

GEOTECHNICAL UNIT FIELD SCOUR REPORT

PROJECT: 33295.1.1 ID: B-3847 COUNTY: Guilford

DESCRIPTION(1): Bridge No. 63 over Deep River on SR 1850 (Sandy Ridge Road)

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

COUNTY BRIDGE NO. 63 BRIDGE LENGTH 79.9 NO. BENTS IN: CHANNEL 2 FLOOD PLAIN 4

FOUNDATION TYPE: Piles and Pile Bents on Footings

EVIDENCE OF SCOUR(2):

ABUTMENTS OR END BENT SLOPES: None

INTERIOR BENTS: Minimal, <2 ft. (Visual Estimate)

CHANNEL BED: Minimal, <2 ft. (Visual Estimate)

CHANNEL BANKS: Minor sloughing of east and west bank, 1 to 3 feet.

EXISTING SCOUR PROTECTION:

TYPE(3): None

EXTENT(4): N/A

EFFECTIVENESS(5): N/A

OBSTRUCTIONS(6) (DAMS,DEBRIS,ETC.): Small beaver dam downstream of bridge.

DESIGN INFORMATION

CHANNEL BED MATERIAL(7) (SAMPLE RESULTS ATTACHED): Alluvial Tan-Brown-White Coarse to Fine

SAND (A-1-b)

CHANNEL BANK MATERIAL(8) (SAMPLE RESULTS ATTACHED): Alluvial Grey-Coarse to Fine Sandy Silty

CLAY (A-6)

CHANNEL BANK COVER(9): Underbrush, small trees

FLOOD PLAIN WIDTH(10): 150+ feet

FLOOD PLAIN COVER(11): Underbrush, small trees

DESIGN INFORMATION CONT.

STREAM IS DEGRADING X AGGRADING (12)

OTHER OBSERVATIONS AND COMMENTS:

CHANNEL MIGRATION TENDENCY (13):

REPORTED BY: [Signature] DATE: 7-15-05 GEOSCIENCE GROUP, INC.

GEOTECHNICALLY ADJUSTED SCOUR ELEVATION (14):

Table with 2 columns: Boring, 100 Year. Rows: B1-A (791.11), B1-B (791.11)

REPORTED BY: [Signature] DATE: 8/15/05 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.