GEOTECHNICAL UNIT FIELD SCOUR REPORT

PROJECT: 8.271101 ID: B-2905 COUNTY: ASHE

DESCRIPTION(1): BRIDGE NO. 113 ON SR 1179 OVER SOUTH FORK NEW RIVER

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

COUNTY BRIDGE NO. 113 BRIDGE LENGTH 120 NO. BENTS IN: CHANNEL 3 FLOOD PLAIN 2

FOUNDATION TYPE: CONCRETE FOOTINGS

EVIDENCE OF SCOUR(2):

ABUTMENTS OR END BENT SLOPES: SCOUR BENEATH & BEHIND WINGWALLS @ BOTH END BENTS

INTERIOR BENTS: NONE NOTED

CHANNEL BED: NONE NOTED

CHANNEL BANKS: CHANNEL BANK EROSION AT EB1-A

EXISTING SCOUR PROTECTION:

TYPE(3): CONCRETE POURED AT SCOUR PRONE AREAS @ BOTH END BENTS & APPROACHES

EXTENT(4): PATCHY SPOT POURS

EFFECTIVENESS(5): MINIMALLY EFFECTIVE: SCOUR IS OCCURRING BEHIND PROTECTION

OBSTRUCTIONS(6) (DAMS,DEBRIS,ETC.): DEBRIS LODGES BENEATH BRIDGE DECK DURING FLOODING

DESIGN INFORMATION

CHANNEL BED MATERIAL(7) (SAMPLE RESULTS ATTACHED): SANDY SILT & BOULDERS OVER WEATHERED & HARD ROCK

CHANNEL BANK MATERIAL(8) (SAMPLE RESULTS ATTACHED): SANDY SILT

FOUNDATION BEARING MATERIAL(9): HARD ROCK:MICA GNEISS

CHANNEL BANK COVER(10): TREES, BRAMBLE, GRASS

FLOOD PLAIN WIDTH(11): 800 FEET

FLOOD PLAIN COVER(12): GRASS (PASTURE)

DESIGN INFORMATION CONT.

STREAM IS X DEGRADING ___ AGGRADING (13)

OTHER OBSERVATIONS AND COMMENTS: ___

CHANNEL MIGRATION TENDENCY (14) TOWARD END BENT ONE

CRITICAL SCOUR ELEVATION (15): EB-1: 2820'
B-1: 2814-2816'
B-2: 2816'
B-3: 2817'
B-4: 2813-2815'
EB-2: 2816'

REPORTED BY: J.W. MANN DATE: 03/22/2000

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).

(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 CRITICAL 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 CRITICAL SCOUR ELEVATION. IF THE CRITICAL SCOUR ELEVATIONS DEPENDENT ON SCOUR COUNTER MEASURES, EXPLAIN. (RIP RAP ARMORING ON SLOPES, ETC.) THEORETICAL 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.