GEOTECHNICAL UNIT FIELD SCOUR REPORT

PROJECT: **8.1080601** ID: **B-3348** COUNTY: **Hyde County**

DESCRIPTION(1): Bridge #54 on US 264 over Wallace Canal

INFORMATION ON EXISTING BRIDGE

Information obtained from:
- [x] field inspection
- [ ] microfilm (Reel: ____ Pos: ____)
- [ ] other: ____

BR. NO.: 52 BR. LENGTH: 36' NO. BENTS: 5 NO. BENTS IN: CHANNEL: 3 FLOODPLAIN: 2

FOUNDATION TYPE: Piles

EVIDENCE OF SCOUR(2):

ABUTMENTS OR END BENT SLOPES: None

INTERIOR BENTS: None

CHANNEL BED: None visible

CHANNEL BANKS: None

EXISTING SCOUR PROTECTION:

TYPE(3): Head Walls and retaining wall along east side of embankment at EB2.

EXTENT(4): 8 feet either side of the bridge, and retaining wall is 25 feet long

EFFECTIVENESS(5): very effective

OBSTRUCTIONS(6) (DAMS,DEBRIS,ETC.): None

DESIGN INFORMATION

CHANNEL BED MATERIAL(7) (SAMPLE RESULTS ATTACHED): muck and clayey sand (SS-1)

CHANNEL BANK MATERIAL(8) (SAMPLE RESULTS ATTACHED): Fine sandy clay (SS-28), and slightly organic fine sandy silt (SS-60) and muck

FOUNDATION BEARING MATERIAL(9): Medium dense silty fine sand and very stiff to hard fine sandy silt

CHANNEL BANK COVER(10): Marsh grasses

FLOOD PLAIN WIDTH(11): approximately 5700 feet

FLOOD PLAIN COVER(12): Marsh grasses

DESIGN INFORMATION CONT.

STREAM IS: ____ DEGRADING ____ AGGRADING (13) X EQUILIBRIUM

OTHER OBSERVATIONS AND COMMENTS: Stream channel is fairly stable and exhibits minimal sediment transport.

CHANNEL MIGRATION TENDENCY (14): Very Low

GEOTECHNICALLY ADJUSTED SCOUR ELEVATIONS(15):

Based on findings during the investigation, the Geotechnically adjusted Scour elevation should match the maximum theoretical scour elevation of -12.4 feet provided by the Hydraulics Unit.

REPORTED BY: John R. McCoy DATE: 5-7-03

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 (RIR 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,
(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 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.