GEOTECHNICAL UNIT FIELD SCOUR REPORT

PROJECT: 34467.1.1 ID: R-2562C COUNTY: Bladen

DESCRIPTION(1): Dual Bridges on NC 87 over Reedy Meadow Swamp

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

COUNTY BRIDGE NO. ____ BRIDGE LENGTH 6m NO. BENTS IN: CHANNEL ____ FLOOD PLAIN ____

FOUNDATION TYPE: 2 - 2.7m X 2m Reinforced Concrete Box Culverts

EVIDENCE OF SCOUR(2):

ABUTMENTS OR END BENT SLOPES: None

INTERIOR BENTS: None

CHANNEL BED: None

CHANNEL BANKS: None

EXISTING SCOUR PROTECTION:

TYPE(3): Concrete wing walls

EXTENT(4): To toe of roadway embankment fill slope

EFFECTIVENESS(5): Satisfactory

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

DESIGN INFORMATION

CHANNEL BED MATERIAL(7) (SAMPLE RESULTS ATTACHED): Alluvium: Fine to coarse SAND (A-3)

CHANNEL BANK MATERIAL(8) (SAMPLE RESULTS ATTACHED): Alluvium: Muck

CHANNEL BANK COVER(9): Small to large trees, bushes, grasses and ferns.

FLOOD PLAIN WIDTH(10): 200 meters

FLOOD PLAIN COVER(11): Small to large trees, bushes, grasses and ferns.

DESIGN INFORMATION CONT. PAGE 2

STREAM IS ____ DEGRADING ___X___ AGGRADING (12)

OTHER OBSERVATIONS AND COMMENTS: Very low surface water flow velocity during the period of the field investigation.

CHANNEL MIGRATION TENDENCY (13): Evidence of migration is not apparent. Channel appears to braid through swamp vegetation up- and downstream from exisiting bridge. The lowland swamp area is well-vegetated up- and downstream.

REPORTED BY: MACTEC Engineering & Consulting, Inc. DATE: 4/28/2004

GEOTECHNICALLY ADJUSTED SCOUR ELEVATION (14):

NCDOT Geotechnical Unit agrees with the Hydraulic Design Scour.

REPORTED BY: David [illegible] DATE: 6/18/04
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 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.