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09/08/99

See Sheet 1A For Index of Sheets

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

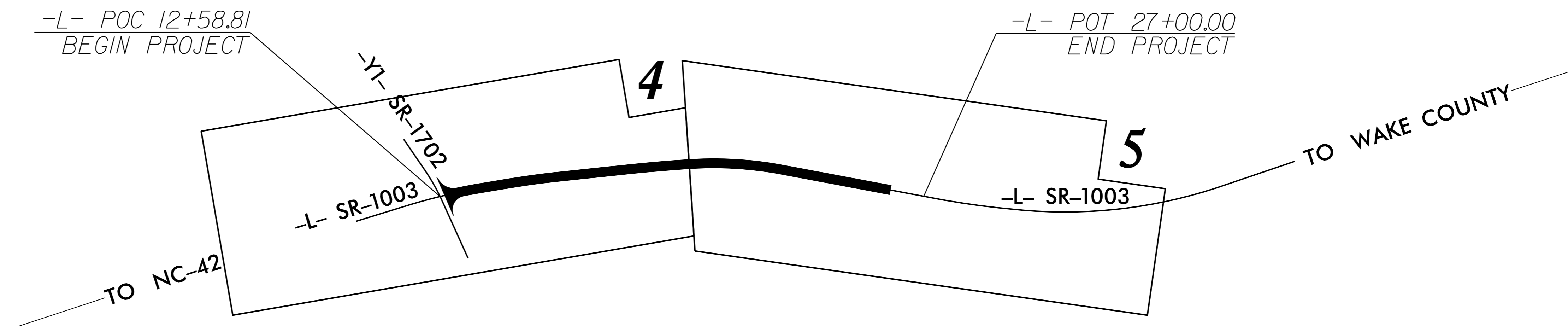
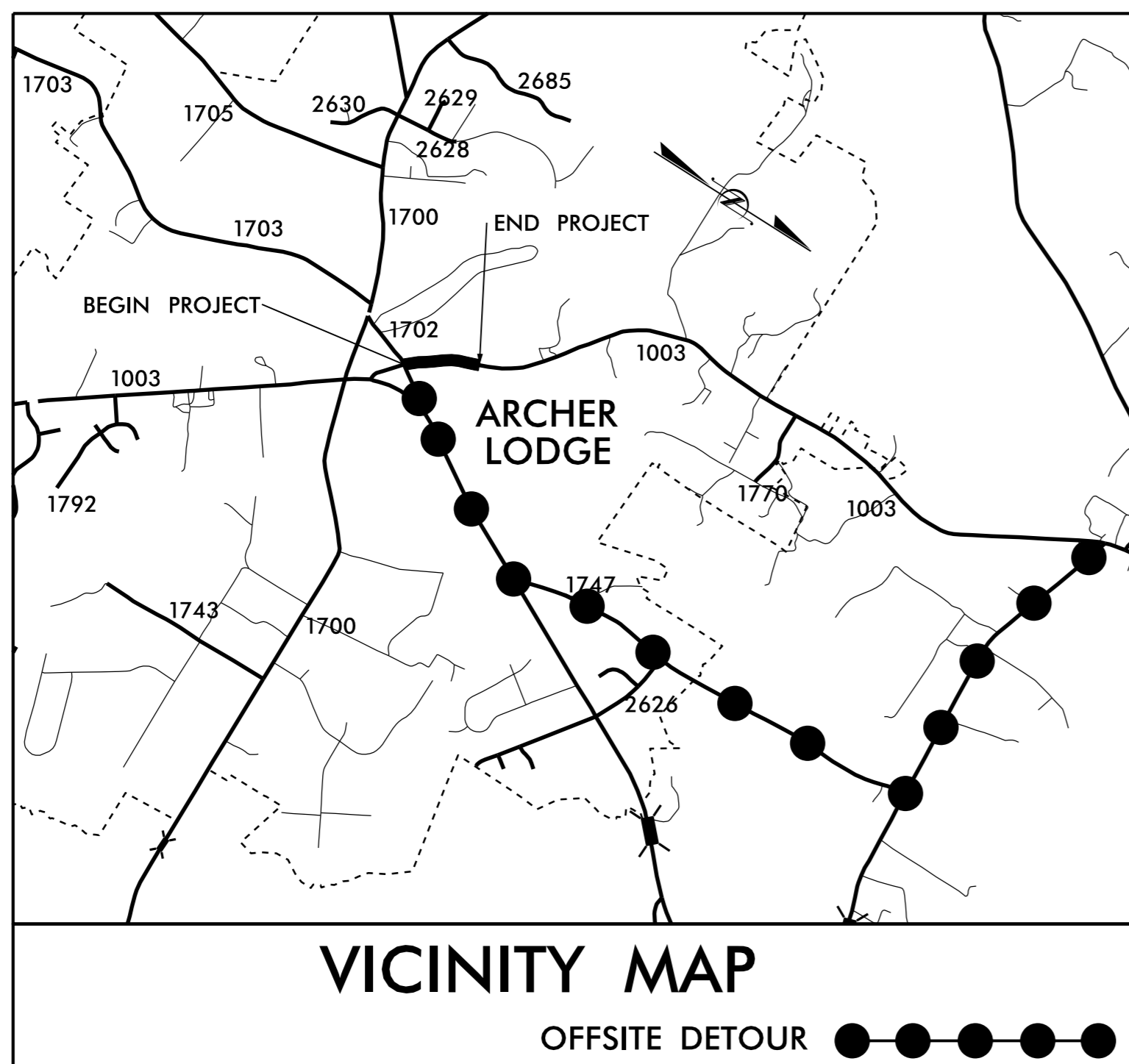
JOHNSTON COUNTY

LOCATION: SR 1003 (BUFFALO ROAD) FROM SR-1702 (ARCHER LODGE ROAD) TO 1350' NORTH OF SR-1702 (ARCHER LODGE ROAD)

TYPE OF WORK: GRADING, DRAINAGE, AND PAVING

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	80094	1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
W-5601DP	HSIP-1003(146)	PE	
80094		PE	
80094		RW	
80094		CONST.	

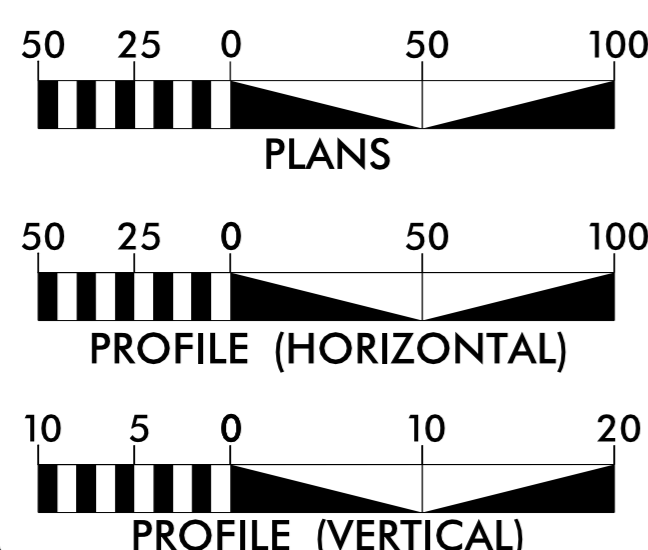
TIP PROJECT: 80094



CONTRACT: DD00347

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2013 = 4300
V = 40 MPH

FUNC CLASS =
MINOR ARTERIAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT 80094 = 0.273 MI.
TOTAL LENGTH TIP PROJECT 80094 = 0.273 MI.

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

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MAY 15, 2019

LETTING DATE:
APRIL 27, 2021

K.G. BOWEN, PE
PROJECT ENGINEER

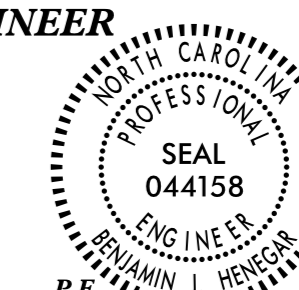
D.R. ETHRIDGE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

3/3/2021

DocuSigned by:
Benjamin J. Huxgar
D78AA8B40FF437

SIGNATURE:

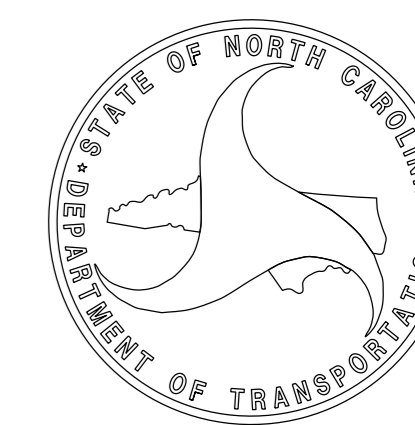
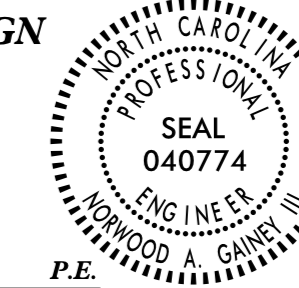


ROADWAY DESIGN ENGINEER

3/3/2021

DocuSigned by:
Norwood A. Gains III
E038859A6D0416

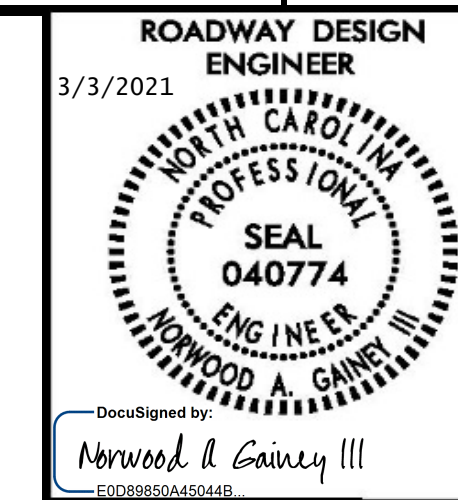
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\$\$\$\$\$USERNAME\$\$\$\$\$

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

PROJ. REFERENCE NO. 80094	SHEET NO. 1-A
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GENERAL NOTES: 2018 SPECIFICATIONS

GRADE LINE:
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 III.

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

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.

DRIVEWAYS:
 DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3 FOOT RADII OR RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

STREET TURNOUT:
 STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS.

TEMPORARY SHORING:
 SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

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:
 CENTURYLINK, DUKE ENERGY PROGRESS AND CHARTER COMMUNICATIONS.

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

CURB RAMPS
 CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS.
 CONSTRUCT ALL CURB RAMPS ACCORDANCE WITH STD 848.05 and/or 848.06.

2018 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, 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

- DIVISION 2 - EARTHWORK
 - 200.03 METHOD OF CLEARING - METHOD III
 - 225.02 GUIDE FOR GRADING SUBGRADE - SECONDARY AND LOCAL
 - 225.04 METHOD OF OBTAINING SUPERELEVATION - TWO LANE PAVEMENT
- DIVISION 3 - PIPE CULVERTS
 - 300.01 METHOD OF PIPE INSTALLATION
 - 310.10 DRIVEWAY PIPE CONSTRUCTION
- DIVISION 5 - SUBGRADE, BASES AND SHOULDERS
 - 560.01 METHOD OF SHOULDER CONSTRUCTION - HIGH SIDE OF SUPERELEVATED CURVE - METHOD I
- DIVISION 6 - ASPHALT BASES AND PAVEMENTS
 - 654.01 PAVEMENT REPAIRS
- DIVISION 8 - INCIDENTALS
 - 840.00 CONCRETE BASE PAD FOR DRAINAGE STRUCTURES
 - 840.01 BRICK CATCH BASIN - 12" THRU 54" PIPE
 - 840.02 CONCRETE CATCH BASIN - 12" THRU 54" PIPE
 - 840.03 FRAME, GRATES AND HOOD - FOR USE ON STANDARD CATCH BASIN
 - 840.14 CONCRETE DROP INLET - 12" THRU 30" PIPE
 - 840.15 BRICK DROP INLET - 12" THRU 30" PIPE
 - 840.16 DROP INLET FRAME AND GRATES - FOR USE WITH STD. DWG 840.14 AND 840.15
 - 840.25 ANCHORAGE FOR FRAMES - BRICK OR CONCRETE OR PRECAST
 - 840.45 PRECAST DRAINAGE STRUCTURE
 - 840.46 TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE
 - 840.66 DRAINAGE STRUCTURE STEPS
 - 840.71 CONCRETE AND BRICK PIPE PLUG
 - 840.72 PIPE COLLAR
 - 846.01 CONCRETE CURB, GUTTER AND CURB & GUTTER
 - 848.01 CONCRETE SIDEWALK
 - 848.02 DRIVEWAY TURNOUT - RADIUS TYPE
 - 848.04 STREET TURNOUT
 - 848.05 CURB RAMP - PROPOSED CURB & GUTTER
 - 876.02 GUIDE FOR RIP RAP AT PIPE OUTLETS
 - 876.03 DRAINAGE DITCHES WITH CLASS 'A' RIP RAP
 - 876.04 DRAINAGE DITCHES WITH CLASS 'B' RIP RAP

SHEET NUMBER	INDEX OF SHEETS SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
1C-1 THRU 1C-3	SURVEY CONTROL SHEET
2A-1	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2C-1	SPECIAL DETAIL - CONCRETE ENDWALL
3B-1	ROADWAY SUMMARIES - EARTHWORK, AND PARCEL INDEX
3D-1 THRU 3D-2	DRAINAGE SUMMARIES
4 THRU 5	PLAN SHEET
TMP-1	TRANSPORTATION MANAGEMENT PLANS
PM-1 THRU PM-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-7	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-3	SIGNING PLANS
UC-1 THRU UC-5	UTILITY CONSTRUCTION PLANS
X-1A	CROSS-SECTION SUMMARY
X-1 THRU X-3	CROSS-SECTIONS

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	□ EDM
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	----- WLB
Proposed Wetland Boundary	----- WLB
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	----- FLOW
False Sump	▽

RAILROADS:

Standard Gauge	----- CSX TRANSPORTATION
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	----- RW
New Right of Way Line with Pin and Cap	----- RW
New Right of Way Line with Concrete or Granite RW Marker	----- RW
New Control of Access Line with Concrete C/A Marker	----- CA
Existing Control of Access	----- CA
New Control of Access	----- CA
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	----- 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	⊕
Power Line Tower	⊠
Power Transformer	⊠
U/G Power Cable Hand Hole	-----
H-Frame Pole	●
U/G Power Line LOS B (S.U.E.*)	----- P
U/G Power Line LOS C (S.U.E.*)	----- P
U/G Power Line LOS D (S.U.E.*)	----- P

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.*)	----- T
U/G Telephone Cable LOS C (S.U.E.*)	----- T
U/G Telephone Cable LOS D (S.U.E.*)	----- T
U/G Telephone Conduit LOS B (S.U.E.*)	----- TC
U/G Telephone Conduit LOS C (S.U.E.*)	----- TC
U/G Telephone Conduit LOS D (S.U.E.*)	----- TC
U/G Fiber Optics Cable LOS B (S.U.E.*)	----- T FO
U/G Fiber Optics Cable LOS C (S.U.E.*)	----- T FO
U/G Fiber Optics Cable LOS D (S.U.E.*)	----- T FO

WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
U/G Water Line LOS B (S.U.E.*)	----- W
U/G Water Line LOS C (S.U.E.*)	----- W
U/G Water Line LOS D (S.U.E.*)	----- W
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.*)	----- TV
U/G TV Cable LOS C (S.U.E.*)	----- TV
U/G TV Cable LOS D (S.U.E.*)	----- TV
U/G Fiber Optic Cable LOS B (S.U.E.*)	----- TV FO
U/G Fiber Optic Cable LOS C (S.U.E.*)	----- TV FO
U/G Fiber Optic Cable LOS D (S.U.E.*)	----- TV FO

GAS:

Gas Valve	◇
Gas Meter	◇
U/G Gas Line LOS B (S.U.E.*)	----- G
U/G Gas Line LOS C (S.U.E.*)	----- G
U/G Gas Line LOS D (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
SS Forced Main Line LOS B (S.U.E.*)	----- FSS
SS Forced Main Line LOS C (S.U.E.*)	----- FSS
SS Forced Main Line LOS D (S.U.E.*)	----- FSS

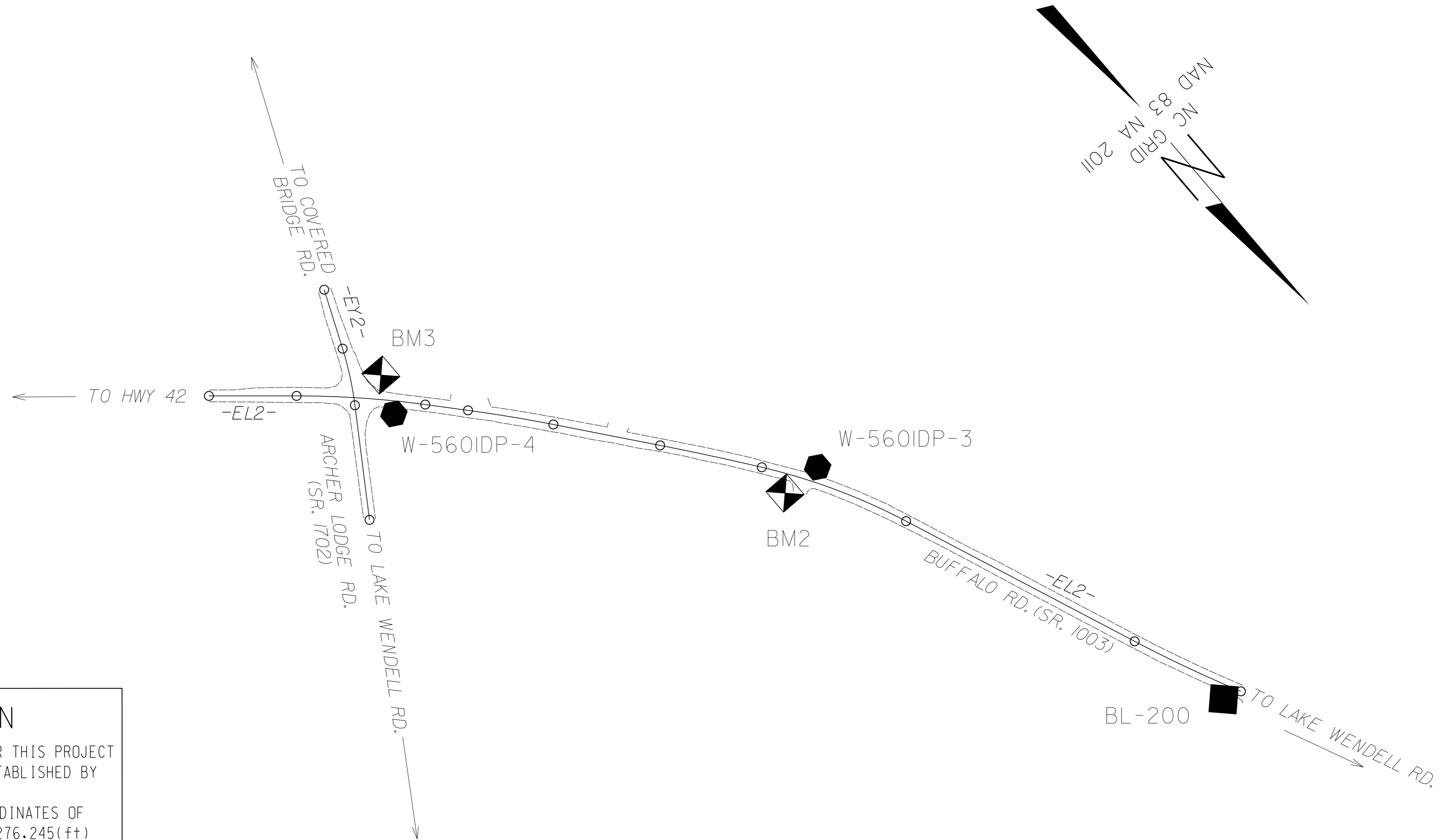
MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊠
Utility Unknown U/G Line LOS B (S.U.E.*)	----- ?U/L
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.

PROJECT REFERENCE NO.	SHEET NO.
80094	1C-1
Location and Surveys	

SURVEY CONTROL SHEET 80094

W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "W5601DP-2"

WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF
 NORTHING: 714496.438(ft) EASTING: 2183276.245(ft)
 ELEVATION: 286.66(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99989602

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "W5601DP-2" TO -L- STATION IS

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. NOTE: DRAWING NOT TO SCALE

6/2/2/99

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6/2/99

SURVEY CONTROL SHEET 80094

PROJECT REFERENCE NO.	SHEET NO.
80094	1C-2
Location and Surveys	
PROJECT SURVEYOR	

BASELINE DATA

BL2	POINT	DESC.	NORTH	EAST	ELEVATION
4		GPS4	708175.5030	2185443.9170	336.86
3		GPS3	708739.2480	2184930.5400	333.40
200		BL-200	709525.0523	2184648.3800	333.05

BENCHMARK DATA

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XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
BM2      ELEVATION = 336.49
N 708737      E 2185005
TOP NUT OF FIRE HYDRANT
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
BM3      ELEVATION = 339.72
N 708108      E 2185416
TOP NUT OF FIRE HYDRANT
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

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NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
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3. NOTE: DRAWING NOT TO SCALE

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SURVEY CONTROL SHEET 80094

W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

ALIGNMENT DATA

EL-2		N	E	BEARING	DIST	DELTA	D	L	T	R
POT	POINT	707936.633	2185674.003							
LINE				N 49°30'14.2" W	156.46					
PC		708038.240	2185555.020							
CURVE				N 45°38'17.9" W	230.26	07°43'52.6*(RT)	03°21'18.4"	230.43	115.39	1707.72
PT		708199.233	2185390.399							
LINE				N 41°46'21.6" W	77.03					
PC		708256.679	2185339.086							
CURVE				N 40°05'34.8" W	154.44	03°21'33.6*(RT)	02°10'29.3"	154.47	77.26	2634.54
PT		708374.829	2185239.619							
LINE				N 38°24'48.0" W	194.29					
PC		708527.068	2185118.898							
CURVE				N 37°20'20.1" W	185.69	02°08'55.6*(RT)	01°09'25.6"	185.70	92.86	4951.67
PCC		708674.706	2185006.269							
CURVE				N 29°00'38.8" W	274.85	14°30'27.1*(RT)	05°15'51.4"	275.58	138.53	1088.39
PT		708915.069	2184872.975							
LINE				N 21°45'25.2" W	461.16					
PC		709343.377	2184702.037							
CURVE				N 24°15'34.2" W	209.58	05°00'17.9*(LT)	02°23'14.4"	209.65	104.89	2400.00
PT		709343.377	2184702.037							

EY-2		N	E	BEARING	DIST	DELTA	D	L	T	R
POT	POINT	707926.108	2185394.319							
LINE				N 23°11'22.8" E	110.27					
PC		708027.468	2185437.740							
CURVE				N 28°13'20.5" E	103.42	10°03'55.5*(RT)	09°43'12.1"	103.55	51.91	589.46
PT		708118.594	2185486.647							
LINE				N 33°15'18.3" E	206.35					
POT		708291.153	2185599.804							

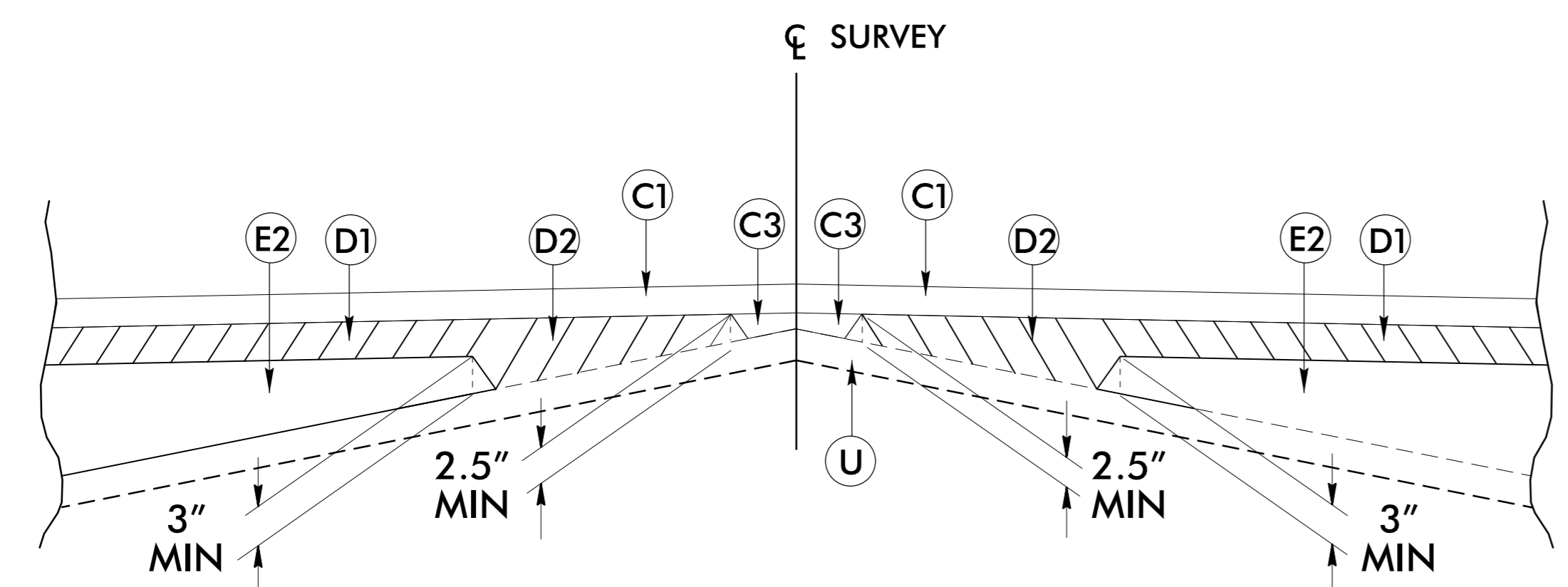
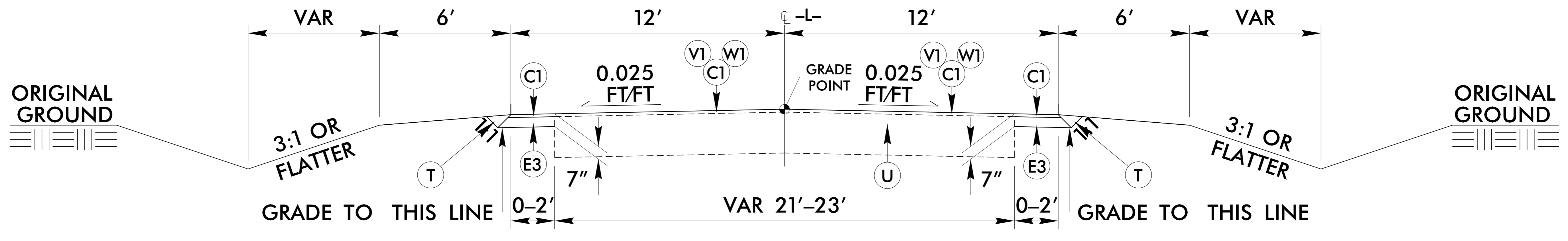
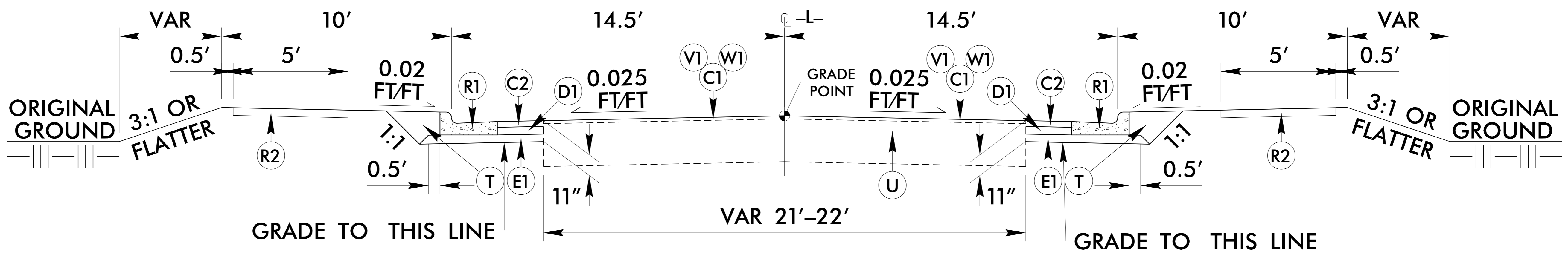
NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. NOTE: DRAWING NOT TO SCALE

PAVEMENT SCHEDULE

PROJECT REFERENCE NO. 80094	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER 3/3/2021 NORWOOD & GAINEY III SEAL 040774 ENGINEER	PAVEMENT DESIGN ENGINEER 3/3/2021 NORWOOD & GAINEY III SEAL 040774 ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YARD.	E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YARD.	T	EARTH MATERIAL.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YARD. IN EACH OF TWO LAYERS.	E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YARD PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5.5" IN DEPTH.	U	EXISTING PAVEMENT.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YARD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 1.5" DEPTH.	E3	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YARD.	V1	MILLING BITUMINOUS PAVEMENT. 1.5" DEPTH.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YARD.	R1	2'-6" CONCRETE CURB AND GUTTER	W1	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL)
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YARD PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.	R2	4" CONCRETE SIDEWALK	NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.	



6/2/99
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STATE OF
 NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

GENERAL NOTES:

- ALL CORNERS TO BE CHAMFERED 1".
- * THE CONTRACTOR WILL BE REQUIRED TO PLACE 2 - #6 BARS "Y" IN THE TOP OF ALL ENDWALLS FOR PIPE CULVERTS 42" AND OVER WITH A MINIMUM OF 3" COVER AND A LENGTH OF 6" LESS THAN ENDWALL.
- FORMS ARE TO BE USED FOR THE CONSTRUCTION OF THE BOTTOM SLAB.
- WALL THICKNESS (T) SHOWN IS NOT TO BE INTERPRETED TO MEAN THE THICKNESS ACCEPTABLE, BUT ARE USED ONLY IN COMPUTING ENDWALL QUANTITIES.
- IF CONTRACTOR ELECTS TO USE CONSTRUCTION JOINT AT BOTTOM OF PIPE, BAR X (DOWELS SHALL BE PLACED IN THE BASE AS SHOWN ON PLANS. SPACING OF BARS TO BE APPROXIMATELY 12" CENTER UNLESS ENGINEER DIRECTS OTHERWISE.
- WHEN CONTRACTOR ELECTS TO USE CONSTRUCTION JOINT AT BOTTOM OF PIPE AND POURS BASE SEPARATELY, THE TOP BASE SHALL BE LEFT ROUGH.
- WHEN SKEW ANGLE OF PIPE IS OVER 45° USE G-1 DIMENSION FOR 45° PLUS 6" FOR EACH 5° OVER 45°. G2 DIMENSION WILL BE THE NEW DIMENSION DIVIDED BY THE COSINE OF THE ANGLE OF PIPE SKEW.
- CLASS "B" CONCRETE SHALL BE USED.

ENGLISH DETAIL DRAWING FOR
**CONCRETE ENDWALL FOR SINGLE AND
 DOUBLE PIPE CULVERTS**
 15" THRU 48" PIPE

SHEET 2 OF 2
838D03

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

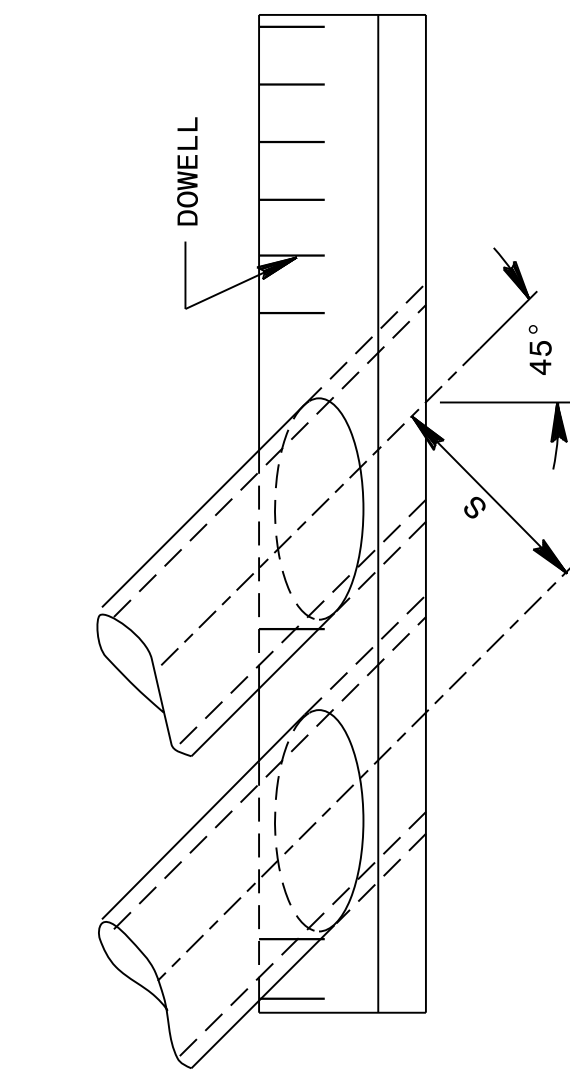
ENGLISH DETAIL DRAWING FOR
DOUBLE PIPE CULVERTS
 15" THRU 48" PIPE

SHEET 2 OF 2
838D03

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

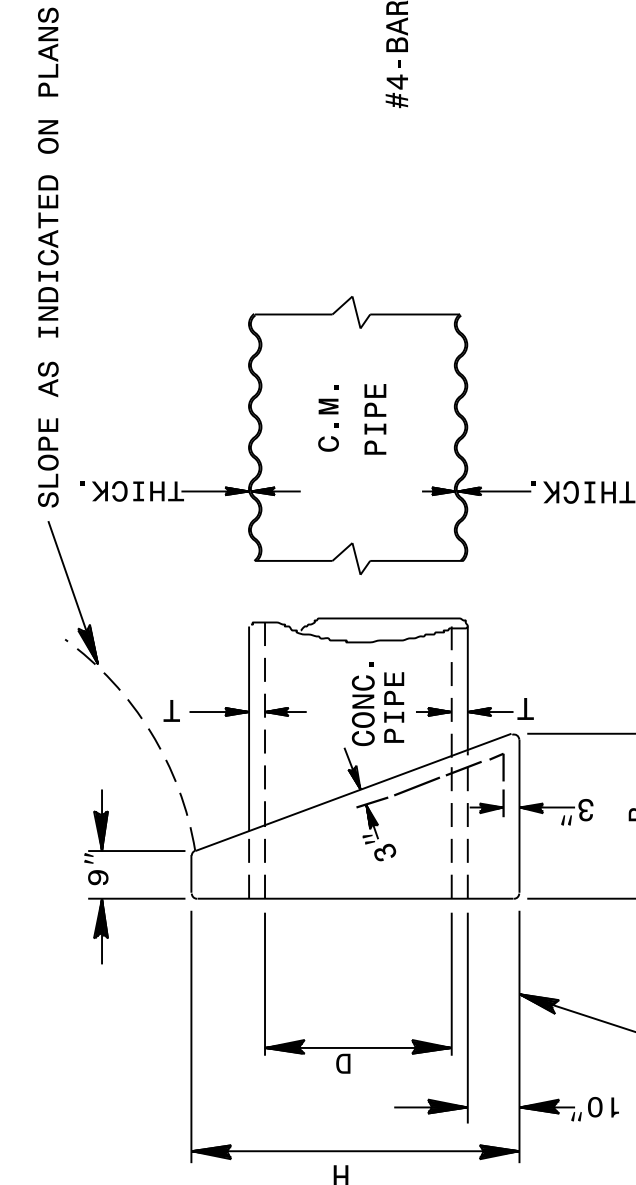
ENGLISH DETAIL DRAWING FOR
**CONCRETE ENDWALL FOR SINGLE AND
 DOUBLE PIPE CULVERTS**
 15" THRU 48" PIPE 45° OR 135° SKEW

SHEET 1 OF 2
838D03



PLAN

FOOTING
 (IF CONST. JOINT IS USED)



END ELEVATION

DOWEL
 BAR - "X"

PIPE DIA.	SINGLE PIPE										DOUBLE PIPE									
	15"	18"	24"	30"	36"	42"	48"	15"	18"	24"	30"	36"	42"	48"						
LOC.	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"						
G1	2	2	2	2	3	3	3	2	2	2	2	2	2	3						
S	QTY.	-	-	-	-	-	2	-	-	-	-	2	2	2						
G2	QTY.	5	5	6	7	8	9	10	10	10	10	10	10	10						
TOT.	LBS.	16	16	19	21	26	73	81	19	19	21	26	30	96						
														117						

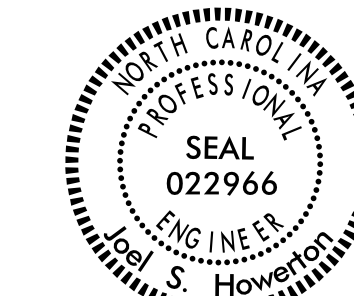
PIPE DIA.	SINGLE PIPE										DOUBLE PIPE									
	15"	18"	24"	30"	36"	42"	48"	15"	18"	24"	30"	36"	42"	48"						
LOC.	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"	"X"						
G1	2	2	2	2	2	3	3	2	2	2	2	2	2	3						
S	QTY.	-	-	-	-	-	2	-	-	-	-	2	2	2						
G2	QTY.	4	5	6	7	8	9	10	10	10	10	10	10	10						
TOT.	LBS.	14	16	19	21	23	69	77	16	19	21	23	28	96						
														107						

DIMENSIONS AND CONCRETE QUANTITIES

COMMON DIMS.	USING CONCRETE PIPE										USING CORRUGATED METAL PIPE															
	D	H	B	T	G1	G2	L	45	CU.YD.	H	D	H	B	T	G1	G2	L	30	CU.YD.	H						
15"	3'-4"	1'-8"	1'-8"	1'-8"	2'-9"	3'-11"	6'-8"	0.872	2'-9 3/8	3'-11 3/8	2'-3"	3'-2 1/4	9'-11"	1.234	3'-0"	1'-6"	2'-6"	3'-6"	6'-0"	0.626	2'-6 3/8	3'-6 3/8	2'-1"	2'-11 1/4	9'-0"	0.977
18"	3'-7"	1'-10"	2"	3'-2"	4'-6"	7'-8"	1.184	3'-2 3/8	4'-6 3/8	2'-7"	3'-7 3/4	11'-4"	1.582	3'-3"	1'-8"	2'-11"	4'-2"	7'-1"	0.916	2'-11 3/8	4'-2 3/8	2'-7"	3'-7 3/4	10'-9"	1.335	
24"	4'-2"	2'-1"	2 1/2"	4'-0"	5'-8"	9'-8"	1.770	4'-0"	5'-8"	4'-10"	14'-6"	2.483	3'-9"	1'-11"	3'-8"	5'-2"	8'-10"	1.412	3'-8"	5'-2"	3'-0"	4'-3"	13'-1"	1.975		
30"	4'-9"	2'-5"	2 3/4"	4'-7"	6'-6"	11'-1"	2.509	4'-7"	6'-6"	4'-3"	17'-1"	3.603	4'-3"	2'-2"	4'-5"	6'-3"	10'-8"	2.066	4'-5"	6'-3"	3'-10"	5'-5"	16'-1"	2.927		
36"	5'-3"	2'-8"	3"	5'-6"	7'-9"	13'-3"	3.533	5'-6 3/8	7'-9 3/8	5'-1"	17'-2 1/4	20'-6"	5.072	4'-9"	2'-5"	5'-2"	7'-4"	12'-6"	2.885	5'-2 3/8	7'-4 3/8	4'-6"	6'-4 1/4	18'-1 1/4	4.076	
42"	5'-10"	2'-11"	3 1/2"	6'-4"	8'-11"	15'-3"	4.772	6'-4"	8'-11"	8'-3"	23'-6"	6.772	5'-3"	2'-8"	5'-11"	8'-4"	14'-3"	3.856	5'-11"	8'-4"	5'-3"	7'-5"	21'-8"	5.442		
48"	6'-5"	3'-3"	4"	7'-2"	10'-2"	17'-4"	6.432	7'-2 1/4	10'-2 1/4	8'-9"	9'-6 1/2	26'-11"	9.181	5'-9"	2'-11"	6'-8"	9'-5"	16'-1"	5.052	6'-8 1/4	9'-5 1/4	6'-0"	8'-5 1/2	24'-7"	7.142	

ELEVATION

*SEE SHEET 2



DocuSigned by:
 Joel Howerton, PE
 #79F301D0C045F
 2/22/2021

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 UNLESS ALL SIGNATURES COMPLETED

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

SEE PLATE FOR TITLE

ORIGINAL BY: STD.NO.838.01 DATE: 4-17-99
 MODIFIED BY: T.S. SPELL DATE: 12-10-08
 CHECKED BY: DATE:
 FILE SPEC.: s:user/details/metric/stand/838d02s1.dgn

PI Sta 11+62.18
 $\Delta = 10^{\circ} 03' 55.5" (RT)$
 $D = 9' 43' 12.1"$
 $L = 103.55'$
 $T = 51.9'$
 $R = 589.46'$

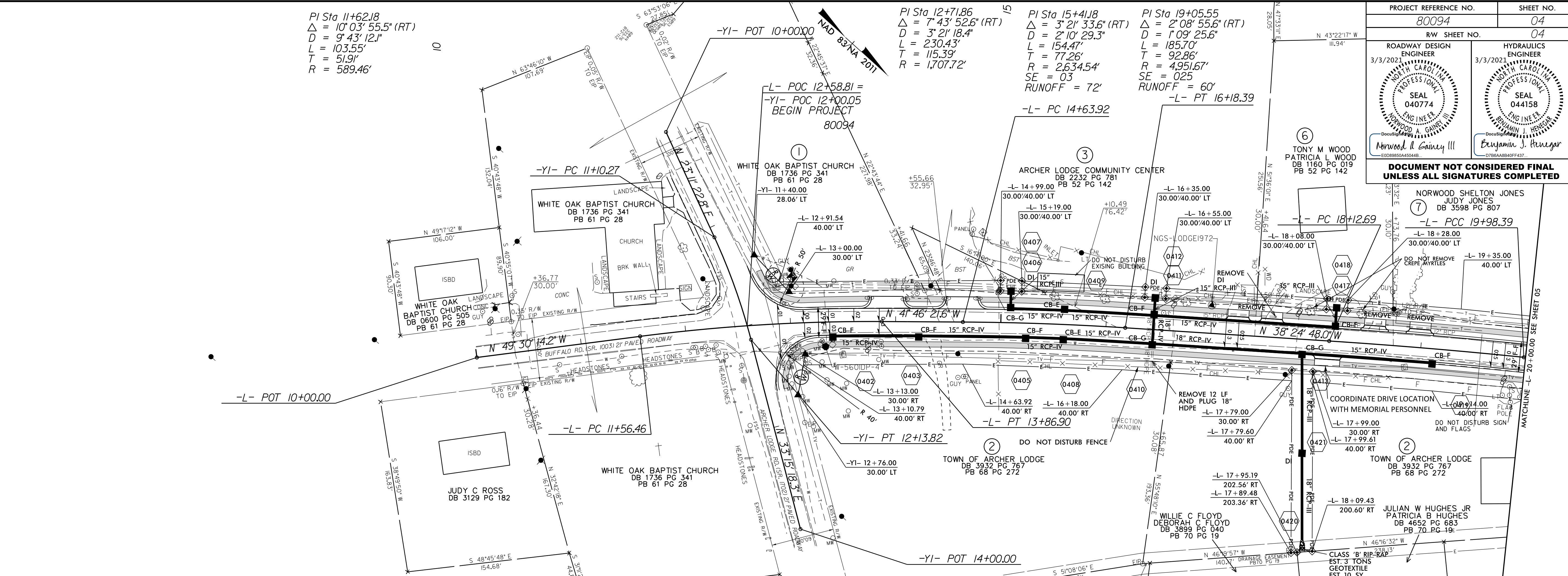
PI Sta 12+71.86
 $\Delta = 7^{\circ} 43' 52.6" (RT)$
 $D = 3' 21' 18.4"$
 $L = 230.43'$
 $T = 115.39'$
 $R = 1,707.72'$

PI Sta 15+41.18
 $\Delta = 3^{\circ} 21' 33.6" (RT)$
 $D = 2' 10' 29.3"$
 $L = 154.47'$
 $T = 77.26'$
 $R = 2,634.54'$
 $SE = 03$
 $RUNOFF = 72'$

PI Sta 19+05.55
 $\Delta = 2^{\circ} 08' 55.6" (RT)$
 $D = 1' 09' 25.6"$
 $L = 185.70'$
 $T = 92.86'$
 $R = 4,951.67'$
 $SE = 025$
 $RUNOFF = 60'$

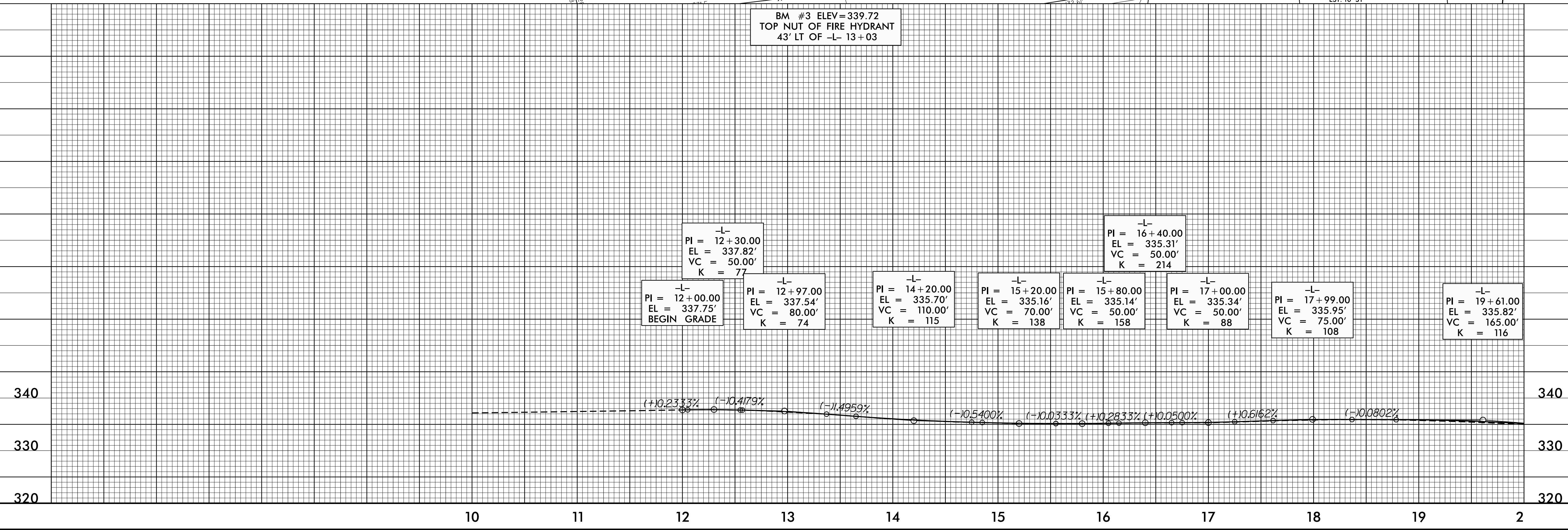
8/17/99

REVISIONS

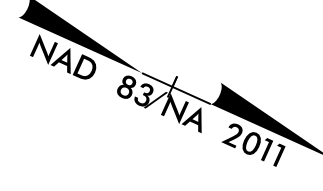
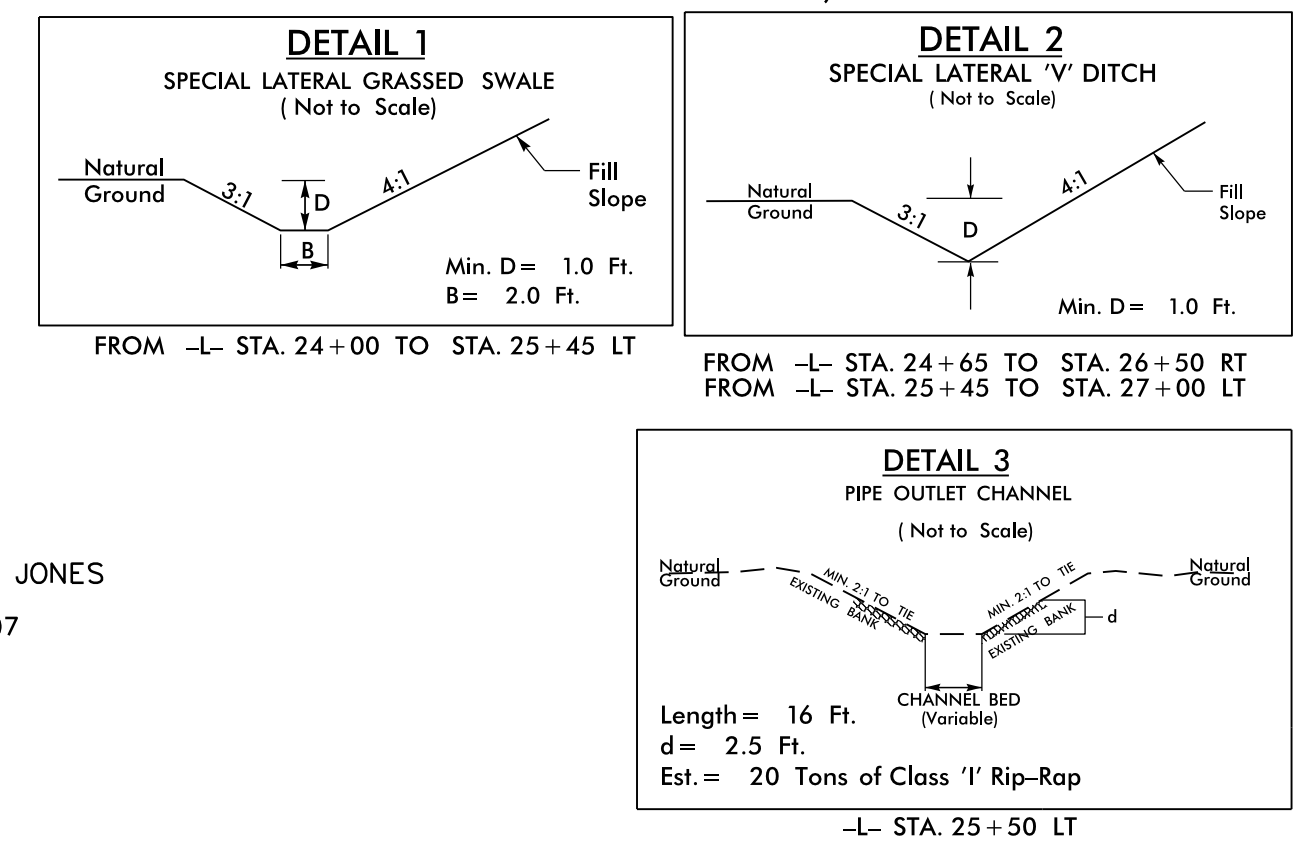


BM #3 ELEV=339.72
 TOP NUT OF FIRE HYDRANT
 43' LT OF -L- 13+03

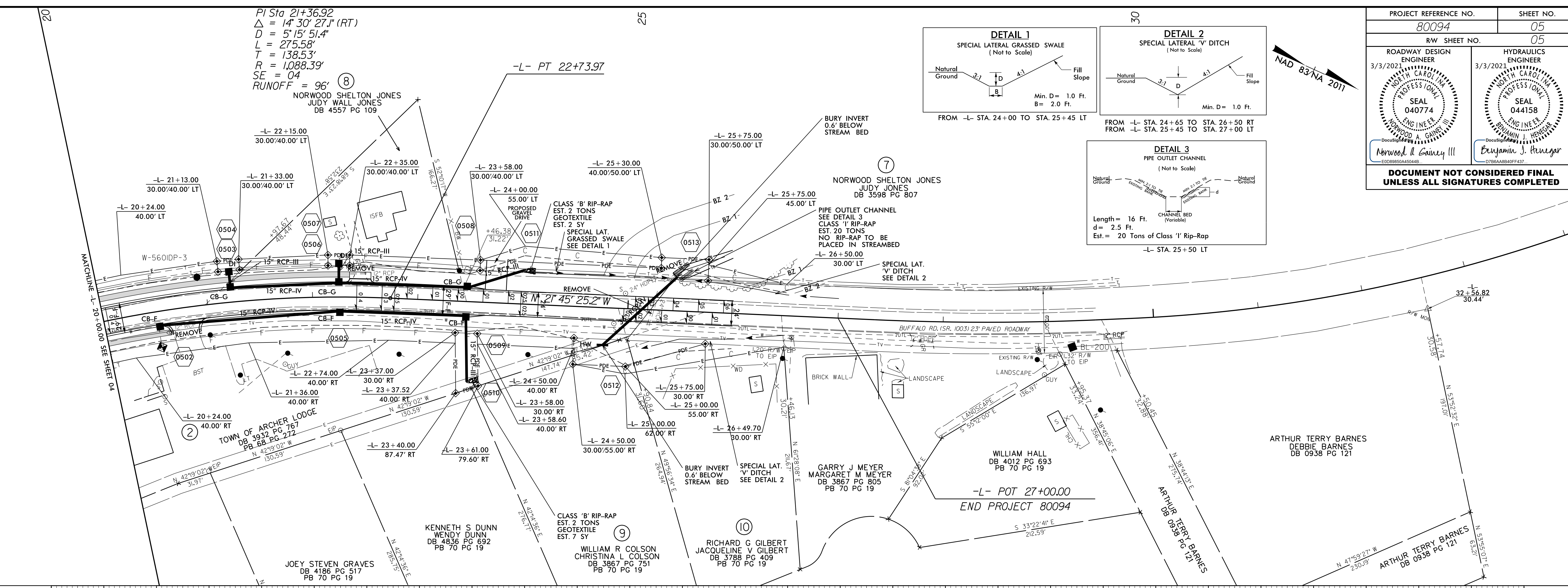
-L- PI = 12+30.00 EL = 337.82' VC = 50.00' K = 77	-L- PI = 12+97.00 EL = 337.54' VC = 80.00' K = 74	-L- PI = 14+20.00 EL = 335.70' VC = 110.00' K = 115	-L- PI = 15+20.00 EL = 335.16' VC = 70.00' K = 138	-L- PI = 15+80.00 EL = 335.14' VC = 50.00' K = 158	-L- PI = 17+00.00 EL = 335.34' VC = 50.00' K = 88	-L- PI = 17+99.00 EL = 335.95' VC = 75.00' K = 108	-L- PI = 19+61.00 EL = 335.82' VC = 165.00' K = 116
---	---	---	--	--	---	--	---



03-MAR-2021 09:30 80094.DDC4_PSH04.dgn



PI Sta 21+36.92
 $\Delta = 14' 30'' 27.1'' (RT)$
 $D = 5' 15'' 51.4''$
 $L = 275.58'$
 $T = 138.53'$
 $R = 1,088.39'$
 $SE = 04$
 $RUNOFF = 96'$ (8)



BM #2 ELEV=336.49
 TOP NUT OF FIRE HYDRANT
 34' RT OF -L- 20+51

PIPE HYDRAULIC DATA
 *0512 -L- Sta. 25+20

DRAINAGE AREA	= 13.2	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 24	CFS
DESIGN HW ELEVATION	= 327.5	FT
100 YEAR DISCHARGE	= 39	CFS
100 YEAR HW ELEVATION	= 328.8	FT
OVERTOPPING FREQUENCY	= 200	YRS
OVERTOPPING DISCHARGE	= 50	CFS
OVERTOPPING ELEVATION	= 329.9	FT

-L1-
 PI = 21+20.00
 EL = 333.44'
 VC = 50.00'
 K = 130

-L1-
 PI = 22+55.00
 EL = 331.94'
 VC = 50.00'
 K = 140

-L1-
 PI = 24+05.00
 EL = 330.81'
 VC = 50.00'
 K = 117

-L1-
 PI = 25+00.00
 EL = 329.69'
 VC = 140.00'
 K = 97

-L1-
 PI = 26+00.00
 EL = 329.96'
 END GRADE

-L- 24+00.00
 EL = 326.80'
 BEGIN DITCH
 GRADE LEFT

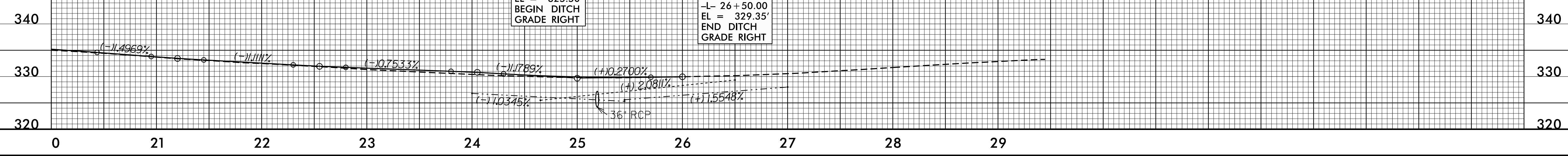
-L- 24+65.00
 EL = 325.50'
 BEGIN DITCH
 GRADE RIGHT

-L- 25+45.00
 EL = 325.30'
 END DITCH
 GRADE LEFT

-L- 25+45.00
 EL = 325.60'
 BEGIN DITCH
 GRADE LEFT

-L- 27+00.00
 EL = 328.01'
 END DITCH
 GRADE LEFT

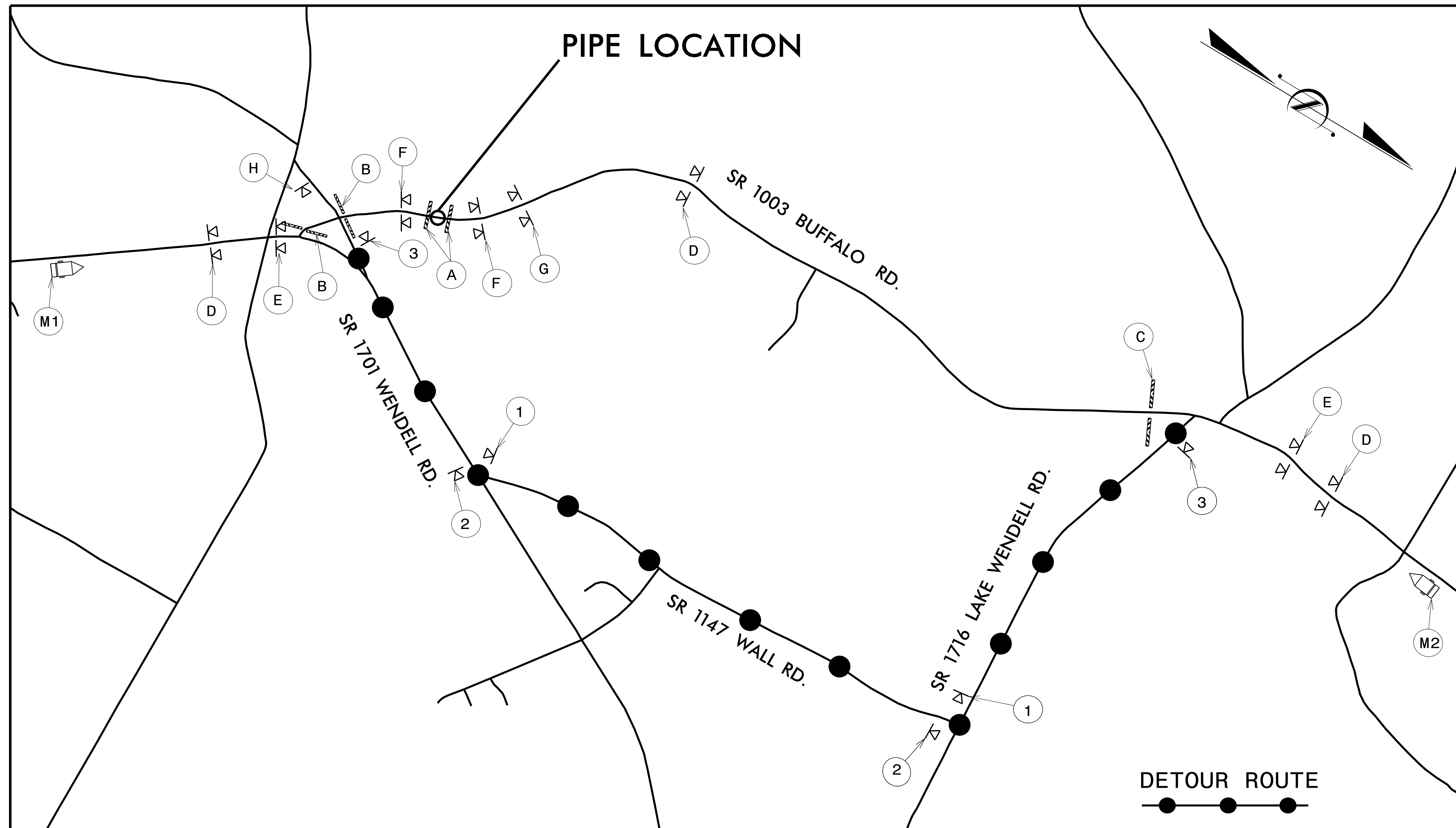
-L- 26+50.00
 EL = 329.35'
 END DITCH
 GRADE RIGHT



REVISIONS

8/17/99

03-MAR-2021 09:30 80094.DOC4_PSH05.dgn



PLACE ALL CMS BOARDS 1 MILE +/- BEFORE DETOUR

M1		M2	
MESSAGE NO. 1	MESSAGE NO. 2	MESSAGE NO. 1	MESSAGE NO. 2
BUFFALO RD WILL CLOSE	FRI 7 PM UNTIL MON 6 AM	BUFFALO RD WILL CLOSE	FRI 7 PM UNTIL MON 6 AM
CHANGEABLE MESSAGE SIGN		CHANGEABLE MESSAGE SIGN	

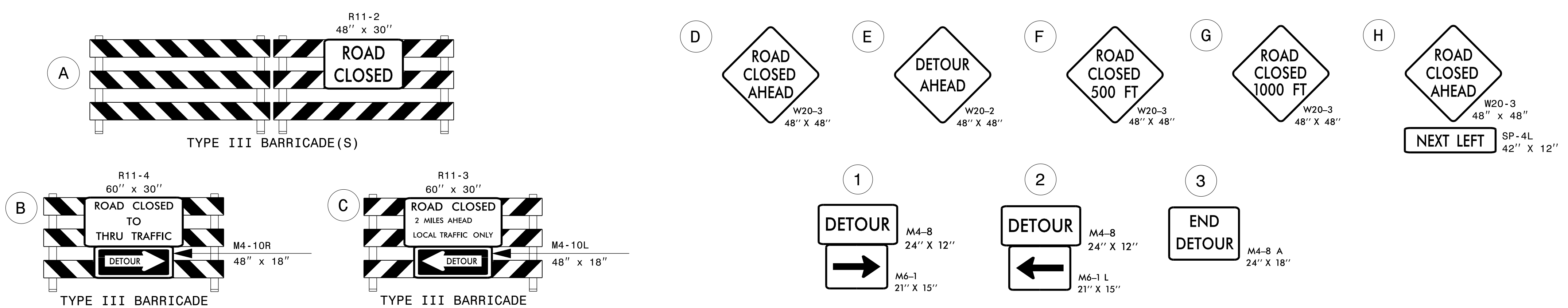
MESSAGE BEGINNING MONDAY PRIOR TO ROAD CLOSURE

M1		M2	
MESSAGE NO. 1	MESSAGE NO. 2	MESSAGE NO. 1	MESSAGE NO. 2
BUFFALO CLOSED AHEAD	BUFFALO FOLLOW DETOUR	BUFFALO CLOSED AHEAD	BUFFALO FOLLOW DETOUR
CHANGEABLE MESSAGE SIGN		CHANGEABLE MESSAGE SIGN	

MESSAGE DURING ROAD CLOSURE

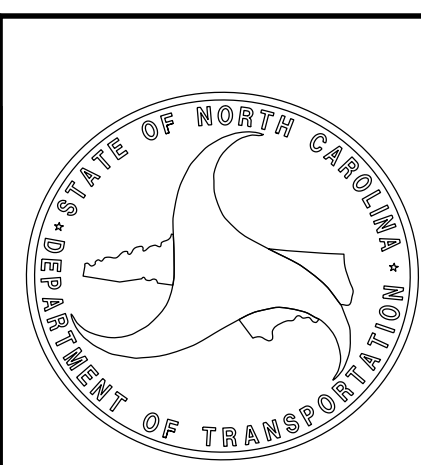
LEGEND

- BARRICADE (TYPE III)
- PORTABLE SIGN
- PORTABLE CMS



NOTES:
 TRAFFIC CONTROL DEVICES (A) THROUGH (H) SHALL BE INSTALLED ACCORDING TO RSD 1101.03
 TRAFFIC CONTROL DEVICES (1) THROUGH (3) SHALL BE INSTALLED AS SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER

APPROVED: *Norwood A. Gainer III*
 DATE: 4/5/2021
 SEAL: [Professional Engineer Seal for Norwood A. Gainer III, No. 040774, State of North Carolina]



OFF-SITE DETOUR ROUTE AND BARRICADE PLAN FOR PIPE INSTALLATION

05-APR-2021 09:06
 R:\PROJECTS\80094\80094_TCP\80094_TCP_TMP.dgn
 \$\$\$USERNAME\$\$\$

T.I.P.: 80094

CONTRACT:

**STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING PLAN
JOHNSTON COUNTY**

**LOCATION: SR 1003(BUFFALO RD) FROM SR 1702(ARCHER LODGE RD)
TO 1350' NORTH OF SR 1702(ARCHER LODGE RD)**

TIP NO. 80094	SHEET NO. PMP - 1
APPROVED: Ayman Alqudwah <small>F32AC2CAF955472</small>	
DATE: 5/14/2019	
SEAL 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - 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
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS

PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION
T2	WHITE STOPBAR (24", 90 MIL)
T3	WHITE CROSSWALK LINE (24", 90 MIL)
TA	WHITE EDGELINE (4", 90 MIL)
TI	YELLOW DOUBLE CENTER (4", 90 MIL)

GENERAL NOTES

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

- A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
BUFFALO RD	THERMOPLASTIC	N/A

- D) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
 E) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.
 F) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.
 G) STOP BAR LOCATION AT NON-SIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.
 I) UNLESS OTHERWISE SPECIFIED, HEATED-IN-PLACE THERMOPLASTIC MAY BE USED IN LIEU OF EXTRUDED THERMOPLASTIC FOR STOP BARS, SYMBOLS, CHARACTERS AND DIAGONALS. IF HEATED-IN-PLACE IS USED, IT SHALL BE PAID FOR USING THE EXTRUDED THERMOPLASTIC PAY ITEM.
 M) SEE ROADWAY PLANS FOR ALTERNATE CURB RAMP DESIGNS WHEN INDICATED ON PAVEMENT MARKING DETAIL SHEETS.

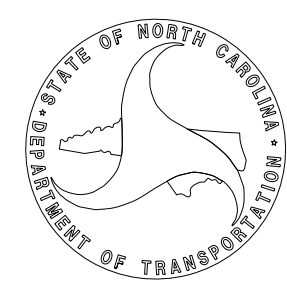
INDEX

SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING PLAN TITLE AND SCHEDULE SHEET
PMP-2	PAVEMENT MARKING DETAIL

PLAN PREPARED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT

AYMAN ALQUDWAH, PE SIGNING & DELINEATION REGIONAL ENGINEER

WALTER JOHNSON SIGNING & DELINEATION PROJECT DESIGN ENGINEER

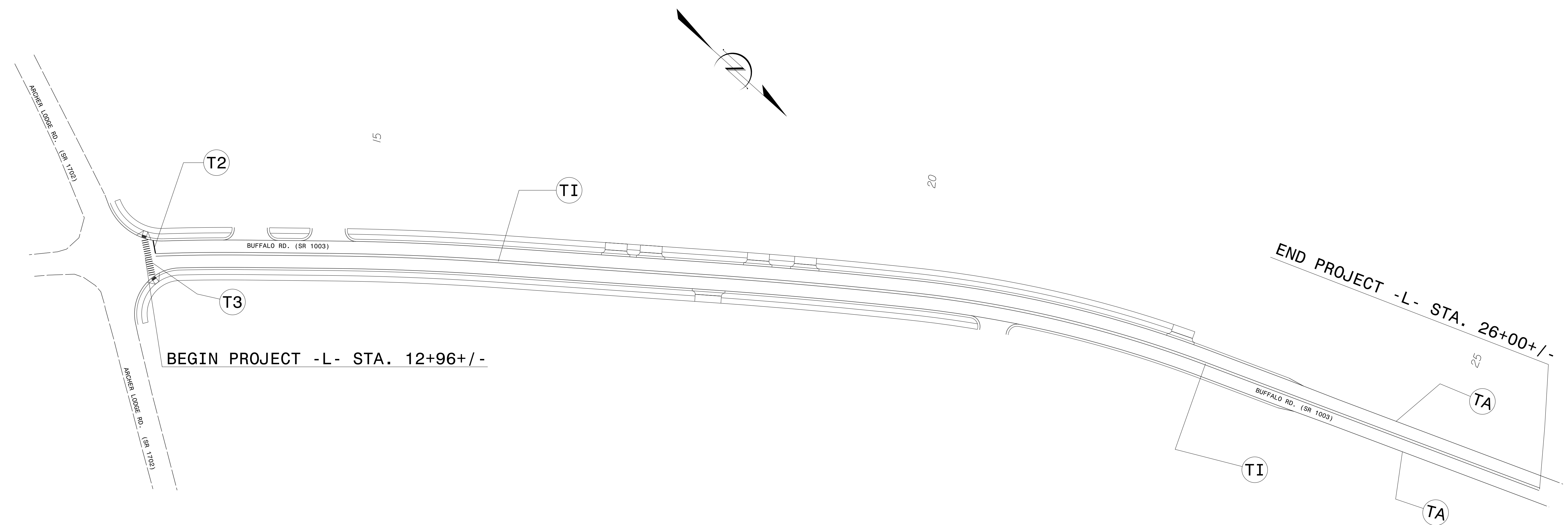


 SECTION 100 - CONSTRUCTION OF PAVEMENT

DocuSigned by:
AYMAN ALQUODWAH
 APPROVED: _____
 DATE: 5/14/2019



**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**

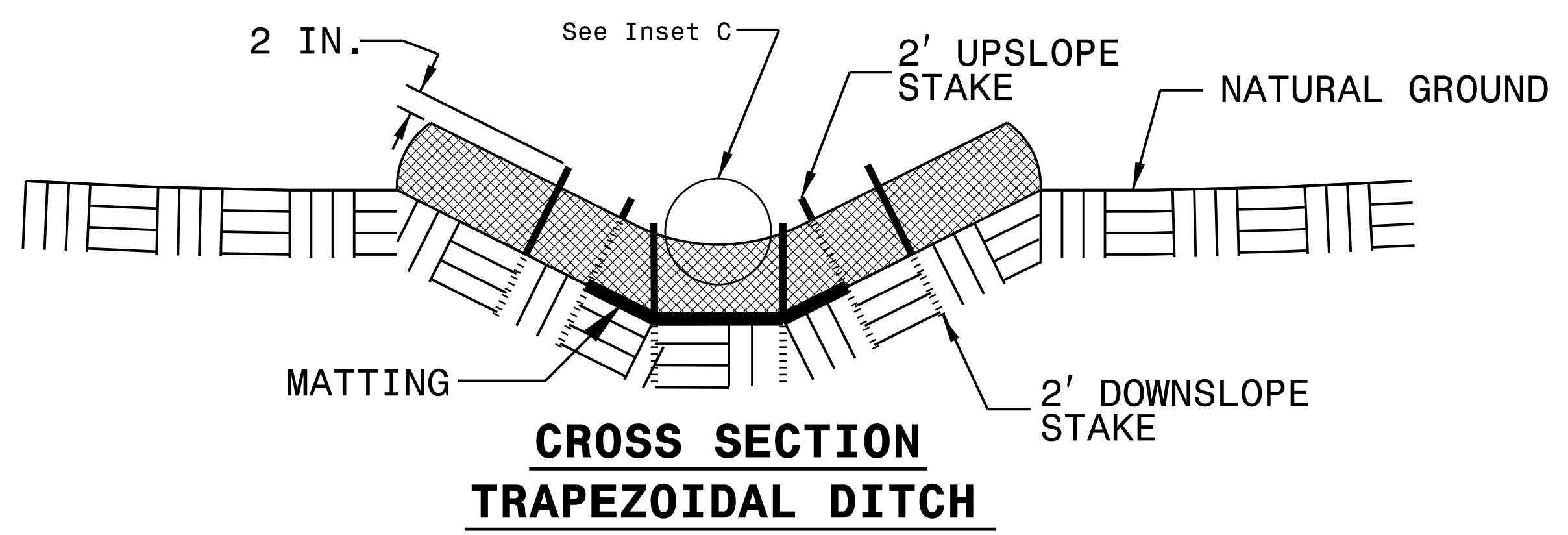
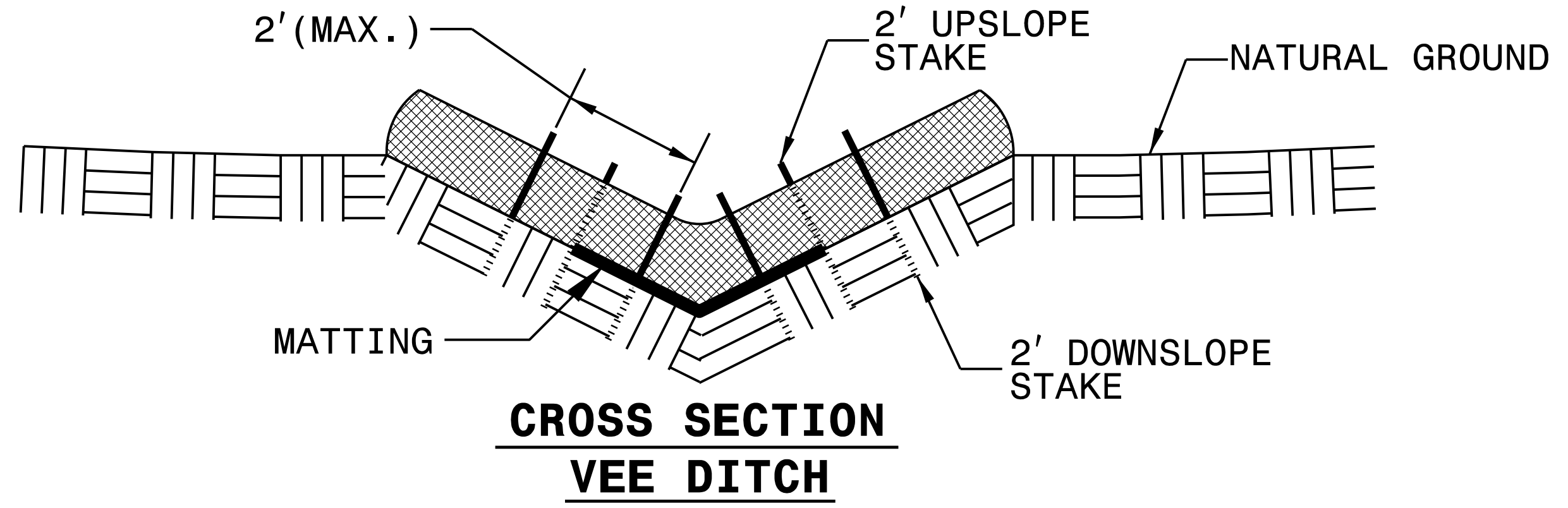
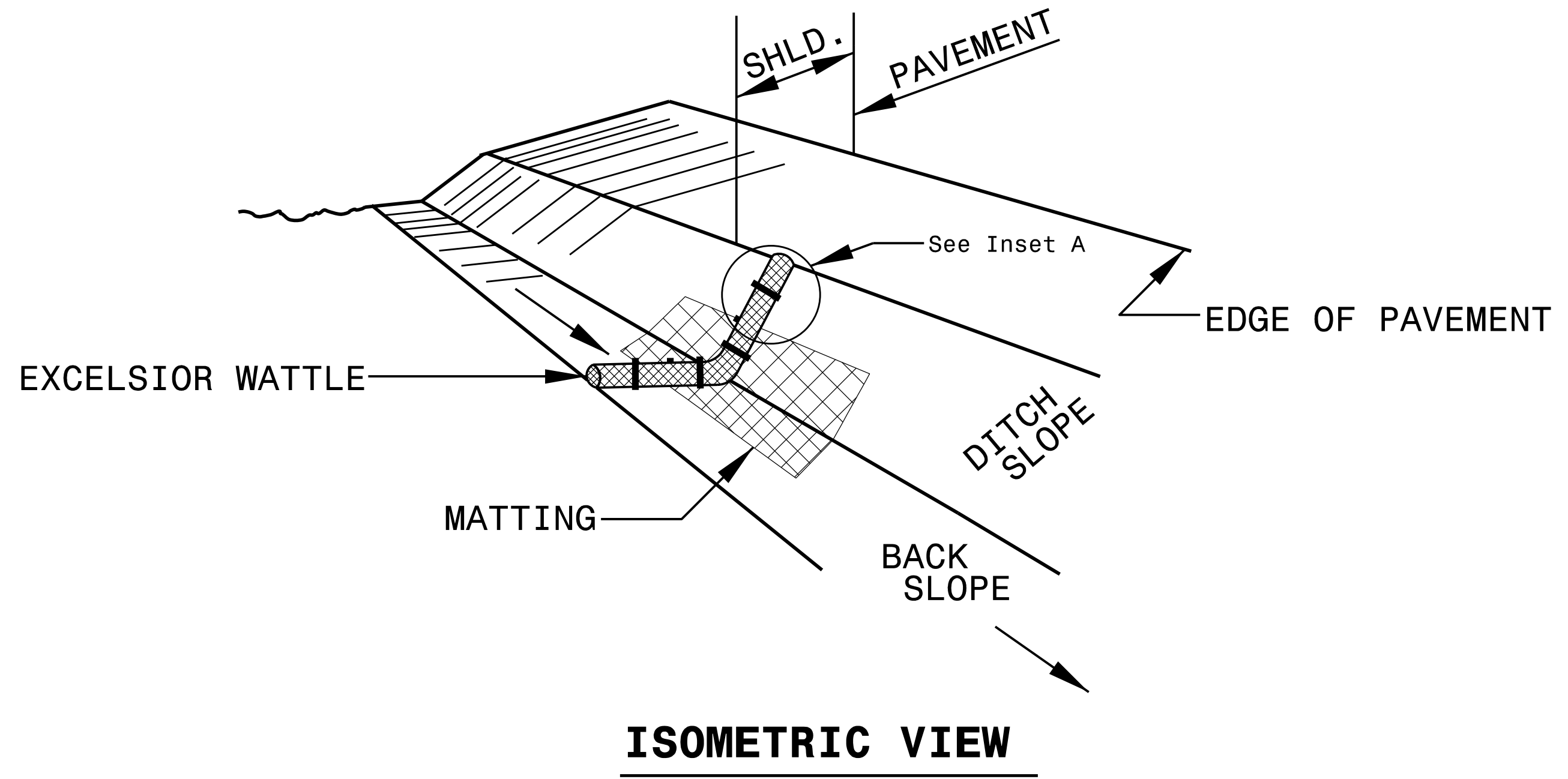


\$\$\$ SYSTEMS \$\$\$
 \$\$\$ DESIGN \$\$\$
 \$\$\$ CONSTRUCTION \$\$\$
 \$\$\$ MAINTENANCE \$\$\$
 \$\$\$ OPERATIONS \$\$\$

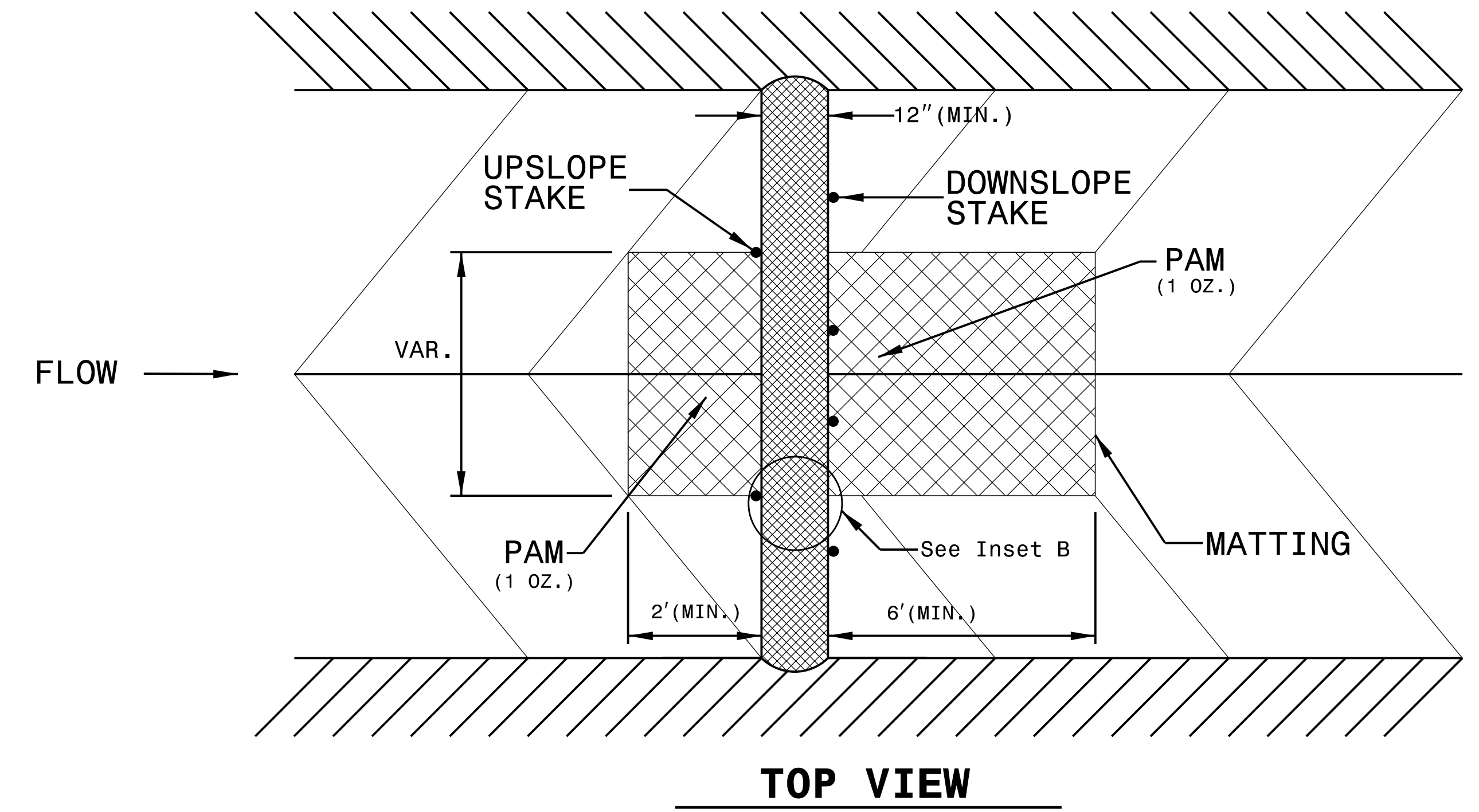
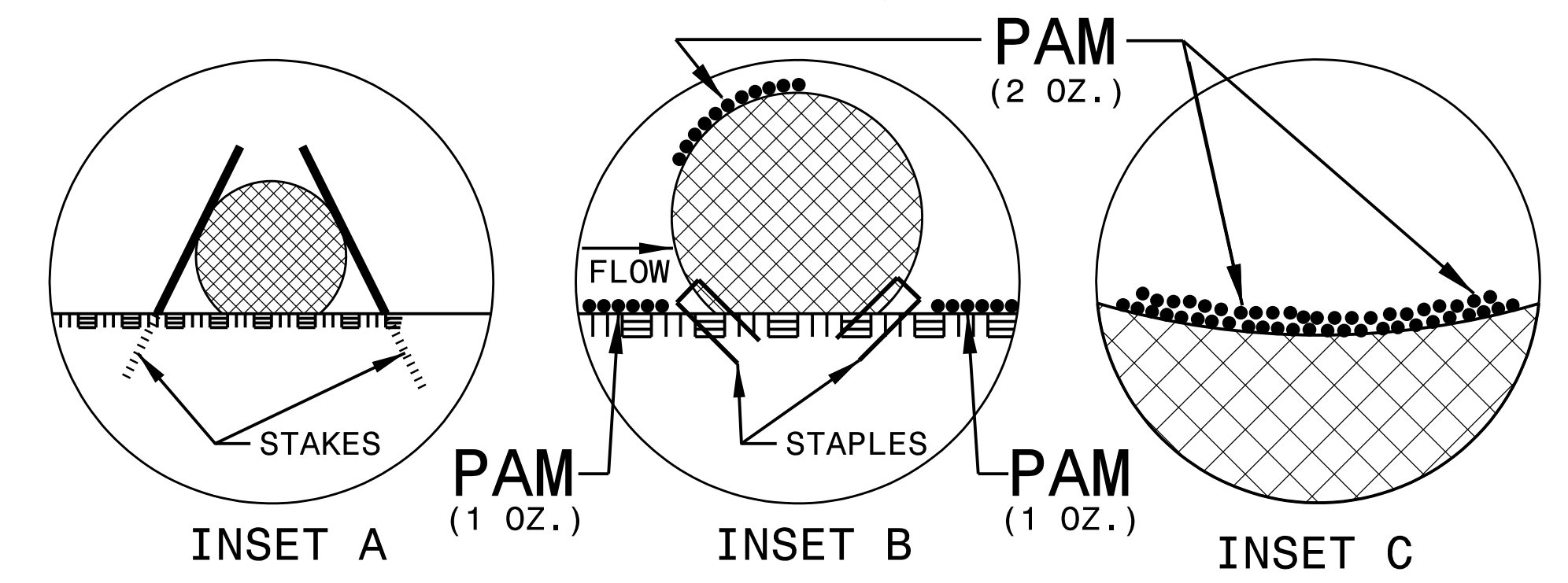
PAVEMENT MARKING DETAILS

PROJECT REFERENCE NO. 80094	SHEET NO. EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

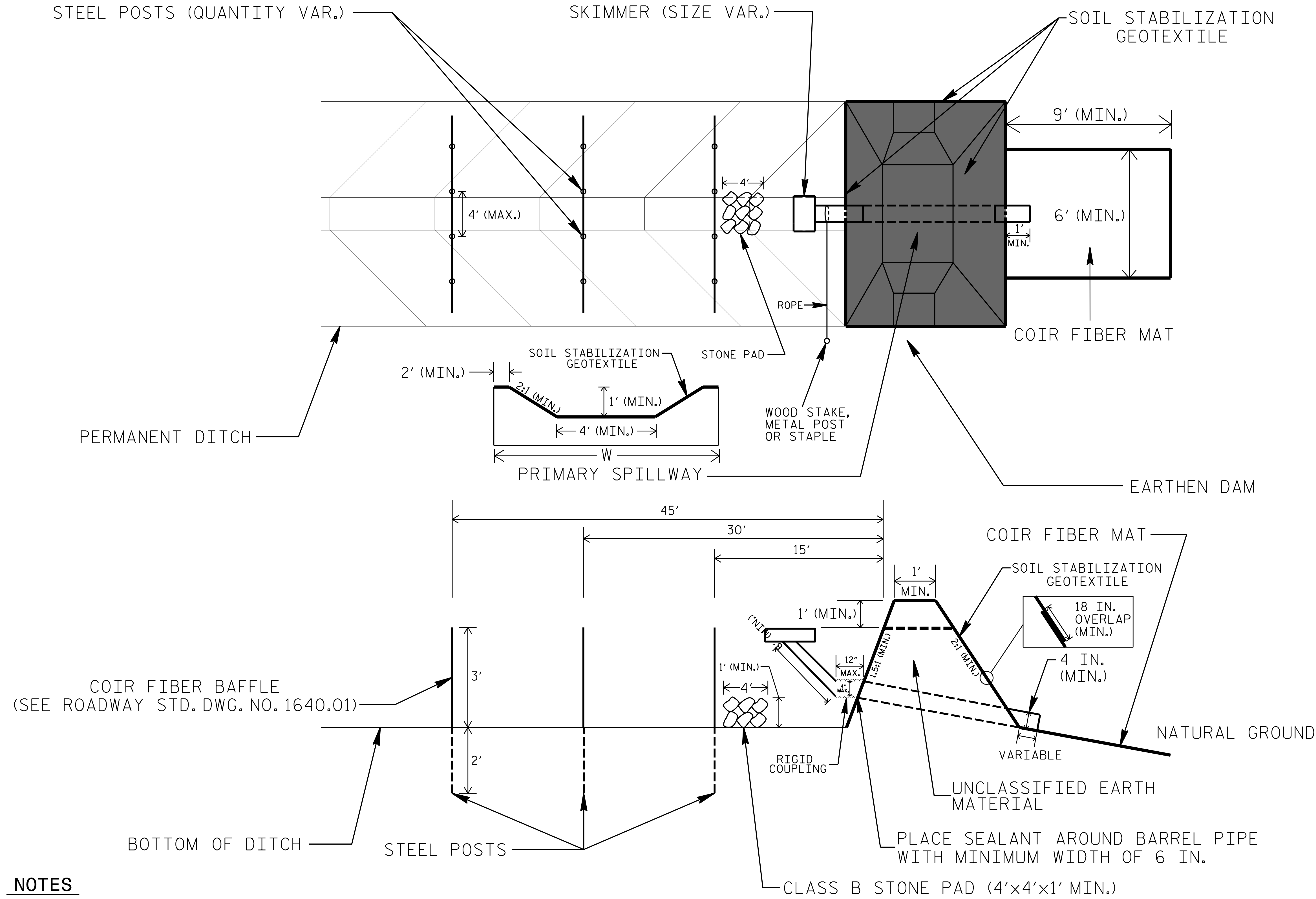


- NOTES:
- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.
 - USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
 - ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
 - INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE 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 EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



PROJECT REFERENCE NO. 80094	SHEET NO. EC-2B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EARTHEN DAM WITH SKIMMER



NOTES

1. LIMIT EARTHEN DAM HEIGHT TO 5 FT.
2. DETERMINE PRIMARY SPILLWAY LENGTH (FT.) USING $Q/0.8$, WHERE Q IS FLOW RATE (CFS) INTO BASIN.
3. SOIL STABILIZATION GEOTEXTILE FOR PRIMARY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

2" x 2" (nominal) WOODEN STAKE

#10 STEEL REINFORCEMENT BAR

1" (nominal) STAPLE

COIR FIBER MAT ANCHOR OPTIONS

NOT TO SCALE

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>80094</i>	SHEET NO. <i>EC-3</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION TIMEFRAMES

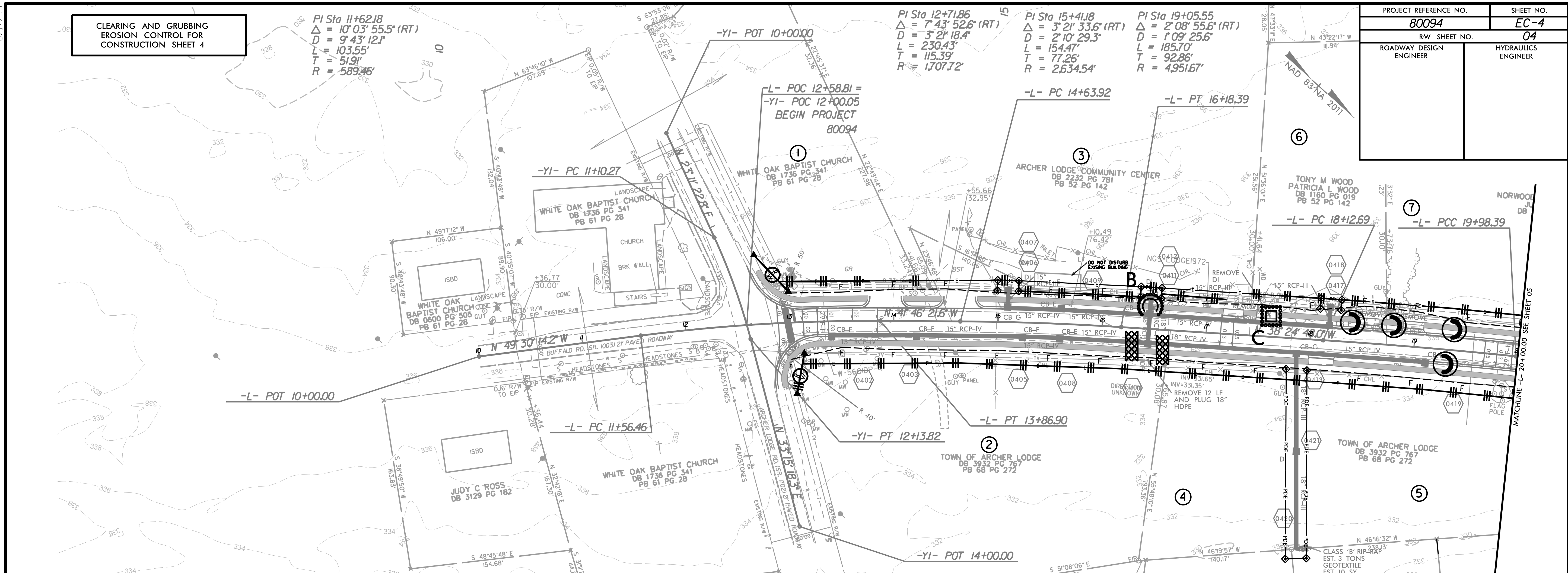
<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES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

MATTING FOR EROSION CONTROL

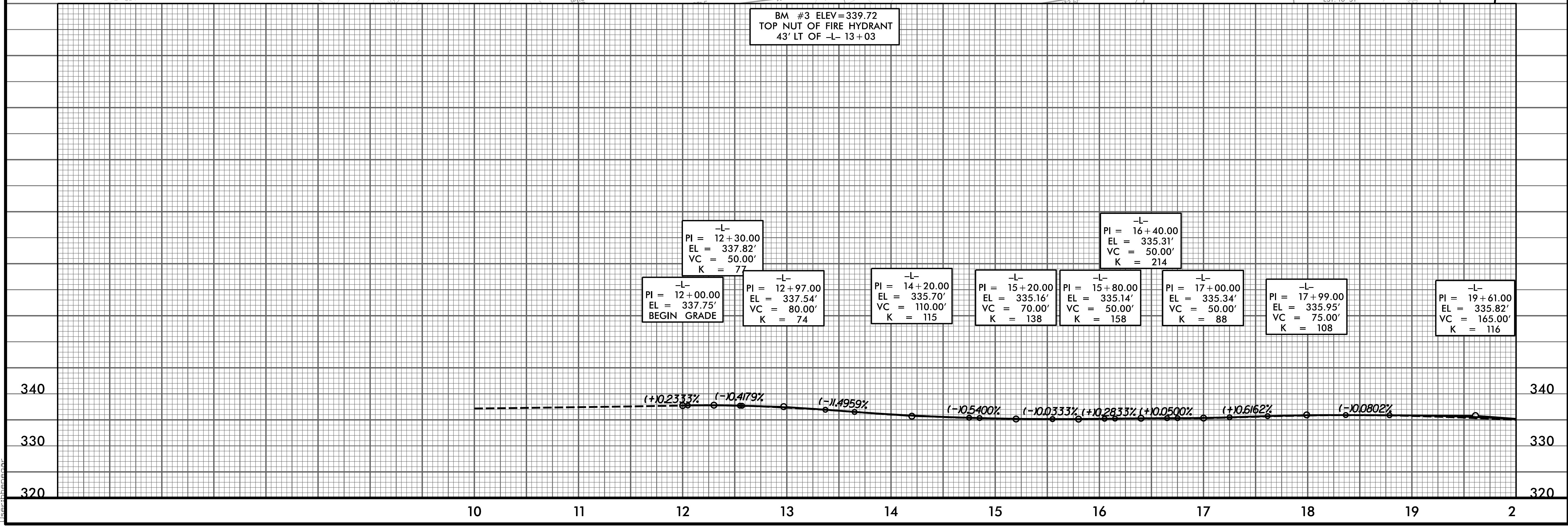
<i>CONST SHEET NO.</i>	<i>LINE</i>	<i>FROM STATION</i>	<i>TO STATION</i>	<i>SIDE</i>	<i>ESTIMATE (SY)</i>
4	-L- DITCH	24+65	26+50	RT	150
4	-L- DITCH	24+00	27+00	LT	305
				<i>SUBTOTAL</i>	455
					MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER
				<i>TOTAL</i>	1,955
				<i>SAY</i>	1,955

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

PROJECT REFERENCE NO. 80094	SHEET NO. EC-4
RW SHEET NO. 04	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

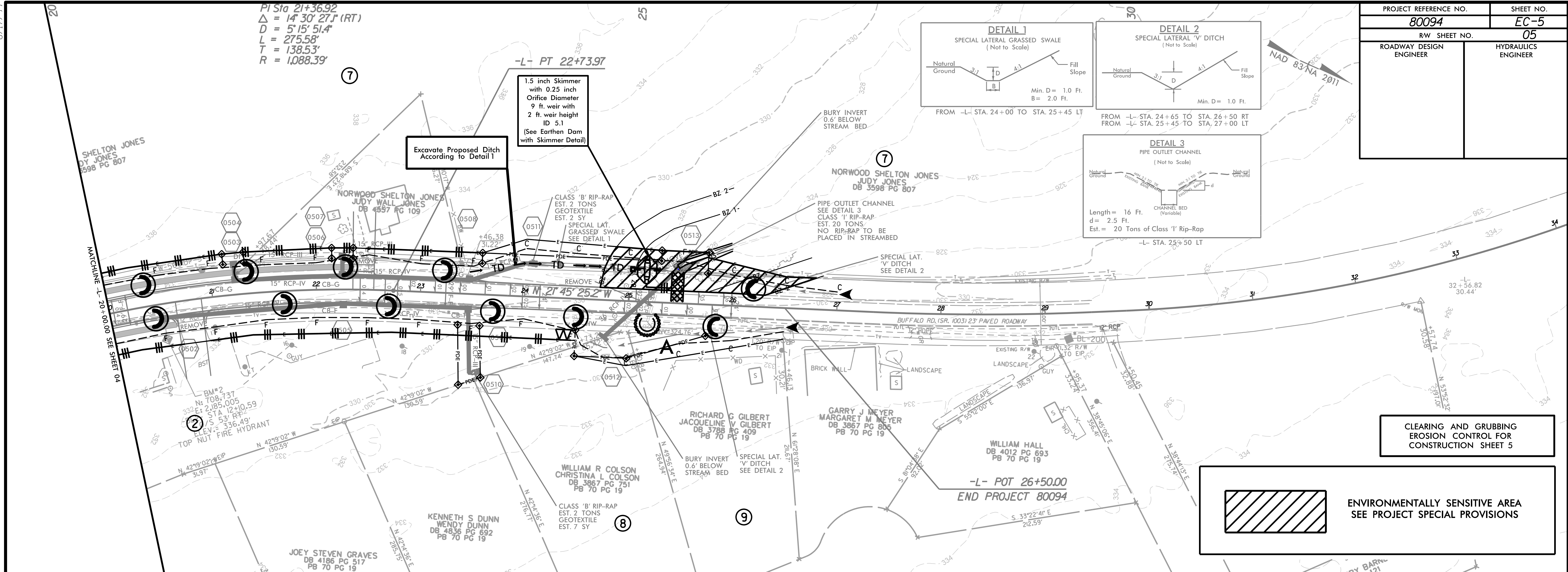


BM #3 ELEV=339.72
TOP NUT OF FIRE HYDRANT
43' LT OF -L- 13+03



8/17/99
5/15/2018 Division 4 (W-56011)W-5601DP\Environmental\Design\W-5601DP_C&G_PSH04.dgn

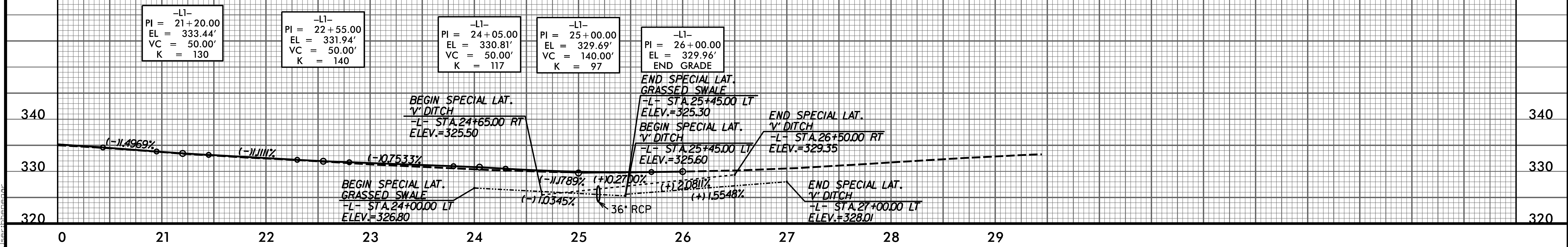
PROJECT REFERENCE NO.	SHEET NO.
80094	EC-5
RW SHEET NO.	05
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



BM #2 ELEV=336.49
TOP NUT OF FIRE HYDRANT
34' RT OF -L- 20+51

PIPE HYDRAULIC DATA
*0512 -L- Sta. 25+20

DRAINAGE AREA	= 13.2	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 24	CFS
DESIGN HW ELEVATION	= 327.5	FT
100 YEAR DISCHARGE	= 39	CFS
100 YEAR HW ELEVATION	= 328.8	FT
OVERTOPPING FREQUENCY	= 200	YRS
OVERTOPPING DISCHARGE	= 50	CFS
OVERTOPPING ELEVATION	= 329.9	FT



8.17.99
 5:\K\2008\Division 4 (W-5601)\W-5601DP\Environmental\Design\W-5601DP_C&G_PSH005.dgn
 11/15/2008

PROJECT REFERENCE NO.	SHEET NO.
80094	EC-6
RW SHEET NO.	04
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

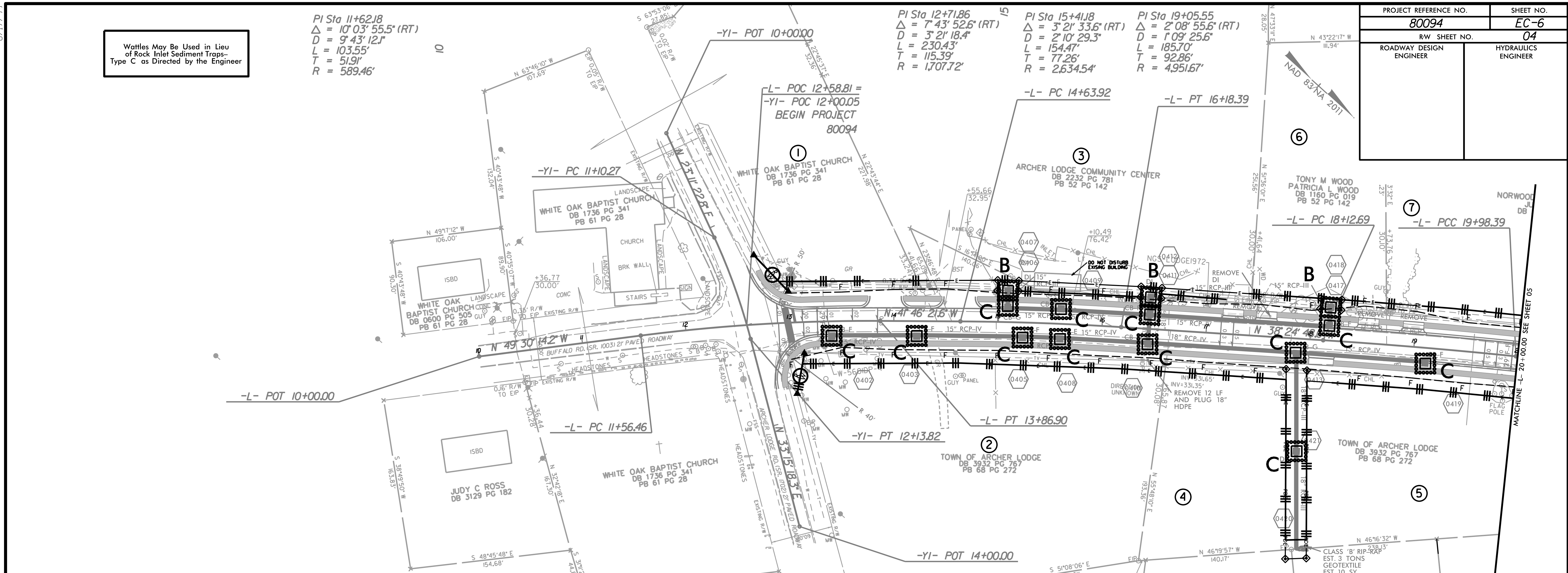
Wattles May Be Used in Lieu of Rock Inlet Sediment Traps- Type C as Directed by the Engineer

PI Sta 11+62.18
 $\Delta = 10^{\circ} 03' 55.5" (RT)$
 $D = 9' 43" 12.1"$
 $L = 103.55'$
 $T = 51.9'$
 $R = 589.46'$

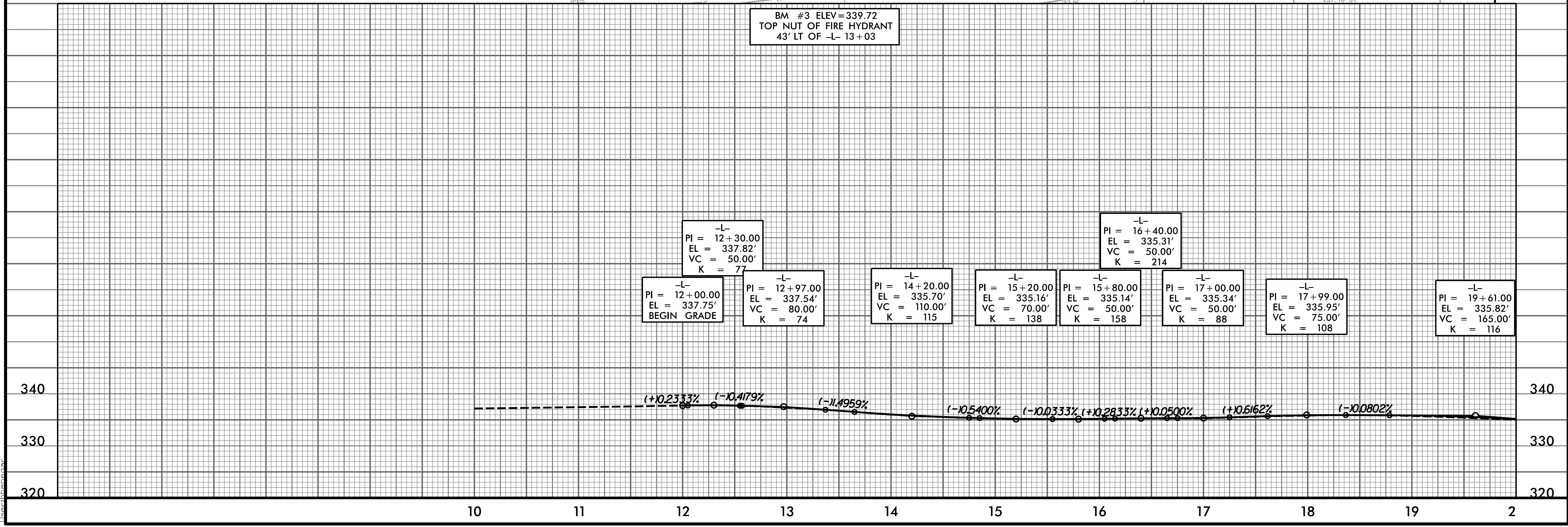
PI Sta 12+71.86
 $\Delta = 7^{\circ} 43' 52.6" (RT)$
 $D = 3' 21' 18.4"$
 $L = 230.43'$
 $T = 115.39'$
 $R = 1,707.72'$

PI Sta 15+41.8
 $\Delta = 3^{\circ} 21' 33.6" (RT)$
 $D = 2' 10' 29.3"$
 $L = 154.47'$
 $T = 77.26'$
 $R = 2,634.54'$

PI Sta 19+05.55
 $\Delta = 2^{\circ} 08' 55.6" (RT)$
 $D = 1' 09' 25.6"$
 $L = 185.70'$
 $T = 92.86'$
 $R = 4,951.67'$



BM #3 ELEV=339.72
 TOP NUT OF FIRE HYDRANT
 43' LT OF -L- 13+03

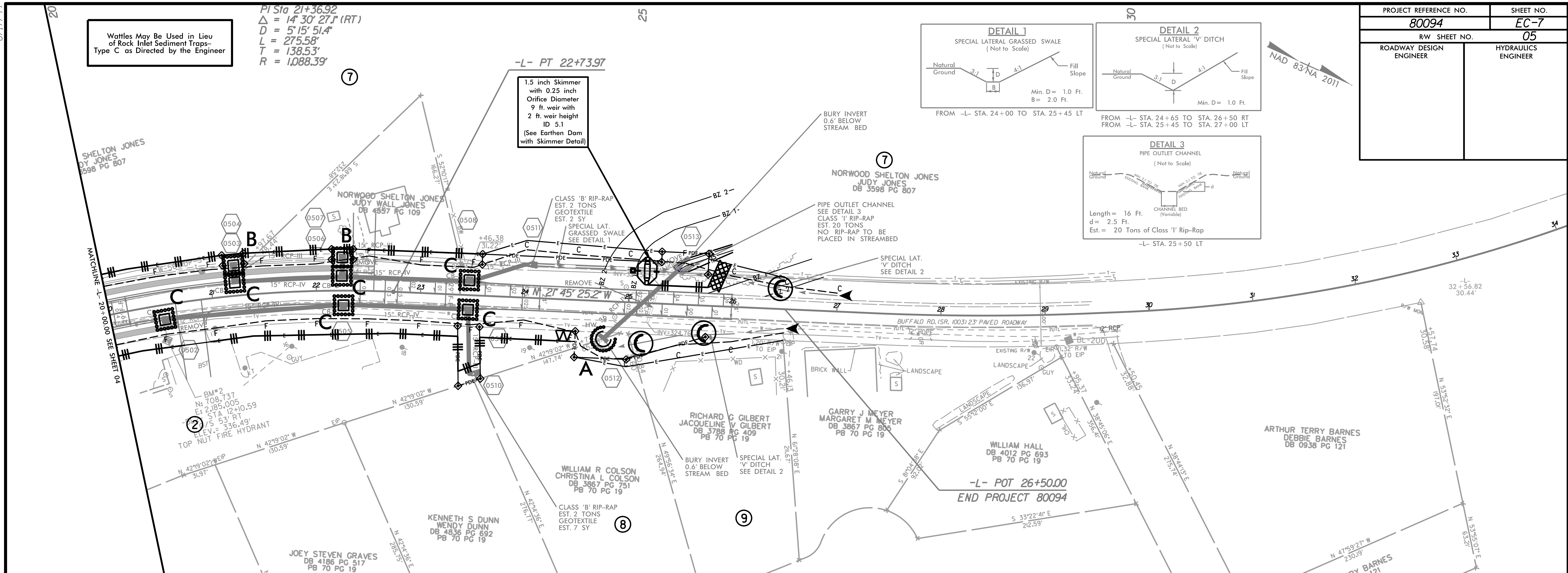
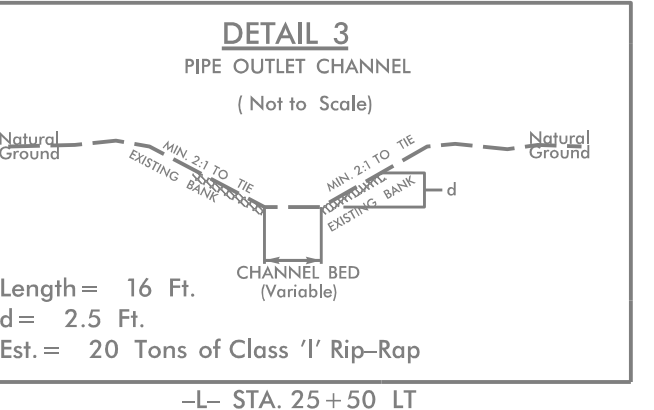
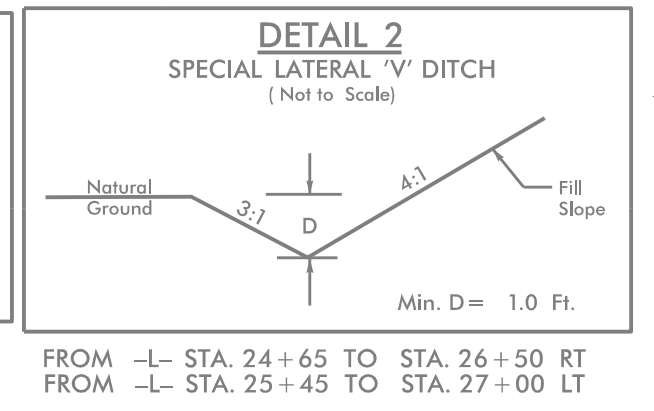
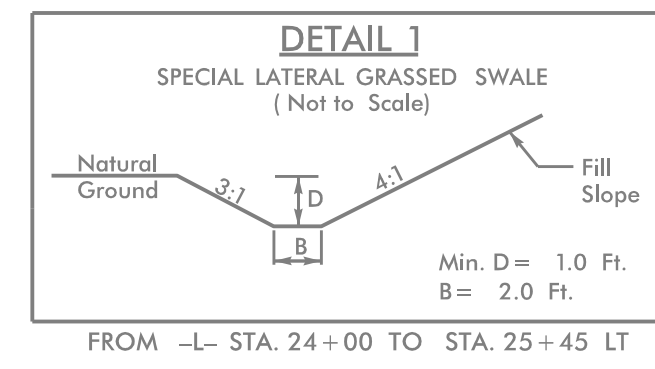


8/17/99
 5/15/2009 Division 4 (W-5601) Environmental\Design\W-5601DP_EC_PSH04.dgn

PROJECT REFERENCE NO.	SHEET NO.
80094	EC-7
RW SHEET NO.	05
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

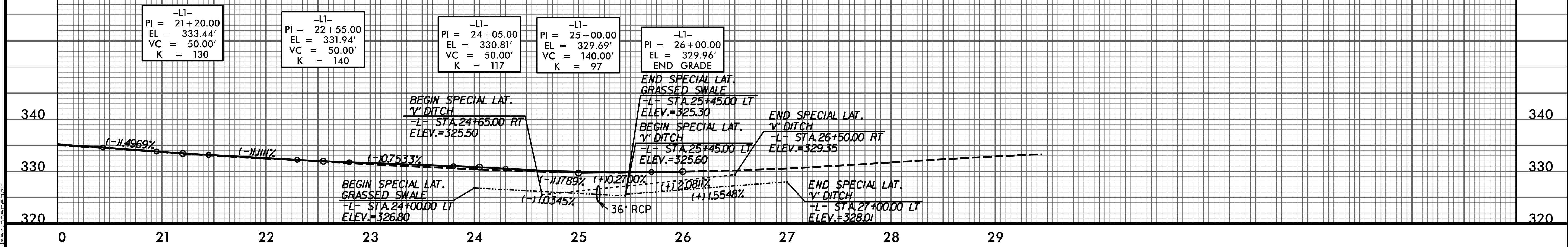
Wattles May Be Used in Lieu of Rock Inlet Sediment Traps- Type C as Directed by the Engineer

PI Sta 21+36.92
 $\Delta = 14' 30" 27.1$ (RT)
 $D = 5' 15" 51.4$
 $L = 275.58'$
 $T = 138.53'$
 $R = 1,088.39'$



BM #2 ELEV=336.49
 TOP NUT OF FIRE HYDRANT
 34' RT OF -L- 20+51

PIPE HYDRAULIC DATA	
*0512 -L- Sta. 25+20	
DRAINAGE AREA	= 13.2 AC
DESIGN FREQUENCY	= 25 YRS
DESIGN DISCHARGE	= 24 CFS
DESIGN HW ELEVATION	= 327.5 FT
100 YEAR DISCHARGE	= 39 CFS
100 YEAR HW ELEVATION	= 328.8 FT
OVERTOPPING FREQUENCY	= 200 YRS
OVERTOPPING DISCHARGE	= 50 CFS
OVERTOPPING ELEVATION	= 329.9 FT




8.17.799
 5/15/2018 Division 4 (W-5601)W-5601DP-Environmental\Design\W-5601DP_EC_PSH05.dgn
 11/20/2018

**STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION**

**SIGNING PLAN
JOHNSTON COUNTY**

**LOCATION: SR 1003(BUFFALO RD) FROM SR 1702(ARCHER LODGE RD)
TO 1350' NORTH OF SR 1702(ARCHER LODGE RD)**

PROJECT REFERENCE NO. 80094	SHEET NO. SIGN-1
APPROVED: <i>Ayman Alqudwah</i> 5/14/2019	
SEAL 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

T.I.P.: 80094

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - 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:

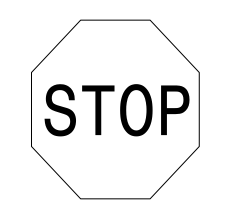



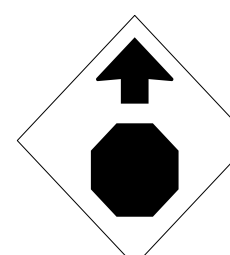
STD. NO.	TITLE
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

GENERAL NOTES

- . SIGNS FURNISHED BY STATE
- . CONFIRM IN WRITING AT LEAST 4 MONTHS IN ADVANCE, THE ACTUAL DATE THE DEPARTMENT FURNISHED SIGNS WILL BE REQUIRED.
- . IF REMOVAL OR RELOCATION OF SIGNS ON PRIVATE STREET (NON-STATE MAINTAINED) IS REQUIRED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL INFORM THE ENGINEER. THE WORK WILL BE COMPLETED BY OTHERS.
- . WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER
- . ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.
- . WHEN EXISTING SIGNS ARE REMOVED AND INSTALLED ON NEW SUPPORTS, THE RE-ERECTION SHALL IMMEDIATELY FOLLOW THE REMOVAL.
- . THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE GRADE C REFLECTIVE SHEETING.

SUMMARY OF QUANTITIES

ITEM NO.		ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.			
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL	243	L.F.
4102000000	904	SIGN ERECTION, TYPE E	21	EA.
4192000000	907	DISPOSAL OF SUPPORT, U-CHANNEL	6	EA.

<p>401 QUANTITY REQ'D <u>6</u></p>  <p>36" X 36" R1-1</p> <p>ONE "U" POST PER SIGN</p>	<p>403 QUANTITY REQ'D <u>3</u></p>  <p>36" X 48" R2-1</p> <p>TWO "U" POSTS PER SIGN</p>
<p>402 QUANTITY REQ'D <u>8</u></p>  <p>18" X 6" R1-3p</p> <p>MOUNT BELOW SIGN 401 IN <u>9</u> INSTALLATIONS</p> <p>MOUNT BELOW EXISTING STOP SIGN IN <u>2</u> INSTALLATIONS</p>	<p>405 QUANTITY REQ'D <u>1</u></p>  <p>36" X 48" R2-1</p> <p>TWO "U" POSTS PER SIGN</p>
<p>404 QUANTITY REQ'D <u>3</u></p>  <p>36" X 36" W3-1a</p> <p>ONE "U" POST PER SIGN</p>	

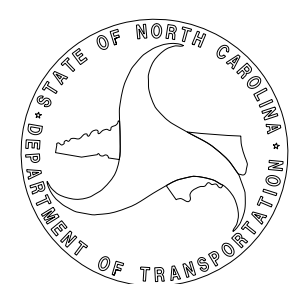
INDEX

SHEET NO.	DESCRIPTION
SIGN-1	TITLE AND E SHEET
SIGN-2-3	SIGNING PLAN SHEETS

PLAN PREPARED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT

AYMAN ALQUDWAH, PE SIGNING & DELINEATION REGIONAL ENGINEER

WALTER JOHNSON SIGNING & DELINEATION PROJECT DESIGN ENGINEER



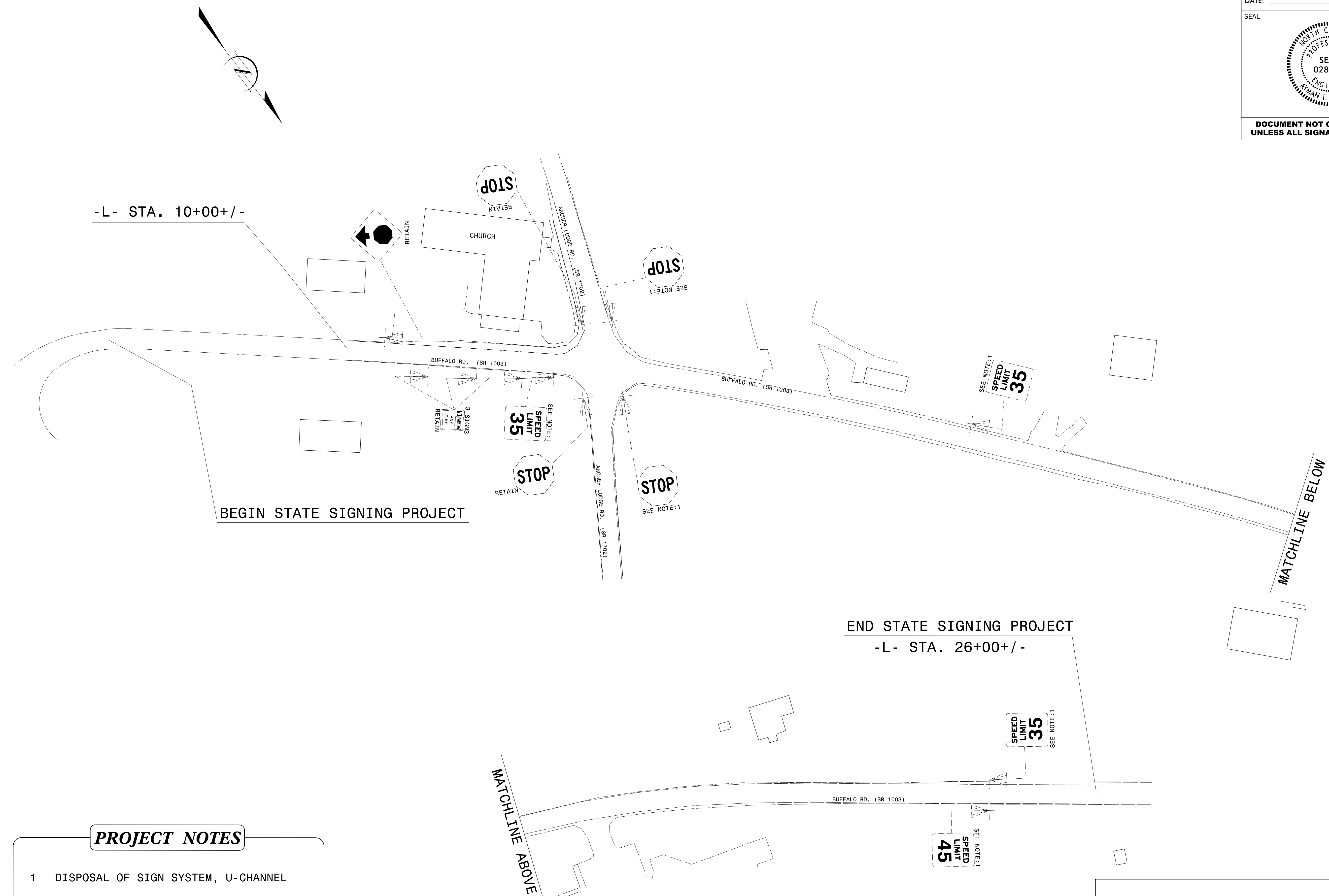
SYSTEMS
 CONSULTANTS
 INC.

CONTRACT:

APPROVED: *Ayman Alqudwa*
DocuSigned by:
 F32AC5CAF96472
 DATE: 5/14/2019



**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**



PROJECT NOTES

- 1 DISPOSAL OF SIGN SYSTEM, U-CHANNEL

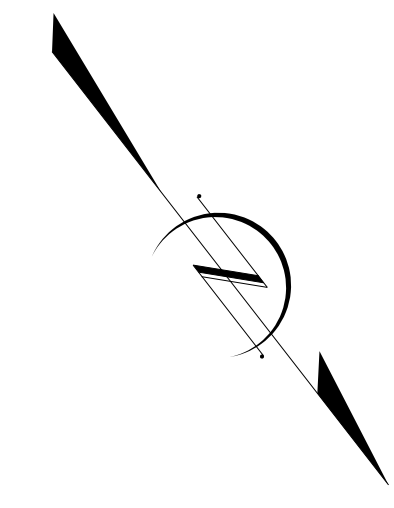
EXISTING SIGNS

\$\$\$\$\$SYTIME\$\$\$\$\$
 \$\$\$USEPRNAME\$\$\$

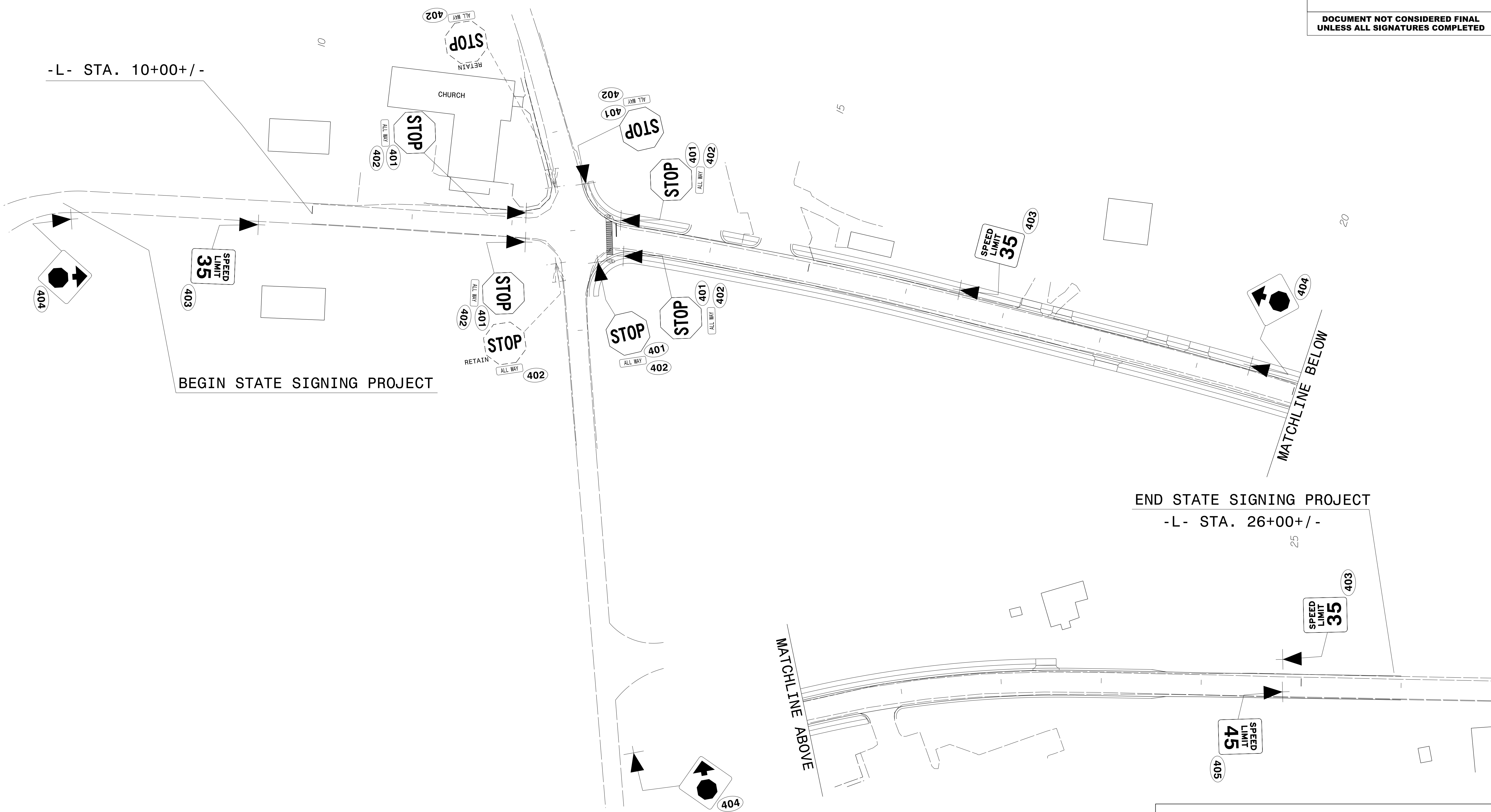
APPROVED: *Ayman Alqudwa*
DATE: 5/14/2019



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



-L- STA. 10+00+/-



BEGIN STATE SIGNING PROJECT

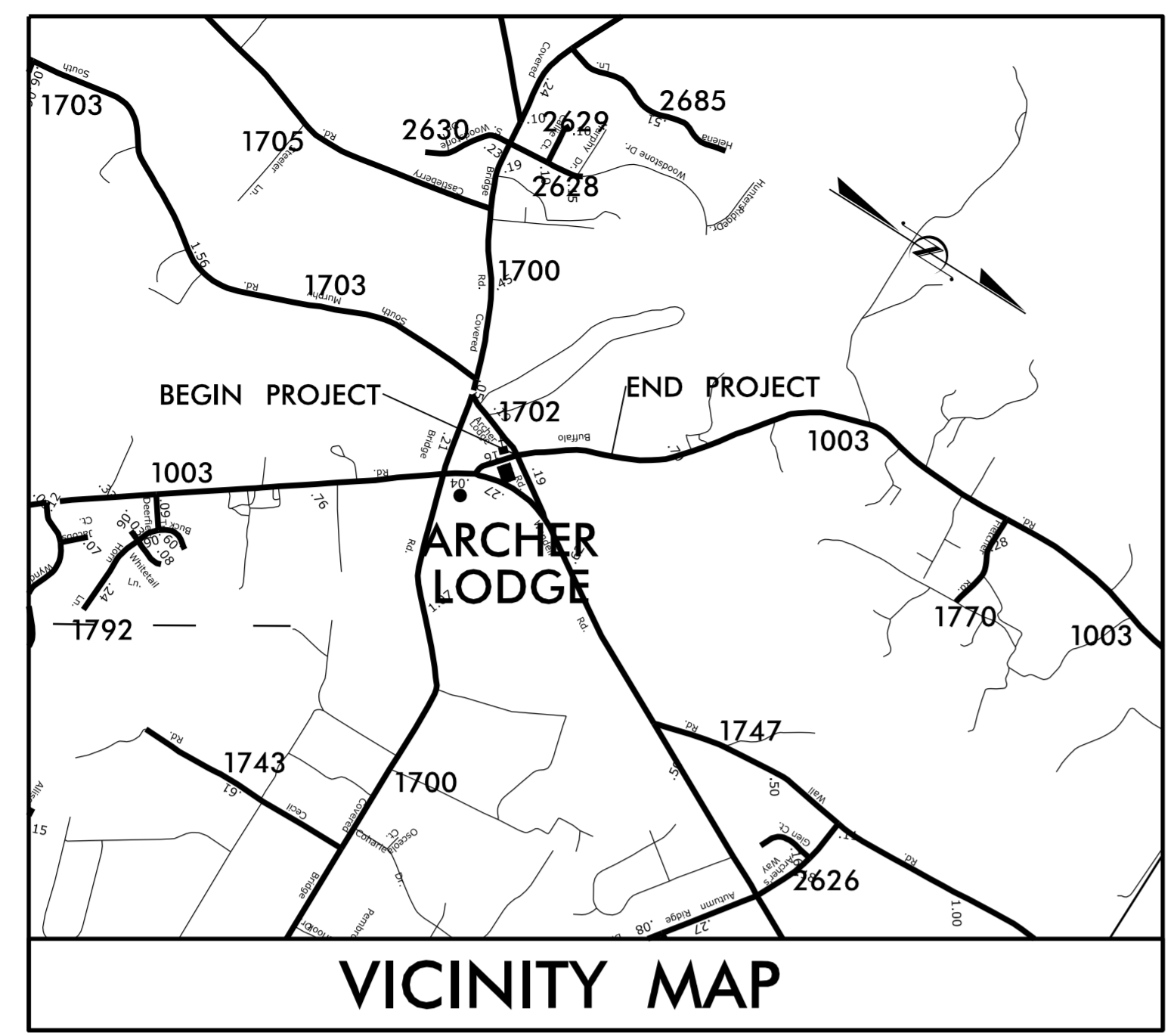
END STATE SIGNING PROJECT
-L- STA. 26+00+/-

PROPOSED SIGNS

SYSTEMS ENGINEERING

09/08/99

TIP PROJECT: WBS: 80094



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**UTILITY CONSTRUCTION PLANS
JOHNSTON COUNTY**

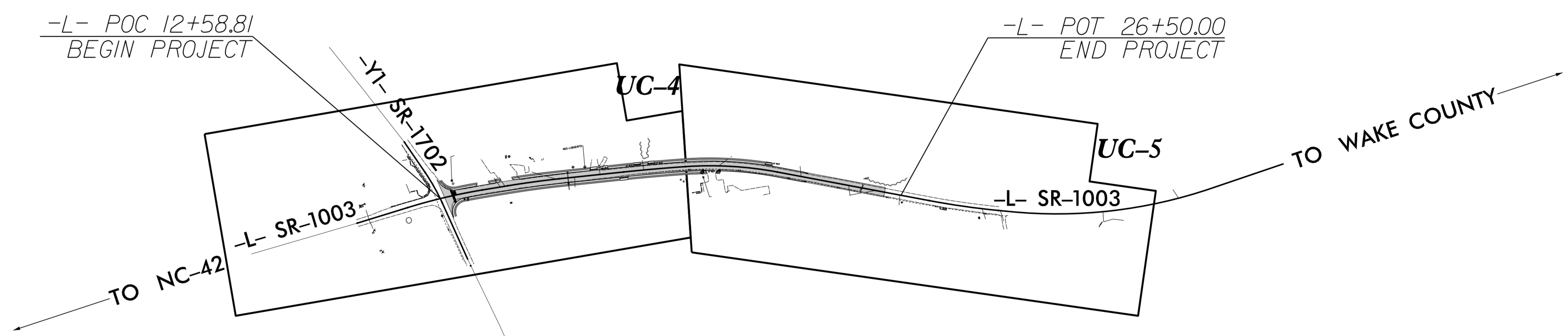
T.I.P. NO.	SHEET NO.
WBS: 80094	UC-1

(FORMERLY W-5601DP)

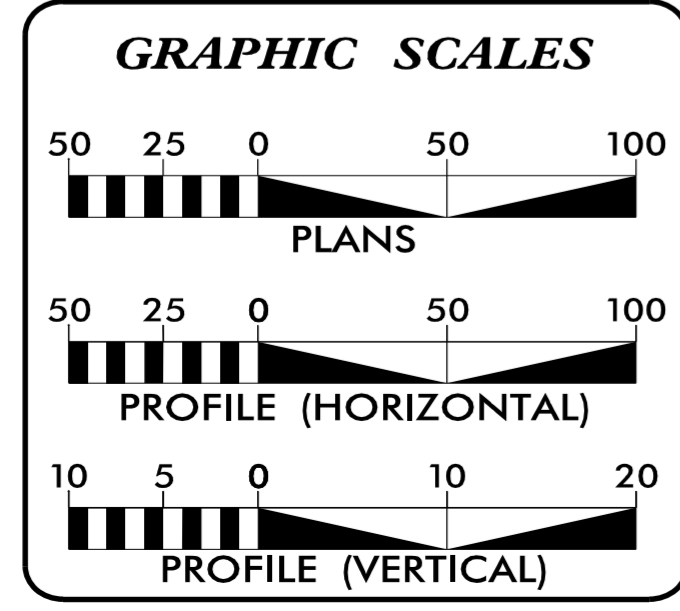
LOCATION: SR 1003 (BUFFALO ROAD) FROM SR-1702 (ARCHER LODGE ROAD) TO 1350' NORTH OF SR-1702 (ARCHER LODGE ROAD)

TYPE OF WORK: WATER LINE CONSTRUCTION

PERMITTED THROUGH JOHNSTON COUNTY
UNDER PROJECT NAME W-5601DP
SERIAL NO: 18-087-W ON 08-30-2018



DOCUMENT NOT CONSIDERED FINAL
UNTIL ALL SIGNATURES ARE COMPLETED



INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	DETAILS
UC-4 THRU UC-5	UTILITY CONSTRUCTION SHEETS
UC-6	PROFILE SHEETS

WATER AND SEWER OWNERS ON PROJECT

(A) WATER: JOHNSTON COUNTY
(B) SANITARY SEWER: JOHNSTON COUNTY

PREPARED IN THE OFFICE OF

CH ENGINEERING

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

MARY JO LEE, PE UTILITY PROJECT MANAGER
ERIC TWEED, PE PROJECT UTILITY COORDINATOR

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL
ERIC M. TWEED
028912
5/14/2019

**DIVISION OF HIGHWAYS
DIVISION 4**

509 WARD BLVD.
WILSON, NC 27895

KIM MOORE DIVISION UTILITY COORDINATOR
MAIT CLARKE, PE DIVISION PROJECT MANAGER
BRANDON HARRIS, PE DIVISION CONSTRUCTION ENGINEER

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	
11¼ Degree Bend	
22½ Degree Bend	
45 Degree Bend	
90 Degree Bend	
Plug	
Tee	
Cross	
Reducer	
Gate Valve	
Butterfly Valve	
Tapping Valve	
Line Stop	
Line Stop with Bypass	
Blow Off	
Fire Hydrant	
Relocate Fire Hydrant	
Remove Fire Hydrant	REM FH
Water Meter	
Relocate Water Meter	
Remove Water Meter	REM WM
Water Pump Station	
RPZ Backflow Preventer	
DCV Backflow Preventer	
Relocate RPZ Backflow Preventer	
Relocate DCV Backflow Preventer	

PROPOSED SEWER SYMBOLS

Gravity Sewer Line (Sized as Shown)	
Force Main Sewer Line (Sized as Shown)	
Manhole (Sized per Note)	
Sewer Pump Station	

PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

Power Pole	
Telephone Pole	
Joint Use Pole	
Telephone Pedestal	
Utility Line by Others (Type as Shown)	
Trenchless Installation	
Encasement by Open Cut	
Encasement	

Thrust Block	
Air Release Valve	
Utility Vault	
Concrete Pier	
Steel Pier	
Plan Note	
Pay Item Note	

EXISTING UTILITIES SYMBOLS

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

*For Existing Utilities
 Utility Line Drawn from Record (Type as Shown)
 Designated Utility Line (Type as Shown)

5/14/99
5/13/2019
U:\Utilities\UC02\UC02-01\DWG\W-5601DP-ut-sym-UC02-ph.dgn
REV: 2/1/2012

PROJECT TYPICAL DETAILS

DESIGNED BY:
DRAWN BY:
CHECKED BY:
APPROVED BY:
REVISED:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE: (919) 707-6690
FAX: (919) 250-4151

SEAL
028912
3005281818
EPIC M. THIBED
5/14/2019
UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

FIRE HYDRANT ASSEMBLY
NOT TO SCALE

NOTE:
1. MIN. OF 4 CU. FT. STONE (MORE IF REQ'D).
2. CONC. THRUST BLOCK TO HAVE MIN. OF 6 SQ. FT. BEARING ON SOLID BANK (MORE IF REQ'D).
3. DRAIN HOLES AND FLANGES SHALL BE CLEAR OF CONC.
4. FIRE HYDRANT BARREL SHALL BE PLUMB.
5. ALL MATERIALS USED IN THE POTABLE WATER SYSTEM MUST BE NSF61 AND NSF372 CERTIFIED AND MEET THE LATEST FEDERAL SAFE DRINKING WATER ACT REQUIREMENTS.

COAT HYDRANT BONNET AND NOZZLE CAPS WITH ALERT REFLECTIVE FIRE HYDRANT PAINT SILVER MODEL #1140

#67 STONE FILL 6-8"

FINISHED GRADE

BURY AS SPECIFIED

CONCRETE THRUST BLOCK

#67 STONE FILL (4 C.F. MIN.)

HYDRANT LEG TO DIP

FIRE HYDRANT ASSEMBLY INCLUDES ALL ITEMS EXCEPT MAIN LINE TEE

PUMPING & HOSE CONNECTIONS EQUAL TO COUNTY STANDARD

BREAK RING TO BE SET WITHIN 2'-4" OF FINISHED GRADE

VALVE BOX

HYDRANT TEE

WATERLINE SIZE VARIES SEE PLANS

CONCRETE THRUST BLOCK

GATE VALVE VALVE SHALL BE PLACED ON THE WATER MAIN SIDE OF ROAD DITCH

3/4" TYPE 304 S.S. THREADED RODS MIN. 2 EA. PER SEGMENT OR "Snap-Grip" RINGS OR ROMAC GRIP RINGS MAY BE USED AT JOINTS IN LIEU OF THREADED RODS

CONCRETE THRUST COLLAR (3,000 P.S.I.)

ANCHOR RING

D.I.P. MAIN

REINFORCING

SECTION

UNDISTURBED SOIL

CONCRETE THRUST COLLAR (3,000 P.S.I.)

ANCHOR RING

D.I.P. MAIN

TRENCH WALL

TAMPED BACKFILL

UNDISTURBED SOIL

PLAN

NOTE:
6" TO 16" MAINS = 12-NO. 7 BARS
20" TO 36" MAINS = 12-NO. 8 BARS
BARS PLACED AS SHOWN

PIPE DIAMETER	CONCRETE THRUST COLLAR	ANCHOR COLLAR	RINGS REQUIRED
6", 8", 12"	1'-0"	1'-0"	2"
16"	1'-4"	1'-0"	2"
20"	1'-4"	1'-0"	3"
24"	1'-4"	1'-0"	3"
30"	1'-4"	1'-2"	4"
36"	1'-4"	1'-4"	4"

SCHEDULE

RESTRAINED FLANGE ADAPTER "UNIFLANGE" OR EQUAL

MJ ACCESSORY KIT

"FIELD LOK" GASKET OR EQUAL

DIP (BELL)

DIP (PE)

3/4" THREADED TYPE 304 OR TYPE 316 S.S. RODS MIN. 4 EA.

HARNESS RESTRAINT DETAIL
NOT TO SCALE

THRUST COLLAR INSTALLATION
NOT TO SCALE

JOHNSTON COUNTY
Department of Public Utilities
P.O. Box 2263
Spartanburg, NC 29717

WATER STANDARD DETAIL
Fire Hydrant Assembly

PAGE 4

THRUST COLLAR INSTALLATION
NOT TO SCALE

JOHNSTON COUNTY
Department of Public Utilities
P.O. Box 2263
Spartanburg, NC 29717

WATER STANDARD DETAIL
Thrust Collar Installation

PAGE 9

THRUST COLLAR INSTALLATION
NOT TO SCALE

JOHNSTON COUNTY
Department of Public Utilities
P.O. Box 2263
Spartanburg, NC 29717

WATER STANDARD DETAIL
Restraint Harness

PAGE 10

VALVE AND VALVE BOX INSTALLATION
NOT TO SCALE

FOR USE IN PAVED AREAS

FOR USE IN UNPAVED AREAS

FINISHED GRADE IN PAVED AREA

FINISHED GRADE IN UNPAVED AREA

BASE COURSE 6" MIN.

TAMPED BACKFILL

WATER MAIN

TAMPED BACKFILL

SECTION

BLOCKING

CONCRETE PROTECTOR RING

VALVE BOX

TAMPED BACKFILL

VALVE

VALVE BOX COVER

7 1/2" MIN.

1 1/2"

1/2"

CONCRETE PROTECTOR RING SHALL BE USED IN ALL UNPAVED AREAS.

NOTES:
1. D.I.P. MAY BE USED FOR VALVE BOX EXTENSIONS.
2. VALVE BOX SHOULD NOT CONTACT WATER MAIN OR VALVE.
3. CONCRETE PROTECTOR RING SHALL BE USED IN ALL UNPAVED AREAS.
4. ALL MATERIALS USED IN THE POTABLE WATER SYSTEM MUST BE NSF61 AND NSF372 CERTIFIED AND MEET THE LATEST FEDERAL SAFE DRINKING WATER ACT REQUIREMENTS.

CONCRETE PROTECTOR RING
NOT TO SCALE

#3 REBAR 2 EA.

10"

2"

24"

4"

NOTE:
PROTECTOR RING SHALL BE 3,000 P.S.I. CONCRETE.

JOHNSTON COUNTY
Department of Public Utilities
P.O. Box 2263
Spartanburg, NC 29717

WATER STANDARD DETAIL
Concrete Protector Ring

PAGE 13

PIPE LAYING CONDITION
NOT TO SCALE

NOTE: PIPE SHALL BE BEDDED UP TO SPRING LINE AND MINIMUM 4" BELOW BOTTOM OF PIPE WHEN WET AREAS ARE ENCOUNTERED.

HAND PLACED DENSELY COMPACTED BACKFILL TO 1 FT. ABOVE TOP OF PIPE

UNDISTURBED EARTH

ELECTRONIC MARKER BALLS AT 100' ON CENTER & AT BENDS, MARKER BALLS SHALL BE INSTALLED AT 1 1/2 TO 2' DEEP.

NOTE: MARKER BALLS SHALL BE INSTALLED CONCURRENTLY WITH PIPE. MARKER BALLS SHALL NOT BE INSTALLED AFTER TRENCH HAS BEEN COMPLETELY BACKFILLED.

1/2" PIPE O.D.

24" O.D. MAX. 12" O.D. MIN.

NOTE:
WATER MAINS 8" Ø AND SMALLER SHALL HAVE MINIMUM OF 3" COVER. WATER MAINS LARGER THAN 8" Ø SHALL HAVE A MINIMUM OF 3'-0" COVER.

JOHNSTON COUNTY
Department of Public Utilities
P.O. Box 2263
Spartanburg, NC 29717

WATER STANDARD DETAIL
Pipe Laying Condition

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3/4" & 1" WATER METER SERVICE DETAIL
NOT TO SCALE

FINISHED GRADE

LID SHALL BE LABELED "WATER METER" AND SHALL BE "AMR" TYPE WITH METAL FLIP-UP LID AND 2" HOLE

METER (US GAL.) 3/4" x 3/4"

8'-10" MIN.

LOCK TYPE METER STOP

CHECK VALVE 2-4" TYP. (BOTH SIDES)

MIN. 4" WASHED STONE

BLOCK SUPPORT OR STONE AS NEEDED (CAN NOT EXTEND MORE THAN 1" INTO BOX)

3/4" OR 1" CLASS 200 POLYETHYLENE WATER SERVICE LINE

WIDE BODY OR DOUBLE STRAP SADDLE

300 PSI CORP. STOP

WATER MAIN

METER YOKE SHALL BE MUELLER NO. H-1494-2, FORD NO. VHH-72-7W OR APPROVED EQUAL FOR 3/4" SERVICE

METER YOKE COMPLETE WITH DUAL PURPOSE FITTINGS

COPPER SETTER

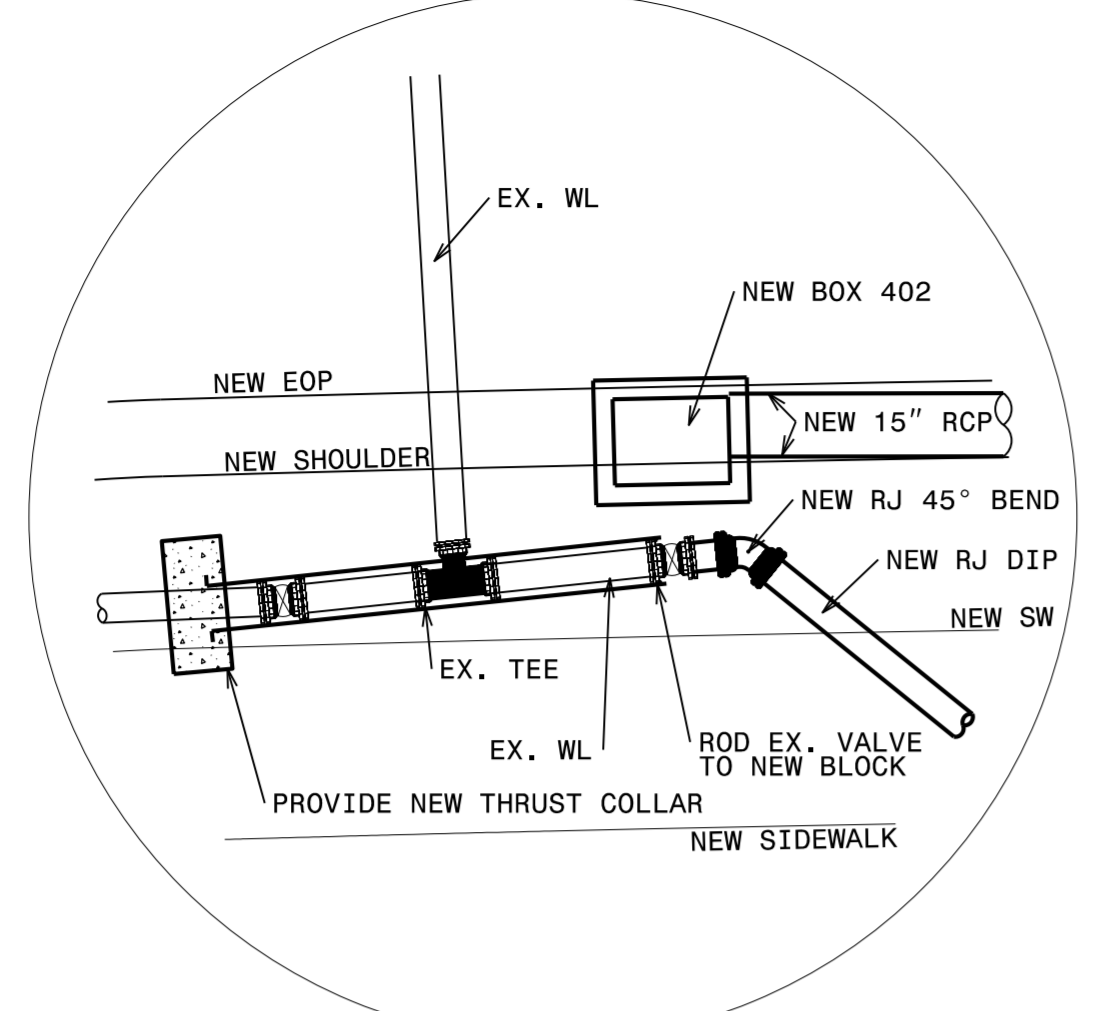
NOTE:
1. CONTRACTOR SHALL PLACE METER BOX IN NON TRAFFIC AREA ONLY, OUTSIDE FENCED AREAS, AND 4 FEET AWAY FROM BUSHES AND TREES THAT COULD COVER THE BOX.
2. PLASTIC METER BOX SHALL BE CENTURY #1015, NOS D1200, OR APPROVED EQUAL.
3. CONTRACTOR SHALL CENTER METER YOKE IN METER BOX.
4. METER YOKE TO MUELLER NO. H-1494-2A, FORD NO. VHH-72-7W-11 OR APPROVED EQUAL.
5. METER TO MEET AWWA C400, STD. AND SPECS.
6. METER TO BE PROVIDED AND SET BY JOHNSTON COUNTY. METER WILL NOT BE INSTALLED IF THE SETTER IS NOT CENTERED IN THE BOX, THE SETTER HAS BEEN PULLED UP ON ONE END, THE SETTER IS LAYING ON ITS SIDE, THE SETTER IS TOO CLOSE TO THE BOX LID, THE BOX IS BELOW GRADE OR BROKEN, THE CUSTOMERS SERVICE LINE IS NOT HOOKED TO THE UNION NUT, THE 3/4" GATE VALVE HAS NOT BEEN INSTALLED WITHIN 12 INCHES OF THE METER BOX.
7. ALL MATERIALS USED IN THE POTABLE WATER SYSTEM MUST BE NSF61 AND NSF372 CERTIFIED AND MEET THE LATEST FEDERAL SAFE DRINKING WATER ACT REQUIREMENTS.
8. SERVICE LINE TO HOME MUST PASS PLUMBING INSPECTION PRIOR TO SETTING METER.

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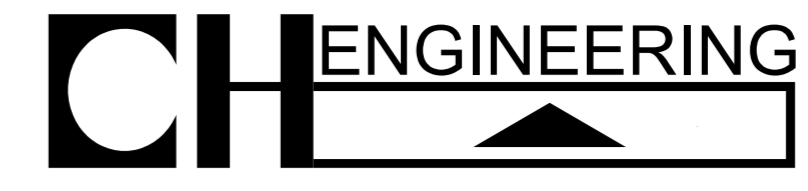
WATER STANDARD DETAIL
3/4" and 1" Water Meter Service

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INSET



IF EX. VALVES AND TEE ARE RJ THEN RODS MAY BE ELIMINATED



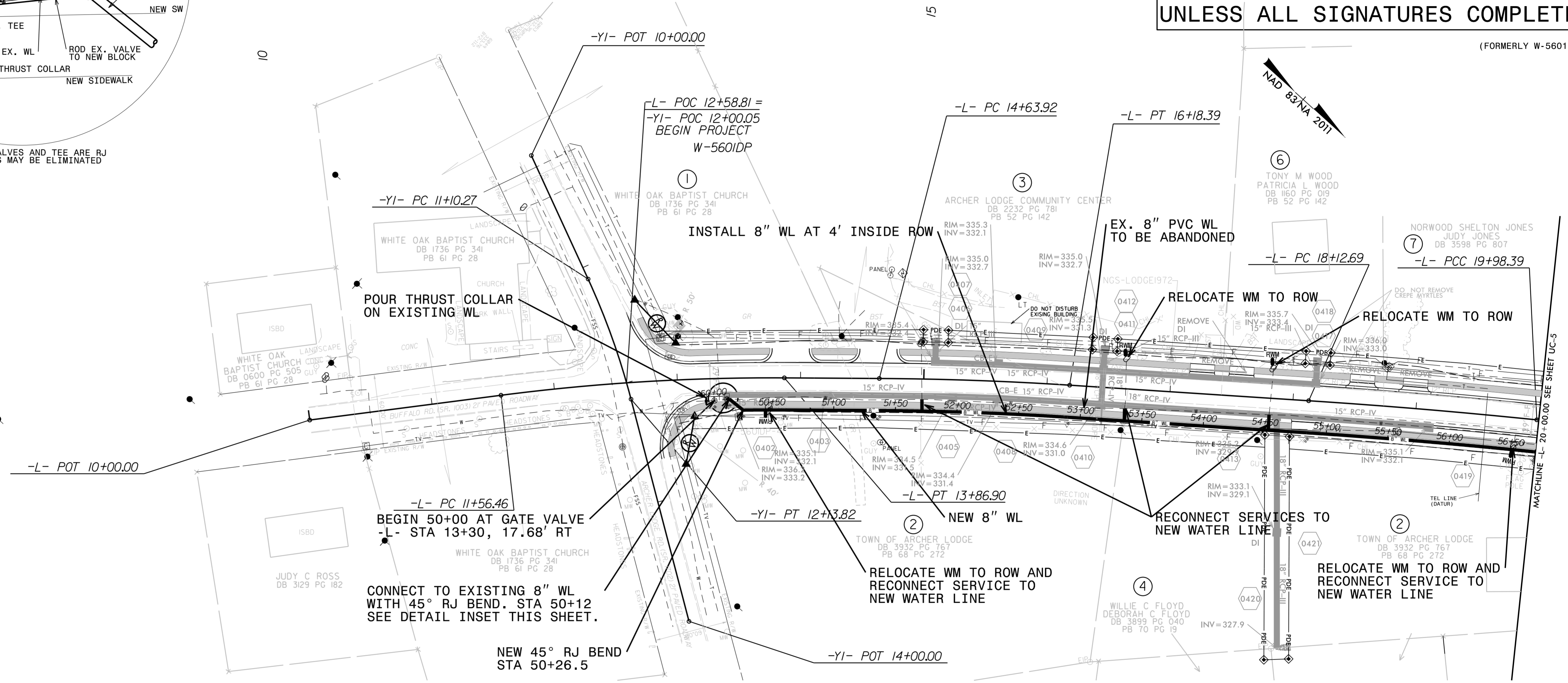
3220 GLEN ROYAL RD. RALEIGH, NC 27617
TELE 919.788.0224 FAX 919.788.0232
NC LICENSE #P-0189

PROJECT REFERENCE NO.	SHEET NO.
WBS: 80094	UC-4
DESIGNED BY: EMT	
DRAWN BY: EMT	
CHECKED BY: MJL	
APPROVED BY:	
REVISED:	UTILITIES ENGINEERING SEC.
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UTILITY CONSTRUCTION


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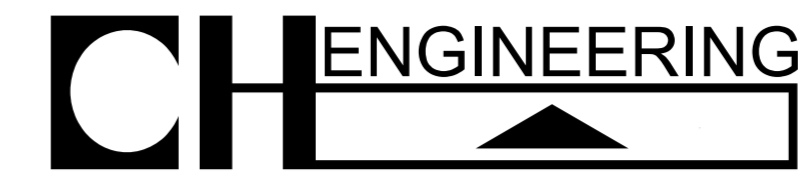
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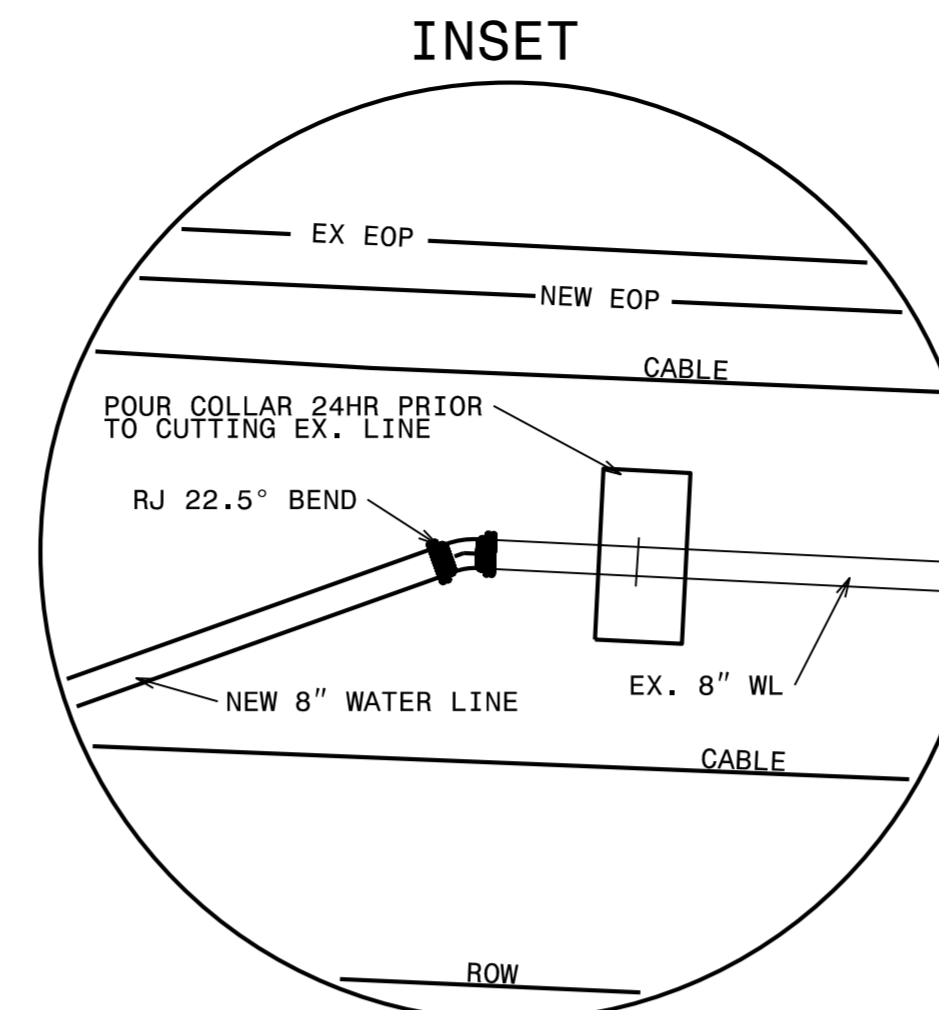
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5/13/2019
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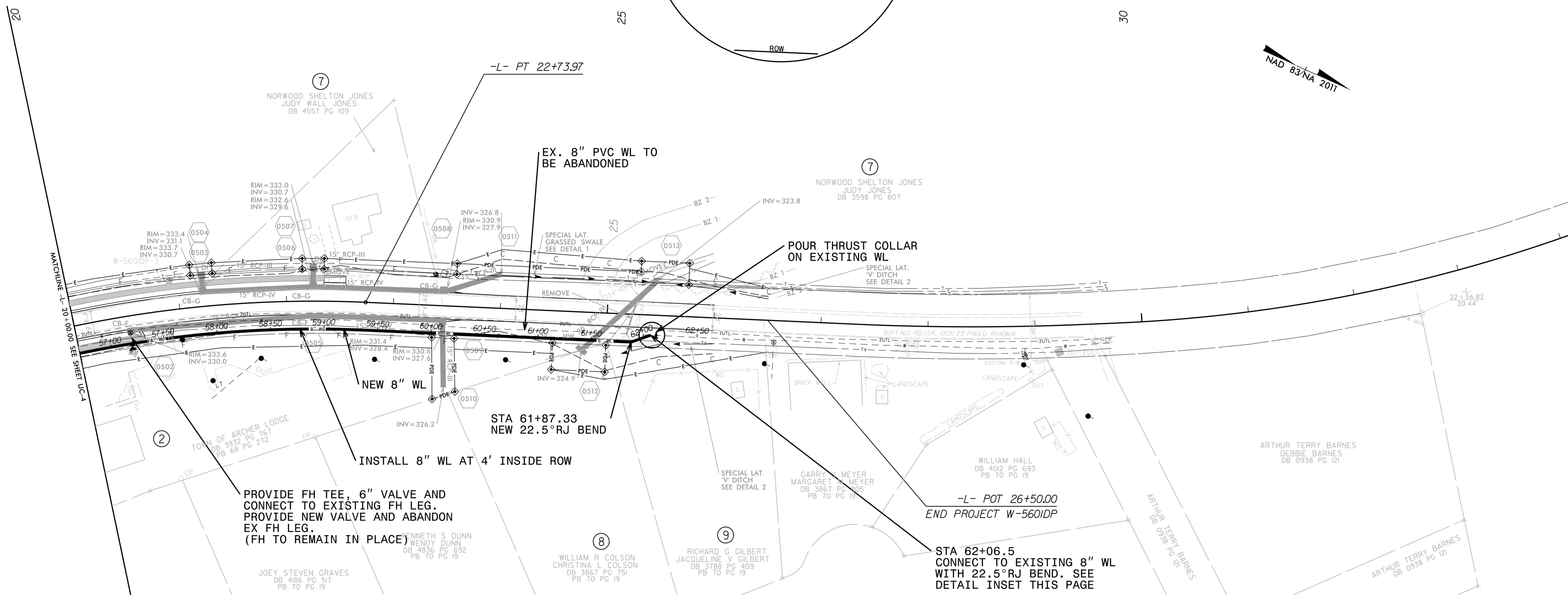
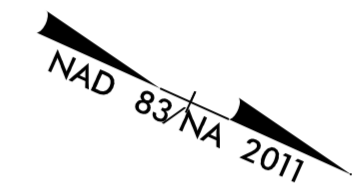
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WBS: 80094	UC-5
DESIGNED BY: EMT	
DRAWN BY: EMT	
CHECKED BY: MJL	
APPROVED BY: MJL	
REVISED:	5/14/2019
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	UTILITY CONSTRUCTION PLANS ONLY
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

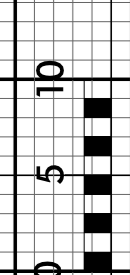
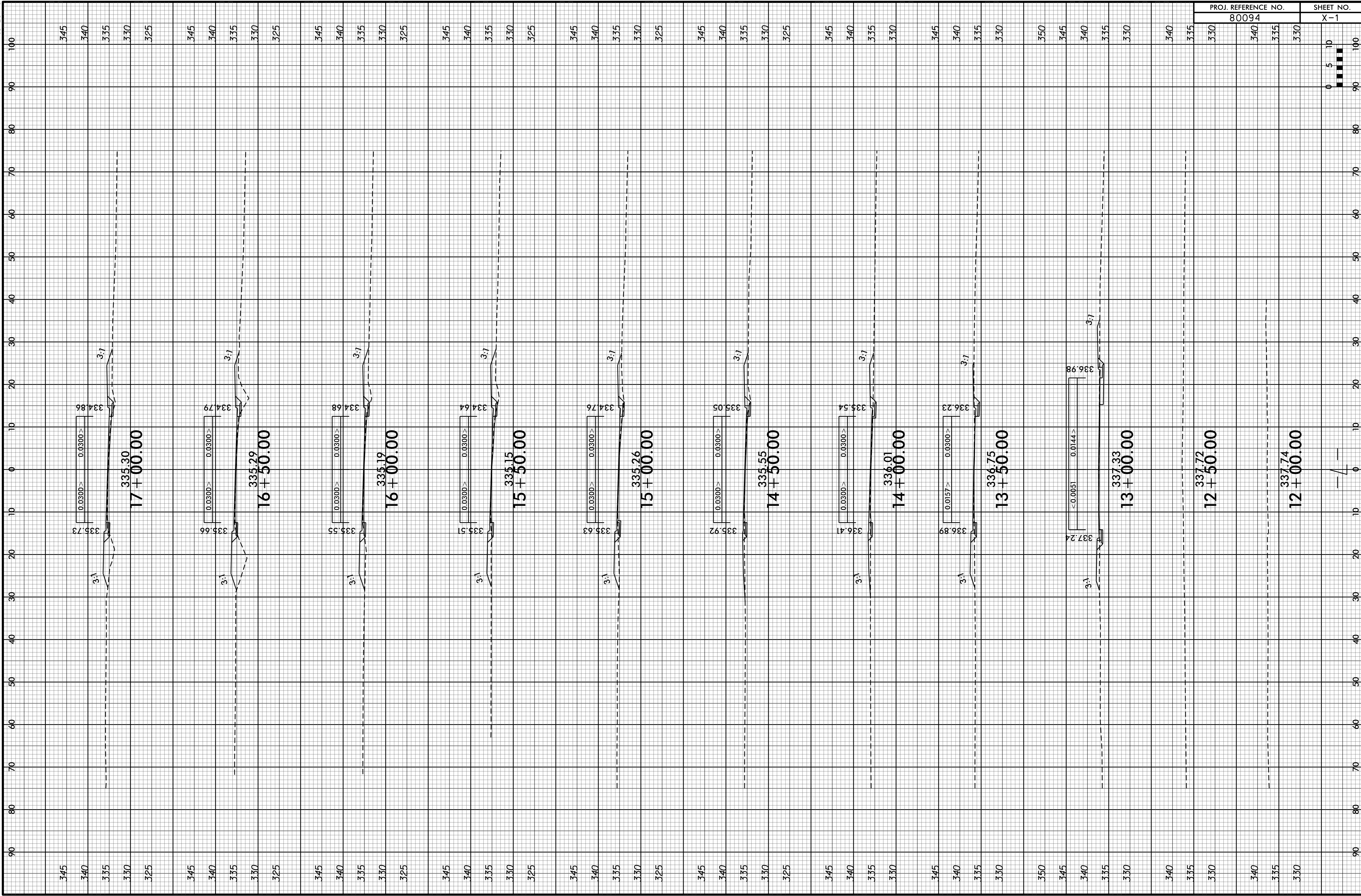


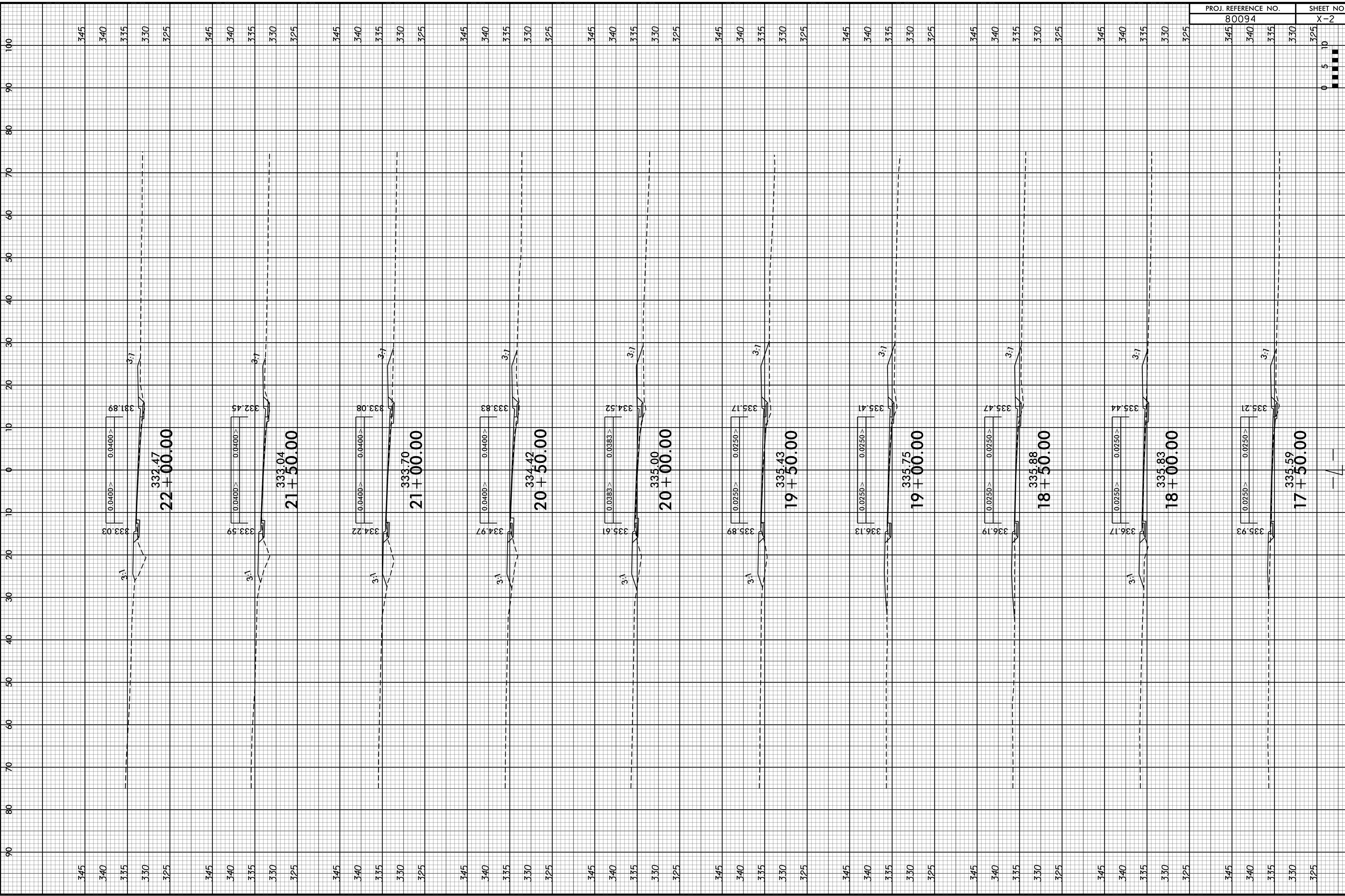
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80094	X-2

