

Contract # 21-24-023

VCAP Payment Request Checklist

All Payment Requests should be submitted as a single PDF document, with this completed checklist as the first page of the submission packet.

V	Complete originally approved application package including: Part I: Applicant Contract – as generated in Application Review, with Applicant signature
	Part II: Technical Determination – as generated in Application Review, with Applicant signature
	Part III: Payment Approval – with appropriate signatures
'	Photo documentation of all components of the completed practice. If a representative of the District is unable to visit the site during construction, the applicant or contractor should provide photos.
/	Copies of receipts for all material and labor paid – labeled as needed
✓	Payment Request Spreadsheet – with appropriate staff signature
/	Maintenance plan for the denoted lifespan of practice page 11-12
	Cost-Share Adjustment Form 7 – complete when cost-share deviates (increases or decreases) from approved amount

Any major changes to a project that alters the approved plan must be approved by the Steering Committee before work begins.



Office: (804) 559-0324



VCAP Application Checklist: Rainwater Harvesting

All Applications should be submitted as a single PDF document, with this completed checklist as the first page of the submission packet.

/	Part I: Applicant Contract with Applicant's signature
'	Part II: Technical Determination with District Staff and Director signatures
/	Applicant's W9 Form to be kept in District files, VASWCD does not need copy
v	Photo documentation of site and resource concern
v	Aerial map noting practice location and outlining contributing drainage area / roof area
~	Sketch of project plan including practice dimensions, foundation design, and overflow
v	Required Practice Sizing Calculations: cistern sizing based on 1-inch storm Practice overflow weir/pipe sizing based on 10-year storm Other calculations per practice standard (structural loading, pretreatment sizing, etc.)
'	Installation requirements including timeline, sequence and platform installation
~	Material list and itemized cost estimates from contractor, vendor, and/or supplier
'	Site constraints identified (utilities, right-of-way, septic, etc.)
~	Confirm local policies, such as land disturbance, grass heights, etc.
'	Operation and maintenance plan for the 10-year lifespan of practice
v	Water Use Plan describing how and when water will be dispersed
'	Winterization Plan
'	Form 6 - Ranking Sheet completed and attached
'	Form 5 - Release Agreement signed and attached to waive the requirement for the design plan to be certified from a licensed professional, <i>if applicable</i>





VIRGINIA CONSERVATION ASSISTANCE PROGRAM CONTRACT (Part I – Application for Program)

PY 2024

Application/Contract Number: 21-24-023		Application Date: 5/28/2024		
First Name: Maryam Shawn Representative (if needed)		Last Name: Dadkah Achziger	Program Year: 2024	
Address: 609 Alma St	, SE	City/County: Vieni	na, Fairfax County	
State: VA Zip code: 22180				
Telephone Number:				
Email Address:				

APPLICANT' S REQUEST:

I agree to install and maintain all practices receiving financial incentives according to Program Specifications required at the time of installation/ payment approval of my application by the Board of Directors of the local Soil and Water Conservation District (the "Board"). I agree to allow appropriate agency personnel or their designee access to land under my control for the purpose of evaluation, design, construction and inspection of said practice(s) from this date forward through the required lifespan. I agree to refund all or part of the cost-share financial assistance I have received if my practice(s) is/are found not to meet program specifications required at the time of installation/payment, or if the practice(s) is/are removed or not properly maintained during the lifespan of the practice(s). I understand that the sale, lease, or changed use of the property will not exempt me from fulfilling this/these requirement(s) described herein. I also understand that my period of responsibility begins with the acceptance of payment and extends through the lifespan of the practice in accordance with Program requirements. Lifespan is defined as "the number of years a BMP must be maintained in accordance with Program standards. The lifespan begins on January 1 of the calendar year following steering committee approval of payment." A BMP is subject to verification checks throughout the practice lifespan. The voluntary participation in VCAP does not relieve or relinquish me from compliance with ordinances, laws and regulations that may exist at any level of government. I understand that applying to participate in any of the above listed program does not guarantee that any or all of my request will be funded. I understand that if the practice I am requesting cost-share funding for is located within the Chesapeake Bay watershed, nutrient and sediment reduction information related to that practice will be submitted to the Virginia Department of Environmental Quality for reporting to the Chesapeake Bay Program to determine progress made towards Chesapeake Bay pollution reduction targets.

Cost-share funds are considered income. Recipients of these funds are responsible for compliance with all applicable tax requirements including requirements of the Internal Revenue Service.

REMEDIES IF THIS AGREEMENT IS BREACHED:

If my practice(s) is/are found not to meet Program Specifications required at the time of approval of my application by the Board, then I agree to refund all of the cost-share financial assistance or tax credit I have received. If the practice(s) is/are removed (in whole or in part) or not properly maintained during the lifespan of the practice(s), then I agree to refund all of the cost-share financial assistance or tax credit I have received, minus a pro rata portion of the assistance or tax credit from the number of months that my practice(s) had been previously in compliance, out of the number of months in the lifespan of the practice. Any refund shall be calculated with a penalty of 6% APR from the date of breach to the date of judgment, apart from post-judgment interest. In the event that demand is made for reimbursement and I fail or refuse to pay such reimbursement within 90 days of the demand, then I agree to pay any and all attorneys' fees for enforcement of this agreement.

Maryam Dadkhah	14-May-2024
Signature of Applicant $^{\prime\prime}$	Date



VIRGINIA CONSERVATION ASSISTANCE PROGRAM CONTRACT (Part II – Technical Determination and SWCD Approval)

Applicant Name: Representative (if needed): Maryam Dadkah and Shawn Achziger				Contract Numbe	r: 21-24-02	23
Address: 609 Alma St, SE, Vienna		State: VA	Zip Code 22180			
Telephone Number:	Email Address:					
Resource Concern: Erosion Poor Co	ver X Excess Runoff			Application Date: 5/28/	24	
Address of BMP: 609 Alma St, SE, Vie	nna, VA 22180		1			Program Year:
						2024
City/County: Town of Vienna, Fairfa:	x County					
State: VA	Zip code: 22180					
Ranking Score: 77	actice Code: RH		Practice Size (SF, LF,	Gal): 475 gallons	1	
GPS Coordinates: 38.90507, -77.24787			нис: Р	L22 - Difficult Run)	
Dominant Land Use: Turf lawn		Contributir	ng Drainage Area: 8	00 sq. ft.		
Impervious Area Treated: 800 sq. ft.			Area Removed:			
Are you receiving any other funding assistance for this project? Source and amount: No						
STATEMENT OF TECHNICAL NEED - I have rev any other quality control measures.	iewed this application and have i	indicated the extent a	uthorized based on ted	chnical need. All practices	are subject to ver	ification procedures and
Daniel Schwartz Parallella Soil Scientist 5/14/2024						
District Employee Name	Title			Date	-	
AUTHORIZATION: Your request form has been: [Alpproved 1] Not Approved Required Completion Date: December 1, 2024 This practice must be installed and certified at the issuing SWCD by the above date.						
pour C 6	5/28/20	24				
District Authorization by (SWCD Director)	Date					

Cost Share Estimation:		
Estimated Total Cost: \$10,203.18	Estimated Total Cost Share: \$1,900	
I (the Applicant) acknowledge receipt of this document. I have received and reviewe the requirements of the program as outlined therein. I understand that substantial of the SWCD for completed projects, or portions thereof, and may result in denial of fu	deviation from approved projects may result in a decreased cost-share payment by	
DAD GHAH GAMES Signature of Applicant	<u>4/10/2025</u> Date	
COMMON	WEALTH OF VIRGINIA:	
	ployment opportunities are available to all people regardless of race, color, illiation. An equal opportunity/affirmative action employer.	

(Original to be retained by the SWCD. Copy with signature provided to the applicant). Date stamp:

Rainwater Harvesting (RWH) Plan

Narrative/Overview:

The objective of This Rainwater Harvesting (RWH) Plan was developed per Virginia Conservation Assistance Program (VCAP) implementation and design manual for our residential home located at 609 Alma Street SE, Vienna, VA 22180. The RWH system will store rainwater for vegetable and native plants irrigation through a water pump and hose and to reduce rainwater run-off to our backyard and shed area. The benefits of the capture system will be to help with water conservation and water shed filtration happening because of irrigation of plants.

Storm water will be stored in an opaque tank which will later be dispersed to an on-site watering practice for replenishing of vegetables garden, adjacent Virginia native plant meadows, and Native Virginia flower beds surrounding the residential property. Additionally, our RHW system will help prevent existing downstream flooding in adjacent Vienna's Wildwood Park and Wolf Trap Creek by controlling runoff of rainwater during heavy storms. See ariel view of the property with storm water flow into the cistern below.

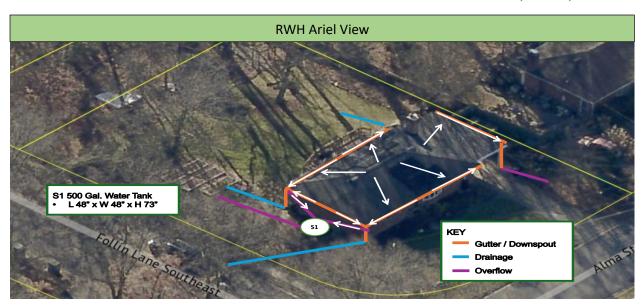
Project Specs: Upgrade current gutter system to reroute water to storage tank, places capture and storage tank to hold water, install water pump and hose for irrigation.

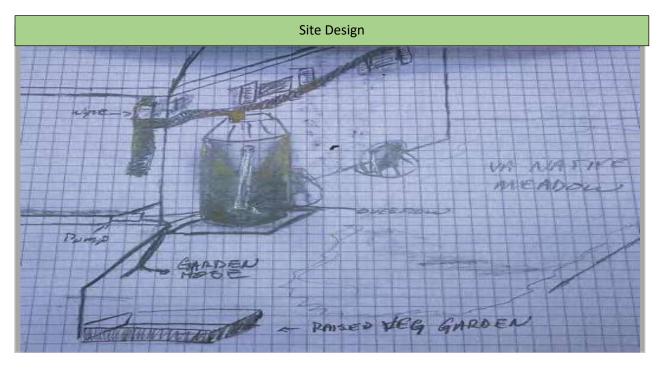
- 1. Install/upgrade/reroute current gutters to the tank and install downspout using WISY Poly Downspout Filter with adapter kit, hose, and tension ring to connect gutters to water tank.
- 2. A stable foundation of 6 inch thick of gravel and cobble stone will be built next to the house.
- 3. A 500-Gallon capture tank (48" dia. x 73" H), sized to collect 1" of rainwater will be placed under the downspout on the side of the house.
- 4. Water will be transferred using Grundfos SCALA2 115V Pump and hose and filtered using 1-1/4" Floating Filter with 7' of food-grade suction hose.
- 5. Capture tank will have an installed diverter system to manage overflow. Any overflow will be diverted to Native Plant Meadow waterways.
- 6. The system will be disconnected of the downspout or following manufacturer guidelines for insulating spigots and pipes for winterization.

Design

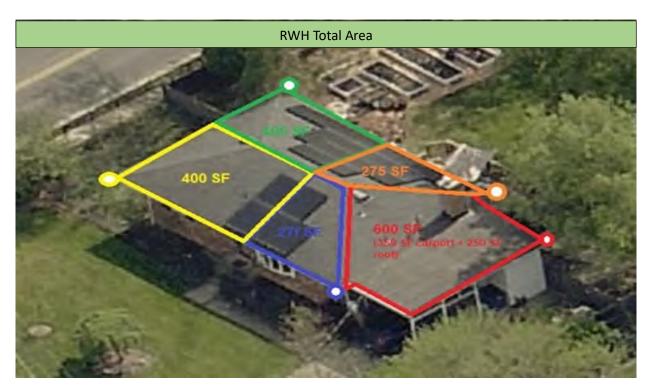
Our RWH system will capture rainwater from roof into trapezoidal gutter with 0.5% slope for 2/3 and 1% slope for 1/3 of the length for most efficient drainage. The gutter system will be equipped with covers or gutter guards to prevent debris buildup. The two downspouts on the eastern corners of the house will be routed to the cistern. The downspout will have a leaf cutter installed above a WISY poly filter above the return pipe responsible for transporting rainwater from the roof to the filter before it reaches the 500 gallon above ground storage tank. Storage tank cistern overflow will prevent backflow and use an angle-cut pipe to skim the water surface. This overflow will be diverting water using 1" check valve with twenty-five-foot hose directed to adjacent native meadow away from foundation.

The foundation of the RWH system will be a level pad, six inches in depth composed of packed gravel, 30 inches from home with a 50x50 rectangular shape. The 500-gallon above ground tank will be delivered on site pre-assembled and centered on gravel pad and installed per manufacturing instructions. Downspouts will then be connected to the WISY filter with an overflow pipe and routed to the tank for storm water storage as depicted in RWH Ariel View and Site Design graphics (below).





Sizing Calculation: RWH cistern size calculations were determined after an on-site visit from the Northern Virginia (NoVa) Soil and Water Conservation District, RWH Total Area (below) and utilizing formula found in the 8th Edition Virginia Conservation Assistance Program (VCAP) Implementation and Design Manual (page 67). Our RWH system design will intercept 800 SF (the green and yellow drainage divides on the eastern side of the roof), therefore, the cistern size needed to hold 1" rainstorm equals (Roof 800 SF x $(1/12) \times (0.96) \times (7.481 \text{ gallons} / \text{cubic ft}) = 475 \text{ gallons}$. Based on this calculation, installation of a 500-gallon tank would be the best management practice for our RWH system.



Site Constraints: The cistern will be located outside of the Resource Protection Area and Floodplain bordering the stream flowing behind the property. Miss Utility will be called, and all lines will be marked before construction begins.

Installation Requirements/Timeline

RWH Project is planned to begin on or before August 5th, 2024, with external dependency factors including approval of this plan, RMS cistern configuration, material shipping, contract labor scheduling, and weather. In total, project is expected to take twenty-one days to install, and the cistern will be put into immediate use. See Project Site (Before), page 3, and Project Site (After), page 4.

- 1. 05-AUG, Excellent Exteriors will upgrade our current gutter system changes to our gutters and downspouts to direct roof runoff to the cistern and install gutter guards and leaf cutter to keep out debris.
- 2. 06-AUG, Contractor (TBD) delivery of gravel pad supplies.
- 3. 06-16 AUG, Rainwater Management Solutions (RMS) delivers 500-Gallon Above Ground Modular Package (ABG-5)
- 4. 10-12 AUG, Homeowner will clear, level, and frame 5' x 5' area next to house 4' x 4' pressure treated ground contact post with geotextile fabric underlay. Homeowner will then temper ³/₄ inch drainage rock to a 6" thickness.

5. 19-21 AUG, per manufacture instructions, contractor (TBD) shall unpack and center ABG-5 on gravel pad. Connect WISY poly downspout filter in line with adapter kit to downspout closest to tank location. Attach 3" x 4" downspout from front downspout to 3" x 4" downspout with Y connector to reroute gutter downspouts to the tank adapter kit, hose, and tension ring to connect gutters to water tank. Install Grundfos SCALA2 115V Pump and hose and filtered using 1-1/4" Floating Filter with 7' of food-grade suction hose. ABG-5 system is equipped with pre-installed diverter system to manage overflow. Any overflow will be diverted to Native Plant Meadow waterways.





Resource Concern: Excess Runoff Pooling Along Southern Side of Property



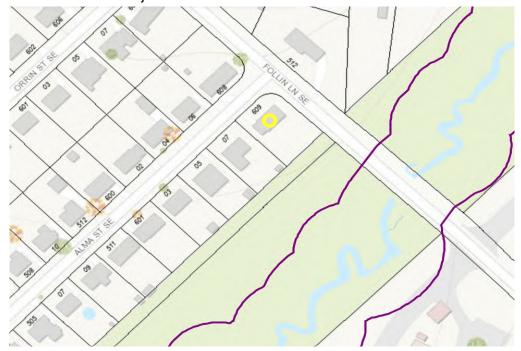




Project Site: Flooplain Limits



Project Site: Resource Protection Area Limits



10-Year CAP Operation and Maintenance Plan

All filters will be checked quarterly and cleaned as needed. The cistern will be examined for algae growth annually when it is taken off-line for winter. The system will be disconnected of the downspout or following manufacturer guidelines for insulating spigots and pipes for winterization. Connections and hoses will be checked for leaks or other damage when the system is brought back online in spring.

Winterization Plan:

Before mid-October, the cistern will need to be completely drained as part of the winterization plan. We will first drain all stored rainwater from the tank utilizing the pump to irrigate to surrounding native trees, shrubs, and meadow. Once tank is completely drained, we will then drain all pipes from the lowest point. Winterizing pump will also need to be drained and plug removed allowing water to exit the system.

Compiled Cost estimate Materiel			
Rainwater Management Solutions	\$3,394.18		
500-Gallon tank (48" dia. x 73" H)			
WISY Poly Downspout Filter with adapter kit, hose and tension ring			
PVC U-shaped Calming Inlet (pre-plumbed in tank by RMS)			
PVC P-Trap (pre-plumbed in tank by RMS)			
1-1/4" Floating Filter with 7' of food-grade suction hose			
protection cover			
1" check valve (quantity 2)			
Necessary tank gaskets, bulkheads, and fittings			
Expert Exteriors (Gutters)	\$5,983.00		
Gutter, White, 6" K-Style			
GUTTERGUARDS, Bulldog 6"			
Y Diverter, White, AquaBarrell Downspout Y Diverter 3" x 4"			
Downspout, White, 3" x 4"			
Leaf Eater, Rain Harvesting Pty Leaf Eater Advanced Downspout Filter			
Trim board/cap, SOFFIT, FASCIA & TRIM			
Lowes	\$826.00		
Site Work, grading			
Site Work, Utility Stone Base, 6" layer			
Site Work, hauling			
Total	\$10,203.18		



Rainwater Management Solutions, Inc. 2550 Shenandoah Avenue NW Roanoke, Virginia 24017 540-375-6750

Estimate

Date	3/26/24
Estimate No.	1008-12203
Terms	
Sales Rep	AL
Project Name	

Name / Address	
Shawn Achziger 609 Alma Street Vienna, Va 22180	

Ship To	
Shawn Achziger 609 Alma Street Vienna, Va 2218)

Description		Qty
Norman and FOO Calling Dords Consert About Consert of Targle 400 Day 700 LL		,
Norwesco 500 Gallon Dark Green Above Ground Tank 48" D x 73" H Wisy Poly Downspout Rainwater Filter Package (White)		1
Includes: stainless steel filter insert, tension ring and hose for downspout filter, downspou	ıt	·
converter kit for 3" x 4"		
1" Bulkhead - Double threaded polypropylene fitting (INLET FOR CLEAN WATER &		2
OVERFLOW)		_
1 1/4" Bulkhead - Double threaded polypropylene fitting (OUTLET - FLOATING FILTER)		1
SCALA2 3-45 AVCBDF 1x115V 60Hz Automatic Water Pressure Booster Pump		1
1 1/4" brass check valve		1
1-1/4" Coarse Floating Filter with 4' Suction Hose and Male Thread Fitting - 1,200 Micron		1
Labor and Consumables for Above Ground Packages. Includes:		1
Installment of tank inlet, overflow, and pump outlet.		
Installment of floating filter intake, smoothing inlet and overflow device.		
ABG-5 Above Ground Rainwater Harvesting Package, includes:		
-500 gallon above-ground tank (48" Dia X 73" H) -Poly Downspout Filter with stainless steel filter insert		
-Downspout Converter (2"x3" or 3"x4")		
-20" Length of 4" S&D Pipe		
-Poly Mounting Bracket for Converter Kit		
-Tension Ring and Hose		
-U-shaped Calming Inlet (1" PVC)		
-P-Trap for Overflow (1" PVC)		
-1-1/4" Coarse Floating Filter with Suction Hose		
-Grundfos SCALA Booster Pump		
-1-1/4" Check Valve		
-Qty-2 1" Bulkhead		
-Qty -1 1-1/4" Bulkhead (Floating Filter)		
Shipping SUBJECT TO CHANGE\$315		1
Virginia Sales Tax		·
Virginia Gales Tax		
Estimate is good for 15 days. Shipping not Included unless noted above.	Total	\$3,394.18

Customer approval and	d release to order:
Oustorner approvar and	a release to oraci.

Engineering Firm Involved: N/A

Signature

Date:		



ABG-5 Rainwater Harvesting System Submittal 500 Gallon Above Ground Package

Equipment	Page No.
Installation Schematic	2
500 Gallon Tank 48" D x 73" H	3
Rain Collection Filter	4
Downspout Adapter	5
Hose and Tension Ring	6
Floating Filter	7
Grundfos Scala 2 1x115 V – 3 / 4 HP	8
Simmons 1" Lead Free Check Valve	10

ESTIMATE



Expert Exteriors 9555 Grande Oaks Court Vienna, VA 22181 admin@exexteriors.com (252) 412-3560 For: Shawn Achziger

Job Address: 609 Alma Street SE Vienna, VA 22180



Job Id 2404-5560209-01

Estimate # 0004

Estimate Date 04/16/2024

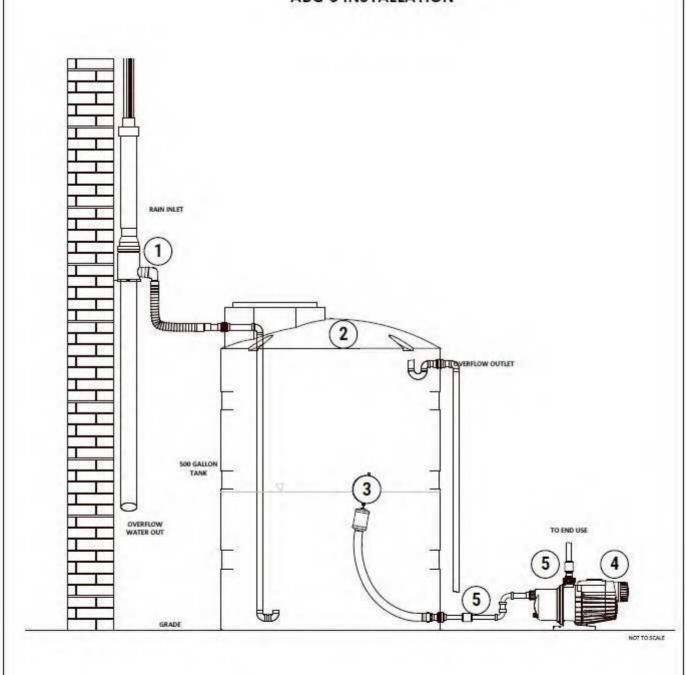
Estimate Amount

\$5,983.00

Contractor license # VA Class A #2705190711, MHIC #156973

#	Туре	Name	(Price / Unit) x Qty	Line Total
1	MATERIALS	Gutter	(\$8.00 / 1) x 187.00	\$1,496.00
	Trade Type: G	UTTERS Color: White		
	Description: 6	' K-Style		
2	MATERIALS	Downspout	(\$8.00 / 1) x 73.00	\$584.00
	Trade Type: G	UTTERS Color: White		
	Description: 3	'x4"		
3	MATERIALS	Gutter Guard	(\$6.00 / 1) x 187.00	\$1,122.00
	Trade Type: G	UTTERGUARDS		
	Description: B	ulldog 6"		
4	MATERIALS	Y Diverter	(\$55.00 / 1) x 4.00	\$220.00
	Trade Type: G	UTTERS Color: White		
	Description: A	quaBarrell Downspout Y Diverter 3"x4"		
	Free shipping			
	https://www.a	quabarrel.com/y-only-rectangular-c-31_323_324c	downspout-diverter-y-only-p-1001389.html	
5	MATERIALS	Leaf Eater	(\$65.00 / 1) x 2.00	\$130.00
	Trade Type: G	UTTERS		
	Description: R RHAD90	ain Harvesting Pty Leaf Eater Advanced Downsp	out Filter (Rectangular Output)	
	*includes estir	nated shipping costs		
	https://www.ra	inharvest.com/rain-harvesting-pty-leaf-eater-adv	anced-downspout-filter-rectangular-output.asp	
6	MATERIALS	Trim board/cap	(\$13.00 / 1) x 187.00	\$2,431.00
	Trade Type: S	OFFIT, FASCIA & TRIM		
	Description: T	rim board and capping replacement.		

ABG-5 INSTALLATION



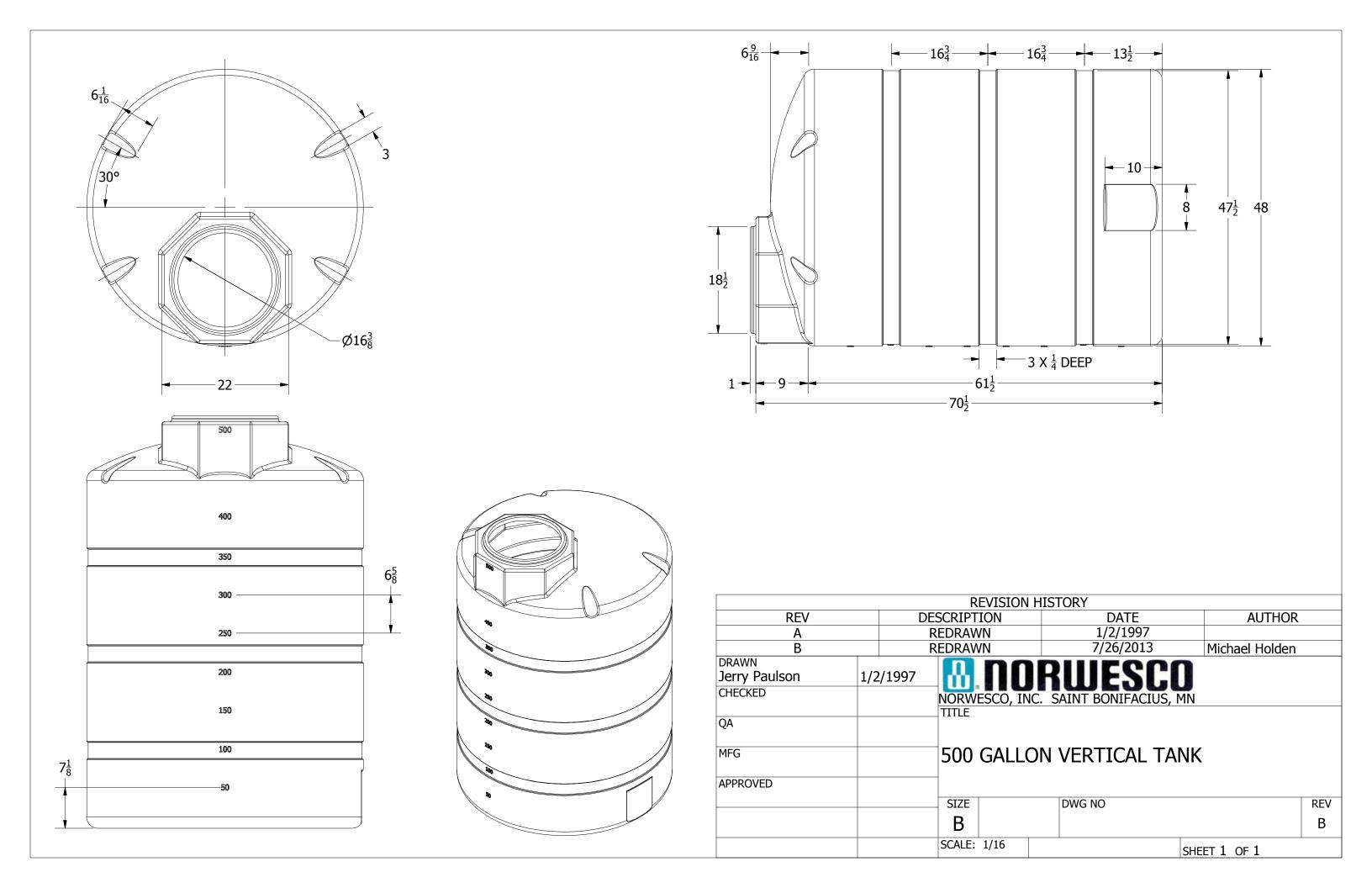
RAINWATER MANAGEMENT SOLUTIONS'

ITEM LIST

- 1. PVC DOWNSPOUT FILTER
- 2. 500-GALLON TANK
- 3. 1-1/4" FLOATING FILTER 4. 1 HP BOOSTER PUMP
- 5. CHECK VALVE

NOTES:

- RECOMMENDED USAGE: 20 GALLONS PER DAY
- RECOMMENDED COLLECTION AREA: UP TO 1,600 FT
 ITEMS PRE-PLUMBED IN 500-GALLON TANK
- INCLUDES BULKHEAD FITTINGS NECESSARY
- . CONNECTIONS FROM DOWNSPOUT FILTER TO TANK MADE BY OTHERS
- . CONNECTIONS FROM TANK TO PUMP MADE BY OTHERS





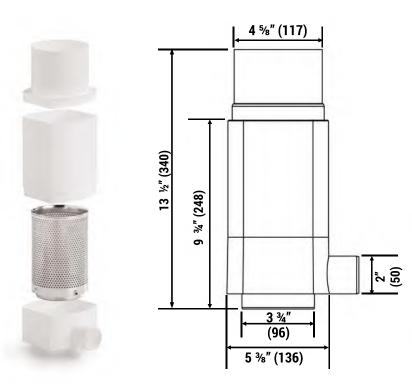
RAIN COLLECTOR RS

RAINWATER MANAGEMENT SOLUTIONS



The RAIN COLLECTOR RS connects to a single vertical, rainwater downspout and can filter and divert precipitation for storage for car washing, irrigation or other non-potable uses. The filter requires minimal maintenance due to its ability to self-clean via a constant discharge of dirt and debris. The housing is made out of UV-resistant polypropylene and the stainless steel filter provides highest quality of rainwater. It has a maximum flow rate of about 65 GPM and is suitable for a roof area of up to 1,600 square feet.

Below are the dimensions and the specifications for the Rain Collector RS:



(Dimensions in parentheses are millimeters)

FACTS:

Maximum Flow Rate: 65 GPM

Maximum Roof Area: 1,600 FT²

Item-No: RS4100





Regularly Furnished:

- UV-Resistant Polypropylene Housing (including: Casing Cap, Casing Extension, Filter Casing)
- Stainless Steel Fine Mesh Filter (mesh size: 280 micron)

Additional Components Available:

- Stainless Steel Blind Insert
- 2" x 3" or 3" x 4" Downspout Kit
- 1" Flexible Hose with 2" Connection for Downspout Filter Mounting Kit

Installation Note:

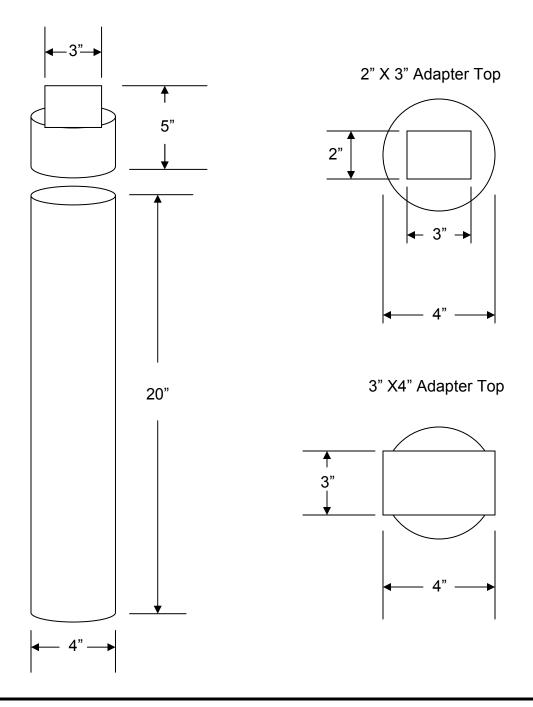
- Must be mounted plumb and level
- Direct installation of 90° elbow or optional 1" flexible hose (with 2" connection) on 2" outlet
- Roof area above 1,600 ft² requires multiple Rain Collector RS or use of larger capacity filter

Rainwater Management Solutions 1260 W Riverside Drive Salem, VA 24153



Downspout Adapter 2" X 3" and 3" X 4"

WISY Downspout Adapter to Convert Rectangle Down Spouts to 4" Round. Adapters are available in 2" X 3" or 3" X 4". For more Details Contact RMS.

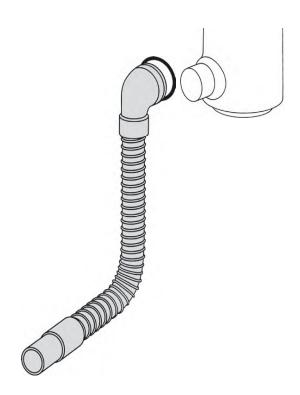




Hose and Tension Ring



Function: Used in conjunction with the WISY Downspout Filters. The Hose and Tension Ring is designed to fit the outlet of the WISY Downspout Filter on one end with a tension ring to ensure a positive seal. The Hose has a built-in 90 degree elbow which directly connects to the WISY Downspout Filter to ensure maximum efficiency through the filter. The opposite end of the Hose can be connected directly to a fitting on a cistern or can be connected to PVC pipe to extend the length if necessary to reach the cistern. The WISY Hose and Tension Ring is manufactured from UV-resistant rubber and will not be damaged being outdoors in the elements.



The total length of the WISY Hose and Tension Ring is 20". The connection end to the WISY Downspout Filter is 2" inside diameter which fits the WISY Downspout Filter's outlet, and the cistern end of the WISY Hose and Tension Ring is 1 1/4" inside diameter which will fit the outside diameter of 1" schedule 40 PVC pipe should the length of the Hose and Tension Ring need to be extended.

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STORAGE TANK FLOATING FILTERS WITH HOSE



The **WISY Floating Filter** will take water from just below the surface. Water at this depth is of the highest quality in the tank, because any particulate that enters the tank either floats on the surface or settles to the bottom.

The floating filter consists of a polyethylene ball and stainless steel filter and is supplied with a standard 7 ft. length of food-grade suction hose. The nozzle connections are available in 1 1/4" and 2" sizes. The filter is available separately or as part of a kit for both submersible and booster pumps. Hose lengths greater than 7 feet are available through RMS.

COARSE FLOATING FILTER

Coarse filter housing with 1.2 mm mesh

SIZE	PART NUMBER
1"	SZ9927+
1-1/4"	SZ9928+
2"	SZ9991+



FINE FLOATING FILTER

Fine floating filter housing with 0.3 mm mesh

SIZE	PART NUMBER
1-1/4"	SZ9936+
2"	SZ9931+



Regularly furnished: Stainless Steel Floating Filter, Polyethylene Float Ball, 7' Long Food-Grade Suction Hose

Rainwater Management Solutions 1260 W Riverside Drive Salem, VA 24153

SCALA2



General description

Grundfos SCALA2 is a fully integrated, self-priming, compact all-in-one water pump for pressure boosting in domestic applications.

SCALA2 incorporates integrated speed control enabling perfect water pressure at the taps, meaning that the pump performance will increase with increasing demand.

SCALA2 can be installed in three easy steps:

- 1. Connect the pipes.
- 2. Prime the pump.
- Plug the pump into the power outlet and the pump will start.

Grundfos SCALA2 has all the components necessary to ensure a comfortable pressure:

- · intelligent controller
- · integrated speed-controlled drive
- integrated tank
- integrated sensors
- integrated non-return valve.

Features

- · Adjustable constant pressure
- Low noise, < 47 dB(A) (in typical use)
- Compact
- · Robust and reliable
- · Easy installation and self-priming
- · Dry-running protection

Applications

Grundfos SCALA2 is designed for pressure boosting in one-family houses and apartments.

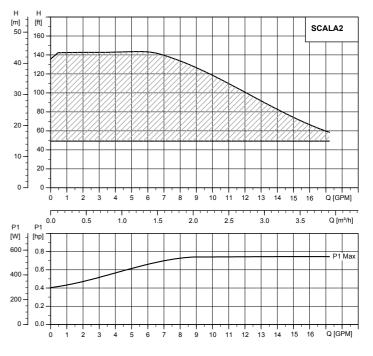
We recommend SCALA2 for the following applications:

- · pressure boosting of city mains water
- · pressure boosting of water from roof tank
- · pressure boosting of water from break tank
- · pressure boosting of water from ground tank
- water supply from shallow wells (< 26 1/4 ft / 8 m).

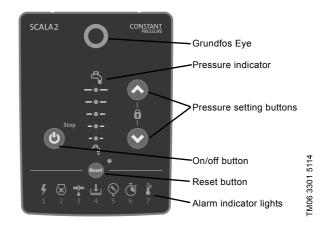
Performance

SCALA2 is suitable for houses with up to three floors and eight tapping points.

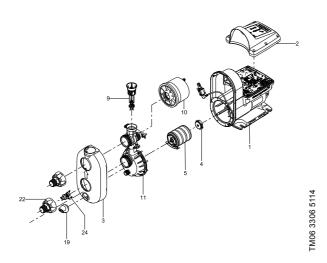
Accurate sizing of the pump can be based on the pump curve below and local norms and standards.



Control panel



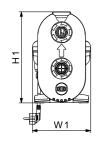
Exploded view

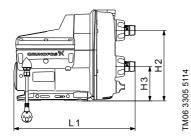


Materials

Pos.	Component name	Material
Combined pump and stator housing		Aluminium, Composite and EN 1.4301 / AISI 304
2	Control box cover	Composite
3	Pump cover	Composite
4	Shaft seal	Carbon/Ceramic
5	Chamber stack (four stages)	Composite
9	Non-return valve, outlet	Composite
10	Tank complete	Composite, Butyl and EN 1.4301/AISI 304
11	Connection part	Composite
19	Drain plug	Composite
22	Thread R 1" / NPT 1"	Composite
24	Non-return valve, inlet	Composite

Dimensional sketch





Туре	H1	H2	H3	W1	L1	Weight
	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
	[inch]	[inch]	[inch]	[inch]	[inch]	[lbs]
SCALA2	302	234	114	193	403	10
	11.9	9.2	4.5	7.6	15.9	22

Thermal protection

SCALA2 incorporates current- and temperature-dependent motor protection.

Technical data

Туре	Voltage [V] and Frequency [Hz]	I _{max.} [A] and P1 [W]	Thread	Plug	Product number
SCALA2	1 x 208-230 60	2.3 - 2.8 550	- NPT 1" -	NEMA 6-15P	98562817
SCALA2	1 x 115 60	5 - 5.7 560	INFI I	IEC type B, NEMA 5-15P	98562818

Operating conditions

Max. ambient

temperature: 113°F (45°C)

131°F (55°C) for 1 x 200-240 V, 50 Hz models.

Max. liquid temperature: 113°F (45°C)
Max. system pressure: 145 PSI (10 bar)
Max. inlet pressure: 87 PSI (6 bar)
Max. head: 148 ft (45 m)
Enclosure rating: NEMA 3

Pumped liquid: Clean, fresh water and

chlorinated water < 300 ppm.

Markings and approvals

Safety approvals





Drinking water approvals



Subject to alterations.



Simmons

500 SB Series





CERTIFIED LEAD FREE Check Valve

- · Silicon bronze cast body.
- · Silicon bronze stemless poppet.
- · Female threads.

MADE IN U.S.A.

Part No.	Size	Weight Each Ibs.	Carton Quantity
501SB	1/2	.6	1
502SB	3/4	.8	1
503SB	1	1.1	1
513SB*	1	1.2	1
504SB	1 1/4	1.6	1
514SB**	1 1/4	1.7	1
505SB	1 1/2	2.1	1
506SB	2	3.7	1
507SB	2 1/2	9.8	1
508SB	3	10.8	1
509SB	4	23.6	1
510SB***	5	25.1	1
511SB	6	41.5	1

513SB* has longer threads.

514SB** has longer threads.

510SB*** has 5" male threads both ends.

2500 SB Series



CERTIFIED LEAD FREE Stemless Check Valve

- Silicon bronze cast body.
- · Silicon bronze stemless poppet.
- · Female threads.

MADE IN U.S.A.



Part No.	Size	Each lbs.	Carton Quantity
2503SB	1	1.3	1
2504SB	1 1/4	1.8	1
2505SB	1 1/2	2.1	1
2506SB	2	3.7	1



CERTIFIED LEAD FREE Submersible Check Valve

- Check Valve
- Silicon bronze cast body.Silicon bronze cast poppet.
- Female-Male threads.

MADE IN U.S.A.

Part No.	Size	Each Ibs.	Carton Quantity
610SB**	1 x 1 Long	1.4	1
611SB**	1 1/4 x 1 1/4 Long	2.0	1
616SB	1 x 1	1.4	1
617SB	1 x 1 1/4	1.4	1
618SB	1 1/4 x 1 1/4	1.8	1
622SB	2 x 2	3.9	1
623SB	3 x 3	10.4	1
624SB	4 x 4	22.6	1
625SB	6 x 6	41.4	1

Weight

* * Extended male and female threads

*Silicon bronze components contain less than .05% (1/20 of 1%) Lead.

Check Valves furnished with Buna-N O-Ring, stainless steel spring, stainless steel washer, and stainless steel locknut.

All valves 3/4" through 1-1/2" have a working pressure of 400 psi. All valves 2" and larger have a working pressure of 600 psi.

190⁰ F. Maximum Temperature Rating



Contract Number

Release Agreement for Eligible Practices VCAP Form 5

PLEASE READ CAREFULLY BEFORE SIGNING

I, Maryam Dadkhah & Shawn Achz	(the Participant), wish to forego a licensed professional design as
required by the Virginia Conse	vation Assistance Program Manual for the proposed
Rainwater Harvesting	(BMP Description), located at
609 Alma Street SE, Vienna, VA, 22	(Address), funded by the
Northern Virginia	Soil and Water Conservation District (the District).
I agree to the following:	
 I verify that the design standard and specific 	plan submitted is in accordance with the technical criteria in the applicable program ations.
 I will ensure that the manufacturing instru 	ractice will be built to the design plan which was submitted and in accordance with any tions.
the District, any VCAF	all liability and hold harmless the District, any of its employees representing or related to personnel, and any volunteers or other representatives, for any personal injuries, including or damage in connection with any activity related to the Engineered Practice located at the .
•	that it is my responsibility to abide by any and all local code requirements, state ulations, and manufacturer requirements.
This contract shall be governed applicable Federal law.	by the Commonwealth of Virginia in the City/County of FAIRFAX and any
Shawn Achzig	16-FEB-2024
Shawn Achzig Signature of Participant	Date
Merhalen	5/31/2024
Signature of District Representa	ive Date

FY23 VCAP Practice Ranking Sheet (VCAP Form 6)

This form is to be filled out by District Staff for each application submitted for funding approval to the VCAP Steering Committee. Include the Contract Number (District 38 - CY 23 - Application Number 001), Practice Code (abbreviation), Estimated Cost, Cost-Share Requested and Resource Concern.

TOTAL RANKING POINTS 77.0

approval to the VCAP Steering Committee. Include the Contract Number (District 38 - CY 23 - Application Number 001), Practice Code (abbreviation), Estimated Cost, Cost-Share Requested and Resource Concern.		stimated Cost Cost-Share Requested Vhat is the Resource Concern?	\$10,203.19 \$1,900.00 Excess Runoff		
Please only enter data in the "Input" of		Earned" will be automatically generated.			
RANKING CRITERIA	Input (1/0) Site Assessme	POINT VALUE	POINTS EARNED	NOTE	
O THE STATE OF THE	Site Assessme	ent			
esource Concern Identified and Addressed by the Selected BMP - Select One Erosion Impact Area (visible erosion and/or deposition); or		20	0		
Poor Vegetative Cover (Density <=75%); or		15	0		
Excess Runoff (Land cover contributes to increased runoff volume and flow rate)	1	10	10		
· · · · · · · · · · · · · · · · · · ·			_		
wnership - Select One					
The practice is for an individual Private Residence; or	1	10	10		
The practice is for a HOA or Business or Non-Profit; or		7	0		
The practice is for a Public Park or School or Facility.		5	0		
Presence of Stormwater Management Facilities Downstream of the Site					
The site runoff is currently untreated	1	10	10		
The site failures currently unitedited	-		10		
Proximity to Stormwater Conveyance System or Waterway - Select One if applicable					
Resource Concern within 40 feet; or		20	0		
Resource Concern within 100 feet		10	0		
Slope - Select One if applicable					
The practice treats poorly vegetated or eroding slope equal to or greater than 15%; or		10	0		
The practice mitigates concentrated runoff to a slope equal to or greater than 15%		5	0		
FMDL Implementation Plan, MS4 Locality, or Comprehensive Stormwater Management Plan					
Practice addresses local sediment or nutrient goals	1	10	10		
Tractice addresses local sediment of flution godis	-		10		
	BMP Selection	n			
BMP Type - Select One if applicable					
Is the proposed BMP structural (e.g. RG, DW, CW, VSC, RH, BR, IF, PP, GR)?, or	1	10	10		
Converting Impervious Surface to Conservation Landscaping, or		10	0		
Impervious Surface Removed, or		5	0		
Living Shoreline proposed on unprotected lands, or		10	0		
Living Shoreline replaces failing stabilization practices, or		5	0		
Forested Riparian Buffer (minimum 35 feet wide); or		10	0		
Vegetated Filter Strip (minimum 35 feet wide)		5	0		
Proposed BMP provides Alternative Disconnection					
Selected BMP disconnects and disperses impervious runoff		10	0		
		-			
Freatment Area (Does Not apply to LS or CL unless configured as Filter Strip with 35 feet minimum length	1)				
Input Impervious Area Treated in square feet; and	800	0.8	0.8		
Input Total Contributing Drainage Area in square feet	800	20.0	20.0		
nstalled Area - Select One		0.0	2.0		
Input Surface Area of the Practice; or	475	0.0 0.5	0.0 0.5		
Input Gallons of Storage; or Input Linear Foot of Practice installed	4/5	0.0	0.0		
input Linear Poot of Practice Installed		0.0	3.0		
	Application Stre	ngth			
Partnership					
Applicant is working with a partner agency or Non-Profit		5	0		
Educational Value					
Practice is publicly accessible or is part of an educational program		10	0		
Cost Effectiveness					
Cost per Impervious Area Treated (\$/SF), and	12.75	4.7	4.7		
Cost per Installed Area (\$/SF or \$/Gal or \$/LF)	20.41	0.7	0.7		
Pollutant Removal					
Pollutant Removal BMP Pollutant Removal Effeciency (EFF)	0.5		7		
Contributing Drainage Area Weighted Runoff Value (Rv)	0.95				
Pollutant Load (PL), Lbs Phosphorus per year	0.04	0.4	0.4		
		·			



VIRGINIA CONSERVATION ASSISTANCE PROGRAM CONTRACT (Part III – Technical Installation and Payment)

Applicant Name: Maryam Dadhkah and Shawn Achzigo	er Contract Number: 21-24	I-023		
Address:609 Alma St SE, Vienna	State:VA	Zip Code 22180		
Practice Code: RWH		Practice Size (SF, LF, Gal): 475 gall	ons	
GPS Coordinates: 38.90507, -77.24787		нис:РL22		
Dominant Land Use: Lawn	Contribut	ing Drainage Area: 800 SF		
Impervious Area Treated: 800 SF	Imperviou	Impervious Area Removed:		
Final Total Cost: \$15,176.18	Final Cost	Share:\$1,900		

TECHNICIAN PRACTICE INSTALLATION CERTIFICATION:

I certify that all administrative and technical components of any practice listed above for payment and/or tax credit have been completed by an appropriately qualified individual and that each practice meets all applicable standards and specifications necessary for certification and/or payment. All practices are subject to verifications and any other quality control measures.

Meghan Cunha

Title Urban Conservation Specialist

Date 4/8/2025

I, the Participant (Applicant), certify that the information above is true and correct. I have received and complied with all Program Specifications; and I have installed and agree to maintain this/these practice(s) as built for the practice lifespan in accordance with the Program Specifications.

"Program Specifications," as used throughout this Contract, means the following documents applicable to this/these practice(s):

- VCAP Program Specifications for this practice;
- Site-specific engineering designs;
- Department of Environmental Quality Best Management Practice Clearinghouse Specifications.

The Program Specifications (together with Parts I and II of this Contract) are included and incorporated by reference within this Contract. I agree to refund all or part of the cost-share financial assistance I have received if my practice(s) is/are found not to meet Program Specifications required at the time of installation/payment or if the practice(s) is/are removed or not properly maintained during the lifespan of the practice(s). I understand and agree that this/these practice(s) are subject to verification checks and any other quality control measure throughout the practice lifespan; and if SWCD staff are unable to access the site for inspection within one month of a request to inspect the site, then this failure will create a rebuttable presumption that I am not in compliance with this Contract. I understand that the sale, lease, or changed use of the property will not exempt me from fulfilling the requirement(s) of this Contract. I also understand that my period of responsibility begins with the acceptance of payment and extends through the lifespan in accordance with program requirements. I understand that my noncompliance can result in removal from participation from the program or a reduction in cost-share funding.

understand and agree that the District and the Virginia Association of Soil and Water Conservation Districts has permission to use any of the photos provided to publicly promote the Virginia Conservation Assistance Program. I understand that the images may be used in print publications, online, presentations, websites, and social media without				
-				
royalty, fee, or other compensation. To request that photos are NOT used for purposes outlined	above, initial here:			
I understand that the approved BMP cannot be used for the purposes of Nutrient Trading or for re	egulatory compliance.			
The Participant (Applicant) and the Soil and Water Conservation District (SWCD), in consideration				
execute this Contract, consisting of the three	parts <u>labeled</u> Parts I, <u>II, and III.</u>			
PARTICIPANT:	SOIL AND WATER CONSERVATION DISTRICT:			
Print Name: Maryam Dadkingh an	Print Name: Scoff Cameron			
Signature: DADICHAH Shown Achiger	Title: Chairman, MVSWCD BOD			
Date: 4/10/2025	Signature: Signature:			
	Date: 4/22/2025			

COMMONWEALTH OF VIRGINIA

Department of Conservation and Recreation, Division of Soil and Water Conservation, activities and employment opportunities are available to all people regardless of race, color, religion, sex, age, national origin or political affiliation. An equal opportunity/affirmative action employer.





Pipe from front downspout to cistern







Action!



Global Plumbing, LLC

PO Box 224 Broad Run, VA 20137 +15712799584 faith@gloplumb.com www.gloplumb.com

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INVOICE

BILL TO

Shawn & Mariam Achzinger 609 Alma Street SE Vienna, VA 22180

		BALANCE DUE	\$8,	190.00
	Rainwater Harvesting Syster	Achzinger Residence - Job# 00885 609 Alma Street SE Vienna, VA 22180		8,190.00
DATE	ACTIVITY	DESCRIPTION	QTY	AMOUNT



Rainwater Management Solutions, Inc. 2550 Shenandoah Avenue NW Roanoke, Virginia 24017 540-375-6750

Estimate

Date	3/26/24
Estimate No.	1008-12203
Terms	
Sales Rep	AL
Project Name	

Name / Address	
Shawn Achziger 609 Alma Street	
Vienna, Va	

Description		Qty
Norwesco 500 Gallon Dark Green Above Ground Tank 48" D x 73" H		1
Wisy Poly Downspout Rainwater Filter Package (White)		1
Includes: stainless steel filter insert, tension ring and hose for downspout filter, downspout converter kit for 3" x 4"		
1" Bulkhead - Double threaded polypropylene fitting (INLET FOR CLEAN WATER &		2
OVERFLOW)		2
1 1/4" Bulkhead - Double threaded polypropylene fitting (OUTLET - FLOATING FILTER)		1
SCALA2 3-45 AVCBDF 1x115V 60Hz Automatic Water Pressure Booster Pump		1
1 1/4" brass check valve		1
1-1/4" Coarse Floating Filter with 4' Suction Hose and Male Thread Fitting - 1,200 Micron		1
Labor and Consumables for Above Ground Packages. Includes:		1
Installment of tank inlet, overflow, and pump outlet.		
Installment of floating filter intake, smoothing inlet and overflow device.		
ABG-5 Above Ground Rainwater Harvesting Package, includes:		
-500 gallon above-ground tank (48" Dia X 73" H)		
-Poly Downspout Filter with stainless steel filter insert		
-Downspout Converter (2"x3" or 3"x4")		
-20" Length of 4" S&D Pipe -Poly Mounting Bracket for Converter Kit		
-Foly Mounting Bracket for Converter Kit -Tension Ring and Hose		
-U-shaped Calming Inlet (1" PVC)		
-P-Trap for Overflow (1" PVC)		
-1-1/4" Coarse Floating Filter with Suction Hose		
-Grundfos SCALA Booster Pump		
-1-1/4" Check Valve		
-Qty-2 1" Bulkhead		
-Qty -1 1-1/4" Bulkhead (Floating Filter)		
Shipping SUBJECT TO CHANGE\$315		1
Virginia Sales Tax		
The same same same		
Estimate is good for 15 days. Shipping not Included upless noted above	Total	\$3.394.18

Estimate is good for 15 days. Shipping not Included unless noted above.

Total \$3,394.18

Engineering Firm Involved: N/A

Signature		

Customer approval and release to order:

Date:		
Jaic.		

INVOICE

Expert Exteriors LLC 3719 Hill St Fairfax, VA 22030

admin@exexteriors.com +1 (252) 412-3560 www.exexteriors.com



Bill to

Shawn Achziger 609 Alma Street SE Vienna, VA 22180 United States Ship to

Shawn Achziger 609 Alma Street SE Vienna, VA 22180 United States

Invoice details

Invoice no.: JP-5502-55 Invoice date: 08/02/2024 Due date: 08/02/2024

#	Date	Product or service	Description	Qty	Rate	Amount
1. Services		Services	Shawn Achziger / 2404-5560209-01 / GUTTERS	1	\$3,592.00	\$3,592.00
			Total		¢ :	2 502 00

Total	\$3,592.00			
Payment	-\$1,284.00			
Balance due	\$2,308.00			

VIRGINIA CONSERVATION ASSISTANCE PROGRAM BMP REIMBURSEMENT REQUEST

Check is to be made out to (SWCD): Northern VA Soil & Water Conservation District

Address: 12055 Government Center Pkwy, Suite 905, Fairfax, VA 22035

Contract Number	Practice Code	Date Inspected	SC Approval Date	Total Actual Cost	Start-Up Payment Cost	Total Approved CS	Extent Installed	CS or SUPP Payment Requested	Tech Assist Paymt
21-24-023	RWH	4/8/2025	5/31/2024	\$15,176.18		\$1,900.00	475 Gal	\$1,900.00	\$1,200.00
21-25-001	CL-3	4/10/2025	7/30/2024	\$7,393.56		\$6,339.44	1,020 SF	\$5,914.85	\$1,200.00
			_			_		_	
	_		_			_			
			_	_					
							TOTAL	\$7,814.85	\$2,400.00

District Representative (Print): Meghan Cunha

District Signature:

Date: 4/11/2025

Total VCAP payment [amount]

Submitted to [Name of SWCD]

Date of payment [Date]

Check number [Check number]

To be completed by District after reimbursement is received.