

GEOTECHNICAL UNIT FIELD SCOUR REPORT

SHEET OF

2

SHEET OF

18/21

PROJECT: 8.2625201 TIP NO.: B3454 COUNTY: Forsyth

DESCRIPTION(1): Bridge 260 over Muddy Creek on SR 1525

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

COUNTY BRIDGE NO. 260 BRIDGE LENGTH 42 NO. BENTS 2 NO. BENTS IN: CHANNEL 0 FLOODPLAIN 2

FOUNDATION TYPE: Concrete Abutments

EVIDENCE OF SCOUR(2):

ABUTMENTS OR END BENT SLOPES: concrete abutments

INTERIOR BENTS: none

CHANNEL BED: boulders on residual

CHANNEL BANKS: residual

◆ **EXISTING SCOUR PROTECTION:**

TYPE(3): concrete wing walls

EXTENT(4):

EFFECTIVENESS(5): good

OBSTRUCTIONS(6) (DAMS, DEBRIS, ETC.): suspended sanitary sewer downstream @ detour site

◆ **DESIGN INFORMATION**

CHANNEL BED MATERIAL(7) (Sample Results Attached): sand, gravel, and boulders on residual

CHANNEL BANK MATERIAL(8) (Sample Results Attached): residual, see detour bridge borings

FOUNDATION BEARING MATERIAL(9): residual soil, weathered rock, rock

CHANNEL BANK COVER(10): Trees, Brush

FLOOD PLAIN WIDTH(11): 400'

FLOOD PLAIN COVER(12): Grass, Fields, Brush

STREAM IS: DEGRADING AGGRADING (13)

◆ **DESIGN INFORMATION CONT.**

OTHER OBSERVATIONS AND COMMENTS: Stream appears to have been channelized

CHANNEL MIGRATION TENDENCY(14): Stream has been straightened, and may return to meanders eventually

GEOTECHNICAL ADJUSTED SCOUR ELEVATIONS (15):

Bent	Boring	Alluv Top elev.	Pred. Q100 Scoru	Pred. Q100 Scour Elev.	Adj Scour Depth	Adj Scour Elevation
B1	A	751.32	18.4'	732.92'	10.5'	740.8' ✓
B1	B	750.01	18.4'	732.61'	8.8'	742.2' ✓
B2	A	746.63	18.4'	728.23'	8.3'	738.4' ✓
B2	B	748.61	18.4'	730.21'	9.2'	739.4' ✓

The predicted scour was in residual soil. The geotechnically adjusted scour elevation is based on "N" values translated with a chart to a % reduction value.

REPORTED BY: CCM DATE: 2/5/03

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 (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.