

GEOTECHNICAL UNIT FIELD SCOUR REPORT

PROJECT: 33602.1.1 ID: B-4260 COUNTY: Rutherford

DESCRIPTION(1): Bridge No. 350 over West Branch Mountain Creek on SR 1352

INFORMATION ON EXISTING BRIDGES Information obtained from:  field inspection  
 microfilm(Reel:      Pos:     )  
 other     

COUNTY BRIDGE NO. 350 BRIDGE LENGTH 90' NO. BENTS IN: CHANNEL 1 FLOOD PLAIN 4

FOUNDATION TYPE: Timber piles

**EVIDENCE OF SCOUR(2):**

ABUTMENTS OR END BENT SLOPES: None

INTERIOR BENTS: Local scour at existing bent-1

CHANNEL BED: Scour at edges of channels

CHANNEL BANKS: Some minor sloughing of banks

**EXISTING SCOUR PROTECTION:**

TYPE(3): Timber wing walls at end bents

EXTENT(4): 4' outside of bridge

EFFECTIVENESS(5): OK

OBSTRUCTIONS(6) (DAMS,DEBRIS,ETC.): None

**DESIGN INFORMATION**

CHANNEL BED MATERIAL(7) (SAMPLE RESULTS ATTACHED): Silty Cse to F SAND w/ Gravel (A-1-b); Cobbles

CHANNEL BANK MATERIAL(8) (SAMPLE RESULTS ATTACHED): ALLUVIAL ==> Cse to F SAND (A-3); Silty Cse to F SAND w/ Quartz Gravel (A-1-b); Silty Cse to F SAND (A-2-4); RESIDUAL ==> Mic Silty Cse to F SAND (A-2-4)

CHANNEL BANK COVER(9): Grass, underbrush, small trees

FLOOD PLAIN WIDTH(10): ±350'

FLOOD PLAIN COVER(11): Grass, crops, trees

DESIGN INFORMATION CONT.

STREAM IS      DEGRADING X AGGRADING (12)

OTHER OBSERVATIONS AND COMMENTS:     

CHANNEL MIGRATION TENDENCY (13): South-southwest

REPORTED BY: [Signature] DATE: 10/4/04  
 GEOSCIENCE GROUP, INC.

GEOTECHNICALLY ADJUSTED SCOUR ELEVATION (14):     

Boring	100 year	500 year
B1-A	852.9	852.9
B1-B	853.4	853.4
B2-A	852.7	851.8
B2-B	852.4	852.4

REPORTED BY:      DATE:       
 NCDOT GEOTECHNICAL UNIT

INSTRUCTIONS

- (1) GIVE THE DESCRIPTION OF THE SPECIFIC SITE GIVING ROUTE NUMBER AND BODY OF WATER CROSSED.
- (2) NOTE ANY EVIDENCE OF SCOUR AT THE EXISTING END BENTS OR ABUTMENTS (UNDERMINING, SLOUGHING, SCOUR LOCATIONS, DEGRADATIONS, ETC.)
- (3) NOTE ANY EXISTING SCOUR PROTECTION (RIP RAP, ETC.)
- (4) DESCRIBE THE EXTENT OF ANY EXISTING SCOUR PROTECTION.
- (5) DESCRIBE WHETHER OR NOT THE SCOUR PROTECTION APPEARS TO BE WORKING.
- (6) NOTE ANY DAMS, FALLEN TREES, DEBRIS AT BENTS, ETC.
- (7) DESCRIBE THE CHANNEL BED MATERIAL: A SAMPLE SHOULD BE TAKEN FOR GRAIN SIZE DISTRIBUTION, ATTACH LAB RESULTS.
- (8) DESCRIBE THE CHANNEL BANK MATERIAL: A SAMPLE SHOULD BE TAKEN FOR GRAIN SIZE DISTRIBUTION, ATTACH LAB RESULTS.
- (9) DESCRIBE THE BANK COVERING (GRASS, TREES, RIP RAP, NONE, ETC.)
- (10) GIVE THE APPROXIMATE FLOOD PLAIN WIDTH (ESTIMATE).
- (11) DESCRIBE THE FLOOD PLAIN COVERING (GRASS, TREES, CROPS, ETC.)
- (12) CHECK THE APPROPRIATE SPACE AS TO WHETHER THE STREAM IS DEGRADING OR AGGRADING
- (13) DESCRIBE THE POTENTIAL OF THE BODY OF WATER TO MIGRATE Laterally DURING THE LIFE OF THE BRIDGE (APPROXIMATELY 100 YEARS).
- (14) GIVE THE GEOTECHNICALLY ADJUSTED SCOUR ELEVATION EXPECTED OVER THE LIFE OF THE BRIDGE (APPROXIMATELY 100 YEARS). THIS CAN BE GIVEN AS AN ELEVATION RANGE ACROSS THE SITE, OR ON A BENT BY BENT BASIS WHERE VARIATIONS EXIST. DISCUSS RELATIONSHIP BETWEEN THE HYDRAULICS THEORETICAL SCOUR AND THE GEOTECHNICALLY ADJUSTED SCOUR ELEVATION. THE GEOTECHNICALLY ADJUSTED SCOUR ELEVATION IS BASED ON THE ERODABILITY OF MATERIALS WITH CONSIDERATION FOR JOINTING, FOLIATION, BEDDING ORIENTATION AND FREQUENCY; CORE RECOVERY PERCENTAGE; PERCENTAGE RQD; DIFFERENTIAL WEATHERING, SHEAR STRENGTH; OBSERVATIONS AT EXISTING STRUCTURES; OTHER TESTS DEEMED APPROPRIATE; AND OVERALL GEOLOGIC CONDITIONS AT THE SITE.