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----- Franklin City Limits

— Cartoogechaye Creek

Data Sources:

City Boundaries - NCDOT

Hydrology - NC Onemap

Topographic Quadrangles: Franklin, Prentiss, Rainbow Springs, Wayah Bald

**ALTAMONT ENVIRONMENTAL, INC.**

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DRAWN BY: JENNIFER HILL-VERDE  
PROJECT MANAGER: STU RYMAN  
CLIENT: MACON COUNTY SWCD  
DATE: 6/30/08

SCALE

0 2,500 5,000  
Feet

SITE VICINITY

CARTOOGECHAYE CREEK CAMPGROUND

CARTOOGECHAYE CREEK  
MACON COUNTY, NORTH CAROLINA

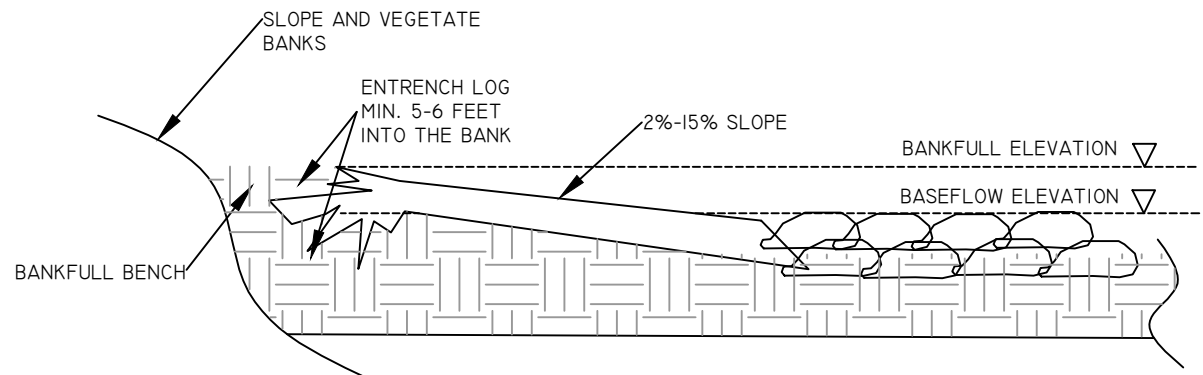
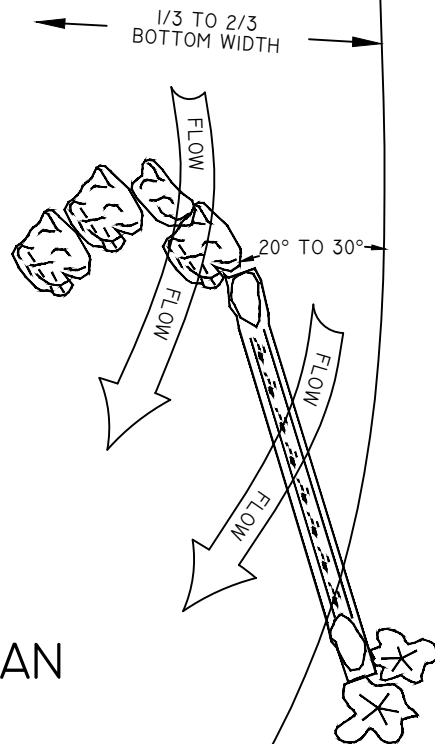
FIGURE



P:\Macon County\Cartoogechaye Creek\Technical\GIS\Vicinity Map.mxd



# PLAN



# CROSS-SECTION

## NOTES:

- EXCAVATE TRENCH AND PROPERLY CONNECT THE LOG VANE ALONG THE BOTTOM OF THE STREAM BED AND AT THE BANKFULL ELEVATION IN THE STREAMBANK.
- ENSURE PROPER FUNCTION AND FLOW OVER STRUCTURE AFTER INSTALLATION AND REPAIR IF NECESSARY.

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NOT TO SCALE

## LOG J-HOOK CONSTRUCTION DETAIL #2

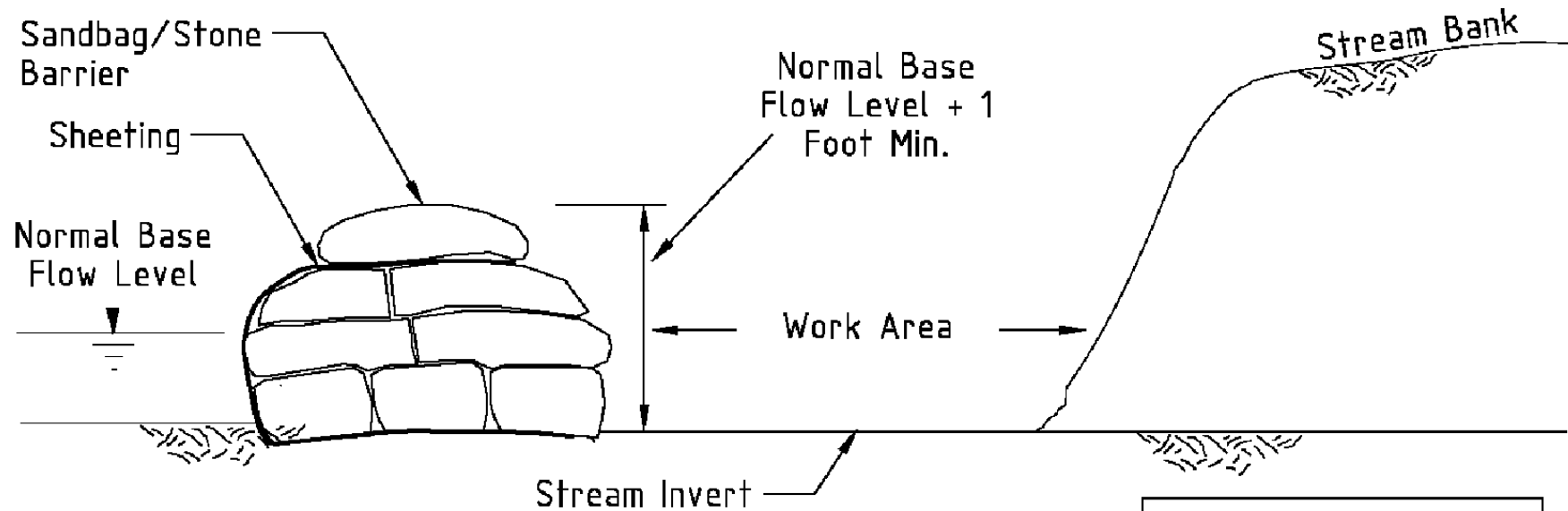
CARTOOGECHAYE CREEK CAMPGROUND  
CARTOOGECHAYE CREEK  
MACON COUNTY, NORTH CAROLINA

FIGURE



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## TRANSVERSE SECTION VIEW



Adapted From  
Maryland's Waterway  
Construction Guidelines

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## SANDBAG DIVERSION CONSTRUCTION DETAIL #3

CARTOOGECHAYE CREEK CAMPGROUND  
CARTOOGECHAYE CREEK  
MACON COUNTY, NORTH CAROLINA

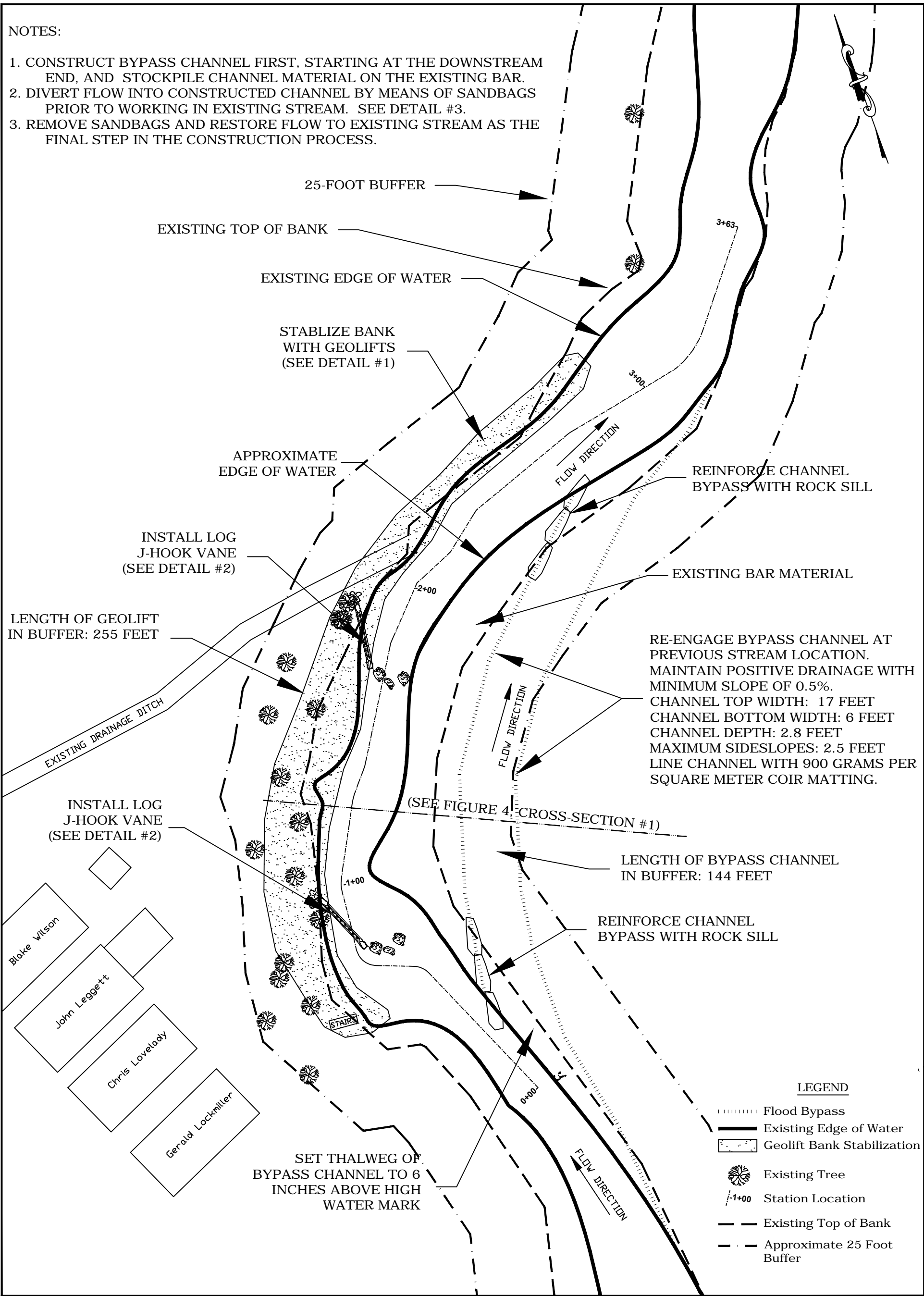
FIGURE



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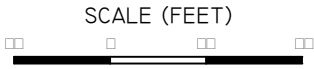
NOTES:

- 1. CONSTRUCT BYPASS CHANNEL FIRST, STARTING AT THE DOWNSTREAM END, AND STOCKPILE CHANNEL MATERIAL ON THE EXISTING BAR.
- 2. DIVERT FLOW INTO CONSTRUCTED CHANNEL BY MEANS OF SANDBAGS PRIOR TO WORKING IN EXISTING STREAM. SEE DETAIL #3.
- 3. REMOVE SANDBAGS AND RESTORE FLOW TO EXISTING STREAM AS THE FINAL STEP IN THE CONSTRUCTION PROCESS.



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CLIENT: MACON COUNTY SWCD  
DATE: 7/1/08 (REVISED 5/8/09)

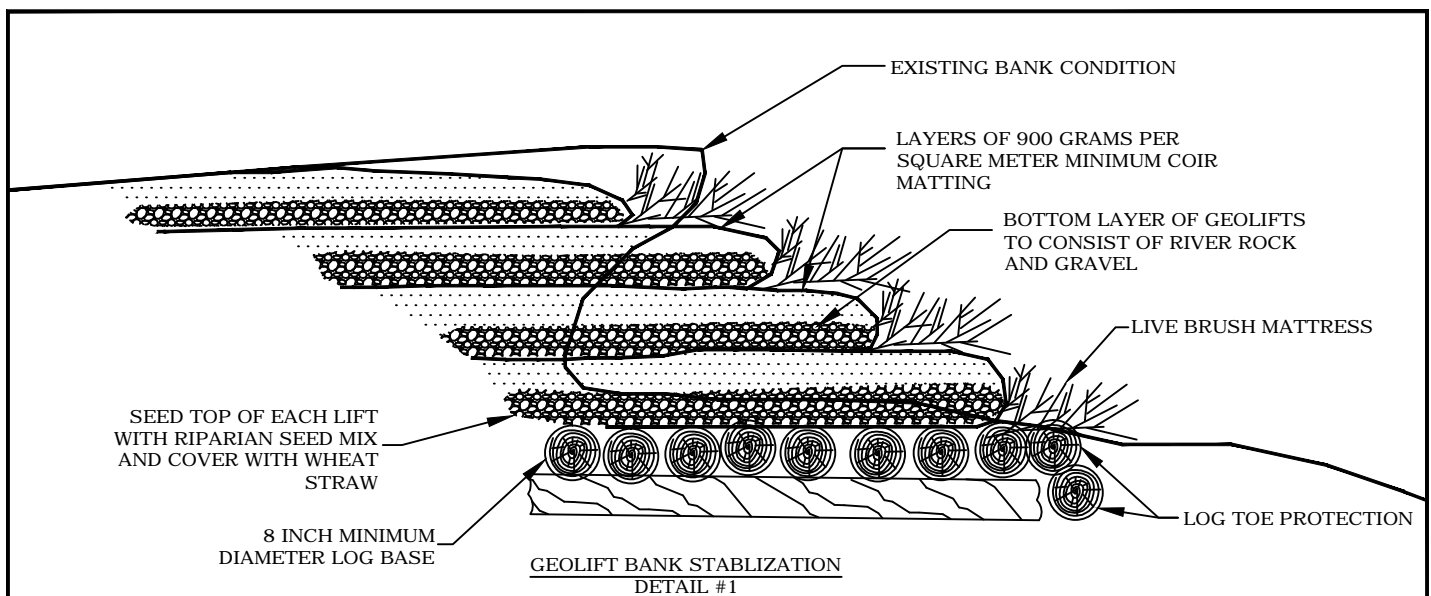


PROPOSED STREAM RESTORATION

CARTOOGECCHAYE CREEK CAMPGROUND  
CARTOOGECCHAYE CREEK  
MACON COUNTY, NORTH CAROLINA

FIGURE





NOT TO SCALE

#### MATERIALS

1. CONSTRUCT IN AREAS SPECIFIED IN FIGURE 3 AND ON PLAN AND AS DEPICTED ON THIS CONSTRUCTION DIAGRAM.
2. VERIFY THAT COBBLE SIZED MATERIAL OR LARGER MATERIAL (75 MM/2.9 INCHES OR LARGER) EXISTS IN THOSE LOCATIONS FOR BASE STABILITY.
3. IF COBBLE SIZED MATERIAL DOES NOT EXIST IN THESE LOCATIONS, RIP RAP OF THE SAME APPROXIMATE SIZE WILL BE PLACED ON THE CHANNEL BOTTOM OR STREAMBANK TO A MINIMUM THICKNESS OF SIX INCHES.
4. IN LOCATIONS WHERE GEOLIFTS ARE TO BE INSTALLED IN THE WATER, A LOG BASE WILL BE PLACED TO JUST ABOVE NORMAL WATER ELEVATION.
5. 900 GRAM PER SQUARE METER MINIMUM COCONUT COIR FABRIC WILL BE USED AS THE FABRIC MATERIAL.

#### INSTALLATION

1. LAY COIR FABRIC PERPENDICULAR TO STREAM FLOW FROM AN UPSTREAM TO DOWNSTREAM DIRECTION, OVER AN AREA THAT CAN BE COMPLETED AND STABILIZED DURING THAT WORKING DAY.
2. COIR FABRIC WILL BE ROLLED OUT LENGTHWISE, PERPENDICULAR TO STREAM FLOW, SUCH THAT IT EXTENDS FROM 2/3 THE WIDTH OF THE GEOLIFT WIDTH, MEASURED FROM THE NEAR STREAMBANK, TO APPROXIMATELY EIGHT FEET INTO THE CHANNEL. DOWNSTREAM SECTIONS OF COIR WILL OVERLAP UPSTREAM SECTIONS WHEN INITIALLY LAID OUT.
3. SOIL MATERIAL SOURCED FROM NEARBY OR ADJACENT BANKFULL BENCHING AND STREAMBANK GRADING WILL BE USED AS FILL MATERIAL FOR EACH INDIVIDUAL SOIL LIFT.
4. SOURCED SOIL WILL BE CAREFULLY PLACED IN SIX INCH LIFTS AND COMPACTED WITH THE BUCKET OF THE EXCAVATOR OVER THE AREA UNTIL A THICKNESS OF APPROXIMATELY 16 INCHES OF COMPACTED SOIL IS ACHIEVED.
5. CAUTION WILL BE USED NOT TO PLACE SOIL MATERIAL IN THE WATER.
6. THREE FEET OF THE NOSE OF THE GEOLIFT CLOSEST TO THE WATER WILL BE SEEDED WITH THE RIPARIAN SEED MIX SPECIFIED IN THE VEGETATION PLAN AND MULCHED WITH STRAW.
7. COIR FABRIC EXTENDING FROM BENEATH THE COMPACTED AND SEEDED SOIL WILL BE TIGHTLY AND CAREFULLY WRAPPED, AND STAKED IN PLACE USING DEAD STOUT STAKES, STARTING AT THE PIECE OF COIR FURTHEST DOWNSTREAM AND MOVING UPSTREAM ONE PIECE AT A TIME.
8. WRAPPED COIR SHOULD EXTEND APPROXIMATELY SIX FEET OVER THE COMPACTED SOIL LIFT TOWARD THE NEAR BANK SO THAT PLACEMENT OF THE FOLLOWING LIFT WILL PINCH IT IN PLACE.
9. THE TOP EDGE OF EACH PIECE OF COIR FABRIC PARALLEL TO STREAM FLOW SHALL BE TRENCHED INTO THE GROUND TO A MINIMUM DEPTH OF SIX INCHES.
10. A LIVE BRUSH MATTRESS, OF TREE SPECIES SPECIFIED FOR LIVE STAKES, WILL BE PLACED PERPENDICULAR TO STREAM FLOW BETWEEN EACH 16 INCH COIR WRAPPED SOIL LIFT.
11. LIVE MATTRESSES CONSTRUCTED WILL BE HARVESTED FROM THE TIPS OF SPECIFIED TREE SPECIES BRANCHES THAT ARE LESS THAN TWO YEARS OLD AND SHOULD BE FIVE TO EIGHT FEET IN LENGTH. LIVE BRANCHES WILL BE PLACED GROWTH END OUT AND ROUGHLY ADJACENT TO ONE ANOTHER SUCH THAT ONE TO TWO FEET EXTENDS BEYOND THE COIR WRAPPED LIFT.
12. FOLLOWING LIVE MATTRESS PLACEMENT, A SECOND AND THIRD COIR WRAPPED LIFT WITH LIVE MATTRESSES IN BETWEEN WILL BE CONSTRUCTED ON TOP OF THE FIRST LIFT.
13. EACH COIR WRAPPED LIFT WILL BE SET BACK TOWARD THE NEAR STREAMBANK SUCH THAT AN APPROXIMATE 2H:3V SLOPE IS ACHIEVED ON THE STREAM SIDE OF THE LIFT.
14. THE TOP OF THE GEOLIFTS WILL BE CONSTRUCTED TO SLIGHTLY BELOW BANKFULL ELEVATION.
15. GEOLIFTS WILL BLEND INTO THE STREAMBANK OR BANKFULL BENCH ON THE LANDWARD SIDE AND SHOULD RESEMBLE THIS DIAGRAM.

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## GEOLIFT CONSTRUCTION DETAIL #1

CARTOOGECAYE CREEK CAMPGROUND  
CARTOOGECAYE CREEK  
MACON COUNTY, NORTH CAROLINA

FIGURE

**6**

DRAWN BY: PAUL DOW  
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DATE: 12/28/08

NOT TO SCALE

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