

GEOTECHNICAL UNIT FIELD SCOUR REPORT

PROJECT: 33413.1.1 ID: B-4047 COUNTY: Burke

DESCRIPTION(1): Bridge No.94 on SR-1972 over East Prong Hunting Creek.

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

COUNTY BRIDGE NO. 94 BRIDGE LENGTH 40 ft NO. BENTS IN: CHANNEL 0 FLOOD PLAIN 2

FOUNDATION TYPE: Piles.

EVIDENCE OF SCOUR(2):

ABUTMENTS OR END BENT SLOPES: EB2-B; see #3 below.

INTERIOR BENTS: N/A

CHANNEL BED: None noted.

CHANNEL BANKS: None noted.

EXISTING SCOUR PROTECTION:

TYPE(3): Pile-and-panel end-bent walls and wing-walls. 2.0 ft diameter boulder rip-rap placed against EB2-B wing-wall:

EXTENT(4): Wing-walls extend 10 ft either side of end-bent wall.

EFFECTIVENESS(5): Good.

OBSTRUCTIONS(6) (DAMS,DEBRIS,ETC.): Pipe in bottom of channel 15 ft downstream from edge of paveme

DESIGN INFORMATION

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

CHANNEL BANK MATERIAL(8) (SAMPLE RESULTS ATTACHED): Silty sand.

FOUNDATION BEARING MATERIAL(9):

CHANNEL BANK COVER(10): Brush with trees.

FLOOD PLAIN WIDTH(11): EB1>100 ft EB2-A>100 ft EB2-B=60 ft.

FLOOD PLAIN COVER(12): Grass.

DESIGN INFORMATION CONT.

STREAM IS X DEGRADING AGGRADING (13)

OTHER OBSERVATIONS AND COMMENTS:

CHANNEL MIGRATION TENDENCY (14): South.

GEOTECHNICALLY ADJUSTED SCOUR ELEVATION (15):

REPORTED BY: C A Dunnagan DATE: 12/7/2004

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.