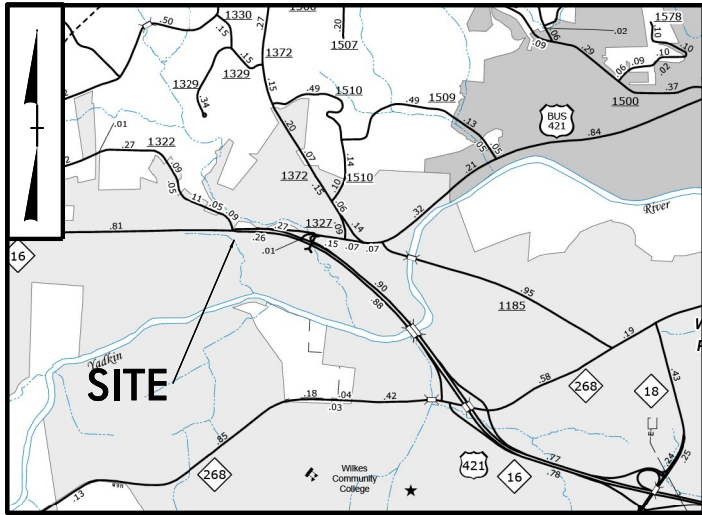


09/08/19

TIP PROJECT: U-5312

CONTRACT: DK00286

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



VICINITY MAP (NOT TO SCALE)

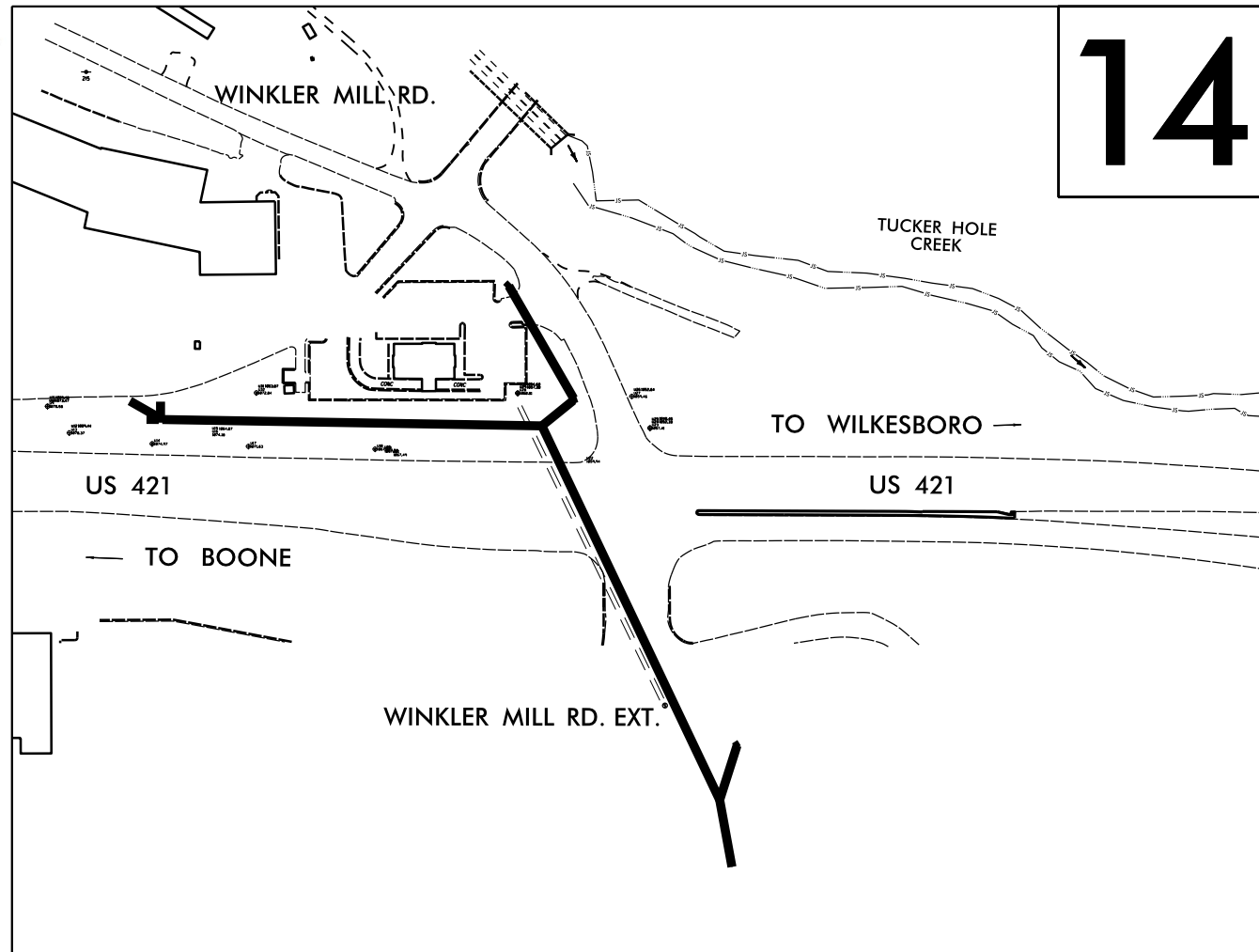
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WILKES COUNTY

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

TYPE OF WORK: GRADING AND DRAINAGE

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

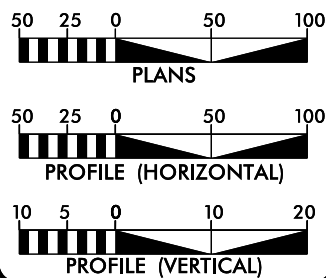


STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5312	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
45446.3.2	NHS-0421(072)	CONST.	

THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF WILKESBORO

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



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

SUNGATE DESIGN GROUP, P.A.
100 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL: (919) 885-2244 FAX: (919) 885-2244
ENG FIRM LICENSE NO. C-489

2018 STANDARD SPECIFICATIONS

LETTING DATE:
August 27, 2020

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

Jimmy Goodnight, PE
PROJECT ENGINEER

Mark Hussey
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

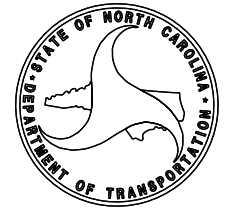
DocuSigned by:
Joshua G. Dalton
89AD8C14994C3...

SEAL
26971
NORTH CAROLINA
PROFESSIONAL
ENGINEER
JOSHUA G. DALTON
P.E.

DocuSigned by:
James Stafford
B24C43AEE4E8

SEAL
14493
NORTH CAROLINA
PROFESSIONAL
ENGINEER
JAMES STAFFORD
P.E.

8/26/2020



06-AUG-2020 13:51
U5312_Tip_Tsh.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

8/17/99

06 AUG 2020 13:50
J:\PROJECTS\2020\2020-08-17\2020-08-17-01\2020-08-17-01-01.dwg

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

ROADWAY DESIGN ENGINEER

Seal of James Stafford, Professional Engineer, No. 1495, State of North Carolina, expires 12/31/2022.

8/6/2020

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-3	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

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
Computed Property Corner	-----
Property Monument	□ ECM
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	---MLB---
Proposed Wetland Boundary	---MLB---
Existing Endangered Animal Boundary	---EAB---
Existing Endangered Plant Boundary	---EPB---
Existing Historic Property Boundary	---HPB---
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	○ 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	⌂
False Sump	⌂

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ MILEPOST 35
Switch	□ 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 R/W Marker	-----
New Control of Access Line with Concrete C/A Marker	-----
Existing Control of Access	-----
New Control of Access	-----
Existing Easement Line	---E---
New Temporary Construction Easement	---E---
New Temporary Drainage Easement	---TDE---
New Permanent Drainage Easement	---PDE---
New Permanent Drainage / Utility Easement	---DUE---
New Permanent Utility Easement	---PUE---
New Temporary Utility Easement	---TUE---
New Aerial Utility Easement	---AUE---

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	---C---
Proposed Slope Stakes Fill	---F---
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	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	⊕
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	A/G Water

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	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
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:

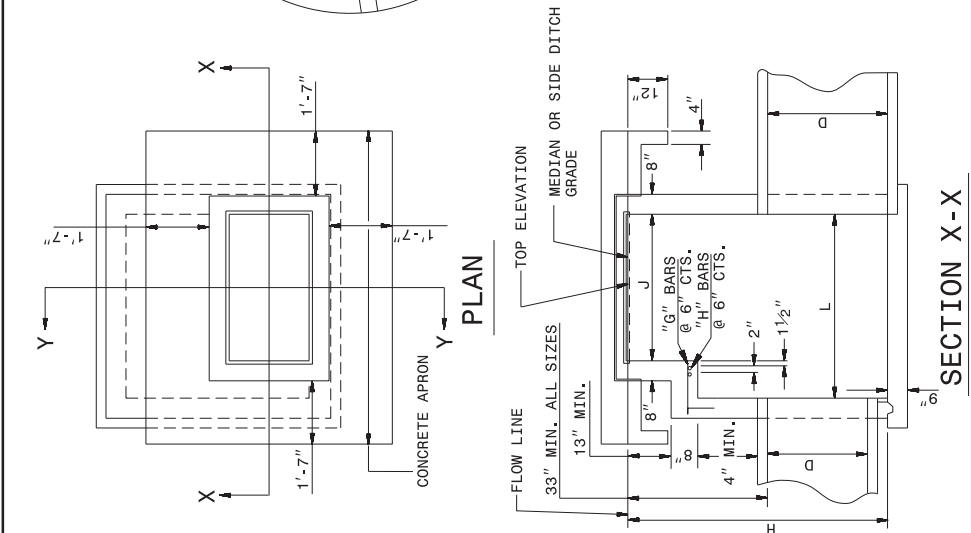
Utility Pole	●
Utility Pole with Base	⊕
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line LOS B (S.U.E.*)	-----
U/G Tank; Water, Gas, Oil	⌂
Underground Storage Tank, Approx. Loc.	UST
A/G Tank; Water, Gas, Oil	⌂
Geoenvironmental Boring	⊕
U/G Test Hole LOS A (S.U.E.*)	⊕
Abandoned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

01-MAR-2018 07:39
S:\Contracts\Contractors\Special Details\vericord\usr\details\stand\840d17 Extra Depth 2G1.dgn
Jlower ton AT CSO-252595

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

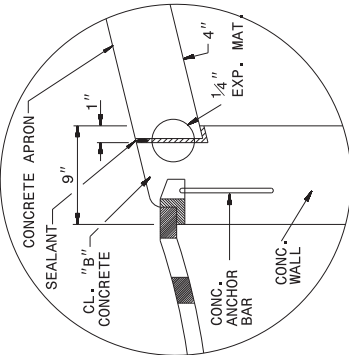
ENGLISH DETAIL DRAWING FOR
CONCRETE MEDIAN DROP INLET TYPE 'A'
EXTRA DEPTH OVER 12' TO 25'
12" THRU 72" PIPE

SHEET 1 OF 2
840D17

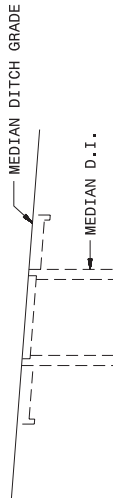
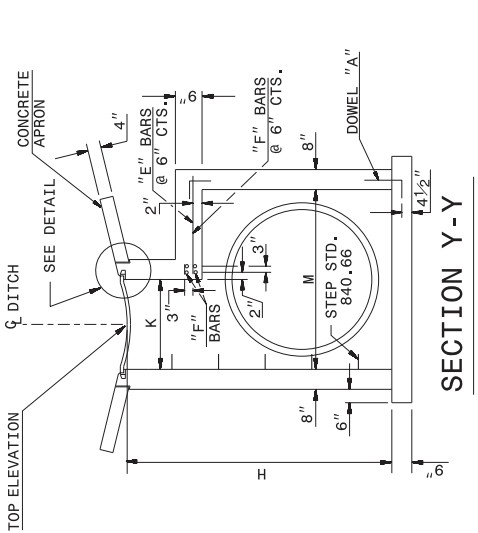


GENERAL NOTES:

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.



DETAIL
(APRON SUPPORT NOTCH)



SHEET 1 OF 2
840D17

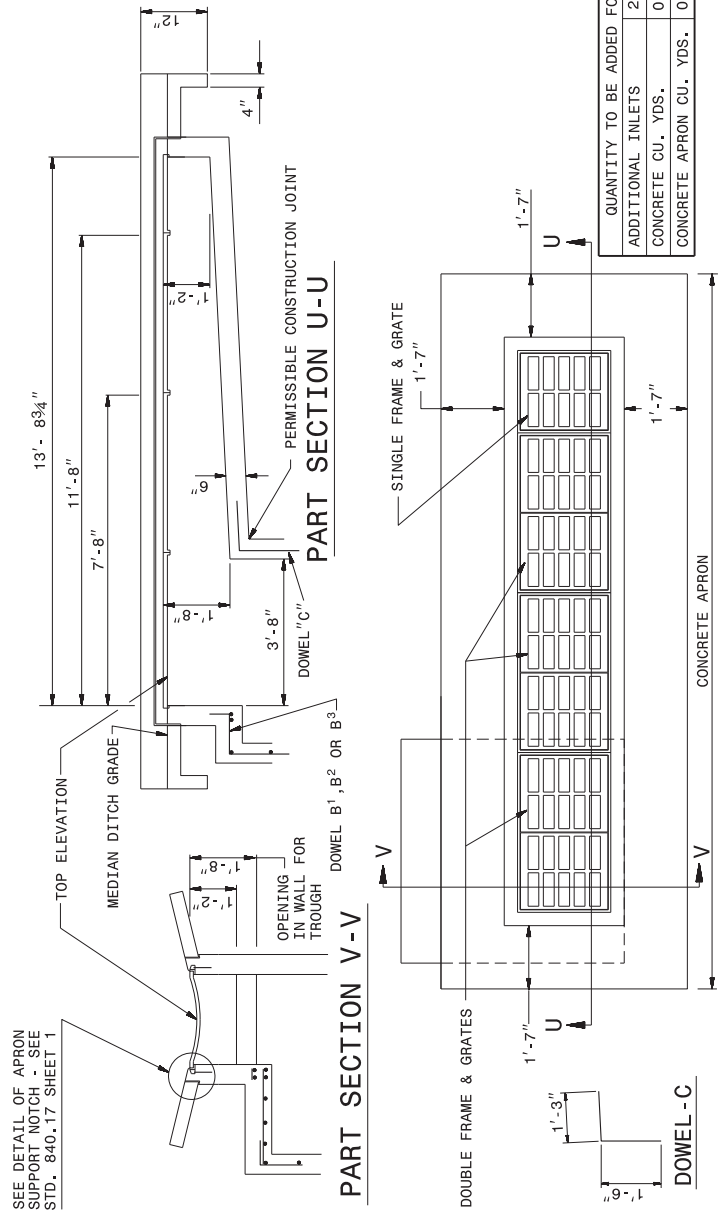
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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

STATE OF
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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



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						CU YDS CONC. IN BOX			DEDUCTIONS FOR ONE PIPE					
PIPE	SPAN	WIDTH	SPAN	WIDTH	HEIGHT	NO.	LENGTH	BARS E	BARS F	BARS G	BARS H	TOTAL	BOTTOM SLAB	TOTAL	H PER FT	APRON	TOTAL	C.S.	R.C.
12"	3'-8"	2'-0"	3'-8"	2'-0"	3'-9"	—	—	—	—	—	—	—	0.362	0.926	0.247	0.395	1.683	0.015	0.024
15"	3'-8"	2'-0"	3'-8"	2'-0"	4'-0"	—	—	—	—	—	—	—	0.362	0.988	0.247	0.395	1.745	0.023	0.036
18"	3'-8"	2'-0"	3'-8"	2'-0"	4'-3"	—	—	—	—	—	—	—	0.362	1.050	0.247	0.395	1.807	0.033	0.049
24"	3'-8"	2'-10"	3'-8"	2'-10"	4'-9"	8	1'-5"	6	4'-9"	—	—	27	0.444	1.362	0.278	2.201	0.059	0.085	
30"	3'-8"	3'-5"	3'-8"	3'-5"	5'-3"	8	2'-0"	7	4'-9"	—	—	33	0.502	1.644	0.288	2.541	0.092	0.127	
36"	3'-8"	4'-0"	3'-8"	4'-0"	5'-9"	8	2'-5"	8	4'-11"	4	0'-9"	47	0.560	1.931	0.321	2.920	0.132	0.178	
42"	3'-8"	4'-10"	3'-8"	4'-10"	6'-3"	10	3'-1"	9	5'-7"	3	1'-5"	67	0.704	2.500	0.370	3.677	0.180	0.243	
48"	3'-8"	5'-4"	3'-8"	5'-4"	6'-9"	11	3'-7"	10	6'-1"	—	1'-11"	87	0.823	3.013	0.407	4.315	0.235	0.317	
54"	3'-8"	6'-0"	3'-8"	6'-0"	7'-3"	12	4'-1"	11	6'-7"	5	2'-5"	107	0.951	3.589	0.444	5.072	0.297	0.401	
60"	3'-8"	6'-6"	3'-8"	6'-6"	7'-9"	13	4'-9"	12	7'-3"	3'-1"	6'-7"	135	1.311	4.539	0.494	6.170	0.367	0.495	
66"	3'-8"	7'-2"	3'-8"	7'-2"	8'-3"	14	5'-4"	14	7'-10"	3'-7"	7'-10"	168	1.136	5.061	0.537	6.901	0.444	0.599	
72"	3'-8"	2'-0"	3'-8"	7'-8"	8'-9"	15	5'-11"	15	8'-5"	4	4'-3"	199	1.500	5.860	0.580	7.868	0.528	0.713	

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

ENGLISH DETAIL DRAWING FOR
PRECAST MANHOLE 7', 8' AND 9' DIAMETER

SHEET 1 OF 1
840D52

GENERAL NOTES

USE 4000 PSI MINIMUM COMPRESSIVE STRENGTH CONCRETE.

DESIGN, FABRICATE AND ASSEMBLE PRECAST MANHOLE COMPONENTS IN ACCORDANCE WITH AASHTO M199.

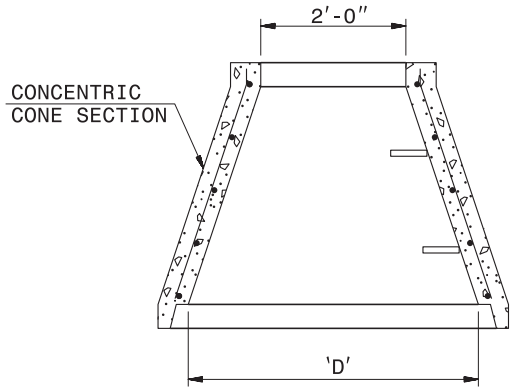
ASSEMBLE RISER AND GRADE RINGS WITH STEPS SPACED 16" FROM THE TOP TO THE BOTTOM OF THE MANHOLE.

WHERE THE MANHOLE IS EXPOSED TO ROAD TRAFFIC, THE TOP OF THE MANHOLE IS TO BE FLUSH WITH THE GROUND. AT OTHER LOCATIONS IT SHOULD BE A MINIMUM OF 9" ABOVE THE GROUND.

DEPTH OF FILL LIMITED TO 30'-0" FROM FINSH GRADE TO TOP OF BOTTOM SLAB.

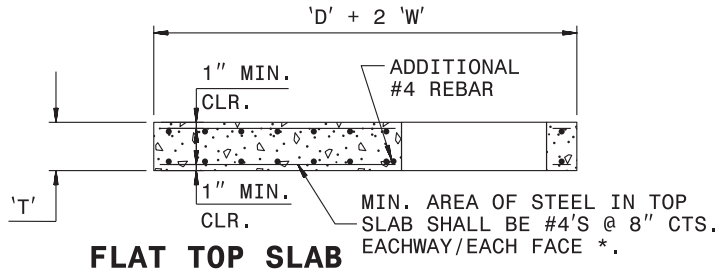
THE MIN. SLAB THICKNESS 'T' SHALL BE THE DIMENSION OF THE THINNEST PORTION OF THE TOP/BOTTOM SLAB.

* TOP MAT OF REINFORCEMENT MAY BE NEGLECTED IF TOP SLAB HAS A DISTINGUISHABLE TOP AND BOTTOM.



ALTERNATE CONE SECTION

D	W	T	As
INTERNAL DIAMETER (FT.)	MIN. WALL THICKNESS (IN.)	MIN. TOP/BOTTOM SLAB THICKNESS (IN.)	MIN. CIRCUMFERENTIAL AREA OF STEEL PER VERTICAL FT. (SQ. IN.)
7	8.0	8	0.21
8	8.5	8	0.24
9	9.0	9	0.27



FLAT TOP SLAB

FRAME AND GRATES	STD. NO.
TRAFFIC BEARING	840.37
NONTRAFFIC BEARING:	
	840.16
	840.20
	840.22
	840.24
	840.29

ADDITIONAL #4 EACH SIDE OF OPENING (1" CLEAR OF BOTTOM FACE PLACE BARS DIAGONAL TO CORNERS (TYP.))

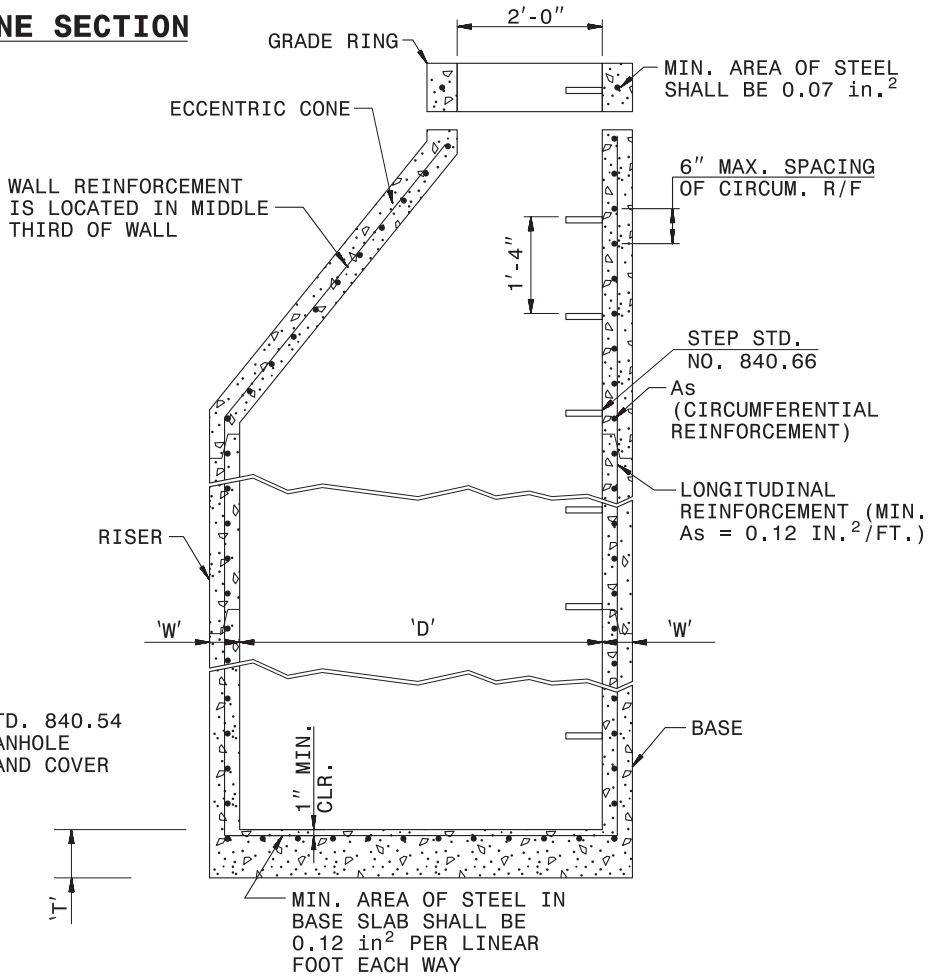
FRAME & GRATE

GRADED INLET OPTION

ADDITIONAL #4 EACH SIDE OF OPENING (1" CLEAR OF BOTTOM FACE)

SEE STD. 840.54 FOR MANHOLE RING AND COVER

MANHOLE OPTION



TYPICAL MANHOLE SECTION

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

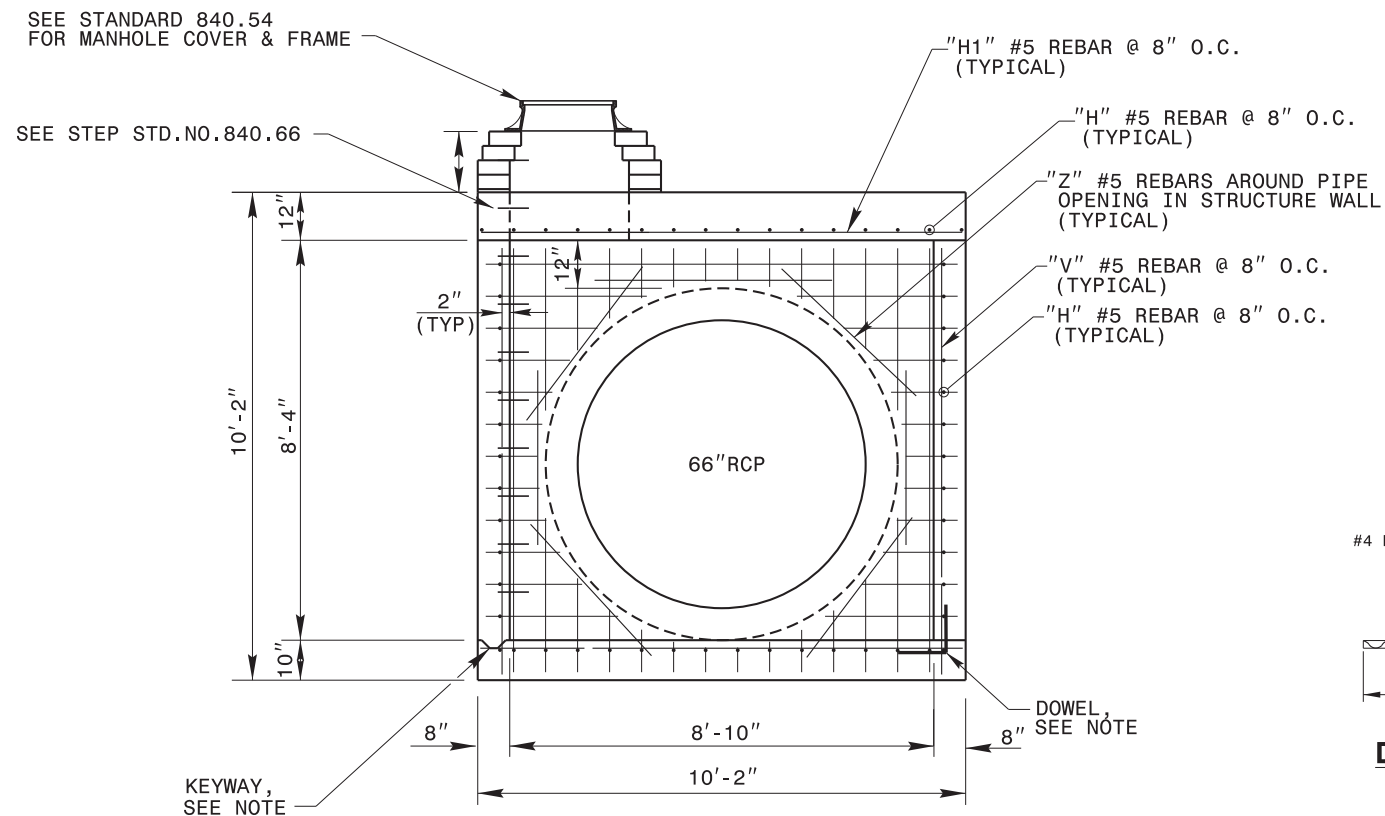
ENGLISH DETAIL DRAWING FOR
PRECAST MANHOLE 7', 8' AND 9' DIAMETER

SHEET OF
840D52



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: T.S.Spell	DATE: 7-17-00
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC.: ds174:usr/details/stand/840d52_8&9.dgn	



GENERAL NOTES:

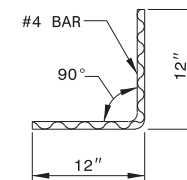
USE CLASS "B" CONCRETE THROUGHOUT.

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.

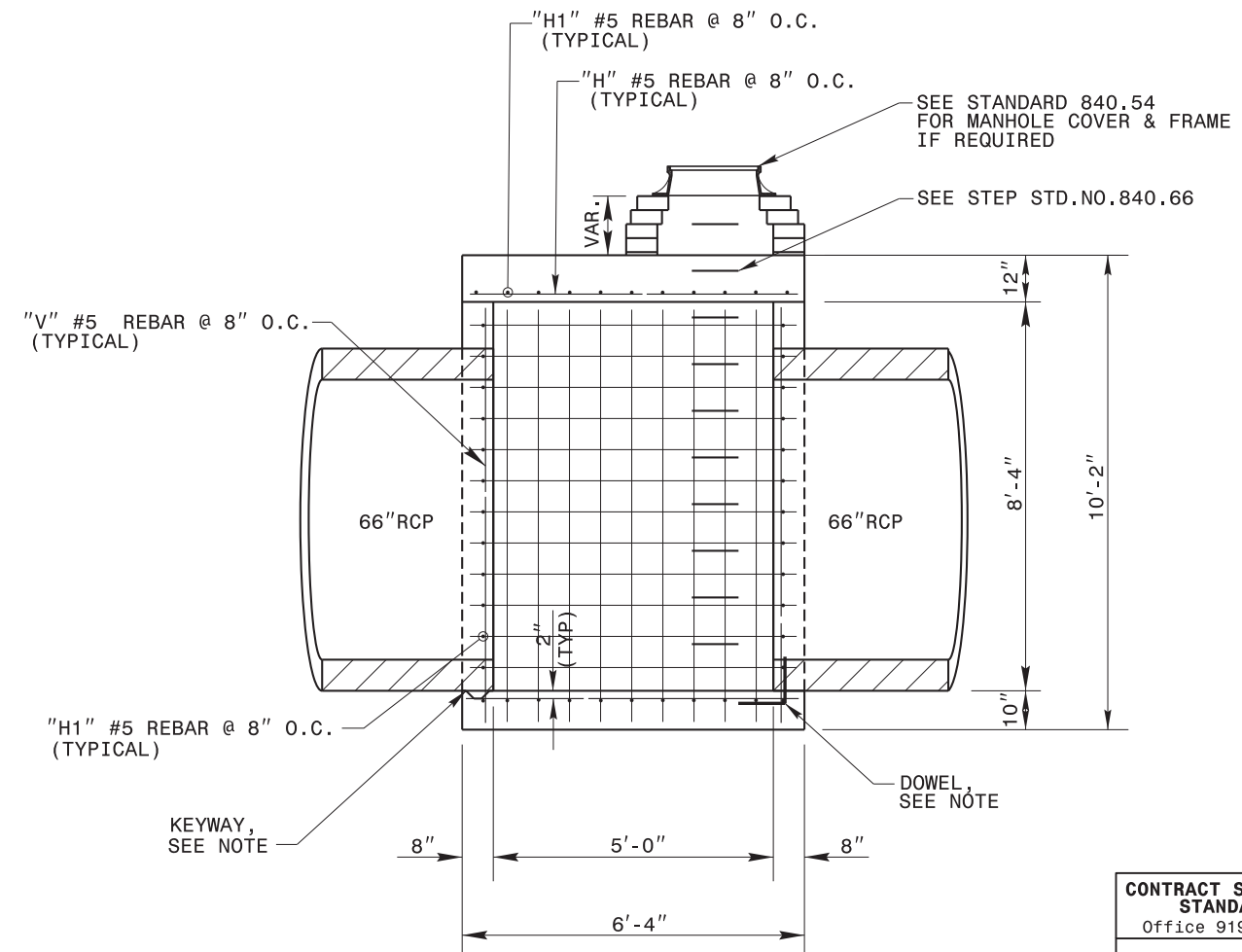
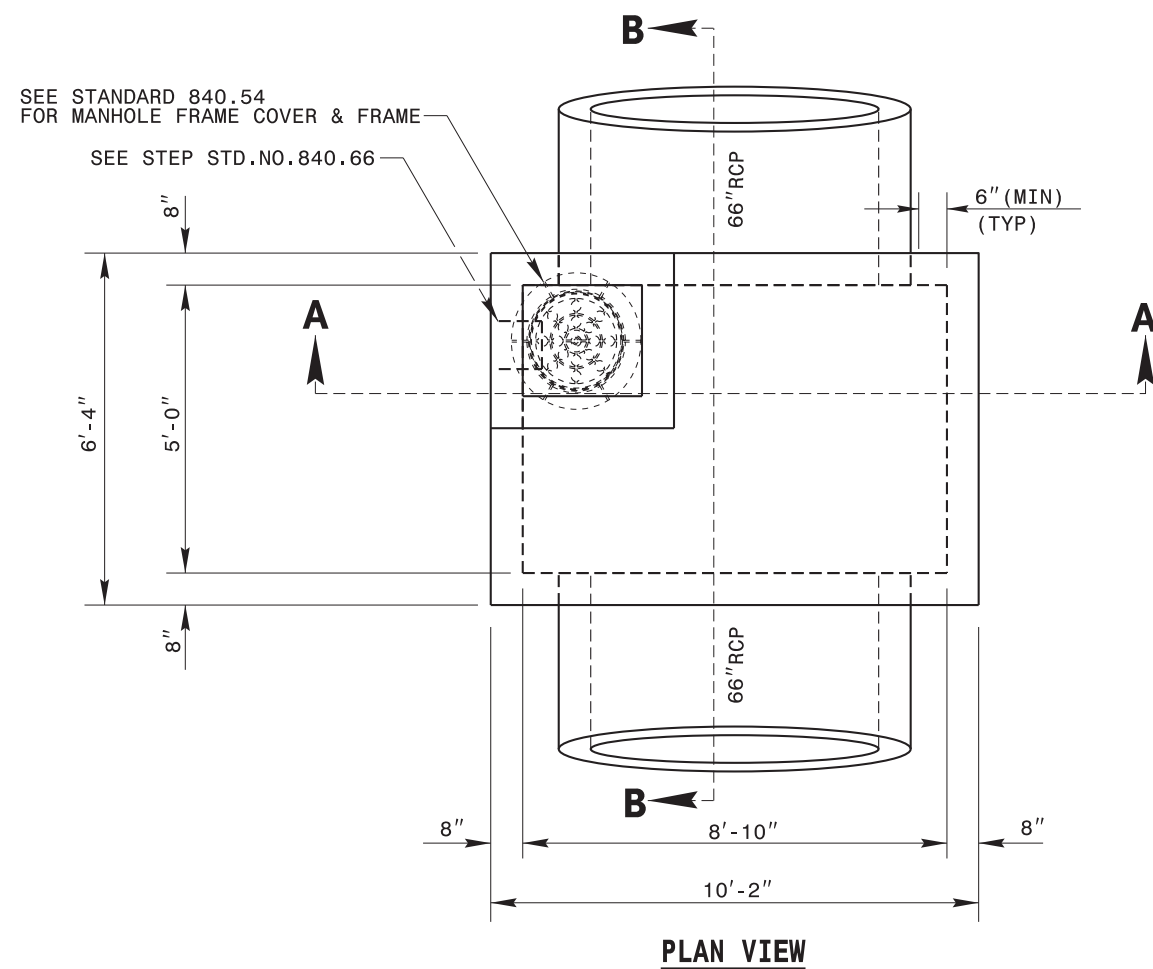
BOX DIMENSIONS MAY BE FIELD ADJUSTED AS DIRECTED BY THE ENGINEER.

2" MINIMUM CONCRETE COVERAGE ON ALL REBAR.



DOWEL

SECTION A-A



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	

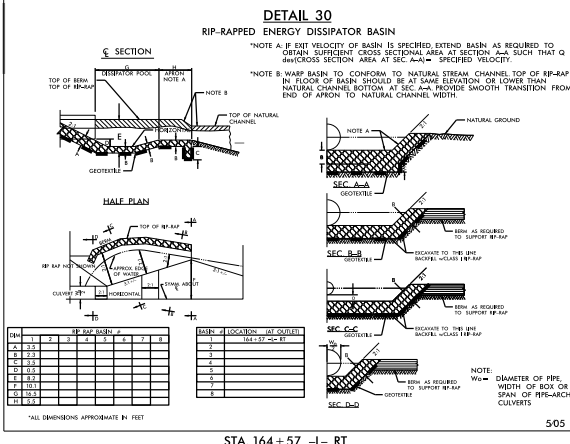
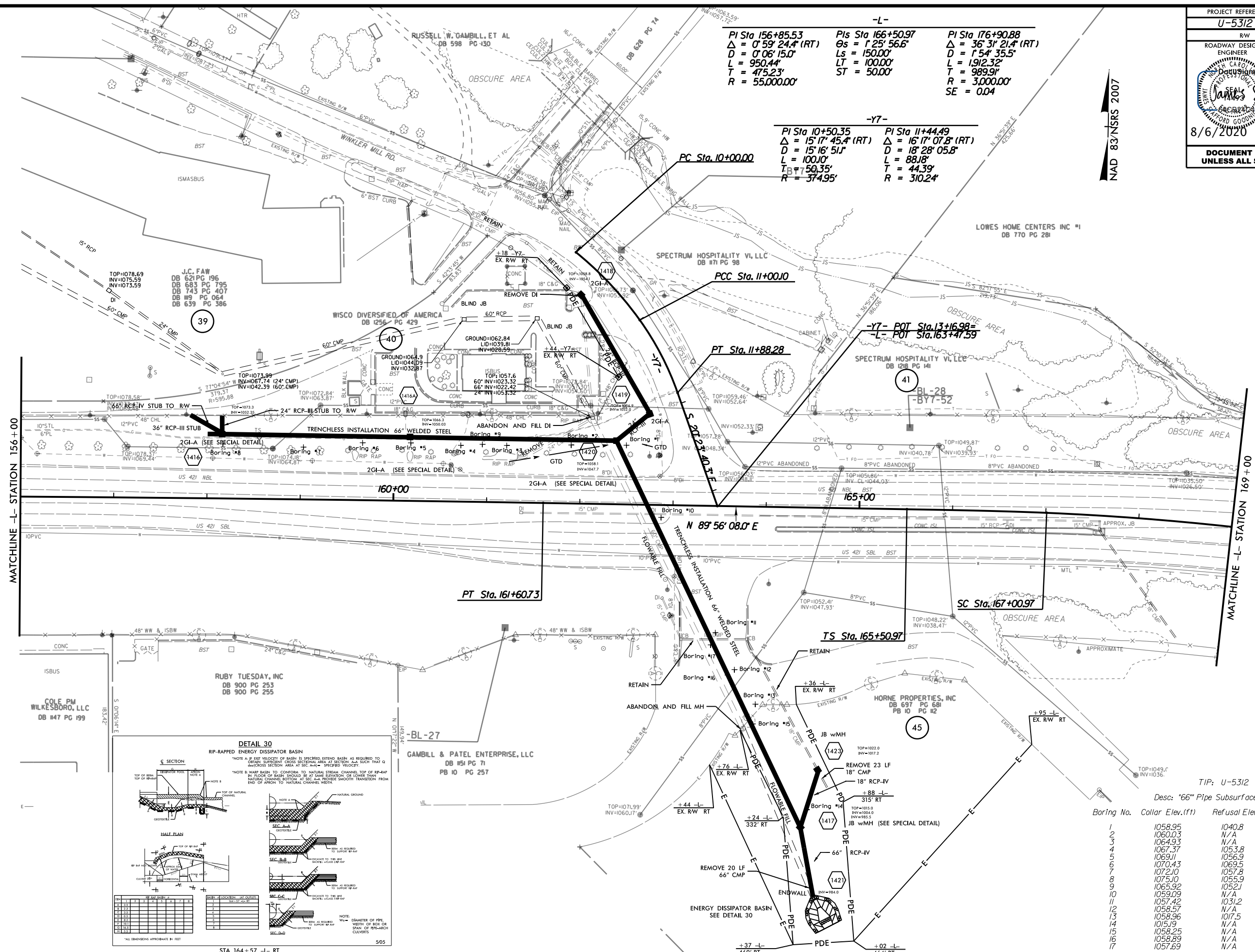


Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads and Structures, Section 300-5".

[illegible]

8/17/99

06 AUG 2020 14:17
333315-PLAN-666



PROJECT REFERENCE NO. U-5312		SHEET NO. 14	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		DESIGNED BY: <i>James Stafford</i>	
8/6/2020		8/6/2020	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

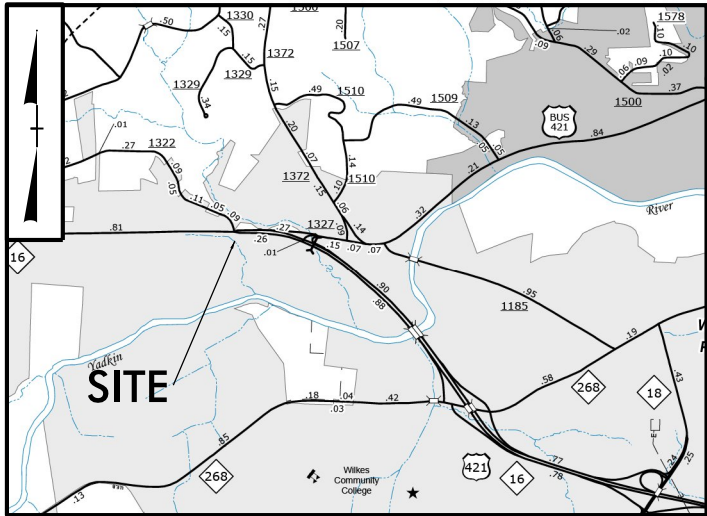
NAD 83 NSRS 2007

TIP: U-5312
Desc: "66" Pipe Subsurface Investigation"

Boring No.	Collar Elev.(ft)	Refusal Elev.(ft)	Termination Elev.(ft)
1	1058.95	1040.8	1040.8
2	1060.03	N/A	1042.0
3	1064.93	N/A	1046.5
4	1067.37	1053.8	1053.8
5	1069.11	1056.9	1056.9
6	1070.43	1069.5	1069.5
7	1072.10	1057.8	1057.8
8	1075.10	1055.9	1055.9
9	1065.92	1052.1	1052.1
10	1059.09	N/A	1034.6
11	1057.42	1031.2	1031.2
12	1058.57	N/A	1015.4
13	1058.96	1017.5	1017.5
14	1051.9	N/A	985.2
15	1058.25	N/A	1009.4
16	1058.89	N/A	1018.6
17	1057.69	N/A	1024.3

NOTE: CONTRACT DK00286 IS FOR DRAINAGE INSTALLATION IN ADVANCE OF CONSTRUCTION OF TIP PROJECT U-5312

CONTRACT: DK00286 TIP PROJECT: U-5312



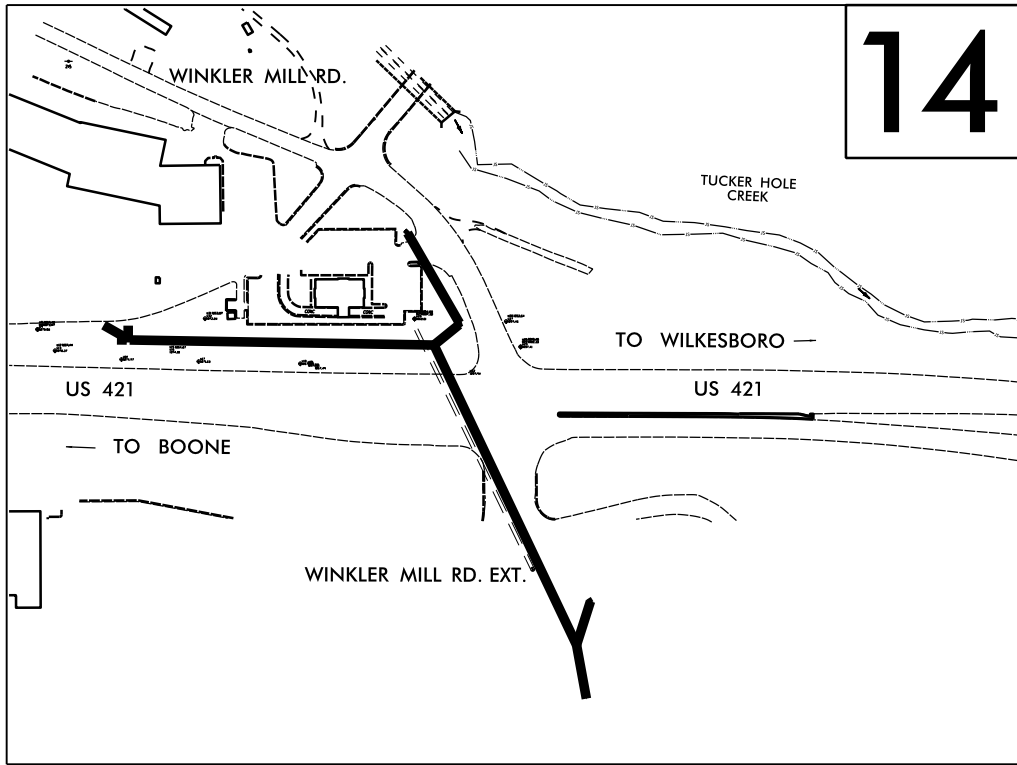
VICINITY MAP (NOT TO SCALE)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL
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	EC-1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
45446.3.2	NHS-0421(072)	CONST.	

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	---
1630.05	Temporary Diversion	→ TO →
1605.01	Temporary Silt Fence	III III III
1606.01	Special Sediment Control Fence	△△△△△
1622.01	Temporary Berms and Slope Drains	— T —
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	— C —
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	— C —
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.

THIS PROJECT HAS
BEEN DESIGNED TO
SENSITIVE WATERSHED
STANDARDS.

GRAPHIC SCALES



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH
THE APPLICABLE REGULATIONS SET FORTH BY THE NC-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:



905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL (919) 859-2243 FAX (919) 859-6258
ENG FIRM LICENSE NO. C-890

Designed by:

MATT EDWARDS, EI #3992

NAME

LEVEL III CERTIFICATION NO.

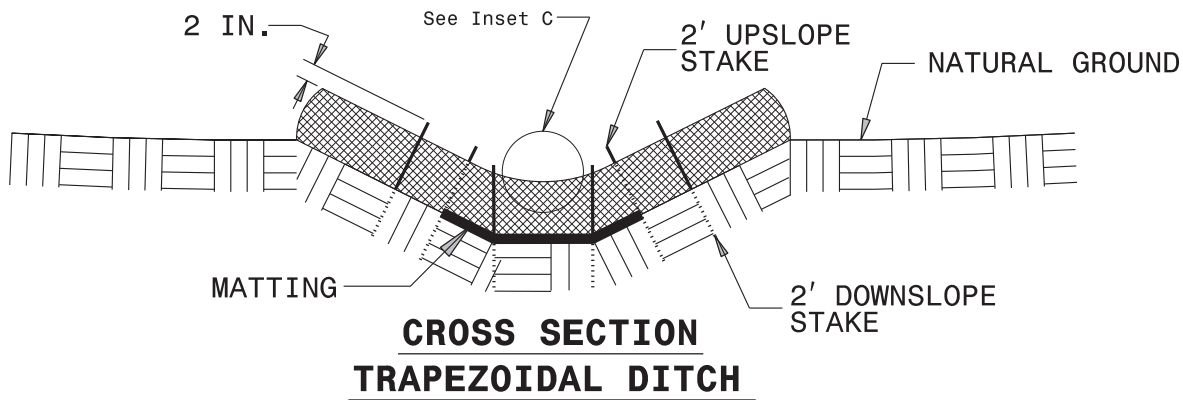
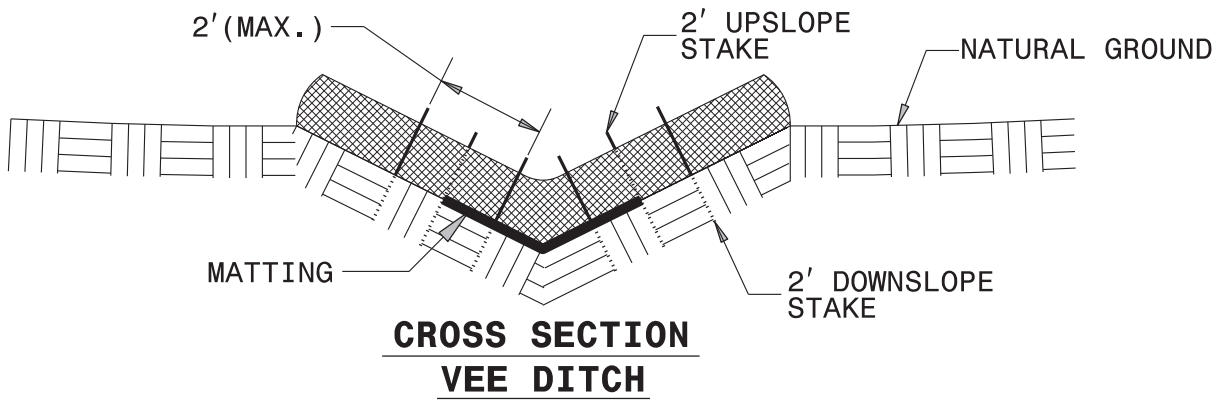
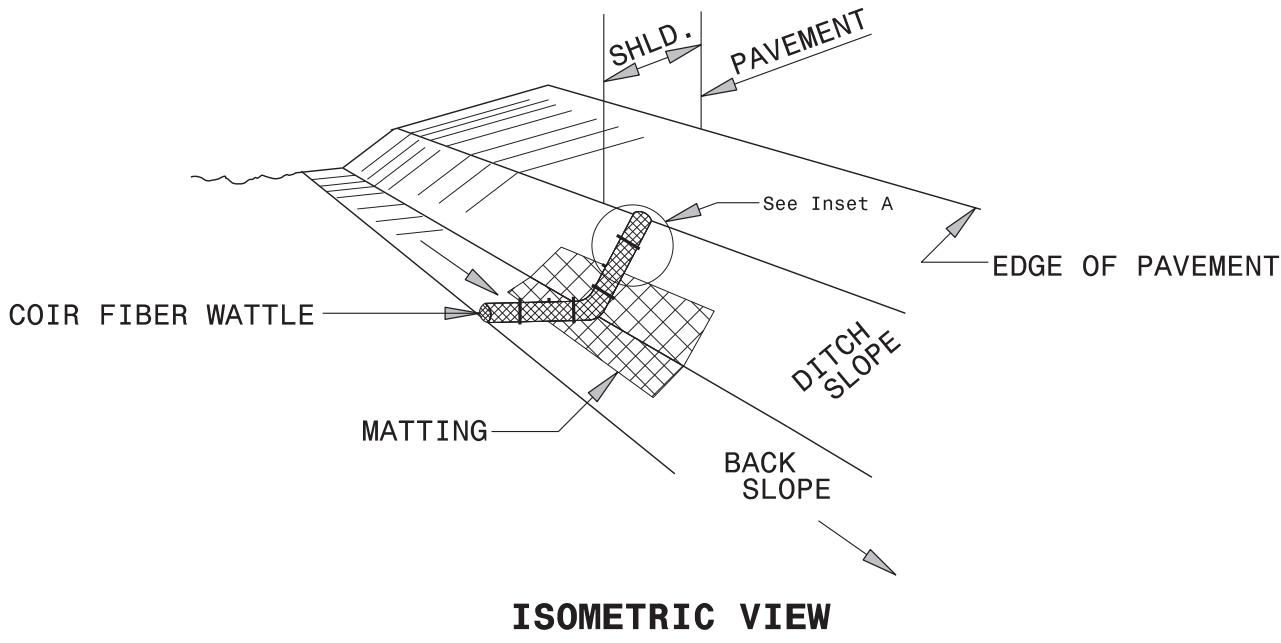
Roadway Standard Drawings

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	1633.02	Temporary Rock Silt Check Type C
1630.02	Silt Basin Type A	1634.01	Temporary Rock Sediment Dam Type A
1630.03	Temporary Silt Ditch	1634.02	Temporary Rock Sediment Dam Type B
1630.04	Stilling Basin	1635.01	Rock Pipe Inlet Sediment Trap Type A
1630.05	Temporary Diversion	1635.02	Rock Pipe Inlet Sediment Trap Type B
1630.06	Special Stilling Basin	1640.01	Coir Fiber Jaffle
1631.01	Matting Installation	1645.01	Temporary Stream Crossing

COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

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



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.

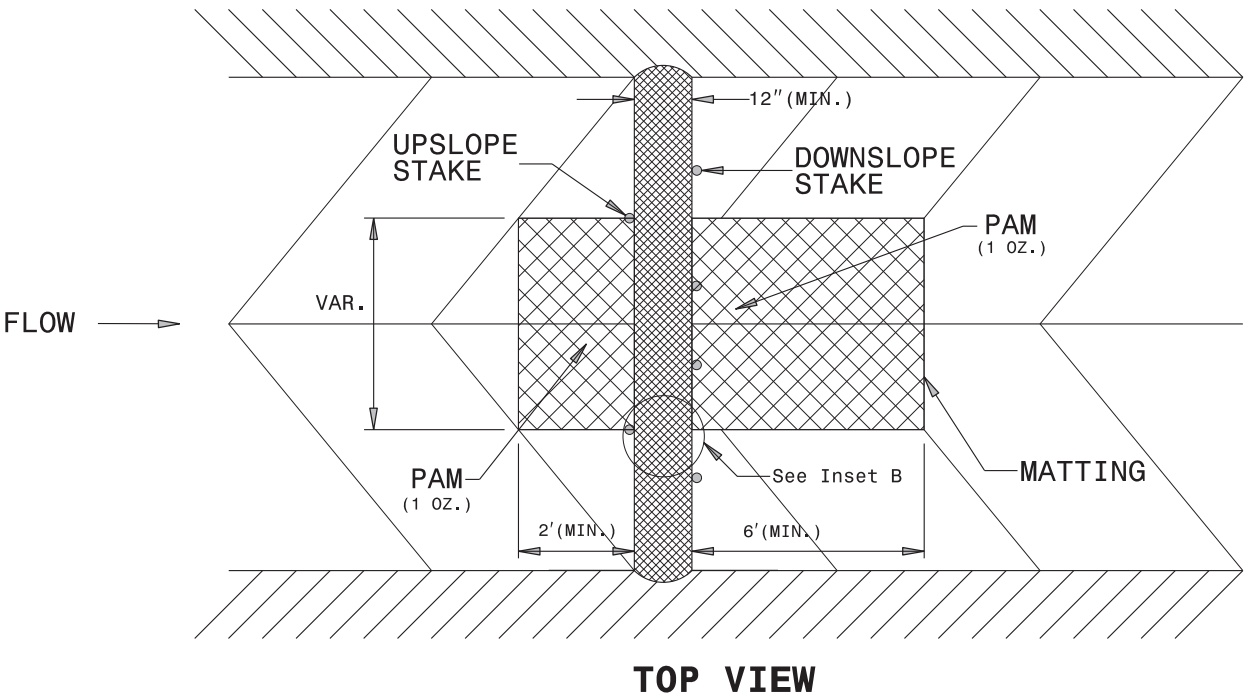
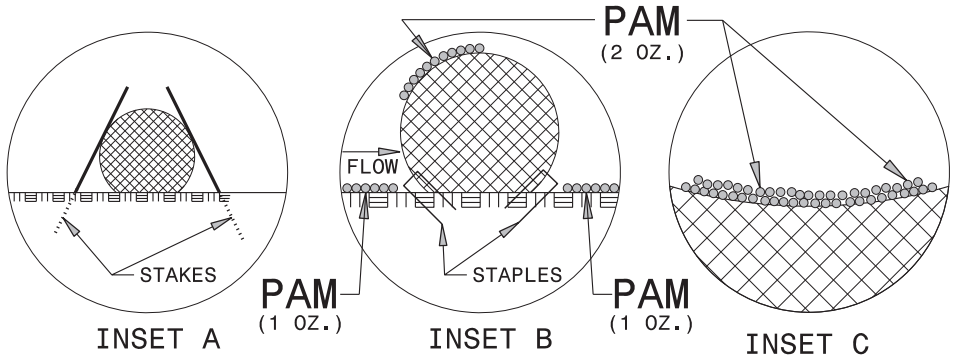
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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.

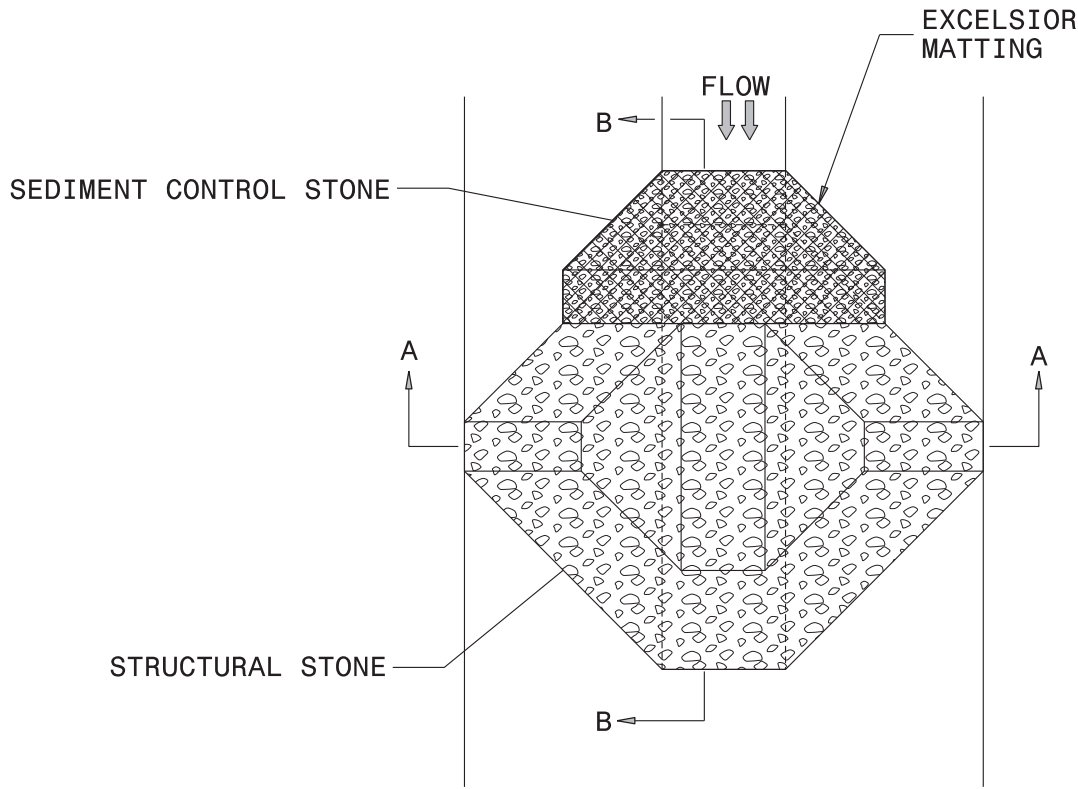
PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

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

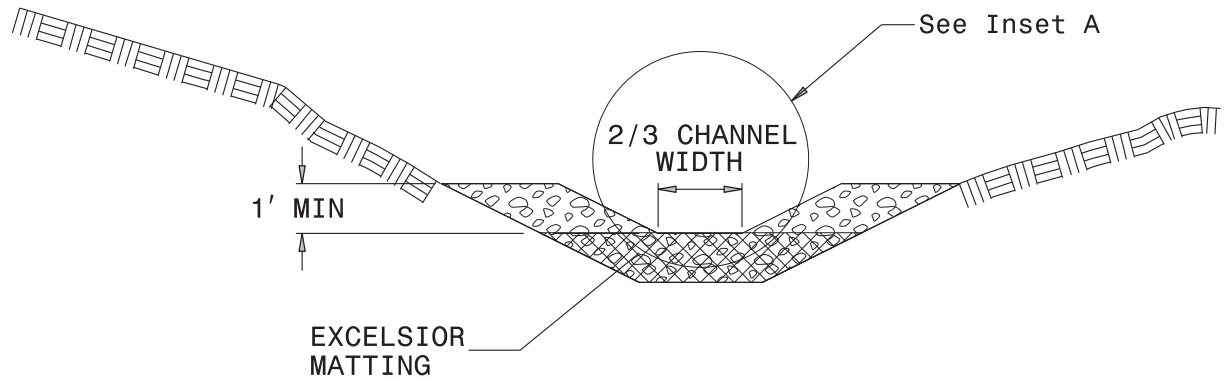


TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)

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



PLAN



SECTION A-A

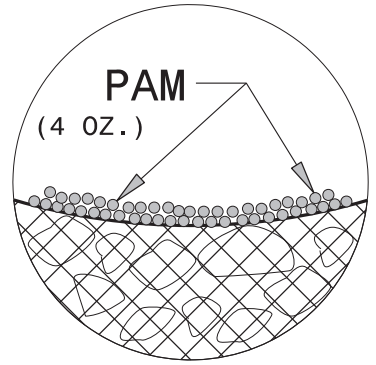
NOTES:

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

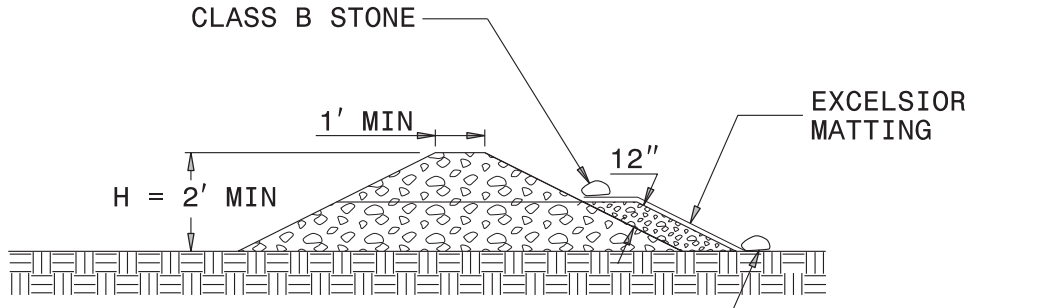
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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

PROJECT REFERENCE NO.	SHEET NO.
U-5312	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.

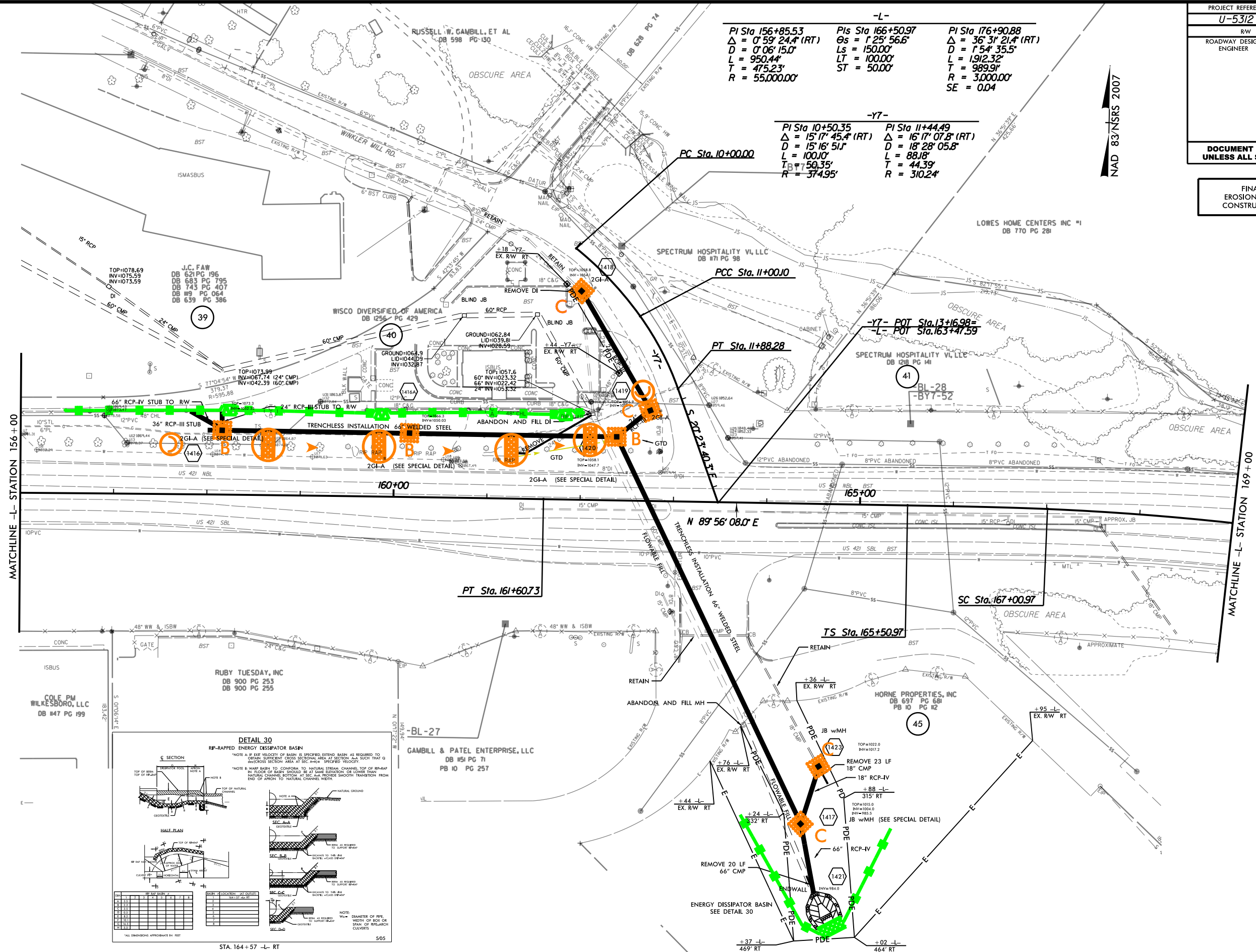
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 14



NOTE: CONTRACT DK00286 IS FOR DRAINAGE INSTALLATION IN ADVANCE OF CONSTRUCTION OF TIP PROJECT U-5312

8/17/99

06-AUG-2020 12:52
U-5312 - rd.dwg
EC5 Final.dgn
Fasbow - BT DWT-257561



PROJECT REFERENCE NO.		SHEET NO.	
U-5312		EC-05/CONST.14	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
FINAL GRADING EROSION CONTROL FOR CONSTRUCTION SHEET 14			

NOTE: CONTRACT DK00286 IS FOR DRAINAGE REPAIR IN ADVANCE OF CONSTRUCTION OF TIP PROJECT U-5312