



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

January 31, 2012

NC Department of Environment and
Natural Resources - NCDWQ
1650 Mail Service Center
Raleigh, NC 27699-1650

ATTN: Mr. Charles Wakild, P.E.
Director

Dear Sir:

Subject: **Response to NCDWQ On-Hold Letter dated January 23, 2012** for the I-40 & I-77 interchange in Statesville including I-40 from west of SR 2003 (Radio Road) to SR 2158 (Old Mocksville Road) and I-77 from south of SR 2321 (East Broad Street) to south of SR 2171 (Jane Sower Road) in Iredell County. Federal Aid Project No. IMS-40-2, WBS 34192.1.2. Division 12, TIP No. I-3819A.

Reference: 404/401 Permit Application dated November 28, 2011
NCDWQ On Hold Letter dated January 23, 2012

On January 23, 2012, NCDWQ sent a letter placing the permit application for the above-referenced project on-hold, citing nine areas where the permit application was deficient. This letter serves to provide all of the information requested to remedy the deficiencies.

- 1) The total wetland impacts for this project are 1.36 acres. Mitigation for these impacts is required at a 2:1 ratio by NCDWQ. To satisfy NCDWQ's requirement, NCDOT has requested 1.36 acres of mitigation from the Ecosystem Enhancement Program (EEP). The remaining 1.36 acre will be obtained through on-site wetland mitigation (please see attached EEP request and On-Site Mitigation plan).
- 2) The amount of stream impacts requiring mitigation for this project total 1,666 linear feet. Originally, NCDOT proposed to restore 1,050 linear feet of stream (for 1:1 credit) and enhance 1,305 linear feet of stream (for 2:1 credit) on-site to mitigate for all stream impacts for this project. However, since the proposed restoration activities have been

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

TELEPHONE: 919-717-6100
FAX: 919-212-5785

WEBSITE: WWW.DOH.DOT.STATE.NC.US

LOCATION:
1020 BIRCH RIDGE DRIVE
RALEIGH NC, 27610-4328

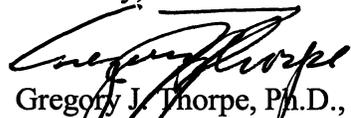
deemed by DWQ to be more accurately defined as stream enhancement activities, NCDOT has revised the mitigation plan (attached) to propose the entire 2,355 linear feet of on-site stream mitigation as enhancement at 2:1. Since this will now only offset 1,177 linear feet of the total impacts requiring mitigation, the remaining 489 linear feet of stream impacts will be provided by EEP (see attached EEP request).

- 3) A revised detail sheet for the permit drawings and plan sheet has been prepared which includes a note regarding the stockpiling of original streambed material to be used in the relocated channel. *The attached revised permit sheets replace Permit Drawing Sheets 23, 24, and 46 (of 68) in the November 28, 2011 permit application.*
- 4) Details B, K and W are each referenced in multiple locations throughout the permit drawings, therefore below each detail is a list showing the size of riprap to be used at each location by station number. An e-mail with further clarifications regarding this comment was sent to Polly Lespinasse on January 25, 2012. (See attached.)
- 5) A revised detail sheet for the permit drawings has been prepared which includes the ditch slope (for both Detail B and Detail M) at permit site 8. *The attached revised permit sheet replaces Permit Drawing Sheet 45 of 68 in the November 28, 2011 permit application.*
- 6) Detail BN in the design plans (sheet 2-S) had the incorrect size of riprap listed (though it was listed correctly on the permit drawing sheet 2-S). *A revised detail sheet which has the correct size (Class II) listed is attached and replaces the original Sheet 2-S in the design plans.*
- 7) An additional sheet has been prepared to include with the utility permit drawings for this project. This page describes further the activities to be conducted at Utility Site U1 with relation to the excavated material. *This sheet will be "Utility Permit Drawing Sheet 2a of 10" and can be inserted directly after the Utility Impact Summary Sheet in the November 28, 2011 permit application.*
- 8) Please see the information provided in the attached Utility Permit Sheet 2a.
- 9) Please see the information provided in the attached Utility Permit Sheet 2a.

We believe that the above information has satisfied the deficiencies in the November 28, 2011 permit application and the project can be removed from "On-Hold" status and permitting can proceed.

Thank you for your assistance with this project. If you have any questions or need additional information, please contact Erin Cheely at ekcheely@ncdot.gov or (919) 707-6108.

Sincerely,



Gregory J. Thorpe, Ph.D., Manager
Project Development and Environmental Analysis Unit

cc: Polly Lespinasse, NCDWQ Mooresville Regional Office
Liz Hair, USACE Asheville Office
Trish Simon, NCDOT Division 12 DEO
Sonia Carrillo, NCDWQ Central Office

**Stream and Wetland Mitigation Plan
New Interchange at I-40 and I-77 in Statesville
Iredell County**

**TIP I-3819A
WBS No. 34192.1.2**

January 30, 2012

1.0 BASELINE INFORMATION

The I-40/I-77 Interchange Area Improvement Project (TIP No. I-3819) is located northeast of the City of Statesville in Iredell County, North Carolina. The proposed 1550 acre project study area encompasses the I-40/I-77 interchange and five adjacent interchanges. The topography of the project study area is characterized as gently rolling hills with some steep areas. Gently rolling topography is found within inter-stream areas, with steeper slopes found along the edges of some stream floodplains. Land use within the project vicinity includes a mixture of commercial, residential, agriculture, industrial, forested, and public/institutional land uses.

Perennial streams in the project study area include: 17 UT's to Fourth Creek and 2 UT's to Morrison Creek. No water supply watersheds, Outstanding Resources Waters (ORW), High Quality Waters (HQW), or Critical Areas (CA) were identified in the project study area. All UT's to Fourth Creek have been assigned a stream Index of 12-108-20 with a classification C which are fresh waters protected for secondary recreation, fishing, aquatic life including propagation and survival and wildlife.

Jurisdictional wetlands in the project study area are primarily palustrine in nature, as defined in Cowardin et al. (1979). Some wetland systems are defined as palustrine but are hydrologically influenced by surface waters. Wetlands that are located adjacent to streams and receive the majority of hydrology from the adjacent waterways were identified as riverine for this project.

2.0 SITE SELECTION

An unnamed tributary to Fourth Creek enters the Northeast quadrant of the interchange through a 48 inch pipe under I-77. The stream then runs parallel to I-77 for approximately 2355 feet within the potential stream mitigation area. The primary degrading factors along this stream are cattle access and lack of a riparian buffer.

Within this potential mitigation area, the upstream section of the Ut flows approximately 1050 feet in an incised channel through a steep U-shaped valley. The channel has several near vertical banks and areas of exposed bedrock. Cattle gain access to the stream at several locations along the banks, causing localized erosion. Along this section of the stream, the riparian area along the

right bank is densely wooded. The riparian area along the left bank is sparsely wooded with pines and hardwoods.

Along the downstream section of the potential mitigation area, the valley flattens as the stream flows approximately 1305 feet in the channel at floodplain elevation. Cattle have full access to the stream through this section. The banks of the channel have been severely degraded by hoof shear but the riffle-pool structure is still largely intact. The far downstream end is so severely impacted by cattle that the channel is difficult to distinguish as it flows through a wetland dominated by herbaceous vegetation. The channel reforms as it exits the wetland and the stream mitigation area.

A proposed 26.69 acre wetland preservation site in the southwestern quadrant of the interchange is made up of several small wetland systems. The site is part of a 53.4 acre tract that NCDOT will be purchasing for FEMA flood plain issues. These riverine wetlands are in the floodplain of Fourth Creek that runs parallel to the south side of the tract. The largest wetland system within the preservation site is influenced by beavers, creating a mosaic of open water, forested wetland and herbaceous wetland. The other wetland systems are small forested wetlands. The wetland preservation site is dominated by American sycamore (*Platanus occidentalis*), box elder (*Acer negundo*), and river birch (*Betula nigra*). These wetlands help treat overland flow from impervious surfaces upslope of this tract and also receive overbank flow from Fourth Creek during heavy rain events.

3.0 SITE PROTECTION INSTRUMENT

The mitigation areas are presently located within or will be located within the NCDOT Right-of-Way for the project. They will be managed to prohibit all use inconsistent with its use as mitigation property, including any activity that would materially alter the biological integrity or functional and educational value of the site, consistent with the mitigation plan.

The site will be placed on the NEU mitigation geo-database. After closeout, the site will be placed in the NCDOT Stewardship Program for long term management and protection.

4.0 OBJECTIVES

The goal of the projects is to enhance 2305 feet of stream and preserve 26.69 acres of wetlands. The functional restoration of the stream site will be accomplished through replanting a minimum 50 foot buffer along both sides of the streams. NCDOT also purchased a 53.4 acre tract needed for FEMA flood plain issues that contains 26.69 acres of smaller individual wetland systems within the tract.

5.0 MITIGATION WORK PLAN

The mitigation areas will be constructed in conjunction with TIP I-3819A. Construction activities involve fencing the mitigation area and replanting the appropriate tree species in the buffer zone.

The buffer of the enhancement area will be planted with the following bare root seedlings at a density of 680 trees per acre on 8 foot centers: northern red oak, American sycamore, white oak, and yellow poplar depending on availability.

The banks of the stream enhancement area will be planted with live stakes on 4 foot centers with silky dogwood (*Cornus amomum*) and buttonbush (*Cephalanthus occidentalis*) depending on availability.

The proposed wetland preservation consists of purchasing the 53.4 acre tract fee simple, placing the 26.69 acres of wetlands within the tract on the NCDOT GeoDatabase and protecting them in perpetuity.

6.0 PERFORMANCE STANDARDS

NCDOT shall monitor the stream mitigation areas by visual observation, photo points, and monitoring vegetation survival as well as channel stability through permanent cross sections. NCDOT will monitor the site for a minimum of five years or until the site is deemed successful.

Benthic macro-invertebrate surveys will be conducted pre and post enhancement. Macro-invertebrate surveys will be conducted annually for five years. NCDWQ Qual 4 methods of collection will be used per their Standard Operating Procedures Manual (NCDENR 2006).

All monitoring activities will be initiated upon completion of site planning.

7.0 MONITORING REQUIREMENTS

Upon successful completion of construction, NCDOT will perform visual inspection and photo points yearly for five years and document these monitoring activities on the site in an annual report distributed to the regulatory agencies.

8.0 OTHER INFORMATION

NCDOT will conduct a benthic macro-invertebrate survey within the stream mitigation area prior to construction to document the baseline conditions of the site. Benthic surveys will also be conducted each year of the monitoring period. NCDWQ Qual 4 methods of collection will be used as per their Standard Operating Procedures manual. All data collection methods are derived

from techniques used by the NC Department of Environment and Natural Resources - Division of Water Quality. <http://h2o.enr.state.nc.us/esb/BAU.html>.

Site information forms including habitat characterization will be completed at each sampling location. Locations will be recorded with a Trimble GPS unit to indicate the extent of the sample area and locations of existing habitat. Digital photographs will be taken at each sampling location. Physical/Chemical parameters will also be recorded at each site; water temperature, dissolved oxygen (DO), conductivity, and ph.

Samples will be “field picked” – the macro invertebrates will be removed from respective collections and placed in vials of alcohol for transport to a laboratory where they will be identified to species level, where appropriate.

9.0 DETERMINATION OF CREDITS

Per the NCDOT plans and 401/404 permit application for I-3819A; NCDOT proposes to preserve 26.69 acres of riverine wetlands, and 2355ft. of stream enhancement to mitigate for permanent impacts associated with the TIP at the following ratios: 10:1 for wetland preservation, and 2:1 for stream enhancement. An as-built report will be submitted within 60 days of completion of the project to verify actual acreage. The success of the mitigation areas and determination of final credits will be based upon successful completion of the monitoring.

All enhancement and preservation mitigation used for I-3819A will be used within the (HUC) 03040103. All wetland mitigation assets will be added to NCDOT’s debit ledger for use in adjacent HUC’s in the future.

9.1 CREDIT RELEASE SCHEDULE

NCDOT proposes immediate, full release of the stream enhancement and the wetland preservation as on-site mitigation for the associated riverine wetland impacts of 1.36 acres and the 1666 linear feet of stream impacts for I-3819A.

10.0 GEOGRAPHIC SERVICE AREA

The proposed Geographic Service Area (GSA) for the mitigation area is composed of the Hydrologic Cataloging Unit (HUC) 03040103 in the Yadkin River Basin. 1.36 acres of the wetland preservation will be used for on-site mitigation along with affiliated with the TIP project I-3819A. 2355 feet

of stream mitigation will be used to offset unavoidable impacts associated with the TIP project I-3819A.

11.0 MAINTENANCE PLAN

The site will be held by NCDOT and placed on the NEU mitigation geodatabase. Once monitoring is completed and the site is closed out, it will be placed in the NCDOT Stewardship Program for long term maintenance and protection.

If an appropriate third party recipient is identified in the future, then the transfer of the property will include a conservation easement or other measure to protect the natural features and mitigation value of the site in perpetuity.

12.0 LONG TERM ADAPTIVE MANAGEMENT PLAN

The site will be managed by the NCDOT according to the mitigation plan. In the event that unforeseen issues arise that affect the management of the site, any remediation will be addressed by NCDOT in coordination with the Interagency Review Team.

13.0 FINANCIAL ASSURANCES

The site will be managed by NCDOT with its own distinct cost center number within the NCDOT budgeting and financial tracking system. Therefore, all accounting for revenues, contract encumbrances, fund transfers, and expenses will be performed and reported independent from other capital budget or operating budget accounting.



MITIGATION REQUEST FORM TRI-PARTY MOA (NCDOT)

Revised 3/24/2008



Fill in requested information, print out the form, sign and date, and either mail to EEP, 1652 Mail Service Center, Raleigh, NC 27699-1652, or fax to 919-715-2219. Attachments are acceptable for clarification purposes.

Electronic submissions are permissible; however, an acceptance letter cannot be sent until the original signed form has been received.

NCDOT CONTACT INFORMATION		REGULATORY CONTACT INFORMATION	
Agency/Division	NCDOT-Highways	USACE Office	Regulatory Field Office
Branch	PDEA-NEU	USACE Contact	Ms. Liz Hair
Mailing Address	1598 Mail Service Center	Mailing Address	151 Patton Avenue, Room 208
City, State, Zip	Raleigh, NC 27699-1598	City, State, Zip	Asheville, NC 28801-5006
Project Manager	Erin Cheely	USACE Fax Number	(828) 271-7950
Telephone Number	(919) 707-6000	NCDWQ Contact	Brian Wrenn
E-Mail Address	ekcheely@dot.state.nc.us	Mailing Address	585 Waughtown Street
Supervisor	Carla Dagnino	City, State, Zip	Winston-Salem, NC 27107
Telephone Number	(919) 707-6000	NCDWQ Fax Number	(336)771-4630

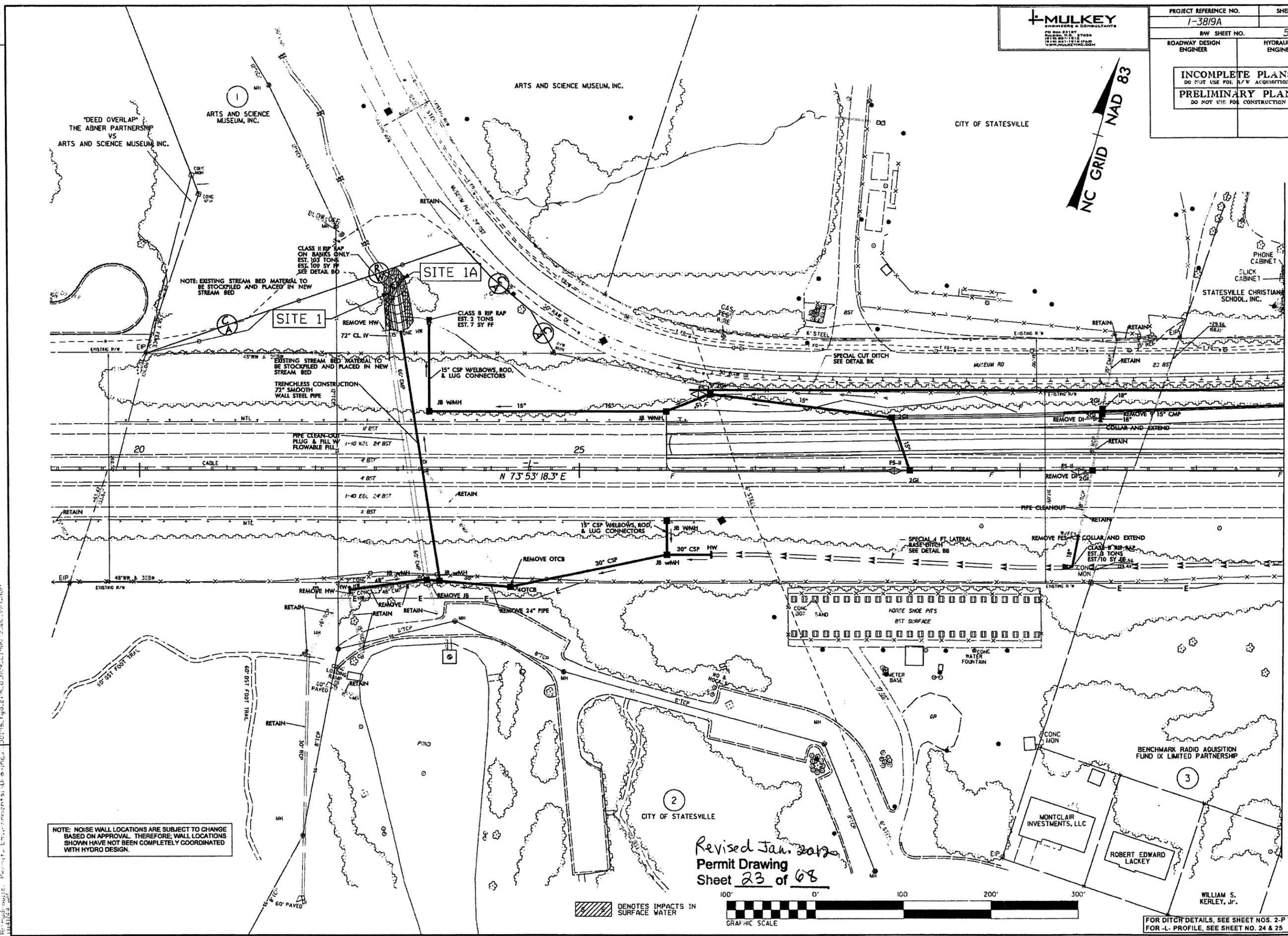
PROJECT LOCATION INFORMATION AND IMPACTS			
TIP Number(s)	I-3819 A		
TIP Description	New Interchange on I-40 & I-77 in Statesville including I-40 from west of SR 2003 (Radio Road)		
Current Let Date	4/17/12		
NCDOT Highway Division	Division 12		
County(ies)	Iredell		
EEP Ecoregion(s)	Central Piedmont		
River Basin(s)	Yadkin-Pee Dee		
Cataloging Unit(s) (8-digit)	04040102		
Total Stream (feet)	Warm	489	
	Cool	0	
	Cold	0	
	TOTAL	489	
Total Riparian Wetland Impact (acres)	1.36		
Total Non-Riparian Wetland Impact (acres)	0		
Total Coastal Marsh Impact (acres)	0		
Total Buffer Impact	Zone 1 (square feet)	0	
	Zone 2 (square feet)	0	

OTHER INFORMATION	
USACE Action ID Number (if known)	
NCDWQ Project Number (if known)	
NCDCM Project Number (if known)	
Comments: Requesting 489 linear feet of stream mitigation @ 2:1 ratio Requesting 1.36 acre of wetland mitigation @ 1:1 ratio (EEP request originally sent for this TIP July 2010, but request was voided in March 2011. On-site mitigation plan has changed, so now we need EEP again.)	

<p style="text-align: center;">IMPORTANT</p> <p style="text-align: center;">Check below if this request is a:</p> <p><input checked="" type="checkbox"/> New Mitigation Request</p> <p><input type="checkbox"/> Revision to a current acceptance</p>	<p style="text-align: center;">Signature of Applicant or Agent:</p> <div style="text-align: center;"> <hr style="width: 80%; margin: 0 auto;"/> </div> <p style="text-align: center;">Date: <u>1/31/12</u></p>
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PROJECT REFERENCE NO.	SHEET NO.
1-3819A	4
R/W SHEET NO.	5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

NC GRID NAD 83



NOTE: NOISE WALL LOCATIONS ARE SUBJECT TO CHANGE BASED ON APPROVAL. THEREFORE, WALL LOCATIONS SHOWN HAVE NOT BEEN COMPLETELY COORDINATED WITH HYDRO DESIGN.

Revised Jan. 2012
Permit Drawing
Sheet 23 of 68

/// DENOTES IMPACTS IN SURFACE WATER

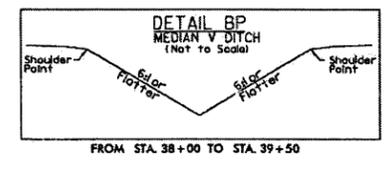
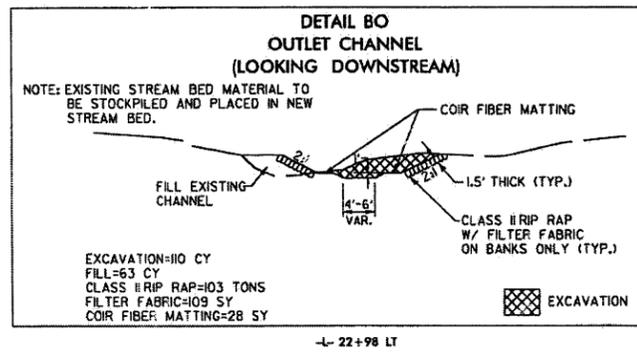
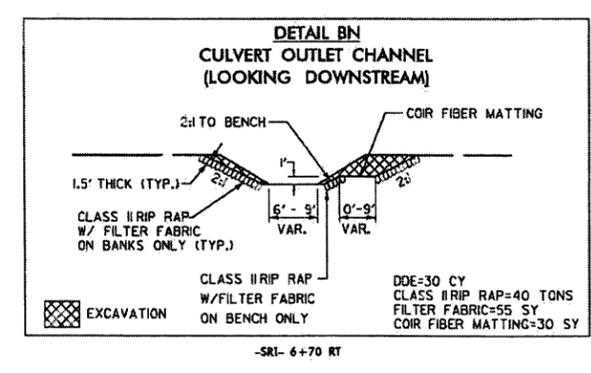
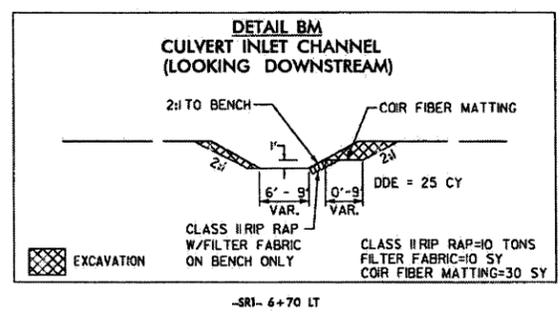
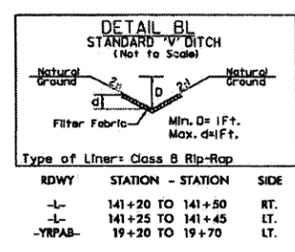
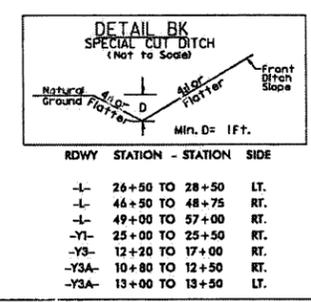
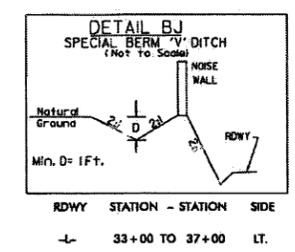
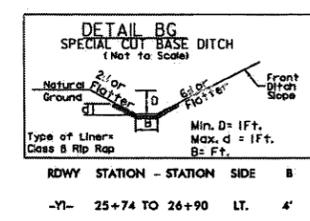
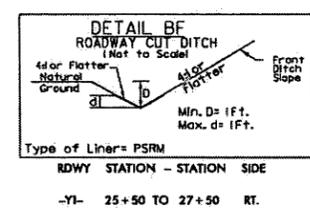
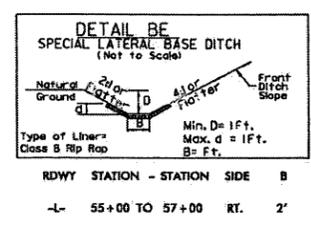
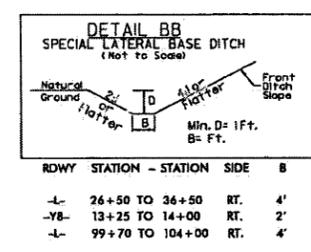
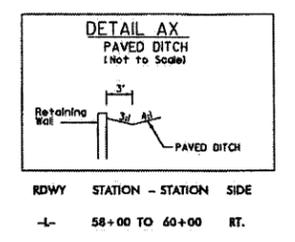
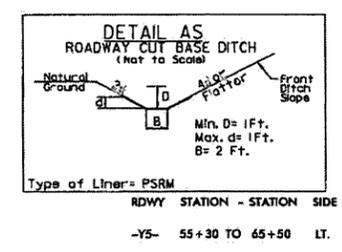
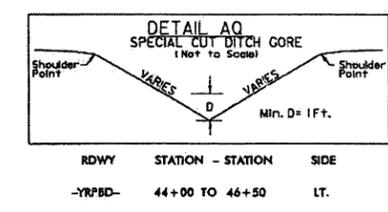
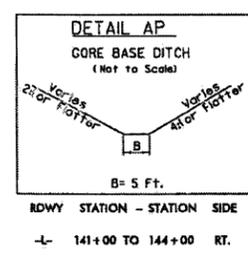
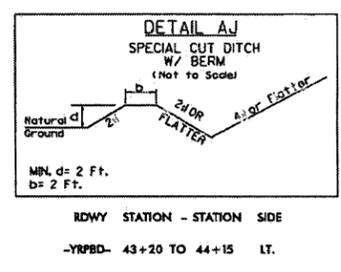
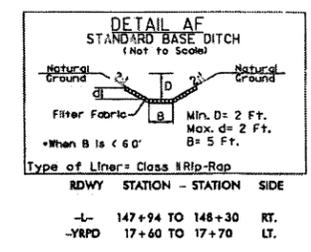
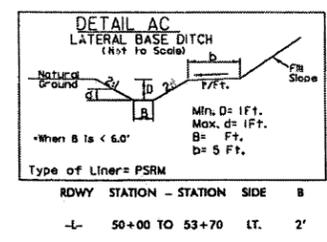
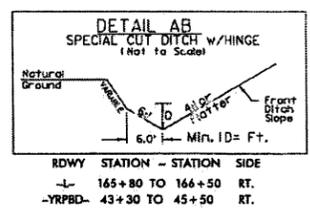
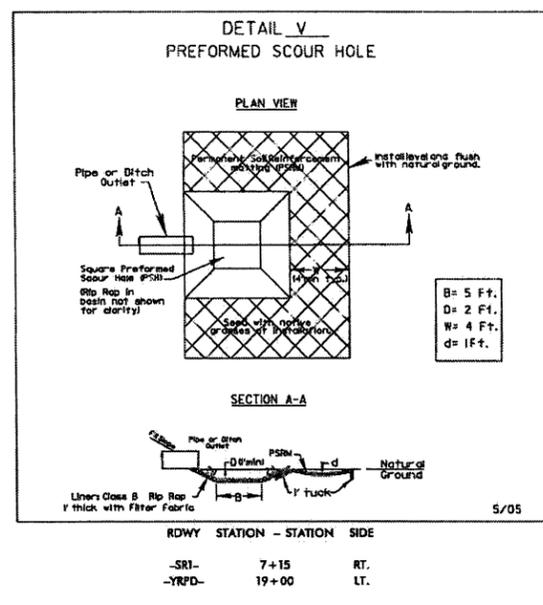


FOR DITCH DETAILS, SEE SHEET NOS. 2-P THRU 2-T
FOR -L- PROFILE, SEE SHEET NO. 24 & 25

-MATCHLINE- STA. 33+00.00 -L- SEE SHEET NO. 5

REVISIONS

1.1.1.2012 Permit Drawing Environmental Impact Statement for the proposed 2.2000 2.2000 2.2000



REVISIONS

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Dagnino, Carla S

From: Cheely, Erin K
Sent: Wednesday, January 25, 2012 11:08 AM
To: Lespinasse, Polly
Cc: Dagnino, Carla S
Subject: I-3819A On-Hold letter - Bullet 4
Attachments: I-3819A Details B, K and W.pdf

Polly,

Good morning! It was so nice to finally get out in the field again last week. We received your on hold letter for I-3819A and I'm working on requesting all the information you need. However, I believe I can address one of the bulleted items in your list, and think that it perhaps is a non-issue.

The fourth bullet mentions that Details B, K and W do not list the size of riprap to be used on detail sheet 2-R of the permit drawings (permit sheet 45 of 68). Those particular details are referenced in multiple locations throughout the project, and therefore have lists below the details showing the size of riprap used at the various locations. I've attached a portion of sheet 2-R showing where I've highlighted the line items relating to permit sites as listed below.

Detail B

Permit Site 8 -YRPBD- 20+30 to 21+00 - Class I

Detail K

Permit Site 2 -L - Class II
Permit Site 7 -YRPC- Class II
Permit Site 11 -YRPA- Class II

Detail W

Permit Site 5 -L- (for shoring under bridge) and -Y4RPD- (for outlet bank stabilization) both Class II
Permit Site 9 -YRPD- Class II
Permit Site 3 -Y8- Class II

Let me know if that covers the fourth bullet.

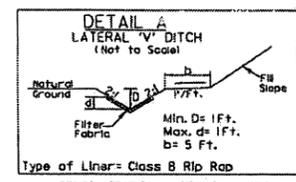
Thanks!

-erin

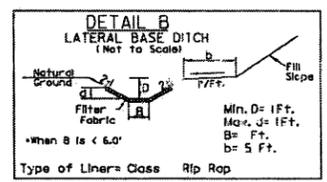
Erin Cheely, Environmental Biologist
North Carolina Department of Transportation PDEA | Natural Environment Section

1598 Mail Service Center
Raleigh, NC 27699-1598
voice: 919.707.6108 fax: 919.212.5785

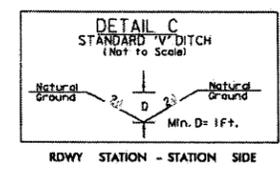
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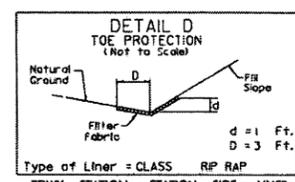
Type of Liner = Class B Rip Rap
 RDWY STATION - STATION SIDE
 -YRPA- 15+30 TO 16+00 RT.



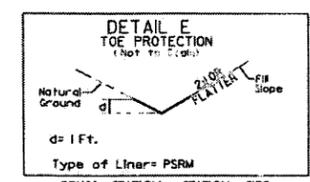
Type of Liner = Class B Rip Rap
 RDWY STATION - STATION SIDE B LINER
 -L- 50+65 TO 55+00 RT. 2' CLASS B
 -YRPA- 22+20 TO 23+00 LT. 4' CLASS B
 -YRPA- 10+60 TO 12+10 RT. 3' CLASS I
 * -YRPBD- 20+30 TO 21+00 RT. 5' CLASS I
 -YRPBD- 27+80 TO 28+50 LT. 2' CLASS B
 -YRPBD- 59+00 TO 62+00 LT. 5' CLASS B
 * RIP RAP TO BE FLUSH WITH CHANNEL DITCH SLOPE = 13.75%



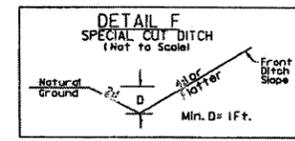
RDWY STATION - STATION SIDE
 -SRI- 36+50 LT.
 -YB- 17+50 TO 18+04 RT.



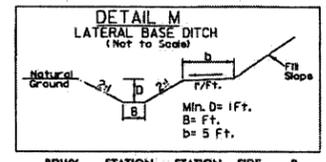
Type of Liner = CLASS RIP RAP
 RDWY STATION - STATION SIDE LINER
 -L- 143+30 TO 143+60 LT. CLASS B
 -SRI- 4+40 TO 6+00 LT. CLASS I
 -SRI- 7+00 TO 7+70 LT. CLASS B
 -SRI- 13+40 TO 15+20 LT. CLASS I
 -SRI- 14+70 TO 15+50 RT. CLASS B
 -Y- 124+00 TO 127+00 RT. CLASS B
 -Y- 153+30 TO 154+20 LT. CLASS B
 -YI- 17+30 TO 19+25 LT. CLASS B
 -YBDRIVE- 10+50 TO 11+50 LT. CLASS B
 -YRPA- 21+70 TO 22+20 LT. CLASS B
 -YRPBD- 24+70 TO 26+00 RT. CLASS B
 -YRPBD- 57+70 TO 59+40 RT. CLASS B
 -YRPC- 20+00 TO 20+50 RT. CLASS B
 -YRPD- 17+00 TO 19+10 RT. CLASS B



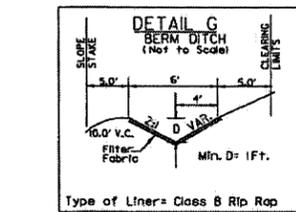
Type of Liner = PSRM
 RDWY STATION - STATION SIDE
 -YRPC- 21+40 TO 22+60 LT.
 -L- 54+40 TO 59+20 LT.



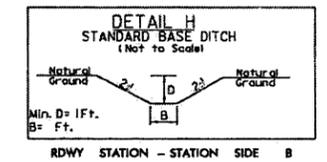
RDWY STATION - STATION SIDE
 -L- 36+50 TO 37+50 LT.
 -L- 41+00 TO 41+62 LT.
 -L- 136+00 TO 138+00 LT.
 -L- 142+00 TO 144+00 RT.
 -SRI- 24+50 TO 25+35 RT.
 -SRI- 30+00 TO 31+50 LT.
 -SRI- 30+50 TO 32+00 RT.
 -SRI- 34+00 TO 36+50 LT.
 -SRI- 33+50 TO 36+50 RT.
 -YS- 65+95 TO 67+00 RT.
 -YB- 10+50 TO 12+50 LT.
 -YB- 10+50 TO 13+25 RT.
 -YB- 19+00 TO 21+50 LT.
 -YBDRIVE- 11+50 TO 11+75 LT.
 -YI0A- 13+00 TO 14+00 LT.
 -YI0A- 13+50 TO 16+50 RT.
 -YRPA- 23+00 TO 31+00 LT.
 -YRPB- 16+00 TO 18+50 RT.
 -YRPBD- 19+00 TO 20+00 RT.
 -Y3A- 15+50 TO 16+05 RT.
 -Y3A- 15+50 TO 16+00 LT.



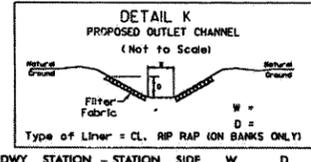
RDWY STATION - STATION SIDE B
 -YRPA- 18+30 TO 19+20 LT. 2'
 * -YRPBD- 21+00 TO 24+50 RT. 5'
 -YRPBD- 27+20 TO 27+80 LT. 2'
 * DITCH SLOPE = 1.60%



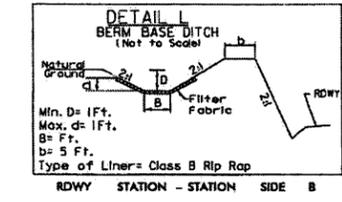
Type of Liner = Class B Rip Rap
 RDWY STATION - STATION SIDE
 -L- 160+10 TO 165+20 LT.
 -YRPD- 9+50 TO 15+60 LT.



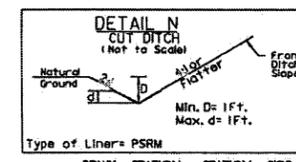
RDWY STATION - STATION SIDE B
 -L- 114+80 RT. 5'
 -L- 107+00 RT. 2'
 -L- 108+90 RT. 2'
 -L- 135+54 TO 138+00 LT. 3'
 -YBDRIVE- 11+75 RT. 2'
 -SRI- 25+35 LT. 5'



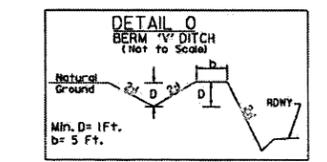
Type of Liner = CL. RIP RAP (ON BANKS ONLY)
 RDWY STATION - STATION SIDE W D LINER
 -L- 55+50 LT. 3' TO 8' 10' CL. II
 -SRI- 14+70 RT. 3' 2' CL. II
 -SRI- 15+30 LT. 3' 2' CL. II
 -YRPA- 33+50 RT. 5' 6' CL. II
 -YRPC- 20+70 RT. 5' 3' CL. II



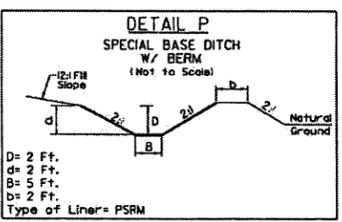
Type of Liner = Class B Rip Rap
 RDWY STATION - STATION SIDE B
 -L- 158+31 TO 160+00 RT. 3'
 -YS- 40+00 TO 42+00 LT. 5'



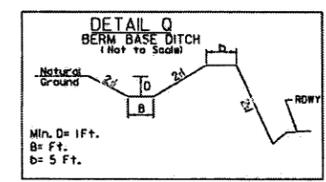
Type of Liner = PSRM
 RDWY STATION - STATION SIDE
 -SRI- 16+00 TO 19+00 RT.
 -YI- 25+00 TO 25+50 RT.



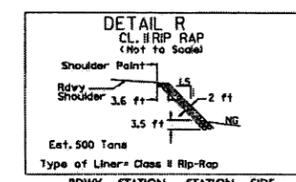
RDWY STATION - STATION SIDE
 -YRPBD- 31+60 TO 34+00 RT.
 -YRPBD- 37+00 TO 40+50 RT.
 -YRPBD- 43+00 TO 44+50 RT.



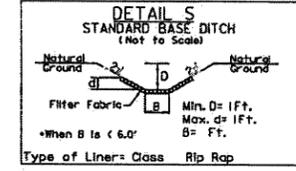
Type of Liner = PSRM
 RDWY STATION - STATION SIDE
 -L- 104+00 TO 109+40 RT.



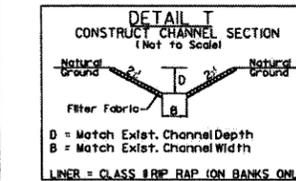
RDWY STATION - STATION SIDE B
 -L- 155+50 TO 158+31 RT. 3'
 -YS- 42+00 TO 45+60 LT. 5'
 -YS- 46+70 TO 49+80 LT. 2'



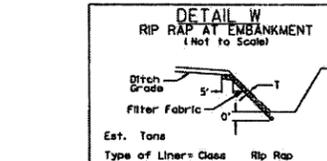
Type of Liner = Class B Rip-Rap
 RDWY STATION - STATION SIDE
 -YRPA- 33+00 TO 33+80 RT.



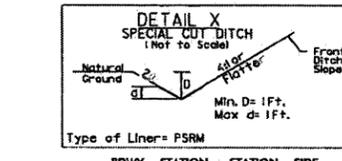
Type of Liner = Class Rip Rap
 RDWY STATION - STATION SIDE B LINER
 -L- 119+10 RT. 5'-20' CLASS B
 -YRPA- 22+00 RT. 5'-20' CLASS I
 -YRPA- 18+00 RT. 5'-20' CLASS I



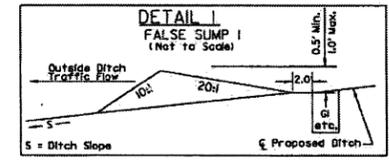
LINER = CLASS B RIP RAP (ON BANKS ONLY)
 RDWY STATION - STATION SIDE
 -L- 113+20 RT.
 -YRPC- 20+80 RT.



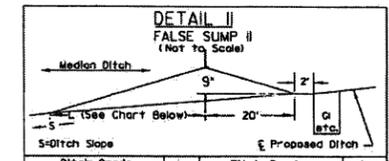
Type of Liner = Class Rip Rap
 RDWY STATION SIDE THICKNESS LINER TONS FF 5Y
 -L- 92+00 CL. 2.0 CL. II 730 765
 -L- 92+30 CL. 2.0 CL. II 725 770
 -Y3A- 40+50 LT. 1.5 CL. I 8 10
 -Y4- 18+14 LT. 1.5 CL. I 11 10
 -Y4RPD- 17+18 LT. 2.0 CL. II 51 36
 -Y4RPD- 16+50 LT. 2.0 CL. II 43 26
 -Y4RPD- 16+15 LT. 2.0 CL. II 54 36
 -YB- 17+50 RT. 1.5 CL. I 47 50
 -YRPD- 17+40 LT. 2.0 CL. II 5 80
 -YRPD- 17+70 LT. 2.0 CL. II 5 35



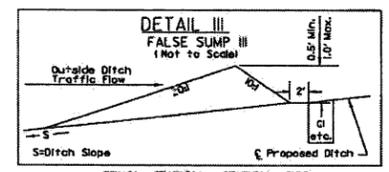
Type of Liner = PSRM
 RDWY STATION - STATION SIDE
 -SRI- 25+35 TO 26+00 RT.



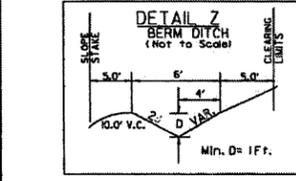
RDWY STATION - STATION SIDE
 -L- 26+35 LT.
 -L- 36+00 LT.
 -L- 48+75 RT.
 -L- 53+15 RT.
 -L- 56+90 RT.
 -L- 63+20 RT.
 -L- 67+30 RT.
 -L- 96+60 RT.
 -L- 119+50 RT.
 -LCDWB- 18+70 LT.
 -SRI- 16+00 LT.
 -YRPBD- 12+20 RT.
 -YRPBD- 26+10 RT.
 -YRPBD- 28+40 LT.
 -YRPD- 21+67 LT.
 -Y4RPC- 16+60 LT.
 -Y4RPC- 19+00 LT.
 -Y5- 50+70 LT.
 -YB- 19+00 LT.
 -YI0A- 13+50 LT.



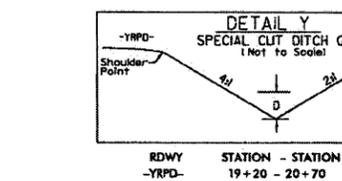
RDWY STATION - STATION SIDE
 -L- 28+60 MED.
 -L- 30+75 MED.
 -L- 34+80 MED.
 -L- 49+00 MED.
 -L- 54+10 MED.
 -L- 56+90 MED.
 -L- 63+00 MED.
 -L- 67+70 MED.
 -L- 108+80 MED.
 -L- 114+80 MED.
 -L- 119+00 MED.
 -L- 123+00 MED.
 -L- 138+70 MED.
 -L- 144+00 MED.
 -L- 153+60 MED.
 -L- 157+70 MED.
 -Y- 129+30 MED.
 -Y- 143+60 MED.
 -Y- 149+50 MED.
 -Y- 152+60 MED.
 -Y- 156+60 MED.
 -Y- 162+70 MED.
 -Y- 172+30 MED.
 -Y- 177+30 MED.



RDWY STATION - STATION SIDE
 -L- 41+62 LT.
 -L- 49+50 LT.
 -L- 158+20 RT.
 -L- 165+80 RT.
 -L- 175+81 RT.
 -SRI- 8+20 RT.
 -SRI- 16+00 RT.
 -Y- 130+30 RT.
 -Y- 178+00 RT.
 -YRPAB- 19+60 LT.
 -YRPAB- 19+90 RT.
 -YRPBD- 33+20 LT.
 -YRPBD- 36+90 RT.
 -YRPBD- 36+90 RT.
 -YRPBD- 57+80 RT.
 -YRPBD- 58+50 LT.
 -Y4RPB- 16+65 LT.
 -Y4RPB- 17+30 RT.
 -Y5- 65+90 RT.
 -YB- 12+75 LT.
 -YI0A- 13+50 RT.



RDWY STATION - STATION SIDE
 -L- 165+25 TO 167+50 RT.
 -YRPBD- 32+30 TO 33+50 LT.



RDWY STATION - STATION SIDE
 -YRPD- 19+20 - 20+70 RT.

REVISIONS

Revised Jan. 2012
 Permit Drawing
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Utility Permit Site Descriptions:

Utility Site U1 - Wetland 6: The excavated soils will be stockpiled alongside the stream and trench until the proposed water line is installed. The excavated/stockpiled material will then be placed back in the trench over the proposed pipe. Erosion control (to include any seeding, mulching, matting or straw) will be performed in accordance with the erosion control plan prepared by our Roadside Environmental Unit.

Utility Sites U4 and U5 - Wetlands 12 and 14: These areas will be hand cleared with no stripping or grubbing activities. The overhead power lines will be installed through this utility easement and no planting will be performed. After installation of the power line the area will be allowed to re-vegetate. However, the owner of the power line will be allowed to perform maintenance within the easement to keep trees and shrubs from growing too close to the active power lines.

Utility Sites U2 and U3 - Streams 2 and 6: As stated above, the excavated material will be stockpiled near trench until the proposed water line is installed. The excavated/stockpiled material will then be placed back in the trench over the proposed pipe. It should be noted that the proposed crossing is in a relatively straight section of a low energy stream. Erosion control (to include any seeding, mulching, matting or straw) will be performed in accordance with the erosion control plan prepared by our Roadside Environmental Unit.

Utility
Permit Drawing
Sheet 2a of 10