8"	12"
<i>Sedum takesimensis 'Golden Carpet'</i>	Deciduous	Yellow	Yes	4-8	3-4"	4-6"	8-10"
<i>Sedum acre 'Aureum'</i>	Evergreen	Yellow	Yes	4-7	3-4"	1-2"	12-15"
<i>Sedum acre 'Gold Moss'</i>	Evergreen	Yellow	Yes	4-7	3-4"	1-2"	12-15"
<i>Sedum album 'Coral Carpet'</i>	Evergreen	White	Yes	4-8	3-4"	0.5-1"	6-8"
<i>Sedum album 'Murale'</i>	Evergreen	Light Pink	Yes	4-8	3-4"	2-4"	12-18"
<i>Sedum stefco</i>	Evergreen	White	Yes	5-8	3-4"	1-2"	6-8"
<i>Sedum floriferum 'Weihenstephaner Gold'</i>	Evergreen	Gold	Yes	3-10	3-4"	6"	8-12"
<i>Sedum reflexum 'Blue Spruce'</i>	Evergreen	Yellow	Yes	5-10	3-4"	12"	6-8"
<i>Sedum rupestre 'Angelina'</i>	Evergreen	Yellow	Yes	4-10	3-4"	5"	6-8"
<i>Sedum sexangulare</i>	Evergreen	Yellow	Yes	4-10	3-4"	3-4"	6-8"
<i>Sedum x Immergrunchen</i>	Evergreen	Yellow	Yes	4-7	3-4"	5-6"	6-8"

Extensive Growing Media

Product NUMBER: GM3000-EXT

Description:

The following technical information sheet covers the production and materials for use in lightweight growing media blends on extensive vegetative roof assemblies.

Our extensive vegetative roof growing media is regionally blended and formulated to meet the rigorous standards of the FLL Guidelines for particle size gradation, fines content, dry and saturated bulk density, total porosity, air filled porosity, water retention, hydraulic conductivity, pH balance, soluble salt content and organic matter content.

The growing media is created using only high quality and local sourced product to the greatest extent possible. Per FLL Guidelines this growing media is derived from industry proven materials consisting inorganic and organic materials.



Physical Characteristics:

1. Expanded Media Component:
 - a. Description: Inorganic expanded Media that is consistent with Pumice, Perlite, Volcanic Cinder Rock, or lightweight expanded clay aggregate.
2. Compost Component:
 - a. Description: Nutrient grade compost that is manufactured from recycled material and is mixed with the other three components by a composter that is enrolled in the United States Compost Council's (USCC) Seal of Testing Assurance (STA) Program.
 - b. Only compost products that meet all applicable state and federal regulations, Section 07 33 63 www.federalgreenspec.wbdg.org pertaining to its production and distribution are used in this application.
 - c. All approved compost products meet all applicable state and federal regulations for chemical contaminants (e.g. heavy metals, pesticides, etc.) and pathogen limits pertaining to the source materials in which it was derived.
3. Organic Component:
 - a. Description: Fiber or organic material that is a clean cellulose product that adds friability to media, filtration, and agronomic horticultural attributes.

Storage:

- Store in a dry area free of potential contaminants which may adversely affect the engineered blend including potential weed seeds.
- Store away from sources of ignition and extremely high temperatures, when media is shipped in bags or totes.

Precautions:

- When media is placed in bags or totes, avoid prolonged exposure to sunlight, heat, sparks and open flames.
- When media is delivered in bulk, cover media piles as needed to reduce effects of potential weather conditions including heavy rains and winds.
- Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.

LEED Information:

Manufacturing Location and Post-Consumer Recycled Content:

- Varies; contact Columbia Green for project-specific information.

Physical Properties*:

Particle Size Distribution			
Proportion of silting components < 0.063 mm	Mass %	≤ 15	
Proportion of particles < 0.25 mm 60 mesh	Mass %	5 - 30	
Proportion of particles < 1.00 mm 18 mesh	Mass %	10 - 50	
Proportion of particles < 2.00 mm 10 mesh	Mass %	30 - 70	
Proportion of particles < 3.20 mm 1/8 inch	Mass %	40 - 80	
Proportion of particles < 6.30 mm 1/4 inch	Mass %	65 - 95	
Proportion of particles < 9.50 mm 3/8 inch	Mass %	100	
Density Measurements			
Bulk Density (dry weight basis)	lb/ft ³	44 - 53	
Bulk Density (at max. water-holding capacity)	lb/ft ³	72 - 85	
Water/Air Measurements			
Total Pore Volume	Vol. %	≥ 50	
Maximum water-holding capacity	Vol. %	35 - 65	
Air-filled porosity at max water-holding capacity	Vol. %	≥ 10	
Water permeability (saturated hydraulic conductivity)	in/min	0.024 - 2.83	
pH and Salt Content			
pH (in CaCl ₂)		6.0 - 8.0	
Soluble salts (water, 1:10, m:v)	g (KCl)/L	< 3.5	
Organic Measurements			
Organic matter content	g/L	25 - 65	
Nutrients			
Phosphorus, P205 (CAL)	mg/L	≤ 200	
Potassium, K2O (CAL)	mg/L	≤ 700	
Magnesium, Mg (CaCl ₂)	mg/L	≤ 200	
Nitrate + Ammonium (CaCl ₂)	mg/L	≤ 80	

* Volume measures are guaranteed at the time of production and packing. Settling of materials may occur during transportation and handling. Minor deviations from test data may occur due to the natural variability of the bulk materials used to produce the media blend

Packaging/Component Size:

Type	Volume	Approx. Delivery Weight
1.5 cf. Bags	1.5 cf bags. (palletized in 1 cy increments)	1,250 lbs.
1.5 cy Tote	1.5 cy	1,850 lbs.
2.0 cy Tote	2.0 cy	2,500 lbs.
Bulk	40-60 cy. / truck (weight dependent)	48,000 lbs. (more with tandem)

* Recommended 10%-15% additional growing media (by volume) be ordered to account for long term settling of product.



CERTIFIED INSTALLER
of
GREEN ROOFING



This installer has received advanced training in the best practices of Green Roofing and is hereby recognized as a Certified Installer of the comprehensive green roof solutions provided by Columbia Green Technologies.





Ref: Electronic Leak Detection (ELD)
ASTM-D 7877 Compliant –



Electronic Leak Detection

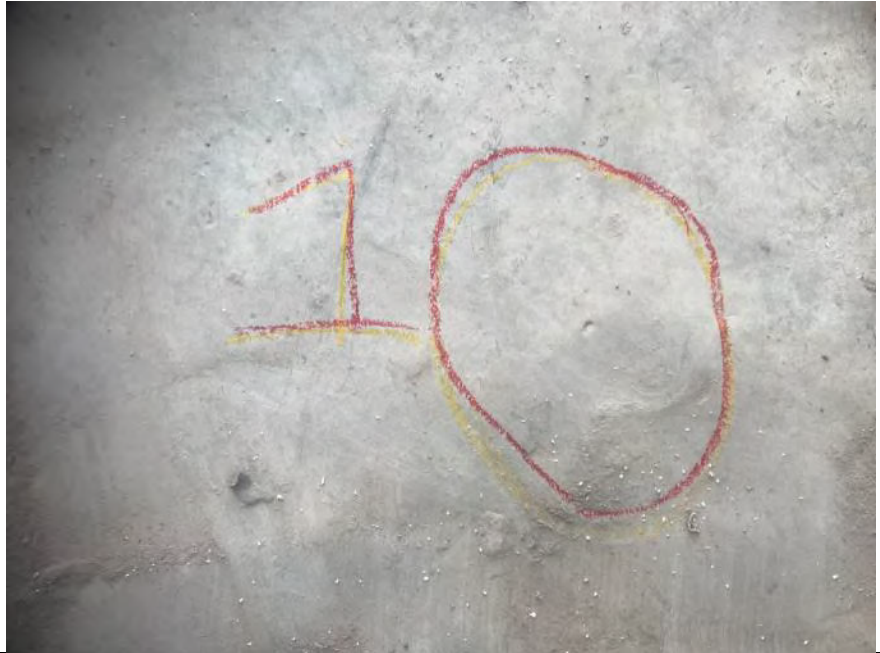
With innovative leak detection equipment, electricity can now be utilized to follow the path of a leak; allowing its exact pinpoint location without the application of hundreds or thousands of gallons of water used in traditional flood testing.



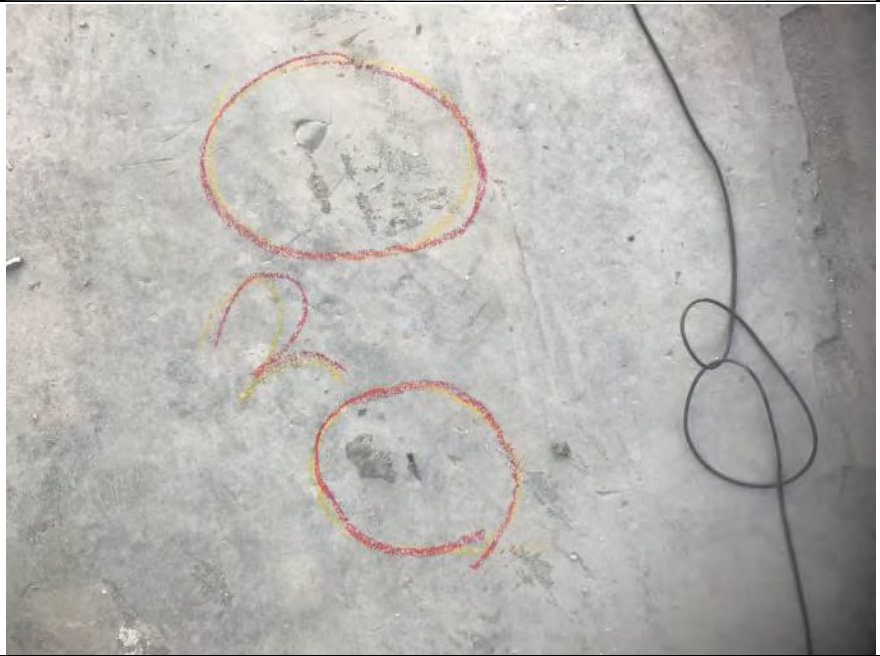
The power source is grounded to the conductive structural deck. When the electronically charged piece of equipment locates a breach in the membrane (insulator) the circuit is completed emitting an audio tone to the technician. When the unit locates a breach within the tested area, the operator will then sweep that area again, however this time the contact area is reduced to pinpoint the exact location.

No water needs to be used in this method of testing. The membrane must be dry. This testing will locate the precise locations of breaches.

Breach #1



Breach #2



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Stormwater Specialist
Arlington County Department of Environmental Services
2100 Clarendon Blvd., Suite 705
Arlington, VA 22201

RE: **Stormwater Management System Certification**

[REDACTED]
E [REDACTED], LDA [REDACTED], SWM# [REDACTED]-[REDACTED], VAR [REDACTED]

Dear Sir or Madam:

Stormwater management facilities [**3 LEVEL 1 URBAN BIORETENTION TREE FILTERS**] were required as part of the above referenced project date [REDACTED].

Pursuant to 9VAC25-970-55 and Arlington County Code Chapter 60-8, I hereby certify that to the best of my knowledge and belief the stormwater management facilities shown on these record drawings have been constructed in accordance with the approved plans and specifications.

[REDACTED] _____
Name

[REDACTED] _____
Signature

[REDACTED] _____
Virginia License

[REDACTED] _____
Date

"Certify means to state or declare a professional opinion based on sufficient and appropriate onsite inspections, material tests, as-built survey data, and information provided by other professionals and the contractor, conducted during or after construction."

Enclosures:

1. Record Drawings
2. Construction Inspection Checklist
3. Material Tickets
4. Photographs during installation

Construction Inspection Checklist: Urban Bioretention –Tree Filter



Address/ Location: [Redacted]

Building Permit #: B [Redacted]

LDA Permit #: LDA [Redacted]

SWM#: SWM # [Redacted] - [Redacted]

Contractor: [Redacted]

Telephone: [Redacted]

Certifying Professional*: [Redacted]

Telephone: [Redacted]

Date Started: 5/24/2021

Final Inspection Date: 8/16/2021

*Certifying professional must be a licensed Professional Engineer (PE), Landscape Architect (LA), or Land Surveyor (LS).

The following checklist provides a basic outline of the anticipated items for the construction inspection of urban bioretention facilities. This checklist does not necessarily distinguish between all the design variations. Inspectors should review the plans carefully, and adjust these items and the timing of inspection verification as needed to ensure the intent of the design is met. The standard for design of this practice is based on Virginia Stormwater BMP Clearinghouse and Arlington County Stormwater Guidance Manual.

All items should be crossed off when completed. **Items labeled "Certification of..." must be crossed off, dated and initialed by the certifying inspector.**

PRE-CONSTRUCTION MEETING		DATE
<input checked="" type="checkbox"/>	Conduct a pre-construction meeting with the contractor designated to install the tree filter, the person completing this checklist, the County urban forester, and the County DES Stormwater Specialist inspector (schedule via stormwaterreview@arlingtonva.us).	2/11/21

EXCAVATION AND FILTER CONSTRUCTION		DATE
<input checked="" type="checkbox"/>	Area is marked and the size and location conforms to plan.	5/24/21
<input checked="" type="checkbox"/>	Excavation has achieved proper grades and the required geometry and elevations.	5/26/21
<input checked="" type="checkbox"/>	Filter is constructed using the material specified and to the required dimensions as shown on the approved plans.	6/4/21
<input checked="" type="checkbox"/>	Impermeable Liner and/or waterproofing, if specified.	5/27/21
<input checked="" type="checkbox"/>	<p>Certification of Excavation and Filter Construction Inspection: Inspector certifies the successful completion of the steps listed above, has surveyed the dimensions and the following items are attached.</p> <p>As-built elevations required:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Bottom of the cell; <input type="checkbox"/> Curb Cut - top of curb; <input type="checkbox"/> Curb Cut - bottom of curb; <input type="checkbox"/> Curb Cut - depressed inflow. <p>Photos required include:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Excavated Depth <input type="checkbox"/> Placement of Impermeable Liner 	5/27/21

FILTER LAYER, UNDERDRAIN, AND STONE RESERVOIR PLACEMENT		DATE
<input checked="" type="checkbox"/>	All aggregates conform to specifications as certified by quarry.	5/27/21
<input checked="" type="checkbox"/>	Underdrain size and perforations meet the specifications. Placement of underdrain, observation wells, and underdrain fittings are in accordance with the approved plans.	5/27/21

<input checked="" type="checkbox"/>	Elevations of underdrain and outlet structure are in accordance with approved plans.	5/27/21
<input checked="" type="checkbox"/>	Placement of remaining lift of stone reservoir layer as needed to achieve the required reservoir depth.	5/27/21
<input checked="" type="checkbox"/>	<p>Certification of Filter Layer and Underdrain Placement Inspection: Inspector certifies the successful completion of the filter layer and underdrain placement steps listed above. Photos, elevations, and material delivery tickets for these items are attached.</p> <p>Photos required include:</p> <ul style="list-style-type: none"> o Perforated underdrain pipe with a solid vertical overflow pipe; o Depth of #57 stone; o Depth of choker stone (pea gravel or #8). <p>As-built elevations required:</p> <ul style="list-style-type: none"> o Underdrain invert; o Top of #57 stone; o Top of choker stone. <p>Material delivery tickets required:</p> <ul style="list-style-type: none"> o #57 stone and choker stone (pea gravel or #8) 	5/27/21

CONNECTION TO STORM SEWER		DATE
<input checked="" type="checkbox"/>	Underdrain is tied into the public storm sewer system and the connection has been witnessed by County inspector (if applicable).	5/27/21
<input checked="" type="checkbox"/>	Certification of Connection to Storm Sewer: Inspector certifies the successful completion of connection to the storm sewer. As-built elevation required for each connection.	5/27/21

BIORETENTION SOIL MEDIA PLACEMENT		DATE
<input checked="" type="checkbox"/>	Soil media is certified by supplier or contractor as meeting the project specifications and comes from an approved soil media vendor.	5/28/21
<input checked="" type="checkbox"/>	<p>Soil media is placed in 8-12 inch lifts with no machinery allowed directly on the media during or after construction. The media should be overfilled above the proposed surface elevation, as needed, to allow for natural settling. Lifts may be lightly watered to encourage settling. After the final lift is place, the media should be raked (to level it), saturated and allowed to settle for at least one week prior to installation of plant materials.</p> <p>No filter fabric is to be used between the stone layer and the soil layer.</p>	5/28/21 6/4/21
<input checked="" type="checkbox"/>	Certification of Soil Media Placement Inspection: Inspector certifies the successful completion of the soil media steps listed above. Elevation has been verified after settlement. Photos of installation, elevation of top soil media, and material delivery tickets for the soil media are attached.	6/4/21

PRETREATMENT AND PLANT INSTALLATION		DATE
<input checked="" type="checkbox"/>	Placement of energy dissipaters and pretreatment practices (splash block/rocks, gutter guards, etc.) are installed in accordance with the approved plans.	8/16/21
<input checked="" type="checkbox"/>	Overflow has atrium or beehive grate installed.	6/4/21
<input checked="" type="checkbox"/>	Inflows are installed in accordance with the approved plans providing the correct drainage area. Including the placement of energy dissipaters and pretreatment practices (splash block/rocks, gutter guards, etc.) are installed in accordance with the approved plans.	8/16/21
<input checked="" type="checkbox"/>	The number and spacing of plants are installed in accordance with the approved plans.	8/16/21
<input checked="" type="checkbox"/>	A 2-3 inch layer of shredded hardwood mulch has been installed.	8/16/21
<input checked="" type="checkbox"/>	<p>Certification of Pretreatment and Plant Installation Inspection: Inspector certifies the successful completion of the pretreatment, energy dissipaters, plants, overflow grates and mulch as listed above. Photos, elevations, and copies of material delivery tickets are attached.</p> <p>Photos required for this step for each planter include:</p>	8/16/21

<ul style="list-style-type: none"> ○ Overall photo showing the number of plants installed; ○ Location of curb cut with the appropriate splash block/rocks. <p>As-built elevations required:</p> <ul style="list-style-type: none"> ○ Riser; and ○ Top of mulch. <p>Material delivery tickets required for this step include:</p> <ul style="list-style-type: none"> ○ Approved plants listing number and species; ○ Shredded hardwood mulch. 	
--	--

COMMENTS (CLARIFICATION, DEVIATIONS, ETC.)	DATE
This checklist covers Tree Filters #1, #2, and #3	

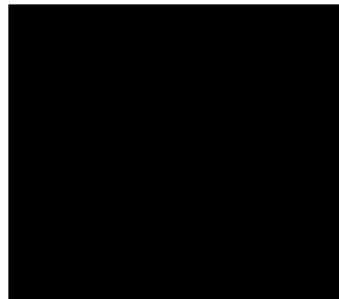
All items checked above have been inspected by me (or by an individual under my responsible charge) and have been completed to my satisfaction and meet the approved plans (or deviations are noted here).

Signature:  Date: 3/8/22

Certifying Professional's License Number (or Seal): License # 

See attached plat and as-built with the following information:

- Interior dimensions of cell
- Elevations
 - Cell bottom;
 - Underdrain invert;
 - Invert to storm sewer;
 - Top of #57 stone;
 - Top of choker stone;
 - Top soil media;
 - Riser;
 - Top of mulch;
 - Curb Cut - top of curb;
 - Curb Cut - bottom of curb;
 - Curb Cut - depressed inflow.



Required Urban
Bioretention
Tree Filter #1 Photos



Tree Filter #1: Excavation and installation of impermeable liner



Tree Filter #1: Installation of perforated underdrain pipe and solid vertical overflow pipe



Tree Filter #1: Curb Cut inflow with splash rocks installed



Tree Filter #1: Top of mulch to crest of overflow pipe, Ponding Depth = 4"



Tree Filter #1: Overall completed tree filter facility with plants, mulch, and splash rocks installed.

Required Urban
Bioretention
Tree Filter #2 Photos



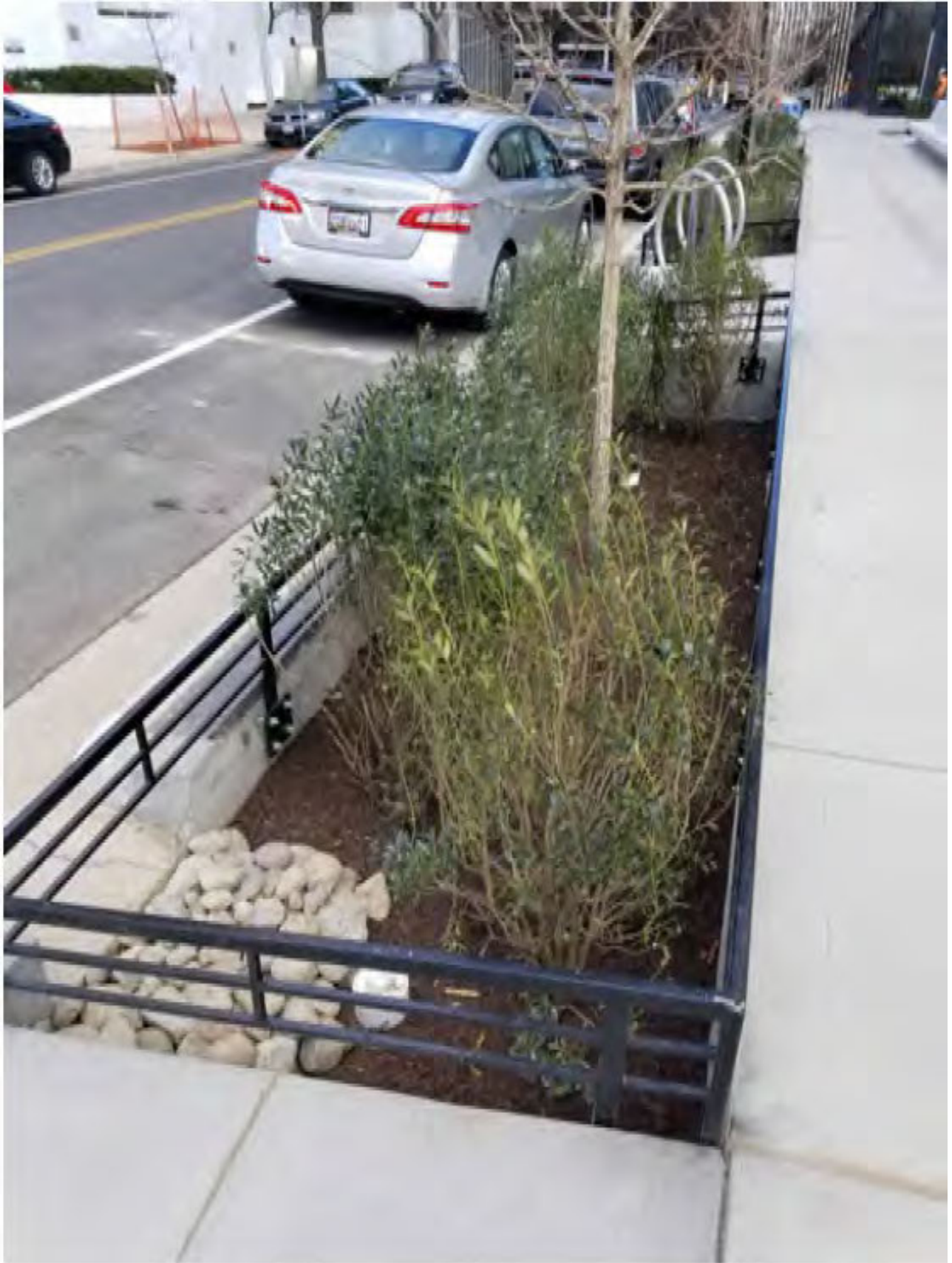
Tree Filter #2: Installation impermeable liner, perforated underdrain pipe, and solid vertical overflow pipe



Tree Filter #2: Curb Cut inflow with splash rocks installed



Tree Filter #2: Top of mulch to crest of overflow pipe, Ponding
Depth = 4"



Tree Filter #2: Overall completed tree filter facility with plants, mulch, and splash rocks installed.

Required Urban
Bioretention
Tree Filter #3 Photos



Tree Filter #3: Installation impermeable liner, perforated underdrain pipe, and solid vertical overflow pipe



Tree Filter #3: Curb Cut inflow with splash rocks installed




Tree Filter #3: Top of mulch to crest of overflow pipe, Ponding Depth = 5"



Tree Filter #3: Overall completed tree filter facility with plants, mulch, and splash rocks installed.

Representative* Urban Bioretention Tree Filter Layer Depth Photos

*Representative Photos are provided here of each Tree Filter layer to show that Tree Filter layer depths are in general at the required depths per the approved plans. Tree Filter As-Built elevations of top of each layer are provided on Sheet C- in the CEP As-Built Plan.



Representative #57 stone depth = 9"

Urban Bioretention Tree Filter Receipts



SHIP TO



SOLD TO



To ensure proper credit, please include remittance or list invoice numbers on your check remittance and send to:
Vulcan Construction Materials, LLC
PO Box 75219
Charlotte, NC 28275-5219, US
Phone: 1-800-777-8752 or
help@vmcmail.com

CUSTOMER NO: [REDACTED]
INVOICE NO: [REDACTED]
INVOICE DATE: 03/10/2021
INVOICE AMT: [REDACTED]
ORDER: [REDACTED]
DUE DATE: 04/15/2021

INVOICE

Invoices not paid according to our credit terms will be assessed a Finance Charge. Customer shall pay all cost of collection including but not limited to a reasonable attorney's fee for services rendered by suit or otherwise in collecting past due invoices.

TOTAL QUANTITY: [REDACTED] TOTAL LOADS: 3.00



SALES TAX: [REDACTED] TOTAL PRODUCT: [REDACTED]
TOTAL FREIGHT: [REDACTED]
FEES: [REDACTED] TOTAL OTHER: [REDACTED]
Pay this AMOUNT: [REDACTED]

SALES REP		PO NUMBER		REF	CONTRACT NO.		TAX EXEMPT ID.	TERMS
[REDACTED]		[REDACTED]						NET15THPROX - Payable in full by the 15th of each month following month of shipment
INVOICE #	INVOICE DATE	CUSTOMER NUMBER	LOCATION	LOCATION	ORDER	BILL OF LADING	FOB	
[REDACTED]	03/10/2021	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]		DELIVER	

TICKET DETAIL						PRODUCT			FREIGHT			ADDED CHARGES			AMOUNT
SHIP DATE	TICKET	VEHICLE	CLASS	PROD CODE	DESCRIPTION	UOM	QTY	PRICE	UOM	QTY	PRICE	UOM	QTY	PRICE	AMOUNT
03/08/2021	[REDACTED]	[REDACTED]	STANDARD	25240	Double Washed VA #57	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]				[REDACTED]
	[REDACTED]	[REDACTED]	STANDARD	25240	Double Washed VA #57	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]				[REDACTED]
	[REDACTED]	[REDACTED]	STANDARD	28170	Double Washed VA #8	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]				[REDACTED]

SAVE TIME AND SAVE A TREE WITH EMAIL INVOICE DELIVERY!
Receive your invoice faster and help save the environment by enrolling in our email invoicing service. With email, Invoices are sent in one easy to open file directly to your Inbox. To sign up, contact us at help@vmcmail.com or call us at 1-800-777-8752.

Any freight charges stated, if applicable, are billed on behalf of the common carrier in accordance with our billing services agreement with the common carrier
VULCAN MATERIALS COMPANY AND SUBSIDIARIES, VULCAN CONSTRUCTION MATERIALS, LLC



Ecosystems - Bull Run
27672 Gum Spring Road
Chantilly VA 20152

Tel:(703) 830-8880
Fax:(703) 754-8271

[Redacted]

Date/Time: 03/09/2021 06:28 Ref #: [Redacted] Ticket #: [Redacted]
Cust #: [Redacted] Order: [Redacted] P.O. #: [Redacted]
Quotation: [Redacted]
Product: BIODEQ20 RainScape Biofilter Media DEQ v2.0

Material [Redacted]
Haul [Redacted]
FSC [Redacted]

Max Gross: 75075 lbs Scale Wt: 4 74800 lbs Tare Wt: 27820 lbs Net Wt: 46980 lbs Net Tons: 23.49 Shrt Material Rate: \$32.50 T
Truck#: 59963p-59963 Hauler#: 002040 Hauler Name: [Redacted] 21.31 Mtr Haul Rate: \$9.50 T
[Redacted] WeighMaster: [Redacted]
Ordered: 3L Deliver Today: 23.49 Shrt tons 21.31 Metric 1 Load(s)

Total Charges: [Redacted]
Sales Tax: [Redacted]
Total: [Redacted]

Received By: [Redacted] [View Map](#)

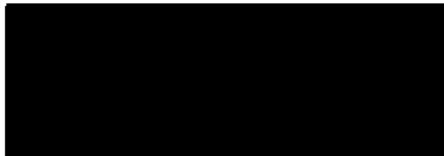
Visit <https://www.luckstone.com/sites/default/files/ourterms.pdf> for terms and conditions of sale.
See back for health warning.

X

customer [Redacted]

QUAIL RIDGE PRODUCTS
 4821 Massaponax Church Rd
 Fredericksburg, VA, 22407

PHONE: (540) 898-7434



Customer No.	Job No.	Purchase Order No.	Reference	Terms	Clerk	Date	Time
			ANY	NET 60 DAYS	FRONT	6/23/21	12:44

Sold To
 [Redacted]

Ship To
 [Redacted]

DEL. DATE: 6/24/21 TERM#553

DOC# [Redacted]

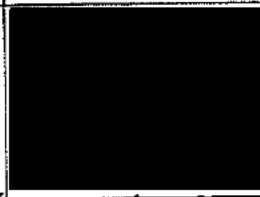
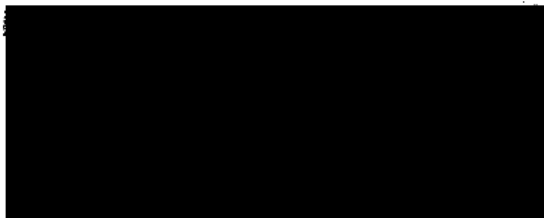
 * ORDER *

TAX : MDT MARYLAND STATE TAX

ORDR [Redacted]

SHIPPED	ORDERED	UM	SKU	DESCRIPTION	LOCATION	UNITS	PRICE/PER	EXTENSION
	900 209	BG	BWOOD3	BAGGED DOUBLE SHR HARDWOOD 3CF ANA 240-441-8774 YARD IN DAVIDSONVILLE MD		900	[Redacted]	

** ORDER ** ORDER ** ORDER ** ORDER ** ORDER ** ORDER *



X [Redacted]

Received By



5870 Leedstown Rd.
 Oak Grove, VA 22443
 Phone: (804) 224-7111
 Fax: (888) 236-3104

Shipping Ticket

INVOICE NO. [REDACTED]

CUSTOMER NO. [REDACTED]

NOTE 1: [REDACTED]

B-16

Bill To: [REDACTED]

Ship To: [REDACTED]

10AM

Thurs 12:00

FOR PICK UP WEEK OF	SHIP VIA Trailer	F.O.B	TERMS Net 60
PURCHASE ORDER NUMBER	ORDER DATE [REDACTED]	SALES PERSON [REDACTED]	

QUANTITY		DESCRIPTION
ORD	SHIP	

96 , *96* ~~96~~ Andropogon gerardii 'Red October' #3 Per
321

~~0~~ *0* ~~0~~ Cornus florida 'Cloud-Nine' 2.5 - 3" B&B
-ING 55-59 A

18 , *18* ~~18~~ Fothergilla gardenii 18 - 24" #3 Cont
185

~~32~~ *32* ~~32~~ Ilea virginica 'Little Henry' PP10988-15-18" #3 Cont
181

397 , *397* ~~397~~ Panicum virgatum 'Shenandoah' #3 Per
309, SHIP A

6 , *6* ~~6~~ Prunus yedoensis 3 - 3.5" B&B
GH-20 *ORN 32'*

46 , *46* ~~46~~ Rhus aromatica 'Gro-Low' #3 Cont
G-5

108 , *108* ~~108~~ Ilea virginica 'Little Henry' PP10988 15 - 18" #3 Cont
new crop avail in spring 20
181



Manor View Farm
 Wholesale Nursery. Growers Distributors
 15601 Manor Road
 Monkton MD 21111
 Phone: (410) 771-4700 Fax: (410) 771-8246
 sales@manorview.com

ACKNOWLEDGEMENT

ORDER [REDACTED]

DATE 6/29/2021 PAGE Page 1 of 1

BILL TO:

[REDACTED]

SHIP TO:

[REDACTED]

SHIP DATE	SHIP VIA	Customer #	TERMS
05/13/2021	[REDACTED]	[REDACTED]	C.O.D.
PO NUMBER	ORDER DATE	SALESPERSON	INITIALS
[REDACTED]	04/22/2021	[REDACTED]	[REDACTED]

PRODUCT ID	QTY	DESCRIPTION	SIZE	UNIT PRICE	DISC%	NET PRICE	EXT. PRICE
[REDACTED]	3	AMEL. X GRAND. 'AUTUMN BRILLIANCE' *net price AUTUMN BRILLIANCE SERVICEBERRY	10 FT	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	2	NYSSA SYL. 'WILDFIRE' WILDFIRE BLACK GUM	2.5 IN	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	28	PRUNUS LAUR. 'SCHIPKAENSIS' *net price SKIP LAUREL	#6	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	3	RHOD. CAT. ALBUM WHITE RHODODENDRON	#7	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	4	ROSA X DOUBLE KNOCK OUT® REBLOOMING DOUBLE RED SHRUB ROSE	#3	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Signature [REDACTED] Date [REDACTED]

Unless Otherwise Noted Under Terms,

TERMS AND CONDITIONS OF PAYMENT: Terms are C.O.D. from invoice date

A finance charge of 1.5% will be charged monthly on all past due invoices. In the event it becomes necessary for Manor View Farm, Inc. to file suit to enforce payment of past due amounts Manor View Farm, Inc. shall be entitled to collection fees, court cost and interest at 18% annum.

Subtotal:	[REDACTED]
Sales Tax:	[REDACTED]
Discount:	[REDACTED]
Additional Charges:	[REDACTED]
Freight:	[REDACTED]
Amount Due:	[REDACTED]

Daily Field Reports

DAILY FIELD REPORT

Project: [REDACTED]
 Location: [REDACTED]
 Client Name: [REDACTED]
 Contractor: [REDACTED]

Day & Date: [REDACTED]
 Project#: [REDACTED]
 Representative: [REDACTED]
 Temp Range: [REDACTED]
 Weather: [REDACTED]

Description of Work:		Location:	
Bioretention Construction		Bioretention # 1	
Building Permit Number: B [REDACTED]			
Tests Performed:	Bioretention Construction: Visual Observation		
Problems/Non-Compliances/Failing Tests: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (if yes, detail within Inspection Findings below)			
INSPECTION FINDINGS:			

[REDACTED] representative observed and monitored the laying of impermeable liner at both sides of bioretention #1 and the placement of about a 4-inch in depth of VDOT #57 stones under the 6" SCH.40 PVC perforated pipe. The laying of impermeable liner and the placement of VDOT #57 observed today appeared to be in accordance with the project plans and specifications.

The professional engineer is represented on site solely to observe operations of the contractor identified, form opinions and report those opinions to the client. The presence and activities of the engineer's representative do not relieve the contractor's obligation to meet contractual requirements. The contractor retains sole responsibility for site safety and the methods and sequence of construction. We have performed our services in accordance with generally accepted geotechnical engineering practices. We make no warranty; either expressed or implied, as to the professional services provided.

This report is the instrument of service of a professional engineer. Any conclusions drawn from this report should be discussed with the professional engineer involved

Please see the attached pictures of work in the following pages:

This report constitutes a summary of observations and tests performed by our field representative and is subject to review and revision by our managers and engineers. The statements made herein do not constitute a certification. Approval of work for final acceptance can only be made by our managers and engineers. Interpretations based on this data are the responsibility of others.

Time of Arrival:	8:15 AM 11:15 AM 03:30 PM	Time of Departure:	09:45 AM 01:45 PM 04:00 PM	Total Time Onsite:	4.5
------------------	---------------------------------	--------------------	----------------------------------	--------------------	-----

Lab Time:	
Other ():	
Travel Time*:	2.00
Total Time:	6.50

Trip Charge*:		Mileage*:	[REDACTED]
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*will be billed in accordance with contract



DAILY FIELD REPORT

Project:
Location:
Client Name:
Contractor:

Day & Date:
Project#:
Representative:
Temp Range:
Weather:



Bioretention # 1 excavated up to the designated elevation

DAILY FIELD REPORT

Project:
Location:
Client Name:
Contractor:

Day & Date:
Project#:
Representative:
Temp Range:
Weather:



Impermeable liner and underdrain installation

DAILY FIELD REPORT



Project:
Location:
Client Name:
Contractor:



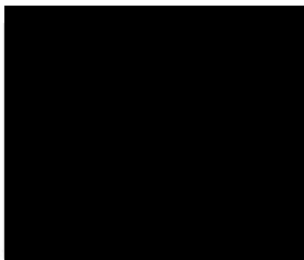
Day & Date:
Project#:
Representative:
Temp Range:
Weather:



#57 stone installation, 9"



DAILY FIELD REPORT



Project: [Redacted]
 Location: [Redacted]
 Client Name: [Redacted]
 Contractor: [Redacted]

Day & Date: [Redacted]
 Project#: [Redacted]
 Representative: [Redacted]
 Temp Range: [Redacted]
 Weather: [Redacted]

Description of Work: Bioretention Construction		Location: Bioretention # 1	
Building Permit Number: B [Redacted]			
Tests Performed:	Bioretention Construction: Visual Observation		
Problems/Non-Compliances/Failing Tests: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (if yes, detail within Inspection Findings below)			
INSPECTION FINDINGS:			

[Redacted] representative observed and monitored finishing the bioretention # 1 installation. The contractor placed the rest of #57 stones up to 13" and placed about 4" of choker stones then 4 ft of the bio media at the bioretention #1. Also, the two 6" cleanout pipes of the bioretention were installed. The placement of VDOT #57, choker stones and the bio media observed today appeared to be in accordance with the project plans and specifications.

The professional engineer is represented on site solely to observe operations of the contractor identified, form opinions and report those opinions to the client. The presence and activities of the engineer's representative do not relieve the contractor's obligation to meet contractual requirements. The contractor retains sole responsibility for site safety and the methods and sequence of construction. We have performed our services in accordance with generally accepted geotechnical engineering practices. We make no warranty; either expressed or implied, as to the professional services provided.

This report is the instrument of service of a professional engineer. Any conclusions drawn from this report should be discussed with the professional engineer involved.

Please see the attached pictures of work in the following pages:

This report constitutes a summary of observations and tests performed by our field representative and is subject to review and revision by our managers and engineers. The statements made herein do not constitute a certification. Approval of work for final acceptance can only be made by our managers and engineers. Interpretations based on this data are the responsibility of others.

Time of Arrival:	9:45 AM	Time of Departure:	04:15 PM	Total Time Onsite:	6.5
				Lab Time:	
				Other ():	
Trip Charge:*		Mileage:*	[Redacted]	Travel Time*:	2.00
*will be billed in accordance with contract				Total Time:	8.50



DAILY FIELD REPORT

Project:
Location:
Client Name:
Contractor:



Day & Date:
Project#:
Representative:
Temp Range:
Weather:



Placement the rest of #57 stones and the two cleanout pipes installed



DAILY FIELD REPORT

Project:
Location:
Client Name:
Contractor:

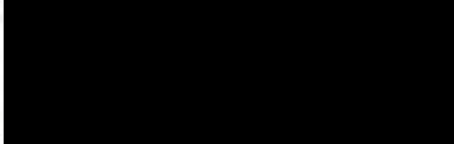
Day & Date:
Project#:
Representative:
Temp Range:
Weather:



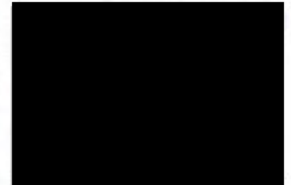
#8 stone installed, 3"

DAILY FIELD REPORT

Project:
Location:
Client Name:
Contractor:



Day & Date:
Project#:
Representative:
Temp Range:
Weather:



First 2 feet of soil media installed



DAILY FIELD REPORT

Project:
Location:
Client Name:
Contractor:

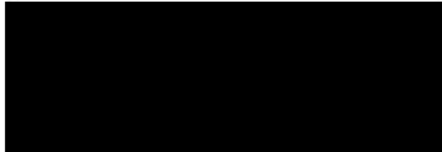
Day & Date:
Project#:
Representative:
Temp Range:
Weather:



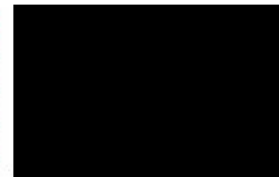
Total of 4 feet of soil media installed

DAILY FIELD REPORT

Project:
Location:
Client Name:
Contractor:



Day & Date:
Project#:
Representative:
Temp Range:
Weather:



Description of Work: Bioretention Construction		Location: Urban bioretention #2	
Building Permit Number: B [REDACTED] & B [REDACTED]			
Tests Performed:	Bioretention Construction: Visual Observation		
Problems/Non-Compliances/Failing Tests: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (if yes, detail within Inspection Findings below)			
INSPECTION FINDINGS:			

[REDACTED] representative observed and monitored the excavation of urban bioretention #2. The dimensions of the pond were 12' x 6' x 6'. The pond extends from Station 10 + 76 to Station 10 + 88. The contractor placed about a 6-inch depth of VDOT #57 stones and laid the 6-inch perforated PVC pipe. About 12-inches of VDOT #57 stones was further placed on the pipe giving a total of about 18-inches of VDOT #57 stones. No choker stones were placed during this working day. The contractor backfilled the non-perforated 6-inch PVC pipe connection bioretention #1 and bioretention #2.

The professional engineer is represented on site solely to observe operations of the contractor identified, form opinions and report those opinions to the client. The presence and activities of the engineer's representative do not relieve the contractor's obligation to meet contractual requirements. The contractor retains sole responsibility for site safety and the methods and sequence of construction. We have performed our services in accordance with generally accepted geotechnical engineering practices. We make no warranty; either expressed or implied, as to the professional services provided.

This report is the instrument of service of a professional engineer. Any conclusions drawn from this report should be discussed with the professional engineer involved.

This report constitutes a summary of observations and tests performed by our field representative and is subject to review and revision by our managers and engineers. The statements made herein do not constitute a certification. Approval of work for final acceptance can only be made by our managers and engineers. Interpretations based on this data are the responsibility of others.

Time of Arrival:	7:30 AM	Time of Departure:	5:00 PM	Total Time Onsite:	9.50
				Lab Time:	
				Other ():	
				Travel Time*:	2.00
				Total Time:	11.50

Trip Charge:*		Mileage:*	[REDACTED]
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*will be billed in accordance with contract



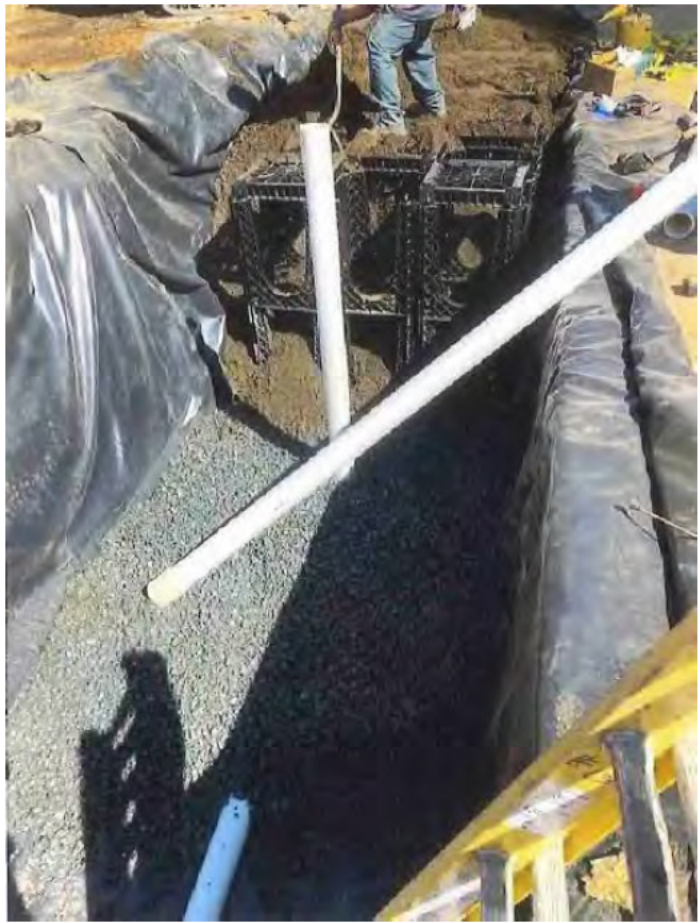


Photo 1: Bioretention # 2 Excavation process



Photo 2: Bioretention # 2 Impermeable liner material laid on sides of the facility

	Project Name:	SWM ID: 2
	Project No. [REDACTED]	Date: [REDACTED]
		Prepared By: [REDACTED]
		Scale: As Shown <input type="checkbox"/> Not to Scale <input checked="" type="checkbox"/>



#57 stone installation

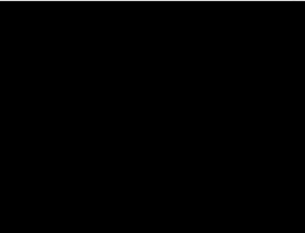
		Project Name:	SWM ID: 2
		Project No. [REDACTED]	Date: [REDACTED]
			Prepared By: [REDACTED]
		Scale: As Shown <input type="checkbox"/> Not to Scale <input checked="" type="checkbox"/>	



#57 stone installation, 9"

	Project Name:	SWM ID: 2
	Project No. [REDACTED]	Date: [REDACTED]
		Prepared By [REDACTED]
		Scale: As Shown <input type="checkbox"/> Not to Scale <input checked="" type="checkbox"/>

DAILY FIELD REPORT



Project: [Redacted]
 Location: [Redacted]
 Client Name: [Redacted]
 Contractor: [Redacted]

Day & Date: [Redacted]
 Project#: [Redacted]
 Representative: [Redacted]
 Temp Range: [Redacted]
 Weather: [Redacted]

Description of Work: Bioretention Construction		Location: Urban bioretention # 2 & 3
Building Permit Number: B [Redacted] & B [Redacted]		
Tests Performed:	Bioretention Construction: Visual Observation	
Problems/Non-Compliances/Failing Tests: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (if yes, detail within Inspection Findings below)		
INSPECTION FINDINGS:		

[Redacted] representative observed the excavation of bioretention #3. The pond extends from Station 10 + 52 to Station 10 + 65 and has the dimensions as follows: 12' x 6' x 6'. A 6-inch perforated PVC pipe was laid and about 18-inches in depth of VDOT #57 stones placed. Then a 4-inch depth of choker stones was placed on the VDOT #57 stones. No bio-media material was available to place the contractor moved to backfill the solid 6-inch PVC pipe connecting bioretention #2 and bioretention #3 with the excavated dirt.

The professional engineer is represented on site solely to observe operations of the contractor identified, form opinions and report those opinions to the client. The presence and activities of the engineer's representative do not relieve the contractor's obligation to meet contractual requirements. The contractor retains sole responsibility for site safety and the methods and sequence of construction. We have performed our services in accordance with generally accepted geotechnical engineering practices. We make no warranty; either expressed or implied, as to the professional services provided.

This report is the instrument of service of a professional engineer. Any conclusions drawn from this report should be discussed with the professional engineer involved.

This report constitutes a summary of observations and tests performed by our field representative and is subject to review and revision by our managers and engineers. The statements made herein do not constitute a certification. Approval of work for final acceptance can only be made by our managers and engineers. Interpretations based on this data are the responsibility of others.

Time of Arrival:	9:30 AM	Time of Departure:	5:00 PM	Total Time Onsite:	7.50
				Lab Time:	
				Other ():	
Trip Charge:*		Mileage:*	[Redacted]	Travel Time*:	2.00
*will be billed in accordance with contract				Total Time:	9.50





Tree Filter #3 excavation



Tree Filter #3 #57 stone depth, 9"

Project Name:	SWM ID: 2
	Date: [REDACTED]
	Prepared By: [REDACTED]
	Scale: As Shown <input type="checkbox"/> Not to Scale <input checked="" type="checkbox"/>



#8 stone installed in Tree Filter #3, 3"



#8 stone installed in Tree Filter #2, 3"

	Project Name:	SWM ID: 2 & 3
	Project No. [REDACTED]	Date: [REDACTED]
		Prepared By: [REDACTED]
		Scale: As Shown <input type="checkbox"/> Not to Scale <input checked="" type="checkbox"/>

DAILY FIELD REPORT

Project: [REDACTED]
 Location: [REDACTED]
 Client Name: [REDACTED]
 Contractor: [REDACTED]

Day & Date: [REDACTED]
 Project#: [REDACTED]
 Representative: [REDACTED]
 Temp Range: [REDACTED]
 Weather: [REDACTED]

Description of Work: Bioretention Construction		Location: Urban bioretention # 2 & 3	
Building Permit Number: B [REDACTED]			
Tests Performed:	Bioretention Construction: Visual Observation		
Problems/Non-Compliances/Failing Tests: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (if yes, detail within Inspection Findings below)			
INSPECTION FINDINGS:			

[REDACTED] representative observed and monitored finishing the bioretention # 3 installation. The contractor finish installing the bioretention #3 by placing the rest of the bio media up to 4 ft. The contractor also installed the drainage pipe up to the manhole. The placement of bio media and the drainage pipe installation observed today appeared to be in accordance with the project plans and specifications.

The professional engineer is represented on site solely to observe operations of the contractor identified, form opinions and report those opinions to the client. The presence and activities of the engineer's representative do not relieve the contractor's obligation to meet contractual requirements. The contractor retains sole responsibility for site safety and the methods and sequence of construction. We have performed our services in accordance with generally accepted geotechnical engineering practices. We make no warranty; either expressed or implied, as to the professional services provided.

This report is the instrument of service of a professional engineer. Any conclusions drawn from this report should be discussed with the professional engineer involved.

Please see the attached pictures of work in the following pages:

This report constitutes a summary of observations and tests performed by our field representative and is subject to review and revision by our managers and engineers. The statements made herein do not constitute a certification. Approval of work for final acceptance can only be made by our managers and engineers. Interpretations based on this data are the responsibility of others.

Time of Arrival:	8:00 AM	Time of Departure:	04:45 PM	Total Time Onsite:	8.75
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Lab Time:	
Other ():	
Travel Time*:	2.00
Total Time:	10.75

Trip Charge:*		Mileage:*	[REDACTED]
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*will be billed in accordance with contract





First 2 feet of soil media installed in Tree Filter #2

Project Name:

Project No. [REDACTED]

SWM ID: 2 & 3

Date: [REDACTED]

Prepared By: [REDACTED]

Scale: As Shown Not to Scale



4 feet of soil media installed in Tree Filter #2

Project Name:

Project No. [REDACTED]

SWM ID: 2 & 3

Date: [REDACTED]

Prepared By: [REDACTED]

Scale: As Shown Not to Scale



4 feet of soil media installed in Tree Filter #3

	Project Name:	SWM ID: 2 & 3
	Project No. [REDACTED]	Date: [REDACTED]
		Prepared By: [REDACTED]
		Scale: As Shown <input type="checkbox"/> Not to Scale <input checked="" type="checkbox"/>

Certification Letter for Proprietary BMP

April 6, 2022

[Redacted]
Stormwater Specialist
Department of Environmental Services
2100 Clarendon Blvd
Suite 705
Arlington, VA 22201

RE: Stormwater Management Facility (SWMF) As-Built Certification

[Redacted]
BUILDING PERMIT # [Redacted], LDA# [Redacted], SWM# [Redacted]

Dear Sir or Madam,

We have inspected the **Contech Jellyfish JF4-1-1** facility that was constructed as part of the above referenced project and determined that it has been installed in accordance to the County approved plan dated [Redacted]. The approved **manufactured stormwater filtration** facility is comprised of a **Contech JellyFish JF4-1-1 system including 1 – 27” Hi-Flo Cartridge, 1 – 27” Drawdown Cartridge, and 1 Cartridge Blank** that treats stormwater runoff for this project.

Based on the as-built conditions of the site, the **JF4-1-1** facility treats **0 acres** of which **0 acres** is impervious, therefore the facility meets the requirements of the Arlington County’s Stormwater Ordinance.

For reference, the as-built drawings are attached showing the sizing of the facility along with the activation letter from the manufacturer. As required, the as-built drawings include the inverts for all inflow/outfall pipes connected to the facility. Therefore, it is our professional opinion that the facility was installed in accordance to the County approved plan and that the facility is functioning as designed.

If you have any questions regarding the above-mentioned facility, please do not hesitate to call me.

Respectfully,

[Redacted]

Name

[Redacted]

Virginia

[Redacted]

Signature

[Redacted]

License Date

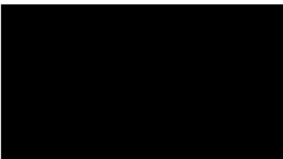


Attachments:

- 1. As-built drawings
- 2. Activation Letter from manufacturer

Contech Activation Letter - Jellyfish

March 28, 2022



Project# [REDACTED]
Project Name: [REDACTED]
Project Jurisdiction: Arlington, VA

Hello,

This 2 page letter should be used as official notification to your local jurisdiction with regard to the activation of your Jellyfish Systems.

Please be advised that after installation (not by Contech), the Jellyfish stormwater treatment units were activated on [REDACTED]. Activation refers to bringing the unit into operation by installing the filter cartridges.

The second page of this letter contains a list of each Jellyfish unit that is covered by this activation letter.

Please feel free to contact me if any additional information is needed.

Sincerely,



Activation and Maintenance Coordinator
Contech Engineered Solutions, LLC

Contech Activation Letter - Jellyfish

Contech hereby confirms that the following units were supplied to the subject project as per the approved plans:

Unit # JF JF4-1-1 * 1 (27" High Flow) 1 (27" Drain Down) 1 (Empty - Blank) Installed

Certification Letter for Water Quantity Control (Detention) Facility

[Redacted]
[Redacted]
[Redacted]

February 16, 2021

Stormwater Specialist
Department of Environmental Services
2100 Clarendon Blvd
Suite 705
Arlington, VA 22201

RE: Stormwater Management Facility (SWMF) Certification

[Redacted]
[Redacted]
Arlington, VA
SWM# [Redacted] - [Redacted]

Dear Sir or Madam,

A stormwater detention facility was required as part of the above referenced project dated [Redacted]. The approved detention facility is comprised of a **100' long 48" CMP pipe (1,257 CF)** that provides stormwater runoff quantity control for this project.

Based on the constructed conditions of the site, facility **SWM-1** captures and controls 0.966 Acres of which **0.79 Acres** is impervious.

For reference, the record drawings are attached showing the sizing of the facility. As required, the attached drawings include, but are not limited to, the following information: inner dimensions of the facility (L x W x H); dimensions of any internal chambers (i.e. clearwell); trash rack details; sizes and inverts for all orifices, weirs, and inflow/outfall pipes.

Pursuant to 9VAC25-870-55 and Arlington County Code Chapter 60-8, I hereby certify that to the best of my knowledge and belief the stormwater management facilities shown on these record drawings have been constructed in accordance with the approved plans and specifications.

[Redacted]
Name

[Redacted]
Signature

[Redacted]
Virginia License

[Redacted]
Date



"Certify means to state or declare a professional opinion based on sufficient and appropriate onsite inspections, material tests, as-built survey data, and information provided by other professionals and the contractor, conducted during or after construction."

Enclosure:

- 1. Record drawings