

GEOTECHNICAL UNIT FIELD SCOUR REPORT

Sheet 36 of 39

PROJECT: 33375.1.1 ID: B-4007 COUNTY: Alleghany

DESCRIPTION(1): Detour Bridge over Crab Creek on NC 18

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

COUNTY BRIDGE NO. BRIDGE LENGTH NO. BENTS IN: CHANNEL FLOOD PLAIN

FOUNDATION TYPE:

EVIDENCE OF SCOUR(2):

ABUTMENTS OR END BENT SLOPES:

INTERIOR BENTS:

CHANNEL BED: None

CHANNEL BANKS: Ecessive sloughing along east bank

EXISTING SCOUR PROTECTION:

TYPE(3):

EXTENT(4):

EFFECTIVENESS(5):

OBSTRUCTIONS(6) (DAMS,DEBRIS,ETC.): Beaver Dams located approximately 100 upstream

DESIGN INFORMATION

CHANNEL BED MATERIAL(7) (SAMPLE RESULTS ATTACHED): A-2-4 silty Fine to Coarse Sand

coarse to fine sand

CHANNEL BANK MATERIAL(8) (SAMPLE RESULTS ATTACHED): A-2-4 silty fine to caorse sand

CHANNEL BANK COVER(9): Grass underbrush and trees

FLOOD PLAIN WIDTH(10): 100 feet

FLOOD PLAIN COVER(11): Farm land and trees along stream banks

DESIGN INFORMATION CONT.

STREAM IS DEGRADING X AGGRADING (12)

OTHER OBSERVATIONS AND COMMENTS: High water marks on trees

CHANNEL MIGRATION TENDENCY (13): to the east

REPORTED BY: [Signature] DATE: 06/09/2005 Engineering Consulting Services, Ltd.

GEOTECHNICALLY ADJUSTED SCOUR ELEVATION (14):

We agree with the Maximum Theoretical Scour as calculated in the Bridge Survey

and Hydraulic Design Report dated 10/11/04.

REPORTED BY: [Signature] DATE: 07/26/2005 NCDOT GEOTECHNICAL ENGINEERING UNIT INSTRUCTIONS

- (1) GIVE THE DESCRIPTI Ecessive sloughing along east bank
(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 ELEVEVATION 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.