GEOTECHNICAL UNIT FIELD SCOUR REPORT

PROJECT: 34459.1.1 ID: R-2552 C COUNTY: Johnston
DESCRIPTION(1): New Bridge on -L2LT- (US 70 Bypass) over Little Creek
INFORMATION ON EXISTING BRIDGE ✓ field inspection
Information obtained from:
BR. NO.:n/a BR. LENGTH:n/a NO. BENTS:n/a NO. BENTS IN: CHANNEL:n/a _FLOODPLAIN:n/a
FOUNDATION TYPE: n/a
EVIDENCE OF SCOUR(2):
ABUTMENTS OR END BENT SLOPES:
INTERIOR BENTS: n/a
CHANNEL BED: No evidence of scour can be seen in the creek channel.
CHANNEL BANKS: Creek banks appear to be eroding during high water flow.
EXISTING SCOUR PROTECTION:
TYPE(3): None
EXTENT(4): n/a
EFFECTIVENESS(5): n/a
OBSTRUCTIONS(6) (DAMS,DEBRIS,ETC.): Some large trees have fallen in the creek.
DESIGN INFORMATION
CHANNEL BED MATERIAL(7) (SAMPLE RESULTS ATTACHED): Alluvial, tan-gray, loose, silty sand
(SS-25, 28, and 30)
CHANNEL BANK MATERIAL(8) (SAMPLE RESULTS ATTACHED): Alluvial, brown, loose, cse. sand (SS-46)
and gray-brown, medium stiff, sandy silt (SS-48)
CHANNEL BANK COVER(10): Trees, grass, and brush
FLOOD PLAIN WIDTH(11): +/- 100 meters
FLOOD PLAIN COVER(12): Trees, grass, and brush

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DESIGN INFORMATION CONT.
STREAM IS: X DEGRADING AGGRADING (13)
OTHER OBSERVATIONS AND COMMENTS: Concrete dam and pond located approximately 100m
upstream of site.
CHANNEL MIGRATION TENDENCY (14): Slightly west directly beneath proposed bridge.
GEOTECHNICALLY ADJUSTED SCOUR ELEVATIONS(15):
Bent 1 Bent 2 Bent 3 Bent 4 Bent 5
Elevation (m): 54.1 54.6 54.4 53.6 53.5
The GASE scour elevations agree with the Hydraulic Unit's predicted scour elevations.
REPORTED BY: Field Inspection By: Jaime Love DATE: 8/3/04
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 FIND BENTS OR ARITMENTS (LINDERMINING).

- NOTE ANY EVIDENCE OF SCOUR AT THE EXISTING END BENTS OR ABUTMENTS (UNDERMINING, SLOUGHING, SCOUR LOCATIONS, DEGRADATIONS, ETC.)
- NOTE ANY EXISTING SCOUR PROTECTION (RIR RAP, ETC.)
- DESCRIBE THE EXTENT OF ANY EXISTING SCOUR PROTECTION.
- DESCRIBE WHETHER OR NOT THE SCOUR PROTECTION APPEARS TO BE WORKING.
- NOTE ANY DAMS, FALLEN TREES, DEBRIS AT BENTS, ETC.
- DESCRIBE THE CHANNEL BED MATERIAL: A SAMPLE SHOULD BE TAKEN FOR GRAIN SIZE DISTRIBUTION.
- DESCRIBE THE CHANNEL BANK MATERIAL: A SAMPLE SHOULD BE TAKEN FOR GRAIN SIZE DISTRIBUTION, ATTACH LAB RESULTS.
- 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).
- 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 THE RELATIONSHIP BETWEEN THE HYDRAULICS THEORETICAL SCOUR AND THE GEOTECHNICALLY ADJUSTED SCOUR ELEVATION. IF THE GEOTECHNICALLY ADJUSTED SCOUR ELEVATION IS DEPENDENT ON SCOUR COUNTER MEASURES. EXPLAIN. (RIPRAP ARMORING ON SLOPES, ETC.) 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.