

GEOTECHNICAL UNIT FIELD SCOUR REPORT

PROJECT: 33208.1.1 ID: B-3663 COUNTY: Henderson

DESCRIPTION(1): Bridge No. 320 on SR-1212 over Shaw Creek

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

COUNTY BRIDGE NO. 320 BRIDGE LENGTH 40' NO. BENTS IN: CHANNEL 0 FLOOD PLAIN 2

FOUNDATION TYPE: Timber Piles

EVIDENCE OF SCOUR(2):

ABUTMENTS OR END BENT SLOPES: End Bent One: Undercutting banks.

INTERIOR BENTS: N/A

CHANNEL BED: None

CHANNEL BANKS: See above End Bents.

EXISTING SCOUR PROTECTION:

TYPE(3): None

EXTENT(4): N/A

EFFECTIVENESS(5): N/A

OBSTRUCTIONS(6) (DAMS, DEBRIS, ETC.): Rock dam built upstream - on B side (beside bridge).

DESIGN INFORMATION

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

CHANNEL BANK MATERIAL(8) (SAMPLE RESULTS ATTACHED): Sand

CHANNEL BANK COVER(10): Bramble, grass.

FLOOD PLAIN WIDTH(11): Approximately 800 ft.

FLOOD PLAIN COVER(12): Trees, bramble, grass.

DESIGN INFORMATION CONT.

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STREAM IS DEGRADING AGGRADING (13)OTHER OBSERVATIONS AND COMMENTS: Dam built by Etowah/Horseshoe Fire Department
to serve as Pumping Station.

CHANNEL MIGRATION TENDENCY (14): Toward End Bent One.

GEOTECHNICALLY ADJUSTED SCOUR ELEVATION (15): 2076 ft. (channel bed)

REPORTED BY: J. W. Mann, Project Engineering Geologist DATE: 4/22/2004

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.