GEOTECHNICAL UNIT FIELD SCOUR REPORT

PROJECT: *8.2822102* TIP NO.: *B-3350* COUNTY: *Iredell*

DESCRIPTION(1):

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

COUNTY BRIDGE NO. *292* BRIDGE LENGTH *161.3* NO. BENTS *5* NO. BENTS IN: CHANNEL *3* FLOODPLAIN *4*

FOUNDATION TYPE: *Concrete footing on rock interior bents, abutment and wingwall endbents*

EVIDENCE OF SCOUR(2):

ABUTMENTS OR END BENT SLOPES: *Bare, steep endbent 1 slope*

INTERIOR BENTS: *eroded concrete footing,*

CHANNEL BED: *1foot deep pothole in rock noted*

CHANNEL BANKS: *large up-rooted tree lodged on bridge*

♦ ***EXISTING SCOUR PROTECTION:***

TYPE(3): *abutment and wingwall on endbent 2*

EXTENT(4):

EFFECTIVENESS(5):

OBSTRUCTIONS(6) (DAMS, DEBRIS, ETC.): *up-rooted tree lodged on bridge*

♦ ***DESIGN INFORMATION***

CHANNEL BED MATERIAL(7) (Sample Results Attached): *Crystalline rock with thin sand/rock cover*

CHANNEL BANK MATERIAL(8) (Sample Results Attached): *Alluvium, (A-2-4), SS-2*

FOUNDATION BEARING MATERIAL(9): *Hard, unfractured, fresh crystalline gneiss and/or quartzite*

CHANNEL BANK COVER(10): *large trees, shrubs*

FLOOD PLAIN WIDTH(11): *200'*

FLOOD PLAIN COVER(12): *Large trees, shrubs*

STREAM IS: ☒ DEGRADING ☐ AGGRADING (13)

♦ ***DESIGN INFORMATION CONT.***

OTHER OBSERVATIONS AND COMMENTS:

CHANNEL MIGRATION TENDENCY(14): *Stream at normal flow appears to be entrenched in a rock channel.*

GEOTECHNICAL ADJUSTED SCOUR ELEVATIONS (15):

Bent	*Boring*	*Rock Elevation*	*Predicted Scour Elevation*	*Adjusted Scour Elevation*
B1	*A*	*859.31'*	*852.11'*	*858'*
B1	*B*	*858.77'*	*851.57'*	*857.5'*
B2	*A*	*858.93'*	*851.73'*	*857.5'*
B2	*B*	*858.42'*	*851.22'*	*857.0'*

REPORTED BY: *JKS* DATE: *6-11-2002*

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.