Environmental Advisory Commission

June 5, 2014

5:30pm Public Works Conference Room

Agenda

Greenville NORTH CAROLINA

Find yourself in good company

Basic Motions

Motion
Calls for Action
Debatable
Simple Majority

Motion to Amend
Changes Original
Debatable
Simple Majority

Other Motions

Table
Postpone Vote
No Discussion
Simple Majority

Close Debate
End Debate & Vote
No Discussion
2/3 Majority

Reconsider
Change Prior Decision
Voted in Majority
Within One Meeting
Debatable
2/3 Majority

Recess
Take a Short Break
No Discussion
Simple Majority

Consensus Process
If 1-Vote Majority
Debatable
3 Votes to Pass

Adjourn
End the Meeting
No Discussion
Simple Majority

Actions and discussion are governed by motions. Only 3 motions on the table at once (a 4th would be out of order). Most recent motion is considered first.

❑ Convene meeting + Reminder: Turn off Cell Phone

I. Roll Call/Quorum _____ Board Members (quorum = 4)

II. Additions/Deletions/Approval of Agenda

III. Approval of May 1, 2014 Minutes (Attachment A)

IV. Announcements

V. Public Comment Period

VI. New Business
   a. Environmental Survey Update (10 mins) – David Kimmel
   b. 2014-15 Grant Application Approval (20 mins) (Attachment B) - Scott Anderson

VII. Old Business
   a. 2013-14 J.H. Rose High School Grant (Attachment C) (20 mins) – Scott Anderson
   b. River Park North UST/AST Update (10 mins) – Lisa Kirby
   c. Plastic Bags Discussion (10 mins)

VIII. Other – FYI
   a. Recycling Report (Attachment D)
   b. EAC Finalized Calendar (Attachment E)

IX. Proposed Agenda Items – August 7, 2014 (No meeting in July)
   a. Engagements with Council & Other Commissions Discussion (Goal 2)
   b. Tar River Legacy – EAC Involvement
   c. FROGGS Update

X. Adjourn

Items for Future Consideration

_____	_____
_____	_____
_____	_____
_____	_____

2014

Board Members

Chair

1. Scott Anderson (Chair)

Commission Members

2. David Ames
3. Michael Behm (Vice)
4. Owen Burney, Jr.
5. Emilie Kane
6. David Kimmel
7. James (J.C.) Woodley

Ex-officio

Kevin Mulligan (Public Works)

Staff Liaison

Lisa Kirby (Public Works)

City Council Liaison

Marion Blackburn

Environmental Advisory Commission Mission:

The Environmental Advisory Commission is hereby created for the primary purpose of recommending matters of environmental concern and serve as technical advisory to the City Council.

Environmental Advisory Commission Purpose:

- Inventory and review, on a continuing basis, the condition of threats to, the environmental resources of the City; and as technical advisors, to report all needs for improvement and corrective actions to the City Council.
- To be advisory to the City Council. The commission will recommend to the City Council matters of city-wide environmental concern and shall serve as technical advisors to the City Council on environmental matters. In addition, it will review Environmental Impact Statements required by the City on major development projects.

ATTACHMENT A

(May 1, 2014 Minutes)

Action: For your review and approval.

DRAFT OF MINUTES PROPOSED FOR ADOPTION BY THE ENVIRONMENTAL ADVISORY COMMISSION
May 1, 2014

CALL TO ORDER

Members of the Environmental Advisory Commission met on the above date at 5:30 p.m. in the Conference Room of the Public Works Facility. Mr. Scott Anderson, Chairperson, called the meeting to order and welcomed all those present. The following attended the meeting:

1. ROLL CALL

MEMBERS:

David Ames	Scott Anderson
Michael Behm	Owen Burney, Jr
Emilie Kane	J.C. Woodley

OTHERS PRESENT:

Council Member Marion Blackburn
Council Member Rick Smiley
Wayne Caldwell, Former EAC Chairperson, Greenville Citizen
Mark Gillespie, City of Greenville
Scott Godefroy, City of Greenville
Amanda Braddy, City of Greenville

2. ADDITIONS/DELETIONS TO THE AGENDA

There were no additions or deletions to the agenda. Dr. Behm made a motion to move Old Business Item 7A to New Business Item 6C. The motion was seconded by Mr. Burney and passed unanimously.

3. APPROVAL OF APRIL 3, 2014 MINUTES

Dr. Ames made a motion to approve the April 3, 2014 minutes as presented. The motion was seconded by Dr. Behm and passed unanimously.

4. ANNOUCEMENTS

- Mr. Anderson welcomed the newest members to EAC and asked them to introduce themselves. Mr. Anderson asked all others present to make introductions as well.
- Mr. Anderson reported the Environmental Survey being completed by the ECU student for Dr. Kimmel has generated approximately 100 responses and could potentially reach 150 responses by the survey's deadline. The survey results will be added to the June agenda for further discussion.

5. PUBLIC COMMENT PERIOD

There were no public comments.

6. NEW BUSINESS

A. EAC History & Achievements

Mr. Caldwell, former EAC Chairperson and member, provided a PowerPoint presentation related to past projects initiated, considered and/or reviewed by EAC. Those projects included, but were not limited to:

- Cool Cities Initiative
- Tenth Street Connector
- Five year energy plan
- Environmental purchasing policy
- Energy Conservation Block Grant
- Convention Center Recycling
- Sanderson Farms
- Town Creek Contamination

Mr. Caldwell also iterated the need to approach projects in initial stages so EAC would become a stakeholder in a project. Mr. Caldwell suggested establishing liaisons to other City Commissions, City Manager, City departments, and GUC to learn more about additional programs and potential projects.

Mr. Caldwell completed his presentation by suggesting future EAC projects such as:

- New downtown projects and their impact on the environment
- Riverfront Commercialization
- Traffic congestion across the City
- Sustainability Plan
- Low Impact Development

B. Tar River Legacy Plan Update

Mr. Gillespie was present to give an update on the Tar River Legacy Plan. Mr. Gillespie reported Rhodeside-Harwell has been selected as consultants on the project along with HR&A as sub-consultants for economics and The East Group for environmental considerations.

A kick-off meeting was held in January with stakeholders such as Tar-Pamlico Riverkeepers, FROGGS, Recreation and Parks Commission, as well as City Council and City staff. The initial public meeting was also held in mid-January and comments were taken from the public.

The second public meeting was held on April 26th and the consultants reviewed preliminary concepts. The consultants have identified the opportunities for Greenville as more river access, expanded greenways, a ribbon of lakes connected by a trail, and crossings and connectivity to the north side of Greenville from the downtown area.

A third public meeting will be held in July with a date to be determined. This meeting will be utilized to determine the next steps in the project.

Dr. Ames asked if there was any specific involvement or assistance EAC could offer to the Recreation and Parks Department on the Tar River Legacy Plan. Mr. Anderson stated EAC had been invited to the stakeholders meetings and was afforded the opportunity to offer comments and suggestions. Dr. Ames asked if the Tar River Legacy Plan could be reviewed in August after the last public comment meeting to be held in July. Mr. Woodley volunteered to be a point of contact to the Recreation and Parks Department on this project.

C. Current & Future EAC Grants

Dr. Behm began the discussion by stating no applications for the 2014-2015 had been received to date. Dr. Behm stated he felt the application deadline should be extended in consideration that Pitt County Schools' spring break period occurred within the application deadline period. Therefore, Dr. Behm made a motion to:

1. Extend the deadline for grant applications to May 16, 2014;
2. Review and select award recipient at the June 5, 2014 meeting;
3. Present the 2014-2015 grant to the awarded recipient at a ceremony to be held on September 4, 2014 EAC meeting.

The motion was seconded by Mr. Burney. The motion passed unanimously.

D. EAC Proposed Calendar

Mr. Anderson directed attention to the draft EAC calendar within the agenda package. Mr. Anderson indicated the calendar had previously coincided with the City's fiscal year; however, the calendar would now run for a calendar year beginning in January. This would allow EAC the opportunity to have goals and objectives established and completed within that year for presentation to City Council the following January of each year. Therefore, the calendar presented for review began in August and will run to December at which time a new calendar will be presented to EAC for review with approval in January.

E. Plastic Bags Discussion

Mr. Anderson announced that Ms. Lisa Kirby spoke with Cheryl Tafoya, City of Greenville's Recycling Coordinator, and the two were researching other area bans on plastic single-use bags. Ms. Tafoya will be contacting Keep America Beautiful Organization and the US Department of Solid Waste to ascertain if either has proposed policies on bans. Ms. Kirby will also search the GreenGov server list for the same information. The information obtained will be reported to EAC on the June 5, 2014 meeting.

7. OLD BUSINESS

A. River Park North UST/AST Update

Mr. Anderson informed the group that Lisa Kirby would be contacting Mr. Jay Holley for assistance in determining the next course of action for the River Park North UST/AST incident. The results will be reported at the June 5, 2014 EAC meeting.

8. OTHER– FYI

A. Recycling Report
B. UST Report
C. Membership Roster
D. Recycling Initiatives of Catawba County

9. PROPOSED AGENDA ITEMS – The following items are proposed for the June 5, 2014 meeting:

A. Environmental Survey Results
B. River Park North UST/AST Update
C. Plastic Bags Discussion
D. Grants Discussion – Application approval

E. EAC Calendar Finalized

10. Adjournment –There being no further business to discuss, Mr. Burney made a motion to adjourn. The motion was seconded by Dr. Ames and passed unanimously. The meeting adjourned at 7:30pm.

ATTACHMENT B

(2014-2015 Grant Applications)

Action: For your review and approval.

C.M. Eppes

EAC Grant Application

APPLICATION PACKET

- Form must be typed using Time Roman 12 point font. Hand-written applications **will not be accepted**

Name of Parent Teacher Organization or Related School Group Submitting Application	**CM Eppes Middle School Science Department**
Contact Information • Contact person • Address • Phone number • Email	**Karen P. Quick 1100 South Elm Street Greenville, NC 27858 CM Eppes Middle School 252-702-7550 quickk@pitt.k12.nc.us**
Contact Information of Grant Administrator (if different from above) • Contact person • Address • Phone number • Email	
Project Name	

Project Description (max. 500 words)

6th and 8th Grade science students at Eppes Middle School will conduct studies of plant growth and learn about local agricultural practices by making use of a pre-existing greenhouse located on the school campus. A rain barrel will be installed and several types of plants will be grown for study. Student teams will develop plant growth studies of their own design with support and feedback from their teachers. Students will be supported in their submitting projects to the Eastern Regional Science Fair. An extension of this work will include how vegetation and root growth helps prevent erosion. And students will be challenged in determining the best type of plants to grow in landscaping that have best root growth for preventing erosion but also must add another feature to the environment (i.e. flowers for pollinators or is a local species).

8th grade students will conduct a study of Green Mill Run. Students will design maps of the area from the bridge at the bottom of college hill to the bridge just past Elm Street Park. A classroom-sized map will be put together as students will be responsible for mapping out their own sections of the area. Vegetation and other permeable surfaces as well as impermeable surfaces will be identified. Students will be posed with the problem: "The city of Greenville has hired you to solve the problem of flooding at the bottom of College Hill Drive and Tenth Street." The details of the proposal will include the requirements of their work. Along with this research, students will conduct water quality and stream flow while taking into account weather patterns.

In addition to the problem of flooding, students will also learn about local stream species of fish, amphibians and reptiles along with aquatic plants. They will conduct water sampling in order to study macroinvertebrate species.

The final proposal must include a thorough understanding of the ecological impact of any changes they recommend to the area.

Rationale for Project (max 250 words)

- Outline why this project should be funded, i.e. what will this project contribute to improving storm water management in Greenville?

For many students in the Pitt County School system, there is very little experience in problem-based learning. Students in middle school have a mixed background in science instruction. The project easily focuses on 6th grade students as the greenhouse supports the NC Standard Course of Study for sixth grade (plants and ecosystems). In eighth grade, the NC Science Standards include learning about the hydrosphere and human impacts on it, sustainability practices, ecosystems and food and health.

The students at CM Eppes reside in Greenville and are familiar with flooding issues. The goal is for them to better understand how flooding occurs. The design of this project requires that students submit professional proposals for how the city may

address the issue of flooding at the bottom of College Hill.

For 6th and 8th grade students, learning about local agricultural practices, plant growth and the role that vegetation plays in preventing erosion will help them better understand how these things may or may not contribute to stormwater management.

Partners or Groups Involved (max. 250 words)

- Describe the group(s) and how they will be involved in the project

Project Equal students will vary as far as who is available and when. This is an alternative program for students to complete after school services as opposed to being suspended from school. Some of these students may be tasked with cleaning areas or watering plants, etc. around the greenhouse.

ECU's biology department, specifically the Biodiversity Center, will be involved with doing presentations for students and assisting in conducting outdoor field trips.

A Time for Science in Grifton will provide a resource for learning about agricultural practices and water quality studies.

CM Eppes PTA will also support the project by helping in coordinating plant sales if students are successful in growing landscaping plants.

Risks and Responses • List any possible risks that may hinder the successful implementation of the project and note how these risks may be overcome For example: --Risk: resistance from school group to take on new project. --Response: hold two informational meetings to present project; generate one page overview for students to take home to parents.	**Outdoor precautions. Students will be walking to areas around Green Mill Run to make observations and measurements for mapping and taking water samples for study.** **We will have an 8th grade parent/student meeting one day after school to explain the project.**
Implementation Timeline • List key dates	**August 2014: Students will learn about the details of the projects during the first few weeks of school.** **September 2014: Have Rain Barrel and Other Greenhouse Items ordered and deliverd.** **October 2014: 8th grade students will have completed their mapping of the Green Mill Run area. Plant studies will have begun.** **November 2014: ECU Biodiversity Center and 6th and 8th grade students will learn about the local ecosystem. Plant studies and landscaping proposals are being drafted.** **December-January: continue collecting data on plant studies and mapping/water quality.** **January: Water Quality studies will have been completed.** **February: students who complete a science fair project will compete at ECU.** **March-April: students work on and complete their proposals for Green Mill Run Study**

Proposed Budget • Indicate how the 25% "in-kind" or financial contribution will be provided	*Complete attached form*

Benchmarks (max. 500 words)
• Describe how the effect/impact of the project will be measured

Pre-surveys will be conducted with students. They will be asked questions about their interest and experiences with scientific research, problem solving and the specific content they are learning. Student participation in the science fair will also be a measure of impact as very few students, outside of those who are part of the academically and intellectually gifted programs, complete science fair projects.

Students in 8th grade have a state End-of-Grade assessment. Students will complete a post-survey responding to items asking about how they think the project impacted their learning and motivation to learn.

Post-project • Detail any anticipated work that will need to be done once the grant is completed e.g. if a wetland is put in place, what will be needed to keep this functioning over the next 5 years.	**The equipment purchased for this project will allow us to continue the problem-based learning environment using the greenhouse and studies on Green Mill Run. However, some materials are perishables and sales of landscaping plants will be used in purchasing future equipment.**
Additional documentation	*Provide paperwork that indicates that the proposing organization/person is within the City Limits of Greenville and any letters of support.*
Signature of PTO President	
Date	

Final Checklist

___ Application form is completed
___ Application form is signed and dated
___ Budget sheet is complete and attached
___ Proof of location of proposing organization is attached
___ Letter of support (optional)

Send complete application packet to:

Ms. A. J. Braddy
Public Works Department - Engineering Division
1500 Beatty Street
Greenville, NC 27834

DEADLINE: APRIL 22, 2014

Project Name: Greens Mill Run and Agriculture
Organization: CM Eppes/Karen Quick

~If the line item is not relevant to your proposal simply leave the line blank.

~Indicate in the *School Group Match* column those areas where the school group will contribute the required 25% in either donations or money

Budget Items		School Group Match	Totals
Design			
Budgeted Amount			
In-kind contribution			
Survey			
Budgeted Amount	738.00	100.00	838.00
In-kind contribution			
Education			
Budgeted Amount	125.95		125.95
In-kind contribution			
Construction			
Budgeted Amount	50.00	use of greenhouse	50.00
In-kind contribution			
Plantings			
Budgeted Amount			
In-kind contribution			
Printing			
Budgeted Amount	245.25		245.25
In-kind contribution			
Monitoring			
Budgeted Amount	883.00	220.00	1103.00
In-kind contribution			
Land			
Budgeted Amount			
In-kind contribution			
Other (please itemize)			
Budgeted Amount			
In-kind contribution		200.00 *teacher salaries	
Administration			
Budgeted Amount			
In-kind contribution		100.00	
Cash Sub-total	2042.20	320.00	
In-kind Sub-total		300.00	
Total	2042.20	620.00	2662.20

Ridgewood Elementary

EAC Grant Application

APPLICATION PACKET

- Form must be typed using Time Roman 12 point font. Hand-written applications **will not be accepted**

Name of Parent Teacher Organization or Related School Group Submitting Application	Caitlin Brown and Leigh Dickerson Ridgewood Elementary School
Contact Information • Contact person • Address • Phone number • Email	Caitlin Brown Ridgewood Elementary School 3601 South Bend Road Winterville, NC 28590 Phone: 252-355-7879 / Fax: 252-355-3349 Brownc@pitt.k12.nc.us
Contact Information of Grant Administrator (if different from above) • Contact person • Address • Phone number • Email	
Project Name	Ridgewood Rain Gardens

Project Description (max. 500 words)

The goal of our project is to build a rain garden to improve the water quality at our school while also bringing together our building and surrounding environment in an aesthetically pleasing way. A rain garden at our school will help educate our students on how to create a solution for the potential run-off pollution in the Tar-Pamlico or Neuse River. Our students will look forward to creating a cleaner and more beautiful community, and we hope you will fund this project to help make a positive difference for our local environment.

Rationale for Project (max 250 words)
- Outline why this project should be funded, i.e. what will this project contribute to improving storm water management in Greenville?

Adding beauty to your community and protecting water quality is a high quality learning experience for 5th graders. Storm water runoff is considered one of the main sources of water pollution nation-wide. While an individual rain garden at one school may seem like a small contribution, collectively they produce substantial environmental benefits. A rain garden at Ridgewood would benefit the community and students in several ways:

- Increasing the amount of water that filters into the ground which recharges groundwater
- Helping protect surface waters from pollutants carried by storm water such as lawn fertilizers and pesticides, oil and fluids that leak from cars, litter, among others
- Providing habitat for birds, butterflies, and other beneficial insects
- Daily hands-on learning experiences for the students
- Enhancing the beauty of our schoolyard
- Allowing an educational learning experience that reflects the NC Essential Standards
    - 5. P.2.1 Explain how the sun's energy impacts the processes of the water cycle (including evaporation, transpiration, condensation, precipitation and runoff).
    - 5. E.1.1 Compare daily and seasonal changes in weather conditions (including wind speed and direction, precipitation, and temperature) and patterns.
    - 5. E.1.2 Predict upcoming weather events from weather data collected through observation and measurements.
    - 5.L.2.3 Infer the effects that may result from the interconnected relationship of plants and animals to their ecosystem.

Partners or Groups Involved (max. 250 words)
- Describe the group(s) and how they will be involved in the project

All of our 5th graders and 5th grade teachers will be involved in creating, tracking and maintaining the rain garden. A parent letter will also be sent home describing the project and asking for parent help with the construction of the garden

Risks and Responses • List any possible risks that may hinder the successful implementation of the project and note how these risks may be overcome For example: --Risk: resistance from school group to take on new project. --Response: hold two informational meetings to present project; generate one page overview for students to take home to parents.	Risk: Resistance from administration to install rain garden Response: Principal Stewart is supportive of the project, and has provided a letter of support. Risk: The time needed to perform the tasks. Response: A schedule of dates and times will be created to ensure that tasks are completed.
Implementation Timeline • List key dates	• September 2014: Initiate School Program- Decide on garden location, plan and size garden, select flowers with the guidance of a landscape architect (Luke Taylor) • October 2014: Students, staff, parent volunteers, and the landscape architect will construct the rain garden and plant flowers • November 2014-March 2015: Maintenance of rain garden, students collect data in their notebooks (anecdotal notes and drawings of changes to garden and runoff amounts collected) • April 2015: Share findings from the data collected through presentations

Proposed Budget • Indicate how the 25% "in-kind" or financial contribution will be provided	*Complete attached form* "In-kind" contribution will be made by time contributed by Mrs. Brown, Mrs. Dickerson, Ms. Quinn, Ms. Whitaker, and Mrs. Hachmeister
Benchmarks (max. 500 words) • Describe how the effect/impact of the project will be measured	

Completed Aspects

- Number of students involved in project
- Data collected from the rain garden will include anecdotal observations (descriptions and pictures) about changes to the garden over time (examples of wildlife and biodiversity), amounts of runoff water collected after weather systems
- Weather Unit- students will study the effects of different weather systems across the United States and collect data from the rain garden as weather systems hit our area
- Ecosystem Project- students will research the various ecosystems found throughout the world, based on their findings they will make predictions and inferences about the changes that will occur to the rain garden over time.

Post-project • Detail any anticipated work that will need to be done once the grant is completed e.g. if a wetland is put in place, what will be needed to keep this functioning over the next 5 years.	The students and staff at Ridgewood will maintain the rain garden over the next five years by keeping the area free of debris and other routine maintenance and by replacing flowers as deemed necessary.
Additional documentation	*Provide paperwork that indicates that the proposing organization/person is within the City Limits of Greenville and any letters of support.*
Signature of Responsible Person	Cadi Brown
Date	5/6/14

Final Checklist

___ Application form is completed
___ Application form is signed and dated
___ Budget sheet is complete and attached
___ Proof of location of proposing organization is attached
___ Letter of support (optional)

Send complete application packet to:

Ms. A. J. Braddy
Public Works Department - Engineering Division
1500 Beatty Street
Greenville, NC 27834

DEADLINE: APRIL 22, 2014

Greenville Environment Advisory Committee Grant
Grant Focus: Stormwater Management

Grant Cycle: 2014-2015

Estimated Budget: $1107

Item	Cost/Unit	Total Cost	Donated/Loaned
1. White mark-out paint	$5/1	$5	
2. Landscape pins	$1/pack	$4	
3. Lumber		$100	
4. Weed block fabric	$12/roll	$36	
5. Shovels/soil rakes			X
6. Mulch	$28/yard	$84	
7. Plants	Various plants	$300	
8. Fertilizer	$6/pack	$18	
9. Data Notebooks	$2/student	$260	
10. Landscape Architect: Luke Taylor			X
11. Student and Teacher Time			X
12. School Literature: examples of books will include- "The Big Book of Our Planet", "Catch of the Day: The Case of the Helpless Humpbacks", "The Eleventh Hour", "Forest Slump: The Case of the Pilfered Pine Needles", "From the Mixed-Up Files of Mrs. Basil E. Frankweiler", "Incognito Mosquito, Private Insective", "Ecosystems (Ecology and the Environment)"Exploring Ecosystems with Max Axiom, Super Scientist", "The War in Your Backyard: Life in an Ecosystem", "Pollution: Problems and Solutions", "Pollution (Habitat Havoc)"	Various books	$300	

Total Estimated Budget: $1750

Item	Cost/Unit	Total Cost	Donated/Loaned
1. White mark-out paint	$5/1	$5	
2. Landscape pins	$1/pack	$4	
3. Lumber		$100	
4. Weed block fabric	$12/roll	$36	
5. Shovels/soil rakes			$240
6. Mulch	$28/yard	$84	
7. Plants	Various plants	$300	
8. Fertilizer	$6/pack	$18	
9. Data Notebooks	$2/student	$260	
10. Landscape Architect: Luke Taylor			$200
11. Student and Teacher Time			$200
12. School Literature: examples of books will include- "The Big Book of Our Planet", "Catch of the Day: The Case of the Helpless Humpbacks", "The Eleventh Hour", "Forest Slump: The Case of the Pilfered Pine Needles", "From the Mixed-Up Files of Mrs. Basil E. Frankweiler", "Incognito Mosquito, Private Insective", "Ecosystems (Ecology and the Environment)"Exploring Ecosystems with Max Axiom, Super Scientist", "The War in Your Backyard: Life in an Ecosystem", "Pollution: Problems and Solutions", "Pollution (Habitat Havoc)"	Various books	$300	
Totals		**$1107.00**	**$640.00**

ATTACHMENT C

(J.H.Rose Grant Update/Report)

Action: For your information.

2013-2014 GREENVILLE ENVIRONMENT ADVISORY COMMITTEE GRANT: STORMWATER MANAGEMENT

J. H. Rose High School

Six Month Report

May 23, 2014

PROJECT OVERVIEW

During the planning and beginning of the grant stages, Dr. Eban Bean from East Carolina University and Brian Callahan of J.H. Rose HS worked to survey the school grounds and parking areas for possible runoff problems and brainstormed numerous ideas of how to improve runoff and water infiltration on campus.

EDUCATION MODULES

Stormwater Education Modules were discussed to be implemented this year and allow a repeated offering for other classes in upcoming years by other teachers and students. The modules created would involve:

Hydrologic Cycle

Learning Objective: Students understand how water cycles through the atmosphere and earth's surface, understanding how precipitation and evapotranspiration vary during the year. Students understand that precipitation affects nearly all professions and thus is important to many people.

Resources: Installation of real time weather station and data collection.

Effect of Impervious Area on Runoff

Learning Objectives: Students understand the relationship between precipitation, land use, and runoff volumes and rates, specifically with respect to pervious and impervious surfaces.

Resources: Campus drainage infrastructure and large scale aerial of campus used by students to generate campus runoff map.

Stormwater Impacts on Streams

Learning Objectives: Students understand how increasing runoff rates from impervious surfaces erode receiving streams and downstream sedimentation fills streams.

Resources: Local tour stops for stream erosion and sedimentation examples.

Stormwater Management

Learning Objectives: Students understand how managing stormwater on site and preserving the hydrology after development reduces impacts on streams and water quality. Students learn different types of stormwater best management practices and how they function.

Resources: Local tour stops for examples of stormwater management, including a detention pond, an infiltration basin, a permeable pavement lot, cisterns, a bioretention cell and a stormwater wetland.

STREAM TOUR

During the fall semester Dr. Bean and over 70 students in Mr. Michael Walter's AP Environmental Science and Mr. Clinton Todd's Honors Earth Science classes participated in a local stream tour (Figure 1).

Severe Stream Erosion: Meeting House Branch

Joni Torres, from Pitt County Cooperative Extension and a home owner whose property borders Meeting House Branch, shared the history of the erosion problem with students at the site. This was very valuable and future tours should seek to coordinate with Ms. Torres if possible. Also, multiple students lived in and around the Planter's Walk neighborhood and were able to share first hand with students how they had seen the stream change over time.

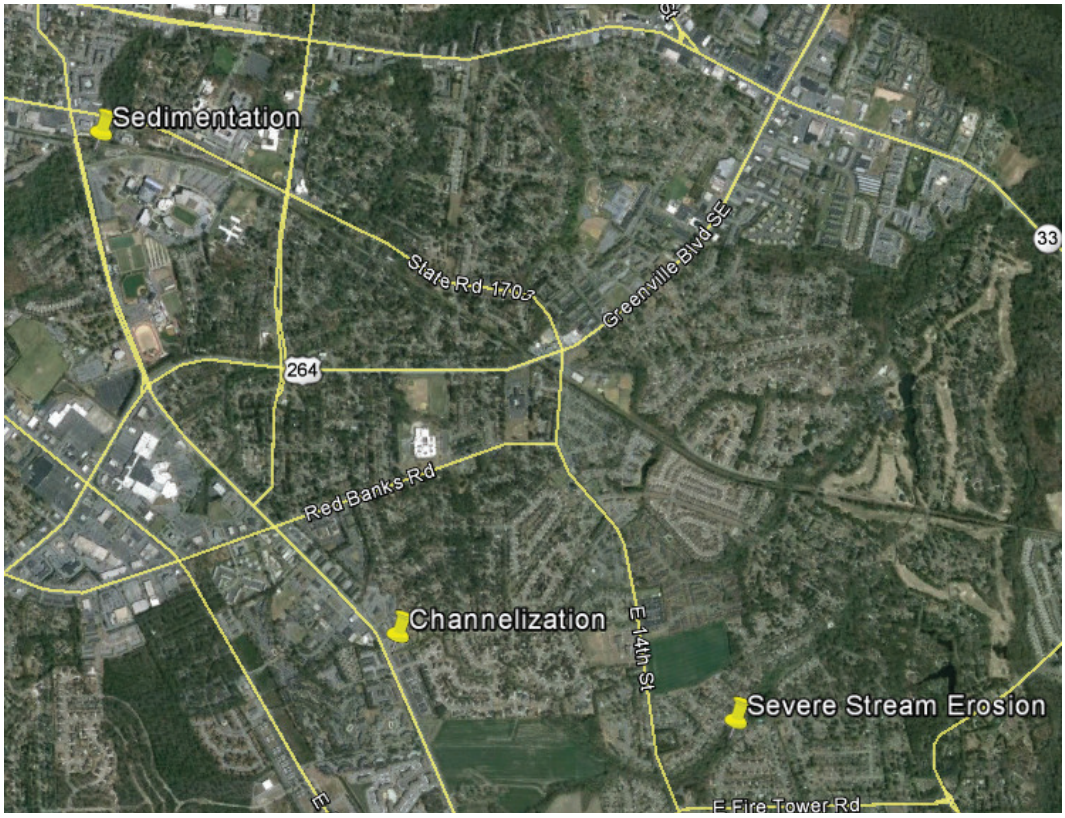


Figure 1. Locations of stream tour stops: Severe Stream Erosion (Meeting House Branch adjacent to Crooked Creek Rd.), Channelization (former agricultural drainage ditch adjacent to Charles Blvd.), and Sedimentation (Greens Mill Run at Charles Blvd.).

STORMWATER BMP TOUR

During the fall semester Dr. Bean's graduate student, Mr. Michael Griffin, led approximately 30 students in Mr. Michael Walter's AP Environmental Science class

participated in a local stormwater BMP tour. Mr. Griffin explained how each stormwater management practice functioned and used field equipment to allow students to measure infiltration rates at the infiltration basin and bioretention area. This tour allowed students to see firsthand how stormwater is managed in their community.

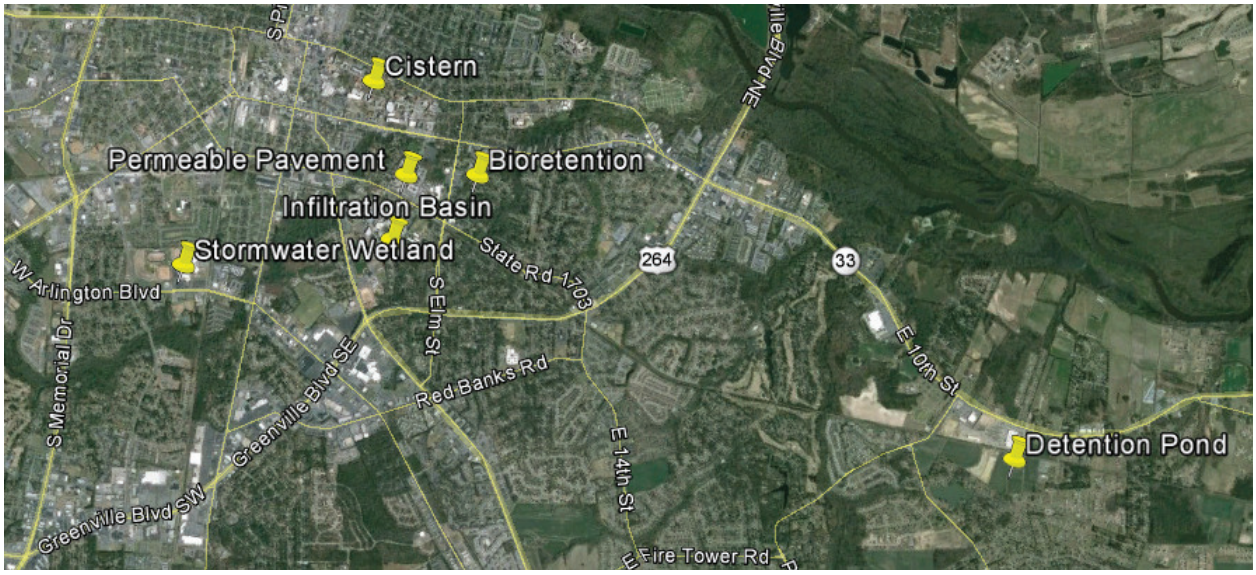


Figure 2. Locations of stormwater best management practices.

ASSESSMENT/REVISIONS OF LEARNING MODULES

The stormwater modules were distributed throughout the fall semester to incorporate with topics currently being taught in courses. However, Mr. Todd and Dr. Bean decided it may be more effective for students to have the modules compressed together, to maintain continuity. As a result, the stream and stormwater BMP tour may be combined into a single tour. In addition, we will look to incorporate more hands on activities to for students to apply.

OTHER ON CAMPUS SYNERGISTIC ACTIVITIES

Earth Day at Rose this year will have a stormwater module/display available for students to interact with and bring attention to BMP's and stormwater related concerns.

This will be done through involvement with Earth Science and AP Environmental Science students at J.H. Rose for other students throughout the school to increase awareness in regard to stormwater management.

SECOND HALF OF GRANT

We are planning to implement the stormwater modules and tours with Dr. Bean again during the spring semester in Mr. Todd's AP Environmental Science class. Students will use the campus stormwater map to identify locations where stormwater BMPs might be implemented on campus to reduce runoff. Based on these suggestions, costs, and availability of funds, we plan to implement a stormwater BMP on campus during the spring semester or over the summer. Possible BMPs to be considered include: rain gardens, downspout disconnects, and cisterns for watering vegetable gardens.

BUDGET

With the first allotment of funds J.H. Rose HS purchased and with the help of Mr. Michael Griffin installed a Davis Instruments 6162 Wireless Vantage Pro 2 Plus wireless weather station and software to monitor and provide real time weather data online. The weather station measures temperature, humidity, wind speed and direction, rainfall rate, pressure, and radiation (solar and UV). This will help students analyze real time data to evaluate the implications of the amount of precipitation and evapotranspiration amounts on campus. Computers at Rose High School are programmed to turn off over night. At this time, Rose High School is working on allowing a computer connected to the weather station to remain on full time to provide weather data to the public.

Figure 3. Davis Vantage Pro 2 weather station.

Dr. Bean and Mr. Griffin have spent over 40 hours with J.H. Rose students and teachers working on this project during the past school year. At a rate of $20/hr, the value of their contribution is at least $800.

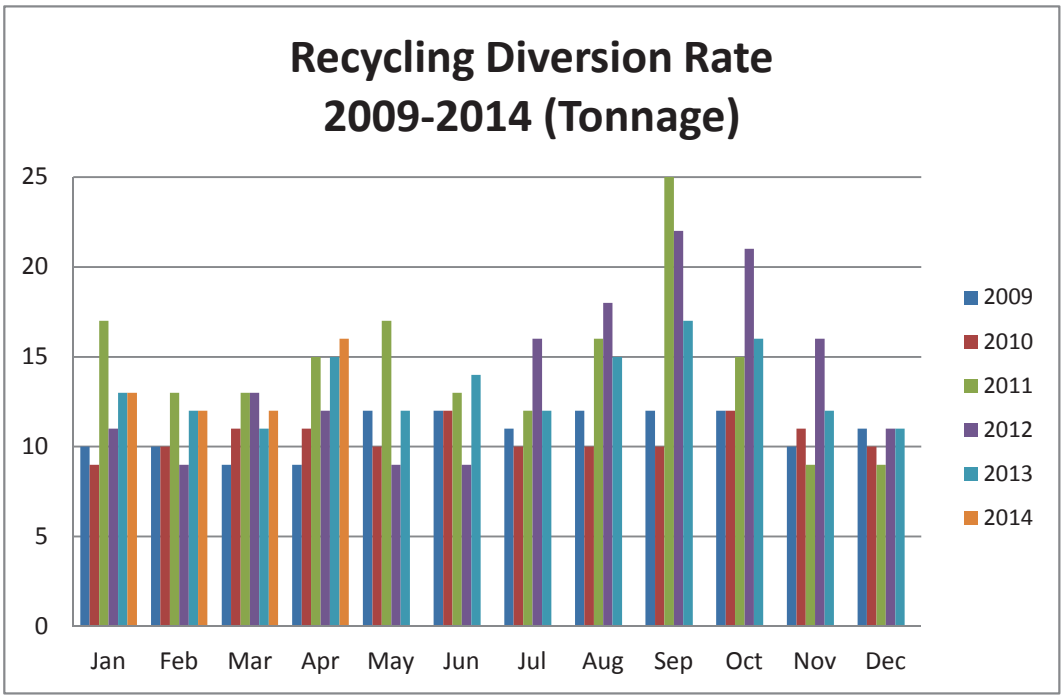
Expenses

Weather Station:	$867.90
Weather Station Supplies:	$ 63.48
Total:	$931.38

ATTACHMENT D

(Recycling Report)

Action: For your information.


Recycling Diversion Rate
2009-2014 (Tonnage)
25
20
15
10
5
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
2009
2010
2011
2012
2013
2014

ATTACHMENT E

(EAC Finalized Calendar)

Action: For your information.

PROPOSED EAC SCHEDULE

2014-2015

August 7, 2014

August-14						
S	M	T	W	R	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

1	**ENGAGEMENT WITH COUNCIL & OTHER COMMISSIONS :** Discussion (Goal#2)
2	**TAR RIVER LEGACY:** EAC Involvement
3	**FROGGS:** Update
4	
5	
6	

PROPOSED EAC SCHEDULE

2014-2015

September 4, 2014

September-14						
S	M	T	W	R	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

1	**EAC AWARDS CEREMONY - CITY COUNCIL CHAMBERS**
2	
3	
4	
5	
6	

PROPOSED EAC SCHEDULE

2014-2015

October 2, 2014

October-14						
S	M	T	W	R	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

1	**KEEP GREENVILLE BEAUTIFUL:** Update/report
2	**EAC 2014-2015 GRANT:** Update
3	**REDUCTION IN VOLUME OF WASTE: (Goal #3)**
4	**QUARTERLY UST REPORT**
5	
6	

PROPOSED EAC SCHEDULE

2014-2015

November 6, 2014

November-14						
S	M	T	W	R	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

1	**2015 GOALS & OBJECTIVES:** Brainstorm
2	**SUSTAINABILITY PRESENTATION:** Accomplishments and Achievements (Goal #7)
3	**FROGGS:** Update
4	
5	
6	

PROPOSED EAC SCHEDULE

2014-2015

December 4, 2014

December-14						
S	M	T	W	R	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

1	**2015 GOALS AND OBJECTIVES:** Finalize
2	**COUNCIL PRESENTATION:** Brainstorm
3	**STORMWATER:** Annual report to State
4	
5	
6	

PROPOSED EAC SCHEDULE

2014-2015

January 1, 2015

January-15						
S	M	T	W	R	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

1	**COUNCIL PRESENTATION:** Review and finalize
2	**ELECTIONS**
3	**2015 GOALS & OBJECTIVES:** Implementation
4	**2015 EAC GRANT**
5	**QUARTERLY UST REPORT**
6	**EAC CALENDAR:** Draft
7	**2014/2015 EAC GRANT:** Update