

GEOTECHNICAL UNIT FIELD SCOUR REPORT

PROJECT: 8.2941701 ID: B-3659 COUNTY: HAYWOOD

DESCRIPTION(1): BRIDGE NUMBER 112 ON SR-1147 OVER ALLENS CREEK

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

COUNTY BRIDGE NO. 112 BRIDGE LENGTH 39 NO. BENTS IN: CHANNEL 0 FLOOD PLAIN 2

FOUNDATION TYPE: CONCRETE

EVIDENCE OF SCOUR(2):

ABUTMENTS OR END BENT SLOPES: NONE

INTERIOR BENTS: N/A

CHANNEL BED: NONE

CHANNEL BANKS: MINIMAL OUTSIDE BANK SCOUR CONTAINED BY COBBLES

EXISTING SCOUR PROTECTION:

TYPE(3): CONCRETE ABUTMENT WALLS AND WINGS

EXTENT(4): WINGS APPROX. 6 FEET LONG, 6 FEET TALL AND TAPERED OUTWARD

EFFECTIVENESS(5): VERY GOOD

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

DESIGN INFORMATION

CHANNEL BED MATERIAL(7) (SAMPLE RESULTS ATTACHED): SS-3, A-2-4

FINE TO COARSE SAND AND GRAVEL WITH COBBLES AND BOULDERS

CHANNEL BANK MATERIAL(8) (SAMPLE RESULTS ATTACHED): SIMILAR MATERIAL AS BED

FOUNDATION BEARING MATERIAL(9): SAPROLITE TO WEATHERED ROCK

CHANNEL BANK COVER(10): TREES, BRUSH AND SOME GRASS

FLOOD PLAIN WIDTH(11): APPROX. 300 FEET

FLOOD PLAIN COVER(12): GRASS AND TREES

DESIGN INFORMATION CONT.

STREAM IS DEGRADING AGGRADING (13)

OTHER OBSERVATIONS AND COMMENTS: COBBLY ALLUVIAL ARMOUR IS RETARDING

ALLENS CREEK FROM DOWNCUTTING

CHANNEL MIGRATION TENDENCY (14): WEST

GEOTECHNICALLY ADJUSTED SCOUR ELEVATION (15):

THE GEOTECHNICAL ENGINEERING UNIT AGREES WITH SCOUR CALCULATIONS

ON THE BRIDGE SURYVEY AND HYDRAULIC DESIGN REPORT DATED 5-21-03.

REPORTED BY: PQ LOCKAMY DATE: 10/8/03

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 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.