

GEOTECHNICAL UNIT FIELD SCOUR REPORT

PROJECT: 8.2406201 ID: B-3375 COUNTY: Wake

DESCRIPTION(1): Bridge No. 471on -L- (SR 1375) over Lake Wheeler Spillway

INFORMATION ON EXISTING BRIDGE

Information obtained from: [x] field inspection [] microfilm (Reel: Pos:) [] other:

BR. NO.: 471 BR. LENGTH: 160' NO. BENTS: 5 NO. BENTS IN: CHANNEL: 3 FLOODPLAIN: 0

FOUNDATION TYPE: Unknown

EVIDENCE OF SCOUR(2):

ABUTMENTS OR END BENT SLOPES: None visible

INTERIOR BENTS: None visible

CHANNEL BED: None visible

CHANNEL BANKS: None visible

EXISTING SCOUR PROTECTION:

TYPE(3): Concrete spillway floor and retaining walls.

EXTENT(4):

EFFECTIVENESS(5): Effective

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

DESIGN INFORMATION

CHANNEL BED MATERIAL(7) (SAMPLE RESULTS ATTACHED): N/A

CHANNEL BANK MATERIAL(8) (SAMPLE RESULTS ATTACHED): N/A

CHANNEL BANK COVER(10): N/A

FLOOD PLAIN WIDTH(11): Concrete spillway width +/- 105 feet

FLOOD PLAIN COVER(12): N/A

DESIGN INFORMATION CONT.

STREAM IS: DEGRADING AGGRADING (13)

OTHER OBSERVATIONS AND COMMENTS: Stream is stable due to concrete spillway floor.

CHANNEL MIGRATION TENDENCY (14): None

GEOTECHNICALLY ADJUSTED SCOUR ELEVATIONS(15):

No scour anticipated. No interior bents. Channel is concrete.

REPORTED BY: Jaime L. Love for TPM Thomas P. Moorefield

DATE: Feb.24, 2003

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, (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 THE RELATIONSHIP BETWEEN THE HYDRAULICS THEORETICAL SCOUR AND THE GEOTECHNICALLY ADJUSTED SCOUR ELEVATION. IF THE GEOTECHNICALLY ADJUSTED SCOUR ELEVATION IS DEPENDENT ON SCOUR COUNTER MEASURES, EXPLAIN. (RIPRAP ARMORING ON SLOPES, ETC.) 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.