

GEOTECHNICAL UNIT FIELD SCOUR REPORT

PROJECT: 8.2572901 TIP NO.: B-3690 COUNTY: RANDOLPH

DESCRIPTION(1): BRIDGE 163 OVER BRUSH CREEK ON SR 2641

◆ **INFORMATION ON EXISTING BRIDGES** Information obtained from Field Inspection
 Microfilm (Reel: Position:)
 Other

COUNTY BRIDGE NO. 163 BRIDGE LENGTH 175.8' NO. BENTS 5 NO. BENTS IN: CHANNEL 3 FLOODPLAIN 3

FOUNDATION TYPE: CONCRETE PIER

EVIDENCE OF SCOUR(2):

ABUTMENTS OR END BENT SLOPES: NONE

INTERIOR BENTS: NONE

CHANNEL BED: NUMEROUS BOULDERS IN CHANNEL IMPLY PERIODIC HIGH FLOW CONDITIONS

CHANNEL BANKS: NONE

◆ **EXISTING SCOUR PROTECTION:**

TYPE(3): NONE

EXTENT(4): NONE

EFFECTIVENESS(5): N/A

OBSTRUCTIONS(6) (DAMS, DEBRIS, ETC.): ISLAND ON DOWNSTREAM SIDE, BETWEEN EXISTING BENTS 2 & 3

◆ **DESIGN INFORMATION**

CHANNEL BED MATERIAL(7) (Sample Results Attached): SAND, GRAVEL AND BOULDERS ON SHALLOW ROCK

CHANNEL BANK MATERIAL(8) (Sample Results Attached): RESIDUAL SOIL

FOUNDATION BEARING MATERIAL(9): ROCK/ RESIDUAL SOIL

CHANNEL BANK COVER(10): MATURE TREES

FLOOD PLAIN WIDTH(11): 160'

FLOOD PLAIN COVER(12): MATURE TREES

STREAM IS: DEGRADING AGGRADING (13)

OTHER OBSERVATIONS AND COMMENTS:

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 ◆ **DESIGN INFORMATION CONT.**

CHANNEL MIGRATION TENDENCY(14): NONE

GEOTECHNICAL ADJUSTED SCOUR ELEVATIONS (15):

BENT	BORING	GROUND ELEV.	ROCK ELEV.	PREDICTED SCOUR ELEV.	ADJUSTED SCOUR ELEV.
B1	A	409.98	402.18	405.48	404
B1	B	409.05	401.15	404.55	404
B2	A	406.71	400.41	401.01	401
B2	B	407.01	403.81	401.31	404
B3	A	404.07	403.77	398.77	404
B3	B	408.36	403.26	403.06	403
B4	A	410.54	405.04	405.84	405
B4	B	409.38	403.68	404.68	403

REPORTED BY: J STICKNEY, R.Q. CALLAWAY DATE: 10/01/02

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 (RIPRAP, 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, RIPRAP, 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 GEOTECHNICAL 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 GEOTECHNICAL ADJUSTED SCOUR ELEVATION. IF THE GEOTECHNICAL ADJUSTED SCOUR ELEVATION IS DEPENDENT ON SCOUR COUNTER MEASURES, EXPLAIN. (RIPRAP ARMORING ON SLOPES, ETC.) THE GEOTECHNICAL ADJUSTED SCOUR ELEVATION IS BASED ON THE ERODABILITY OF MATERIALS WITH CONSIDERATION FOR JOINTING, FOLIATION, BEDDING ORIENTATION AND FREQUENCY; CORE RECOVERY PERCENTAGE; PERCENT RQD; DIFFERENTIAL WEATHERING; SHEAR STRENGTH; OBSERVATIONS AT EXISTING STRUCTURES; OTHER TESTS DEEMED APPROPRIATE; AND OVERALL GEOLOGIC CONDITIONS AT THE SITE.