GEOTECHNICAL UNIT FIELD SCOUR REPORT

PROJECT: 8.2843901 ID: b-3614 COUNTY: Buncombe

DESCRIPTION(1): Buncombe Co. Br. No. 300 on SR-1141 over Hominy Creek

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

COUNTY BRIDGE NO. 300 BRIDGE LENGTH 36' NO. BENTS IN: CHANNEL 0 FLOOD PLAIN 2

FOUNDATION TYPE: concrete strip footings

EVIDENCE OF SCOUR(2):

ABUTMENTS OR END BENT SLOPES: North abutment has additional concrete on footing and repaired fill

INTERIOR BENTS: N/A

CHANNEL BED: Channel full of mud which obscures scour

CHANNEL BANKS: South bank upstream severely undercut. North bank downstream somewhat undercut.

EXISTING SCOUR PROTECTION:

TYPE(3): Timber abutment walls, with 3 short wing walls with 1 long wing wall.

EXTENT(4): Long wing on SW quad., other 3 wing walls are short. Abutment walls from foundation to deck.

EFFECTIVENESS(5): Poor

OBSTRUCTIONS(6) (DAMS,DEBRIS,ETC.): Short beaver dam under downstream side of bridge is breached.

DESIGN INFORMATION

CHANNEL BED MATERIAL(7) (SAMPLE RESULTS ATTACHED): Recently deposited mud over basal alluvial sand with gravel and cobbles, SS-2 (A-1-a).

CHANNEL BANK MATERIAL(8) (SAMPLE RESULTS ATTACHED): Silty fine sand, SS-1 (A-2-5).

FOUNDATION BEARING MATERIAL(9): Migmatite and layered gneiss with saprolite

CHANNEL BANK COVER(10): Weeds, brush and trees.

FLOOD PLAIN WIDTH(11): Approximately 400 feet at bridge location, it is significently wider up and down stream.

FLOOD PLAIN COVER(12): Crops, pasture, mowed grass yard and woods.

DESIGN INFORMATION CONT.

STREAM IS ____ DEGRADING XXX AGGRADING (13)

OTHER OBSERVATIONS AND COMMENTS: Annual repairs have been made on both approach fills according to property owner Noland Ingle. Note boulder fill on SW bank.

CHANNEL MIGRATION TENDENCY (14): To the south

GEOTECHNICALLY ADJUSTED SCOUR ELEVATION (15): Existing alluvium is significantly deeper than the contraction scour as calculated on the Bridge Survey & Hydraulic Report dated 7/10/02. Accordingly the Geotechnically Adjusted Scour Elevations are also deeper.

EB1-A	2162.8	EB2-A	2158.1
EB1-B	2161.5	EB2-C	2158.5
		EB2-B	2162.5

REPORTED BY: P. Q. Lockamy, TEG II DATE: 10/14/02

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.