

STREAM IS _____ DEGRADING _____ X _____ AGGRADING (13)

OTHER OBSERVATIONS AND COMMENTS: wood debris from an earlier bridge is lying under the

existing bridge; broken off timber piles are protruding from the channel amid boulders

CHANNEL MIGRATION TENDENCY (14): channel is meandering through soft alluvial materials; there is a high potential for stream migration over next 100 years

REPORTED BY: Paul New DATE: 11/1/2002
 Trigon Engineering Consultants, Inc.

GEOTECHNICALLY ADJUSTED SCOUR ELEVATION (15): _____

1 EFA tube was submitted to the Materials and Test Lab and adjusted scour will be

provided by the Hydraulics Unit based on the EFA results.

REPORTED BY: Cheryl A. Unsworth DATE: 11/18/2002
 NCDOT GEOTECHNICAL UNIT
 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.

PROJECT #: 8.2353001 (B-3450)

COUNTY: Durham

DESCRIPTION: Bridge No. 122 over Tributary to Sandy Creek on SR 1116 (Garrett Road)

SAMPLE #	CHANNEL BED MATERIAL				CHANNEL BANK MATERIAL						
	G-3 (SBD-1)	G-4 (SBD-2)	G-1 (SBK-1)	G-2 (SBK-2)	SS-5	SS-8	SS-10	AASHTO CLASSIFICATION	STATION	OFFSET	DEPTH
RETAINED #4	0	0	1.0%	0%	0%	0%	1%	A-1-b (0)	22+35	19' RT	0-0.5'
PASSING #10	100%	100%	97%	100%	98%	94%	98%	A-2-4 (0)	22+25	19' RT	0-0.5'
PASSING #40	73%	31%	73%	68%	77%	47%	91%	A-2-4 (0)	22+70	12' LT	0-0.5'
PASSING #200	4%	3%	13%	29%	40%	8%	68%	A-2-4 (0)	22+70	12' LT	0-0.5'
COARSE SAND	70%	93%	61%	51%	35%	71%	12%	A-1-b (0)	22+60	11' LT	3.5-5.0'
FINE SAND	26%	4%	26%	24%	28%	22%	23%	A-4 (0)	22+08	19' LT	1.0-2.5'
SILT	3%	2%	4%	14%	17%	3%	32%	A-4 (0)	22+08	19' LT	1.0-2.5'
CLAY	1%	1%	9%	11%	20%	4%	33%	A-4 (0)	22+08	19' LT	1.0-2.5'
LL	12	8	15	22	23	15	37	A-4 (0)	22+66	24' RT	1.0-2.5'
PI	NP	NP	NP	NP	6	NP	17	A-1-b (0)	22+66	24' RT	1.0-2.5'
AASHTO CLASSIFICATION	A-3 (0)	A-1-b (0)	A-2-4 (0)	A-2-4 (0)	A-4 (0)	A-1-b (0)	A-6 (10)				