



Virginia Conservation Assistance Program

Presented by Virginia Association of Soil & Water Conservation Districts

CONTRACT
VCAP Form 1

Contract Number

Part A. Application

I, _____ (PRINT) hereby make application to _____ Soil & Water Conservation District for cost-share assistance to purchase and install a best management practice as described in part B below.

I agree that all best management practice(s) approved will be installed, operated, and maintained in accordance with the practice(s) standard(s) and the Landowner Agreement (VCAP Form 3). I/We agree not to use the BMP for purposes of Nutrient Trading or regulatory compliance. I/We shall indemnify and save the District harmless from any and all claims for damages to persons or property arising from the installation, maintenance, repair, operation or use of the BMP(s).

I understand that it is my/our responsibility to pay in full all bills for work completed under this agreement prior to submission of eligible bills for reimbursement.

I understand that VCAP cost-share funds may be combined with other grant or cost-share resources, but may not exceed one hundred percent (100%) of total costs for the practice.

Mailing Address: _____	Phone: _____
Alternate Mailing Address: _____	Email: _____
Participant Signature: _____	Circle one: Landowner or Representative
SSN / Tax ID (Attach IRS Form W-9): _____	

The local Soil and Water Conservation District (SWCD) is required to issue a 1099-form to the Internal Revenue Service (IRS) for any individual to whom it issues a check for \$600.00 or greater. Because the IRS uses the Social Security number or Federal Tax ID number as a unique identifier, the SWCD must collect that information from any individual to whom it issues a check. The SWCD does not use the Social Security number or Federal Tax ID number for any purpose other than that stated above.

Part B. Technical Determination and District Approval (To be completed by District Staff)

Practice Code & Title	Practice Size (sq. ft, lin. ft., gal)	Total Estimated Cost	Approved Estimated Cost-Share	Required Completion Date
Rain Garden (RG)	288 sq. ft.	\$3,950.00	\$2,962.50	12/31/2019

I have reviewed this application and all supporting documentation and have indicated the quantity authorized based on technical need. This practice must be installed and certified by the completion date.

X _____



Virginia Conservation Assistance Program

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JOB SHEET

Contract Number _____

VCAP Form 2

This Job Sheet is to be filled out by District technical staff. Please document any information that helps to describe any unique aspects of the project from design to completion. The Job Sheet is an active document and will need to be updated as the project progresses. It will document the installed practice and must be submitted to the Program Coordinator at project completion. If completed project differs from the original design approved by the Steering Committee, explain and justify the changes on this Job Sheet.

Tracking and Reporting:

Property Owner: _____ Address: _____

Representative (if applicable): _____ Phone Number: _____

Hydrologic Unit Code: JL 31 GPS Coordinates: _____

Practice Code & Description: Rain Garden (RG)

Dominant Land Use Treated: Impervious runoff

Contributing Drainage Area (sq. ft.): 1,230 Impervious Area Treated: (sq. ft.): 1,172

Practice Size (sq. ft., lin. ft., gal.): 157 Impervious Surface Removed (sq. ft.): _____

Installation Date: _____

Site Assessment: Describe the current conditions of the site, landowner goals/concerns, resource concern needing to be addressed, and the proposed water quality benefit of the project. Note all ranking considerations and attach ranking spreadsheet. Include photo documentation of site conditions and resource concerns. (Describe or attach.) **Ranking Score:** _____

This site is a private residential property. The home was built _____ and has a gentle slope towards the back yard and rear of the home, draining into a nearby creek. The homeowner has issues with runoff and standing water in the back yard, mostly coming from the side of the home adjacent to Firestone Road and from the back half of the roof, as shown on the attached Drainage Map. The homeowner has taken appropriate steps to maintain healthy turf but has struggled with the drainage issues and is enthusiastic about the potential rain garden. A soil infiltration test was completed and the calculated rate was 0.35 in/hour, indicating that an engineered soil media will be required. The homeowner was informed of this requirement and is prepared to proceed accordingly.

Project Layout: Attach an aerial of site and sketch or outline the practice layout, contributing drainage area, impervious area treated, location and flow paths of downspouts/channels, and any known utilities or right-of-ways. Note the proximity to waterways or stormwater conveyance systems. (Describe or attach.)

Please see the attached aerial site photos and drainage maps, as well as the project layout map. One downspout receives all of the water draining into the problem area and currently outlets onto the yard surface. During this project the downspout will be extended to outlet directly into the rain garden. No utilities are located within the project area.

Design and Specification: Include sizing calculations, practice dimensions, soil evaluation results, site preparation plan, pretreatment measures, outlet and overflow, cross section and profile, planting plan (with scientific names), and cost estimates. **(Describe or attach.)**

Please see the attached designs, sizing calculation, cross section, and related materials.

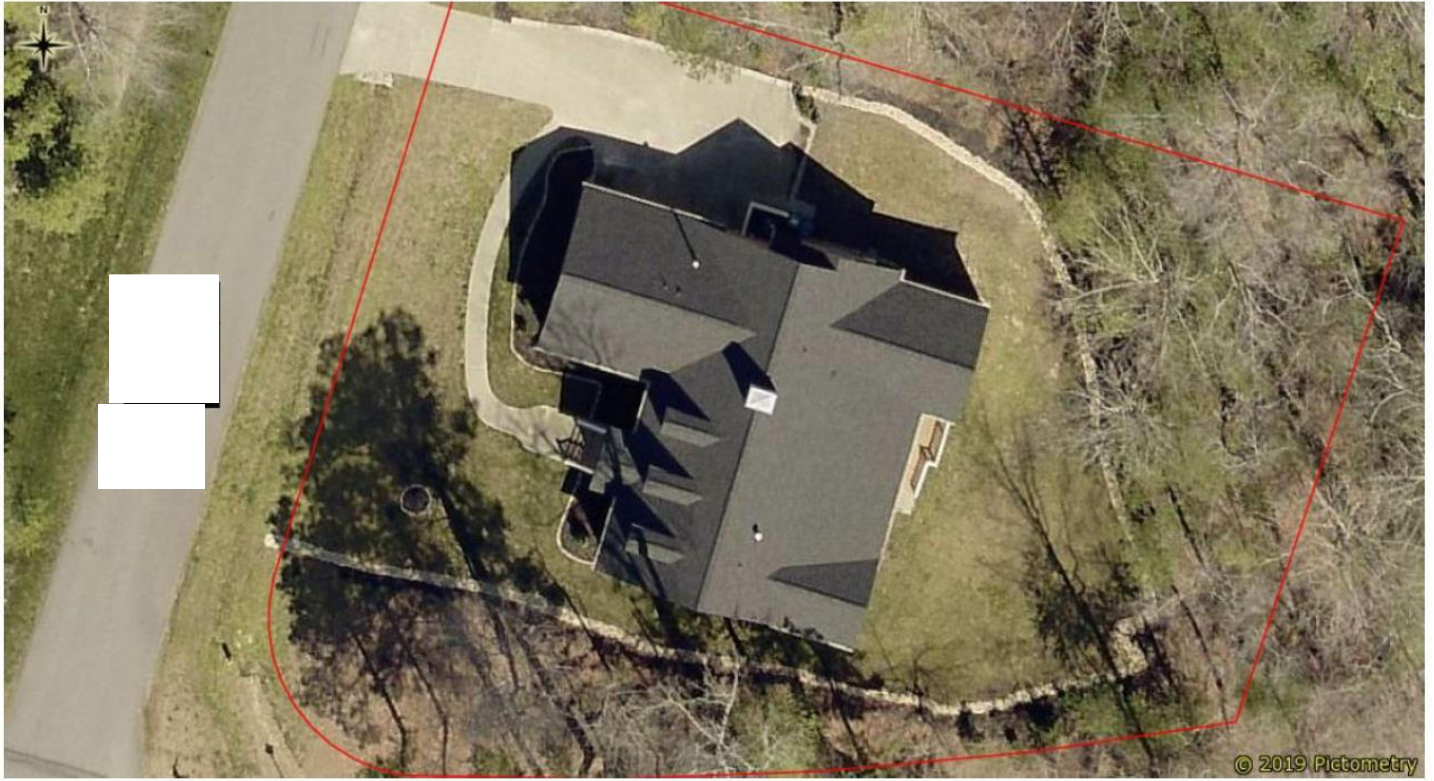
Construction and Installation: Include sizing calculations, practice dimensions, soil evaluation results, site preparation plan, pretreatment measures, outlet and overflow, cross section and profile, planting plan (with scientific names), and itemized cost estimates, including estimated volunteer labor time. **(Describe or attach.)**

Permits: Confirm local policies, such as land disturbance, grass heights, etc. **(Describe or attach.)**

County officials were informed of this project and verified that no permits are needed.

Operation and Maintenance Plan: **(Describe or attach.)**

The homeowner was informed of the VCAP maintenance requirements as described in the program specifications. The homeowner was also given the attached rain garden maintenance document to ensure that they are aware of the maintenance expected with this project within the 10 year lifespan.



Note: The yellow shaded area represents the proposed location and general shape of the rain garden. The total surface area will be 288 sq. ft.



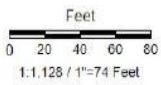
County,
virginia

Legend

□ Parcels

The yellow shaded area represents the total impervious area of 1,372 square feet draining into the proposed rain garden.

The blue shaded area represents the total pervious area of 1,516 sq. ft. draining into the proposed rain garden.



Title: Drainage Map

Date: 5/29/2019

DISCLAIMER: This drawing is neither a legally recorded map nor a survey and is not intended to be used as such. The information displayed is a compilation of records, information, and data obtained from various sources, and County is not responsible for its accuracy or how current it may be.

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## - CY## - Application Number###), Practice Code (abbreviation), Estimated Cost (if applicable), Cost Share Requested and Resource Concern.

Contract #	
Practice	RG
Estimated Cost	\$3,950.00
Cost Share Requested	\$2,962.50
What is the Resource of Concern?	Too Much Impervious Runoff

****Please only enter data in the "Input" column. "Points Earned" will be automatically generated.****

RANKING CRITERIA	Input (1/0)	POINT VALUE	TOTAL POINTS EARNED	NOTE
Site Assessment				
Resource Concern Identified and Addressed by the Selected BMP - Select One				
Erosion Impact Area (visible erosion and/or deposition); or	0	20	0	} NOW considered "excess runoff"
Poor Vegetative Cover (Density <=75%); or	0	15	0	
Impervious surface runoff; or	1	10	10	
managed turf runoff.	0	5	0	
Ownership - 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	0	7	0	
The practice is for a Public Park or School or Facility.	0	5	0	
Presence of Stormwater Management Facilities Downstream of the Site				
The site runoff is currently untreated	1	10	10	
Proximity to Stormwater Conveyance System or Waterway - Select One if applicable				
Resource Concern within 40 feet; or	0	20	0	
Resource Concern within 100 feet; or	1	10	10	
Slope - Select One if applicable				
The practice treats poorly vegetated or eroding slope equal to or greater than 15 %	0	10	0	
The practice mitigates concentrated runoff to a slope equal to or greater than 15 %	0	5	0	
TMDL Implementation Plan, MS4 Locality, or Comprehensive Stormwater Management Plan				
Practice addresses local sediment or nutrient goals	1	10	10	
BMP Selection				
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	0	10	0	
Impervious Surface Removed; or	0	5	0	
Living Shoreline proposed on unprotected lands; or	0	10	0	
Living Shoreline replaces failing stabilization practices; or	0	5	0	
Forested Riparian Buffer (minimum 35 feet wide); or	0	10	0	
Vegetated Filter Strip (minimum 35 feet wide)	0	5	0	
Proposed BMP provides Alternative Disconnection				
Selected BMP disconnects and disperses impervious runoff	1	10	10	
Treatment Area (Does Not apply to LS or CL unless configured as Filter Strip with 35 feet minimum length)				
Input Impervious Area Treated in square feet; and	1172	1.172	1.2	
Input Total Contributing Drainage Area in square feet	1230	19.1	19.1	
Installed Area - Select One (Does Not apply to ISR or GR)				
Input Surface Area of the Practice Installed; or	288	0.6	0.6	
Input Gallons Storage; or	0	0.0	0.0	
Input Linear Foot of Practice installed	0	0.0	0.0	
Application Strength				
Partnership				
Applicant is working with a partner agency or NonProfit	0	5	0	
Educational Value				
Practice is publicly accessible; or is part of an educational program	0	10	0	
Cost Effectiveness				
Cost per Impervious Area Treated (\$/SF), and	3.37	17.8	17.8	
Cost per Installed Area (\$/SF or \$/Gal or \$/LF)	13.72	1.6	1.6	
Pollutant Removal				
BMP Pollutant Removal Efficiency (EFF)	0.5			
Contributing Drainage Area Weighted Runoff Value (Rv)	0.91699187			
Pollutant Load (PL), Lbs Phosphorus per year	0.06	0.6	0.6	
			TOTAL RANKING POINTS	110.8

Rain Garden Sizing

Impervious:

$$(1,372 \text{ ft}^2) \times \frac{(0.95/12)}{0.5} = 217.24 \text{ ft}^2$$

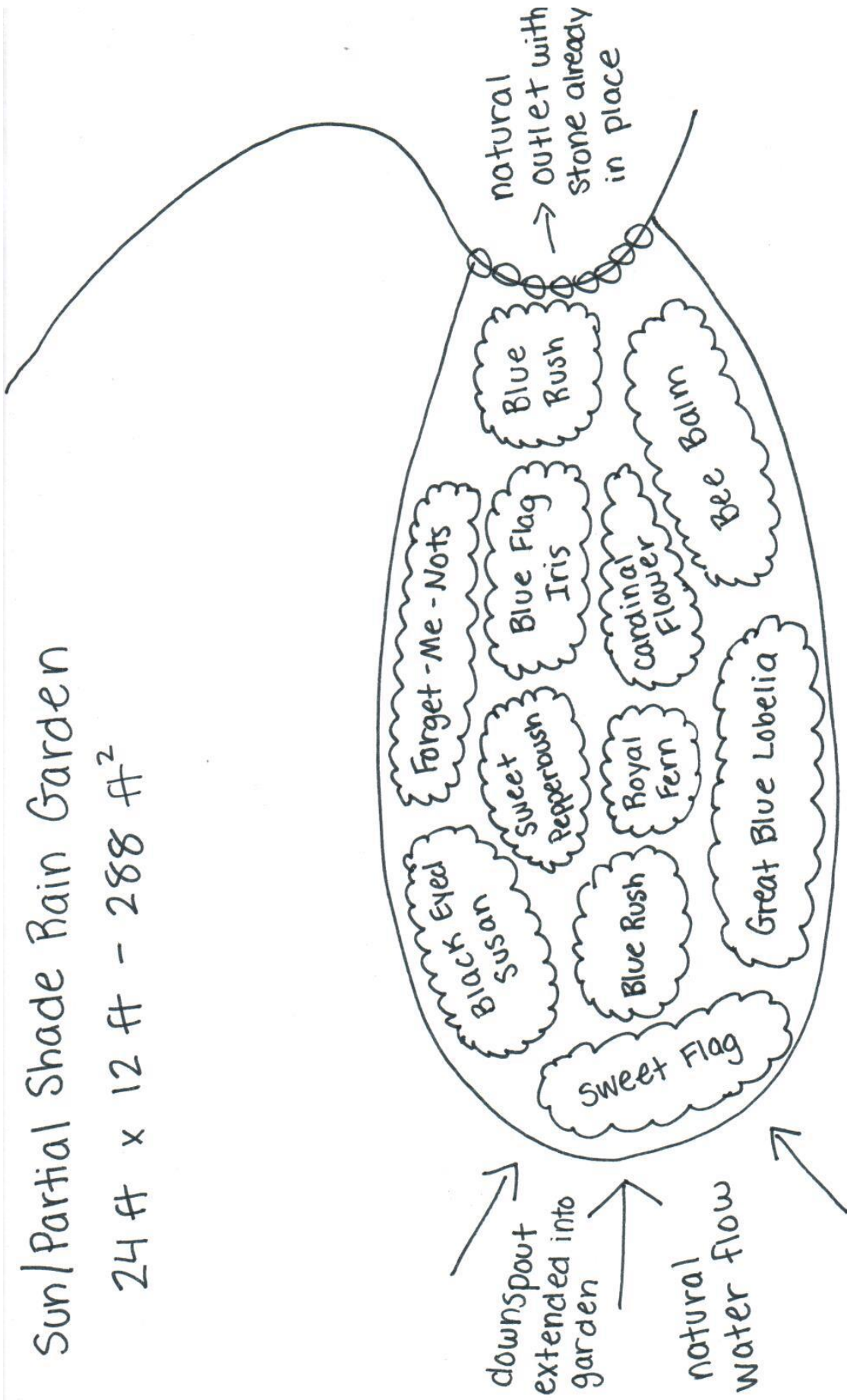
Pervious:

$$(1,516 \text{ ft}^2) \times \frac{(0.25/12)}{0.5} = 63.17 \text{ ft}^2$$

$$\begin{array}{r} \text{Total surface area} = 217.24 \text{ ft}^2 \\ + \quad 63.17 \text{ ft}^2 \\ \hline 280.41 \text{ ft}^2 \end{array}$$

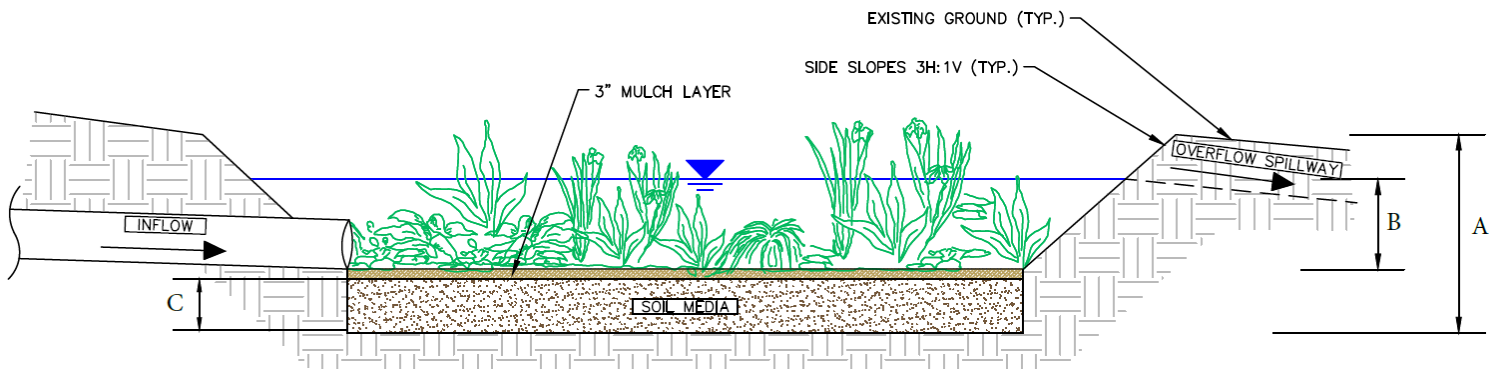
Sun/Partial Shade Rain Garden

24 ft x 12 ft - 288 ft²



*Not to scale - visual representation of planting plan

Proposed Rain Garden Cross Section



A: Depth of total excavation is 18 inches

B: Ponding depth is 6 inches

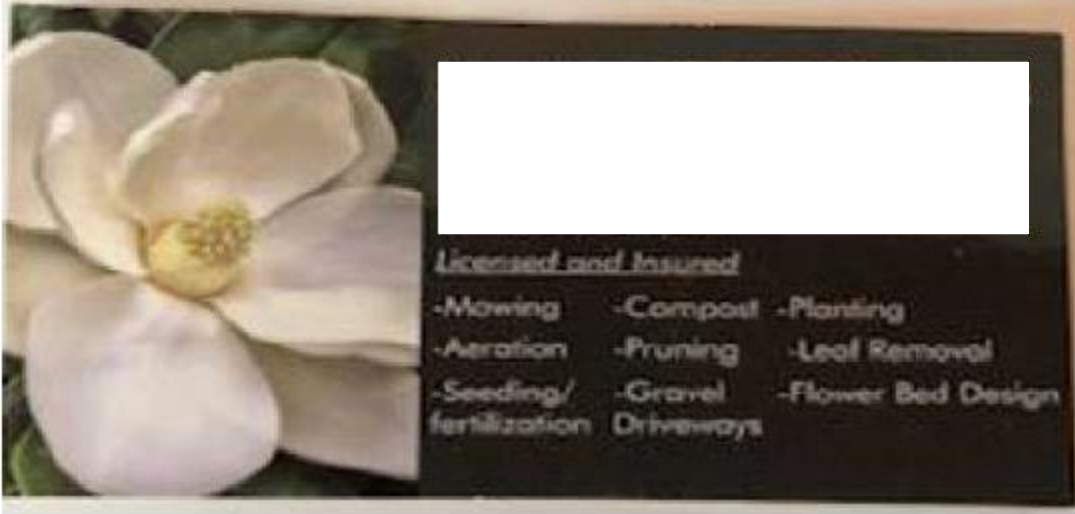
C: Depth of soil media/compost is 12 inches to allow for increased water storage capacity

Plant List for

1. *Acorus gramineus* (Sweet Flag) – 6 plants
2. *Juncus inflexus* (Blue Rush) – 4 plants
3. *Myosotis sylvatica* (Forget-Me-Not) – 8 plants
4. *Rudbeckia fulgida* (Black Eyed Susan) – 8 plants
5. *Lobelia siphilitica* (Great Blue Lobelia) – 6 plants
6. *Clethra alnifolia* (Sweet Pepperbush) – 1 plant
7. *Lobelia cardinalis* (Cardinal Flower) – 4 plants
8. *Iris versicolor* (Blue Flag Iris) – 4 plants
9. *Monarda didyma* (Bee Balm) – 5 plants
10. *Osmunda regalis* (Royal Fern) – 2 plants

Rain Garden Cost Estimate

Estimate provided by: _____ owner of _____ Gardens



Project: Rain Garden

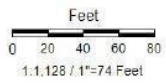
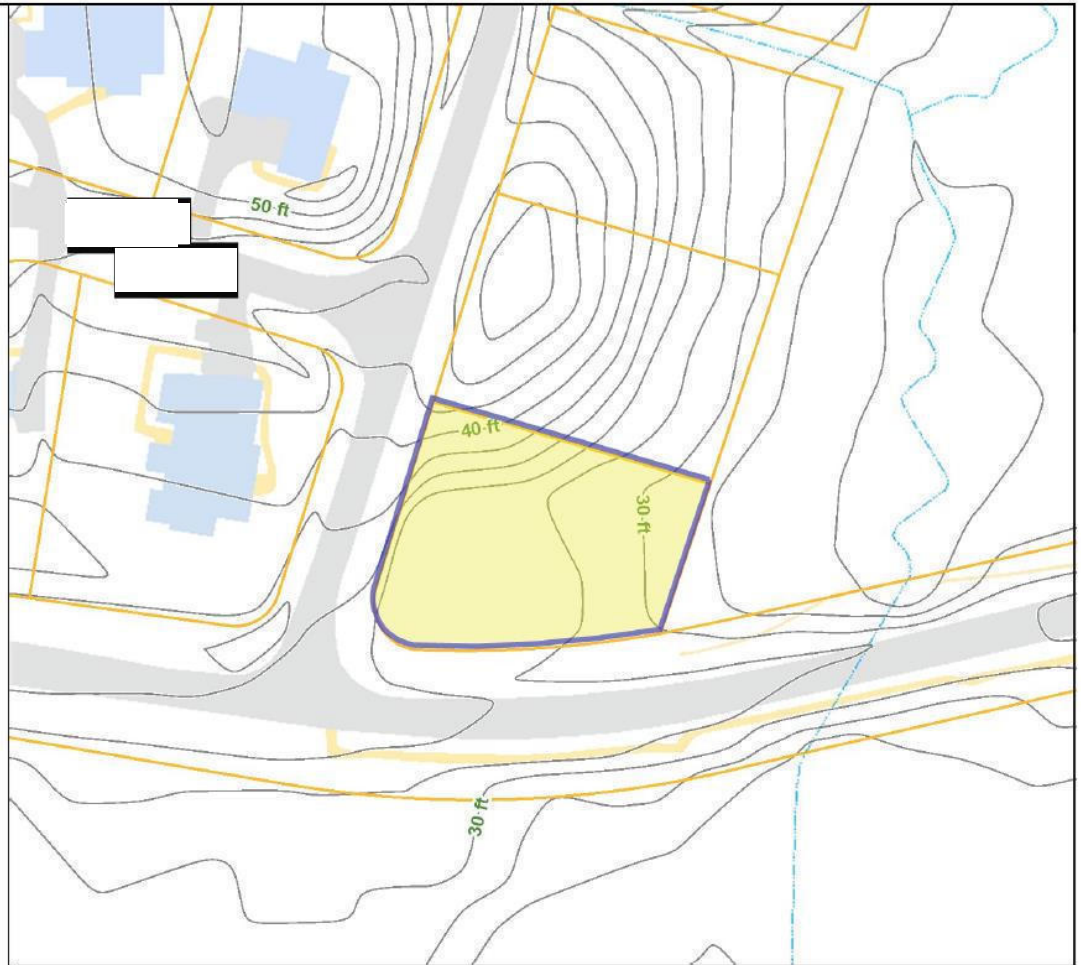
- Bury gutter downspout from back of house to rain garden bed - \$400
- Compost, topsoil, mulch, rock, etc. - \$1,400
- Plantings - \$1,000
- Fertilizer - \$150
- Labor - \$1,000

Total: \$3,950.00

County,
Virginia

Legend

- Parcels
- Contours



Title: Elevation

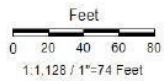
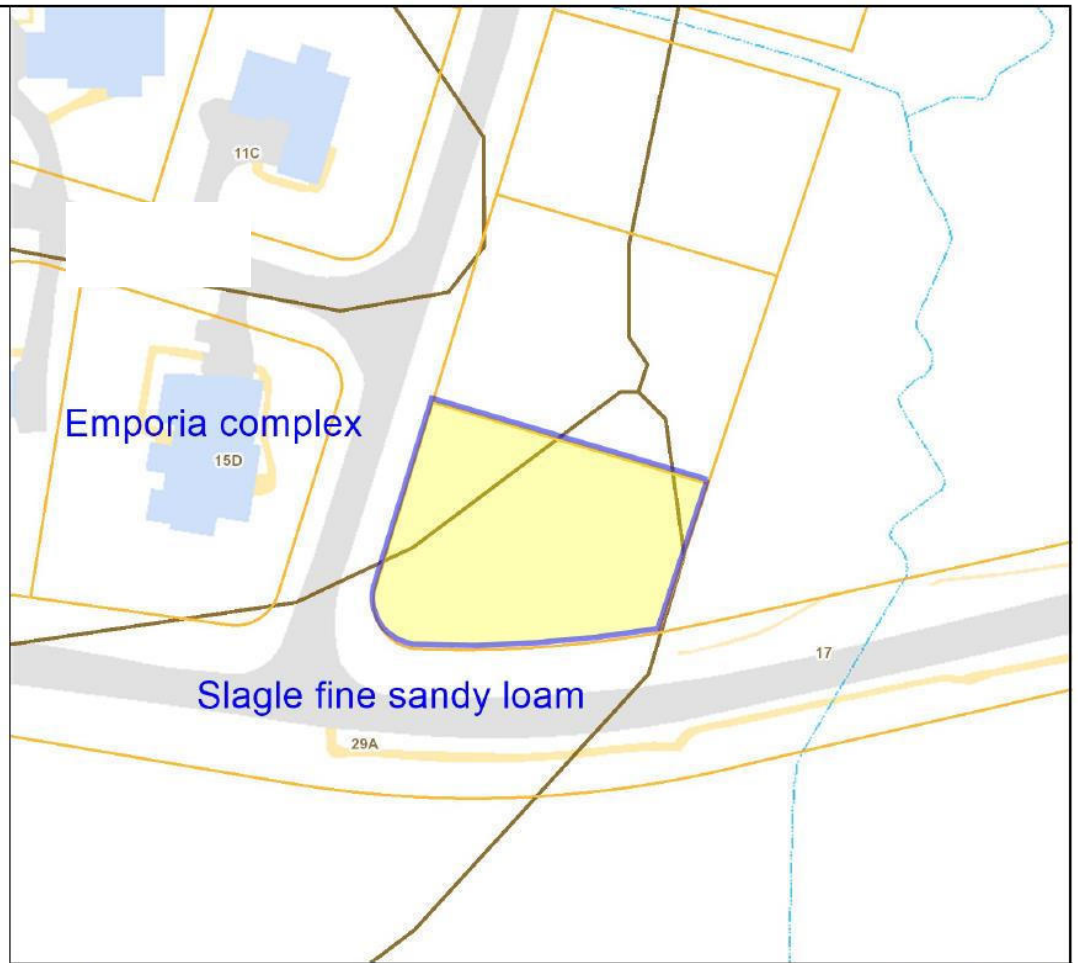
Date: 3/29/2019

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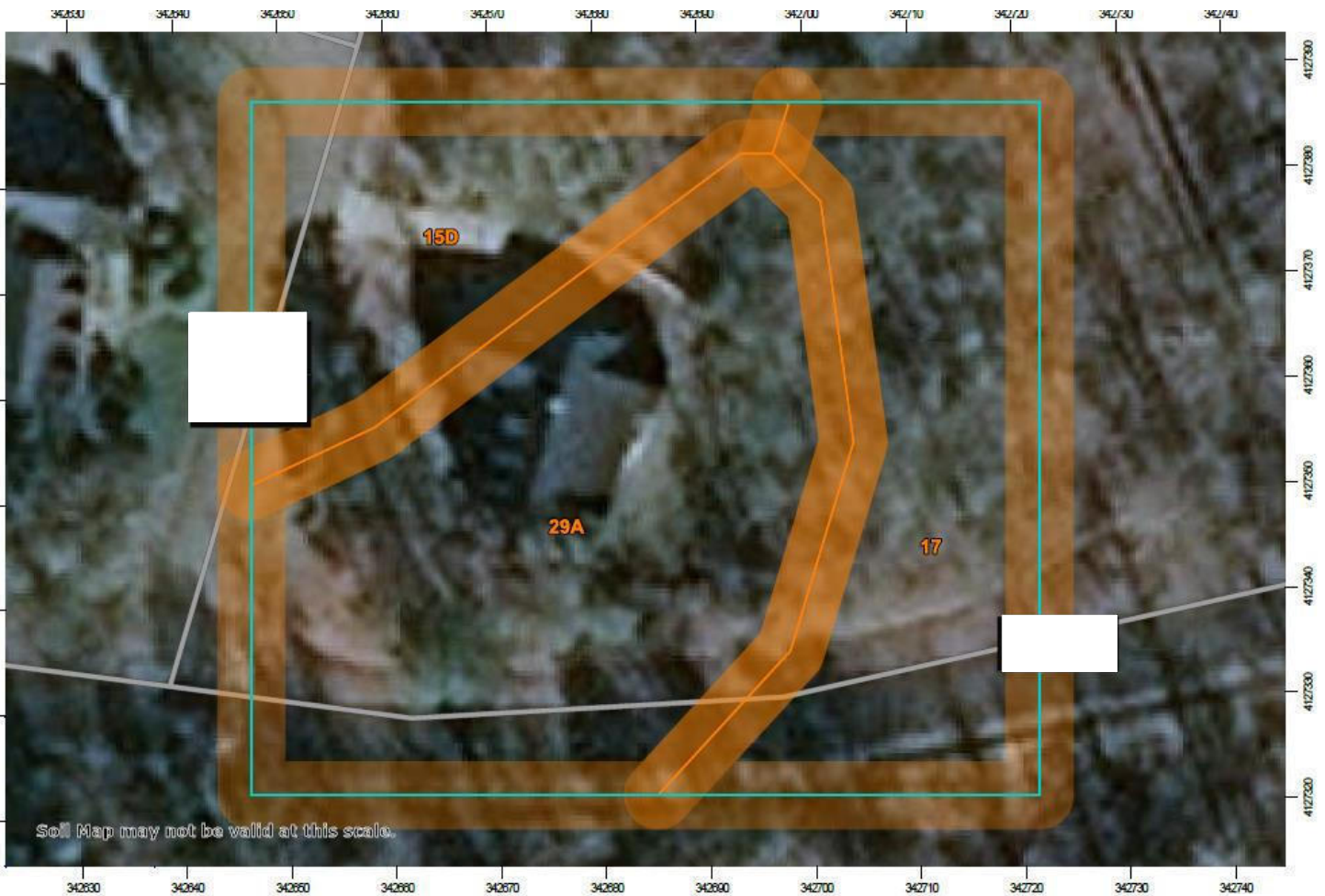
- Parcels
- USDA Soils



Title: Soils Map

Date: 3/29/2019

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Map Scale: 1:558 if printed on A landscape (11" x 8.5") sheet.
 0 5 10 20 30 Meters
 0 25 50 100 150 Feet
 Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
15D	Emporia complex, 10 to 15 percent slopes	0.3	21.0%
17	Johnston complex	0.4	30.1%
29A	Slagle fine sandy loam, 0 to 2 percent slopes	0.6	48.8%
Totals for Area of Interest		1.2	100.0%

29A—Slagle fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 41qf

Elevation: 30 to 350 feet

Mean annual precipitation: 40 to 55 inches

Mean annual air temperature: 57 to 61 degrees F

Frost-free period: 165 to 193 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Slagle and similar soils: 80 percent

Minor components: 3 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Slagle

Setting

Landform: Marine terraces

Landform position (three-dimensional): Tread

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Marine deposits

Typical profile

H1 - 0 to 9 inches: fine sandy loam

H2 - 9 to 25 inches: clay loam

H3 - 25 to 60 inches: clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Moderately well drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.57 in/hr)

Depth to water table: About 18 to 36 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: C

Hydric soil rating: No

Before: Back yard; orange outline is the proposed rain garden location (not to scale)



Before: Overflow location and flow Path (blue arrow)



Yellow outline: proposed boundary of rain garden (not to scale)



Water flow from side yard to be captured in the rain garden

Water flow from front yard



Soil Infiltration Test





Proposed rain garden location
(not to scale)