

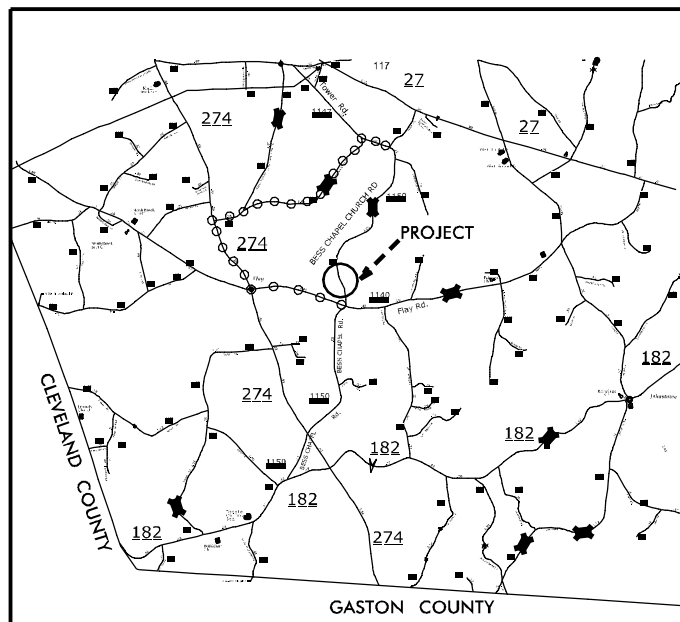
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.12.C.3	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

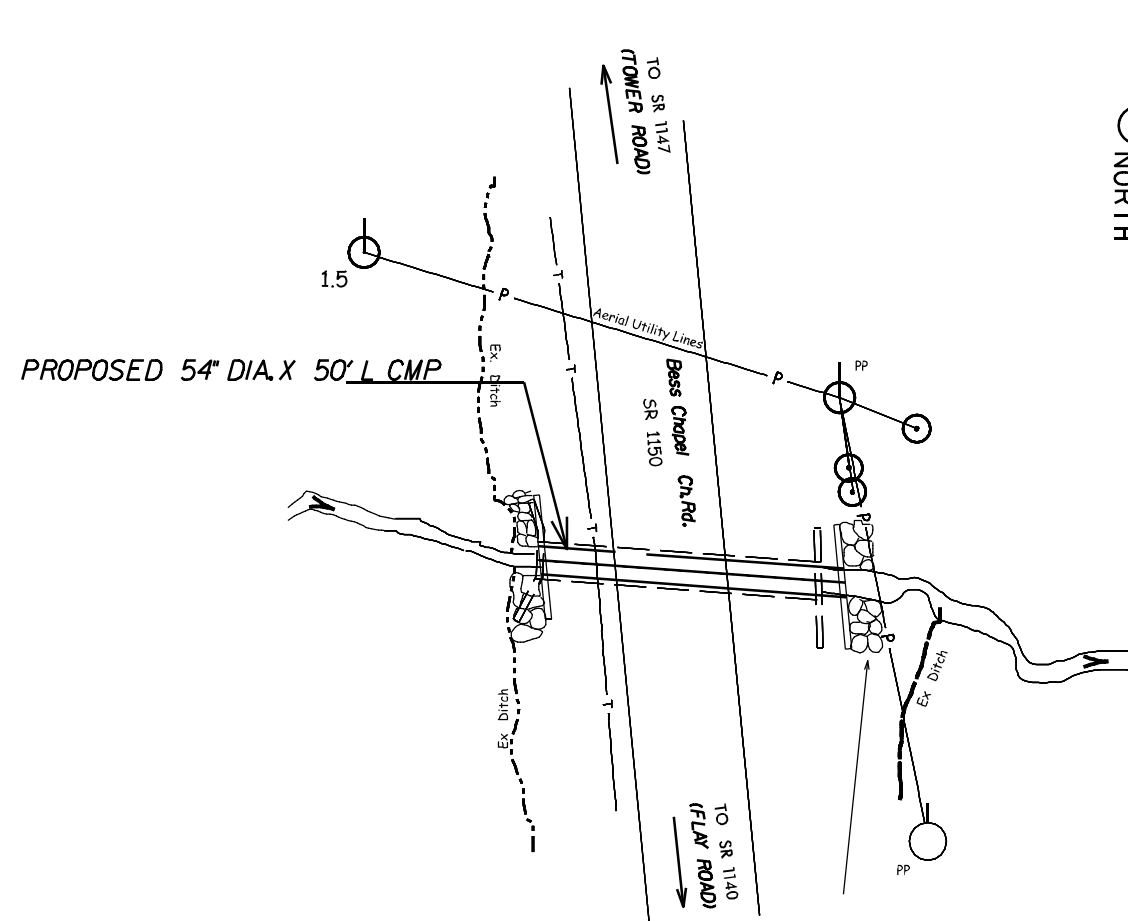
LINCOLN COUNTY

LOCATION: BESS CHAPEL CHURCH ROAD SR 1150

TYPE OF WORK: PIPE CULVERT REPLACEMENT

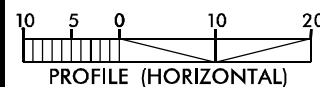
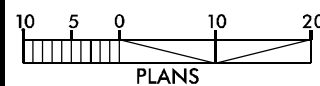


DETOUR ROUTE
VICINITY MAP
(NOT TO SCALE)



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

GRAPHIC SCALES



PROJECT LENGTH

LENGTH ROADWAY WBS PROJECT 17BP.12.C.3 = 0.010 MILES
 LENGTH STRUCTURES WBS PROJECT 17BP.12.C.3 = 0.010 MILES
 TOTAL LENGTH WBS PROJECT 17BP.12.C.3 = 0.01 MILES

Prepared in the Office of: DIVISION OF HIGHWAYS 1000 Birch Ridge Dr., Raleigh NC, 27610		
2012 STANDARD SPECIFICATIONS		
STEVE RACKLEY, PE PROJECT ENGINEER		RYAN BARBEE DESIGN AND EROSION CONTROL PLANS
LETTING DATE: JUNE 28, 2016		

CONTRACT: DL00104 PROJECT: 17BP.12.C.3

\$\$\$SYSTIME\$\$\$\$DGN\$\$\$\$SRNAME\$\$\$\$

04/06/15

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale *S.U.E. = Subsurface Utility Engineering

BOUNDARIES AND PROPERTY:

- State Line _____
- County Line _____
- Township Line _____
- City Line _____
- Reservation Line _____
- Property Line _____
- Existing Iron Pin _____
- Property Corner _____
- Property Monument _____
- Parcel/Sequence Number _____
- Existing Fence Line _____
- Proposed Woven Wire Fence _____
- Proposed Chain Link Fence _____
- Proposed Barbed Wire Fence _____
- Existing Wetland Boundary _____
- Proposed Wetland Boundary _____
- Existing Endangered Animal Boundary _____
- Existing Endangered Plant Boundary _____
- Existing Historic Property Boundary _____

- Known Contamination Area: Soil _____
- Potential Contamination Area: Soil _____
- Known Contamination Area: Water _____
- Potential Contamination Area: Water _____
- Contaminated Site: Known or Potential _____

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

- Standard Gauge _____
- RR Signal Milepost _____
- 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 _____
- Proposed Right of Way Line with Iron Pin and Cap Marker _____
- Proposed Right of Way Line with Concrete or Granite RW Marker _____
- Proposed Control of Access Line with Concrete CA Marker _____

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- Proposed Temporary Construction Easement _____
- Proposed Temporary Drainage Easement _____
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- Proposed Permanent Drainage /Utility Easement _____
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ROADS AND RELATED FEATURES:

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- Existing Curb _____
- Proposed Slope Stakes Cut _____
- Proposed Slope Stakes Fill _____
- Proposed Curb Ramp _____
- Existing Metal Guardrail _____
- Proposed Guardrail _____
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VEGETATION:

- Single Tree _____
- Single Shrub _____
- Hedge _____
- Woods Line _____

- Orchard _____
- Vineyard _____

EXISTING STRUCTURES:

- MAJOR: Bridge, Tunnel or Box Culvert _____
- Bridge Wing Wall, Head Wall and End Wall _____
- MINOR: Head and End Wall _____
- Pipe Culvert _____
- Footbridge _____
- Drainage Box: Catch Basin, DI or JB _____
- Paved Ditch Gutter _____
- Storm Sewer Manhole _____
- Storm Sewer _____

UTILITIES:

- POWER: Existing Power Pole _____
- Proposed Power Pole _____
- Existing Joint Use Pole _____
- Proposed Joint Use Pole _____
- Power Manhole _____
- Power Line Tower _____
- Power Transformer _____
- U/G Power Cable Hand Hole _____
- H-Frame Pole _____
- U/G Power Line LOS B (S.U.E.*) _____
- U/G Power Line LOS C (S.U.E.*) _____
- U/G Power Line LOS D (S.U.E.*) _____

TELEPHONE:

- Existing Telephone Pole _____
- Proposed Telephone Pole _____
- Telephone Manhole _____
- Telephone Pedestal _____
- Telephone Cell Tower _____
- U/G Telephone Cable Hand Hole _____
- U/G Telephone Cable LOS B (S.U.E.*) _____
- U/G Telephone Cable LOS C (S.U.E.*) _____
- U/G Telephone Cable LOS D (S.U.E.*) _____
- U/G Telephone Conduit LOS B (S.U.E.*) _____
- U/G Telephone Conduit LOS C (S.U.E.*) _____
- U/G Telephone Conduit LOS D (S.U.E.*) _____
- U/G Fiber Optics Cable LOS B (S.U.E.*) _____
- U/G Fiber Optics Cable LOS C (S.U.E.*) _____
- U/G Fiber Optics Cable LOS D (S.U.E.*) _____

WATER:

- Water Manhole _____
- Water Meter _____
- Water Valve _____
- Water Hydrant _____
- U/G Water Line LOS B (S.U.E.*) _____
- U/G Water Line LOS C (S.U.E.*) _____
- U/G Water Line LOS D (S.U.E.*) _____
- Above Ground Water Line _____

TV:

- TV Pedestal _____
- TV Tower _____
- U/G TV Cable Hand Hole _____
- U/G TV Cable LOS B (S.U.E.*) _____
- U/G TV Cable LOS C (S.U.E.*) _____
- U/G TV Cable LOS D (S.U.E.*) _____
- U/G Fiber Optic Cable LOS B (S.U.E.*) _____
- U/G Fiber Optic Cable LOS C (S.U.E.*) _____
- U/G Fiber Optic Cable LOS D (S.U.E.*) _____

GAS:

- Gas Valve _____
- Gas Meter _____
- U/G Gas Line LOS B (S.U.E.*) _____
- U/G Gas Line LOS C (S.U.E.*) _____
- U/G Gas Line LOS D (S.U.E.*) _____
- Above Ground Gas Line _____

SANITARY SEWER:

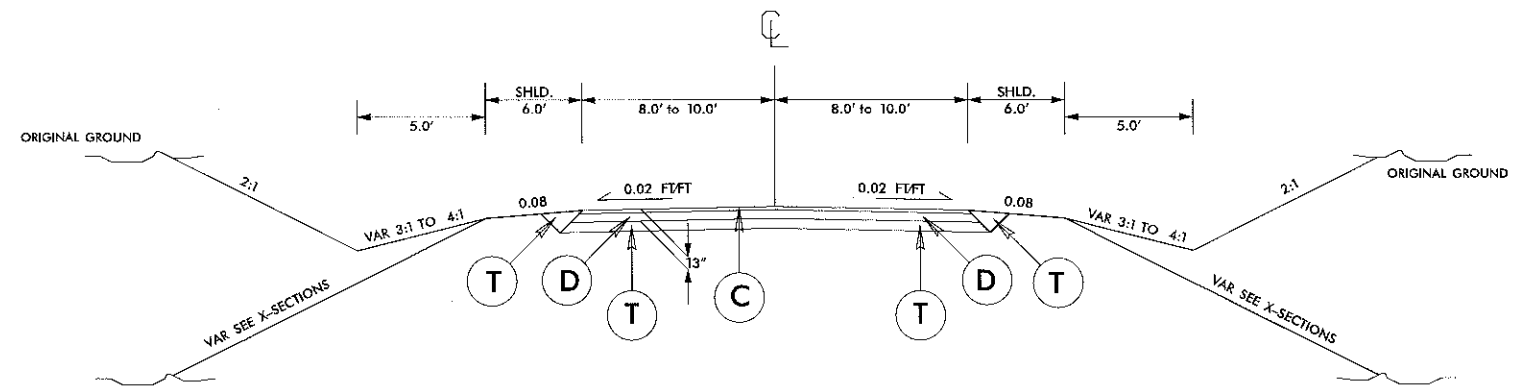
- Sanitary Sewer Manhole _____
- Sanitary Sewer Cleanout _____
- U/G Sanitary Sewer Line _____
- Above Ground Sanitary Sewer _____
- SS Forced Main Line LOS B (S.U.E.*) _____
- SS Forced Main Line LOS C (S.U.E.*) _____
- SS Forced Main Line LOS D (S.U.E.*) _____

MISCELLANEOUS:

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

8/17/99

PROJECT REFERENCE NO. 17BP12.C.3	SHEET NO. 3
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



TYPICAL SECTION NO. 1

NTS

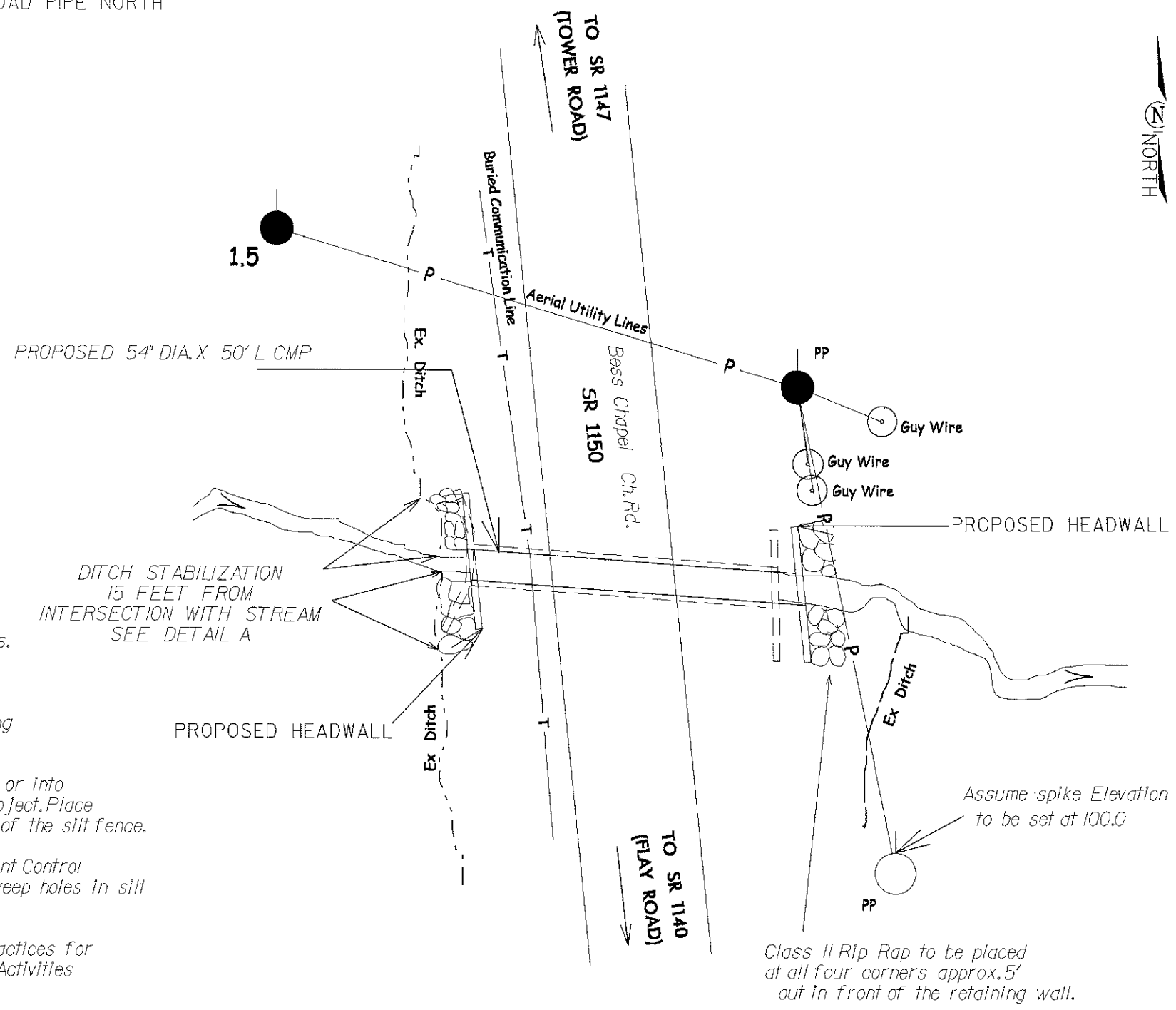
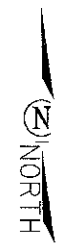
PAVEMENT SCHEDULE	
C	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE SB.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D	PROP. APPROX. 11" B25.05 BASE COURSE
T	EARTH MATERIAL

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

SYSTEMLINE
CONSTRUCTION

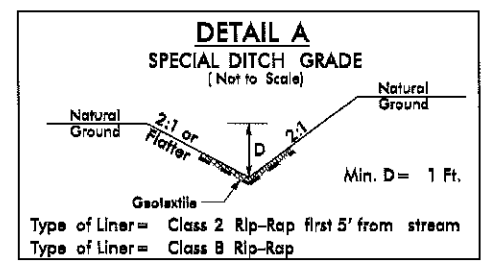
8/17/99

PROJECT REFERENCE NO. 17BPJ2C.3	SHEET NO. 4
RAW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



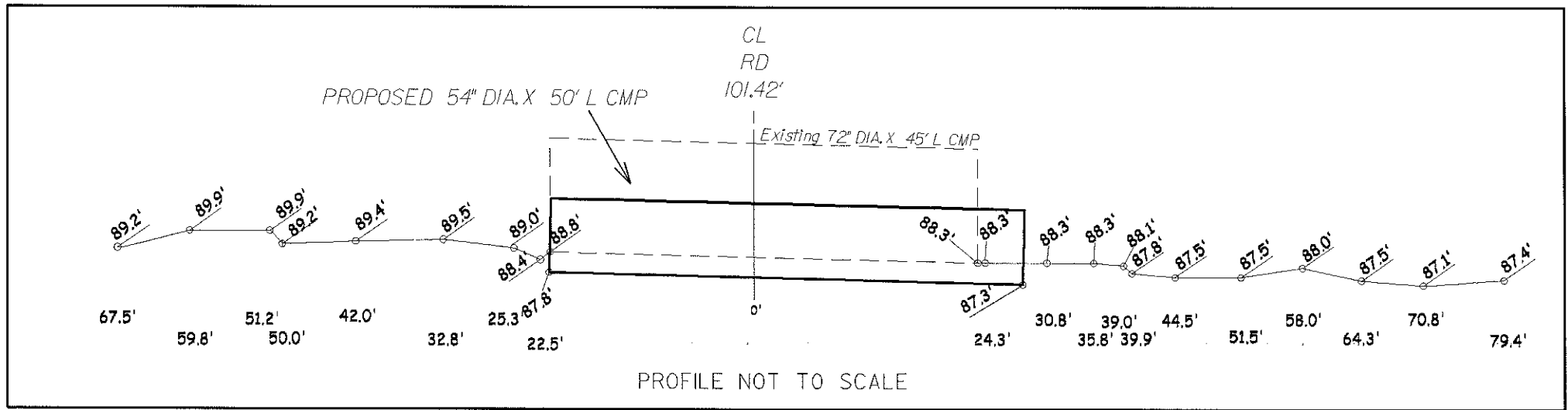
- 1) Pumping System to be used to divert the stream around the construction site as needed.
- 2) Any contaminated water within the construction site is to be pumped into a silt bag.
- 3) Silt fence is to be placed around stockpile and project as it allows.
- 4) Upon completion of the project all silt fences are to be placed as needed. Also seeding and mulching of disturbed areas.
- 5) Divert runoff into storage basins or into TRSC-A's before leaving the project. Place contaminated devices at the end of the silt fence.
- 6) Place TRSC-A's or special Sediment Control Fence in the low points with weep holes in silt fence as needed.
- 7) Reference the Best Management Practices for Construction and Maintenance Activities by the NCDOT Chapter 4.

DITCH STABILIZATION
15 FEET FROM
INTERSECTION WITH STREAM
SEE DETAIL A



Assume spike Elevation to be set at 100.0

Class II Rip Rap to be placed at all four corners approx. 5' out in front of the retaining wall.



REVISIONS

05-MAY-2016 13:54
S:\Bridges\17BPJ2C.3\BESSNORTH.L.S.dwg.dgn
#BESSNORTH.L.S.dwg

PROJECT: 17BP.12.C.3

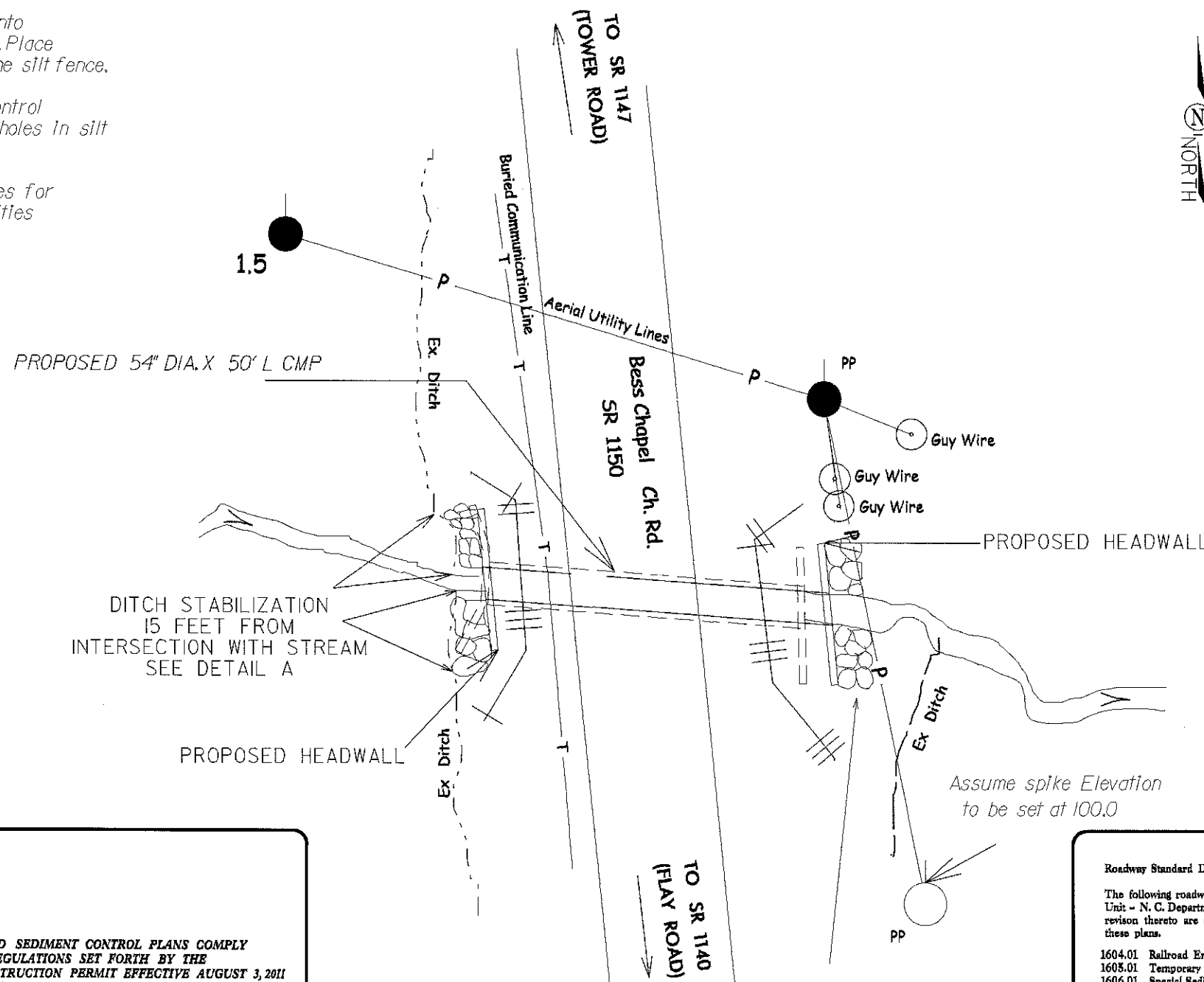
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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
**PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL**

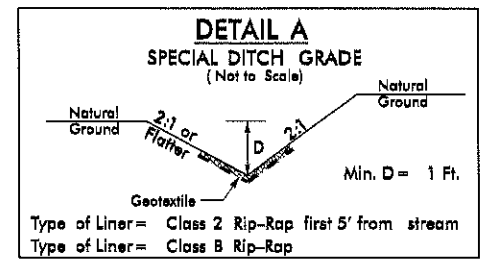
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.12.C.3	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	---
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1632.01	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	⊂
1632.02	Type B	⊂
1632.03	Type C	⊂
	Skimmer Basin	▭
	Tiered Skimmer Basin	▭
	Infiltration Basin	▭

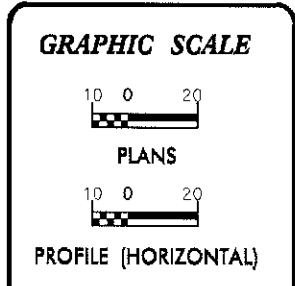


THIS PROJECT CONTAINS
EROSION CONTROL PLANS
FOR CLEARING AND
GRUBBING PHASE OF
CONSTRUCTION.



RYAN BARBEE
LEVEL IIIA NAME

3466
LEVEL IIIA CERTIFICATION NO.



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.

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 revision 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 Entrances	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	

Class II Rip Rap to be placed at all four corners approx. 5' out in front of the retaining wall.

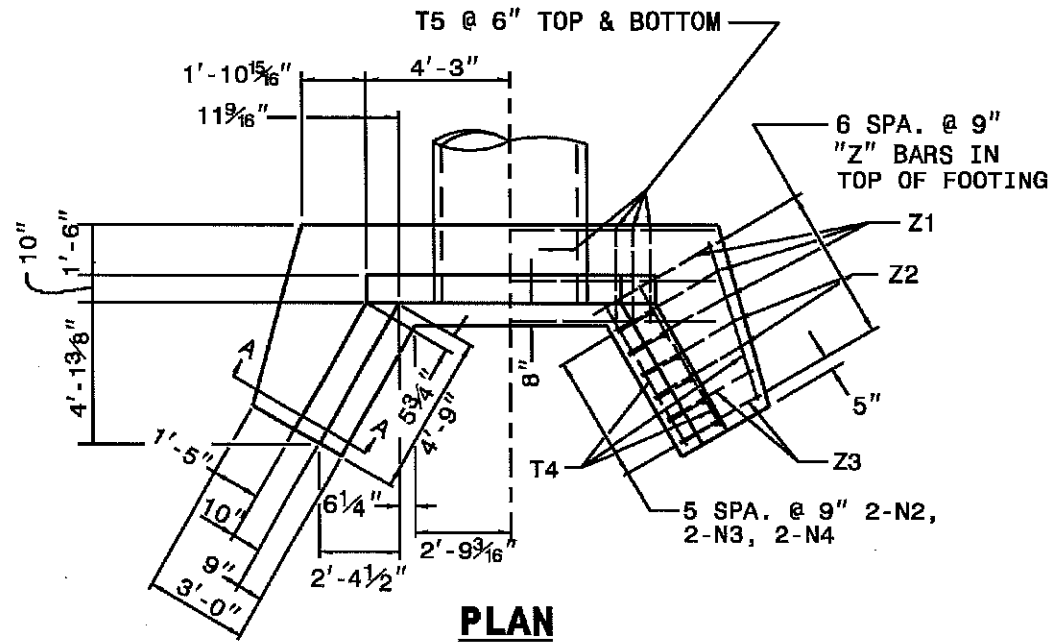
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>17BP12.C.3</i>	SHEET NO. <i>EC-2</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

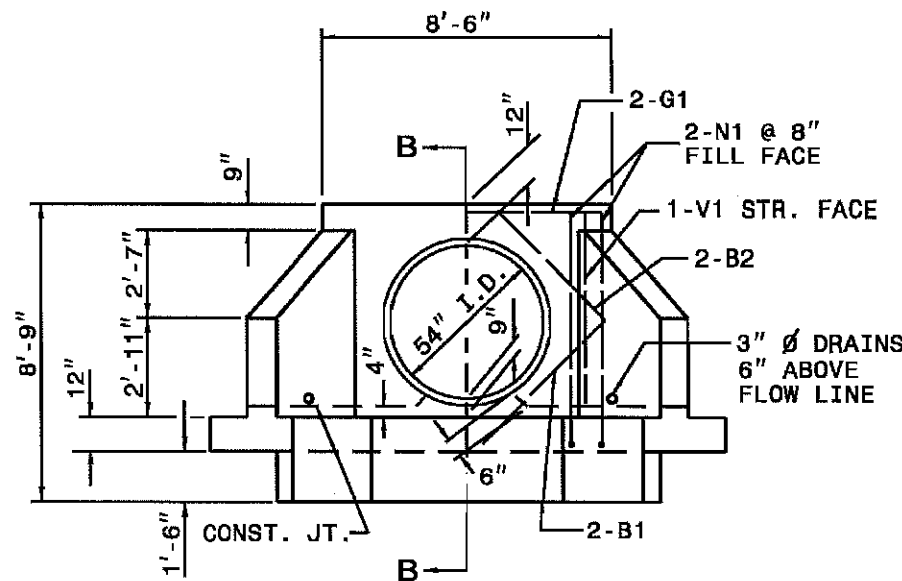
SOIL STABILIZATION TIMEFRAMES

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
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.

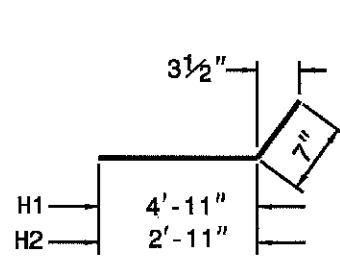
1-12



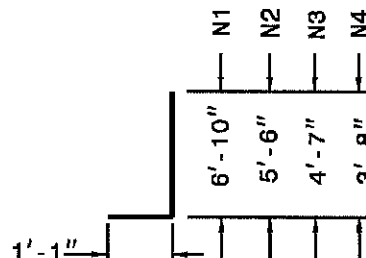
PLAN



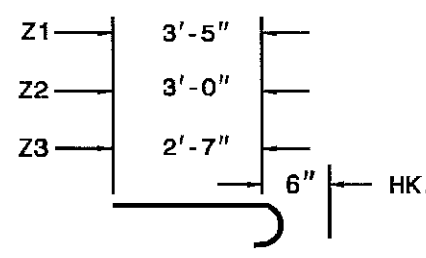
ELEVATION



"H" BARS

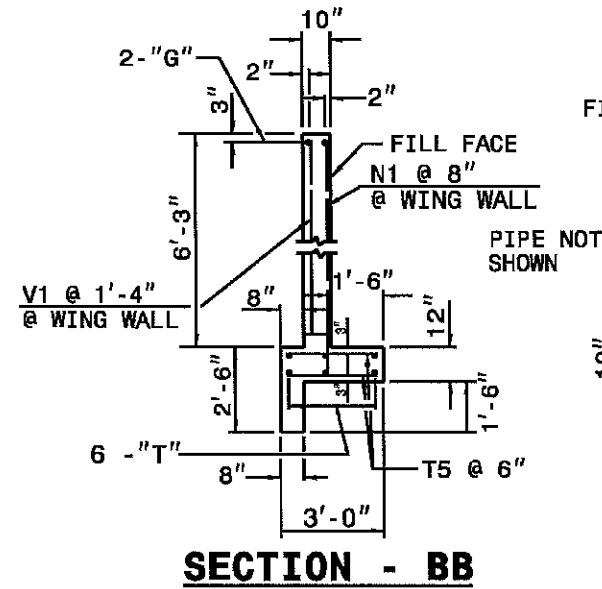


"N" BARS

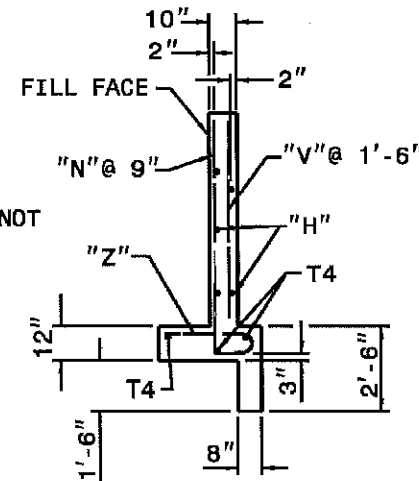


"Z" BARS

"H", "N", & "Z" BAR DIMENSIONS ARE OUT TO OUT.



SECTION - BB



SECTION - AA

SEE STD. DWG. 838.45 FOR GENERAL NOTES.

BILL OF MATERIAL FOR ENDWALL

REINF. STEEL		1 PIPE		
BAR	SIZE	LENGTH	NO.	WEIGHT
B1	#4	5'-6"	4	15
B2	#4	4'-6"	4	12
G1	#7	8'-2"	2	33
H1	#4	5'-6"	10	37
H2	#4	3'-6"	4	9
N1	#4	7'-11"	4	21
N2	#4	6'-7"	4	18
N3	#4	5'-8"	4	15
N4	#4	4'-9"	4	13
T1	#4	11'-10"	6	47
T4	#4	5'-3"	6	21
T5	#4	2'-6"	34	57
V1	#4	5'-9"	2	8
V2	#4	4'-10"	2	6
V3	#4	3'-11"	2	5
V4	#4	3'-1"	2	4
Z1	#4	3'-11"	6	16
Z2	#4	3'-6"	4	9
Z3	#4	3'-1"	4	8
REINF. STEEL LBS.			354	
CON./R.C. CU. YDS			5.0	

1-12

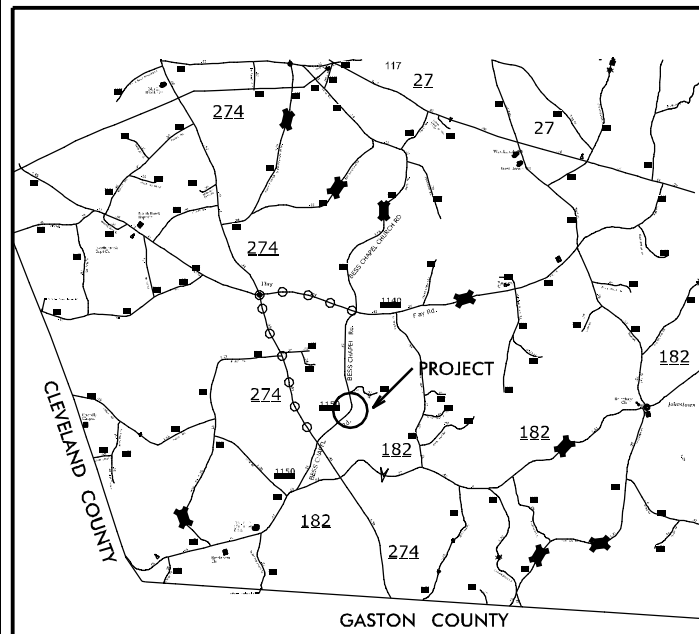
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STATE OF NORTH CAROLINA
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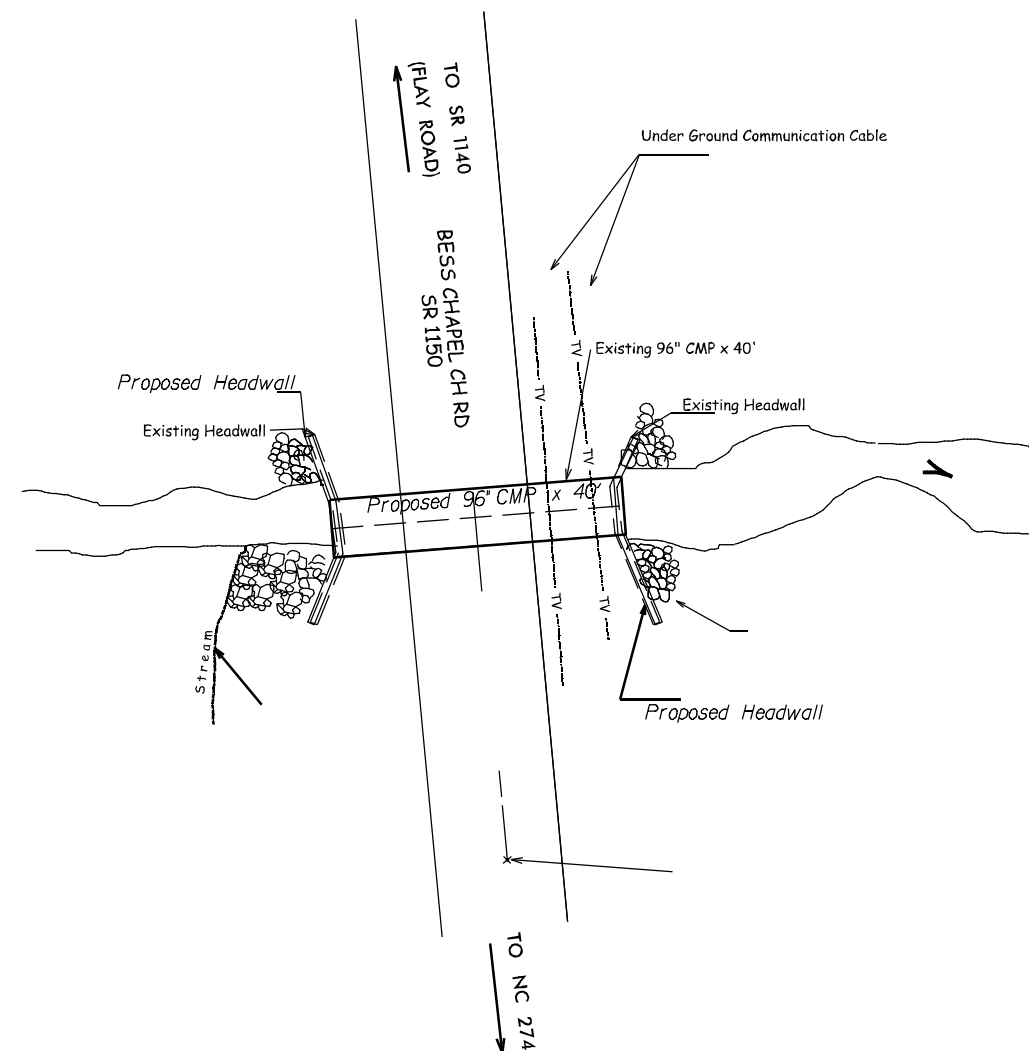
LINCOLN COUNTY

LOCATION: BESS CHAPEL CHURCH ROAD SR 1150

TYPE OF WORK: PIPE CULVERT REPLACEMENT

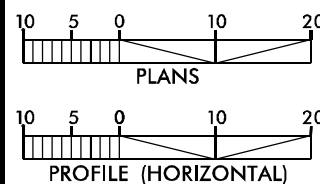


DETOUR ROUTE
VICINITY MAP
(NOT TO SCALE)



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

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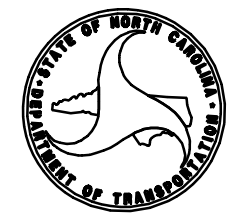
Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS

LETTING DATE:
JUNE 28, 2016

STEVE RACKLEY, PE
PROJECT ENGINEER

RYAN BARBEE
DESIGN AND EROSION CONTROL PLANS



PROJECT: 17BP.12.C.3 CONTRACT: DL00104

\$\$\$\$\$SYTIME\$\$\$\$\$DGN\$\$\$\$\$USFRNAME\$\$\$\$\$

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS CONVENTIONAL PLAN SHEET SYMBOLS

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- Drainage Box: Catch Basin, DI or JB
- Paved Ditch Gutter
- Storm Sewer Manhole
- Storm Sewer

UTILITIES:

- POWER: Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- U/G Power Line LOS B (S.U.E.*)
- U/G Power Line LOS C (S.U.E.*)
- U/G Power Line LOS D (S.U.E.*)

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole
- Telephone Pedestal
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole
- U/G Telephone Cable LOS B (S.U.E.*)
- U/G Telephone Cable LOS C (S.U.E.*)
- U/G Telephone Cable LOS D (S.U.E.*)
- U/G Telephone Conduit LOS B (S.U.E.*)
- U/G Telephone Conduit LOS C (S.U.E.*)
- U/G Telephone Conduit LOS D (S.U.E.*)
- U/G Fiber Optics Cable LOS B (S.U.E.*)
- U/G Fiber Optics Cable LOS C (S.U.E.*)
- U/G Fiber Optics Cable LOS D (S.U.E.*)

WATER:

- Water Manhole
- Water Meter
- Water Valve
- Water Hydrant
- U/G Water Line LOS B (S.U.E.*)
- U/G Water Line LOS C (S.U.E.*)
- U/G Water Line LOS D (S.U.E.*)
- Above Ground Water Line

TV:

- TV Pedestal
- TV Tower
- U/G TV Cable Hand Hole
- U/G TV Cable LOS B (S.U.E.*)
- U/G TV Cable LOS C (S.U.E.*)
- U/G TV Cable LOS D (S.U.E.*)
- U/G Fiber Optic Cable LOS B (S.U.E.*)
- U/G Fiber Optic Cable LOS C (S.U.E.*)
- U/G Fiber Optic Cable LOS D (S.U.E.*)

GAS:

- Gas Valve
- Gas Meter
- U/G Gas Line LOS B (S.U.E.*)
- U/G Gas Line LOS C (S.U.E.*)
- U/G Gas Line LOS D (S.U.E.*)
- Above Ground Gas Line

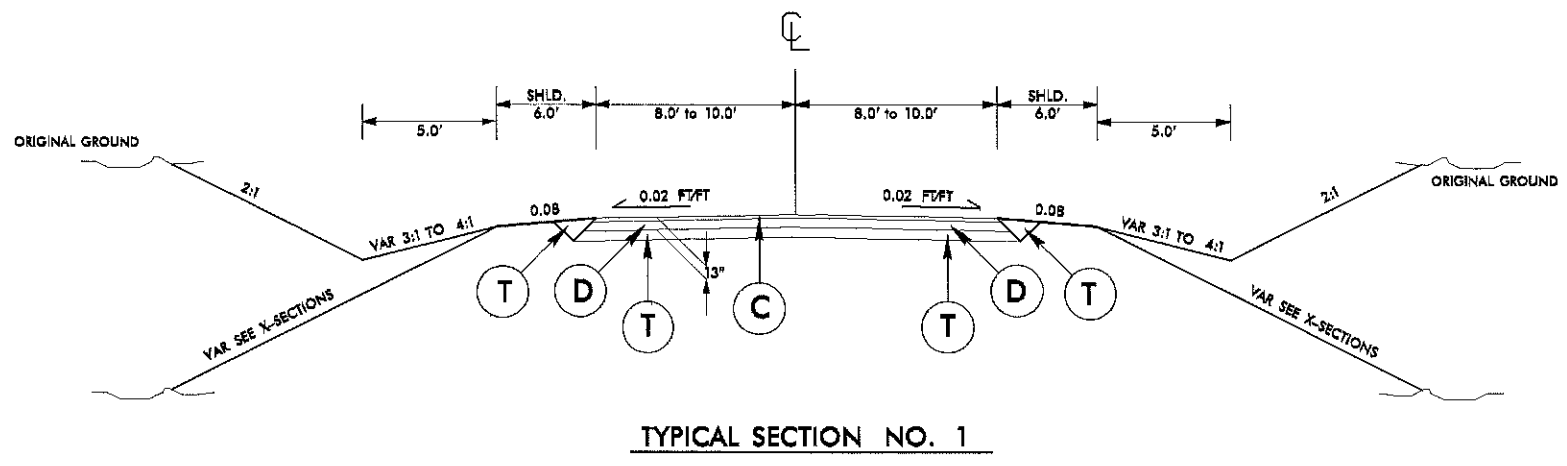
SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line
- Above Ground Sanitary Sewer
- SS Forced Main Line LOS B (S.U.E.*)
- SS Forced Main Line LOS C (S.U.E.*)
- SS Forced Main Line LOS D (S.U.E.*)

MISCELLANEOUS:

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

PROJECT REFERENCE NO. 17BPJ2C.3	SHEET NO. 3
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



****NTS****

PAVEMENT SCHEDULE	
C	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE 88.5B, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
D	PROP. APPROX. 11" B25.0B BASE COURSE IN TWO LIFTS AT AN AVERAGE RATE OF 827 LBS. PER SQ. YD.
T	EARTH MATERIAL

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

8/17/99

06-MAY-2016 09:04
S:\BENTLEY\BENTLEY\17BPJ2C.3\BESSNDRTH.L.S.dwg
BENTLEY

TIP PROJECT: 17BP.12.C.3

- 1) Pumping System to be used to divert the stream around the construction site as needed.
- 2) Any contaminated water within the construction site is to be pumped into a silt bag.
- 3) Silt fence is to be placed around stockpile and project as it allows.
- 4) Upon completion of the project all silt fences are to be placed as needed. Also seeding and mulching of disturbed areas.
- 5) Divert runoff into storage basins or into TRSC-A's before leaving the project. Place contaminated devices at the end of the silt fence.
- 6) Place TRSC-A's or special Sediment Control Fence in the low points with weep holes in silt fence as needed.
- 7) Reference the Best Management Practices for Construction and Maintenance Activities by the NCDOT Chapter 4.

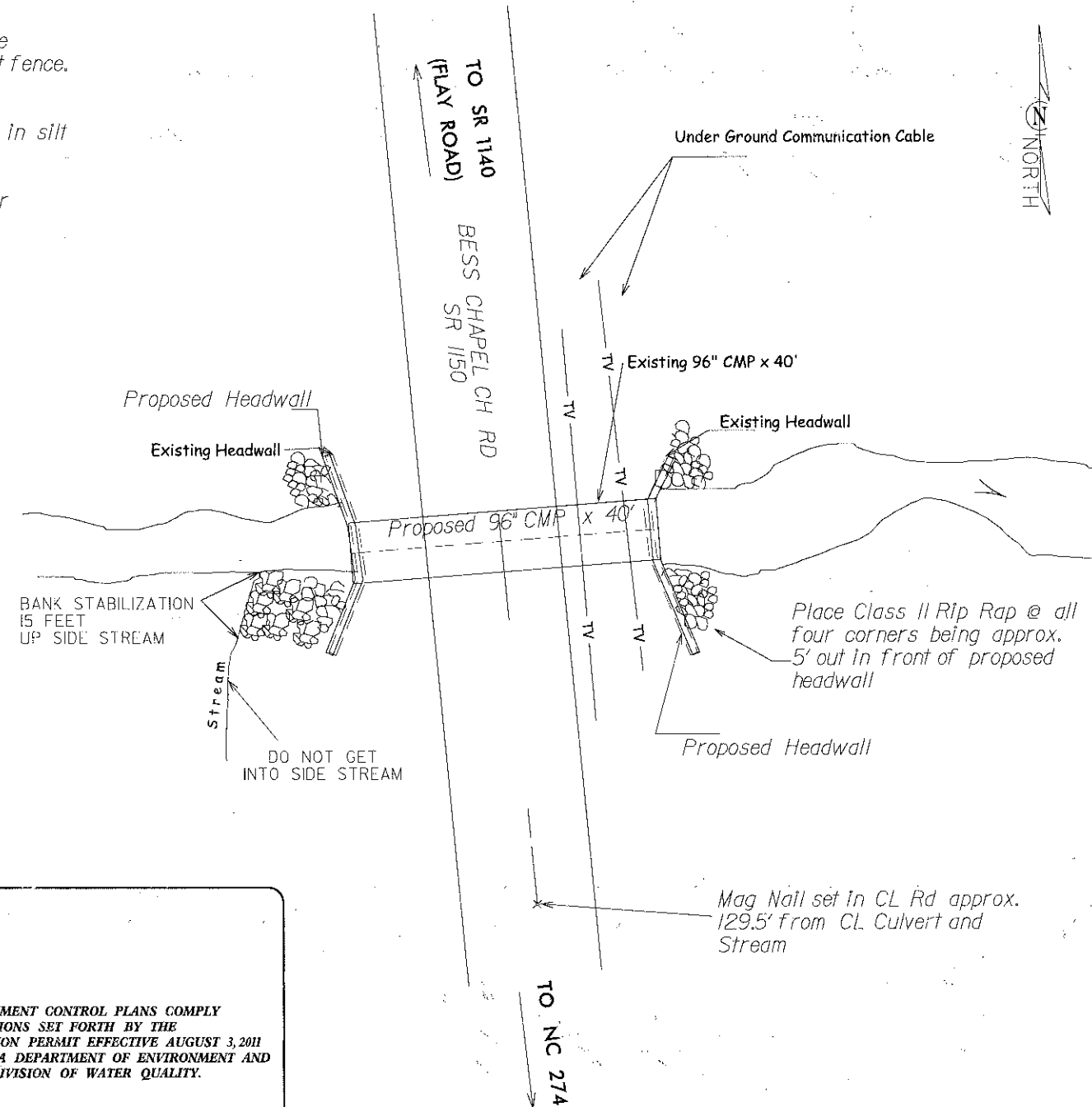
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
**PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.12.C.3	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

EROSION AND SEDIMENT CONTROL MEASURES

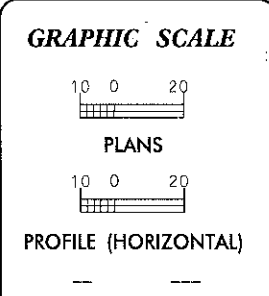
Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	---
1630.05	Temporary Diversion	---
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	---▲---
1622.01	Temporary Berms and Slope Drains	---▲---
1630.02	Silt Basin Type B	▧
1633.01	Temporary Rock Silt Check Type-A	▨
	Temporary Rock 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.



RYAN BARBEE
LEVEL IIIA NAME

3466
LEVEL IIIA CERTIFICATION NO.



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.

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 revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

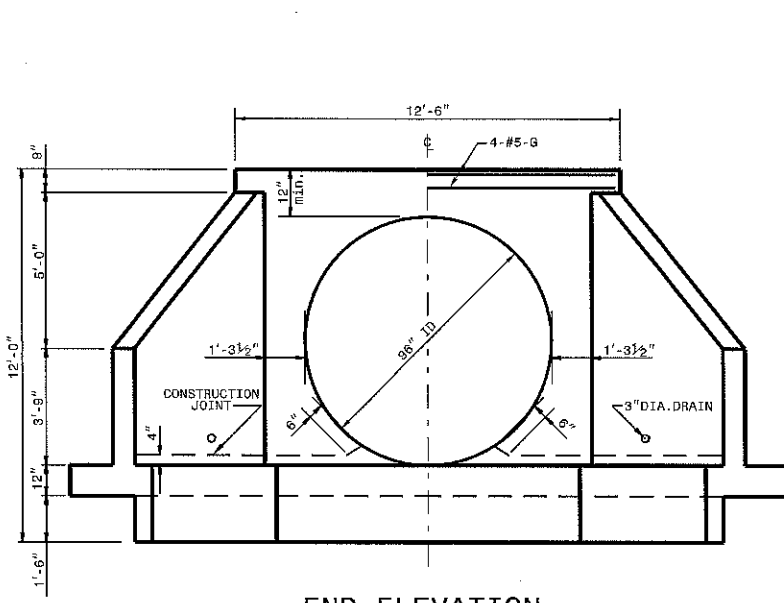
1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type A
1622.01 Temporary Berms and Slope Drains	1633.02 Temporary Rock Silt Check Type B
1630.01 River 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	

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

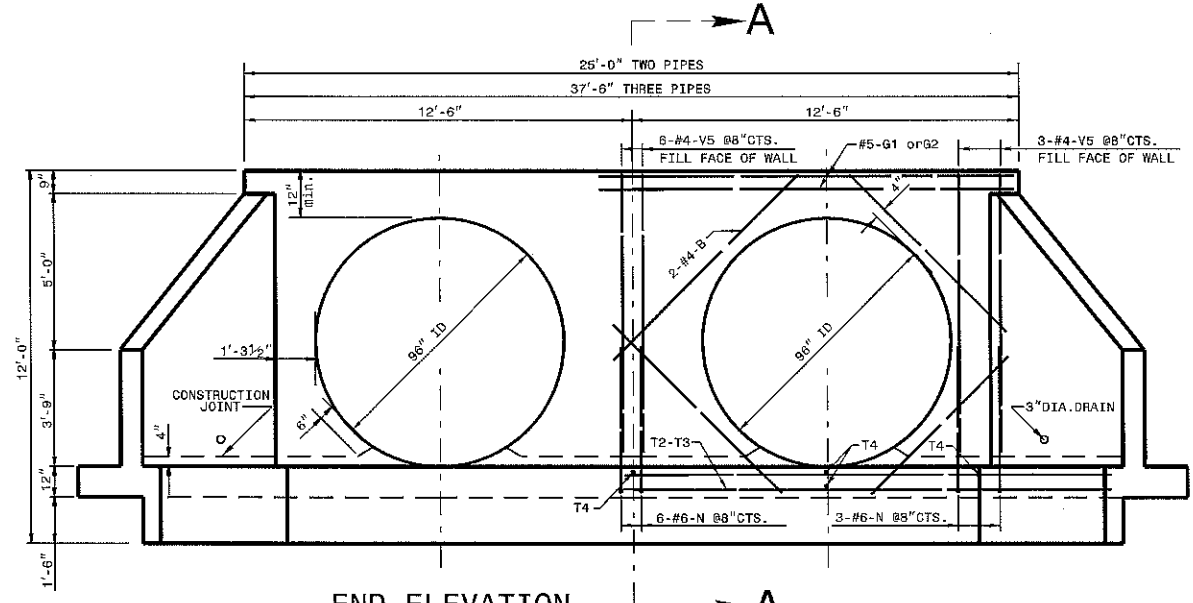
PROJECT REFERENCE NO. <i>17BP12.C.3</i>	SHEET NO. <i>EC-2</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION TIMEFRAMES

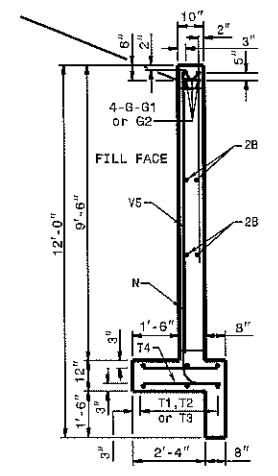
<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 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.



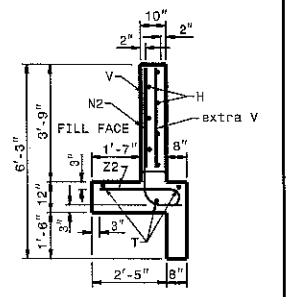
END ELEVATION



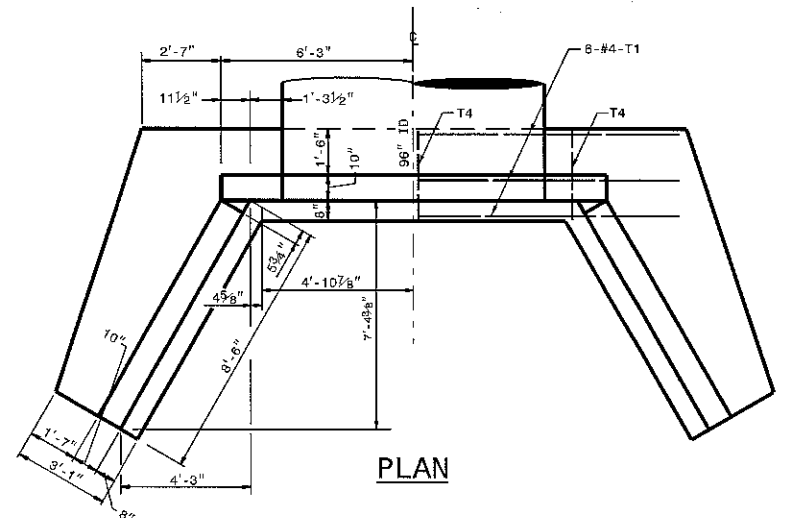
END ELEVATION



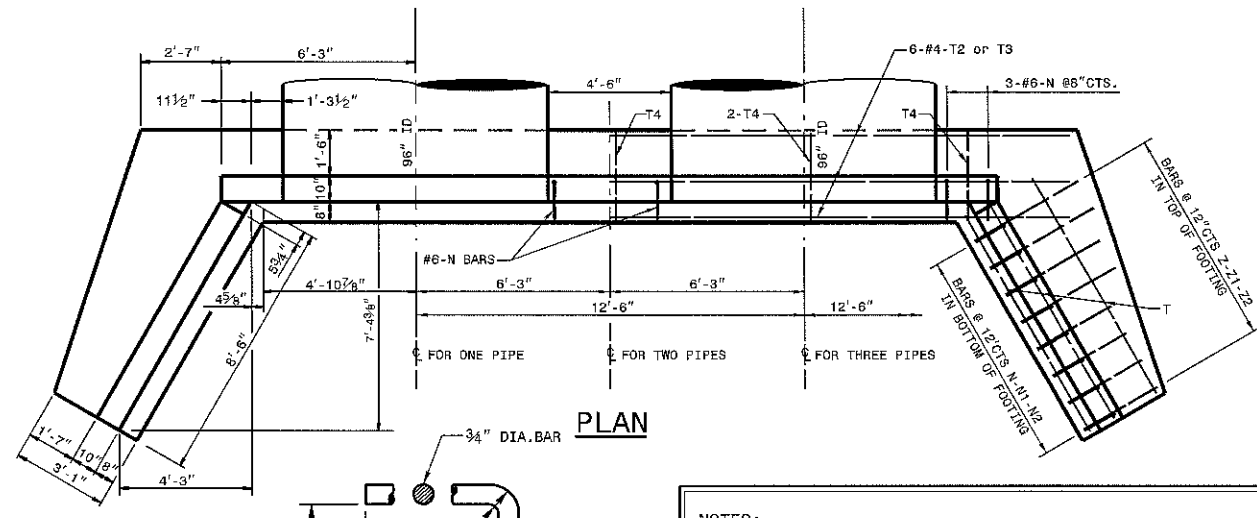
SECTION A-A



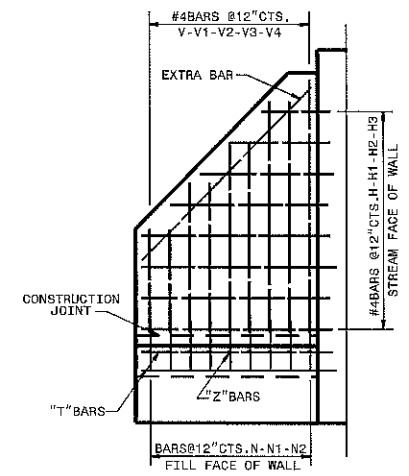
END OF WING



PLAN

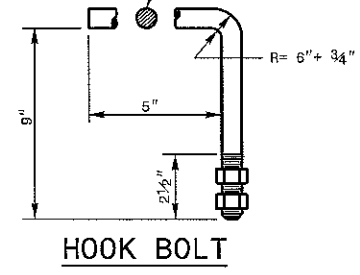


PLAN

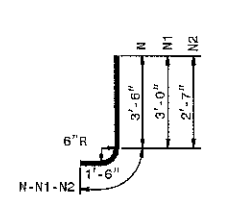


ELEVATION OF WING

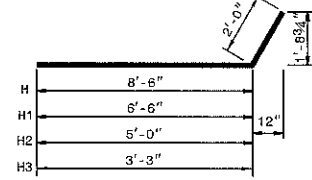
NOTE: CONSTRUCT HOOK BOLTS (ANCHORS) AT 24" CTS. ALONG THE CIRCUMFERENCE OF THE 96" CSP. EMBED THE HOOK BOLTS 6" IN DEPTH. THE GALVANIZED 3/4" DIA. HOOK BOLTS MUST MEET ASTM A-307 OR ASTM A-836. BOTH BOLTS AND NUTS MUST BE IN ACCORDANCE WITH ASTM A-153 FOR GALVANIZING.



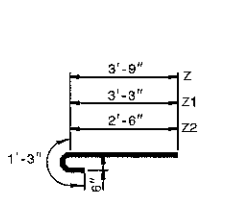
HOOK BOLT



BARS N-N1-N2



BARS H-H1-H2-H3



BARS Z-Z1-Z2

NOTES:
 ALL CONCRETE TO BE CLASS "A".
 ALL REINFORCING STEEL SHALL BE ASTMA615-GRADE 60.
 ALL REINFORCING STEEL SHALL BE DEFORMED BARS. WHERE SPLICING OF REINFORCEMENT IS NECESSARY, BARS ARE TO BE LAPPED 45 DIAMETERS. ALL DIMENSIONS RELATIVE TO REINFORCEMENT ARE TO CENTERS OF BARS.
 THE FOOTING, CURTAIN WALL AND 4 IN. OF WALL ARE TO BE POURED IN ONE OPERATION ALLOWING NO TIME FOR INITIAL SET TO TAKE PLACE BETWEEN THEM. THE REMAINING WALL SHALL THEN BE POURED IN ONE OPERATION.
 ALL EXPOSED CORNERS ARE TO BE CHAMFERED 1 IN.
 3 IN. DIAMETER DRAINS SHALL BE PLACED IN WALL AS SHOWN AND BE 6 IN. ABOVE NORMAL FLOW LINE.
 ALL MATERIAL AND WORKMANSHIP AS PER N.C. DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
 THE EXTRA BARS ARE PROVIDED FOR HOLDING REINFORCING STEEL IN CORRECT POSITION IN WING.

BILL OF MATERIALS FOR ONE ENDWALL

BAR	SIZE	LENGTH	QTY	WEIGHT	1 PIPE	2 PIPES	3 PIPES
B	4	6'-6"	8	35	16	69	104
G	5	12'-3"	4	51	--	--	--
G1	5	13'-6"	--	--	8	113	--
G2	5	19'-9"	--	--	--	--	8 165
H	4	10'-6"	12	84	12	84	12 84
H1	4	8'-6"	4	23	4	23	4 23
H2	4	7'-0"	2	9	2	9	2 9
H3	4	5'-3"	4	14	4	14	4 14
N	6	5'-0"	12	90	18	135	24 180
N1	5	4'-6"	4	19	4	19	4 19
N2	4	4'-1"	8	22	8	22	8 22
T	4	8'-6"	6	34	6	34	6 34
T1	4	17'-4"	6	69	--	--	--
T2	4	16'-0"	--	--	12	128	--
T3	4	22'-3"	--	--	--	12	178
T4	4	2'-9"	4	7	7	13	10 18
V	4	8'-0"	4	11	4	11	4 11
V1	4	7'-0"	4	19	4	19	4 19
V2	4	5'-6"	6	22	6	22	6 22
V3	4	4'-6"	4	12	4	12	4 12
V4	4	3'-3"	6	13	6	13	6 13
V5	4	9'-0"	6	36	12	72	18 108
Z	6	5'-0"	6	45	6	45	6 45
Z1	5	4'-6"	4	19	4	19	4 19
Z2	4	3'-9"	8	20	8	20	8 20
REINF. STEEL (lbs.)				654	896	1119	
CLASS "A" CONC (cu. yds.)				10.1	13.9	17.6	

* NO DEDUCTIONS HAVE BEEN MADE FOR PIPES

CONTRACT STANDARDS & DEVELOPMENT UNIT
 STANDARDS AND SPECIAL DESIGN
 Office 919-707-6950 FAX 919-250-4119

REINFORCED CONCRETE ENDWALL
 FOR
 96IN. DIAMETER PIPE - 90° SKEW

ORIGINAL BY: _____ DATE: _____
 MODIFIED BY: rnbritt DATE: 12-07-06
 CHECKED BY: _____ DATE: _____
 FILE SPEC.: details/nbritr/english/hydro/96inEndwall190sk.dgn

I:\AUG-2011\08\45
 96inEndwall190sk.dgn
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