

GEOTECHNICAL UNIT FIELD SCOUR REPORT

PROJECT: 33211.1.1 ID: B-3666 COUNTY: Henderson

DESCRIPTION(1): Bridge No. 53 on SR-1799 over North Branch Hungry River

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

COUNTY BRIDGE NO. 53 BRIDGE LENGTH 75 ft. NO. BENTS IN: CHANNEL 4 FLOOD PLAIN 3

FOUNDATION TYPE: Timber piles on footings on rock.

EVIDENCE OF SCOUR(2):

ABUTMENTS OR END BENT SLOPES: End Bent Two: Rip-rap placed behind bent.

INTERIOR BENTS: None

CHANNEL BED: None

CHANNEL BANKS: End Bent Two bank is principal flood plain.

EXISTING SCOUR PROTECTION:

TYPE(3): Rip-rap

EXTENT(4): Placed along side and behind End Bent Two Wing Walls.

EFFECTIVENESS(5): Fair

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

DESIGN INFORMATION

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

CHANNEL BANK MATERIAL(8) (SAMPLE RESULTS ATTACHED): Boulders, cobbles, sand, gravel.

FOUNDATION BEARING MATERIAL(9): N/A

CHANNEL BANK COVER(10): Trees, bramble.

FLOOD PLAIN WIDTH(11): Approximately 500 ft.

FLOOD PLAIN COVER(12): Trees, grass.

DESIGN INFORMATION CONT.

STREAM IS X DEGRADING AGGRADING (13)

OTHER OBSERVATIONS AND COMMENTS: Stream is undercutting hard rock outcrops upstream on End Bent One bank.

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

GEOTECHNICALLY ADJUSTED SCOUR ELEVATION (15): Scour is to bedrock visible in channel bed.

REPORTED BY: J. W. Mann, TEG-III, L. G. DATE: 3/30/2004

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.