

09/05/19

See Sheet 1A For Index of Sheets  
See Sheet 1-b For Conventional Symbology

# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

## WILKES COUNTY

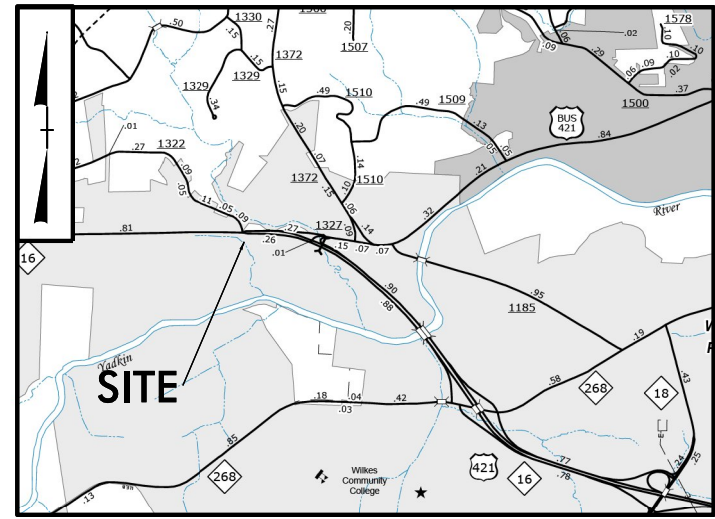
**LOCATION: INTERSECTION OF US 421 AND  
SR 1322 (WINKER MILL RD.)**

**TYPE OF WORK: GRADING AND DRAINAGE**

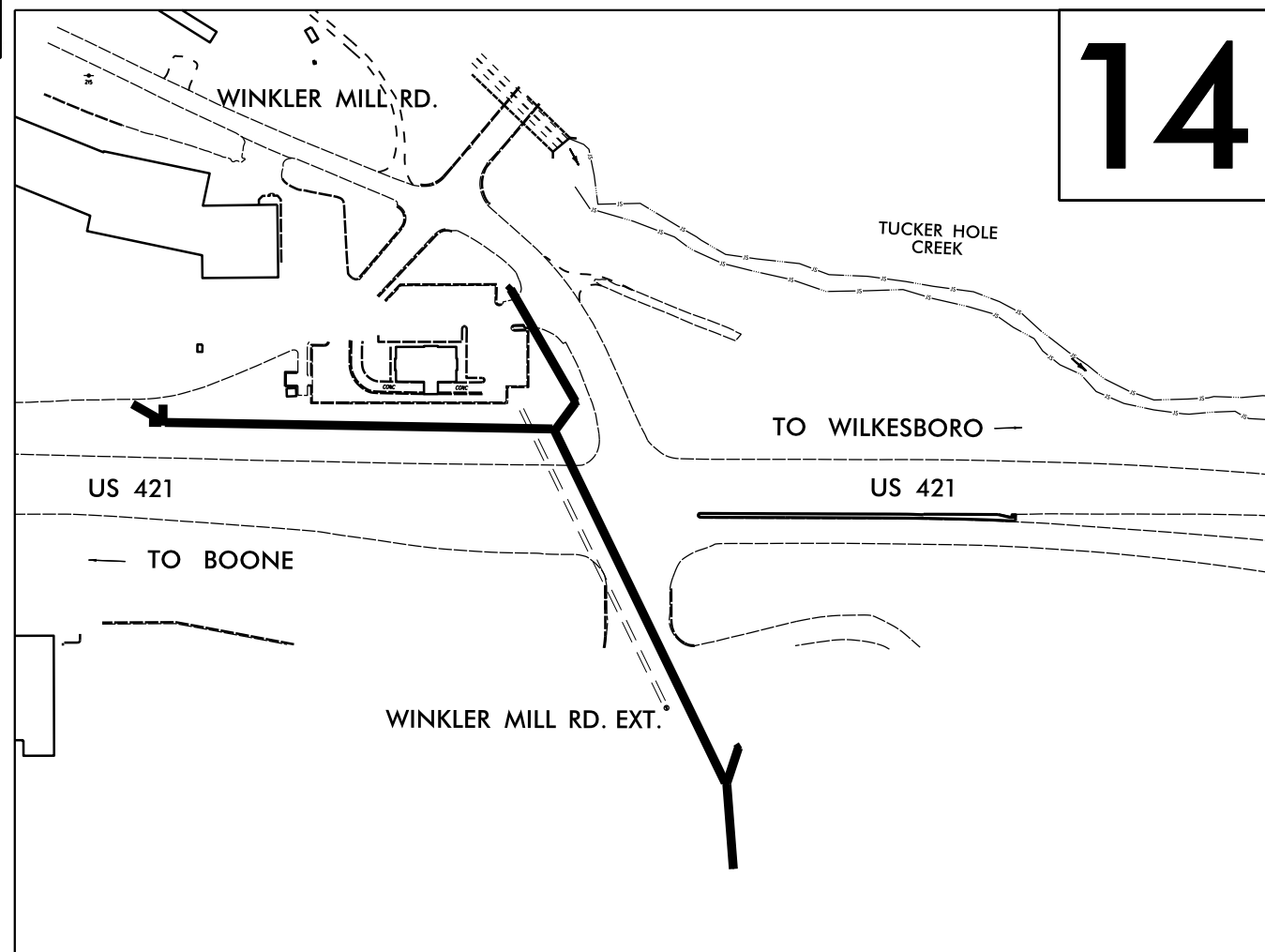
**NOTE: THE DRAINAGE INSTALLATION IS IN ADVANCE  
OF CONSTRUCTION OF TIP PROJECT U-5312**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5312	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
45446.3.2	NHS-0421(072)	CONST.	

**TIP PROJECT: U-5312**



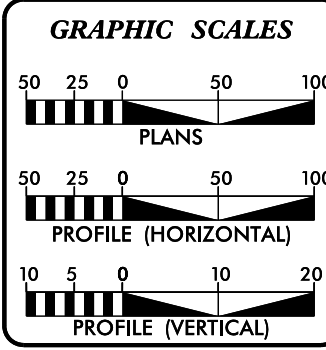
VICINITY MAP (NOT TO SCALE)



**CONTRACT: DK00275**

THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF WILKESBORO

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



**DESIGN DATA**

ADT 2020 =	37,000
ADT 2040 =	41,900
K =	8 %
D =	55 %
T =	5 % *
V =	55 MPH
* TTST = 2% DUAL 3%	
FUNC CLASS =	ARTERIAL
STATEWIDE TIER	

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT U-5312 =	2.616 MILES
TOTAL LENGTH TIP PROJECT U-5312 =	2.616 MILES

Prepared for the North Carolina Department of Transportation  
in the office of:

**vhb** VENTURE | **SUNGATE DESIGN GROUP, P.A.**

940 Main Campus Drive, Suite 500  
Raleigh, NC 27606  
NC License No. C-3705

2018 STANDARD SPECIFICATIONS

**LETTING DATE:**  
March 02, 2020

**NCDOT CONTACT:** Ramie A. Shaw, PE  
Division Project Team Lead

**Project Engineers:**  
Jimmy Goodnight, PE  
Mark Hussey, Project Design Engineer

**HYDRAULICS ENGINEER**

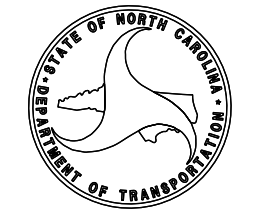
DocuSigned by:  
Joshua G. Dalton 2/21/2020

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**ROADWAY DESIGN ENGINEER**

DocuSigned by:  
James Stafford Goodnight 2/21/2020

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\$\$\$\$\$USERNAME\$\$\$\$\$

8/17/99

PROJECT REFERENCE NO. U-5312 SHEET NO. 1A

DocuSigned by James Stafford Gooding 64CB24C43AFE40... ROADWAY DESIGN ENGINEER SEAL 193 STAFFORD GOODING 2/21/2020

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1 THRU 2A-2	DRAINAGE DETAILS
3A-1 THRU 3A-2	DRAINAGE SUMMARIES
14	PLAN SHEET
EC-1 THRU EC-5	EROSION CONTROL PLANS

GENERAL NOTES: 2018 SPECIFICATIONS EFFECTIVE: 01-16-2018 REVISED:

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

SIDE ROADS: THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

SUBSURFACE PLANS: NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

UTILITIES: UTILITY OWNERS ON THIS PROJECT ARE Duke Power, Town of Wilkesboro Frontier Natural Gas

2018 ROADWAY ENGLISH STANDARD DRAWINGS EFF. 01-16-2018 REV.

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2018 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
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 8 - INCIDENTALS	
838.33	Reinforced Concrete Endwall - for Single 66" Pipe 90 Skew
838.45	Notes for Reinforced Concrete Endwall - Std. Dwg 838.21 thru 838.40
838.80	Precast Endwalls - 12" thru 72" Pipe 90 Skew
840.00	Concrete Base Pad for Drainage Structures
840.17	Concrete Grated Drop Inlet Type 'A' - 12" thru 72" Pipe
840.24	Frames and Narrow Slot Sag Grates
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.26	Brick Grated Drop Inlet Type 'A' - 12" thru 72" Pipe
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.45	Precast Drainage Structure
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
840.72	Pipe Collar
876.04	Drainage Ditches with Class 'B' Rip Rap

20-FEB-2020 10:37 AM C:\Users\jrd\OneDrive\Documents\Roadway\proj\U5312\_r.dwg - tsh.dgn

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

12/2/2016

### BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○
Computed Property Corner	-----
Property Monument	□
Parcel/Sequence Number	①②③
Existing Fence Line	-x-x-x-
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	☠-s-☠
Potential Contamination Area: Soil	☠-s-☠
Known Contamination Area: Water	☠-w-☠
Potential Contamination Area: Water	☠-w-☠
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	-----

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

### RIGHT OF WAY & PROJECT CONTROL:

Secondary Horiz and Vert Control Point	◆
Primary Horiz Control Point	○
Primary Horiz and Vert Control Point	◆
Exist Permanent Easement Pin and Cap	◇
New Permanent Easement Pin and Cap	◆
Vertical Benchmark	⊕
Existing Right of Way Marker	△
Existing Right of Way Line	-----
New Right of Way Line	-----
New Right of Way Line with Pin and Cap	-----
New Right of Way Line with Concrete or Granite RW Marker	-----
New Control of Access Line with Concrete CA Marker	-----
Existing Control of Access	-----
New Control of Access	-----
Existing Easement Line	-----
New Temporary Construction Easement	-----
New Temporary Drainage Easement	-----
New Permanent Drainage Easement	-----
New Permanent Drainage / Utility Easement	-----
New Permanent Utility Easement	-----
New Temporary Utility Easement	-----
New Aerial Utility Easement	-----

### ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-----
Proposed Slope Stakes Fill	-----
Proposed Curb Ramp	-----
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	-----

### 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:

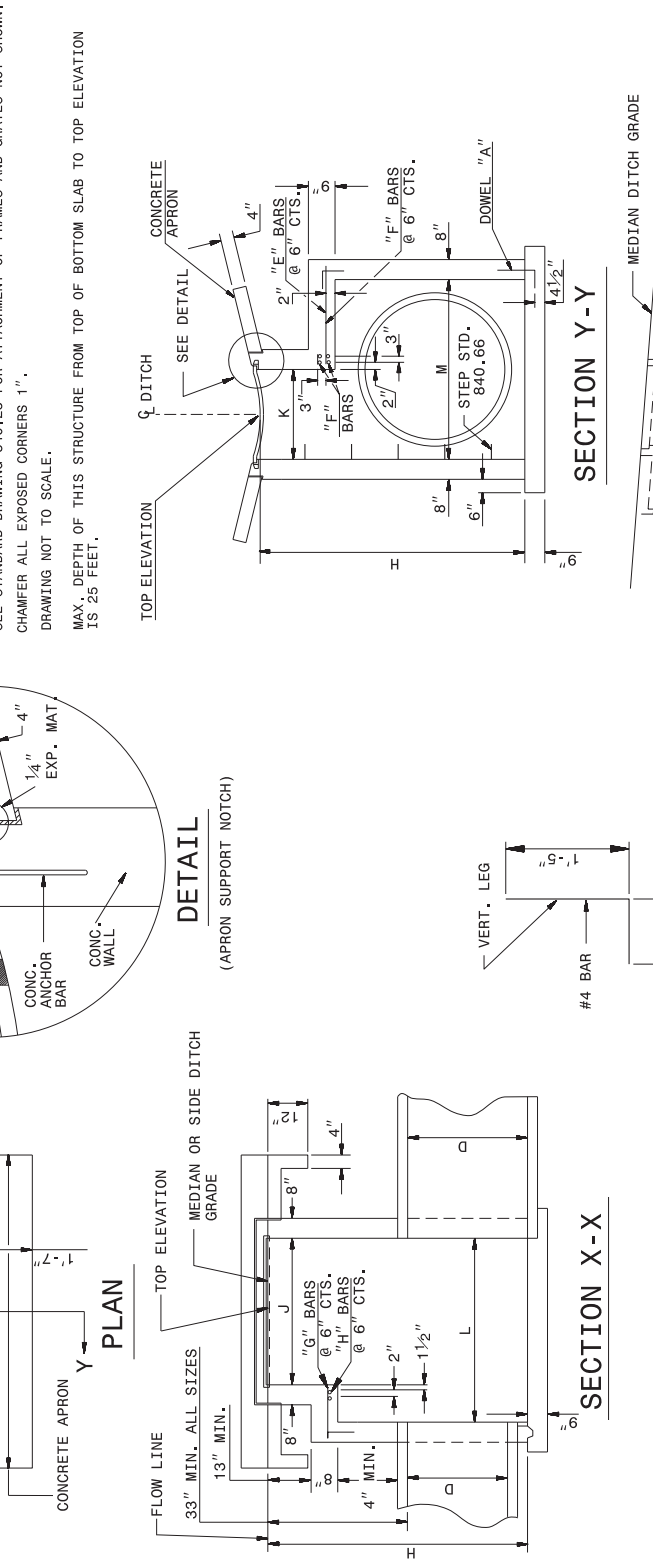
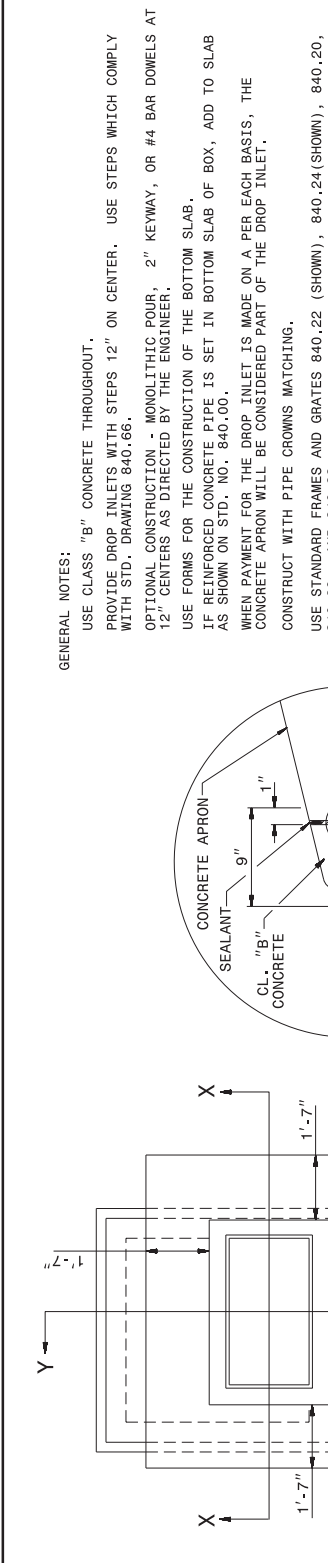
Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line LOS B (S.U.E.*)	-----
U/G Tank; Water, Gas, Oil	-----
Underground Storage Tank, Approx. Loc.	⊕
A/G Tank; Water, Gas, Oil	-----
Geoenvironmental Boring	⊕
U/G Test Hole LOS A (S.U.E.*)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

01-MAR-2018 07:39 S:\Contracts\Contractors\Special Details\word\stand\840d17 Extra Depth 2GI.dgn J:\power\ton AT\_CSD-292595

STATE OF  
NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR  
**CONCRETE MEDIAN DROP INLET TYPE 'A'**  
**EXTRA DEPTH OVER 12' TO 25'**  
12" THRU 72" PIPE

SHEET 1 OF 2  
**840D17**



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ENGLISH DETAIL DRAWING FOR  
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**EXTRA DEPTH OVER 12' TO 25'**  
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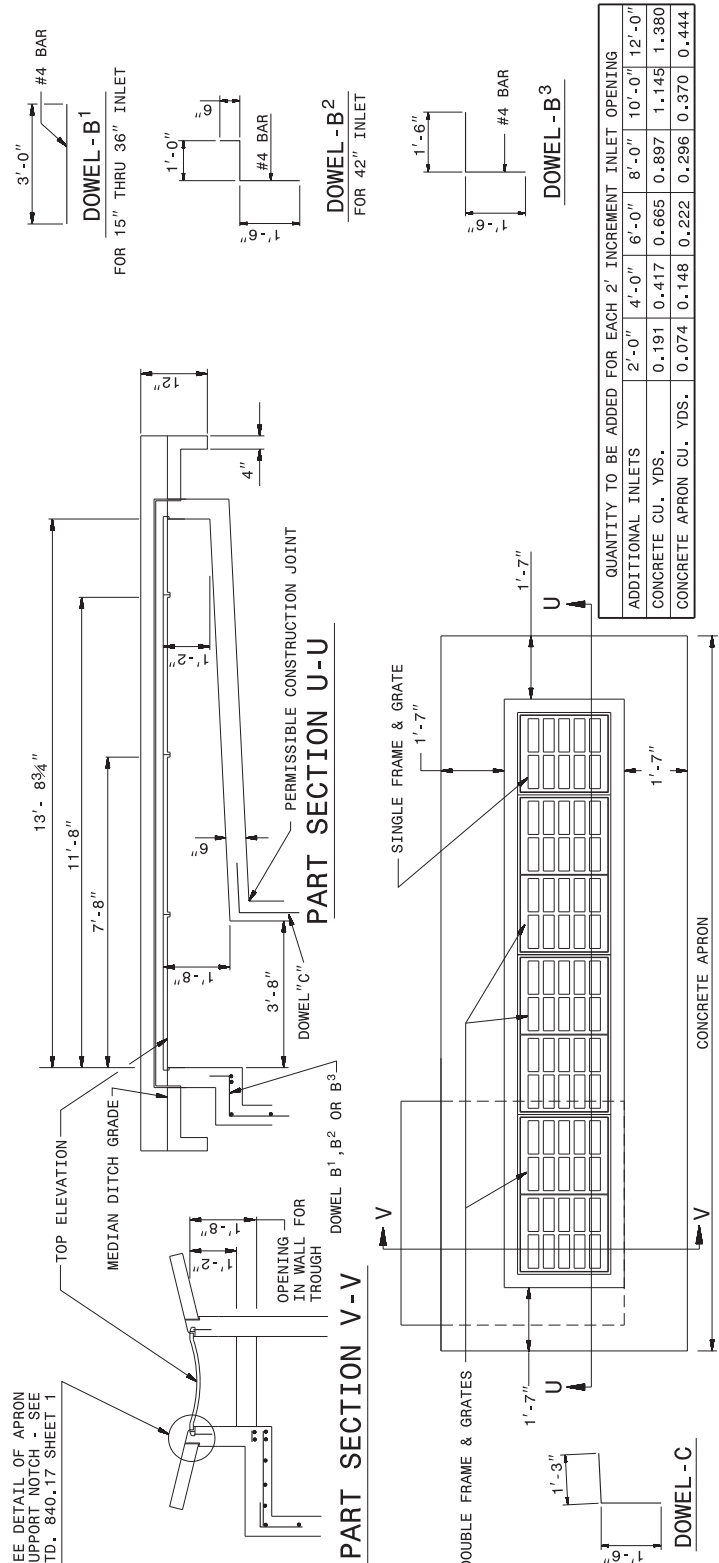
SHEET 1 OF 2  
**840D17**

**GENERAL NOTES:**  
USE CLASS "B" CONCRETE THROUGHOUT.  
PROVIDE DROP INLETS WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.  
OPTIONAL CONSTRUCTION - MONOLITHIC FOUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.  
USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.  
IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.  
WHEN PAYMENT FOR THE DROP INLET IS MADE ON A PER EACH BASIS, THE CONCRETE APRON WILL BE CONSIDERED PART OF THE DROP INLET.  
CONSTRUCT WITH PIPE CROWNS MATCHING.  
USE STANDARD FRAMES AND GRATES 840.22 (SHOWN), 840.24 (SHOWN), 840.20, 840.29, AND 840.33.  
SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES NOT SHOWN.  
CHAMFER ALL EXPOSED CORNERS 1".  
DRAWING NOT TO SCALE.  
MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 25 FEET.

STATE OF  
NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR  
**CONCRETE MEDIAN DROP INLET TYPE 'A'**  
**EXTRA DEPTH OVER 12' TO 25'**  
12" THRU 72" PIPE

SHEET 2 OF 2  
**840D17**



MIN. DIMENSIONS AND QUANTITIES FOR CONCRETE GRATED DROP INLET (BASED ON MIN. HEIGHT, H)									
DIMENSIONS OF BOX AND PIPE		REINFORCING STEEL - NO. 4 BARS							
PIPE DIAMETER	SPAN	WIDTH	SPAN	WIDTH	HEIGHT	BARS E NO.	BARS F NO.	BARS G NO.	BARS H NO.
12"	3'-8"	2'-0"	3'-8"	2'-0"	3'-9"	8	8	8	8
15"	3'-8"	2'-0"	3'-8"	2'-0"	4'-0"	8	8	8	8
18"	3'-8"	2'-0"	3'-8"	2'-0"	4'-3"	8	8	8	8
24"	3'-8"	2'-0"	3'-8"	2'-0"	4'-9"	8	8	8	8
30"	3'-8"	2'-0"	3'-8"	2'-0"	5'-3"	8	8	8	8
36"	3'-8"	2'-0"	3'-8"	2'-0"	5'-9"	8	8	8	8
42"	3'-8"	2'-0"	3'-8"	2'-0"	6'-3"	10	10	10	10
48"	3'-8"	2'-0"	3'-8"	2'-0"	6'-9"	11	11	11	11
54"	3'-8"	2'-0"	3'-8"	2'-0"	7'-3"	12	12	12	12
60"	3'-8"	2'-0"	3'-8"	2'-0"	7'-9"	13	13	13	13
66"	3'-8"	2'-0"	3'-8"	2'-0"	8'-3"	14	14	14	14
72"	3'-8"	2'-0"	3'-8"	2'-0"	8'-9"	15	15	15	15

CU YDS CONC. IN BOX				DEDUCTIONS FOR ONE PIPE	
H PER FT	TOTAL	APRON	TOTAL	C.S.	R.C.
0.362	0.926	0.247	0.395	1.683	0.015
0.362	0.988	0.247	0.395	1.745	0.023
0.362	1.050	0.247	0.395	1.807	0.033
0.444	1.362	0.278	0.478	2.201	0.059
0.502	1.644	0.288	0.590	2.541	0.092
0.560	1.931	0.321	0.704	2.920	0.132
0.704	2.500	0.370	0.823	3.677	0.180
0.823	3.013	0.407	0.951	4.315	0.235
0.951	3.589	0.444	1.077	5.072	0.297
1.311	4.539	0.494	1.311	6.170	0.367
1.136	5.061	0.537	1.500	6.901	0.444
1.500	5.860	0.580	1.99	7.868	0.528
0.395	0.995	0.247	0.395	1.683	0.015
0.395	1.048	0.247	0.395	1.745	0.023
0.395	1.101	0.247	0.395	1.807	0.033
0.478	1.201	0.278	0.478	2.201	0.059
0.590	1.644	0.288	0.590	2.541	0.092
0.704	1.931	0.321	0.704	2.920	0.132
0.823	2.500	0.370	0.823	3.677	0.180
0.951	3.013	0.407	0.951	4.315	0.235
1.077	3.589	0.444	1.077	5.072	0.297
1.311	4.539	0.494	1.311	6.170	0.367
1.500	5.061	0.537	1.500	6.901	0.444
1.99	5.860	0.580	1.99	7.868	0.528

QUANTITY TO BE ADDED FOR EACH 2' INCREMENT INLET OPENING

ADDITIONAL INLETS	2'-0"	4'-0"	6'-0"	8'-0"	10'-0"	12'-0"
CONCRETE CU. YDS.	0.191	0.417	0.665	0.897	1.145	1.380
CONCRETE APRON CU. YDS.	0.074	0.148	0.222	0.296	0.370	0.444

STATE OF  
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ENGLISH DETAIL DRAWING FOR  
**CONCRETE MEDIAN DROP INLET TYPE 'A'**  
**EXTRA DEPTH OVER 12' TO 25'**  
12" THRU 72" PIPE

SHEET 2 OF 2  
**840D17**

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

**CONTRACT STANDARDS  
AND DEVELOPMENT UNIT**  
Office 919-707-6950 FAX 919-250-4119

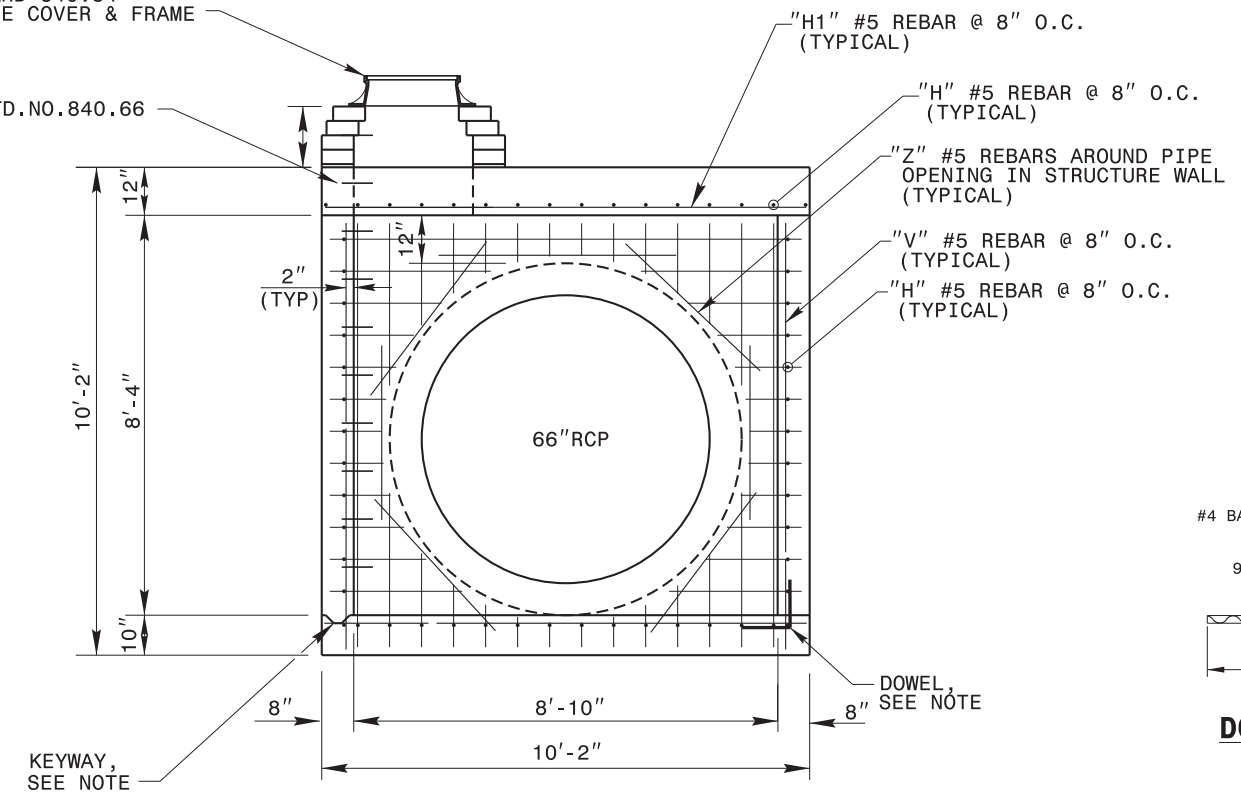
**SEE PLATE FOR TITLE**

ORIGINAL BY: 2002 STD.840.1 DATE: \_\_\_\_\_  
MODIFIED BY: K.A. KEMPF DATE: 07-06-09  
CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
FILE SPEC.: /stand/840d17 Extra Depth 2GI.dgn



SEE STANDARD 840.54  
FOR MANHOLE COVER & FRAME

SEE STEP STD.NO.840.66



**SECTION A-A**

**GENERAL NOTES:**

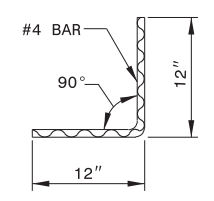
USE CLASS "B" CONCRETE THROUGHOUT.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS OR BRICK/BLOCK WALLS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

BOX DIMENSIONS MAY BE FIELD ADJUSTED AS DIRECTED BY THE ENGINEER.

2" MINIMUM CONCRETE COVERAGE ON ALL REBAR.



**DOWEL**

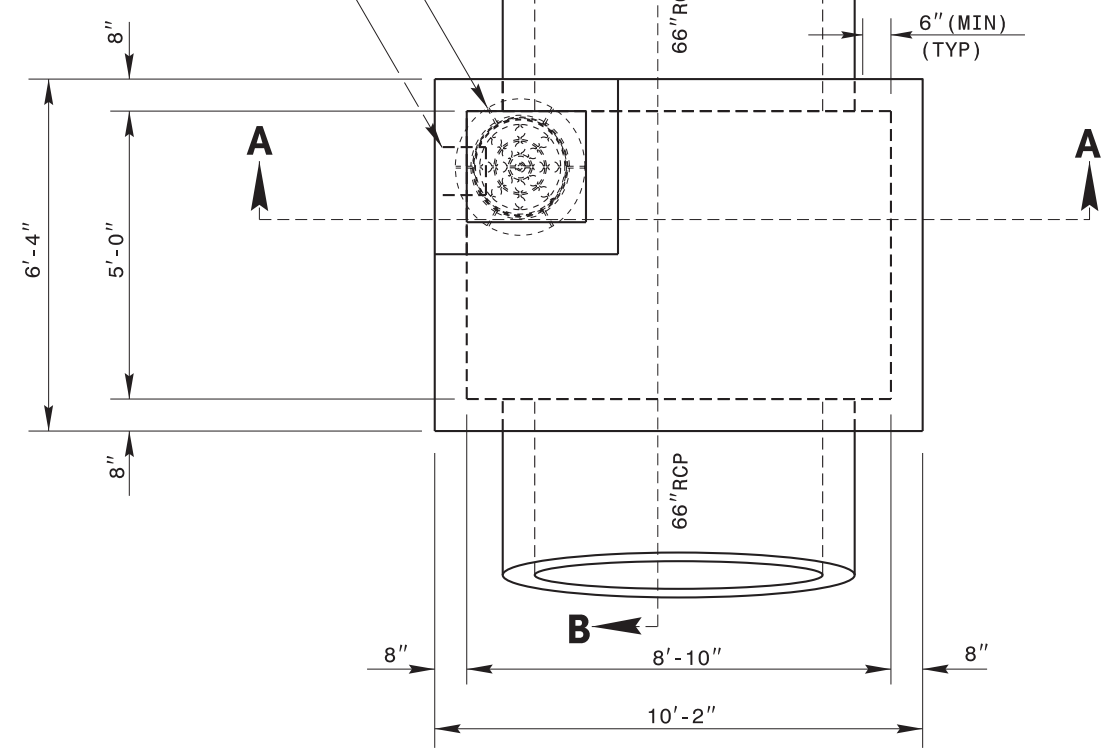
BILL OF MATERIALS				
BAR	NO.	SIZE	LENGTH	WEIGHT
H	42	#5	8'-10"	387
H1	48	#5	8'-6"	426
V	54	#5	7'-6"	423
Z	14	#5	5'-0"	74
TOTAL REINF. STEEL (LBS.)				1310
TOTAL CONC. (CU. YDS.)				* 11.8

\* NO DEDUCTION HAS BEEN MADE FOR PIPES

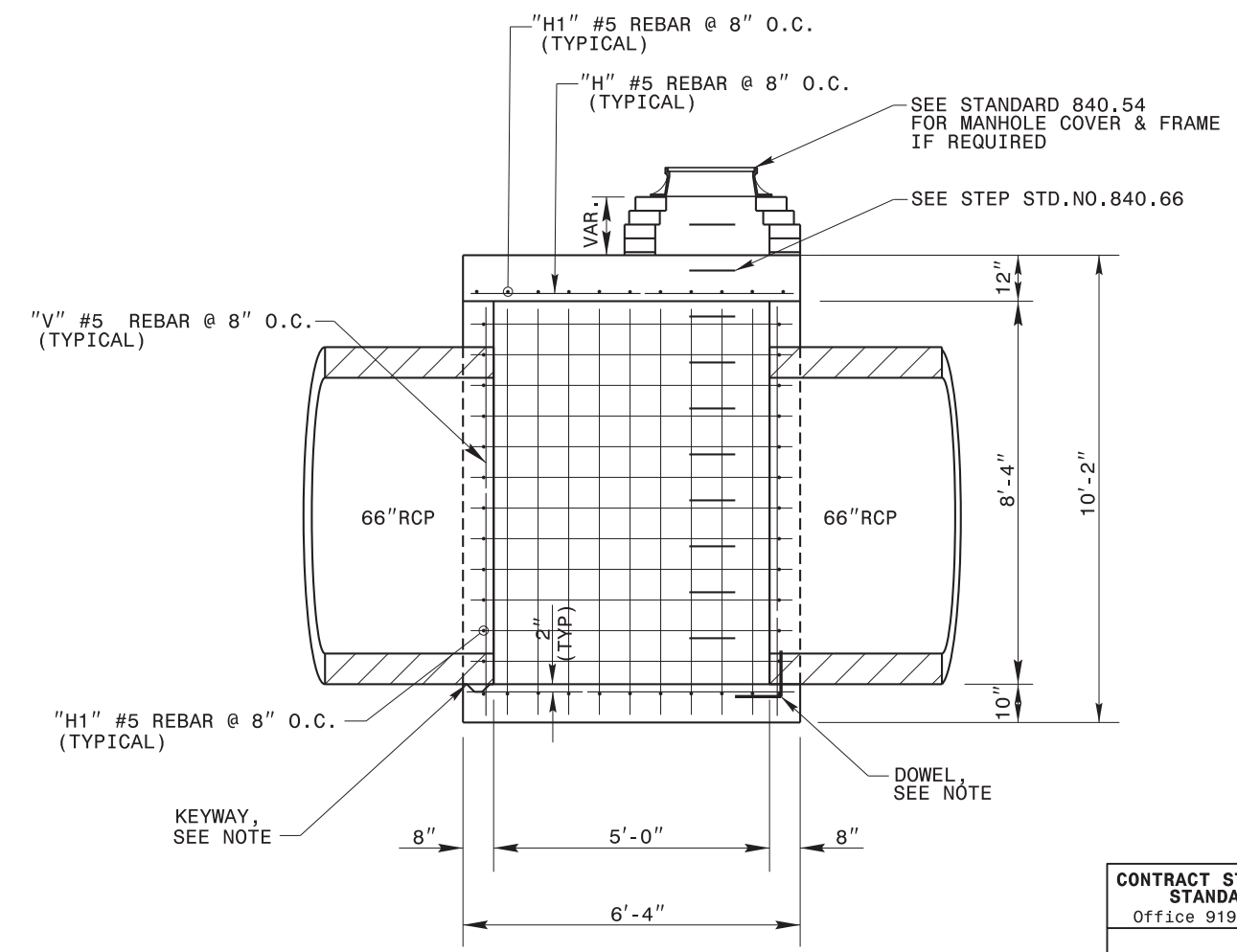
\* 1.7 CU. YD. DEDUCTION FOR 2-66" RC PIPE

SEE STANDARD 840.54  
FOR MANHOLE FRAME COVER & FRAME

SEE STEP STD.NO.840.66



**PLAN VIEW**



**SECTION B-B**

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

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

**SPECIAL JUNCTION BOX  
WITH SLAB LID**

ORIGINAL BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 MODIFIED BY: nbritt DATE: 04/17/09  
 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 FILE SPEC.: detail/nbritt/english/rural/r2417c72jb.dgn



13-NOV-2019 09:30  
 S:\Contracts\Special Details\english\rural\r2417c 72 jb.dgn  
 J:\overton AT CSD-292595



DN1131963

COMPUTED BY: DLH DATE: 9/18/2019  
CHECKED BY: DATE:

PROJECT NO. SHEET NO.  
U-5312 3A-2

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout.  
See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 54" & OVER)

Table with columns for Station, Size, Thickness, Location, Structure No., Top Elevation, Invert Elevation, Slope, Pipe Type (Class IV R.C. Pipe, C.S. Pipe, Structural Plate Pipe), Reinforced Endwalls, Frames/Grates, Concrete Transitional Section, Special Detail, G.D.I. Type, I.M.H. Frame, Welded Steel Pipe, Reine. Conc. Flared End Sections, Corr. Steel Flared End Sections, Conc. & Brick Pipe Plug, Conc. Collars, Flowable Fill, Pipe Removal, and Remarks.

ABBREVIATIONS  
C.B. CATCH BASIN  
N.D.I. NARROW DROP INLET  
D.I. DROPPED INLET  
G.D.I.(N.S.) GRATED DROP INLET (NARROW SLOT)  
J.B. JUNCTION BOX  
M.H. MANHOLE  
T.B.D.I. TRAFFIC BEARING  
T.B.J.B. TRAFFIC BEARING JUNCTION BOX

REMARKS

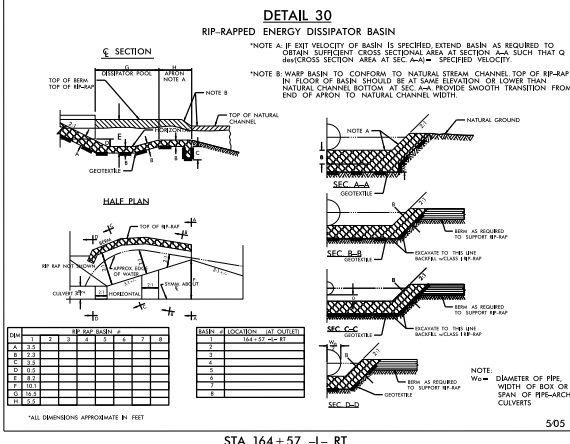
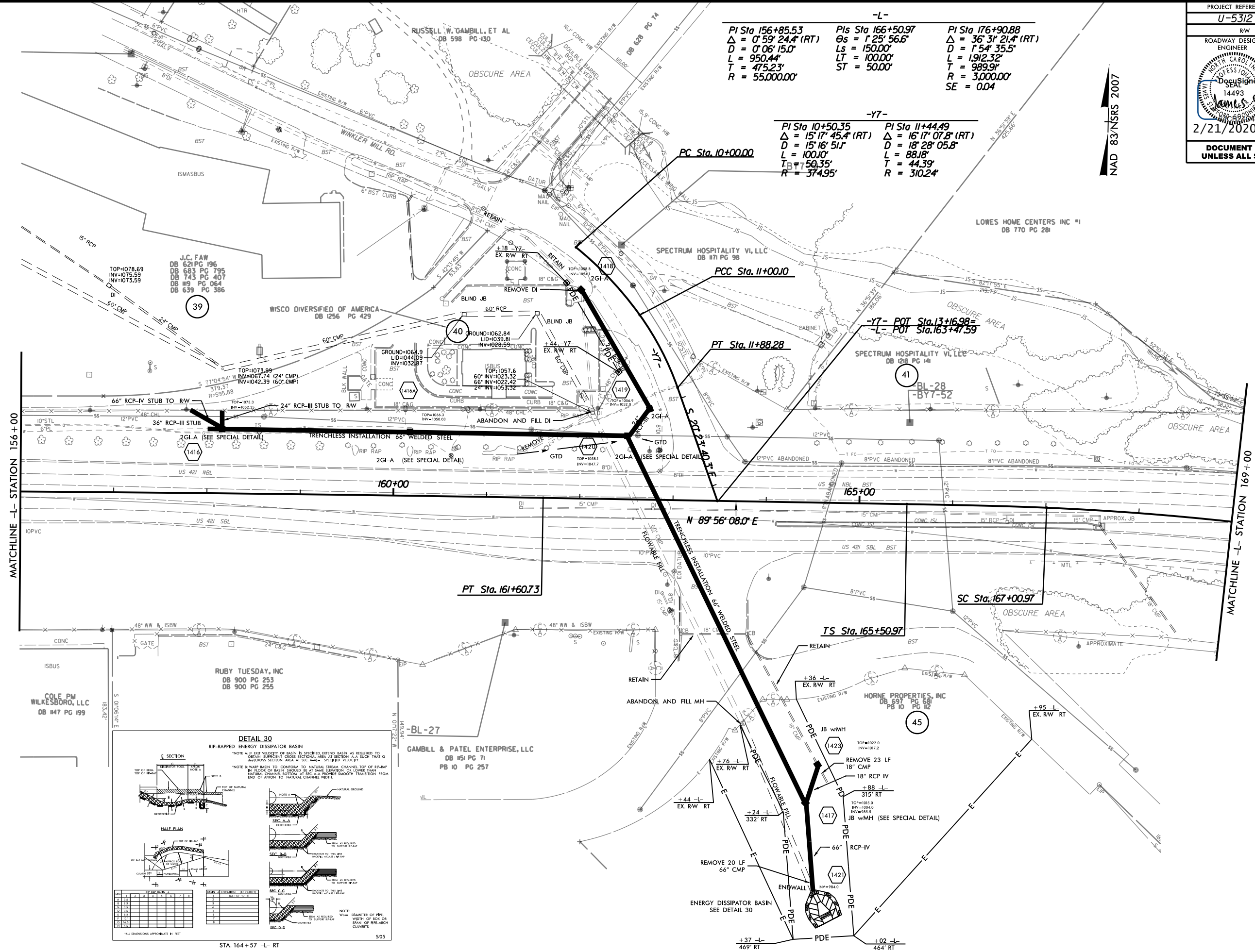
PROJECT TOTALS 132 6.6 54.5 3 1 3 1 580 300 500 112

-L-

PI Sta 156+85.53 Δ = 0° 59' 24.4" (RT) D = 0° 06' 15.0" L = 950.44' T = 475.23' R = 55,000.00'	PIs Sta 166+50.97 Os = 1° 25' 56.6" Ls = 150.00' LT = 100.00' ST = 50.00'	PI Sta 176+90.88 Δ = 36° 31' 21.4" (RT) D = 1° 54' 35.5" L = 1,912.32' T = 989.91' R = 3,000.00' SE = 0.04
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-Y7-

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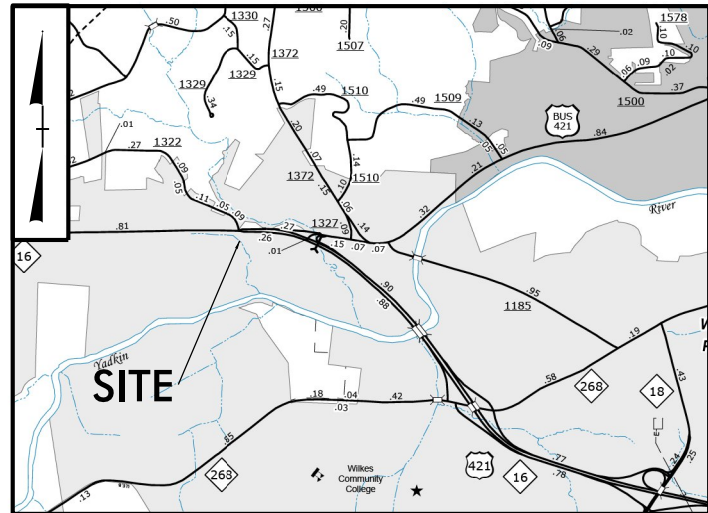
NOTE: CONTRACT DK00275 IS FOR DRAINAGE INSTALLATION IN ADVANCE OF CONSTRUCTION OF TIP PROJECT U-5312

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STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5312	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
45446.3.2	NHS-0421(072)	CONST.	

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

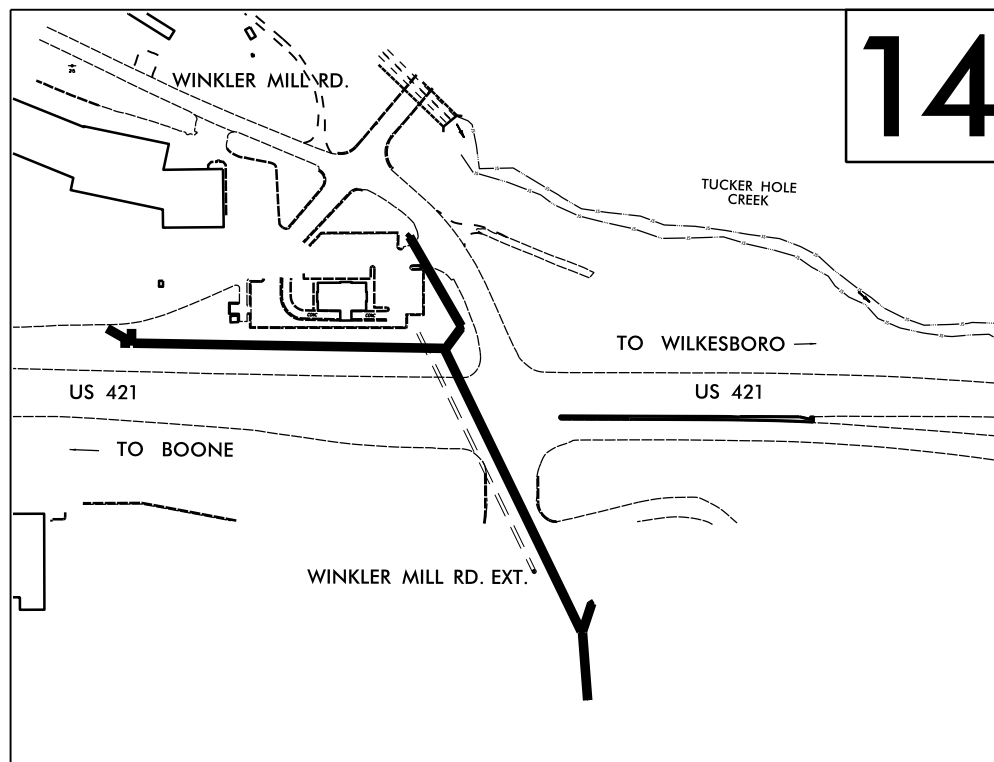


VICINITY MAP (NOT TO SCALE)

**LOCATION: INTERSECTION OF US 421 AND  
 SR 1322 (WINKER MILL RD.)**

**TYPE OF WORK: GRADING AND DRAINAGE**

**NOTE: THE DRAINAGE INSTALLATION IS IN ADVANCE  
 OF CONSTRUCTION OF TIP PROJECT U-5312**

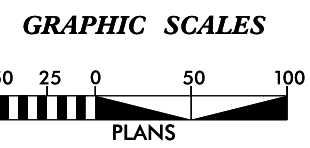


**EROSION AND SEDIMENT CONTROL MEASURES**

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

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

THIS PROJECT HAS  
 BEEN DESIGNED TO  
 SENSITIVE WATERSHED  
 STANDARDS.



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH  
 THE APPLICABLE REGULATIONS SET FORTH BY THE NCG-010000  
 GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019  
 AND ISSUED BY THE NORTH CAROLINA DEPARTMENT OF  
 ENVIRONMENT QUALITY DIVISION OF WATER RESOURCES.

Prepared In the Office of:  
**SUNGATE DESIGN GROUP, P.A.**  
  
 905 JONES FRANKLIN ROAD  
 RALEIGH, NORTH CAROLINA 27606  
 TEL (919) 859-2243 FAX (919) 859-6258  
 ENG FIRM LICENSE NO. C-699

Designed by:  
**MATT EDWARDS, EI** #3992  
 NAME LEVEL III CERTIFICATION NO.

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 2018 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 Riser Basin	1634.01 Temporary Rock Sediment Dam Type A
1630.02 Silt Basin Type J	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 Jaffle
1630.06 Special Stilling Basin	1645.01 Temporary Stream Crossing
1631.01 Matting Installation	

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**CONTRACT: DK00275 TIP PROJECT: U-5312**

PROJECT REFERENCE NO. U-5312	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) 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.

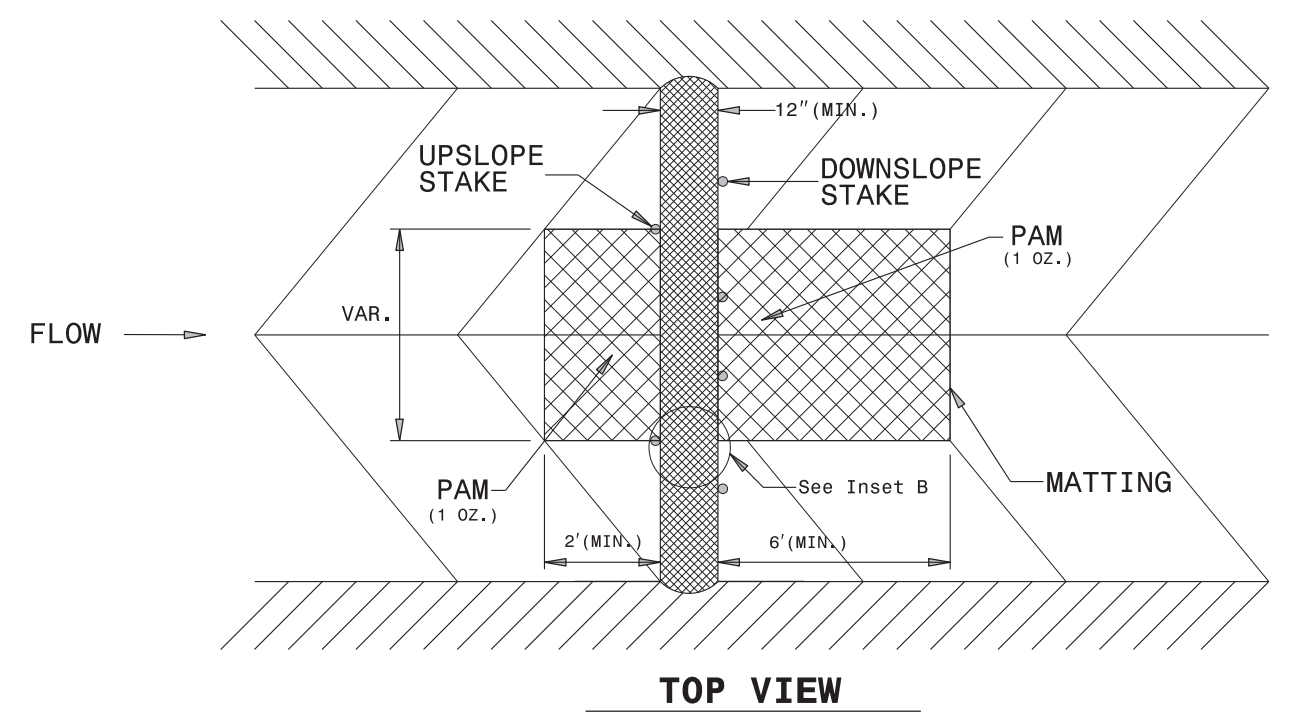
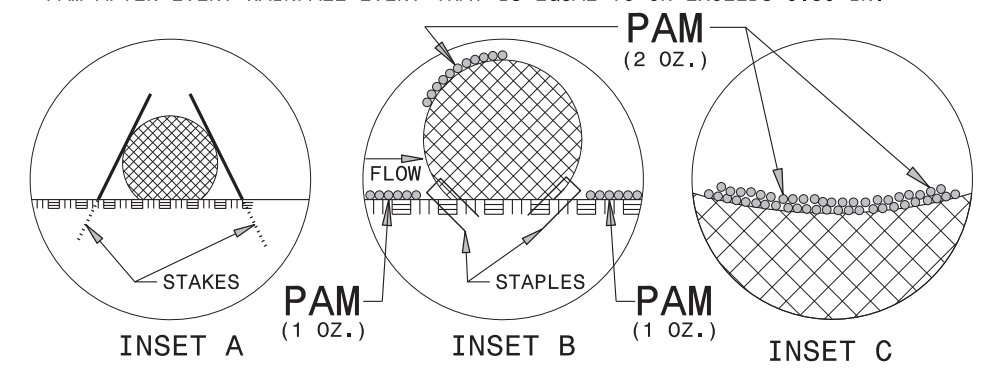
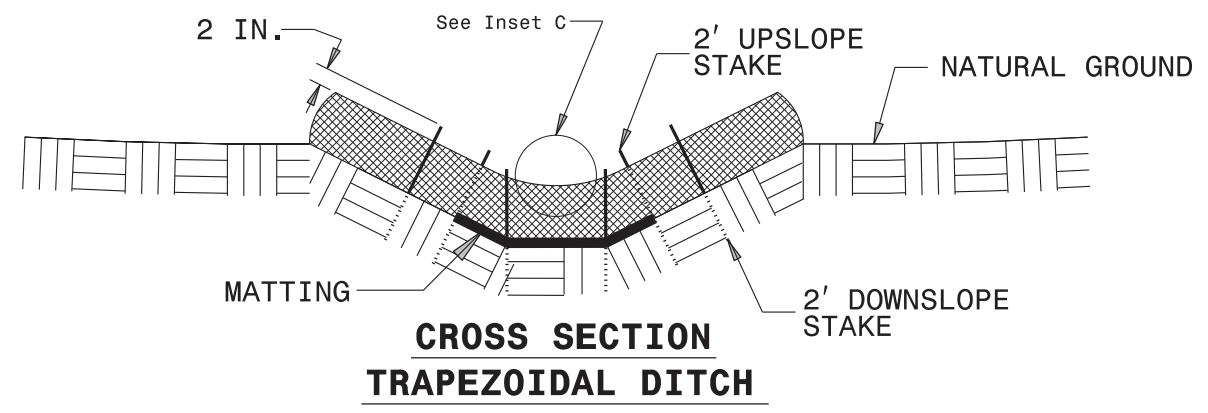
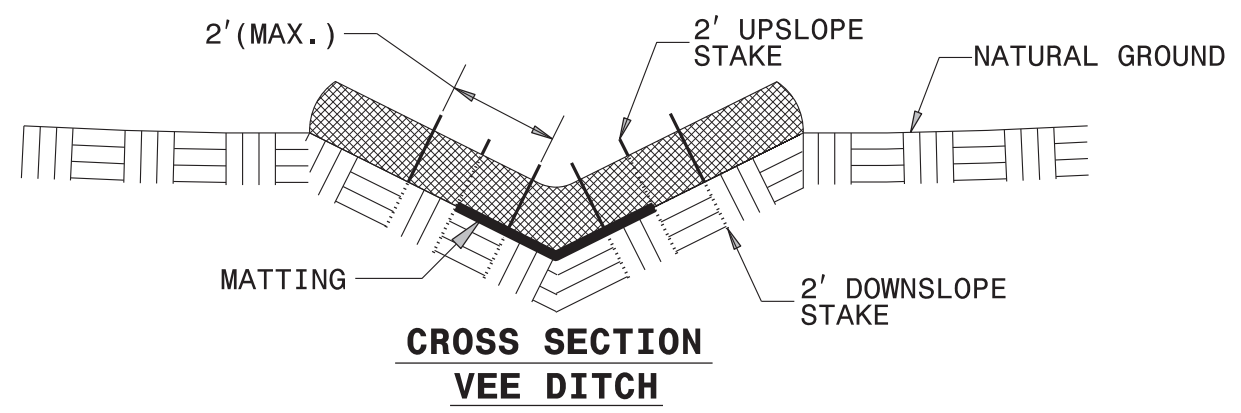
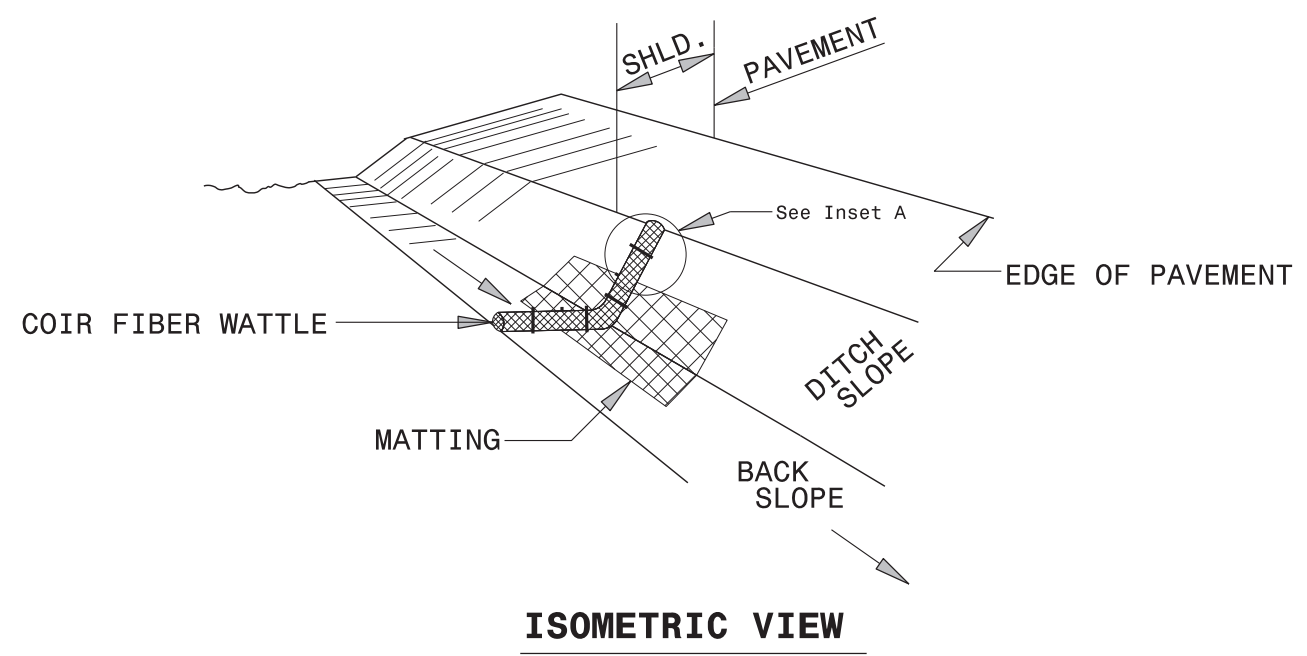
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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.

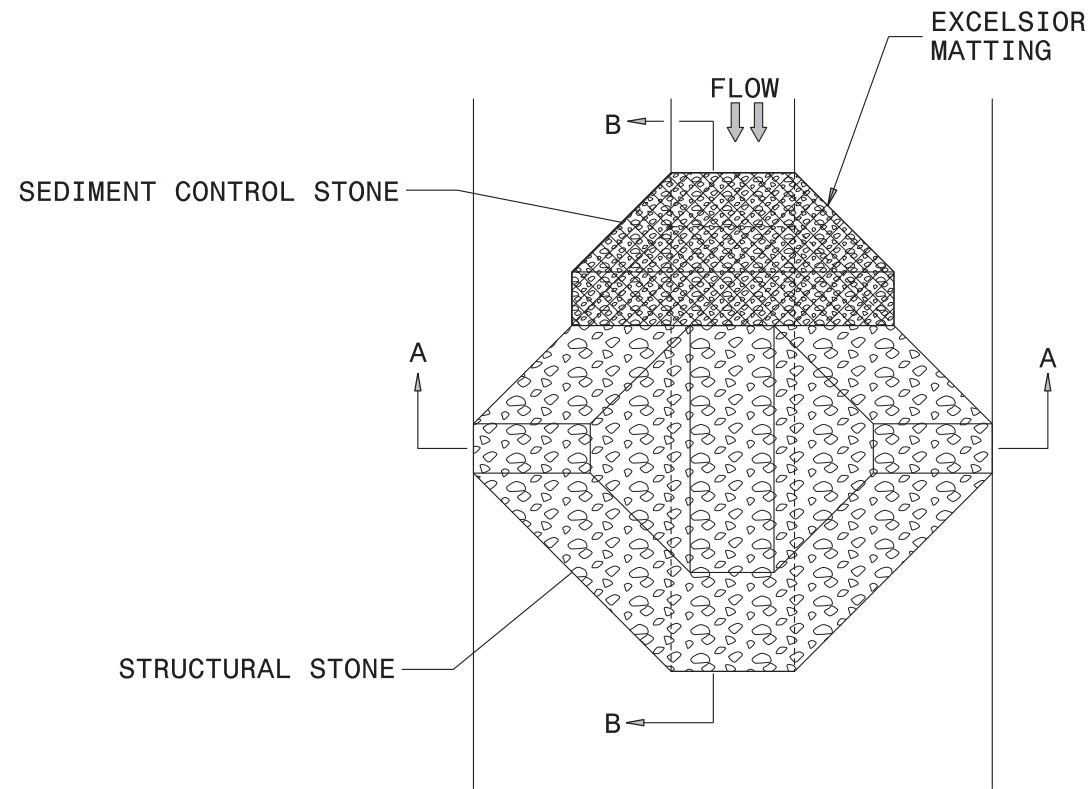
PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

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

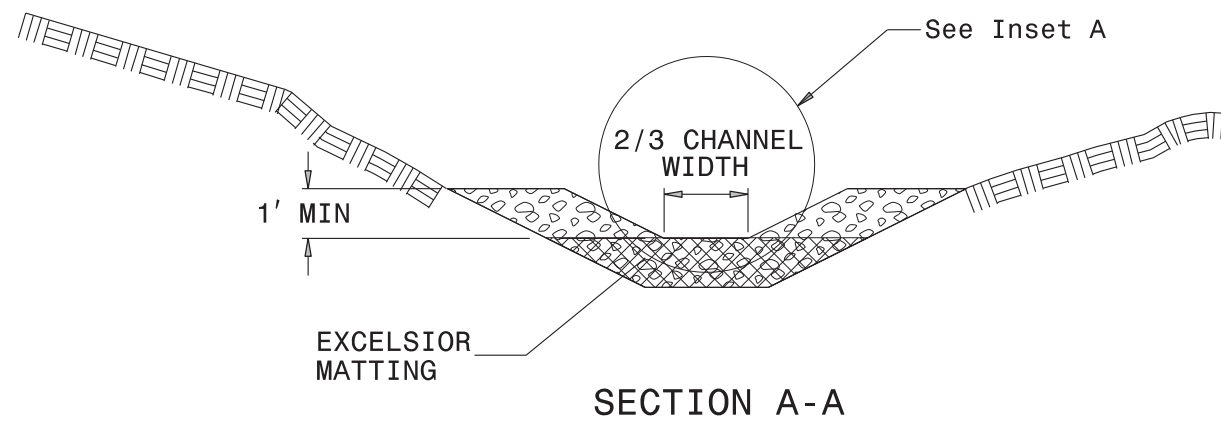


PROJECT REFERENCE NO. U-5312	SHEET NO. EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)



PLAN



SECTION A-A

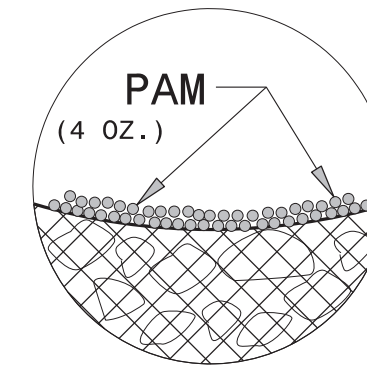
NOTES:

INSTALL TEMPORARY ROCK SILT CHECK TYPE A IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1633.01.

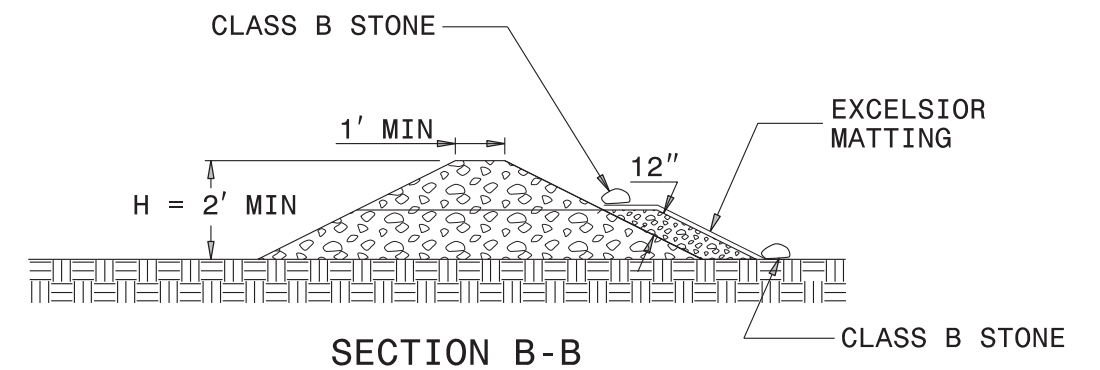
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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 ROCK SILT CHECK.

INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION B-B

NOT TO SCALE

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

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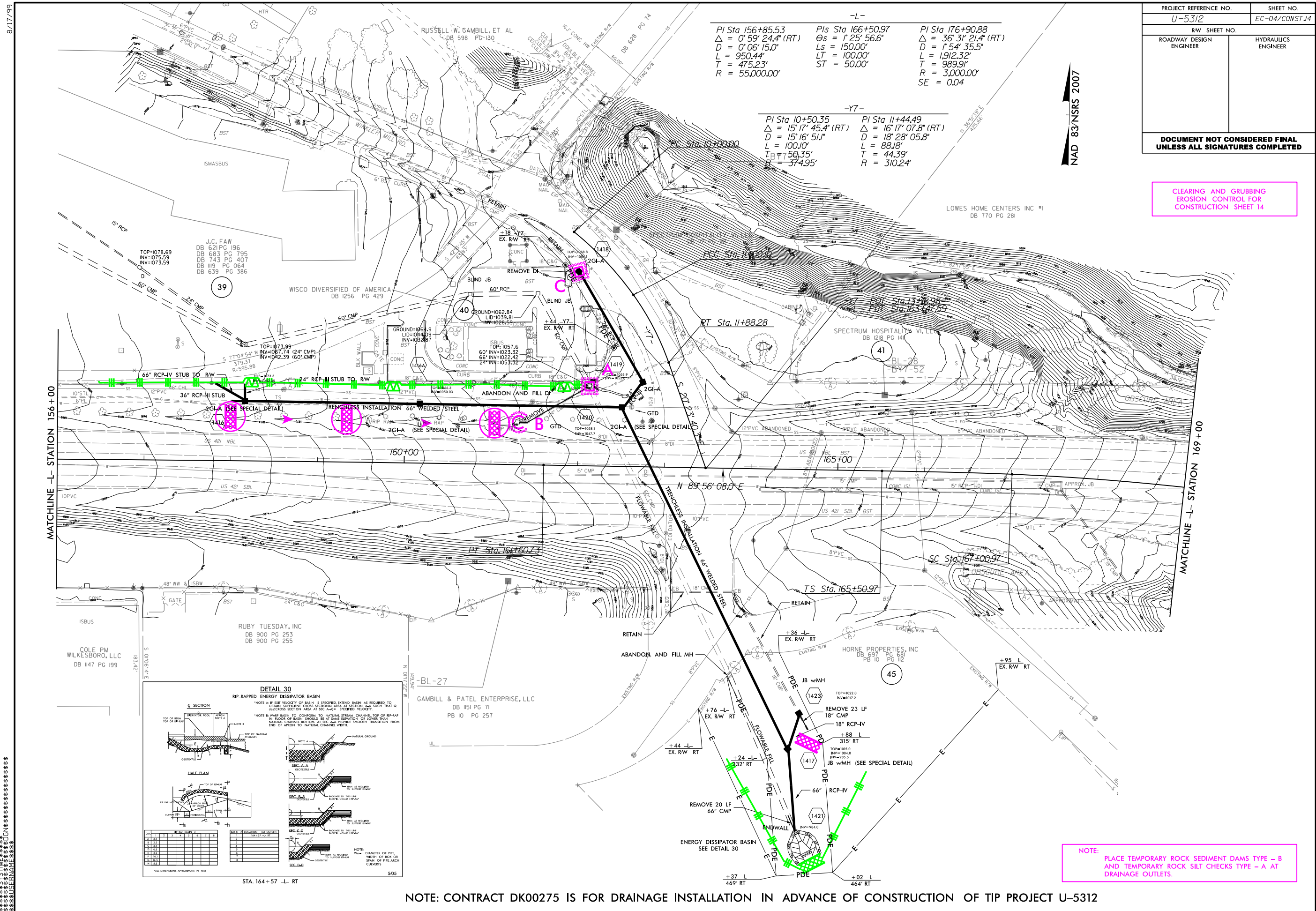
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PROJECT REFERENCE NO. <i>U-5312</i>	SHEET NO. <i>EC-3</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# ***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.

PROJECT REFERENCE NO. U-5312	SHEET NO. EC-04/CONST.14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 14

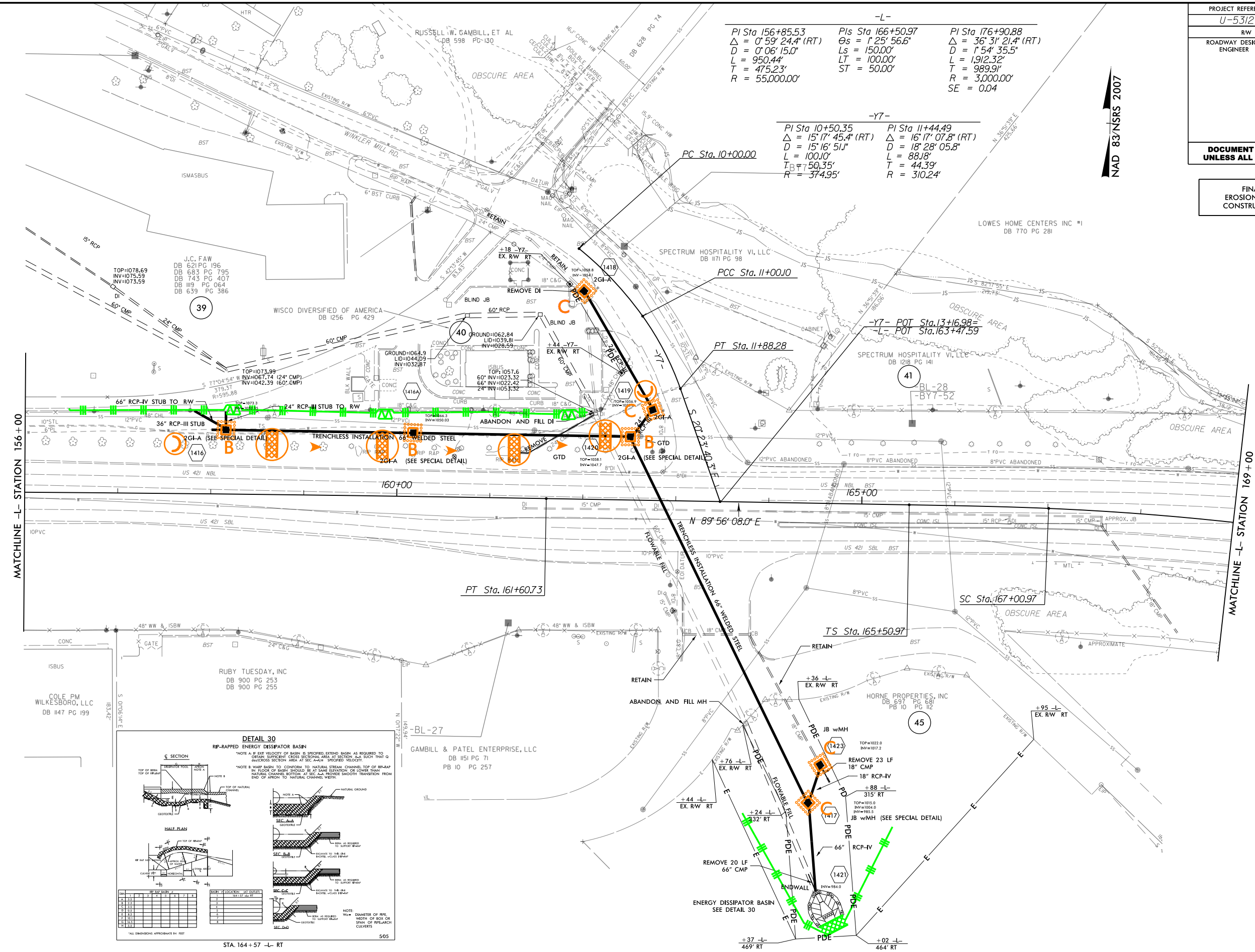
NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

NOTE: CONTRACT DK00275 IS FOR DRAINAGE INSTALLATION IN ADVANCE OF CONSTRUCTION OF TIP PROJECT U-5312

8/17/99

PROJECT REFERENCE NO. U-5312	SHEET NO. EC-05/CONST.14
R/W SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

FINAL GRADING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 14



-L-

PI Sta 156+85.53 Δ = 0° 59' 24.4" (RT) D = 0' 06' 15.0" L = 950.44' T = 475.23' R = 55,000.00'	PIs Sta 166+50.97 Δs = 1° 25' 56.6" Ls = 150.00' LT = 100.00' ST = 50.00'	PI Sta 176+90.88 Δ = 36° 31' 21.4" (RT) D = 1° 54' 35.5" L = 1912.32' T = 989.91' R = 3,000.00' SE = 0.04
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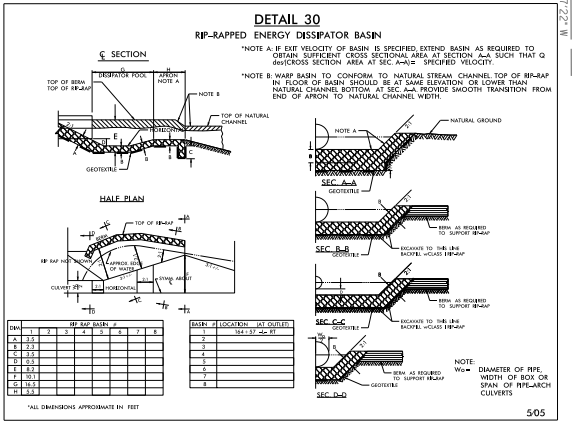
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NAD 83/NSRS 2007

MATCHLINE -L- STATION 156+00

MATCHLINE -L- STATION 169+00



NOTE: CONTRACT DK00275 IS FOR DRAINAGE REPAIR IN ADVANCE OF CONSTRUCTION OF TIP PROJECT U-5312