

KING CREEK RESTORATION



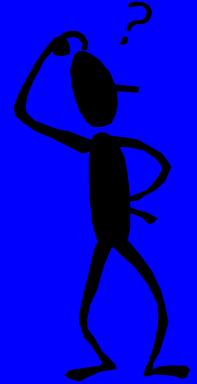
GUIDING LANDOWNERS TO CONSENSUS

ERIC N CALDWELL

NORTH CAROLINA STATE
UNIVERSITY/COOPERATIVE EXTENSION



WHY KING CREEK?



- **DEGRADED STREAM**
- **LANDOWNER INPUT**
- **EDUCATION AND RESEARCH OPPORTUNITIES**

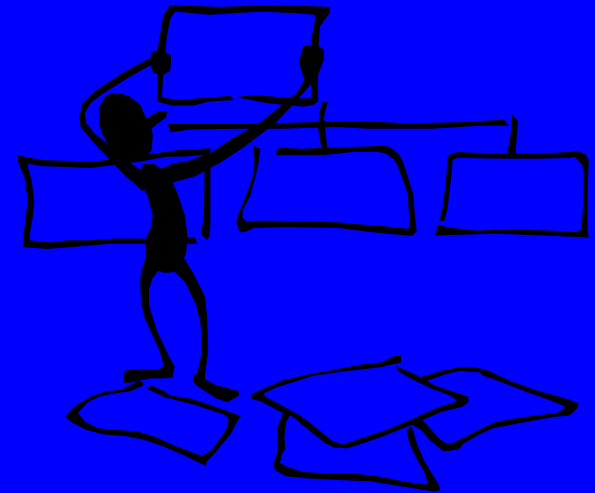
**KINGS CREEK
BREVARD COLLEGE
BREVARD N.C.
March 2003**

TOE PIN 1999



PROJECT OVERVIEW

- 2300 FT OF STREAM
- 10 LANDOWNERS
- COLLEGE CAMPUS
- 4 SQ. MILE DRAINAGE AREA
- PRIORITY 1 RESTORATION
- G4 TO E4





Conservation Easement
Proposed Greenway

Existing Track



Exi

Riparian Buffer
Conservation Easement
Existing Property Line

Proposed Stream Channel
Proposed Property Line
Existing Stream Channel

gn: William A. Harman

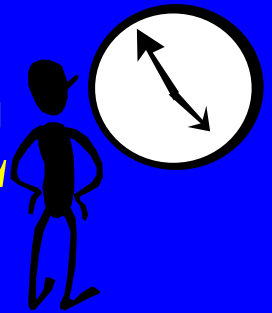
r: Kevin Teready

Deborah J. Bousquet

ember 15, 2000

ic 6, 2000 Proposed Buffer, Lot Lines,
ndering by Jon Calabria, ASLA

PROJECT TIMELINE



- 1998 INITIAL CONTACT MADE WITH BREVARD COLLEGE
- 1998 LANDOWNER CONTACT BEGINS
- 1998 GRANT REQUEST
- JANUARY 1999 X-SECTS SURVEYED DESIGN WORK BEGINS

Kings Creek Project Beginning With Survey

By Joel Burgess
Staff Writer

One of Hercules' greater labors was to clean the notoriously filthy Augean stables.

To accomplish this, the hero in a god-like display re-routed two rivers through the cattle yard, washing away all the muck in one day.

Though it will take more than a day, a similarly amazing display involving a waterway will be taking place here in Brevard.

Headed by river specialist Will Harman of the N.C. State Water Quality Group, a large portion of Kings Creek will be given a new bed and a new route about a year from now.

Presently, Harman and his associates are back in Raleigh organizing and analyzing data collected from a survey conducted on the creek last week.

The portion of the creek surveyed runs near Brevard College's track and adjacent to many private homes through a floodplain that it long ago created.

"Sometime in the past, this stream, like almost all streams in floodplains like this, was pushed to the side to allow for farming," said Harman in high-high waters from the creek bed last week.

"At some point it meandered all over this thing," he says gesturing toward the floodplain. "You would not have a stream with this low a slope be this straight naturally."

Once Kings Creek took its new path, houses began to appear with property lines remaining all the way to the stream itself. The problem which followed was erosion of homeowners' properties and saturation of their backyards' with water.

Susan Schmidt, a professor at the college, owns what she calls "the old farmhouse," and estimates that the structure first went up 40-50 years ago. She recalls 6 to 8 inches of standing water that accumulated in her back yard during past heavy rains.

Schmidt, also a gardener, bought the property, she says "for the soil," since the creek left layers of rich

alluvial deposits over the decades.

Her interest in the reconstruction is, of course, very personal. "I think it's a good idea as long as I still have a property line that runs down to the center of the creek." As for the flora and fauna which are planned to go around the newly-routed waterway, Schmidt says that she would like "birds and trout and just the stream being beautiful."

Harman sounds agreeable to her proposal, saying that they plan to plant Silky Dogwoods and willows along the stream bed but will also "work with the college and landowners to bring in trees and whatever else they want."

Possibly the most important result to come from the survey is simply knowing that the planned restoration will probably work.

"It will work. It is feasible," says Harman correcting himself.

From where he stands during the survey, ankle deep in rushing water, hydro-engineers and other river specialists will attempt to move the stream 30-50 feet deeper into the floodplain away from the houses.

"We will also lower the bank heights," says Harman. This and re-vegetation will be important components in preventing erosion.

He adds that soil dug from the new bed will be used to fill in the old one. "It won't completely fill it, so we plan on putting in some ox-bow lakes, which would be good for trout and other fishing."

These lakes will also serve as back-up reservoirs to catch excess water and prevent flooding.

approved, and time has finally come for the earth to be moved. Harman says that though they may contract out for some labor, he and other water quality members will act as overseers. "We will not hire a general contractor," he says.

Members of the water quality group actually began this project in early December by surveying several of what they determined to be "healthy" rivers and streams as

models for the new routing of Kings Creek.

Assisting them at that time and again this past week were personnel from the Department of Agriculture's Natural Resource Commission, the Transylvania County Soil and Water Conservation Department and the N.C. Cooperative Extension Service.

The restoration project actually falls into the jurisdiction of the latter, and being a physical and academic extension of N.C. State, the extension service draws heavily upon the talents of its mother campus in Raleigh.

Brevard College may also become involved since it is the largest landowner near the surveyed portion of the creek. It may offer the services of students and faculty in the environmental studies department.



NC State river specialist Will Harman confers with fellow surveyors on Kings Creek near Brevard College. The creek will be given a new route away from homes around this time next year.

Balsam Grove News

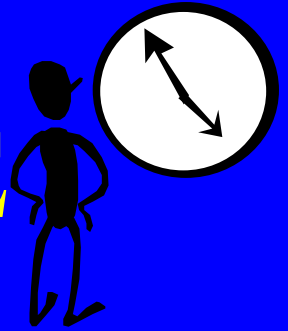
By Catherine Fitchess

Many Thanks

Rev. Bill Lance and the people of Fishhook Valley Baptist Church would like to thank everyone and all churches that helped recently with their Basket of Hope Missions

McCall, Jan. 15; Vivian Queen and Sherry Aiken, Jan. 17; Brian Green, Jan. 18; David Anders, Jan. 19; Jessica Anders, Carol Owen, Farrel Owen, Carol Owen and Clara McCall, Jan. 20. We wish all

PROJECT TIMELINE



- **FEB. 2000: 1ST OPINION BALLOT**
- **DESIGN MODIFIED**
- **MAY 2000: 2ND OPINION BALLOT**
- **MAY 2001: PERMIT APPLICATIONS**
- **FEB. 2002: “LETTER OF INTENT”**
- **JULY 2002: OUT FOR BIDS**

ARRRG!

WHY THESE THINGS TAKE SO LONG



- FEB. 2000: DESIGN MODIFICATION
- JULY 2000: P.I. CHANGE
- JUNE 2001: 1ST GRANT EXTENSION
- JAN. 2002: TRUSTEE REVOLT
- APRIL 2002: FEMA ROAD BLOCK
- JUNE 2002: 2ND GRANT EXTENSION
- SEPT 2003: “DEAD IN THE WATER”
- JAN. 2003: HAND OFF TO NCWRP

October 08, 2003 9:42 AM

Kings Creek no-rise submittal

Kings Creek no-rise submittal approved by FEMA Region IV! Yay!

Godbold, EIT
Resources Engineer

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47 Harding Place, Suite 100
Charlotte, NC 28204
704-334-4454 ext 106
704-334-4492 fax
egodbold@buckengineering.com
www.buckengineering.com

Eric N Caldwell
County Extension Director
Transylvania County N.C.

203 E Morgan St.
Brevard NC 28712
704-884-3109 Phone
704-884-3142 Fax
ncsu.edu/transylvania

MOVING AHEAD!

RE: Kings Creek no-rise submittal
From: "Will Harman" <wharman@buckengineering.com>
Date: Wed, 8 Oct 2003 13:23:23 -0400
To: "Eric N Caldwell" <Eric_Caldwell@ncsu.edu>

Yes, a most excellent milestone. As an additional update, we have submitted sheets to WRP for review along with the sediment and erosion control plan. We need to huddle up with the landowners and college. Jason should be in the meeting logistics.

Will Harman, PG
Buck Engineering
8000 Regency Parkway, Suite 200
Cary, NC 27511
Phone: 919-459-9003

-----Original Message-----

From: Eric N Caldwell [mailto:Eric_Caldwell@ncsu.edu]
Sent: Wednesday, October 08, 2003 12:01 PM
To: Will Harman
Cc: Emily Godbold; Jbuck (E-mail); Jon Calabria (E-mail); Ktweedy (E-mail)
Subject: Re: Kings Creek no-rise submittal

GREAT NEWS...this is a milestone..we are now officially one step further than we have EVER been on this project!!!

EC

Will Harman wrote:

Excellent! Congratulations.

Will Harman, PG
Buck Engineering
8000 Regency Parkway, Suite 200
Cary, NC 27511
Phone: 919-459-9003

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

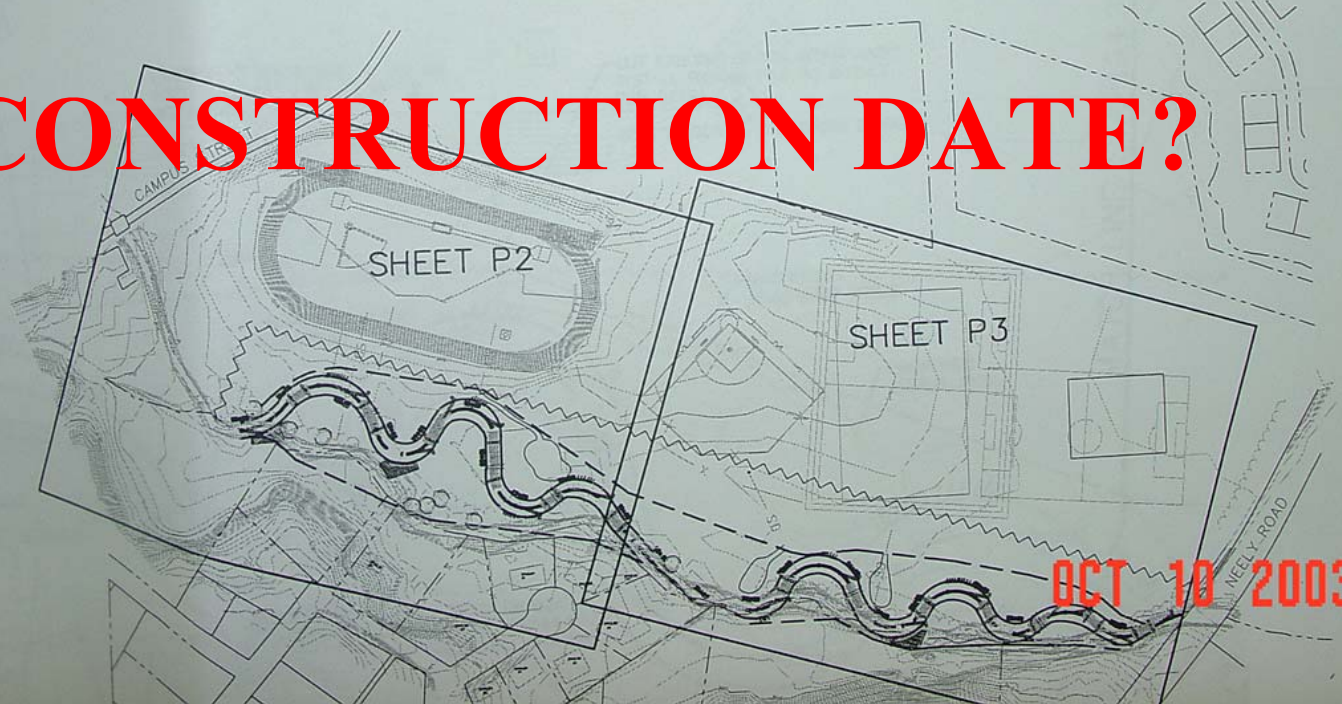
PROJECT REFERENCE NO. 147	SHEET NO. P1
PROJECT ENGINEER	
APPROVED BY:	
DATE: 10/03/2003	
BUCK ENGINEERING	
<small>1347 Harding Place Suite 10 Charlotte, North Carolina 28203 Phone: 704-336-4454 Fax: 704-336-4492</small>	

EROSION AND SEDIMENT CONTROL SUBMITTAL

KINGS CREEK RESTORATION PROJECT BREVARD, TRANSYLVANIA COUNTY, NORTH CAROLINA

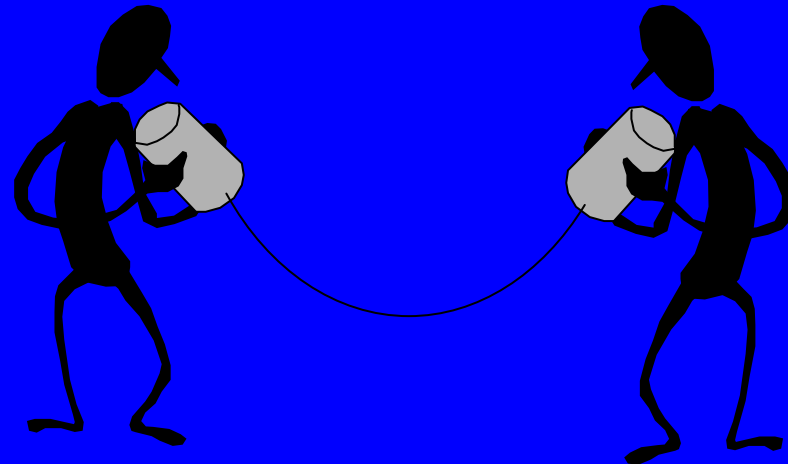
PREPARED FOR: NORTH CAROLINA WETLANDS RESTORATION PROGRAM

CONSTRUCTION DATE?



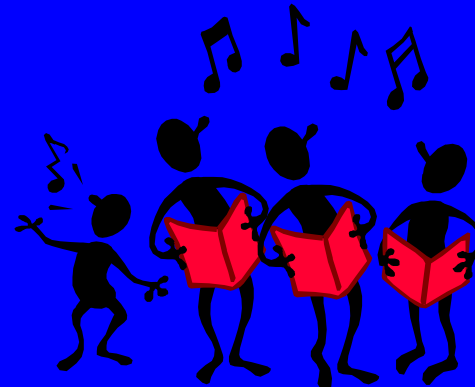
CONSENSUS BUILDING

- **GROUP MEETINGS**
- **INDIVIDUAL CONTACTS**
- **MAILINGS**
- **SIGNED “BALLOTS” TO VALIDATE DECISIONS**



GROUP MEETINGS

- **EXPLAIN WHY/ WHEN/ HOW**
- **PRESENT PROJECT DESIGN AND PLANTING PLAN FOR CONSENSUS**
- **DETERMINE PROPERTY LINES**
- **CONSERVATION EASEMENTS**



SHOW THEM THE PLANS!



SHOW THEM THE SITE



SEP 16 2003

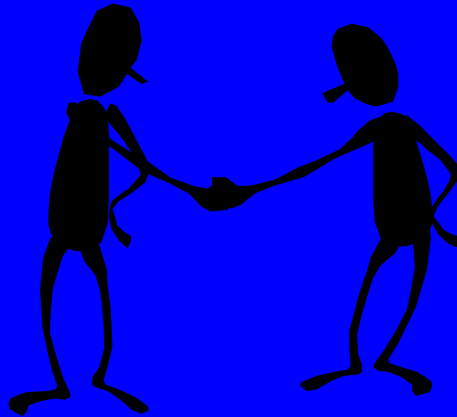
MAILINGS

- MEETING NOTICES AND MINUTES
- PROVIDE ADDITIONAL INFORMATION
- KEEP LANDOWNERS UP-DATED ON PROJECT TIMELINE



INDIVIDUAL CONTACTS

- ANSWER QUESTIONS
- VERIFY CONCENSUS
- DEVELOP RELATIONSHIPS



CONSENSUS VALIDATION

King's Creek Property Owner Opinion Ballot

Name: _____

_____ I approve of the renovation plans for King's Creek as presented May 23, 2000.

_____ I approve of the renovation plans for King's Creek as presented May 23, 2000, but I still have specific questions I would like to discuss (listed below).

_____ I do not approve of the renovation plans for King's Creek as presented May 23, 2000.

(Signature)

5/23/00

Letter of Intent

REGARDING

North Carolina State University, Water Quality Group Kings Creek Stream Restoration Project

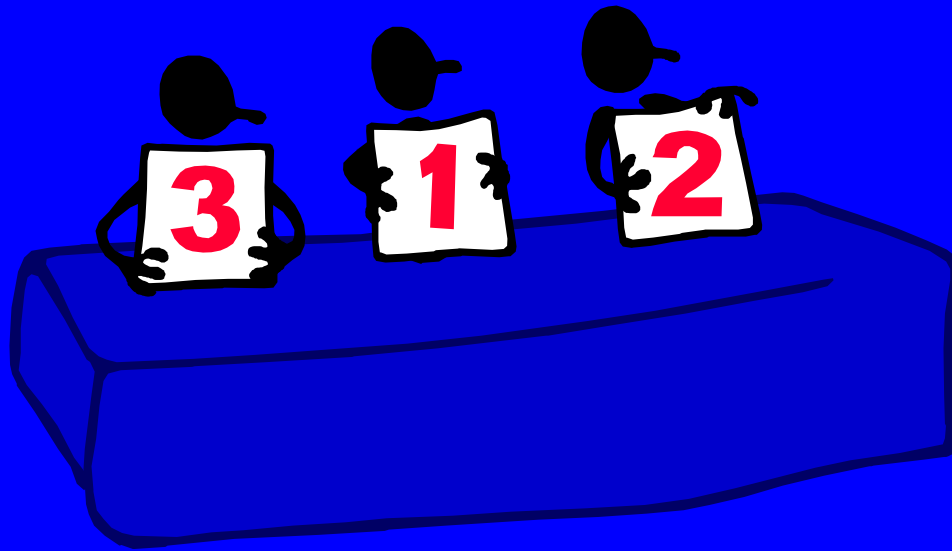
This letter is to describe the actions and agreement necessary for North Carolina State University (NCSU) to proceed with the Kings Creek Stream Restoration Project, being funded by the NC Clean Water Management Trust Fund.

The individual landowners on the right bank side of Kings Creek agree to the following:

- 1) Once restoration and an as-built survey are completed, the landowner will sign a permanent Conservation Easement on the land adjacent to the right bank side of the creek, following the easement boundary per attached drawing (Attachment A), for the length of the project. The Conservation Easement (Attachment B) is in the form that will be signed post-construction.
- 2) The landowners understand that Brevard College, on the left bank side of the creek, will also sign Conservation Easements similar to Attachment B.
- 3) Pending signing of this agreement, NCSU may proceed with submittal of the necessary FEMA and permit documentation required for the project.
- 4) The property boundary between BC and the adjacent landowners will remain as currently described, the centerline of the creek, after construction and as will be noted on the as-built survey.
- 5) NCSU encourages the control and necessary future eradication of non-native or exotic vegetation, as permitted by the Conservation Easement. NCSU will provide all property owners with a Factsheet on Exotic species eradication for buffers for use in any future management plans and/or as an educational tool.

LANDOWNER EXPECTATIONS (ATTITUDES)

- TOP 10 LIST!



HELP!!



“Don’t change a thing!”



“Just do what’s best”



“What’s in it for me?”



**“What is the college up to
now?”**



Guess where he works

“It’ll just be a big mud hole”



“I’ve got a better way!”



ARMCHAIR FLUVIAL GEOMORPHOLOGIST

**“WHAT! There’s a stream
back there?”**



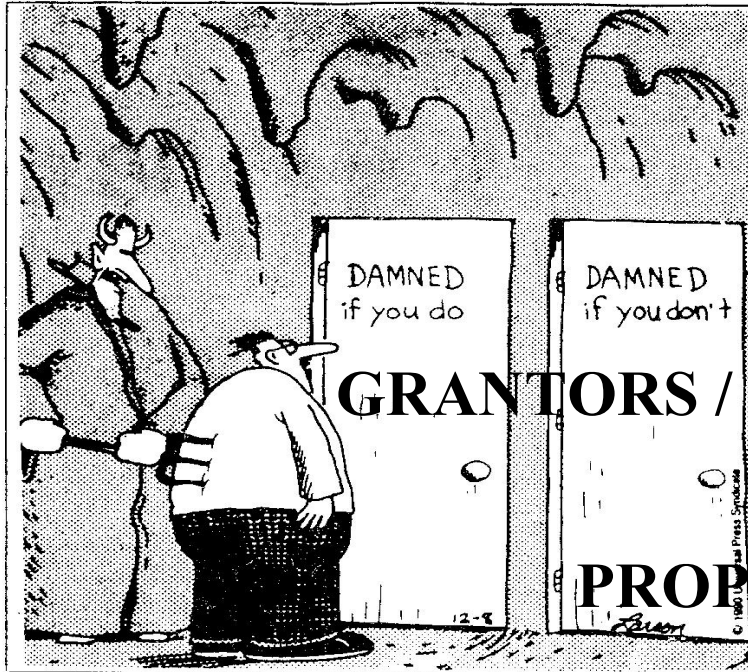
Native Bamboo and Privet forest!

**“We DON’T give away
land!”**



**“I’m from NC STATE and
I’m here to help you!”**

FAR SIDE



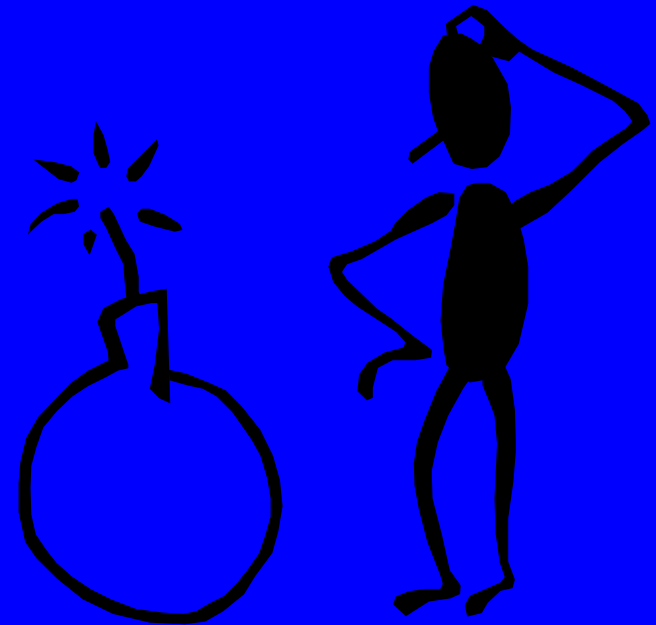
GRANTORS / PERMITS

PROPERTY OWNERS

“C'mon, c'mon — it's either one or the other.”

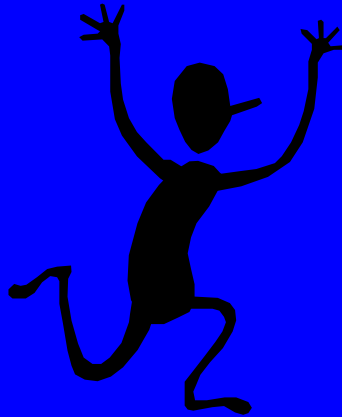
MAJOR ISSUES

- **CONCEPTUAL BUY-IN**
- **SURVEY/DESIGN**
- **PROPERTY LINES**
- **EASEMENTS**
- **PERMITS**
- **STAFF TURNOVER**



POSITIVES

- **EDUCATIONAL/DEMO. OBJECTIVES**
- **COLLABORATION (B.C,NCSU,EXT.)**
- **WILLING (MOSTLY) LANDOWNERS**
- **LONG TERM ENVIRO. BENEFITS**



NEGATIVES

- **LANDOWNER EXPECTATIONS**
- **PERMITTING**
- **STAFF TURNOVER**
- **TIME**



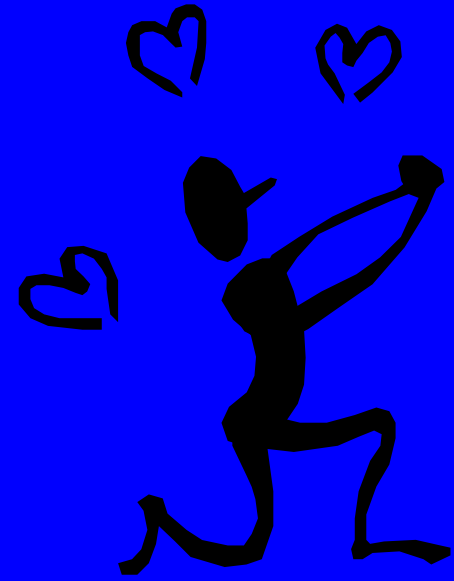
LESSONS LEARNED

- **K.I.S.S.**
- **ROUTINE COMMUNICATION
(NEWSLETTER)**
- **BE FLEXABLE (HAVE PLAN A,B,C....)**
- **BE PATIENT**
- **BE PERSISTANT**



THANKS!

- **NCSU Water Quality Group**
- **Brevard College (A.C.E.S)**
- **Cooperating Landowners**
- **Clean Water Management Trust Fund**
- **N.C.W.R.P**
- **YOU!**



QUESTIONS?

