

GEOTECHNICAL UNIT FIELD SCOUR REPORT

PROJECT: 33261.1.1 ID: B-3805 COUNTY: Ashe

DESCRIPTION(1): Bridge No.310 on SR-1507 over Buffalo Creek

INFORMATION ON EXISTING BRIDGES Information obtained from: X field inspection, microfilm(Reel: Pos: ), othe Hydro Design Report

COUNTY BRIDGE NO. 310 BRIDGE LENGTH 50' NO. BENTS IN: CHANNEL 0 FLOOD PLAIN 2

FOUNDATION TYPE: Probable footings.

EVIDENCE OF SCOUR(2):

ABUTMENTS OR END BENT SLOPES: None noted.

INTERIOR BENTS: N/A

CHANNEL BED: None noted.

CHANNEL BANKS: None noted.

EXISTING SCOUR PROTECTION:

TYPE(3): End-bent walls with wingwalls.

EXTENT(4): Wingwalls extend 10' from either end of end-bent walls.

EFFECTIVENESS(5): Good.

OBSTRUCTIONS(6) (DAMS,DEBRIS,ETC.): Boulders and outcrops downstream from existing bridge.

DESIGN INFORMATION

CHANNEL BED MATERIAL(7) (SAMPLE RESULTS ATTACHED): Sand, cobbles and boulders.

CHANNEL BANK MATERIAL(8) (SAMPLE RESULTS ATTACHED): Silty sand, cobbles and boulders.

FOUNDATION BEARING MATERIAL(9): Rock is probable.

CHANNEL BANK COVER(10): Shrubs.

FLOOD PLAIN WIDTH(11): EB1=0' EB2=<50'.

FLOOD PLAIN COVER(12): Shrubs and trees.

DESIGN INFORMATION CONT.

STREAM IS X DEGRADING AGGRADING (13)

OTHER OBSERVATIONS AND COMMENTS:

CHANNEL MIGRATION TENDENCY (14): To the West.

GEOTECHNICALLY ADJUSTED SCOUR ELEVATION (15):

EB1: 2701.0

EB2: 2697.0

REPORTED BY: C A Dunnagan DATE: 6/17/2004

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 FOUNDATION BEARING MATERIAL,
(10) DESCRIBE THE BANK COVERING (GRASS, TREES, RIP RAP, NONE, ETC.)
(11) GIVE THE APPROXIMATE FLOOD PLAIN WIDTH (ESTIMATE).
(12) DESCRIBE THE FLOOD PLAIN COVERING (GRASS, TREES, CROPS, ETC.)
(13) CHECK THE APPROPRIATE SPACE AS TO WHETHER THE STREAM IS DEGRADING OR AGGRADING
(14) DESCRIBE THE POTENTIAL OF THE BODY OF WATER TO MIGRATE Laterally DURING THE LIFE OF THE BRIDGE (APPROXIMATELY 100 YEARS).
(15) 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.