

William T. Hornaday Conservation Project Proposal

Area Description and Issues

Describe how the idea for this project came about.

I contacted Mr. Underwood with Roanoke City Parks and Recreation Department inquiring about an Eagle Scout Project that would also be conservation focused project. After speaking with him at a meeting I arranged he informed me of flooding and storm water damage to a garden next to the discovery center at Mill Mountain Park in Roanoke VA. They were interested in possibly rebuilding the garden but in a way in order to manage storm water, repair existing erosion to garden and butterfly garden next to it, and prevent additional erosion and flooding from occurring. I researched rain gardens (also known as a bioswale garden). I did research online and with an landscape architect and presented my ideas to Mr. Underwood.

Describe the area where you are going to do this project.

The rain garden will be located in Mill Mountain park next to the discovery center located inside the park. Mill Mountain Park is located off the Blue Ridge Parkway in Roanoke VA.

Describe the various issues with the area where you are going to do this project. (Be sure to include issues in addition to those that your project is designed to address.)

The garden was in need of a complete remodel. The soil was very hard, mostly clay and rock. This was causing erosion and improper drainage. Plants that were originally planted in garden when it was designed 9 years ago have died. There trash, and other debris in garden. Due to the improper drainage and storm water runoff erosion was occurring where the rain garden was to be built. Water run off was flooding across the walkway washing gravel other debris into the barriers around nearby butterfly garden causing additional erosion and damage to butterfly garden as well. Parts of the walkway were in disrepair hard to access garden for educational purposes and enjoyment by the community and also discovery center.

What is the conservation issue that this project is designed to address?

This project focuses on storm water management and erosion control. Designing and building the rain garden will be a soil and water conservation project.

What are the concerns for this area (based on information from the owners or managers of the area and from the groups that use the area)?

The flooding of storm water is currently destroying the garden and it cannot serve the purpose it was build for. The butterfly garden will also be completely destroyed over time if the storm water is not managed in a better way. They have wanted to be able to make changes to the garden in order to manage the water and soil erosion and have not have the resources to be able to see the changes happen.

List any opportunities for improving the use or function of the area beyond addressing the conservation issue listed above.

Included in my overall plan, I want to rebuild the existing walkway for better accessibility to the garden. I have also included a plan to restore and existing sign next to the flag pole that contains information pertaining to the dedication of the American Flag posted on the flagpole. The American Flag is in disrepair and in need of retirement so I have planned to replace it and see the existing American Flag is properly retired. I also will add an informational plaque to the rain garden upon completion to educate people about a rain garden and what a rain garden does and the benefits of a rain garden. I will also remove the existing fencing that is rotting and falling down and needed to be replaced. The fencing wooden fencing and the Roanoke City Parks and Recreation Department will replace with new wooden fencing after the rain garden is built. The walkway improvements will allow better accessibility for discovery center staff and patrons to the garden for education purposes in all seasons. The other improvements will improve the overall beauty of the outdoor space. My intention for the informational plaque will be to educate and encourage others to find areas in need of storm water management and erosion control that would be suitable for a rain garden to be build because the environmental benefits are extraordinary.

Current Condition or Situation

Describe the existing condition of the area.

The garden was in need of a complete remodel. The soil was very hard and mostly clay and rock. This was causing erosion and improper drainage. Many plants that were originally planted in garden when it was designed 9 years ago have since died, became overgrown and in need of maintenance. The fencing along walkway was in complete disrepair , the wood was rotting ; falling apart and also falling down along walkway. There was many leaves, trash, and other debris on ground and in garden that needed to be removed. The walkway needed rebuilding. Storm water runoff was causing erosion and flooding in garden the nearby butterfly garden.

Describe what you believe to be happening to the area. (How has the area changed over time and/or how is it expected to change if nothing is done?)

When it rains the water from the nearby hard surface (ie: parking area) runs off from the hard surface through the garden to go down the hill. This is the natural flow of the water, this is causing flooding through the area where the garden will be built into a rain garden. The water also will flood and erode the walkway and the butterfly garden on the other side of walkway. Debris and gravels wash into the butterfly garden. If it is heavy rain lots of water will wash through the entire garden including walkway and go down the bank on the other side. If nothing is done to manage the water,it will eventually destroy the entire garden and cause additional erosion and possibly even begin to create flooding as far as to a nearby roadway.

What inventories/surveys have been done for the area?

A list of the original plants planted in the garden was provided to me by the discovery center. A soil percolation test was done by me along with adult assistance to see how well the current soil drains. A survey for underground lines (electric,water,gas) was performed and marked prior to any digging.

When were these inventories/surveys done?

The plant list was from the original garden was from 2006 when garden was built. The survey of lines was done 6/2/2015, on 6/4/15 I went to garden and spray painted and flagged lines and took pictures to have additional documentation in case of rain or other damage to flags.

Do these inventories/surveys pertain to the conservation issue that you are trying to address in this area?

The plants do pertain and all plants currently planted in the garden are Virginia native species, the plants that are intended for a rain garden will also be only Virginia native species of plants,trees, or grasses. The survey of underground lines was needed in order to prevent any injury during the digging of the trench and installation of underground pipe.

Do these inventories/surveys show a trend over time in relationship to the conservation issue you are trying to address?

Unfortunately they do not, due to the plant list has not been kept up to date as to what plants have been removed and added.

Summarize information about this area and/or the conservation issue that you have found in existing literature or on the Internet.

What is a rain garden? A rain garden is a shallow depression that is planted with deep rooted native plants and grasses. A rain garden will receive water runoff from hard surfaces (such as parking lot) and slow down the rush of water from those hard surfaces. It will hold the water for a short period of time and allow it to naturally infiltrate into the ground. What are the benefits of a rain garden? The rain garden will filter runoff pollution and recharge local groundwater, while preventing erosion and flooding. The rain garden will also help to improve water quality and protect local rivers and streams, The rain garden will additionally serve as a habitat for birds and butterflies and make the landscaping more beautiful and conserve landscaping resources.

What information do you not have that you should learn before making changes to the environment?

I will need to do more research on how to locate the needed plants. I know what types of plants are suitable and have a list of what I would like to locate in the rain garden. I have been told that native species can be more difficult to locate.

How do you or the land manager plan to obtain the missing information? (If you do conduct an inventory as part of your project, be sure to conduct it to the correct scientific standards so others may use the information you collect in the future.)

I need to meet again with the landscape architect and do additional research online.

Project Alternatives

Make a list that briefly describes several alternative ways a project could be done to address the conservation issue. For each alternative, give a short list of pros and cons and an estimate of the resources it would take if you were to do it. Include on the list the practical obstacles to each alternative, such as resources needed, training, public opinions, and position of management. One of your alternatives can be to do nothing. (You should discuss this list of alternatives with the land manager and your advisors, and together, select one that will become your project.)

1. To do nothing

Pros: it would not cost any money

Cons: The garden will eventually be destroyed, no solution to erosion or storm water management

Resources needed: none

2. Single underground drain going down the hill under garden towards roadway.

Pros: would partially manage storm water

Cons: It would only partially manage storm water in the garden but while creating more of a risk of roadway flooding and not filtering the water to reduce pollution. Would require electrical lines to be moved by electric company. Would require a large portion in the center of the garden to be dug up and replanted and under construction for quite some time. Would still create significant risk of flooding and erosion in garden. Cost would be extremely hard to estimate and would take many resources and construction equipment.

Resources estimate: \$5000 or more

3. Build a rain garden - dig trench along parking area 63'3" and place underground pipe, layer with material, mulch replant garden with Virginia native species and do other necessary garden updates/repairs.

Pros: Very affordable

Limited cost to Roanoke City Parks & Recreation

Restore use and accessibility of garden for enjoyment and educational purposes

Storm water management and erosion control for long term results

restore and create habitat for butterflies and birds

prevent further damage to butterfly garden

provide youth a learning experience while doing conservation service project in the community

Cons: Will take extensive planning & preparation

Resources Estimate \$1000 total cost

Proposed Project Description and Benefits

Describe the selected project alternative and the benefits it is expected to generate.

Build a Rain Garden : The rain garden being built will eliminate flooding in the current garden. It will manage the storm water successfully while making the garden more accessible and a better habitat for birds and butterflies. It will educate people in the community about what a rain garden is and what the benefits of a rain garden are. the project will also provide needed restoration and repairs to fencing and existing butterfly garden.

Clearly define how this project relates to the larger landscape or environment. Be sure to include any relationship this project has to any other project that you or others have or will carry out.

The trench with underground pipe and layered materials placed in it, bio mix soils and mulch; along with Virginia native species plants and grasses will create and entire new garden in existing failing garden space. This will prevent flooding storm water to rush through garden, instead it will take this water and filter it reducing erosion in the garden while maintaining good healthy soil for deep rooted Virginia native species to live providing habitats for birds and butterflies. It will restore the garden to its fullest potential for wildlife and the environment for the community. It will also provide educational benefits of teaching about rain gardens, better access to an existing FBI Box and education about wildlife habitats and benefits of native plants.

Tell how your project will address the conservation issue identified above.

It will eliminate flooding and provide storm water management and soil conservation while preventing erosion in garden and nearby butterfly garden. Provide habitat for birds and butterflies. Reduce water pollution. Provide educational benefits about storm water management, rain gardens and wildlife habitats.

Attach sketches or “before” photographs if these will help others visualize the project.

When do you plan to begin your project?

The planning will begin Summer of 2015 and construction in early Fall 2015.

When do you think your project will be completed?

The project will be completed by 12/31/2015.

Providing Leadership

What will your role be, and how will you provide leadership?

I will be participating in every step of the project, some steps I will be serving as supervisor only and others I will be supervising and working along side my volunteers. I believe as a leader it is important to never ask someone to do something your not willing to do. I will provide my detailed plan of the project to all volunteers so that any questions they may have will be answered and make sure to take a lot of time in preparation to ensure all materials and supplies will be available when needed to manage time more wisely. I will encourage Scouts in my Troop to participate.

How do you plan to reach out to the community and groups outside Scouting?

I will be coordinating with the Discovery Center during different stages of the Rain Garden for information and questions as needed. I will be speaking to Salem Rotary Club regarding my project benefits and fundraising efforts.

People

Approximately how many people will be needed to help on your project? ¹⁶

Where will you recruit them (unit members, friends, neighbors, family, outside groups, community members, others)? Explain.

I will ask all Scouts and other Adult Leaders in my Troop to participate. I will ask both my parents, and both my grandparents to participate. I will also ask other Scouters who I know in my community to help.

Materials

(Materials are things that become part of the finished project, such as lumber, nails, and paint.)

What types of materials, if any, will you need? You do not yet need a detailed list of exact quantities, but you must show you have a reasonable idea of what is required. For example, for lumber, include basic dimensions such as 2" x 4" or 4" x 4".

6"size of 63'3" Length perforated pipe & drain sleeve filter to wrap pipe in
3 1/2 - ton NO. 57-1" gravel
60 - Bearded Foxglove Plants
3 - Cardinal Flower Plants
2 - Winterberry Holly trees
1- Northwinds Switchgrass
1 - Ruby Ribbons Switchgrass
10 - Great Blue Lobelia
8 - Path Rush
1 -10pk 6' Lattice Boards
5 yards house mix mulch
1 ton erosion control stone
46 - 1 1/2" wire nails
23 - 1"X2"X12" Grade Stake
1 - 6' 4"X4" Wooden Post
1 - 10X3" stainless steel wood screw
1 - quart gray latex paint
1 - ton bio mix soil
1 - 8X3" stainless steel wood screw
2- 1/4" stainless steel washer
1 can rustoleum spray paint clear coat

Supplies

Supplies are things you use up, such as food and refreshments, gasoline, masking tape, tarps, safety supplies, and garbage bags. What kinds of supplies, if any, will you need? You do not yet need a detailed list or exact quantities, but you must show you have a reasonable idea of what is required.

10 garbage bags
5 gallons or less of gasoline mix for tiller equipment
gasoline for pickup trucks for hauling supplies, materials, me to project
diesel fuel for dump truck to haul gravel, stones, other supplies, tools
food and drinks for volunteers

Tools

What tools or equipment, if any, will you need? Include tools, and also equipment, that will be borrowed, rented, or purchased. You do not need a detailed list yet, but you must show you have a reasonable idea of what is required.

6 - shovels
1 - roto tiller equipment
2 - spade shovels
3 - gravel rakes
3 - leaf rakes
2 - pick ax
1 - dump truck
2 - pickup trucks
1 - wheel barrow
2 - tampering bars
1 - post hole digger
1 - power drill
1 - circular saw
1 - chainsaw
1 - pocket knife
1 - hammer
1 - circular saw
1 - paint brush
1 - wood burning tool
4 - safety cones
12 - work gloves
1 - eye protection

Other Needs

What other kinds of expenses do you think you might incur? Include items that don't fit the above categories, for example, parking, postage, or services, such as printing or pouring concrete.

- 1 - informational plaque - to be paid for by Roanoke City Parks and Recreation projected cost \$84.62
- 1 - American Flag \$32.00
- 1 - Flag Pole Sign restoration cost \$200.00

Permits and Permissions

Will permissions or permits (such as individual or group volunteer agreements, building or electrical permits, dig permits, event permits, permission to access or cross property, permission to use equipment, wilderness or backcountry permits, etc.) be required for your project? And if so, who will obtain them? How long will it take to obtain them? Note that the benefiting organization should obtain and pay for permits if there is an associated fee.

The only permission I need is from Roanoke City Parks & Recreation department since it is a private city owned park and I have the approval in order to move forward with the project.

Preliminary Cost Estimate

You do not need exact costs yet. Reviewers will just want to see if you can reasonably expect to raise enough money to cover an initial estimate of expenses. Include the value of donated material, supplies, tools, and other items. It is not necessary to include the value of tools or other items that will be loaned at no cost.

Enter estimated expenses below. (Include sales tax if applicable.)

Estimated costs are \$1000

Fundraising

Explain how you will raise the money to pay for the total costs. If you intend to seek donations of actual materials, supplies, etc., then explain how you plan to do that, too.

Materials:

I will contact the Salem Rotary Club to request donations in order to buy materials. I will request donations from Rocky Dale Quarries of materials for rain garden by meeting with manager in person. I will make requests of donations from outback mulch for mulch. I will ask friends to make donations for other materials expenses.

Supplies:

I will contact the Salem Rotary Club to request donations in order to buy materials.

Tools:

I will contact the Salem Rotary Club to request donations in order to buy materials.

Other:

Roanoke City Parks & Recreation Department has agreed to pay for the cost of the informational plaque. The cost of the refurbished sign at Flag pole and American Flag will be requested by donation from Salem Rotary Club.

Total costs:

\$1000.00

Project Phases

Think of your project in terms of phases, and list what they might be. The first may be to complete your final plan. Other phases might include fundraising, preparation, execution, and reporting. You may have as many phases as you want, but it is not necessary to become overly complicated; brief, one-line descriptions are sufficient.

1. Project Agreement with Roanoke City
2. Planning & Research
3. Fundraising
4. Preparation for Garden Construction & Restorations
5. Garden Construction
6. Preparation for Plants
7. Planting of Plants
8. Completion , Final Approval, Submit Reports, Thank Donors & Volunteers

Logistics

How will you handle transportation of materials, supplies, tools, and helpers? Will you need a Tour and Activity Plan? (Check with your council service center to determine if a Tour and Activity Plan is required.)

My Family will provide transportation support of me to site, and all other materials, supplies, tools. Volunteers will provide their own transportation and bring supplies (work clothes/work gloves) with them as needed. Tour permit will not be required if it is in my own council area and car pooling will not be taking place.

Safety Issues

A much more in-depth safety planning process is included in the Project Safety Planning section in this workbook. That section can be completed for this preliminary planning section and may be requested by the Council Conservation Committee before they complete their review of your project.

The *Guide to Safe Scouting* is an important resource in considering safety issues. Describe the hazards and safety concerns you and your helpers should be aware of.

Underground lines are marked and must be avoided while digging any part of trench, or placement for informational plaque. Safety cones placed to prevent traffic parking too closely to project site. Hand and eye protection must be worn when needed. Power tools (ie: roto tiller equipment, power drill, chain saw) can only be operated by a skilled adult and never youth. Eye protection must also be worn by adult when using chain saw.

Note: William T. Hornaday projects are not preapproved. An exception to this is that you must obtain permission and all required approvals from the organization managing the land before you do any activity on their property. The following section only shows that the project has been discussed with the people identified and that all agree to support you as you move forward. Guidance and counsel from these experienced people can go a long way toward making your effort for a William T. Hornaday award successful, but their approvals here do not indicate that this project will be considered a worthy project by the national committee, nor are they required.

Project Conservation Advisor's Review

I have reviewed this proposal and discussed it with the applicant. I believe it provides impact worthy of a William T. Hornaday conservation project, and it will involve planning, development, and leadership. I am comfortable the applicant understands what to do and how to lead the effort. I will see that the project is monitored and that adults or others present will not overshadow the applicant.

Signed: _____
Date: _____
Name (printed): _____

Benefiting Organization's Review

This service project will provide significant benefit, and we will do all we can to see it through. We have informed the applicant of the financial and other support (if any) that we have agreed to provide. We grant permission and approval to the applicant to conduct the project as described, including any conditions or restrictions as noted on our included comments.

Signed: _____
Date: _____
Name (printed): _____

William T. Hornaday Advisor's Review

I have worked closely with the applicant as he/she continues to work toward a William T. Hornaday Award. This conservation project should produce a significant impact on the environment in a conservation category different from the applicant's other projects.

Signed: _____
Date: _____
Name (printed): _____

Council Conservation Committee's Review

We have reviewed this project, spoken with the applicant, and have determined that it meets the rigorous standards required of a William T. Hornaday conservation project. The applicant has been informed of other forms, applications, or permits that must be completed prior to the start of the project as required by BSA policies.

Signed: _____
Date: _____
Name (printed): _____

William T. Hornaday Conservation Project Final Plan

Comments From the Review of Your Proposed Project

What suggestions were offered by any of the reviewers of your proposed project?

To document explanations from experts provided to me as to why the Rain Garden being built will be the best solution to address the soil and water conservation issue that is occurring. An informational brochure should be designed and provided to the Discovery Center for as an additional educational resource to provide the community more information about benefits and a need for Rain Gardens to be built in the community to address soil and water conservation issues.

Project Description and Benefit—Changes From the Proposal

As projects are planned, changes are usually necessary. If they are major, it is important to confirm they are acceptable to the benefiting organization. You should also discuss these changes or refinements with your conservation advisors.

How will your project be different from the proposed project?

The overall project cost will be more than the proposed cost.

I have designed an educational brochure and provided to the Discovery Center, that can be distributed to the community in order to educate people in the benefits and needs of rain gardens in their own communities.

I had added in supplies/materials the items needed to add plant id signs in the garden and did not add it to the project information section. I am placing 23 wooden plant id signs in the garden to provide additional educational benefits of a plant id of Virginia native plants.

I have also determined a greater need based on information provided to me by experts for the rain garden to be built to address the issue of soil and water conservation in the existing garden.

Will the changes make the project more or less helpful to the benefiting organization?

The overall cost of the project will not have any effect on the benefiting organization as the cost to them will not increase in order to complete the project. The plant id signs were highly regarded by the staff at the Discovery Center as this is something they wanted in the garden for some time in order to help them identify plants during educational programs that are taught at Discovery Center. The educational brochure will be a benefit to the Discovery Center to further educate the community about the benefits and need for rain gardens in communities.

Will the changes be more or less effective in addressing the identified conservation issue?

The educational brochure will provide continued educational benefits to the community through the resource of the Discovery Center and will be more effective in addressing soil erosion and storm water management.

Project Phases

You may have more than eight phases, or fewer, as needed; if more, you may add them below, or place in an attachment.

Look at the phases from your proposal. Make any changes, then provide a little more detail, including approximate starting and ending dates for each phase.

1. Project Agreement with Roanoke City 12/22/2014
2. Project Planning & Research 05/22/2015-11/13/15
3. Fundraising - Meetings & Contact with Donors and Salem Rotary Club 10/7/2015-11/25/15
4. Preparation for Garden Construction & Restorations 10/7/15 -11/25/15 obtain supplies,materials - contact volunteers
5. Garden Construction & restoration - two workdays 11/14/2015-11/29/15
6. Planning,Research,Prep for Planting/Completion 11/23/15-12/5/15 Plant research & ordering,plaque,sign,flag finalized
7. Complete Construction 12/6/15-12/13/15 Planting/Mulching/Restorations complete/plaque/sign/flag
8. Reports complete,Brochure Design,Final Approval Roanoke City,12/13/15-1/5/16

Work Processes

Prepare a step-by-step list of what must be done and how everything comes together: for example, site preparation, sizing, assembly, fastening of materials, finishes to be used (paint, varnish, etc.), uses of supplies and tools. Your conservation advisors may be able to assist.

Project obtained and approved by Roanoke City Parks & Recreation. Meetings with Roanoke City Parks & Recreation, Landscape Architect to design Rain Garden. Underground lines marked by contractor. I repainted lines, flagged lines, and document with pictures for project record. Soil percolation test performed. Fundraising efforts begin, meet with donors, Rockydale Quarries, Outback Mulch. Contacted family and friends for requests of donations and requests to borrow tools. Coordinate and plan workdays and communicate with Volunteers what jobs are needed and who is needed.

Raked and bagged leaves out of gardens. Safety and informational briefing before workday begins. First workday tilled and dug out dirt to create a 63'3" L X 14 W" trench used tiller and shovels to remove dirt.

Measured and Cut perforated pipe with pocket knife to length of trench (63"3" L X 14 W") measured and cut, the filter sleeve for length of pipe and then put on the pipe.

1" layer of gravel put on the bottom of the trench and raked out using gravel rakes. Laid the pipe on top of the gravel in the trench the entire length (63'3") of trench. Put erosion control stone around the pipe and gravel on top of pipe to cover it completely to the parking area, raked the gravel to fill and cover the entire pipe and trench length/width (63"3" L X 14 W"). Gravel meets parking area on one side and to the other side of trench on garden side. Mulch is placed where gravel ends through entire garden ending at the garden walkway between rain garden and butterfly garden, (mulch used 4 yards at this point & 2 tons of #57-1"gravel).Dig downspout and put more erosion control stones at downspout.

Added 1 ½ ton #57 – 1" walkways gravel and raked out over existing walkway in garden that needed restoration.

Submit information to Roanoke City Parks & Rec. for informational plaque to be approved and template created, then submit to Blue Ridge Sign & Stamp for fabrication and pick up sign from them when completed. (Picked up 12/5/2015)

Met with landscape architect to get additional information and suggestions on plants and

plant order and also arrange for garden sketch to be drawn. After this meeting I coordinated with

adult volunteer to order plants online from 2 nurseries. (83 plants & 2 trees ordered- All Virginia native species)

Purchase materials and get volunteers to assist in making plant id signs, sign lettering put on wood lattice with wood burning tool then clear coat paint overtop, then wood lattice cut with circular saw by adult volunteer and nailed to stake (2 nails per sign) I placed 23 signs in garden to help id plants.

(materials used : wood burning tool, rustoleum clear coat spray paint , wire nails)

Dug holes for the plants & trees then lined the holes with the bio-mix then put the plants in the holes cover with soil and mulch and water them. Additional bio mix soil put in butterfly garden and covered with mulch.

Additional 1 yard mulch added to rain garden and butterfly garden after all plants & trees are planted.

Paint 4x4 6' Post with paint and let dry , adult used chainsaw to saw of top at angle.

(this post used for informational plaque. Removed and refurbished flag pole sign and put back in place.

Removed American Flag and presented discovery center with new flag to hang over garden.

Brochure designed provided to Discovery Center for future educational purpose.

Final research,reports,approval from Roanoke City Parks & Recreation completed

Attachments

Attach such things as additional plans, drawings, diagrams, maps, and pictures that will help you carry out your project. This documentation may also be helpful to your workers, your advisors, the benefiting organization, and to the national committee that will review your entire application package. Drawings, if needed, should be to scale. If you are planning an event or activity, something like a program outline or a script would be appropriate to include.

Permits and Permissions

Will a Tour and Activity Plan be needed to comply with local council policies? NO

If you will need permissions or permits,* what is being done to obtain them, and when will they be issued?

**Could include individual or group volunteer agreements, building or electrical permits, dig permits, event permits, permission to access property, wilderness or backcountry permits, etc.*

Materials

List each item, its description, the quantity, unit cost, total cost, and source. For donated items, show value in cost columns. See example.

Plywood	¾", 4' x 8', B-C interior grade	3	20.00	60.00	ABC Hardware donation**
Item	Description	Quantity	Unit Cost	Total Cost	Source
pipe	6"x100". perforated pipe	1	107.99	107.99	D*:Funds:Rotary
filter	6'x100" drain sleeve filter	1	26.98	26.98	D*:Funds:Rotary
gravel	ton NO. 57-1"	2	25.00	50	D*:RockyDale
plants	plant order:plant delights *see list	1	103.25	103.25	D*:Mr.Cohen
plants	plant order:izel plants *see list	1	165.40	165.4	D*:Mr.Cohen
gravel	1.5 ton:NO.57-1"walkway gravel	1	35.80	35.8	D*:Funds:Rotary
mulch	yard house mulch	4	10.68	42.72	D*:Outback Mulch
stone	ton erosion control stone	1	25.00	25	D*:Rocky Dale
nails	1.5" wire nails	46	0.02	0.92	D*:R Bramlet
wood stakes	1"X2"X12" Grade Stake	23	\$0.26	\$5.98	D* Funds Rotary
Wood	6' 4"X4" Wooden Post	1	\$6.00	\$6.00	D* R. Bramlet
screw	10X3" stainless steel wood screw	1	\$1.37	\$1.37	D* Funds: Rotary
paint	quart gray latex paint	1	\$0.00	\$0.00	my house **
mulch	yard house mulch	1	\$10.53	\$10.53	D* funds: Rotary
wood lattice	10 pk - 6' wood lattice board	1	\$8.98	\$8.98	D* Funds Rotary
bio mix	ton bio mix soil	1	\$40.00	\$40.00	D* Rocky Dale
screw	8X3" stainless steel wood screw	1	\$0.97	\$0.97	D* funds Rotary
washer	1/4" stainless steel washer	2	\$0.59	\$1.18	D* Funds Rotary
paint	rustoleum spray paint	1	\$3.12	\$3.12	D* Funds Rotary
Total cost of materials					\$636.19

Supplies

List each item, its description, the quantity, unit cost, total cost, and source. For donated items, show value in cost columns. See example.

Plastic tarp	9' x 12', 2ml thick	2	4.00	8.00	ABC Hardware purchase
Item	Description	Quantity	Unit Cost	Total Cost	Source
Leaf bags	Leaf removal plastic bags	9	0.00	0	D*:Mr.Hartstook
food	Breakfast for volunteers 11/14/15	2	3.99	7.98	D*Funds:Rotary
food	pizza lunch:volunteers 11/14/15	5	8.99	44.95	D*Funds:Rotary
drinks	bottled water for all work days	2	3.98	7.96	D*Funds:Rotary
gasoline mix	used in tiller	2	\$3.36	\$6.72	
diesel Fuel	used in Dump Truck for hauling gravel, mulch, erosion control stone, bio mix	22	\$2.32	\$51.04	Gas Station donated funds Gas Station
gasoline	used in Pickup Trucks for Hauling Tools, Materials and Supplies	24	\$1.76	\$42.24	Purchased with donated funds: Gas Station
food/drinks	breakfast & coffee for volunteers 12/6/15 Phase 3 Workday	1	\$38.51	\$38.51	Purchased with Donated Funds
drinks	drinks for volunteers 12/6/15 Phase 3 Workday	1	\$5.37	\$5.37	Purchased with Donated Funds
food/drinks	meal and drinks for volunteers workday 12/13/15	1	\$37.73	\$37.73	Purchased with Donated Funds
Total cost of supplies					\$242.50

Tools

List tools and equipment that must be purchased or rented; include quantity, unit cost, total cost, source, and who will operate or use it.

See example.

Circular power saw***	1	\$0	\$0	Mr. Smith	Mr. Smith
Tool	Quantity	Unit Cost	Total Cost	Source	Who will operate/use?
shovels	6	\$0.00	\$0.00	My home & friends	Youth & Adults
tiller	1	\$0.00	\$0.00	borrowed from R. Bramlet	Adult : R. Bramlet
spade shovels	2	\$3.98	\$7.96	Purchased Lowes D*Funds	youth & adults
gravel rake	3	\$0.00	\$0.00	My home & friends	youth & adults
leaf rake	3	\$0.00	\$0.00	My home	youth & adults
pic ax	2	\$0.00	\$0.00	friends	youth & adults
dump bed truck	1	\$0.00	\$0.00	Borrowed Mr. Hartman	Adult: R. Bramlet
pickup	2	\$0.00	\$0.00	Borrowed Mr. W Sadler	Adult: W. Sadler/R.Bramlet
wheel barrow	1	\$0.00	\$0.00	My home	youth & adults
tamper bar	2	\$0.00	\$0.00	Mr. Hartsook	youth & adults
post hole digger	1	\$0.00	\$0.00	Borrowed R. Bramlet	youth & adults
power drill	1	\$0.00	\$0.00	Borrowed R. Bramlet	Adult: R. Bramlet
chain saw	1	\$0.00	\$0.00	Borrowed R. Bramlet	Adult: R Bramlet
pocket knife	1	\$0.00	\$0.00	R Bramlet	adult : R Bramlet
hammer	1	\$0.00	\$0.00	My home	Adult/ Youth
paint brush	1	\$0.00	\$0.00	My home	youth /adult
wood burning tool	1	\$7.72	\$7.72	purchased D* Funds ac moore	adult
safety cones	4	\$0.00	\$0.00	Roanoke City	youth
safety goggles	1	\$0.00	\$0.00	my home	youth/adult
work gloves	12	\$0.00	\$0.00	volunteers	youth/adults
Total cost of tools		\$15.68			

***Power tools considered hazardous, such as circular saws, power augers, chain saws, and wood chippers, must be operated by adults who are experienced in their use, and in some cases, they must hold a current certification to operate the tool. See the current BSA guidelines, policies, and model plans, including the Guide to Safe Scouting and age-appropriate guidelines located at http://www.scouting.org/HealthandSafety/Guidelines_Policies.aspx.

Other Needs

List each item, its description, the quantity, unit cost, total cost, and source. For donated items, show value in cost columns. See example.

Printing	Marketing brochure	2000	.01	20.00	Copy Services, Inc.
Item	Description	Quantity	Unit Cost	Total Cost	Source
Brochure	Educational RainGarden Brochure	1	0.00	0	Designed by me
Survey Paint	canned spray survey paint	1	0.00	0	Roanoke City Parks/Rec
Survey Flags	orange survey flags	10	0.00	0	Roanoke City Parks/Rec
Plaque	informational plaque	1	84.62	84.62	Roanoke City Parks/Rec
Flag	American Flag 3X5'	1	32.00	32	Purchased with Donations
Sign	Sign at Flag Pole	1	200.00	200	Paid with Donations
				0	
				0	
				0	
Total Cost of Other Needs				316.62	

Expenses		Revenue	
Item	Projected Cost	Total to be raised: \$	1210.99
		Contribution from beneficiary: \$	84.62
Total materials (from above)	636.19		
Total supplies (from above)	242.5		
Total tools (from above)	15.68		
Total other (from above)	316.62		
Total cost	1210.99		

Describe how you will get the money for your project. Include what any helpers will do to assist with the effort and also any requests you will make for donations of supplies, materials, etc.

I will contact the Salem Rotary Club to ask for Donations to purchase supplies & materials. I will speak to friends and family to make Donations to purchase supplies & materials . I have requested help from all Scouts and Adults from my troop for workdays.

My family will help me in order to provide transportation for me and also, materials and supplies to get them to project site.

Providing Leadership

Complete the chart below, telling about specific jobs that need to be done, the skills needed to accomplish them, whether they must be done by adults or may be done by youth, how many helpers are needed, and how many you have so far (if any). For example:

Job to Be Done	Skills Needed (if any)	Adult or Youth	Helpers Needed	Helpers So Far
Build birdhouse	Knowledge of plans and woodworking	Adult power tools/supervise, youth to assemble	2 adults/10 youth	1 adult/5 youth
leaf removal	ability to rake & bag leaves	Adult	3 A	3 A
use tiller to loosen soil	operate tiller machinery	Adult	1 A	1 A
digging trench	ability to use shovel to dig	Youth & Adults	5 Y & 5 A	3 Y & 5 A
wrap Pipe in drain sleeve filter	n/a	Youth	2 Y	2 Y
place Pipe in trench	n/a	Adult & Youth	5 A & 3 Y	5 A & 3 Y
fill trench with gravel	use shovel & wheelbarrow	Youth & Adult	5Y & 5 A	3Y & 5 A
fill spillway with erosion control stone	carry large heavy stones	Youth & adult	5Y&5A	3 Y & 5 A
mulch in gardens (rain&butterfly)	use wheelbarrow & rake	Youth & Adult	5Y & 5 A	3Y & 5 A
clean up sidewalk next to garden	sweeping & raking	Youth	3 Y	3 Y
hauling tools & materials to site	driving Truck	Adult	2 A	2A
deliver meals to site	driving	Adult	1A	1A
hauling stone,gravel,mulch	driving	Adult	1A	1A
ordering plants & ordering flag	use of internet	Adult	1A	1A
planting plants & adding bio mix	ability to use shovel to dig	Adults & Youth	4 Y & 4 A	4 Y & 4 A
pickup informational plaque	driving	Adult	1A	1A
wood Burning for plant id signs	use woodburner tool	Adult	1 A	1 A
painting wood for plant id signs	paint skills	Youth & Adult	1 A	1 A
stapling wood for plant id signs	n/a	youth	1Y	1Y
mounting information plaque to post	use of power drill	Adult	1A	1A
cutting post for plaque	use of chainsaw	Adult	1a	a1
painting post for plaque	painting skills	youth & adult	1Y 1A	1Y & 1 A
Cutting perforated pipe	use of pocket knife	youth or adult	1 A	1 A

What are your plans for briefing helpers or making sure they know how to do what you want them to do and do it safely?

Will have a meeting to set up times to meet and discuss what to bring and how to prepare. Will have safety and instruction briefing meeting when volunteers arrive for work days.

What is your plan for communicating with your workers the directions to the site, where to park, and the importance of being on time and bringing with them what they need?

Will discuss by phone,email and in person with all volunteers to make sure everyone has all information for phase 1,2,3,4 work days.

Logistics

How will the workers get to and from the place where the work will be done?

All work where volunteers will be needed will be at Mill Mountain Park, all volunteers will provide their own transportation.

How will you transport materials, supplies, and tools to and from the site?

Family members will haul tools & other equipment, they will also be hauling all mulch,gravel,erosion control stone, pipe, pipe filter, plants, and bio mix. My family members are also providing transportation for food to provide meals to volunteers on work days.

How will you assure the tools used are in good condition, that clearance and barriers needed between users are considered, and that the tools are properly used and stored?

I will inspect all tools I am borrowing and tools from my home to make sure they are safe to use and not damaged. If any are not safe to use I will not use them or provide to volunteers. I will also discuss safety in my briefing meetings on workdays

How long will your helpers be working each day? (Recommended: no more than eight hours per day)

Workday #1 : 5-6 hours

Workday#2: 3 hours

Workday#3: 3 Hours

Workday#4: 4 hours

How will the workers be fed?

I am providing breakfast items on first workday and also pizza lunch the same day for all volunteers. Third work day breakfast will be served to all volunteers. Fourth workday a dinner meal will be provided.

Will drinking water be available?

Yes I have purchased water bottles and also there is potable water available to fill water bottles on site in the Discovery Center.

Where will restrooms be located?

Restrooms are located in Discovery Center next to garden and also throughout the Mill Mountain Park.

Safety

No part of the planning process for a conservation service project is more important than planning for safety. Safety is your number one concern as you plan to conduct your project. No job or accomplishment should ever come before your safety and the safety of everyone who volunteers to help you. It is also important to note that if the national William T. Hornaday committee judges any project to be unsafe or not in complete compliance with the policies of the BSA, the entire project will be rejected and not considered as part of your application for an award. For further information, refer to BSA's Scouting Safety information at www.scouting.org/HealthandSafety.aspx.

Project Safety Planning

Refer to the BSA's Service Project Guidelines, No. 680-027, and other publications by the BSA National Health and Safety Committee found at www.scouting.org/HealthandSafety/Guidelines_Policies.aspx for guidance in completing the following sections.

Will a first-aid kit be needed for this project? If so, where will it be kept? Will someone be designated as primarily responsible for administering first aid?

I have a first aid kit on site it is located on all workday on the tailgate of pickup truck parked next to project (Rain Garden) site, the first aid officer's I have designated are [REDACTED]

What is the best way to get to your project site? Where is the parking area? How can emergency vehicles access the site?

Access the road leading up to the park via the Blue Ridge Parkway, the parking area is located on the left side of this road next to the Discovery Center. Emergency vehicles have full access the same access as any vehicle traveling to the area.

How can you contact local emergency agencies for help from your project site? Is there a phone list of hospitals, fire, and other emergency numbers available?

Several adults and myself have phone access and a land line phone is available in Discovery Center to contact 911 in case of emergency.

Identify any jurisdictional codes and ordinances that will apply to your project.

The project site is considered to be located in Roanoke City jurisdiction.

Determine suitable hours within which work on the project will be performed. For example, you could designate 8:30 a.m. to 4:30 p.m., including short rest breaks every two hours and a one-hour break for rest and lunch. It is recommended that service projects do not exceed eight hours per day. Please keep in mind that youth attention spans may be a limitation. Is there a plan to manage working in the heat or extreme cold (e.g., plan for water, rest, shade, heated area, hot liquids, etc.)?

Workday #1 : 5 hours 8:00a-1:00p

Workday#2: 4 hours 11:00a-3:00p

Workday#3: 4Hours 8:00a-12:00p

Workday#4: 3hours 2:00p-5:00p

Volunteers are advised to dress for colder temperatures the lowest temp on any work day was not below 40 degrees and temps did not exceed 65 degrees. Volunteers are advised to take drink and food breaks and personal needs as needed. Most volunteers are adults and older youth.

Hazard Analysis, Recognition, and Control

Refer to the BSA's Program Hazard Analysis, No. 680-009, to complete the following section. (You also could include all of the following hazards and mitigation efforts on the last page of the Program Hazard Analysis Matrix instead of filling out the following section:)

1. List possible hazards you might face. These could include overhead or underground utilities; hazardous tools or equipment; sunburn; overgrowth of trees, bushes, and grasses; or the animals, bugs, and reptiles present in the area.

underground lines : all lines are marked with flags we will not dig near them.

traffic in nearby parking area: area of garden will be marked off with cones to not allow traffic area of garden.

tiller injury: everyone other than adult operating is providing a clear space for operator and are not in that area, only a skilled adult with safety protective eye wear is to operate equipment.

tool injury: encourage all volunteers to use tools safely and properly to prevent injury.

dehydration: encourage all volunteers to drink plenty of fluids and take breaks as needed.

power tools/equipment: Only to be used by skilled adult with proper safety protective eye wear

2. Consider the weather. What are the forecasted conditions during the time of the project?

The fall has been very mild and the workday temps should not be below 36 degrees and not above 65 degrees Fahrenheit.

3. Monitor tool usage. Identify supervision, who has access, the proper handling of tools, and power supplies, etc.

Power tools and equipment are only accessible by adults who are assigned to them. Assignment of circular saw: W. Sadler. Assignment of Wood Burning tool : C Sadler. Assignment of Tiller equipment, power drill, chainsaw: R. Bramlet. All other tools are accessible by youth or adults who are authorized to use them.

4. How will you prepare for emergencies (access, shelters, weather monitoring, communications, etc.)?

This will be discussed when instruction briefing is done, in case of emergency requiring evacuation from Rain Garden area we will evacuate to the Discovery Center which is the closest secure shelter. If evacuation from the Mill Mountain Park is required we will leave in the vehicles that have transported us to the site. Volunteers will be advised where to locate first aid kit and who the assigned first aid officers are to be upon arrival of each workday. Also will discuss hydration to prevent dehydration. In case of sever inclement weather workday will be re-scheduled and volunteers will be notified.

5. What will you do to prevent problems? For example, "Hazardous tools will be operated by adults only."

Potential Hazard	What Will You Do to Prevent Problems?
underground lines	all lines are marked with survey flags digging will not be done near marked lines
traffic in nearby parking area	safety cones are to be put out to not allow traffic near rain garden
power tool/equipment injury	only skilled adults will use with proper hand and eye protection
dehydration	volunteers will be encouraged to drink plenty of fluids and take breaks as needed
other tool injury	all volunteers will have safety briefing and reminder of proper tool use guidelines

Tool Safety and Equipment Usage

See Age Guidance for Tool Use and Work at Elevations or Excavations, No. 680-028, for guidance. Be sure to include all tools and equipment listed in the cost section above.

- What skill level, training, certification, age, and physical conditions are necessary for each tool?

Tool	Age-Appropriate Certification	Training Needed/Completed (adult/youth)
tamper bar	Youth* or Adult	Youth over 14* or Adult
post hole digger	Youth or Adult	knowledge of safety and proper use
Dump Truck	Youth* or Adult	Youth w/o Passenger *Licensed Driver
Pickup Truck	Youth* or Adult	Youth w/o Passenger *Licensed Driver
Wheelbarrow	Youth* or Adult	Youth over 14* or Adult

- List the personal protective equipment needed (see Age Guidelines for Tool Use for guidance).

Tool	Personal Protective Equipment Needed
tamper bar	protective work gloves
post hole digger	protective work gloves
Dump Truck	safety seat belt to be worn during operation
Pickup Truck	safety seat belt to be worn during operation
Wheelbarrow	protective work gloves

- Check the condition of all tools. Never use tools that are broken, needing repair, or missing safety features.

Tool	Acceptable Condition
tamper bar	without damage to make any portion unsafe to use
post hole digger	without damage to handle and head is secure
Dump Truck	valid safety inspection, insurance, licensed driver
Pickup Truck	valid safety inspection, insurance, licensed driver
wheelbarrow	wheels in good condition and handles are secure

- Determine the clearances and barriers needed between users or for specific tools or equipment.

Tool or Work Area	Clearance, Barriers, or Safety Circle
tamper bar	safety circle
post hole digger	clearance in digging area for safety
dump truck	obey traffic laws
pickup truck	obey traffic laws
wheelbarrow	clear pathway to final destination

5. Where and how will tools be stored?

Non power tools (rakes, shovels, tamper bar, post hole digger, hammer, etc.) will be stored onsite in pickup trucks and located on ground next to pick up truck when not in use during workdays. After workdays they will be transported to my home and stored in my garage until next workday when they are taken back to project site. Power tools are brought to site by owner who will also operate them then put back in vehicle to transport back to owner/operators residence.

6. Review the proper use of tools, and plan for proper tool instruction.

I have reviewed guide to safe scouting tool safety and regulations and this will be reviewed with volunteers in safety briefing on workdays.

Weather Considerations

1. Heat (consider heat index, periods of work and rest, availability of shade and drinking water):

The temperature is not expected to be above 65 degree Fahrenheit on any workday, breaks and plenty of fluids will be encouraged for all volunteers.

2. Cold (consider wind chill, periods of work and rest, availability of heated area and drinking water):

The temperature is not expected to be below 38 degrees Fahrenheit on any workday, breaks and plenty of fluids will be encouraged for all volunteers, as well as layered clothing.

3. Weather forecasting information and evaluations:

I have checked forecasts day before via the local news and www.weather.com and have not been advised of any extreme conditions or severe inclement weather expected.

4. List weather emergency procedures (for tornadoes, hurricanes, lightning, etc.) and training and awareness (first-aid kit, trained first-aid personnel). See the Hazardous Weather online training at MyScouting.org.

If hazardous weather is to occur or be expected workday will be canceled. If lightning is to occur work area will be evacuated immediately to indoors until lightning has not occurred for at least 30 minutes. First aid kit is on-site with 2 assigned first aid officers.

Health and Sanitation Considerations

1. Health risks to participants (possible problems such as poison ivy, rodents, and mosquitoes):

- Will Annual Health and Medical Record forms be available at the project site?

No they will not, all Youth and Registered BSA Adults have a current AHMR on file with my troop records.

- Are participants with allergies or other health risks identified? Will medications and EpiPens be on hand as required? Will parental permissions for youth be secured?

None of the youth have any life threatening allergies that requires a prescribed epipen or other medications. Parental permissions will not be required, all youth will be transported by parent and parent will remain at the location until they are transported again by parent. None of the youth including myself will be without a parent on site at work day.

2. Will snacks or food be available? (List types, where they will be located, etc.)

Yes, Workday #1 breakfast items : muffins and danishes Lunch: Pizza

Workday#3 breakfast items: danishes and biscuits

These items will be available along the walkway next to the garden

Type of Snacks or Food (note allergies)	Location of Food
Breakfast items: danishes/muffins	raised surface along walkway next to garden
Breakfast items: danishes/muffins	raised surface along walkway next to garden
Lunch: Pizza	raised surface along walkway next to garden

3. Sanitation needs and provisions (restrooms, hand sanitizers):

Access to restrooms is available in discovery center and hand sanitizer is available where food is served.

4. Will you need sunscreen, insect repellent, etc.?

Sunscreen and insect repellent should not be necessary due to weather forecast and working hours.

Hazardous Materials or Chemicals

Will any hazardous materials or chemicals be used? If so, how will you see that they are properly handled? Any hazardous material or chemical must be used in complete compliance with the manufacturer's labeling and any applicable state or federal OSHA standards or regulations, especially as they relate to age-appropriate activities. Consider visiting websites that provide regulations and other helpful information relating to youth working or volunteering on your project, such as: www.youthrules.gov, <https://www.osha.gov/youngworkers/index.html>, and <https://www.osha.gov/SLTC/youth/agriculture/index.html>.

Safety and Health Communication Plan

How do you plan to communicate these safety and health issues and hazards to your helpers?

Hazardous materials or chemicals will not be used.

What personal protective equipment or supplies may be needed? (For example, gloves, safety glasses, hardhats, etc.)

Hazardous materials or chemicals will not be used.

When will you hold a safety briefing?

Hazardous materials or chemicals will not be used. A safety briefing will be held regarding other safety concerns and tool usage upon arrival of each workday and when discussing workdays with volunteers in advance what is expected and needed.

Who will conduct it?

I will assisted by W. Sadler.

Who will be your first-aid specialist?

Myself & W. Sadler

How may emergency vehicles access the site?

The road leading up to Mill Mountain Park to the parking area.

Contingency Plans

What could cause postponement or cancellation of the project? What conditions will cause a start, stop, or continue process to occur? What will you do should this happen?

Inclement weather will cause cancellation and workday will be rescheduled.

Monitoring Plans

How do you plan to determine if your project had the desired outcomes and has corrected the conservation issue or issues you have identified?

I will be making return visits to site once the first workday is complete before the other phases of project begin to ensure the pipe, fill, soil are working as expected. Once the plants are in place and garden is complete, I intend to visit often to see the progress of the garden especially in different seasons.

How often do you plan to return to the project site to monitor the outcome of your project? Give an approximate schedule for these trips.

I will be returning after first workday for three additional workdays and also possibly some times in between when in the area. I will also be visiting at least 2 times after project completion to meet with Roanoke City Parks & Rec. I also will be visiting when I deliver the flag, reinstall the sign, and meet with Mrs. Elder to deliver the brochure.

What other projects could be done in this area to more fully address the conservation issue?

Continue to add plants in other areas of the garden as needed to ensure native deep rooted plants remain in the garden to reach its fullest potential.

William T. Hornaday Award Conservation Project Report

William T. Hornaday Project Name Mill Mountain Rain Garden

Project Start Date 05/18/2015

Project Completion Date 1/7/2016

Complete this report, along with the rest of the project workbook and attachments, after your service project has been concluded. Be aware that this report is the only documentation the national committee will reference to review your project.

Project Execution:

Once planning was completed, when did the work begin? When was it finished?

The construction of the Mill Mountain Rain Garden began on 11/14/2015 and was completed 12/13/2015. On the first workday myself and other volunteers dug out the dirt to form a trench and then placed pipe and fill materials to create the proper drainage for the rain garden. We were also able to mulch the garden area. The second workday myself and volunteers placed new gravel along the walkway to restore it and planted two winterberry holly trees. The third workday myself and volunteers planted more plants, added mulch and bio mix soil, and installed informational plaque, and plant id signs. The final work day we added additional mulch, planted remaining plants and installed the refurbished flag pole sign. On 1/7/15 I delivered the brochure for distribution.

Project Description

Please provide a brief description of your completed project and the impact it will have.

The previous garden was failing due to flooding and erosion. Building the Mill Mountain Rain Garden was necessary in order to ensure the future of a garden existing at this location, and to properly manage storm water, prevent future flooding, protect the nearby butterfly garden and also eliminate soil erosion. The overall impact will be significant in restoring the use of the butterfly garden and the construction of the Mill Mountain Rain Garden, both can be used for education of conservation in the community. The informational plaque and brochure created will educate people about the importance, benefits and needs, for rain gardens to be built in other public community areas or even their own backyard where soil and water conservation issues need to be addressed. The brochure includes additional resources to help people guide people in the steps to build a rain garden. The rain garden will no longer be in danger of destruction and damage caused by flooding and erosion and can be enjoyed by all.

Describe what you did after your proposal was reviewed to complete the planning of your project.

The first step was to meet with Roanoke City Parks & Recreation Director Mr. Donnie Underwood again to discuss in greater detail the project and get some additional questions answered. I contacted Salem Rotary Club to request donations to purchase needed materials & supplies. I was in contact with friends and family for additional fundraising efforts and to request help for jobs needed. I contacted & met with John Basham Sales Manager of Rocky Dale Quarries to order materials (gravel, stone, bio mix soil) and also discuss prices. During our meeting Mr. Basham agreed to donate all materials if I could arrange to have them hauled myself. Contacted volunteers to discuss dates of workdays and coordinated hauling of materials from quarry, and tools, and other supplies needed. The day before first workday I picked up with Adult Volunteer materials from quarry, purchased perforated pipe and filter sleeve, and loaded tools into trucks to be hauled. After the first workday was complete I began to plan out the plants in garden, met with landscape architect to discuss and get additional ideas. The plants were ordered. I then also coordinated volunteers to help me haul and place gravel along walkway. The last workday was coordinated to plant the remainder of plants, add mulch and complete flag pole sign restoration and flag replacement. I also made arrangements with adult to coordinate meals for workdays for all volunteers. I also designed an educational brochure and provided it to Roanoke City Parks & Recreation Discovery Center for distribution for continued education about Rain Gardens.

Observations

What went well?

The digging went very well and was a huge success, it went better than I had expected. I estimated it would be harder to dig and would take more time than it actually did. The planting of the plants also went very well. All the plants appeared to be healthy, the weather was extremely mild for a day in December and I had enough bio mix to complete the planting process.

What was challenging?

It was a challenge to encourage scouts in my troop to participate and make time in their schedule to assist with the project. Managing my time I wanted to get involved and work beside everyone and sometimes could only give instructions instead so that everyone was on task and understood how and what to do next. Locating and ordering the plants was challenging due to availability and the finding specific bio-swale Virginia native species plants that had to be used. I had to get them from two different nurseries.

What did not go well?

The project was challenging although nothing during the project did not go well.

Changes

Many successful projects require changes from the original proposal. What significant changes did you make, and why did you make them? (Be brief.)

I designed an educational brochure to be distributed by Roanoke City Parks & Recreation Discovery Center for continued education about Rain Garden and the benefits and importance of a Rain Garden. I also added 23 plant id signs in the Rain Garden to help identify Virginia native species.

Incident Reporting

If any accidents or injuries occurred, complete a BSA Incident Information Report, No. 680-016. Submit it to your local council service center as soon as possible. Immediately notify the council service center or Scout executive of any serious incidents requiring emergency or medical response. If there was a near miss, complete a BSA Near Miss Incident Information Report, No. 680-017, and submit it to the council service center. Dependent on the land manager, an incident report on any accidents, injuries, and/or near misses occurring during your project may also be required on a form internal to their organization. Contact the benefiting organization's representative for guidance on which forms must be completed.

Leadership

In what ways did you demonstrate leadership?

I developed a detailed plan of what needed to be done and communicated this to volunteers when they attended workdays. I took a lot of time in planning and preparation before each workday to make sure all supplies and materials were at the project site and available when needed. I stayed in communication with Discovery Center Director and Roanoke City Parks & Rec Director during the entire project to answer any questions and give updates on the project. I made great efforts to answer questions and give guidance on workdays to my fellow scout volunteers and also other adult volunteers. I worked closely with landscape architect to ensure my design and ideas for rain garden were included in the final details for project.

What was most difficult about being the leader?

Making sure all the work was completed successfully. Encouraging other Scouts to participate in the workdays. My own time management, I felt many times I had to be in two places at once.

What was most rewarding about being the leader?

The project was completed in a timely manner and I planned it and followed through on my plans, even able to add some additional items to my project that made it even more successful. I was very pleased with the outcome and was grateful to those who expressed gratitude and kindness to me for the work done to build the rain garden and the conservation impact it will have.

What did you learn about leadership? How were your leadership skills further developed?

I learned a deeper understanding of patience and why it is so important to practice as a leader. To be more patient with myself, and with others.

Materials, Supplies, Tools, Other

Were there significant shortages or overages of materials, supplies, tools, or other elements? If so, what effect did this have?

I did have extra perforated pipe and pipe filter sleeve, since it had to be purchased in 100' increments. This did not have a negative effect on the project and left extra material to be recycled.

Entering Service Project Data

The BSA collects information on the hours worked on service projects* because it points to achievement of our citizenship aim. To assist with the data collection, please refer to the list of volunteers (including yourself) and the number of hours they worked, then provide the information requested below. Include the list as one of your attachments. One of the aims of the William T. Hornaday awards program is to educate, inform, and involve people and organizations outside the BSA. Please identify these outside groups separately by organization in the "other" categories below. Include the hours you spent planning and researching your project as well.

Volunteer Group	Number of Workers	Total Hours Worked
Registered BSA youth members	4	22
Registered BSA adult members	6	73.5
Other (non-BSA affiliated youth groups, family, friends, etc.)		
• Organization: Family		
o Youth	1	1
o Adults	4	56
• Organization:		
o Youth		
o Adults		
• Organization:		
o Youth		
o Adults		
Applicant hours spent		
• Researching	1	15.5
• Planning		21
• Conducting project		20.5
• Completing project documentation		18
Total Hours	16	227.5

Monitoring

Record any follow-up visits or inventories you have made to your project area.

Were the outcomes from your project what was expected? (For example: Did the trees survive? Was the invasive species controlled? Did the erosion stop?)

I have been back to the garden many times since I began construction and also 3 times since completion and am pleased with the project. The underground pipe is performing exactly as intended even during heavy rains it has not allowed flooding to occur in the garden or any erosion to occur. I have been told by staff at Discovery Center that they are extremely pleased with the results. They love all the additions to the garden, the new walkway, flag, sign, informational plaque and even though it is the "off-season" for visitors have already received great reviews of the garden and are excited to see it in the spring. My goal was to save and rebuild the garden and it was rebuilt into a Rain Garden, and it serving the purpose.

What could have caused the project outcomes to differ from expectations?

If the pipe was not placed correctly or downspout was dug incorrectly, fill (underground) not placed correctly this would prevent drainage again and allow erosion and flooding in the garden.

Meet with the representative of the benefiting organization. Did the project meet their expectations? What are their suggestions for changes to future projects in the area?

Mr. Underwood went to Rain Garden during a very heavy rain storm to see the project was as he had expected and was very pleased with the outcome. He stated I went above and beyond the project expectations. The staff at the Discovery Center are very excited and have had many great reviews of the Rain Garden. Future projects in the garden are not planned at this point, other than they will continue to use it for educational purposes, and it will serve as an outdoor classroom for many programs they teach at the Discovery Center year round.

What follow-up activities or projects should be done to ensure that the continued environmental impact is acceptable or will become acceptable?

I will offer to assist in projects in the garden, future planting or other needs, as the Parks & Rec may plan to do. When the discovery center has rain garden workshops I will plan to attend and assist in providing additional resources and information to the community.

Learning

How did this conservation project help you and others learn?

This was a great learning experience for me, when I first started researching options for my project , I had never seen a rain garden and had little knowledge of them. I did many hours of research and then dove into a great educational session with the landscape architect who taught me so much and helped me to have a complete understanding of what a rain garden is and exactly what it does and how great they are. I learned these gardens have a major impact on the environment in so many ways from wildlife,plants,soil,storm water, pollution, and effects on water in streams,rivers,and creeks. I have learned so much about Virginia native and non native plant species, different types of soils, water conservation and landscape construction. I feel as my family and members of my troop have also benefited from learning more about rain gardens, especially my parents. I feel this entire experience has increased my passion for the outdoors and everything in it.

One of the fundamental purposes of the Hornaday Awards program is to encourage learning by the participants and to increase public awareness about natural resource conservation. Detail the educational opportunities afforded through your project.

The informational plaque posted at the garden will help to teach about the rain garden and other rain gardens and what a rain garden is and what it does and the benefits of rain gardens. The informational brochure provided to the discovery center will also be used as an educational tool for those who wish to learn more about rain gardens. The brochure describes the basics of a rain garden, including construction, benefits, and plant selection. The brochure also includes many resources for additional information such as technical guides and assistance in plant selection based on where they are located. My goal for the brochure is to create more of an interest in rain gardens and educate the importance and benefits and encourage others to build rain gardens in areas of need.

Community Impact

What impact did this project have on the community?

The Garden has been rebuilt into a Rain Garden and will not be destroyed by flooding and erosion. The nearby butterfly garden will not continue to be flooded and damaged. It now has more Virginia native species, is not eroding, or being damaged by flooding water. The area will be used for educational purposes and now will be more accessible than before. The Rain Garden will provide years and years of future environmental and conservation benefits in managing storm water and helping to prevent pollution to local rivers and streams. It will also continue to serve as a natural habitat for wildlife for everyone to enjoy. The informational plaque and brochure will provide those who may not have known about Rain Gardens more information and hopefully encourage others to build them in areas in need; and to address soil and water conservation issues.

Awards and Certificates

List all awards and/or other recognition and provide copies of any certificates you received as a result of this project.

I have submitted my project for My Eagle Rank Award and am awaiting board of review.

Media Coverage

Provide copies of all media coverage of your project (for example, newspapers, radio, television, Internet).

Candidate's Promise

Sign below before you complete your badge or medal application.

On my honor as a Scout or Venturer, I was the leader of my William T. Hornaday Award conservation service project and completed it as reported here.

Signed:

Date:

1/21/2016

Benefiting Organization Acceptance

A letter from the benefiting organization accepting the finished project is required. Please attach.

1ST PLANT LIST

Switchgrass- *Panicum virgatum*

Carex/Sedges

Liatris

Cardinal Flower

Penstemon digitalis

Black Eyed Susan

Blue Flag

Joe Pye Weed

Great Blue Lobelia

Lobelia cardinalis

Plants planted in Mill Mountain Rain Garden

Ordered from Plant Delights Nursery Total Cost \$103.25

3 - Cardinal Flower Plants

1 - North wind Switch grass

1 - Ruby Ribbons Switch grass

Ordered from Izel Plants Total Cost \$165.40

60 - Bearded Foxglove Plug Plants

10 - Great Blue Lobelia

8 - Path Ruth

2 - Winterberry Holly (Tree)

This is the final list of plants planted in the Mill Mountain Rain Garden based on availability from the 1st plant list some items were not available and some items I had not put on my first list were chosen instead based on recommendations from Hill Studio (landscape architects)

List of Landscaping Plants (Originally) Planted in Discovery Center Garden

Perennials, Groundcovers, Ferns, & Ornamental Grasses

- AC Columbine
- AT Blue Star
- CH Goldenstar
- CR Black Cohosh
- CO "Moonbeam Threadleaf Coreopsis"
- EF Joe Pye Weed
- GP Wintergreen
- LS Blazing Star
- LC Cardinal Flower
- MD Bee Balm
- OC Cinnamon Fern
- PV Switchgrass
- RL Cutleaf Coneflower
- SS Little Bluestar

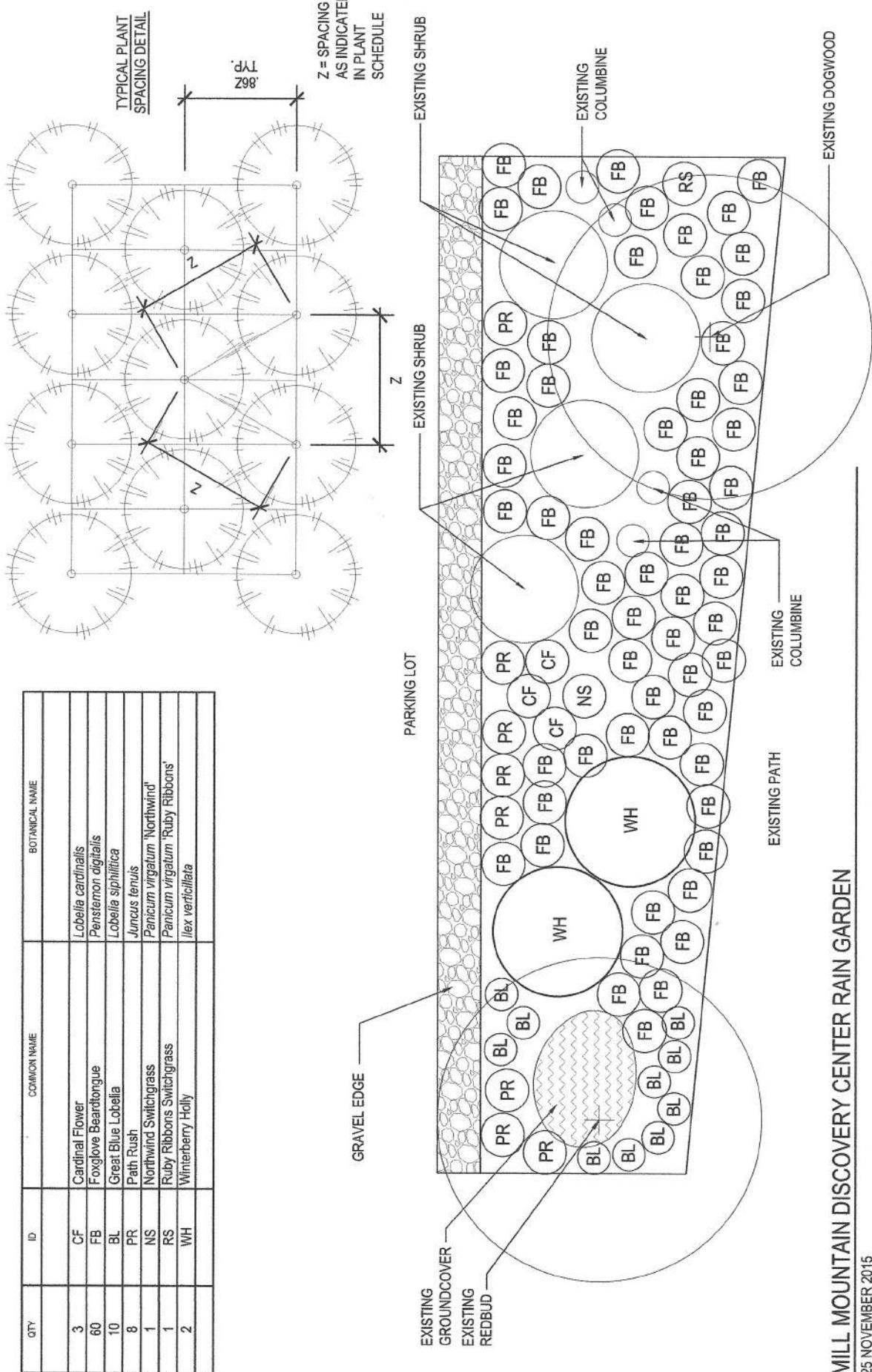
Shrubs

- AR "Brilliantissima" Chokeberry
- CA Silky Dogwood
- HA Spicebush
- HV Common Witchhazel
- IL Winterberry
- LR Sweetbells
- RM "Roseum" Rhododendron
- RC Catawba Rhododendron
- RA Fragrant Sumac
- SC Common Elderberry
- VA Lowbush Blueberry
- VC Highbush Blueberry
- VN Possum-Haw Viburnum
- VP Blackhaw Viburnum

Trees

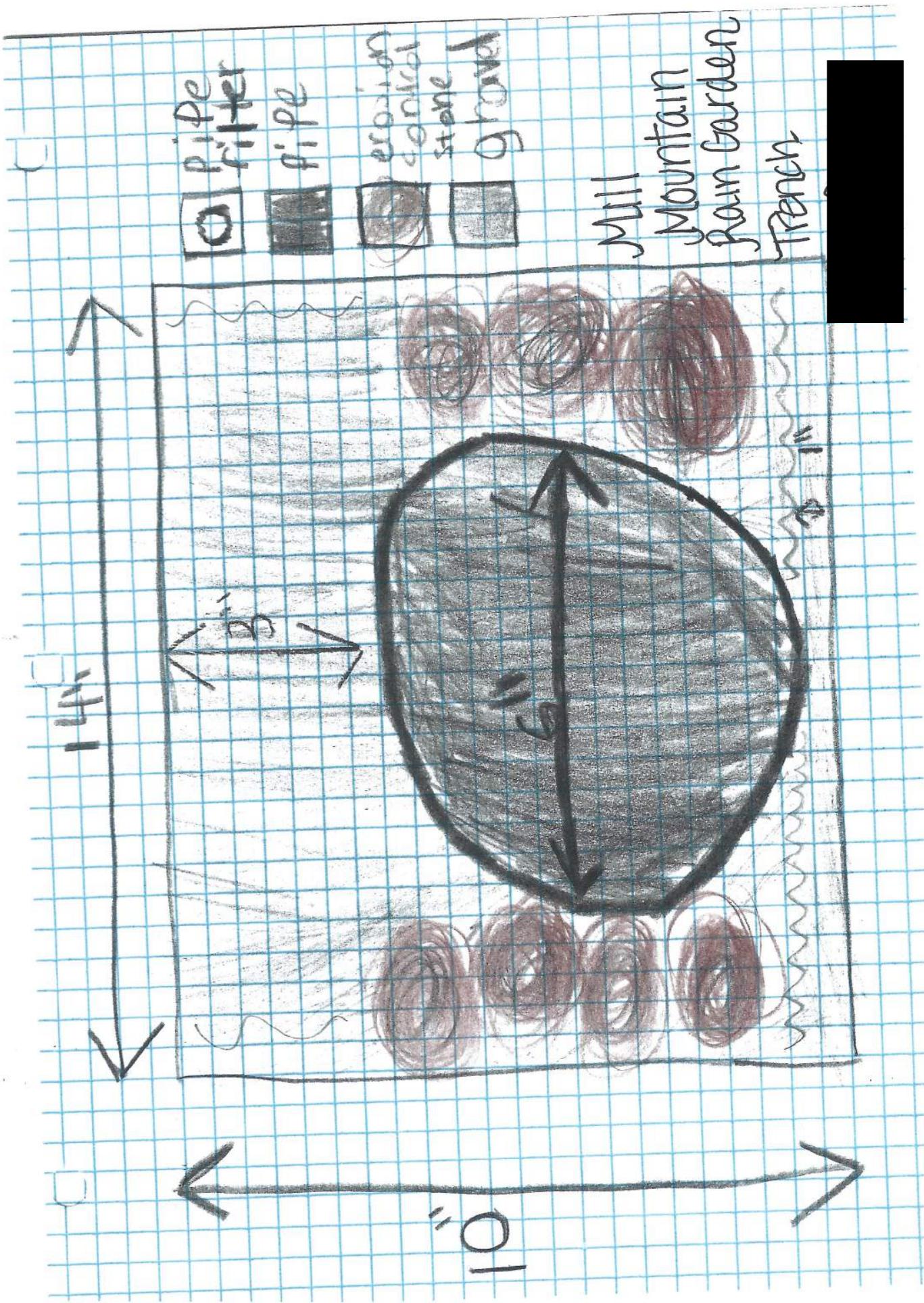
- AA "Autumn Brilliance" Serviceberry
- CC Eastern Redbud
- CV Fringetree
- OV Eastern Hophornbeam
- OA Sourwood

Note: These are the plants that were listed on the landscaping plan dated 2006. The current garden does not contain all of these plants since some did not survive. Also, a few other plants have been added by our garden volunteers.



MILL MOUNTAIN DISCOVERY CENTER RAIN GARDEN

25 NOVEMBER 2015





PARKS AND RECREATION
NOEL C. TAYLOR MUNICIPAL BUILDING
215 CHURCH AVENUE, S. W., ROOM 303
ROANOKE, VIRGINIA 24011
540.853.2236 FAX: 540.853.1287
WWW.PLAYROANOKE.COM



January 8, 2016

To Whom It May Concern,

My name is Christine Elder and I am the supervisor of the Mill Mountain Discovery Center, a nature center run by the City of Roanoke's Parks and Recreation Department. The Discovery Center has a garden surrounding it that is important to the Center's environmental education mission because it showcases native plants. Unfortunately, one side of the garden is located between the parking lot and its storm water drain, and over time, the rain water runoff was drastically washing away soil, plants, and parts of the stone walkway that meanders through the garden.

[REDACTED] created a French drain along the border of the garden and parking lot. The drain now diverts the water around the garden and into the existing storm water drain. He then repaired all the damage that was caused by years of rain water rushing through the garden. He put in new water resistant plants to create a rain garden as well as new soil. He then replaced all the mulch that had been washed away. He also put down new gravel to fix the walkway. In addition, there was a small section of flagstone walkway that had become hazardous from all the soil being washed away between the pieces of stone. [REDACTED] replaced all the soil between the flagstone pieces so they were level with the ground again, thereby eliminating the tripping hazard it had become. He then labeled all the new plants with small wooden signs to fit in with the feel of the rest of the garden. [REDACTED] finished his project with two educational components. He created and posted a rain garden interpretive sign, as well as a rain garden brochure to be distributed at the Discovery Center.

[REDACTED] was wonderful to work with. He was very polite, responsible and always kept us informed of what he was doing. He took suggestions from the Discovery Center staff and incorporated them into his project. He showed extra initiative by noticing a need we did not point out. He had extra money left over from his rain garden project and decided to use it to fix up the plaque for our American flag pole and replace the flag. He also made a new wooden bench top to replace one that had deteriorated.

Best of all, the French drain that was installed works beautifully, and it will help preserve the garden. We are very appreciative of all the time and hard work [REDACTED] put into this project.

Sincerely,

Christine Elder
Recreation Programming Supervisor
Mill Mountain Park



HILL
STUDIO

2016 January 6

To: Members of the William T. Hornaday Conservation Committee
Re: Recommendation for Commendation for [REDACTED]

Dear Members of the Hornaday Committee:

I am writing to you to provide the highest recommendation for Mr. [REDACTED] who will be an applicant this year for the William T Hornaday Badge.

After his first year of Middle School at Stanton River Middle School, [REDACTED] came to our office to gain background documents for his undertaking the design and construction of a rain garden for the Mill Mountain Discovery Center, to fulfill his Eagle Scout project requirements. From my past experience with Eagle Scouts, this project seemed especially ambitious, as it creates a living environment to treat water to cleanse it, and restore it back into the watershed. The location of the proposed project adjacent to the flagship park visitor center was equally ambitious, as it would provide a facility to be viewed by about 70,000 visitors per year.

[REDACTED] took a dedicated route with our rain garden expert, and came and visited several times. I was most impressed with this candidate. In particular, he seems to possess remarkable research and organizational leadership skills, and coupled with his "can do" attitude, I felt confident he could get the job done.

I saw the implemented rain garden early this winter, and from the looks of it he has put together a remarkable amenity that can teach a lot of people why these are good environmental investments, and that if his example is followed correctly, rain gardens can be of the size and scale that can be accomplished at home.

Please take a close look at this candidate. He will be a credit to the the Hornaday program. Please call me if I can be of further service in this matter.

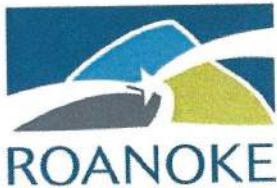
Best regards,
HILL STUDIO

David P. Hill, ASLA
President

120 W Campbell Avenue
Roanoke, Virginia 24011

tel: 540-342-5263
fax: 540-345-5625

WWW.HILLSTUDIO.COM



Stormwater Division
Public Works Building
1802 Courtland Road
Roanoke, Virginia 24012

Tel: (540) 853-5900
Fax: (540) 853-1270



Be a part of the solution,
not the pollution.
Together, we can leave a
Clean Water Legacy
for tomorrow.

January 5, 2016

To whom it may concern,

When we replace our natural systems with urban growth, we lose important regulating ecosystem services, such as clean air, carbon storage in trees and soils, water quality through natural system purification, flood control and cooler temperatures that nature provides us for free. Rain gardens and other types of green infrastructure are a beneficial way to rebuild nature back into our urban systems.

The benefits of rain gardens are numerous. They help to keep our streams and rivers clean by slowing down stormwater runoff, allowing water to soak into the soil to recharge ground water, and by filtering contaminants that may be in stormwater runoff. Added water infiltration can help reduce localized flooding and drainage problems. Additionally, rain gardens add beauty, enhancing the quality of life for the community. Rain gardens that are planted with native plants interact with the local ecosystem and provide habitat and food for wildlife and our pollinators.

The project completed by [REDACTED] at Mill Mountain Park has captured and cleaned Discovery Center parking lot runoff, achieved retention of stormwater onsite, and solved a specific erosion problem at the rain garden site. The plants selected were mostly native and serve as habitat for local wildlife.

Sincerely,

Leigh Anne Weitzenfeld, MNR, ENV SP
Water Quality Administrator



Department of Public Works
Stormwater Division
1802 Courtland Rd, NE
Roanoke, Virginia 24012
Phone 540-853-5900



January 8, 2016

William T. Hornaday Award Committee
Boy Scouts of America

Mill Mountain Discovery Center Raingarden Project by [REDACTED]

To whom it may concern:

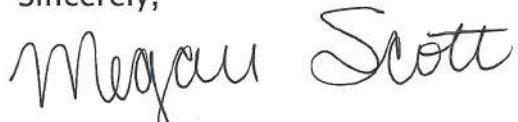
I would like to recommend that the raingarden designed and constructed by [REDACTED] for the William T. Hornaday Award as a truly exceptional conservation project.

[REDACTED] was initially given the task to manage and construct a project which would alleviate flooding at the Mill Mountain Discovery Center in Roanoke, Virginia. Stormwater runoff from the parking lot was washing away the butterfly garden during frequent rainfall events. These types of runoff issues are very common within the Roanoke Valley and most other urban areas and are often solved by installing various structures including paved flumes, paved channels, rip rap erosion protection, curb and gutter, and concrete storm drain inlets. These types of solutions often improve drainage in the area in which they are installed, but cause new drainage issues downstream. In addition, these types of solutions do not improve the aesthetics of the area or improve the environment. Although [REDACTED] could have chosen any number of these hard-scaped engineering solutions to divert the water away from the butterfly garden, he chose instead to address the issue in a way that would not only alleviate flooding but would also improve water quality by installing a raingarden.

A raingarden, which is also sometimes referred to as a biofilter or bioretention basin, is a planted area filled with a special soil mixture designed to receive and hold stormwater runoff, allowing it to infiltrate into the soil slowly. These structures slow runoff, mimic a more natural (undeveloped) environment to prevent downstream flooding, filter pollutants, and improve the aesthetics of an area. These structures help recharge aquifers and help reduce the impacts that development, like parking lots, buildings, and other impervious areas, have on the natural environment and water quality of our area. Raingardens can also be used as an outdoor classroom where students and adults alike can learn about the importance of restoring and conserving the environment.

[REDACTED] Raingarden project has gone above and beyond just solving a flooding issue and protecting a butterfly garden. He chose an alternative which improved the local environment and water quality in the Roanoke Valley. This project deserves recognition as an example of excellence in environmental improvement and conservation that will continue to benefit the butterflies, students, citizens of the City of Roanoke, and visitors to the Roanoke Valley for a long time. Thank you so much for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "Megan S Scott".

Megan S Scott, EIT, CFM
Civil Engineer I



HILL
STUDIO

Community Planning

Landscape Architecture

Architecture

Preservation

6 January 2016

The William T. Hornaday Committee
Boy Scouts of America
1325 West Walnut Hill Lane
Irving, TX 75038

RE: [REDACTED] Eagle Scout Project: Rain Garden at Mill Mountain

Dear Members of the Hornaday Committee,

In recent years, one of the major concerns with which communities, cities and developers have to deal is the issue of stormwater management. Current systems take runoff from paved areas and deposit the water, contaminated with pollutants, into the storm water system and into our waterways. Bioswales and rain gardens, such as the one installed by [REDACTED] are a sustainable alternative method of dealing with runoff which have many benefits over the conventional treatment of stormwater.

Rain gardens are planted areas that are constructed to temporarily retain runoff, allowing it to infiltrate into the soil instead of flowing into the storm drain. Rain gardens have many benefits, including the filtration of pollutants from stormwater runoff and recharge of groundwater. Typically rain gardens employ native plantings, which provide food and habitat for local birds and insects, and additionally are attractive green spaces which enhance our communities. The rain garden at Mill Mountain created by [REDACTED] is designed to capture and filter water from an adjacent parking lot. Located near the entrance of the Mill Mountain Discovery Center, it is in the perfect location to not only provide the benefits of a rain garden, but to also act as an educational resource to the many visitors which come to Mill Mountain.

I initially met with [REDACTED] as he was finalizing his proposal for the project, and was very impressed with the research he had done, the knowledge he had gained about rain gardens, and the connections made to ensure a successful project. I reviewed his proposal, and we discussed the steps that needed to be taken to ensure the rain garden was installed properly.

After the rain garden space had been created and was ready for planting, I met again with [REDACTED] to review his plant selections and ensure they met both his criteria of being native to the area as well as being suited for the unique cultural habitat of a rain garden. Once his plant selections were finalized, I provided a suggested planting plan, which [REDACTED] could reference during the final stage of the project: planting the garden.

120 W Campbell Avenue
Roanoke, Virginia 24011

tel: 540-342-5263
fax: 540-345-5625

WWW.HILLSTUDIO.COM

It has been a pleasure to be involved with the Boy Scouts of America through Mr. [REDACTED]'s Eagle Scout project. His rain garden at Mill Mountain is a valuable resource for our community, for both the sustainable treatment of the existing stormwater concerns, and the wonderful educational opportunities it provides. I recommend [REDACTED] for your consideration for the William T. Hornaday award.

Sincerely,

A handwritten signature in black ink, appearing to read "Laurice Ellsworth". It is written in a cursive style with a horizontal line extending from the end of the signature.

Laurice Ellsworth
Hill Studio

Hornaday Soil & Water Conservation Project: Mill Mountain Rain Garden							
	Hours						Total
Scouts							
	9.0						9.0
	5.0						5.0
	4.0						4.0
	4.0						4.0
							0.0
							0.0
							0.0
							0.0
							0.0
							0.0
							0.0
							0.0
							0.0
							0.0
							0.0
							0.0
							0.0
							0.0
Sub total Scouts	22.0	0.0	0.0	0.0	0.0	0.0	22.0
Non-Scout Youth							
	1.0						1.0
							0.0
							0.0
							0.0
							0.0
Subtotal Non-Scout Youth	1.0	0.0	0.0	0.0	0.0	0.0	1.0
BSA Adults							
	8.0						8.0
	8.0						8.0
	5.0						5.0
	22.5						22.5
	23.0						23.0
	4.0						4.0
	3.0						3.0
Sub Total BSA Adults	73.5	0.0	0.0	0.0	0.0	0.0	73.5
Non BSA Adults							
	24.0						24.0
	17.0						17.0
	8.0						8.0
	7.0						7.0
Sub Total Non-BSA Adults	56.0	0.0	0.0	0.0	0.0	0.0	56.0
Grand Total	152.5	0.0	0.0	0.0	0.0	0.0	152.5
Eagle Candidate	75.0						75.0
- Research	15.5						
- Planning	21.0						
- Conducting	20.5						
- Project Doc.	18.0						

12/22/2014: Met with Mr. Donnie Underwood from Roanoke City Parks & Recreation to discuss project and get approvals from him to proceed in planning process. Me: 1.5 hours

05/18/2015: Phone calls to discuss marking lines and cost - since it is a private park "Miss Utility" does not provide service for marking, private contractor would need to do it, researched and findings \$85-\$90 per hour 3 hour minimum, not able to locate a contact willing to donate time to project. Me: 2 hours

05/26/2015: Meeting with Roanoke City Parks & Recreation Mr. Donnie Underwood & Mr. Daniel Dart for additional planning and approvals –discussed difficulties in finding a qualified person to locate utilities within the park. Most people charge \$85-\$90 per hour with a 3 hour minimum.

Mr. Underwood agreed to contact Curtis Howell to locate utilities for this project while doing work on several other small projects for the City. , this would be included in that bill at no additional cost to Roanoke City or the project. Mr. Underwood also shared the name of Charlotte Moore, who is on the Board

of Supervisors for Roanoke County. She also owns a landscaping company in Roanoke and is involved in conservation projects. He suggested that she may be able to discuss which plants would be most common to the area, and so would be cheaper. She may also want to donate to the project. Another contact for information was Marilyn Arbogast, the City's horticulturist.Mr. Dart gave me survey flags and survey spray for marking the utility lines and make them more visible after they are located and take pictures for project record.

06/01/2015: Curtis Howell marked underground lines in garden, arranged by Roanoke City Parks & Recreation while he was marking lines on another project in the park (performed at no additional cost to the project or beneficiary)

06/02/2015: I marked lines again with orange spray and survey flags and took pictures to document for future project use. Me: 1 hour, 1 BSA adult 1hour, 1 other adult 1 hour

06/09/2015: Meeting with Mr. Underwood Roanoke City Parks & Recreation discuss soil percolation test, plants, garden plans, etc. Me: 1 Hour
1 other adult 1 hour

06/09/2015: Meeting with landscape architect Laurice Ellsworth at Hill Studio Roanoke, to discuss Rain Gardens: benefits, how they work, plant selection, possible contacts, etc. Me: 2 Hours 1 other adult 2 hours

06/17/2015: Preformed percolation test on soil in garden in 2 locations, map of where included. Arrived at 1:35pm dug 2 holes, hole#1 poured water in 1:44pm completed at 4:00pm hole#2 poured water in 2:33pm completed at 3:50pm. Me: 3 hours 1 other adult 3 hours

06/30/2015: Meet at garden Mill Mountain with Col. Sadler to discuss and id existing plants and compare to plant list given and formulate plan for new plants I want to add to garden when construction is complete. List I completed after this meeting attached of plants I wanted to get. (Not all were available or could be obtained to put in garden – final plant list & number of plants also provided.) Me 1 Hour – Other Adult 1 hour

10/16/2015: Follow up Meeting with Mr. Donnie Underwood Me & Other Adult 1 Hour

10/18/2015: Contacted Salem Rotary Club President Mrs. June Long to discuss my fundraising requests for project me 1 hour

11/01/2015: Went to Mill Mountain to garden to take measurements and get record other information to add to reports. Me & 2 Other Adults 2 Hours

11/3/2015: Meeting with Ms. Christine Elder at Discovery Center Me & 1 BSA Adult 1 Hour

11/3/2015: Meeting with Mr. John Basham at Rocky Dale Quarries Me & 1 Other Adult 1 Hour

11/9/2015 Phone Calls to Mr. Whitaker & Mr. Reif Kessler regarding changes to proposal/project & meeting with Scouts about workdays/project me 1 hour

11/11/2015: Brief follows up with Ms. Christine Elder at garden and moved fencing along walkway me & 1 BSA Adult 2 Hours

11/13/2015: Pickup materials for Workday#1 me & 1 other adult 3 hour

11/14/2015: Rain Garden construction begins

11/14/2015: Meeting with Charlotte Moore and Mill Mountain rain garden to discuss plants and possible nursery options me 1 hour

11/15/2015: Email communication to submit plaque info & and writing up information plaque wording to submit me 1.5 hour

11/22/2015: Online plants research me 2 hours - printed several resources for reference, finalized list of plants wanted to order.

11/22/2015: Email communications with Laurice Ellsworth about additional plant information and options and to schedule meeting Me 1 Hour Total

11/23/2015: Plant order placed online Izel plants & plant order placed by phone: Plant Delights Nursery 1 BSA Adult 1 Hour

11/23/2015: Meeting with Scouts about workday#3 me .5 hour

11/24/2015: Additional plant order placed by phone: Plant delights Nursery 1 BSA Adult .5 hour

11/25/2015: Meet with Laurice Ellsworth Landscape Architect from Hill Studio Roanoke Me 2 hours

11/27/2015: ordered American Flag online BSA Adult .5 Hour

11/28/2015: Workday #2

11/30/2015: Email communications to follow up on informational plaque me .5 hour

12/3/15-12/28/15: Email communications regarding William T. Hornaday process
Me 2 Hours

12/4/2015: Follow up with Ms. Christine Elder Discovery Center , Picked up bio mix soil from Rocky Dale Quarries, Picked up informational plaque from Blue Ridge Sign & Stamp, Painted post for informational plaque Me: 4 Hours BSA Adult 1 Hour Other adult 2 hours

12/5/2015: Plant ID Signs 2 BSA Adults 2 Hours

12/6/2015 Workday #3

12/11/2015 picked up Mulch for Workday #4 1 Hour 2 BSA Adults

12/13/2015 Workday #4

12/14/15 & 12/18/2015: Email communications Mr. Bonnie Underwood to discuss project completion and schedule appointment me 1 Hour

12/21/2015 :Meeting with Mr. Bonnie Underwood at Mill Mountain Rain Garden for project review/approval
Me & 1 other BSA Adult 1 Hour

12/3-12/15/15: project workbook me: 4 hours

12/15/15-1/3/15: project workbook, reports, other documentation , binder preparation Me: 12 hours