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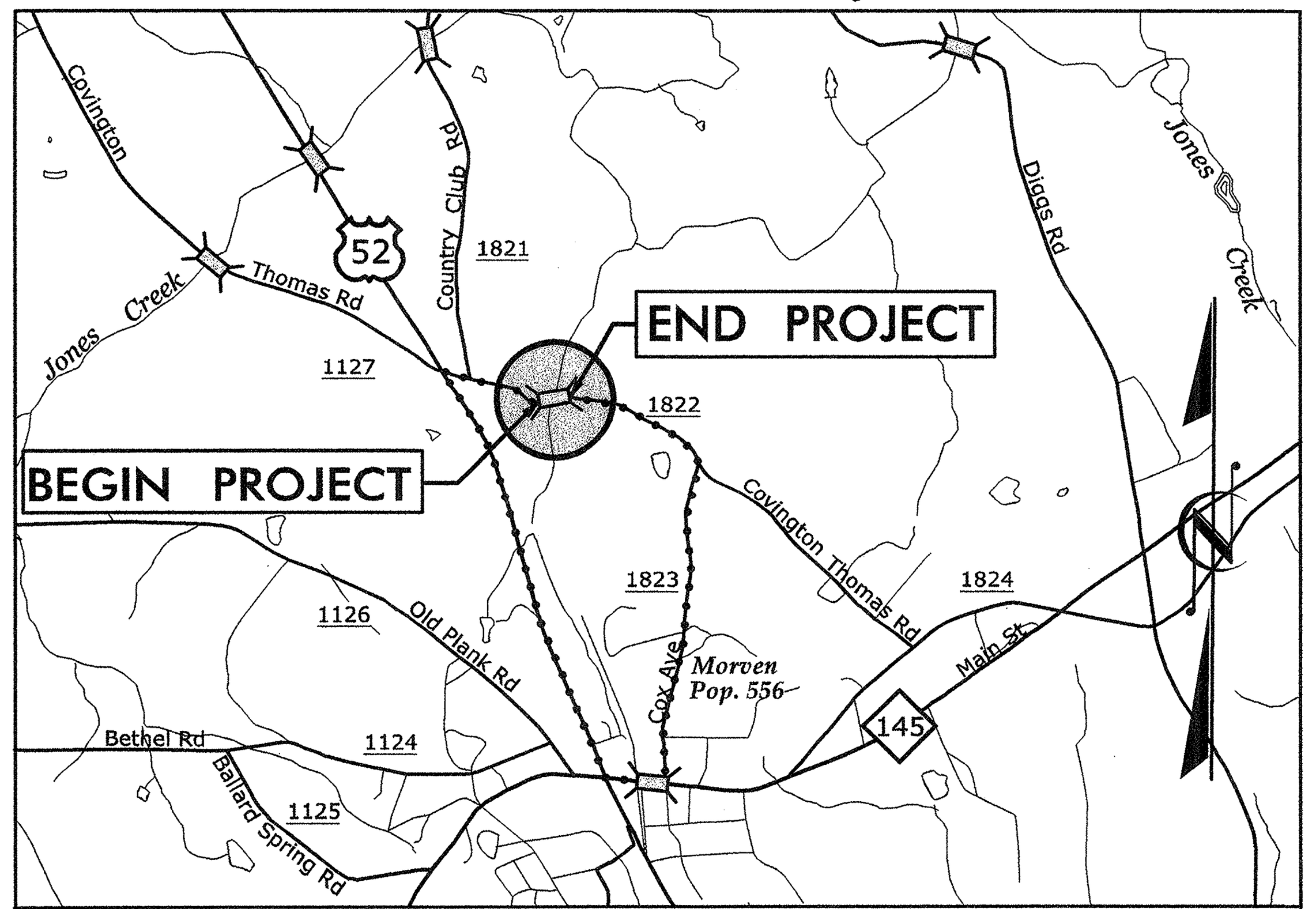
CONTRACT:

PROJECT: 17BP.10.R.13

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



VICINITY MAP N.T.S.

FINAL PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

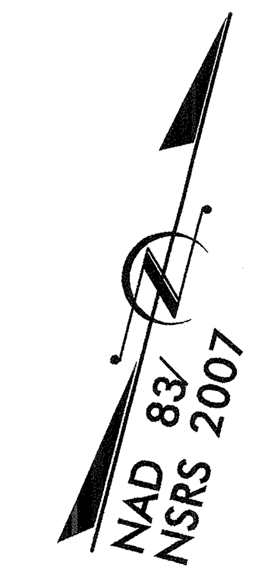
ANSON COUNTY

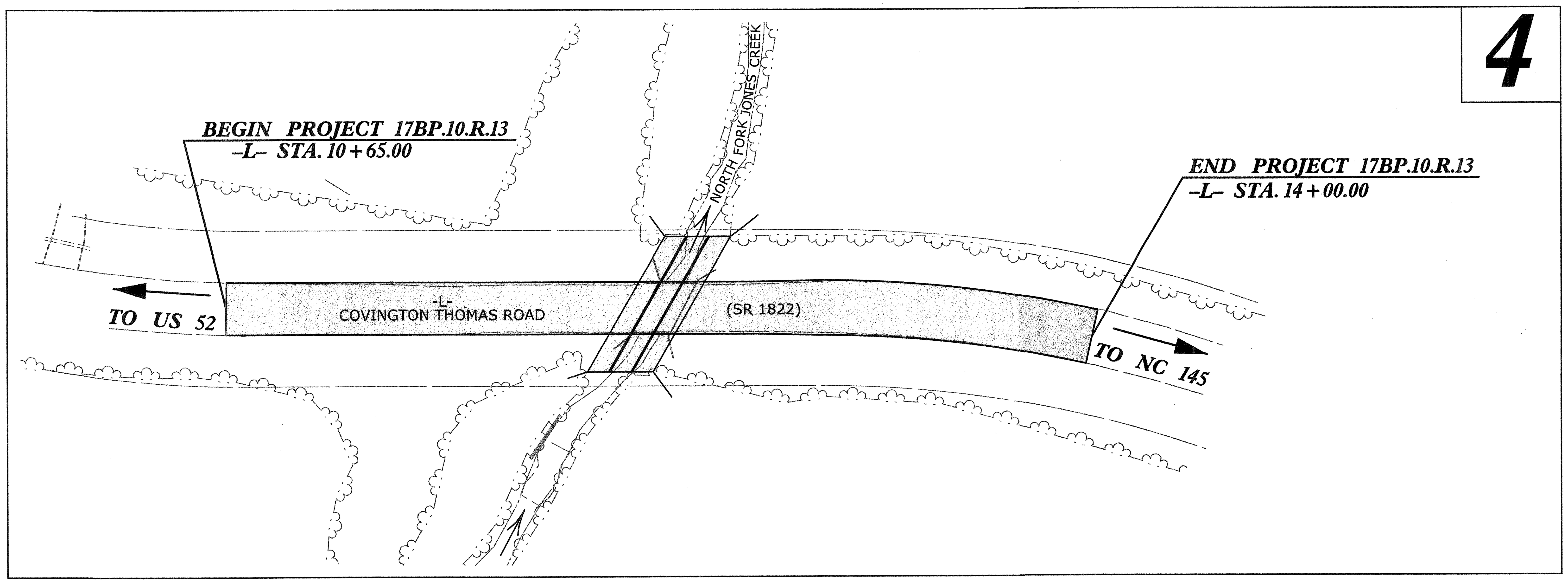
LOCATION: BRIDGE #030052 OVER NORTH FORK JONES CREEK ON SR 1822 (COVINGTON THOMAS ROAD)

TYPE OF WORK: PAVING, GRADING, DRAINAGE & STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.10.R.13	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
17BP.10.R.13		PE
17BP.10.R.13		R/W & UTILITIES
17BP.10.R.13		CONSTR





NCDOT CONTACT:
GARLAND HAYWOOD, P.E.
DIVISION BRIDGE PROGRAM MANAGER
(704) 983-4400

THIS PROJECT IS WITHIN THE MUNCIPAL BOUNDARIES OF MORVEN.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

GRAPHIC SCALES

20 10 0 20 40 PLANS

20 10 0 20 40 PROFILE (HORIZONTAL)

4 2 0 4 8 PROFILE (VERTICAL)

DESIGN DATA

ADT 2012 = NA
ADT 2009 = 350
DHV = NA
D = NA
T = NA *
V = 40 MPH
* TTST = NA DUAL NA
FUNC CLASS = RURAL LOCAL

PROJECT LENGTH

TOTAL LENGTH OF PROJECT 17BP.10.R.13 = 0.063 MILES

Prepared for NCDOT In the Office of:

Gannett Fleming

GANNETT FLEMING, INC.
301 S. McDOWELL STREET, SUITE 1008
CHARLOTTE, NORTH CAROLINA 28204-2644
PHONE: 704-375-2438 FAX: 704-332-9361
GF PROJECT NO. – 055335.052
NC Lic. No. F-0270

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JULY 2012

LETTING DATE: MARCH 2013

ALLISON C. JOHNSON, P.E.
PROJECT ENGINEER

CANDICE L. LATSON, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 21656 ENGINEER ROGER S. WEADON
10/3/12
SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER
SEAL 15424 ENGINEER ALLISON C. JOHNSON
SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

09/08/99
$$$$$$SYSTIME$$$$
$$$$$$$$$$$$DGN$$$$$$$$$$$$
$$$$$$$USERNAME$$$$

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
17BP.10.R.13	1-A
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 15424 ENGINEER CLIFTON C. TOMLINSON

10/4/12

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 21656 ENGINEER ROGER S. WEAVER

9/27/12

INDEX OF SHEETS

GENERAL NOTES

GENERAL NOTES: 2012 SPECIFICATIONS
EFFECTIVE: 01-17-12
REVISED: 11/01/11

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01.

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY CONTRACT.

STANDARD DRAWINGS

2012 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
862.01	Guardrail Placement
862.02	Guardrail Installation
876.04	Drainage Ditches with Class B Rip Rap
DIVISION 11 - WORK ZONE TRAFFIC CONTROL	
1110.01	Stationary Work Zone Signs - Mounting Height & Lateral Clearance
1145.01	Barricades - Type III
DIVISION 16 - EROSION CONTROL AND ROADSIDE DEVELOPMENT	
1605.01	Temporary Silt Fence
1622.01	Guide for Temporary Berms and Slope Drain
1630.02	Silt Basin Type B
1630.04	Stilling Basin
1630.05	Temporary Diversion
1630.06	Special Stilling Basin
1631.01	Matting Installation
1633.01	Temporary Rock Silt Check Type A
1640.01	Coir Fiber Baffle

9/20/2012
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04/16/11

PROJECT REFERENCE NO.	SHEET NO.
17BP.10.R.13	1-B

Note: Not to Scale

****S.U.E. = Subsurface Utility Engineering***

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — C/A
- Existing Control of Access — C/A
- Proposed Control of Access — C/A
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth — T
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

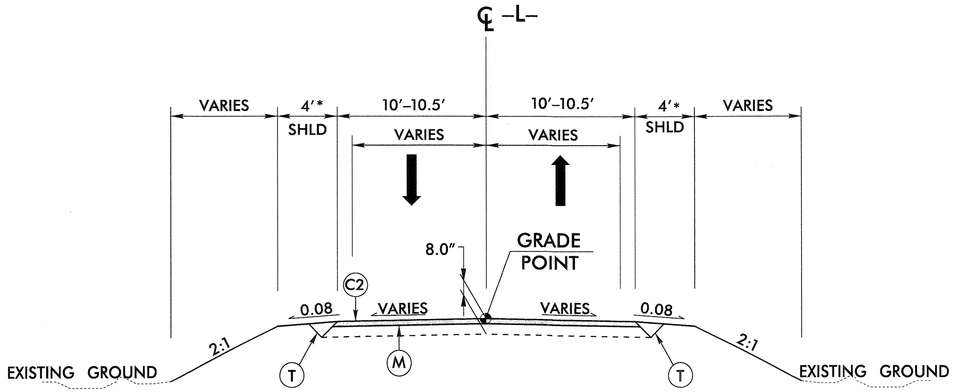
- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

PROJECT REFERENCE NO.	SHEET NO.
17BP.10.R.13	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

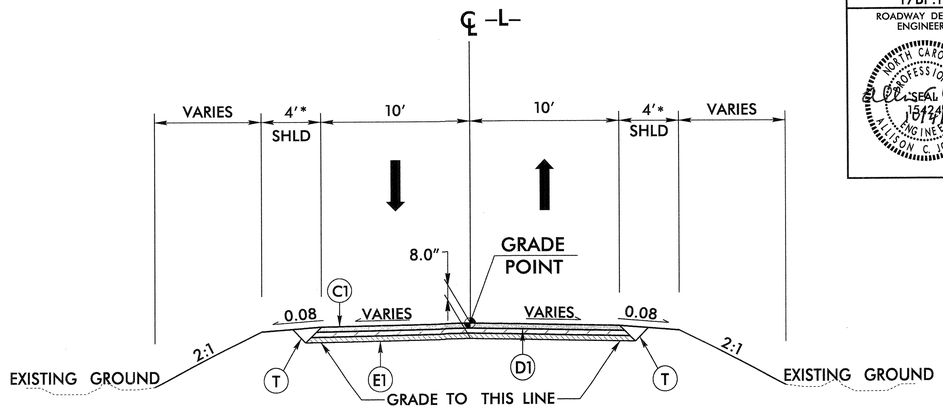
NORTH CAROLINA PROFESSIONAL SEAL 15424 ENGINEER ALLISON C. JOHNSON



TYPICAL SECTION NO. 1

–L– STA. 10+65.00 TO STA. 10+90.00
–L– STA. 13+75.00 TO STA. 14+00.00

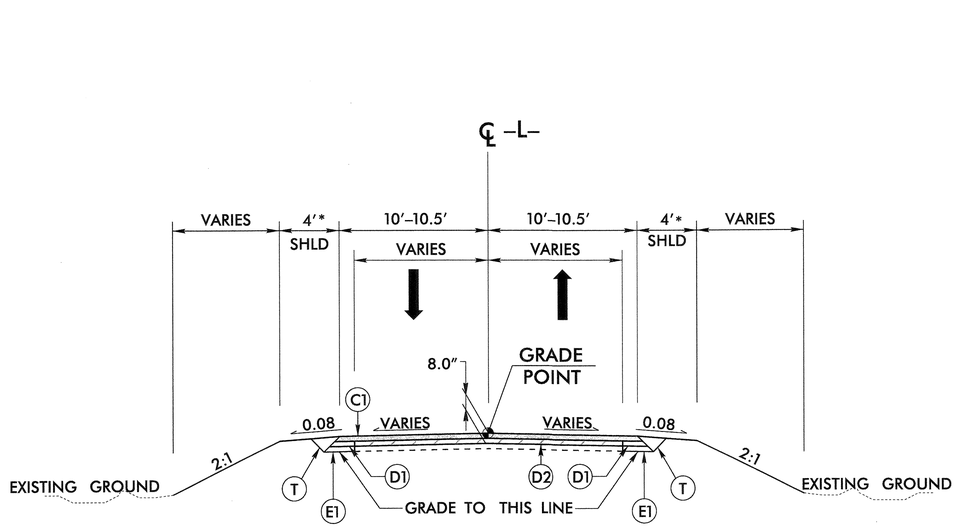
NOTE: SEE PLAN FOR SUPER ELEVATION RATES AND TRANSITIONS
* 7′–0″ WITH GUARDRAIL



TYPICAL SECTION NO. 3

–L– STA. 11+95.00 TO STA. 12+92.00

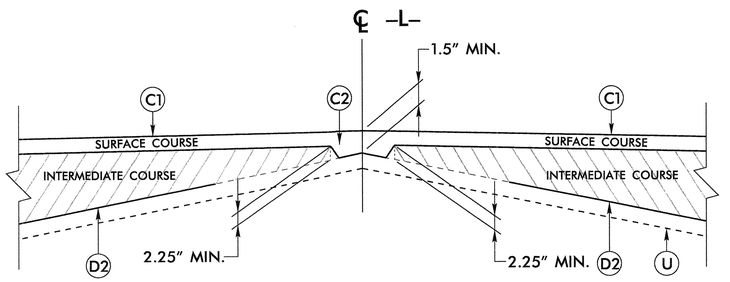
NOTE: SEE PLAN FOR SUPER ELEVATION RATES AND TRANSITIONS
* 7′–0″ WITH GUARDRAIL



TYPICAL SECTION NO. 2

–L– STA. 10+90.00 TO STA. 11+95.00
–L– STA. 12+92.00 TO STA. 13+75.00

NOTE: SEE PLAN FOR SUPER ELEVATION RATES AND TRANSITIONS
* 7′–0″ WITH GUARDRAIL



DETAIL SHOWING METHOD OF WEDGING (W)

NOT TO SCALE

PAVEMENT SCHEDULE	
ITEM	DESCRIPTION
C1	PROP. APPROX. 1.5″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE
D1	PROP. APPROX. 2.5″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
D2	PROP. VARIABLE DEPTH ASPHALT INTERMEDIATE COURSE
E1	PROP. APPROX. 4″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
M	MILLING 1.5″
T	EARTH MATERIAL
U	EXISTING PAVEMENT

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE

12/06/07

COMPUTED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____

PROJECT REFERENCE NO.	SHEET NO.
17BP.10.R.13	3

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK
(in Cubic Yards)

STATION	STATION	UNCL. EXCAV.	EMBANK. +%	BORROW	WASTE
10+65.00	14+00.00	34	362	328	
PROJECT TOTALS:		34	362	328	
ESTIMATE 5% FOR TOPSOIL ON BORROW PITS				17	
GRAND TOTALS:		34	362	345	
SAY:				345	

Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

Approximate quantities only. Unclassified Excavation, Borrow Excavation, Shoulder Borrow, Fine Grading, Clearing and Grubbing, Breaking of Existing Pavement, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading".

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH		W		ANCHORS								IMPACT ATTENUATOR TYPE 350			SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	XI MOD	XI	GRAU 350	M-350	XIII	CAT-1	VI MOD	BIC	AT-1	EA	G	NG				
-L-	11+53.57	13+33.33	LT	180			12+59.83	12+34.43	4	7	50	50	2.4	1.0			2												
-L-	11+21.91	13+05.23	RT	184			12+04.43	12+29.83	4	7	50	50	1.0	1.0			2												
TOTAL:				364																									
TOTAL ANCHOR LENGTH:				200																									
TOTAL GUARDRAIL LENGTH				164																									
SAY:				165																									

RIGHT OF WAY AREA DATA

PARCEL NO.	PROPERTY OWNERS NAMES	TOTAL ACREAGE	AREA TAKEN	AREA REMAINING RT.	AREA REMAINING LT.	CONST. EASE.	PERM. DRAIN. EASE.	TEMP. DRAIN. EASE.	DUAL UTILITY EASE.
1	RICHARD & RITA PLATTENERGER	72.34 AC						3,165.782 SF	3,816.997 SF
2	RICHARD & RITA PLATTENERGER	20.39 AC					2,091.786 SF		

10/3/2012
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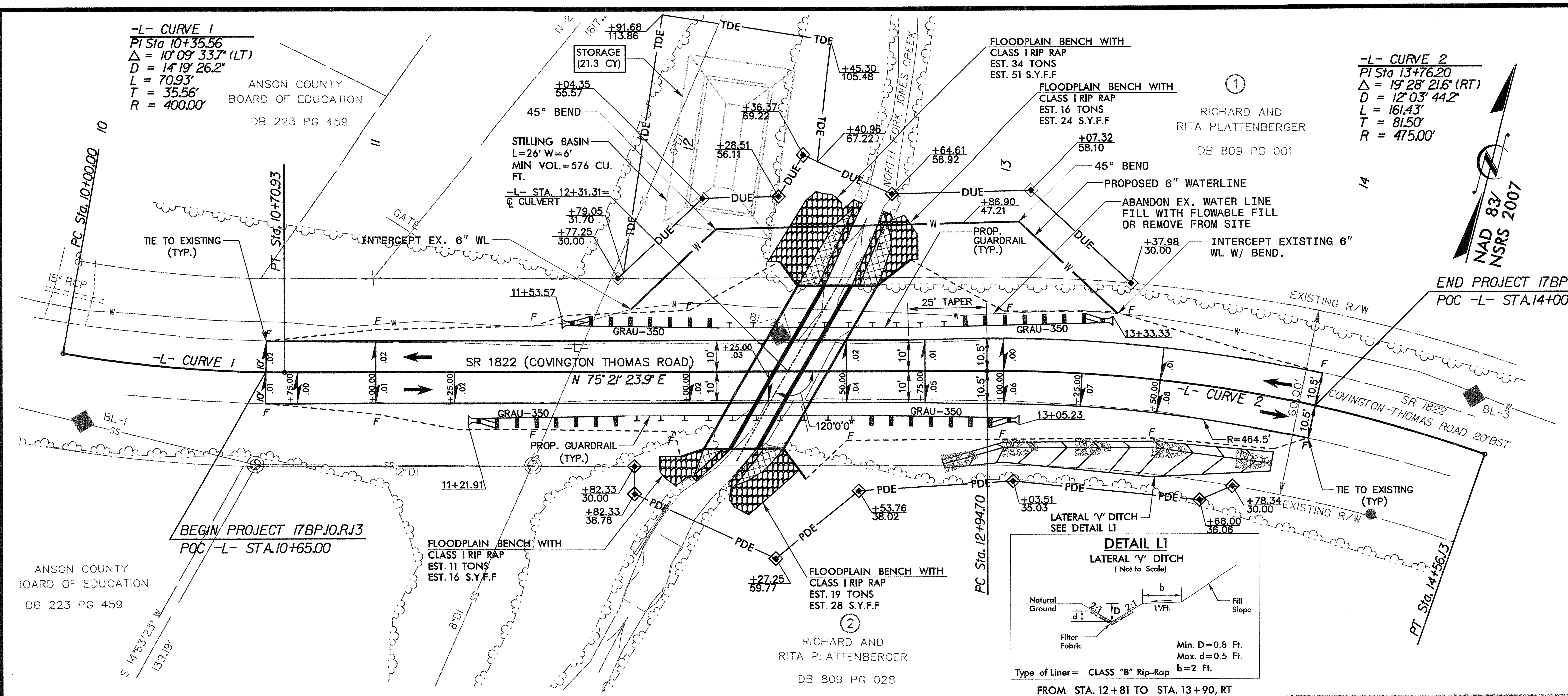
PROJECT REFERENCE NO.	SHEET NO.
17BP.10.R.13	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

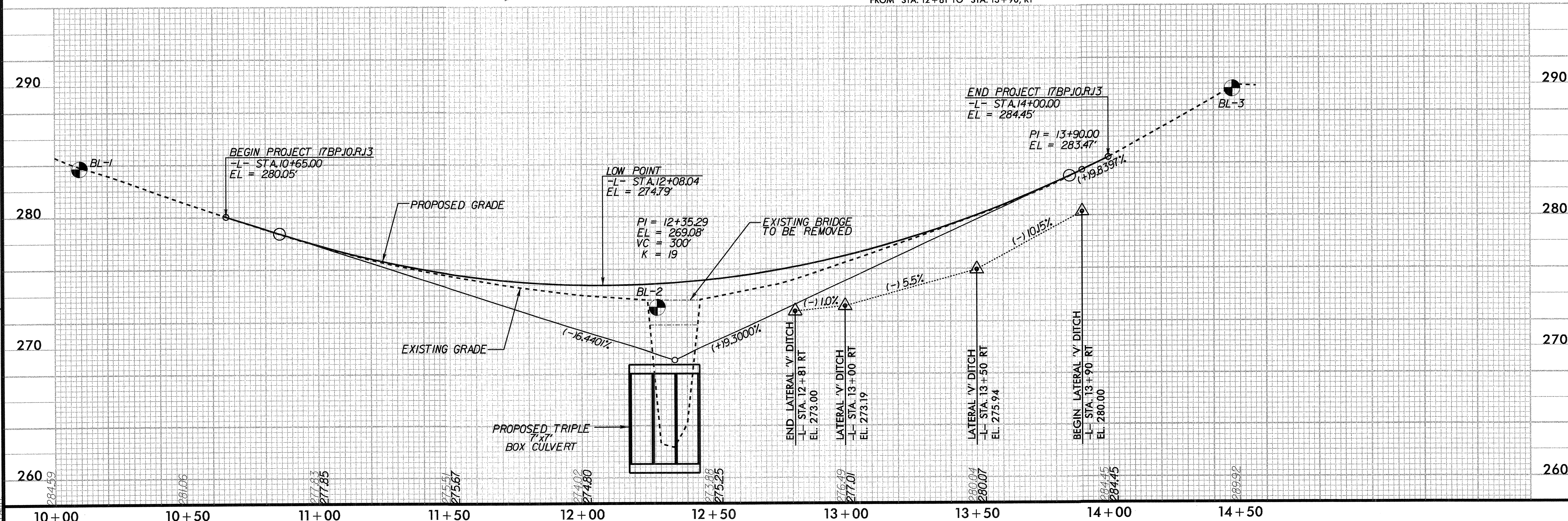


-L- CURVE 1
PI Sta 10+35.56
Δ = 10° 09' 33.7" (LT)
D = 14° 19' 26.2"
L = 70.93'
T = 35.56'
R = 400.00'
ANSON COUNTY
BOARD OF EDUCATION
DB 223 PG 459
STORAGE (21.3 CY)
45° BEND
STILLING BASIN
L=26' W=6'
MIN VOL.=576 CU. FT.
-L- STA. 12+31.31=
℄ CULVERT
INTERCEPT EX. 6" WL
TIE TO EXISTING (TYP.)
PC Sta. 10+00.00
PT Sta. 10+70.93
FLOODPLAIN BENCH WITH
CLASS I RIP RAP
EST. 34 TONS
EST. 51 S.Y.F.F
FLOODPLAIN BENCH WITH
CLASS I RIP RAP
EST. 16 TONS
EST. 24 S.Y.F.F
RICHARD AND
RITA PLATTENBERGER
DB 809 PG 001
45° BEND
PROPOSED 6" WATERLINE
ABANDON EX. WATER LINE
FILL WITH FLOWABLE FILL
OR REMOVE FROM SITE
PROP. GUARDRAIL (TYP.)
INTERCEPT EXISTING 6"
WL W/ BEND.
-L- CURVE 2
PI Sta 13+76.20
Δ = 19° 28' 21.6" (RT)
D = 12° 03' 44.2"
L = 161.43'
T = 81.50'
R = 475.00'
NAD 83/
NSRS 2007
END PROJECT 17BPJ0.RJ3
POC -L- STA.14+00.00
EXISTING R/W
25' TAPER
GRAU-350
SR 1822 (COVINGTON THOMAS ROAD)
N 75° 21' 23.9" E
-L- CURVE 1
-L- CURVE 2
SR 1822
COVINGTON-THOMAS ROAD 20'BST
120°0'0"
BL-1
BL-3
PROP. GUARDRAIL (TYP.)
TIE TO EXISTING (TYP)
R=464.5'
LATERAL 'V' DITCH
SEE DETAIL L1
BEGIN PROJECT 17BPJ0.RJ3
POC -L- STA.10+65.00
FLOODPLAIN BENCH WITH
CLASS I RIP RAP
EST. 11 TONS
EST. 16 S.Y.F.F
FLOODPLAIN BENCH WITH
CLASS I RIP RAP
EST. 19 TONS
EST. 28 S.Y.F.F
RICHARD AND
RITA PLATTENBERGER
DB 809 PG 028
PC Sta. 12+94.70
PT Sta. 14+56.13
DETAIL L1
LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
Filter Fabric
Fill Slope
Min. D=0.8 Ft.
Max. d=0.5 Ft.
b=2 Ft.
Type of Liner= CLASS "B" Rip-Rap
FROM STA. 12+81 TO STA. 13+90, RT

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "BL-1"
WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 412988.172(ft) EASTING: 1698620.753(ft)
ELEVATION: 283.72(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999885
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BL-1" TO -L- POC STATION 10+65.00 IS
N 60°31'28.93" E 60.42 (ft)
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

BL-1	N 412988.1720	E 1698620.7530	ELEV 283.72
BL-2	N 413070.4110	E 1698828.8520	ELEV 273.10
BL-3	N 413106.4150	E 1699047.7020	ELEV 289.65



290
280
270
260
BL-1
BEGIN PROJECT 17BPJ0.RJ3
-L- STA.10+65.00
EL = 280.05'
PROPOSED GRADE
LOW POINT
-L- STA.12+08.04
EL = 274.79'
PI = 12+35.29
EL = 269.08'
VC = 300'
K = 19
EXISTING BRIDGE
TO BE REMOVED
BL-2
(-)6.4401%
(+)9.3000%
EXISTING GRADE
PROPOSED TRIPLE
7'x7'
BOX CULVERT
END PROJECT 17BPJ0.RJ3
-L- STA.14+00.00
EL = 284.45'
PI = 13+90.00
EL = 283.47'
(+)9.8397%
BL-3
(-)1.0%
(-)5.5%
(-)10.15%
END LATERAL 'V' DITCH
-L- STA. 12+81 RT
EL. 273.00
LATERAL 'V' DITCH
-L- STA. 13+00 RT
EL. 273.19
LATERAL 'V' DITCH
-L- STA. 13+50 RT
EL. 275.94
BEGIN LATERAL 'V' DITCH
-L- STA. 13+90 RT
EL. 280.00
10+00
10+50
11+00
11+50
12+00
12+50
13+00
13+50
14+00
14+50

REVISIONS

8/17/99

9/20/2012
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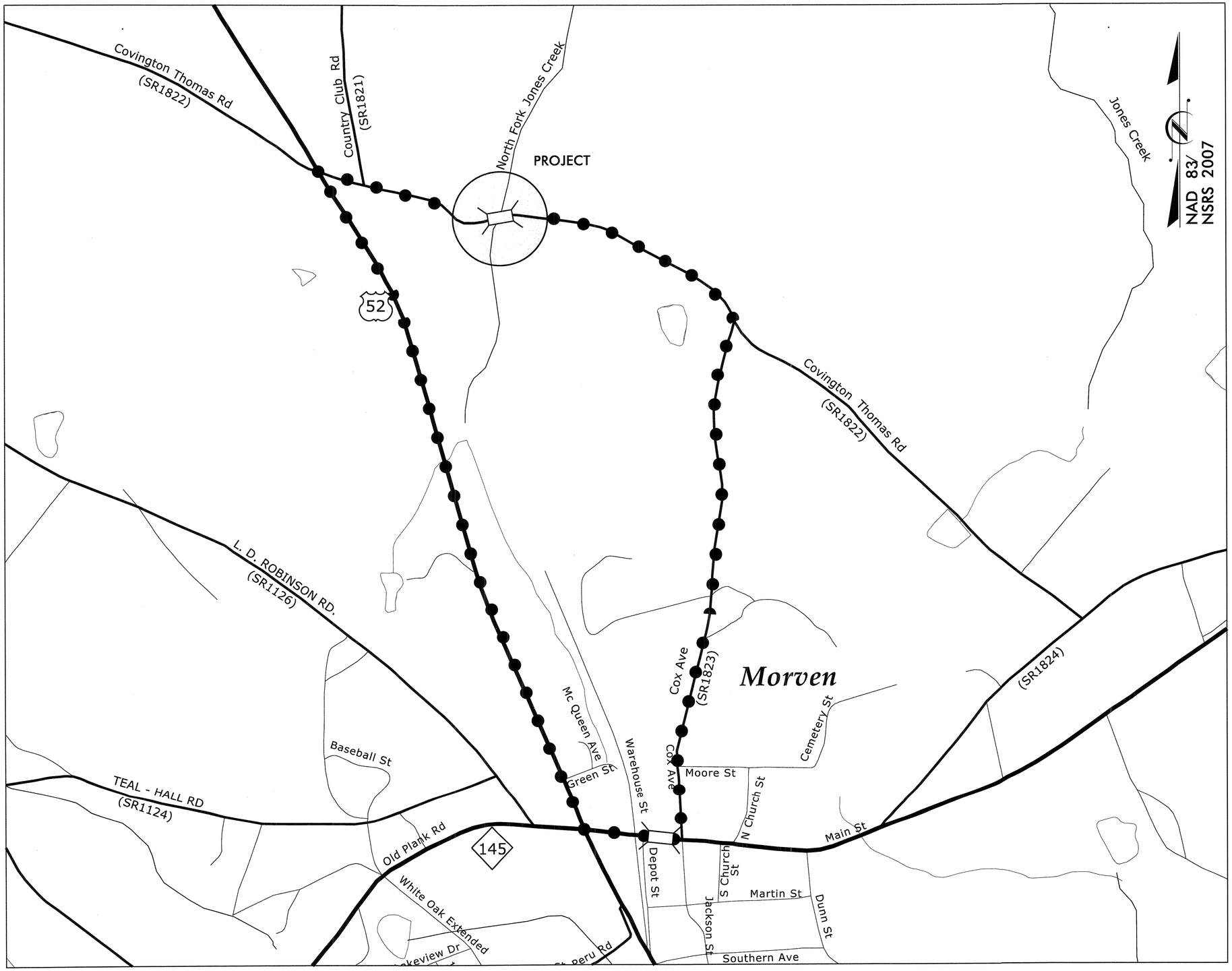
8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
17BPJO.RJ3	TCP-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 19421 ENGINEER ALLISON C JOHNSON

DETOUR ROUTE



10/3/2012
K:\95335.Div10\030052\Traffic\Traffic Control\TCP\B030052_TC_TCP_1.dgn
default

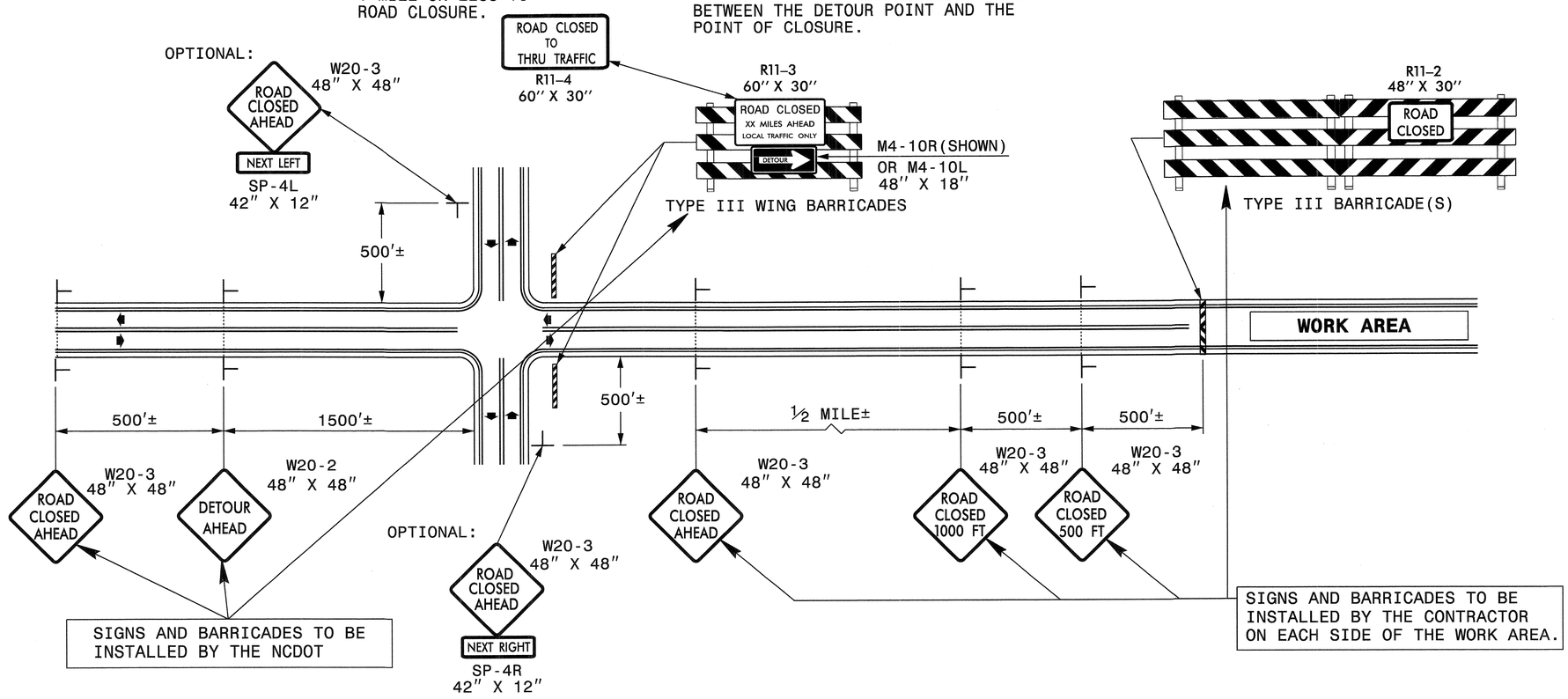
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.10.R.13	TCP-2	
F.A. PROJECT NO.			

8/17/99

REVISIONS

NOTE: USE SIGN R11-4 IF 1 MILE OR LESS TO ROAD CLOSURE.

NOTE: WING BARRICADES WITH SIGN R11-3 SHOULD ALSO BE USED AT SIDE ROADS BETWEEN THE DETOUR POINT AND THE POINT OF CLOSURE.



GENERAL NOTES

1-IF NECESSARY USE THIS STD. FOR TWO-LANE, TWO-WAY, AND MULTILANE DIVIDED AND UNDIVIDED ROADWAYS.

2-INSTALLATION OF DETOUR ROUTING PANELS, TEMPORARY ROUTE MARKERS, DESTINATION SIGNS, AND ANY NECESSARY MODIFICATIONS TO EXISTING OR PROPOSED REGULATORY OR WARNING SIGNS WILL BE MADE BY NCDOT FORCES UNLESS OTHERWISE DESIGNATED IN THE PLANS. PROVIDE A MINIMUM 21 CALENDAR DAY NOTICE TO STATE FORCES BEFORE A ROADWAY IS CLOSED TO TRAFFIC SUCH THAT THE NECESSARY PROVISIONS CAN BE MADE TO INSTALL DETOUR ROUTE SIGNS, INFORM LOCAL EMERGENCY AND LAW ENFORCEMENT PERSONNEL, SCHOOLS, OR ANY OTHER PARTIES AFFECTED BY THE ROAD CLOSURE.

3-INSTALL SIGNS BEFORE THE BARRICADES WHEN CLOSING THE ROADWAY TO TRAFFIC. REMOVE BARRICADES BEFORE SIGNS WHEN OPENING THE ROADWAY TO TRAFFIC. INSTALL/REMOVE SIGNS AND BARRICADES WITHIN THE SAME CALENDAR DAY.

4-USE ADDITIONAL TYPE III BARRICADES IN STAGGERED LOCATIONS SUPPLEMENTED WITH SIGN R11-4 "ROAD CLOSED TO THRU TRAFFIC" IN THE EVENT THAT TRAFFIC MUST BE MAINTAINED BEYOND THE DETOUR POINT.

5-DO NOT DISPLAY FRACTIONS OR DECIMALS ON SIGN R11-3 "ROAD CLOSED XX MILES AHEAD".

6-POSITION WING BARRICADES ON THE SHOULDERS AND SLOPE THE STRIPES DOWNWARD IN THE DIRECTION TOWARD WHICH TRAFFIC MUST TURN IN DETOURING.

7-USE PORTABLE SIGNS IF ROAD CLOSURE IS TO BE IMPLEMENTED FOR LESS THAN ONE DAY OR FOR EMERGENCIES.

LEGEND

- ├ STATIONARY SIGN
- ⬅ DIRECTION OF TRAFFIC FLOW

TEMPORARY ROAD CLOSURE
CLOSURE BEYOND DETOUR POINT

SCALE	-NA-
DATE	1-19-10
DWG. BY	TWB
APPROVED	RWB

REVISIONS

10/3/2012
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dgnlib

PROJECT REFERENCE NO.	SHEET NO.
17BP.10.RJ.13	PM-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

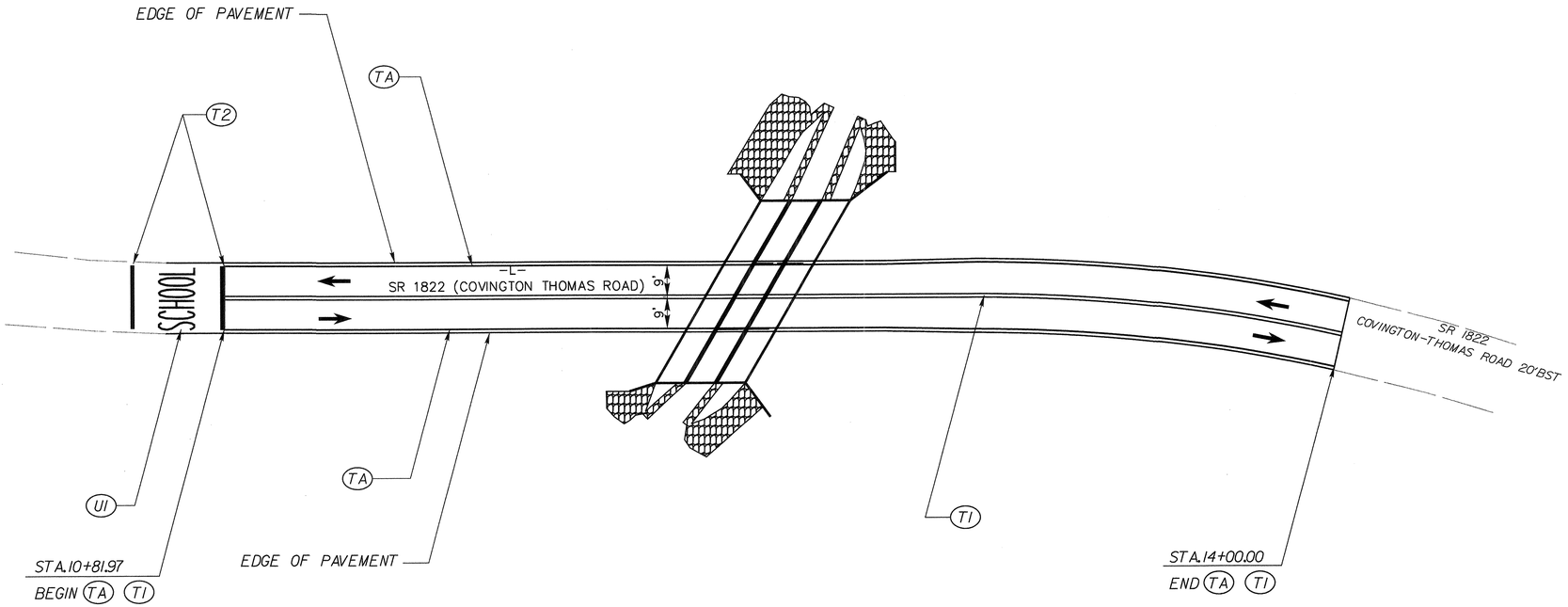
NORTH CAROLINA PROFESSIONAL SEAL 15424 ENGINEER ALLISON C. JOHNSON

NAD 83/ NSRS 2007

REVISIONS

8/17/99

PAVEMENT MARKINGS TO BE
COMPLETED BY NCDOT



PERMANENT PAVEMENT MARKING SCHEDULE

SYMBOL	WIDTH	COLOR	MATERIAL	DESCRIPTION
TA	4"	WHITE	THERMOPLASTIC	EDGE LINE
TI	4"	YELLOW	THERMOPLASTIC	DOUBLE CENTERLINE
T2	24"	WHITE	THERMOPLASTIC	TRANSVERSE BAND
UI		WHITE	THERMOPLASTIC	ALPHANUMERIC CHARACTER

10/3/2012
K:\35336_Div10\030052\Roadway\Proj\B030052_Rdy_psh_PM1.dgn
dgnlib

09/08/99

PROJECT: 17BP.10.R.13

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

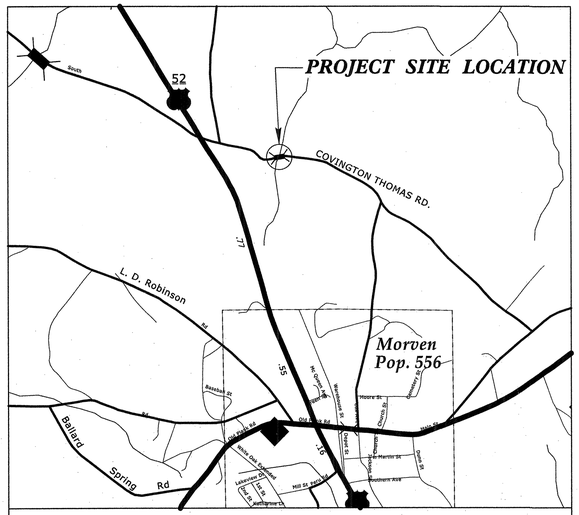
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.10.R.13	UC-1	
ANSON COUNTY #030052			

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

UTILITY CONSTRUCTION PLANS
ANSON COUNTY

LOCATION: BRIDGE NO. 030052 ON SR 1822 (COVINGTON THOMAS ROAD) OVER N. FORK JONES CREEK

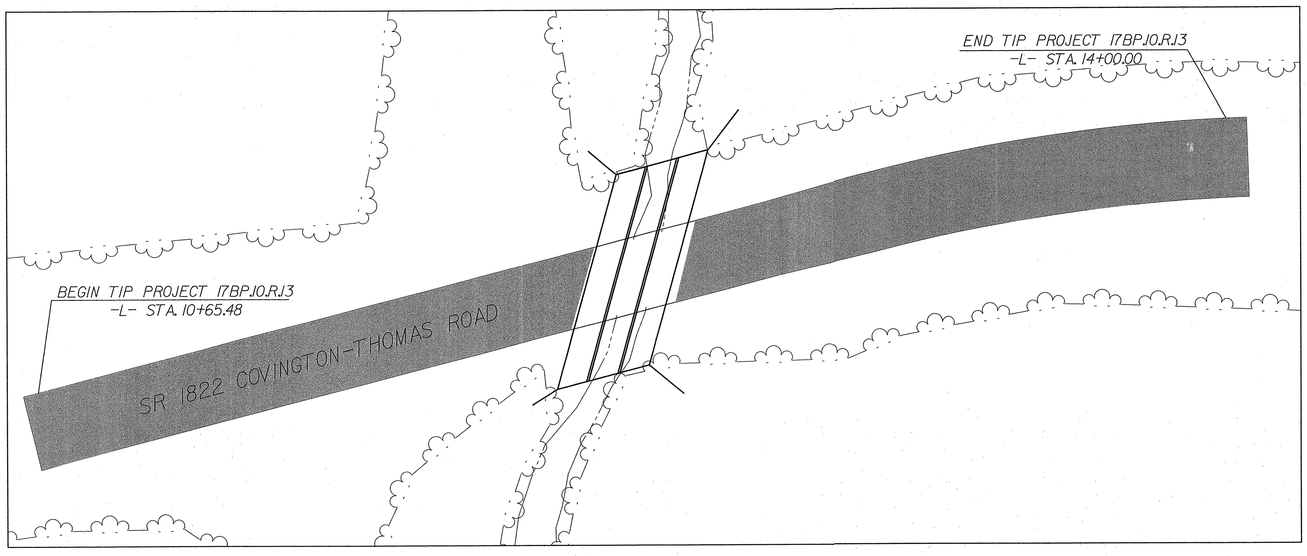
TYPE OF WORK: UTILITY CONSTRUCTION



VICINITY MAP

N.T.S.

All materials, equipment, labor, and workmanship shall be in accordance with and subject to the Water and Sewer Authority of Anson County's standard specifications; and the North Carolina Administrative Code for wastewater collection and water distribution systems. In the event of conflict between Water and Sewer Authority of Anson County's standard specifications; or the North Carolina Administrative Code, the more restrictive requirements shall apply.



NC GRID • NAD 83 /07ADJ

GRAPHIC SCALES

20 10 0 20 40
PLANS

20 10 0 20 40
PROFILE (HORIZONTAL)

5 2.5 0 5 10
PROFILE (VERTICAL)

INDEX OF SHEETS

WATER AND SEWER OWNERS ON PROJECT

(1) WATER AND SEWER – ANSON COUNTY UTILITIES

Steve Natoli
PHONE (704) 694-5208

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028912 ENGINEER ERIC M. TWEED
9-28-12

PLANS PREPARED BY:

CH ENGINEERING
3220 GLEN ROYAL RD. RALEIGH, NC 27617
TELE 919.788.0224 FAX 919.788.0232
NC LICENSE #P-0189

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PREPARED FOR THE OFFICE OF:

DIVISION OF HIGHWAYS
UTILITIES ENGINEERING SECTION

1591 MAIL SERVICES CENTER
RALEIGH NC 27699-1591
PHONE (919) 250-4128
FAX (919) 250-4119

Roger Worthington, P.E. ***UTILITIES SECTION ENGINEER***

Eric Tweed, P.E. ***UTILITIES PROJECT ENGINEER***

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
17BP.10.R.13	UC-2

BRIDGE NO. 030052

ROADWAY DESIGN ENGINEER

UTILITY ENGINEER

9-28-12

CH ENGINEERING
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NC LICENSE #P-0189

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

Symbol	Label
Water Line (Sized as Shown)	
11¼ Degree Bend	
22½ Degree Bend	
45 Degree Bend	
90 Degree Bend	
Plug	
Tee	
Cross	
Reducer	
Gate Valve	GV
Butterfly Valve	BV
Tapping Valve	TGV
Line Stop	LS
Line Stop with Bypass	LS/BP
Blow Off	BO
Fire Hydrant	PFH
Relocate Fire Hydrant	RFH
Remove Fire Hydrant	REM FH
Water Meter	PWM
Relocate Water Meter	RWM
Remove Water Meter	REM WM
Water Pump Station	PS(W)
RPZ Backflow Preventer	PRPZ
DCV Backflow Preventer	PBFP
Relocate RPZ Backflow Preventer	RRPZ
Relocate DCV Backflow Preventer	RBFP

PROPOSED SEWER SYMBOLS

Symbol	Label
Gravity Sewer Line (Sized as Shown)	
Force Main Sewer Line (Sized as Shown)	
Manhole (Sized per Note)	
Sewer Pump Station	PS(SS)

PROPOSED MISCELLANOUS UTILITIES SYMBOLS

Symbol	Label
Power Pole	
Telephone Pole	
Joint Use Pole	
Telephone Pedestal	TEL PED
Utility Line by Others (Type as Shown)	
Trenchless Installation	
Encasement by Open Cut	
Encasement	
Thrust Block	
Air Release Valve	AR
Utility Vault	UV
Concrete Pier	CP
Steel Pier	SP
Plan Note	NOTE
Pay Item Note	PAY ITEM

EXISTING UTILITIES SYMBOLS

Symbol	Label
Power Pole	
Telephone Pole	
Joint Use Pole	
Utility Pole	
Utility Pole with Base	
H-Frame Pole	
Power Transmission Line Tower	
Water Manhole	
Power Manhole	
Telephone Manhole	
Sanitary Sewer Manhole	
Hand Hole for Cable	
Power Transformer	
Telephone Pedestal	
CATV Pedestal	
Gas Valve	
Gas Meter	
Located Miscellaneous Utility Object	
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.
*Underground Power Line	
*Underground Telephone Cable	
*Underground Telephone Conduit	
*Underground Fiber Optics Telephone Cable	
*Underground TV Cable	
*Underground Fiber Optics TV Cable	
*Underground Gas Pipeline	
Aboveground Gas Pipeline	A/G Gas
*Underground Water Line	
Aboveground Water Line	A/G Water
*Underground Gravity Sanitary Sewer Line	
Aboveground Gravity Sanitary Sewer Line	A/G Sanitary Sewer
*Underground SS Forced Main Line	
Underground Unknown Utility Line	
SUE Test Hole	
Water Meter	
Water Valve	
Fire Hydrant	
Sanitary Sewer Cleanout	

*For Existing Utilities

Utility Line Drawn from Record (Type as Shown)

Designated Utility Line (Type as Shown)

REV: 2/1/2012

$$$$SYSTIME$$$$ $$$$DGN$$$$ $$$$USERNAME$$$$

ALL PIPE ON THIS PROJECT SHALL BE RESTRAINED JOINT (RJ) DUCTILE IRON PIPE (DIP)

PROJECT REFERENCE NO.	SHEET NO.
17BP.10.R.13	UC-3

BRIDGE NO. 030052

ROADWAY DESIGN ENGINEER

UTILITY ENGINEER

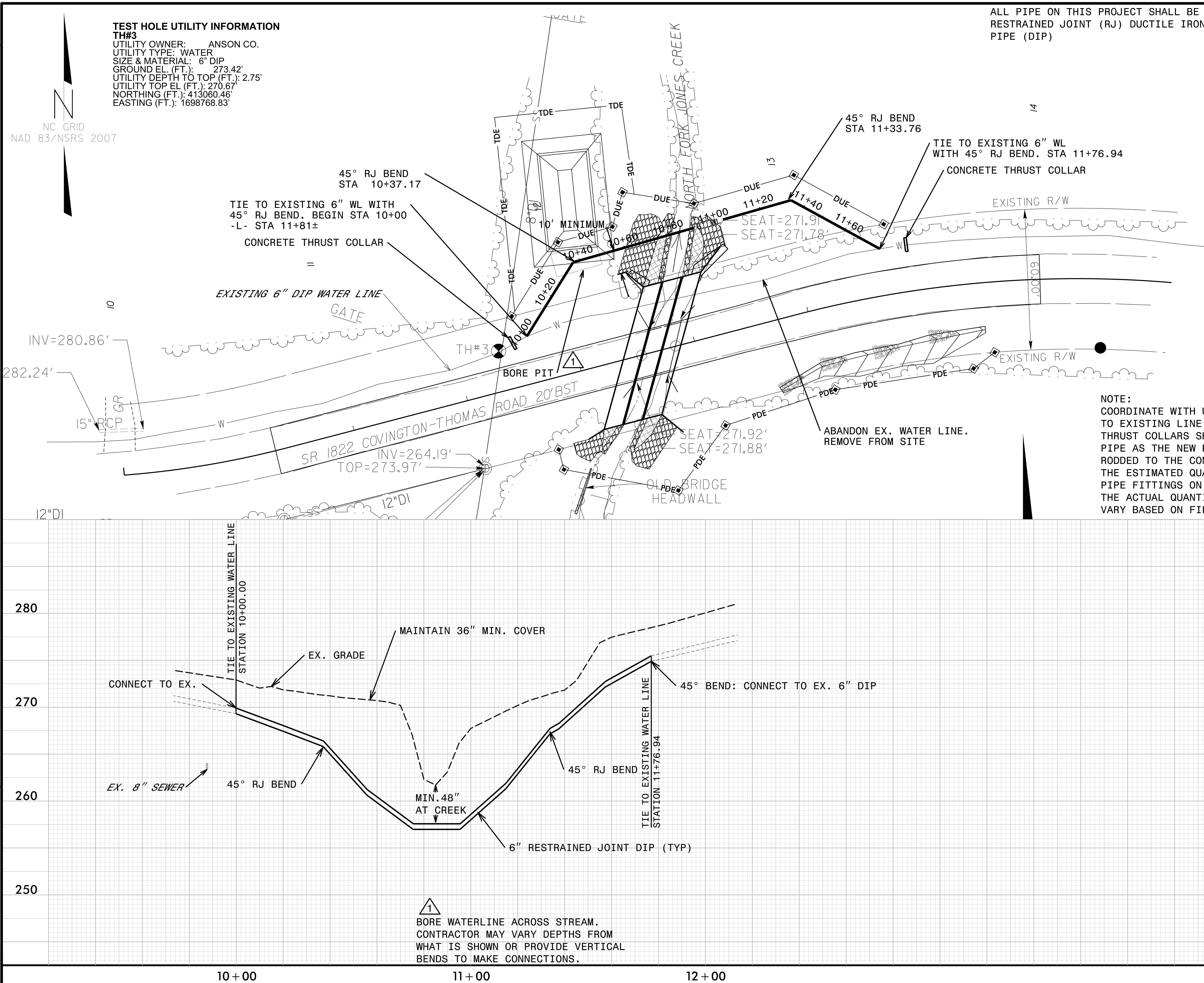
NORTH CAROLINA PROFESSIONAL SEAL 028912 ENGINEER ERIC M. TWEED

6/15/2017

CH ENGINEERING

3220 GLEN ROYAL RD. RALEIGH, NC 27617
TELE 919.788.0224 FAX 919.788.0232
NC LICENSE #P-0189

TEST HOLE UTILITY INFORMATION
TH#3
UTILITY OWNER: ANSON CO.
UTILITY TYPE: WATER
SIZE & MATERIAL: 6" DIP
GROUND EL. (FT.): 273.42'
UTILITY DEPTH TO TOP (FT.): 2.75'
UTILITY TOP EL (FT.): 270.67'
NORTHING (FT.): 413060.46'
EASTING (FT.): 1698768.83'



BORE WATERLINE ACROSS STREAM. CONTRACTOR MAY VARY DEPTHS FROM WHAT IS SHOWN OR PROVIDE VERTICAL BENDS TO MAKE CONNECTIONS.

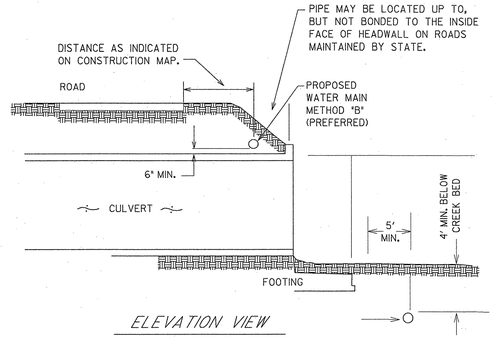
GRAPHIC SCALES
PLANS: 20 10 0 20 40
PROFILE (HORIZONTAL): 20 10 0 20 40
PROFILE (VERTICAL): 5 2.5 0 5 10

NOTE:
COORDINATE WITH UTILITY OWNER FOR MAKING TIES TO EXISTING LINE.
THRUST COLLARS SHALL BE ON THE SAME JOINT OF PIPE AS THE NEW RJ BEND OR THE BEND SHALL BE RODDED TO THE CONCRETE COLLAR.
THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 300 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

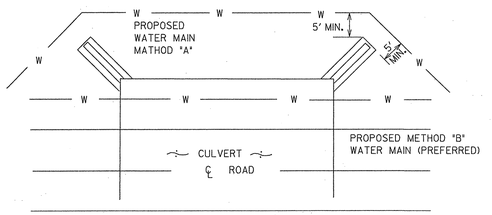
REVISIONS
1. REQUIREMENT TO BORE ACROSS CREEK 10-31-12

8/17/99

REVISIONS



ELEVATION VIEW



PLAN VIEW

NOTES:

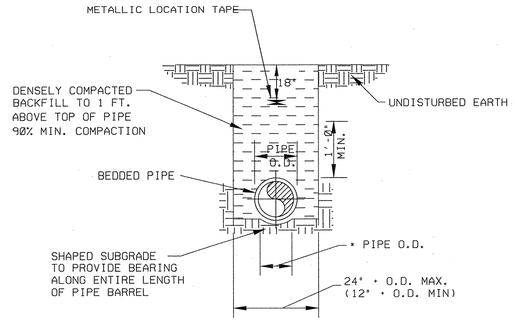
1. ALL PIPE LARGER THAN 2-INCH SHALL BE D.I.P. UNLESS SHOWN ON CONSTRUCTION PLANS. 2-INCH PIPE SHALL BE PVC.
2. MINIMUM COVER OVER CULVERT IN ANY DIRECTION SHALL BE 30". IF 30" COVER CANNOT BE MAINTAINED, ENCASE PIPE IN CONCRETE PER STANDARD DETAIL. SEPARATE ENCASEMENT FROM CULVERT WITH BURLAP OR PLASTIC FILM TO PREVENT BONDING.

ANSON COUNTY
UTILITY DEPARTMENT

Job No. | File No. | Scales: PLAN NTS, PROFILE Hor. ____ Ver. ____ | As Built | Date

STANDARD DETAIL
WATER
WATER MAIN LOCATIONS AT CULVERTS

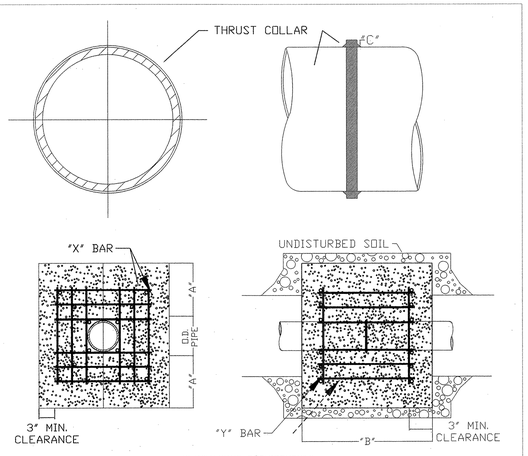
No.	Date	By	Revision	Surveyed By	Designed By	Drawn By	Project Engr	Approved By	Date	Sheet 6 Of ___



WATER MAINS 8" AND SMALLER SHALL HAVE A MINIMUM OF 3' OF COVER.

PIPE LAYING CONDITION

NOT TO SCALE



REINFORCING REQUIREMENTS

I.D. PIPE	REBAR SIZE	"X" BAR LENGTH	"X" BAR WEIGHT	"Y" BAR LENGTH	"Y" BAR WEIGHT	NO. REQUIRED
6" - 36"	#5	2'-2"+ O.D. PIPE	1.043 LBS/FT	1'-1"	1.1 LBS. EACH	X=24, Y=12
48" & greater	#6	3'-0"+ O.D. PIPE	1.502 LBS/FT	1'-3"	1.9 LBS. EACH	X=24, Y=12

THRUST COLLAR, AND THRUST SCHEDULE

I.D. PIPE	"A"	"B"	"C"-6"-16", 20"-24", 30"-36", 48"
6" - 36"	1'-4"	1'-7"	2" 3" 4"
48" & greater	1'-8"	1'-9"	6"

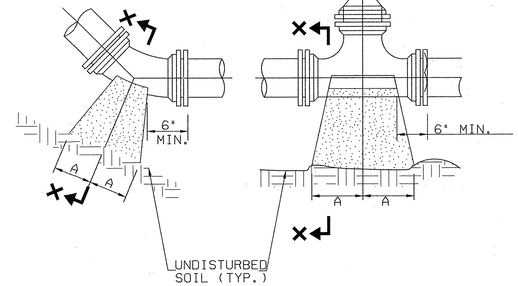
NOTES:

1. CONCRETE SHALL BE 3000 PSI AND TRANSIT MIXED.
2. REINFORCING BARS SHALL BE TIED TOGETHER.
3. TRENCH BOTTOM WIDTH IN VICINITY OF THRUST BLOCK INSTALLATION SHALL BE THE MINIMUM WIDTH
4. THRUST COLLAR MAY BE RJ COLLAR

THRUST BLOCKING DESIGN DATA FOR WATER MAINS

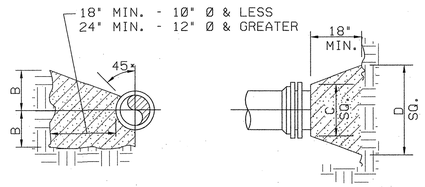
NOTES:

1. CONCRETE SHALL BE 3.000 PSI MIN.
2. CONCRETE FOR THRUST BLOCKING SHALL BE KEPT FAIRLY DRY, THUS MAKING THE CONCRETE WEDGE SHAPE MORE EASILY FORMED WITH THE WIDEST PART (BLOCKING AREA) AGAINST UNDISTURBED SOIL.
3. NO CONCRETE SHALL COVER ANY BOLTS OR GLANDS.
4. ALL FITTING AND ACCESSORIES TO BE WRAPPED WITH 10 MIL POLYETHYLENE PRIOR TO POURING BLOCKING.
5. VOLUME OF THRUST BLOCKING SHALL BE AS SHOWN ON THE THRUST BLOCKING SCHEDULE.



PLAN BENDS

HYDRANT TEE PLAN TEES



SECTION X-X BENDS & TEES

PLAN & ELEV. PLUGS

PIPE SIZE	90° BEND		45° BEND		22 ½° BEND		11 ¼° BEND		TEE		PLUG	
	A	B	A	B	A	B	A	B	A	B	C	D
4"	8"	12"	8"	8"	6"	6"	6"	6"	8"	9"	10"	16"
6"	10"	12"	8"	10"	8"	8"	8"	8"	10"	10"	12"	18"
8"	15"	13"	10"	10"	8"	8"	8"	8"	10"	12"	12"	24"
10"	16"	14"	10"	12"	6"	10"	6"	10"	11"	14"	14"	25"
12"	20"	16"	12"	14"	8"	12"	8"	12"	14"	16"	16"	30"
14"	22"	18"	14"	16"	10"	14"	10"	14"	16"	18"	18"	34"
16"	26"	20"	16"	18"	12"	16"	12"	16"	18"	20"	20"	36"

THRUST BLOCK DETAIL

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
17BP.10.R.13	UC-4
BRIDGE NO. 030052	

ROADWAY DESIGN ENGINEER

UTILITY ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 028912 ENGINEER ERIC W. TWEED
4-28-12

CH ENGINEERING
3220 GLEN ROYAL RD. RALEIGH, NC 27617
TELE 919.788.0224 FAX 919.788.0232
NC LICENSE #P-0189

$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$CELLNAME$$$$

PROJECT: 17BP.10.R.13

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

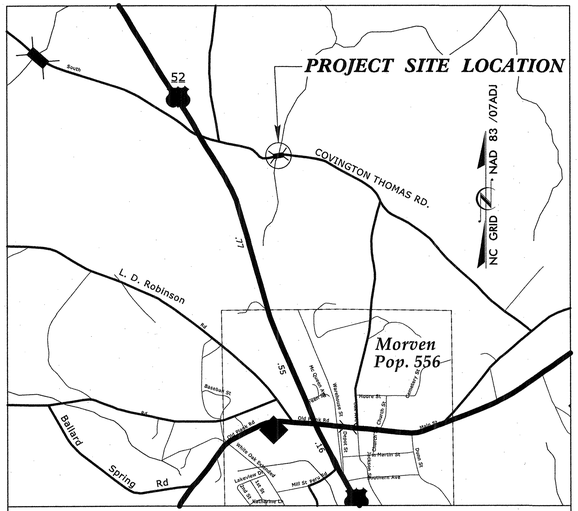
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.10.R.13	UO-1	
ANSON COUNTY #030052			

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

UTILITIES BY OTHERS PLANS
ANSON COUNTY

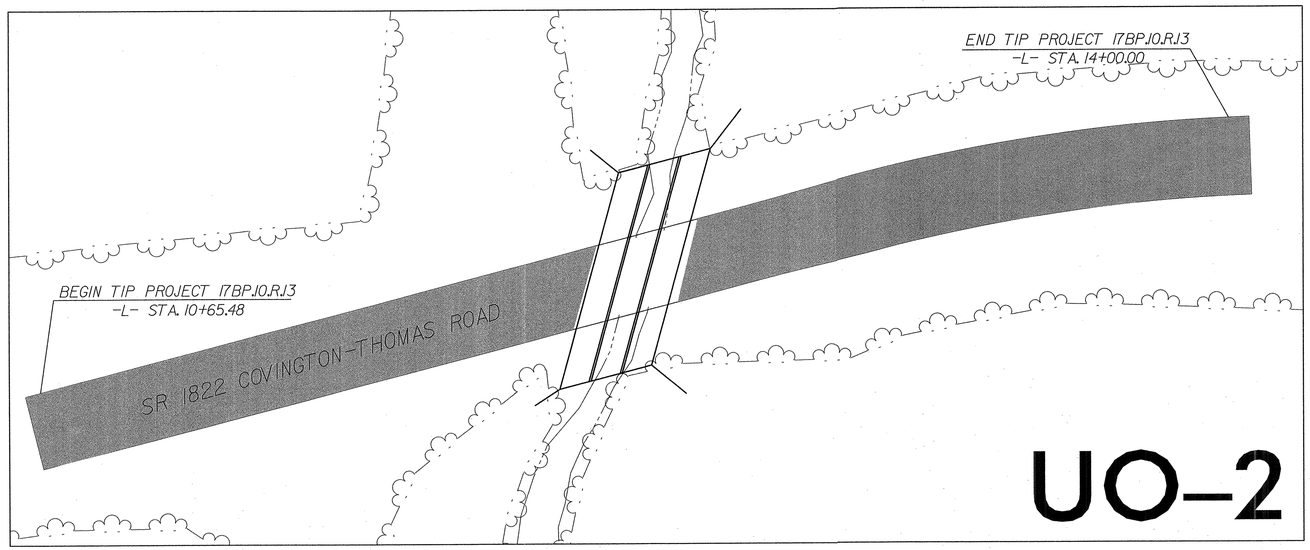
LOCATION: BRIDGE NO. 030052 ON SR 1822 (COVINGTON THOMAS ROAD) OVER N. FORK JONES CREEK

TYPE OF WORK: AERIAL UTILITIES



VICINITY MAP

N.T.S.



UO–2

NC GRID - NAD 83 /07ADJ

GRAPHIC SCALES

20 10 0 20 40
PLANS

20 10 0 20 40
PROFILE (HORIZONTAL)

5 2.5 0 5 10
PROFILE (VERTICAL)

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UO–1	TITLE SHEET
UO–2	UTILITIES BY OTHERS PLAN SHEET

POWER OWNERS ON PROJECT

(1) POWER – PEE DEE ELECTRIC

Travis Wallace
PHONE (910) 997–4441 ext 8842

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 15436 ENGINEER MARY JO R. LEE
Mary Jo R. Lee 9-28-12

PLANS PREPARED BY:

CH ENGINEERING
3220 GLEN ROYAL RD. RALEIGH, NC 27617
TELE 919.788.0224 FAX 919.788.0232
NC LICENSE #P-0189

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PREPARED FOR THE OFFICE OF:
DIVISION OF HIGHWAYS
UTILITIES ENGINEERING SECTION

1591 MAIL SERVICES CENTER
RALEIGH NC 27699–1591
PHONE (919) 250–4128
FAX (919) 250–4119

Roger Worthington, P.E. ***UTILITIES SECTION ENGINEER***

Mary Jo Lee, P.E. ***UTILITIES PROJECT ENGINEER***

8/17/99

CONTACT INFORMATION FOR UTILITIES

POWER: PEE DEE ELECTRIC; TRAVIS WALLACE 910–997–4441ext8842 TWALLACE@PDEMC.COM
WATER: ANSON COUNTY UTILITIES; STEVE NATOLI 704–694–5208 SNATOLI@CO.ANSON.NC.US

NOTES
*PEE DEE EMC TO REMOVE EXISTING SPAN BETWEEN POLE 1 & POLE 2 TEMPORARILY FOR CULVERT CONSTRUCTION
*SPAN TO BE RE–INSTALLED AFTER BRIDGE COMPLETION
*THIS LINE IS A BACK FEED LINE AND IS CURRENTLY DE–ENERGIZED PEE DEE ELECTRIC WILL ASSURE LINE IS DE–ENERGIZED AT NCDOT'S REQUEST @FUTURE DATES FOR MAINTENANCE OF CULVERT

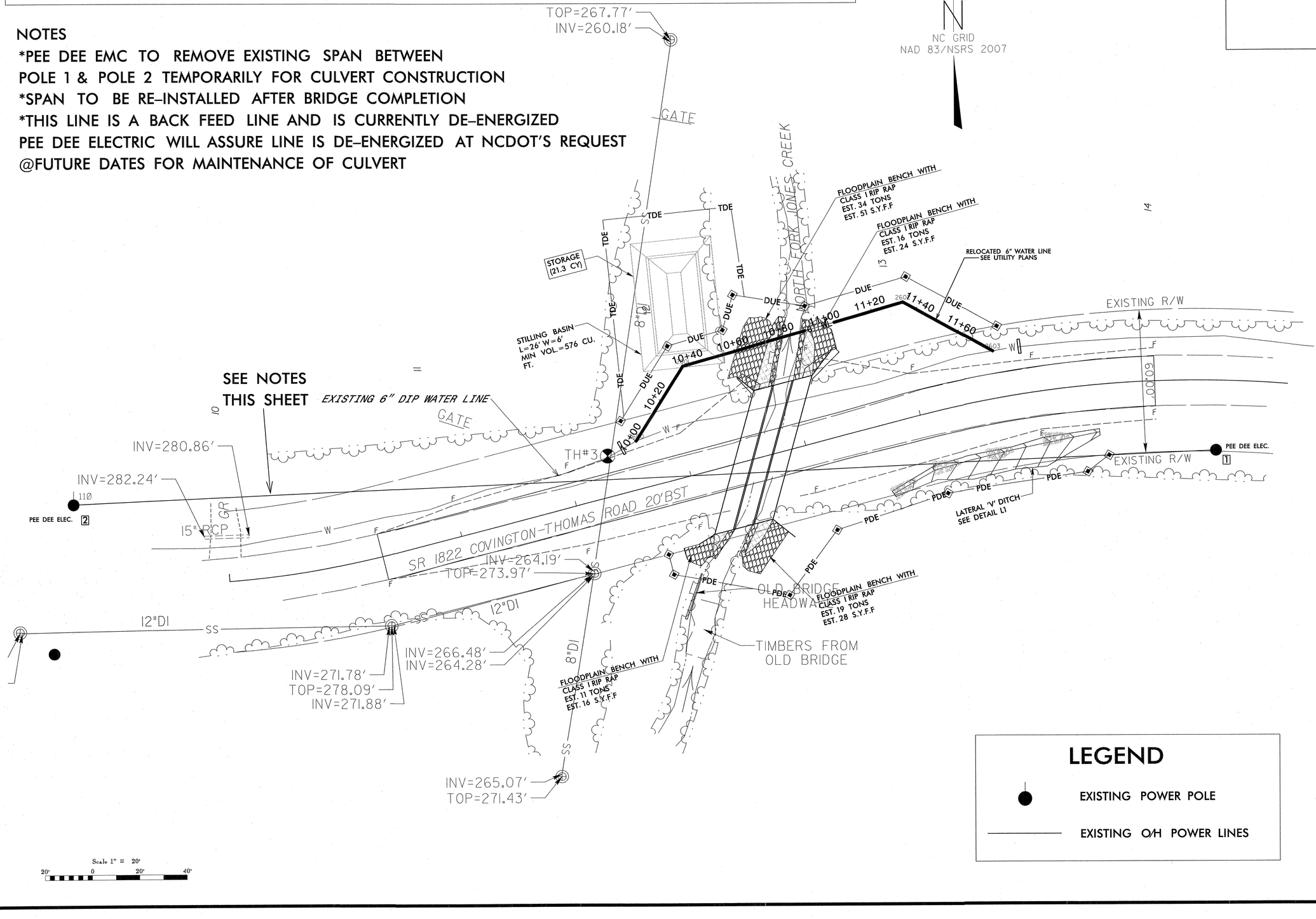
CH ENGINEERING
3220 GLEN ROYAL RD. RALEIGH, NC 27617
TELE 919.788.0224 FAX 919.788.0232
NC LICENSE #P-0189

PROJECT REFERENCE NO.	SHEET NO.
17BP.10.R.13	UO–2
BRIDGE NO. 030052	

ROADWAY DESIGN ENGINEER

UTILITY ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 15436 ENGINEER MARY JO R. LEE
9-28-12

N
NC GRID
NAD 83/NSRS 2007



LEGEND

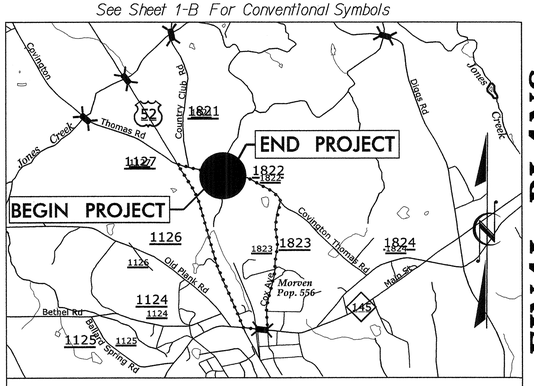
- EXISTING POWER POLE
- EXISTING O/H POWER LINES

09/08/99

PROJECT: 17BP.10.R.13

CONTRACT: _____

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



VICINITY MAP

N.T.S.

FINAL PLANS

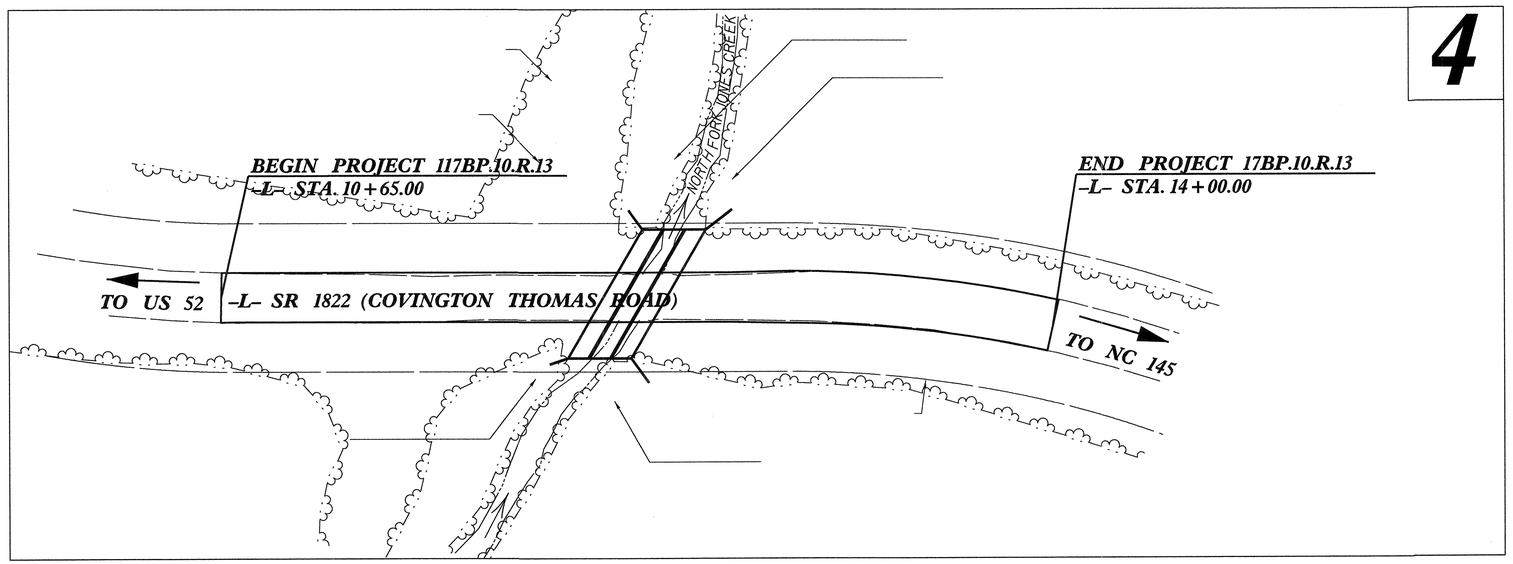
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

ANSON COUNTY

LOCATION: BRIDGE #030052 OVER NORTH FORK JONES CREEK ON SR 1822 (COVINGTON THOMAS ROAD)

TYPE OF WORK: PAVING, GRADING, DRAINAGE & STRUCTURE



NCDOT CONTACT:
GREG JONES DIVISION 10 BRIDGE
PROJECT MANAGER
(704) 983-4400

THIS PROJECT IS WITHIN THE MUNCIPAL BOUNDARIES OF MORVEN.
CLEARING ON THIS PROJECT SHALL BE PERFORMED
TO THE LIMITS ESTABLISHED BY METHOD II.

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.10.R.13	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
		PE

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
1633.02	Temporary Rock Silt Check Type-B	
	Wattle / Coir Fiber Wattle	
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1630.04	Stilling Basin	
1630.06	Special Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	

THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

NORTH CAROLINA PROFESSIONAL SEAL 21656 ENGINEER ROGER S. WEADON
9/25/12

ROGER WEADON, P.E.
LEVEL IIIA NAME

619
LEVEL IIIA CERTIFICATION NO.

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

20 10 0 20 40
PLANS

20 10 0 20 40
PROFILE (HORIZONTAL)

4 2 0 4 8
PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared In the Office of:
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301 S. McDOWELL STREET, SUITE 1008
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GF PROJECT NO.- 055335.052

AND

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Phone: 919.297.0220 Fax: 919.297.0221

2012 STANDARD SPECIFICATIONS

Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type A
1622.01	Temporary Berms and Slope Drains	1633.02	Temporary Rock Silt Check Type B
1630.01	Riser Basin	1634.01	Temporary Rock Sediment Dam Type A
1630.02	Silt Basin Type B	1634.02	Temporary Rock Sediment Dam Type B
1630.03	Temporary Silt Ditch	1635.01	Rock Pipe Inlet Sediment Trap Type A
1630.04	Stilling Basin	1635.02	Rock Pipe Inlet Sediment Trap Type B
1630.05	Temporary Diversion	1640.01	Coir Fiber Baffle
1630.06	Special Stilling Basin	1645.01	Temporary Stream Crossing
1631.01	Matting Installation		

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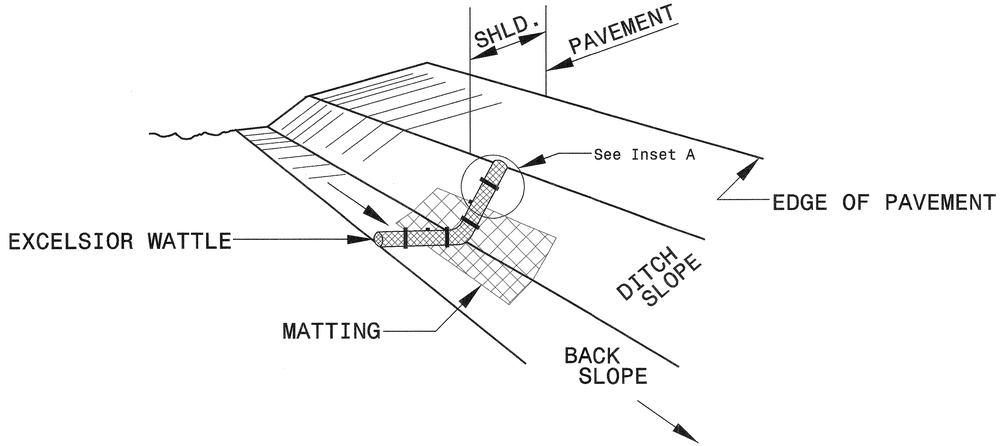
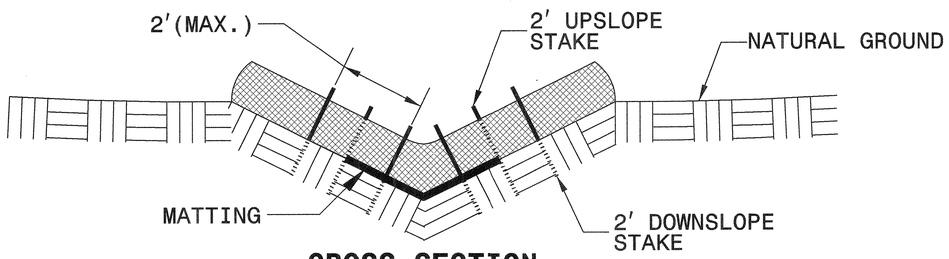
PROJECT REFERENCE NO.	SHEET NO.
17BP.10.R.13	EC-2
R/W SHEET NO.	

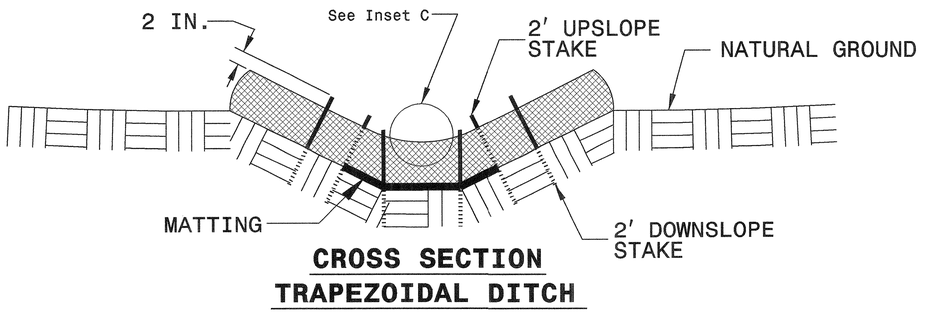
WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

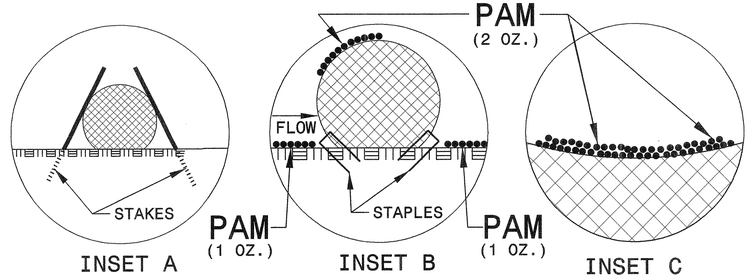
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

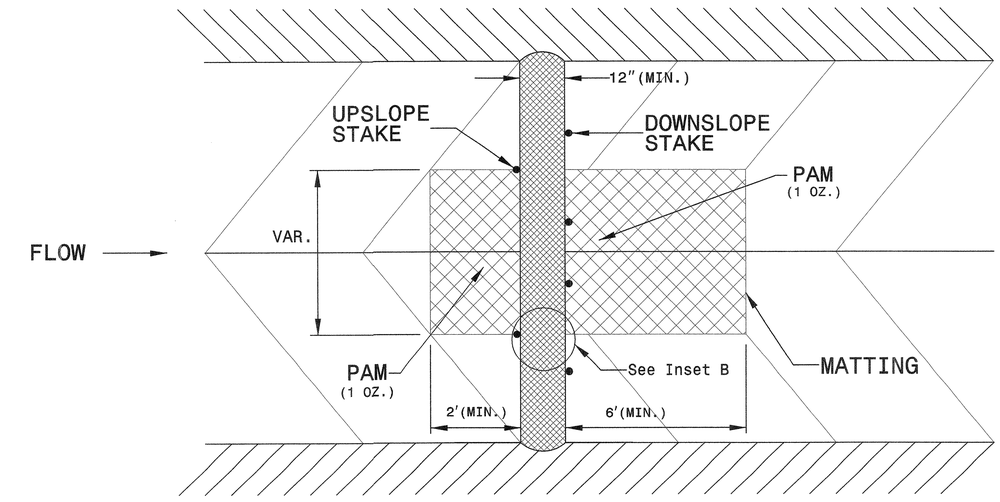
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.





TOP VIEW

REVISIONS

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
17BP.10.R.13	EC-2A
R/W SHEET NO.	

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 21656 ENGINEER ROGER S. WELDON

9/20/12

CULVERT CONSTRUCTION SEQUENCE

PHASE 1

1. REMOVE EXISTING BRIDGE

2. CONSTRUCT STILLING BASIN TO SIZE SPECIFIED AND AT LOCATION AS SHOWN.

3. DIVERT STREAM FLOW TO EAST WITH TEMPORARY IMPERVIOUS DIKE CONSTRUCTED OF SAND BAGS. EXCAVATE EASTERN BANK AREA OF THE EXISTING CHANNEL AS NEEDED TO MAINTAIN A MINIMUM STREAM WIDTH OF 6' USING A 2:1 SIDE SLOPE.

4. CONSTRUCT PROPOSED CULVERT WESTERN CELL (BARREL 1) AS SHOWN WITHOUT BENCH.

PHASE 2

1. REMOVE TEMPORARY IMPERVIOUS DIKE AROUND WESTERN CELL (BARREL 1) CONSTRUCTED IN STEP 1.

2. CONSTRUCT TEMPORARY DIVERSION CHANNEL INTO AND OUT OF WESTERN CELL (BARREL 1). USE A MINIMUM CHANNEL BOTTOM WIDTH OF 7' WITH A 2:1 SIDE SLOPE.

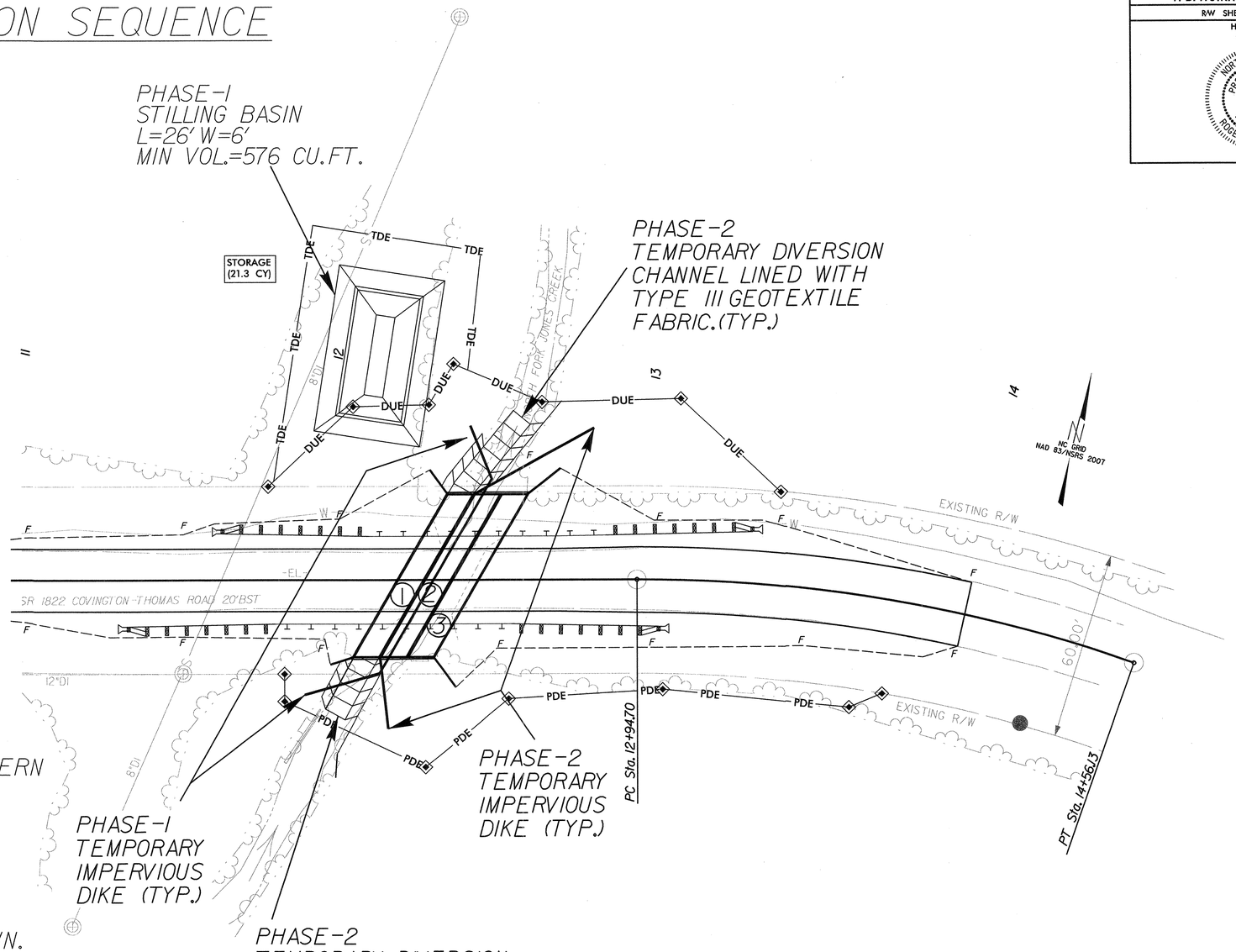
3. DIVERT STREAM FLOW THROUGH WESTERN CELL (BARREL 1) WITH TEMPORARY DIKE AS SHOWN.

4. CONSTRUCT THE PROPOSED CULVERT EASTERN CELLS (BARREL 2 AND 3) AS SHOWN.

PHASE 3

1. CONSTRUCT THE CULVERT BENCHES ON EACH SIDE OF BOTH BARRELS 1 AND 3, RESPECTIVELY.

2. REMOVE TEMPORARY DIKE AND STILLING BASIN.



DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
				SUBTOTAL	
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					
				TOTAL	
				SAY	

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	L	10+65	11+90	LT	110
4	L	13+90	14+00	RT	10
				SUBTOTAL	120
		ADDITIONAL PSRM TO BE INSTALLED			?
				TOTAL	120
				SAY	120

7/2/99

PROJECT REFERENCE NO.	SHEET NO.
17BPJ0.RJ3	EC-3A

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

PROJECT REFERENCE NO.	SHEET NO.
17BP.10.R.13	EC-4
R/W SHEET NO.	

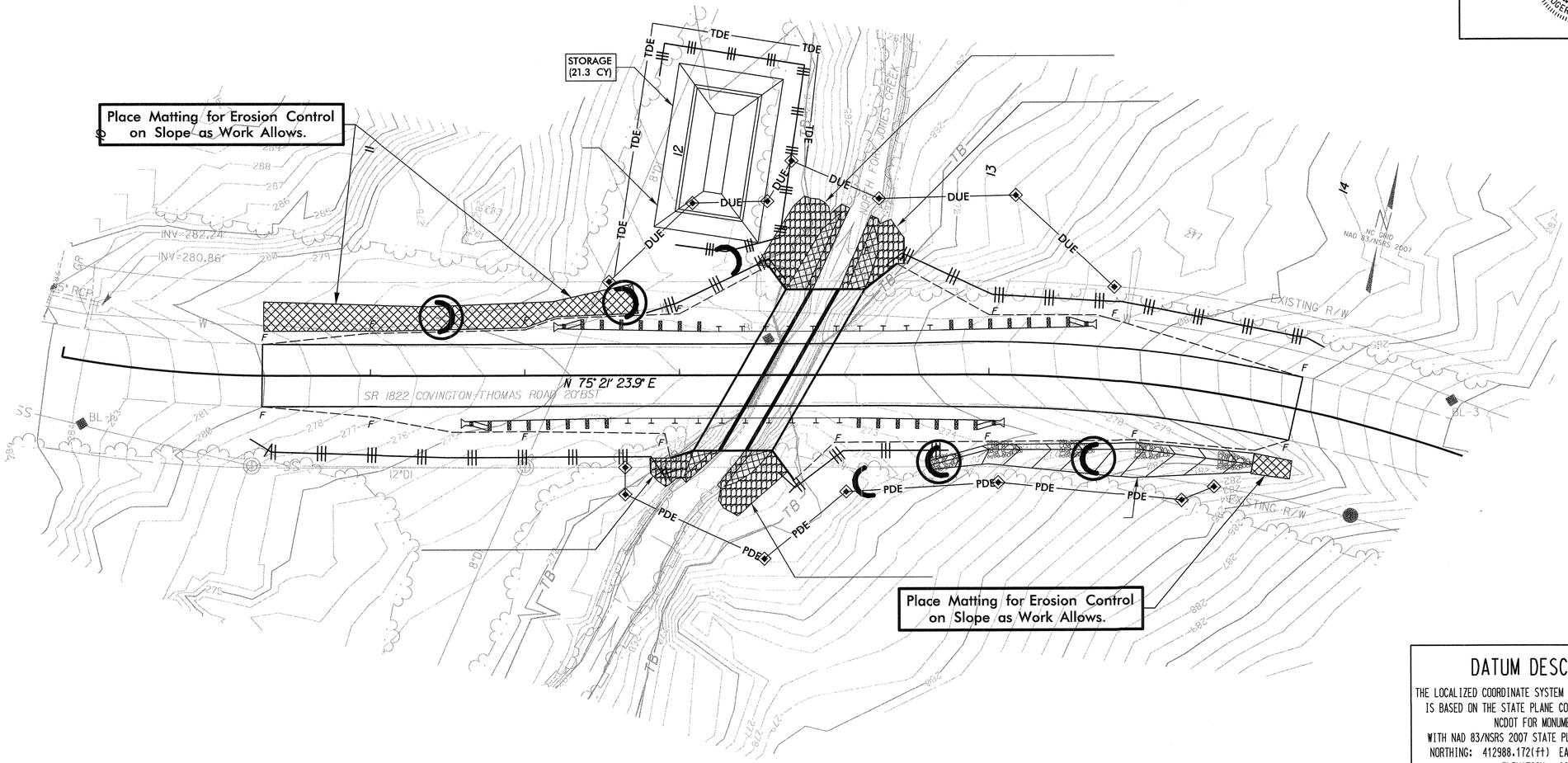
HYDRAULICS ENGINEER

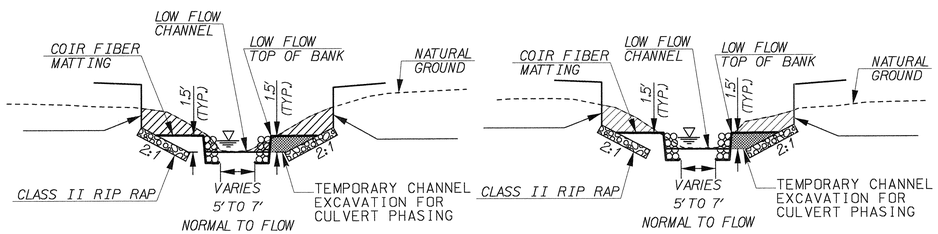
NORTH CAROLINA PROFESSIONAL SEAL 21656 ENGINEER ROGER S. WEAVER

9/25/12

REVISIONS

8/17/99





REPRESENTS PERMANENT CHANNEL EXCAVATION

REPRESENTS TEMPORARY CHANNEL EXCAVATION

TOTAL CHANNEL EXCAVATION = 25 CY.

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "BL-1"
WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
NORTHING: 412988.172(ft) EASTING: 1698620.753(ft)
ELEVATION: 283.72(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999885
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BL-1" TO -L- POC STATION 10+65.00 IS
N 60°31'28.93" E 60.42 (ft)
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

BL-1	N 412988.1720	E 1698620.7530	ELEV 283.72
BL-2	N 413070.4110	E 1698828.8520	ELEV 273.10
BL-3	N 413106.4150	E 1699047.7020	ELEV 289.65

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	17BP.10.R.13	X-1

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275
270
265

274.80
0.020 0.020
2:1 2:1
274.02
S.S. 272.701 S.S. 273.117

12+00.00

280
275
270

275.67
0.020 0.020
2:1 2:1
275.51
S.S. 274.192 S.S. 274.337

11+50.000

285
280
275

277.85
0.020 0.010
2:1 2:1
277.83
S.S. 276.981 S.S. 277.124

11+00.00

290
285
280
275

281.06

10+50.00

285
280

284.59

10+00.00

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PROJ. REFERENCE NO.	SHEET NO.
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