GEOTECHNICAL UNIT FIELD SCOUR REPORT

PROJECT: 33322.1.1 ID: B-3879 COUNTY: Nash
DESCRIPTION(1): Bridge No. 73 over Stoney Creek on SR 1603
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INFORMATION ON EXISTING BRIDGE ☑ field inspection
Information obtained from:
BR. NO.:73 BR. LENGTH:181' 7" NO. BENTS:7 NO. BENTS IN: CHANNEL:3 FLOODPLAIN:4
FOUNDATION TYPE: Timber Piles
EVIDENCE OF SCOUR(2):
ABUTMENTS OR END BENT SLOPES: None
INTERIOR BENTS: None observed due to muddy water
CHANNEL BED: None observed due to muddy water
CHANNEL BANKS: Approx.10 ft. of the channel bank has been scoured underneath the bridge at end bent 1
EXISTING SCOUR PROTECTION:
TYPE(3): Concrete endwall
EXTENT(4): 5 ft. beyond edge of bridge
EFFECTIVENESS(5): Appears satisfactory
OBSTRUCTIONS(6) (DAMS,DEBRIS,ETC.): Minor debris around interior bents 2 and 3. (limbs/branches)
DESIGN INFORMATION
CHANNEL BED MATERIAL(7): Coarse sand and sandy silt (SS-14)
CHANNEL BANK MATERIAL(8): Coarse sand (SS-5), silty sand (SS-12), sandy clay(SS-3)
and silty clay(SS-9)
CHANNEL BANK COVER(9): Trees, shrubs, grass
FLOOD PLAIN WIDTH(10): 350 feet
FLOOD PLAIN COVER(11): Trees, shrubs, grass

SHEET 17

DESIGN INFORMATION CONT.
STREAM IS: DEGRADING X _ AGGRADING (12)
OTHER OBSERVATIONS AND COMMENTS: None
CHANNEL MIGRATION TENDENCY (13): Potential is low and migration is to the south (End Bent 1)
GEOTECHNICALLY ADJUSTED SCOUR ELEVATIONS(14):
The Geotechnical Engineering Unit agrees with the theoretical scour for Bent 1(99.7'), Bent 2 (99.8)
and Bent 3 (101.3), as reported in the Bridge Survey and Hydraulic Design Report,
dated February 2003.

INSTRUCTIONS

- (1) GIVE THE DESCRIPTION OF THE SPECIFIC SITE, INCLUDING 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.)
- 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 BASED ON OBSERVATION AND/OR SAMPLES.
- (8) DESCRIBE THE CHANNEL BANK MATERIAL BASED ON OBSERVATION AND/OR SAMPLES.
- (9) DESCRIBE THE BANK COVERING (GRASS, TREES, RIP RAP, NONE, ETC.)
- (10) GIVE THE APPROXIMATE FLOOD PLAIN WIDTH (ESTIMATE).
- (11) DESCRIBE THE FLOOD PLAIN COVERING (GRASS, TREES, CROPS, ETC.)
- (12) CHECK THE APPROPRIATE SPACE AS TO WHETHER THE STREAM IS DEGRADING OR AGGRADING.
- 13) DESCRIBE THE POTENTIAL OF THE BODY OF WATER TO MIGRATE LATERALLY DURING THE LIFE OF THE BRIDGE (APPROXIMATELY 100 YEARS).
- (14) 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.