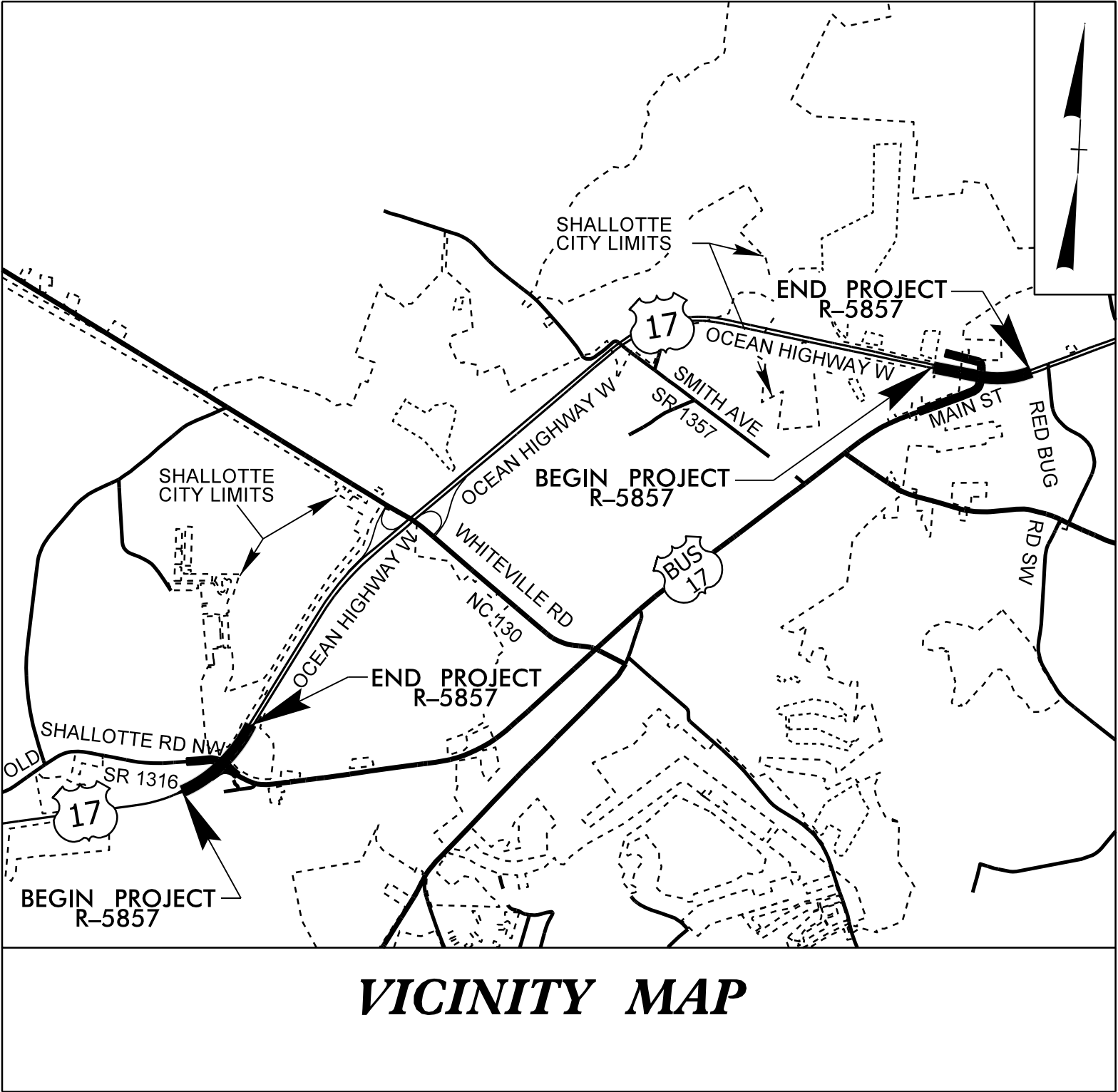


09/08/19

TIP PROJECT: R-5857

CONTRACT: C205073

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



VICINITY MAP

END CONSTRUCTION
-Y2- POT STA 14+15.00

BEGIN CONSTRUCTION
-Y- POT STA 17+00.00

BEGIN TIP PROJECT R-5857
-L- POC STA 29+10.00

BEGIN TIP PROJECT R-5857
-L1- POT STA 19+09.00

END TIP PROJECT R-5857
-L- POT STA 54+25.00

BEGIN CONSTRUCTION
-Y4- POT STA 14+50.00

END CONSTRUCTION
-L1- POC STA 42+20.00

END TIP PROJECT R-5857
-L1- POC STA 42+00.00

END CONSTRUCTION
-Y5- POT STA 23+00.00

END CONSTRUCTION
-Y1- POC STA 15+92.00

★ DENOTES SIGNAL

THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS
BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



PLANS



PROFILE (HORIZONTAL)



PROFILE (VERTICAL)

DESIGN DATA

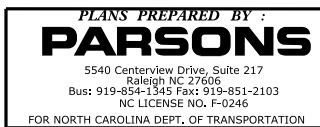
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ADT 2042 = 46,000
K = 10 %
D = 60 %
T = 4 % *
V = 60 MPH
* TTST = 1 DUAL = 3
FUNC CLASS =
PRINCIPAL ARTERIAL

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT R-5857 = 0.910 MILES

TOTAL LENGTH OF TIP PROJECT R-5857 = 0.910 MILES

Prepared In the Office of:



2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
APRIL 21, 2023

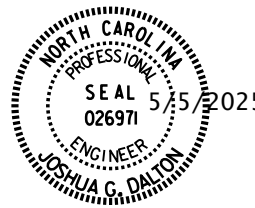
LETTING DATE:
JULY 15, 2025

AYMAN L. ALQUDWAH, PE
PROJECT ENGINEER

DAVID GARRETT
PROJECT DESIGN ENGINEER

ZACHARY HOWARD, PE
NCDOT CONTACT

HYDRAULICS ENGINEER



Signed by:
Josh Dalton
SIGNATURE:

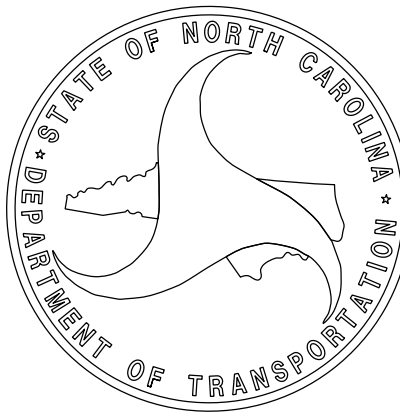
P.E.

ROADWAY DESIGN ENGINEER



Signed by:
Ayman Alqudwah
SIGNATURE:

P.E.



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

Note: Not to Scale

BOUNDARIES AND PROPERTY:

State Line	
County Line	
Township Line	
City Line	
Reservation Line	
Property Line	
Existing Iron Pin (EIP)	
Computed Property Corner	
Existing Concrete Monument (ECM)	
Parcel/Sequence Number	
Existing Fence Line	
Proposed Woven Wire Fence	
Proposed Chain Link Fence	
Proposed Barbed Wire Fence	
Existing Wetland Boundary	
Proposed Wetland Boundary	
Existing Endangered Animal Boundary	
Existing Endangered Plant Boundary	
Existing Historic Property Boundary	
Known Contamination Area: Soil	
Potential Contamination Area: Soil	
Known Contamination Area: Water	
Potential Contamination Area: Water	
Contaminated Site: Known or Potential	
BUILDINGS AND OTHER CULTURE:	
Gas Pump Vent or U/G Tank Cap	
Sign	
Well	
Small Mine	
Foundation	
Area Outline	
Cemetery	
Building	
School	
Church	
Dam	
HYDROLOGY:	
Stream or Body of Water	
Hydro, Pool or Reservoir	
Jurisdictional Stream	
Buffer Zone 1	
Buffer Zone 2	
Flow Arrow	
Disappearing Stream	
Spring	
Wetland	
Proposed Lateral, Tail, Head Ditch	
False Sump	

RAILROADS:

Standard Gauge	
RR Signal Milepost	
Switch	
RR Abandoned	
RR Dismantled	

RIGHT OF WAY & PROJECT CONTROL:

Primary Horiz Control Point	
Primary Horiz and Vert Control Point	
Secondary Horiz and Vert Control Point	
Vertical Benchmark	
Existing Right of Way Monument	
Proposed Right of Way Monument (Rebar and Cap)	
Proposed Right of Way Monument (Concrete)	
Existing Permanent Easement Monument	
Proposed Permanent Easement Monument (Rebar and Cap)	
Existing C/A Monument	
Proposed C/A Monument (Rebar and Cap)	
Proposed C/A Monument (Concrete)	
Existing Right of Way Line	
Proposed Right of Way Line	
Existing Control of Access Line	
Proposed Control of Access Line	
Proposed ROW and CA Line	
Existing Easement Line	
Proposed Temporary Construction Easement	
Proposed Temporary Drainage Easement	
Proposed Permanent Drainage Easement	
Proposed Permanent Drainage/Utility Easement	
Proposed Permanent Utility Easement	
Proposed Temporary Utility Easement	
Proposed 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:

* SUE – Subsurface Utility Engineering
LOS – Level of Service – A,B,C or D (Accuracy)

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 Test Hole (SUE – LOS A)*	
U/G Power Line (SUE – LOS B)*	
U/G Power Line (SUE – LOS C)*	
U/G Power Line (SUE – LOS D)*	

TELEPHONE:

Existing Telephone Pole	
Proposed Telephone Pole	
Telephone Manhole	
Telephone Pedestal	
Telephone Cell Tower	
U/G Telephone Cable Hand Hole	
U/G Telephone Test Hole (SUE – LOS A)*	
U/G Telephone Cable (SUE – LOS B)*	
U/G Telephone Cable (SUE – LOS C)*	
U/G Telephone Cable (SUE – LOS D)*	
U/G Telephone Conduit (SUE – LOS B)*	
U/G Telephone Conduit (SUE – LOS C)*	
U/G Telephone Conduit (SUE – LOS D)*	
U/G Fiber Optics Cable (SUE – LOS B)*	
U/G Fiber Optics Cable (SUE – LOS C)*	
U/G Fiber Optics Cable (SUE – LOS D)*	

WATER:

Water Manhole	
Water Meter	
Water Valve	
Water Hydrant	
U/G Water Line Test Hole (SUE – LOS A)*	
U/G Water Line (SUE – LOS B)*	
U/G Water Line (SUE – LOS C)*	
U/G Water Line (SUE – LOS D)*	
Above Ground Water Line	
TV:	
TV Pedestal	
TV Tower	
U/G TV Cable Hand Hole	
U/G TV Test Hole (SUE – LOS A)*	
U/G TV Cable (SUE – LOS B)*	
U/G TV Cable (SUE – LOS C)*	
U/G TV Cable (SUE – LOS D)*	
U/G Fiber Optic Cable (SUE – LOS B)*	
U/G Fiber Optic Cable (SUE – LOS C)*	
U/G Fiber Optic Cable (SUE – LOS D)*	

GAS:

Gas Valve	
Gas Meter	
U/G Gas Line Test Hole (SUE – LOS A)*	
U/G Gas Line (SUE – LOS B)*	
U/G Gas Line (SUE – LOS C)*	
U/G Gas Line (SUE – LOS D)*	
Above Ground Gas Line	

SANITARY SEWER:

Sanitary Sewer Manhole	
Sanitary Sewer Cleanout	
U/G Sanitary Sewer Line	
Above Ground Sanitary Sewer	
SS Force Main Line Test Hole (SUE – LOS A)*	
SS Force Main Line (SUE – LOS B)*	
SS Force Main Line (SUE – LOS C)*	
SS Force Main Line (SUE – LOS D)*	

MISCELLANEOUS:

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

6/2/99

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\$\$\$\$\$ USER NAME: EBB336

FINAL PAVEMENT SCHEDULE					
CODE	DESCRIPTION	CODE	DESCRIPTION	CODE	DESCRIPTION
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	E2	PROP. APPROX. 4 1/2" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 513 LBS. PER SQ YD.	T	EARTH MATERIAL.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1 1/2" IN DEPTH OR GREATER THAN 2" IN DEPTH.	E3	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 4" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.	U	EXISTING PAVEMENT
C3	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	K1	CLASS IV SUBGRADE STABILIZATION	V1	MILLING ASPHALT PAVEMENT, 0" TO 1.5" DEPTH
C4	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.	N1	GEOTEXTILE FOR SUBGRADE STABILIZATION	V2	MILLING ASPHALT PAVEMENT, 2" DEPTH
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R1	5" MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED)	W1	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL ON SHEET 2A-3).
D2	PROP. APPROX. 2 1/3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	R2	1'-6" CONCRETE CURB & GUTTER	W2	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL ON SHEET 2A-3).
D3	PROP. VAR. DEPTH OF ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C AT AN AVERAGE RATE OF 114 LBS PER SQ YD PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2 1/2" OR GREATER THAN 4" IN DEPTH.	R3	2'-6" CONCRETE CURB & GUTTER	Y	MILLED RUMBLE STRIPS
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	S	4" CONCRETE SIDEWALK		

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

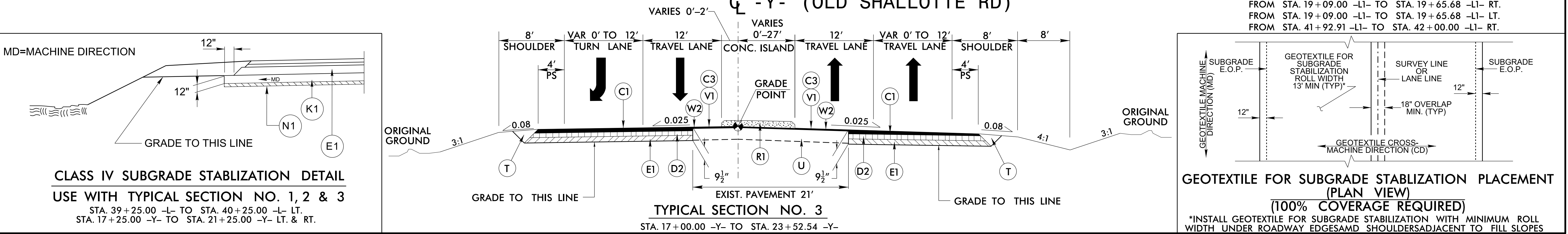
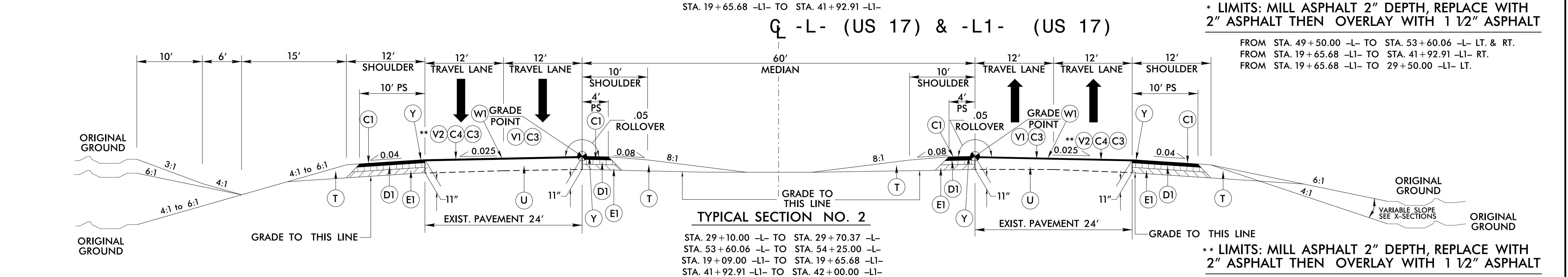
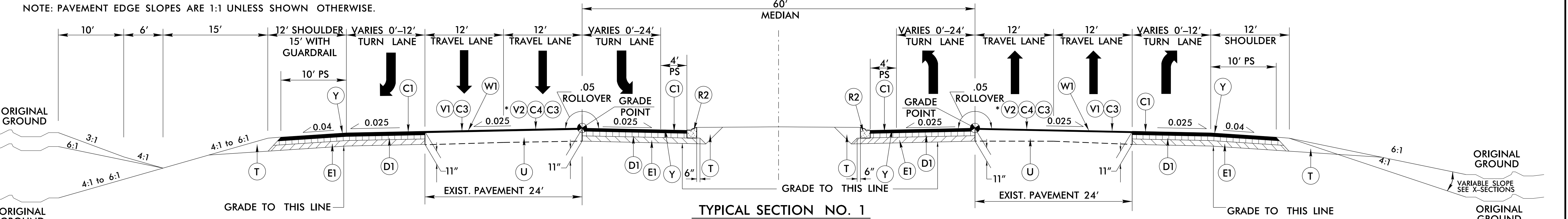
PROJECT REFERENCE NO.
R-5857

SHEET NO.
2A-1

ROADWAY DESIGN ENGINEER
Almae R. Boudet
NORTH CAROLINA PROFESSIONAL ENGINEER
004590/1/2005

PAVEMENT DESIGN ENGINEER
Andrew D. Wagoner
NORTH CAROLINA PROFESSIONAL ENGINEER
004590/1/2005

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

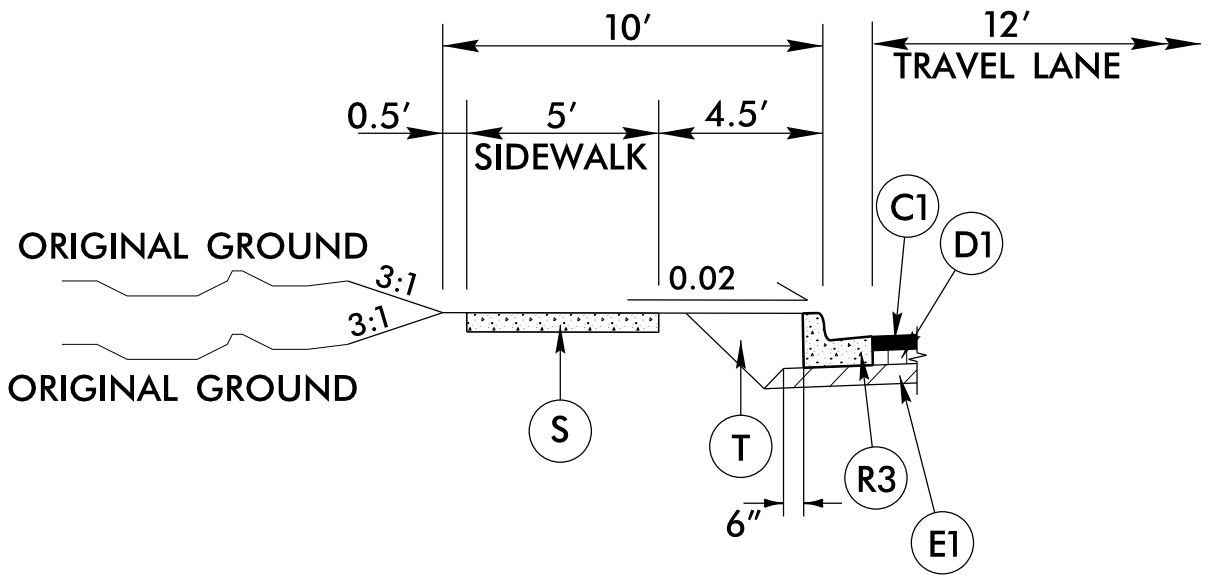


6/2/99

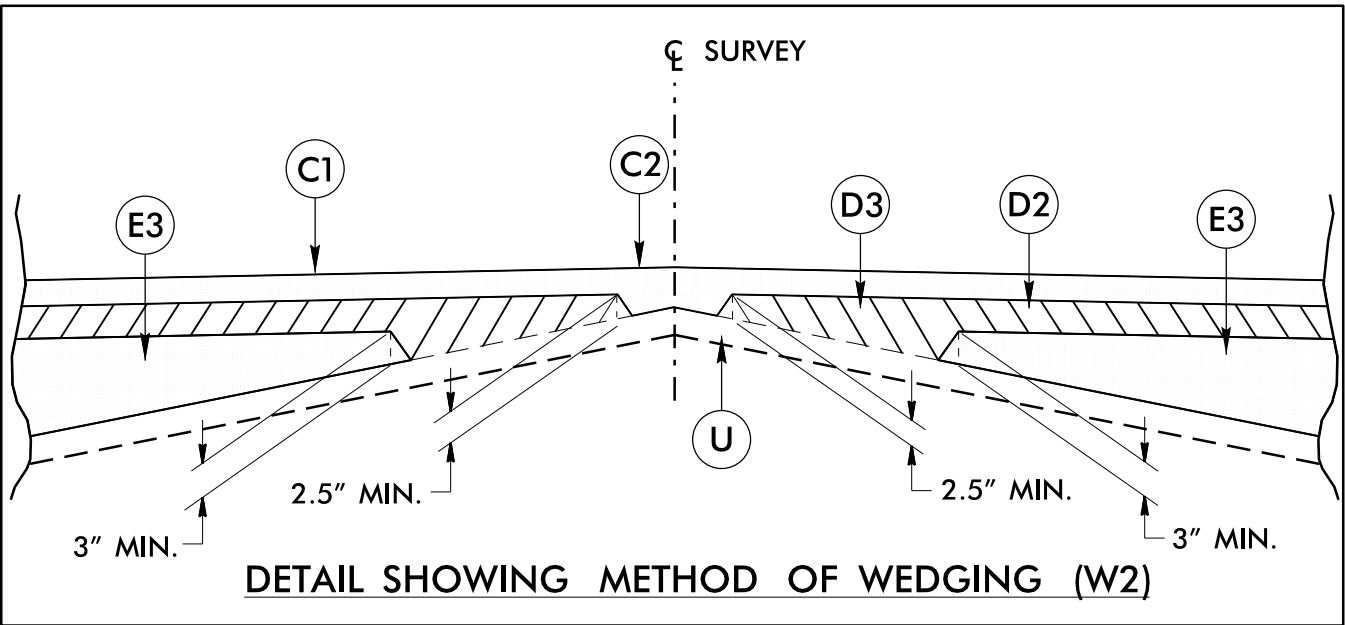
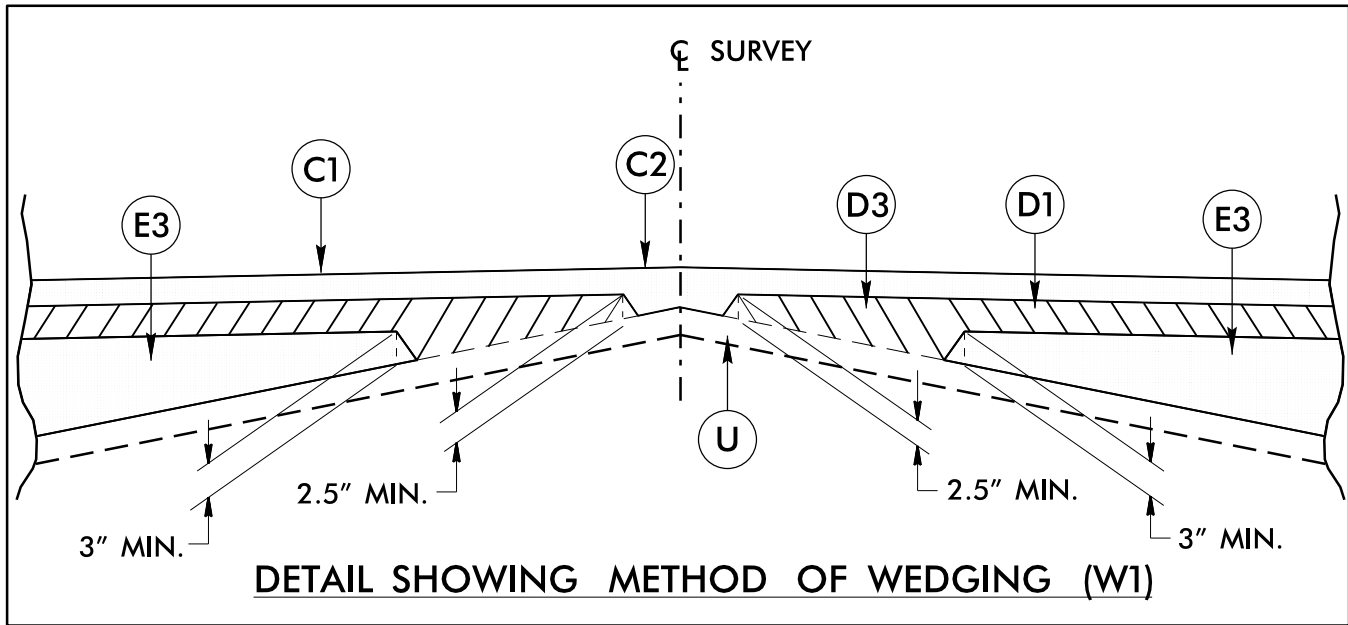
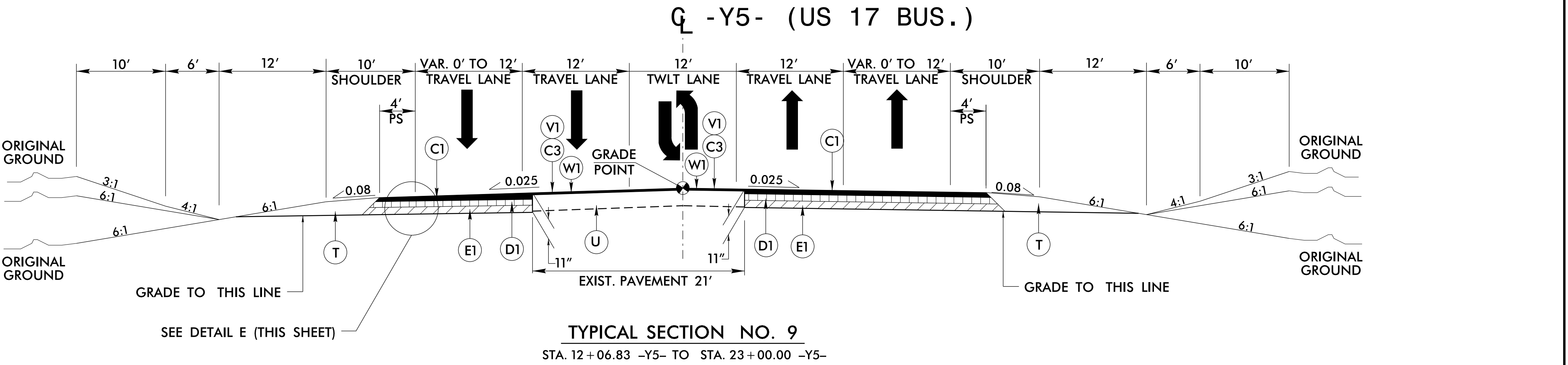
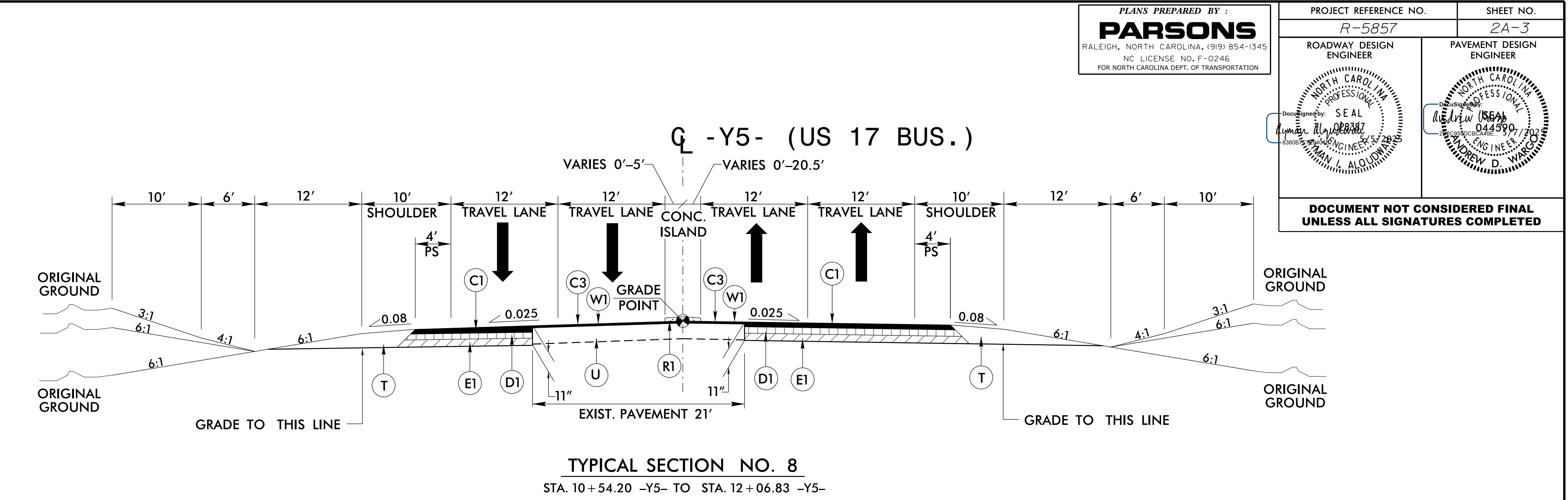
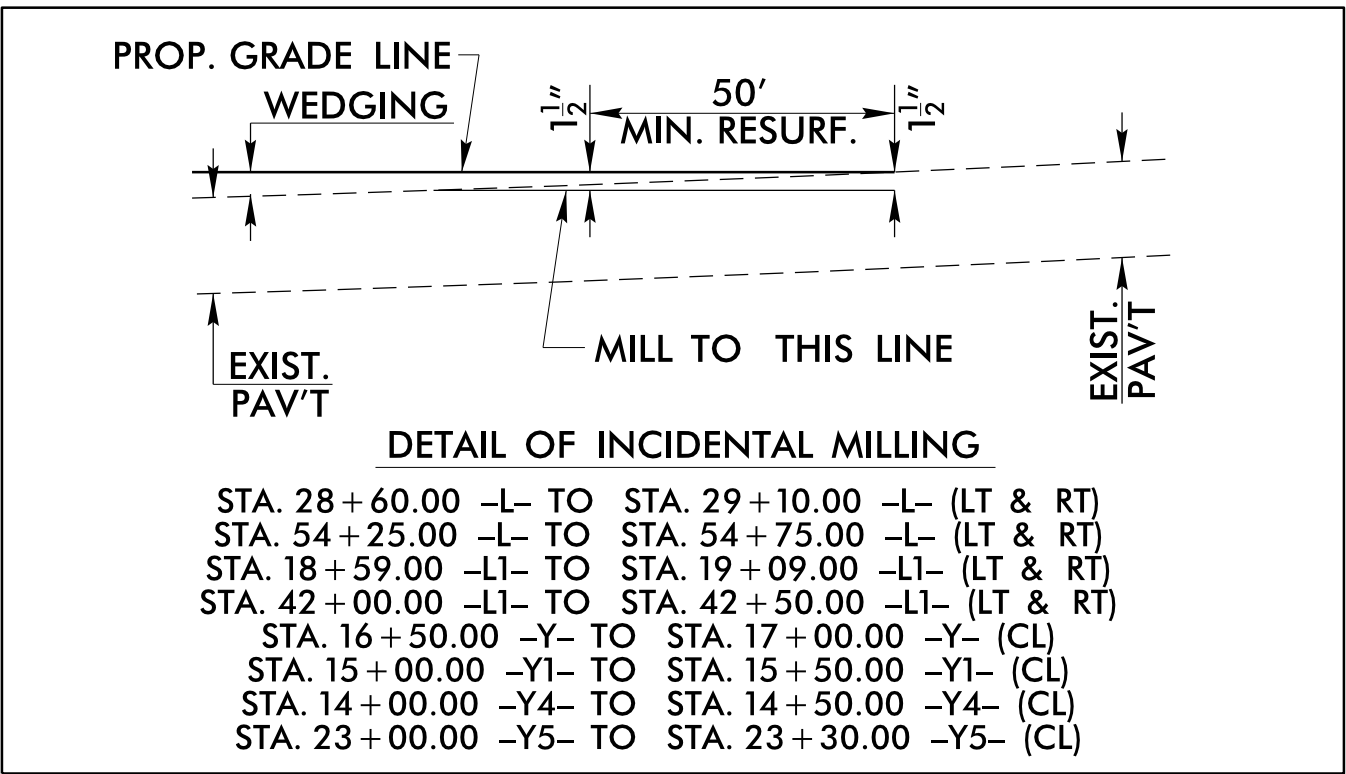
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FINAL PAVEMENT SCHEDULE	
CODE	DESCRIPTION
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1½" IN DEPTH OR GREATER THAN 2" IN DEPTH.
C3	PROP. APPROX. 1 ½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
D3	PROP. VAR. DEPTH OF ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2½" OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E3	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 4" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
R1	5" MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED)
R3	2'-6" CONCRETE CURB & GUTTER
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL.
U	EXISTING PAVEMENT
W1	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL ON THIS SHEET).
W2	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL ON THIS SHEET).
V1	V1 MILLING ASPHALT PAVEMENT, 0" TO 1.5" DEPTH

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



DETAIL F
USE DETAIL F IN CONJUNCTION
WITH T.S. NO. 9
STA. 12+48.74 -Y5- LT TO STA. 23+00.00 -Y5- LT



PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.
R-5857

SHEET NO.
2A-3

ROADWAY DESIGN ENGINEER
Amber L. Alouin
NORTH CAROLINA PROFESSIONAL ENGINEER
044989170

PAVEMENT DESIGN ENGINEER
Andrew D. Walcott
NORTH CAROLINA PROFESSIONAL ENGINEER
044989170

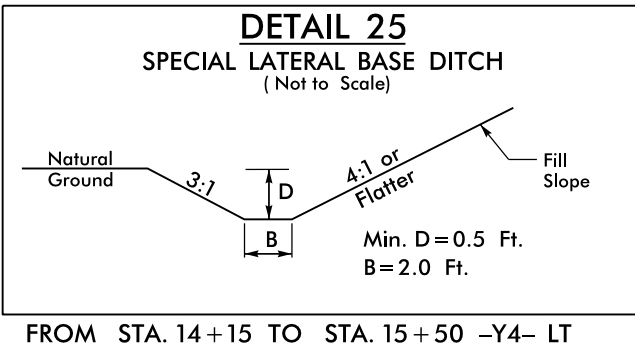
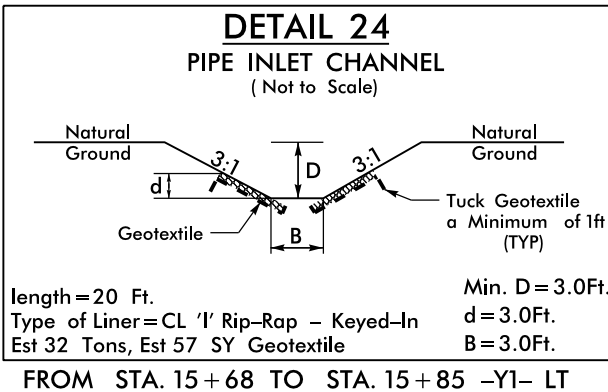
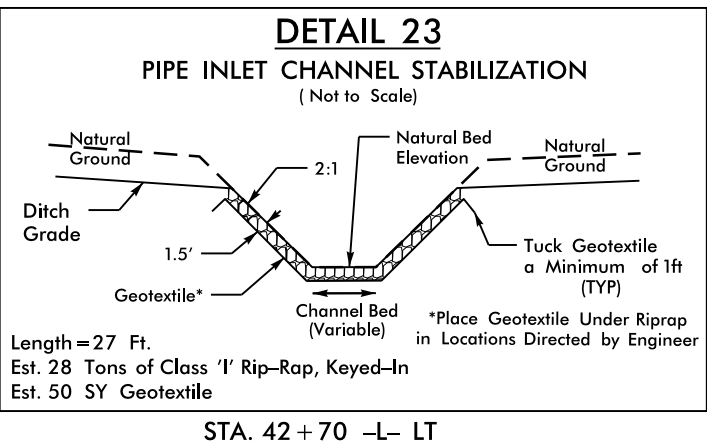
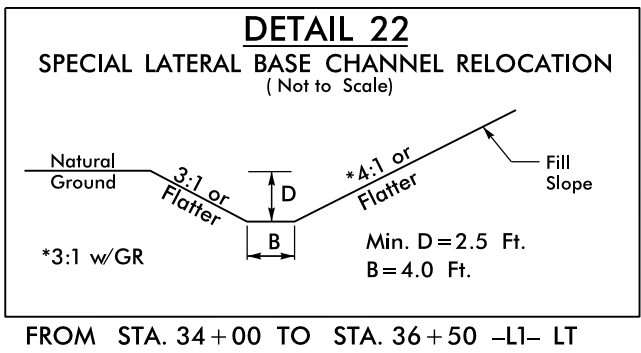
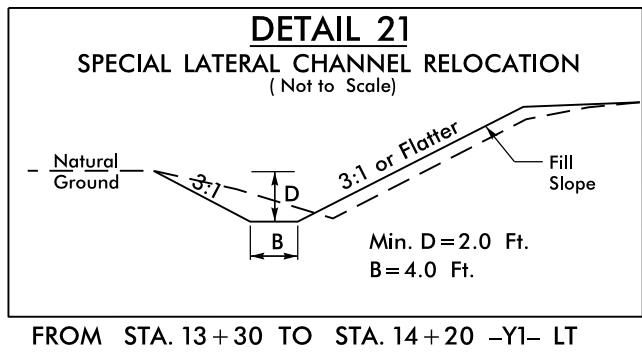
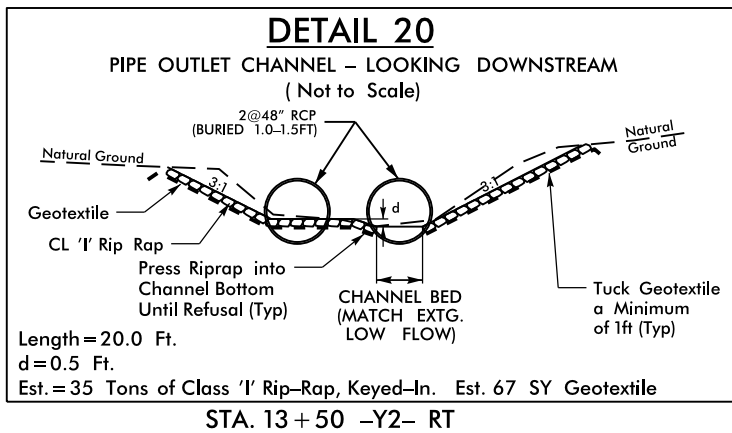
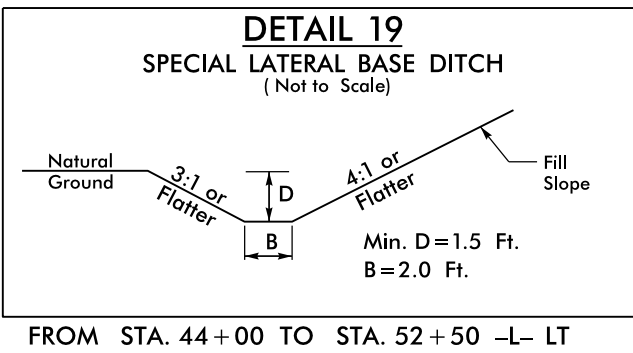
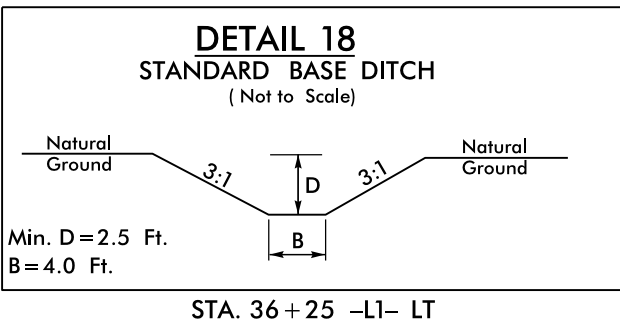
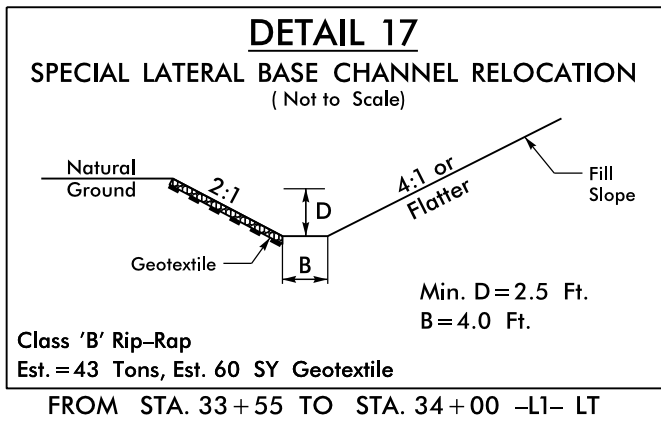
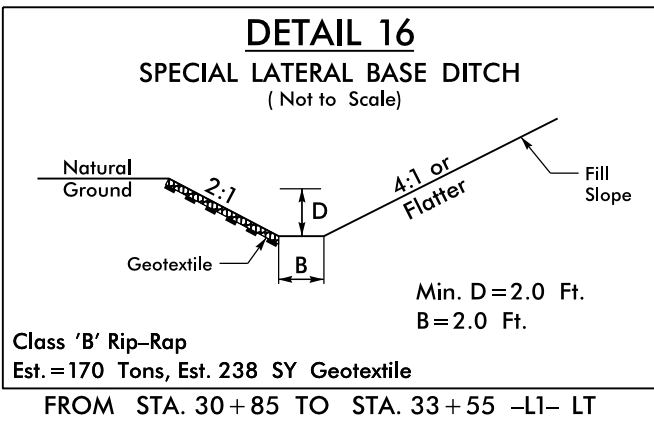
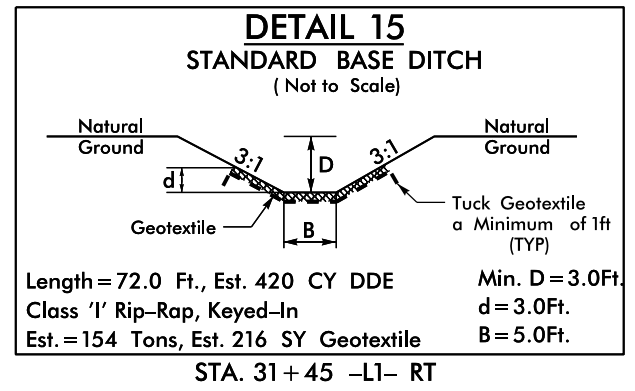
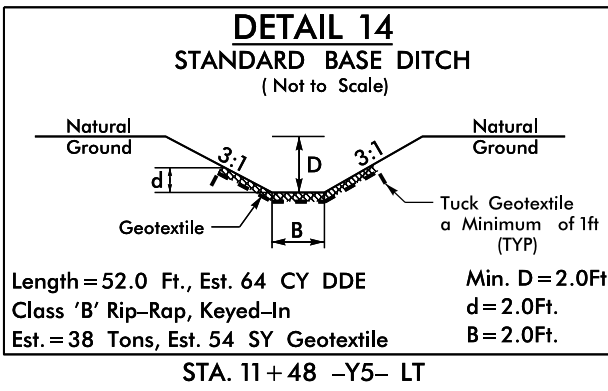
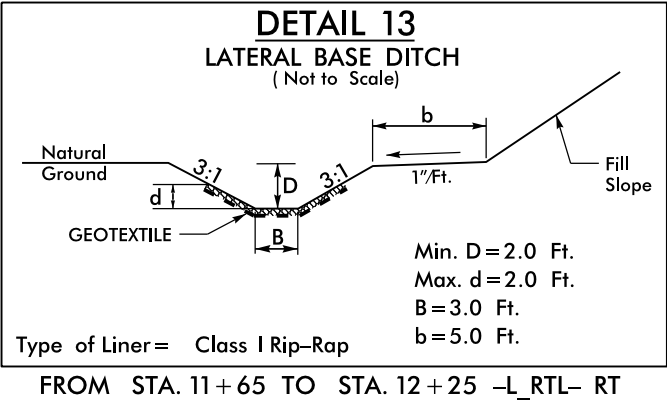
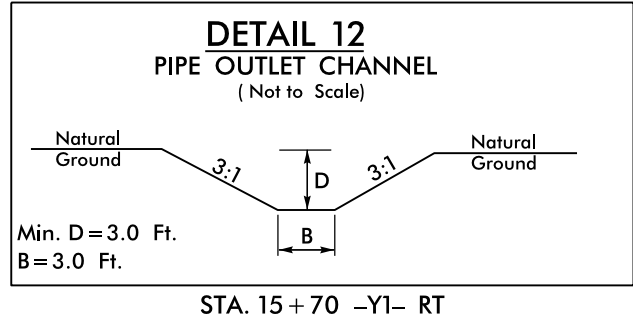
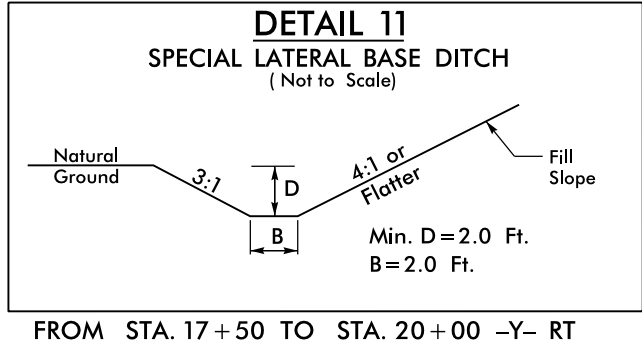
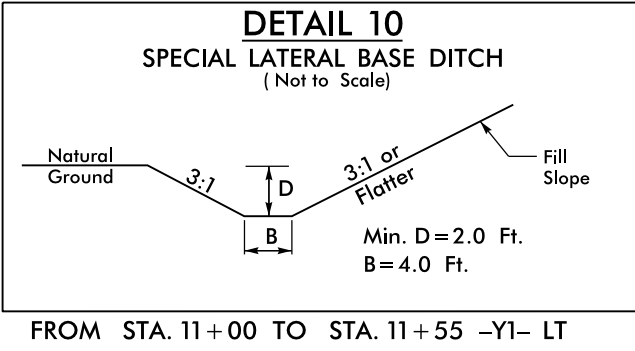
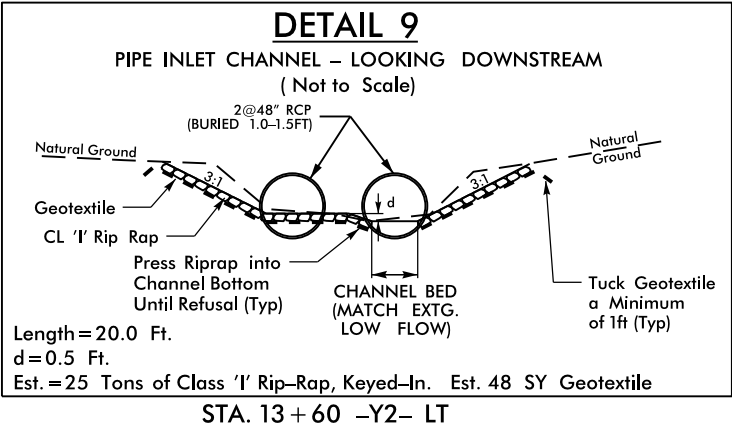
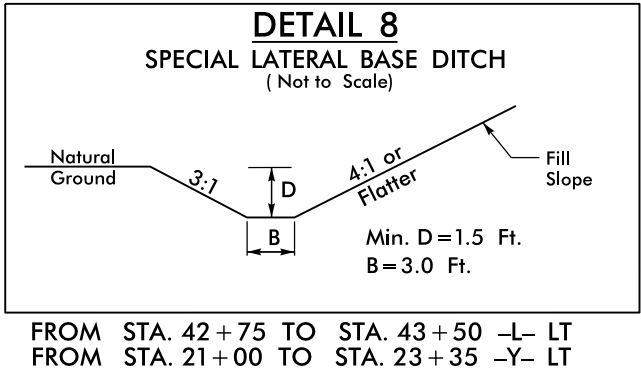
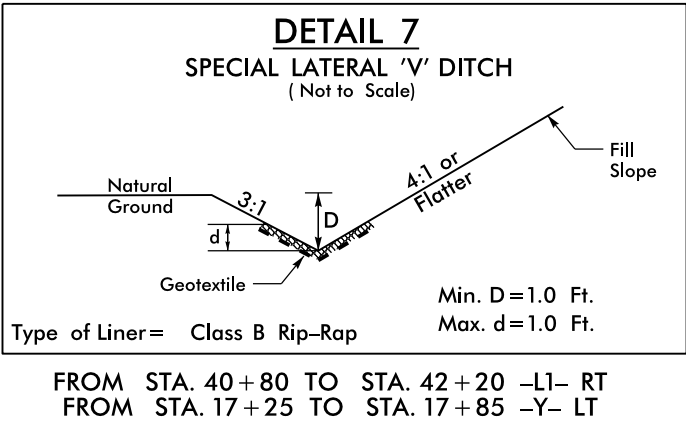
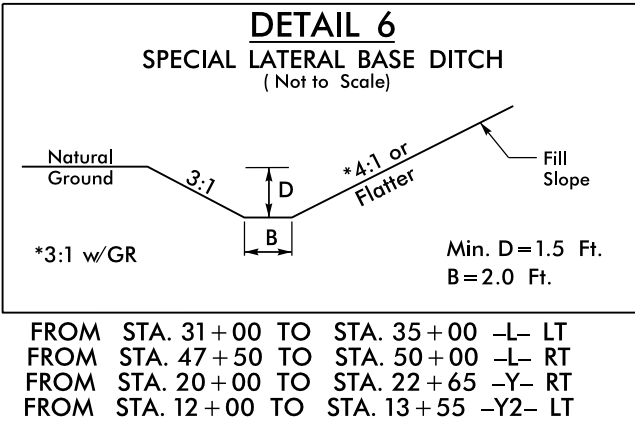
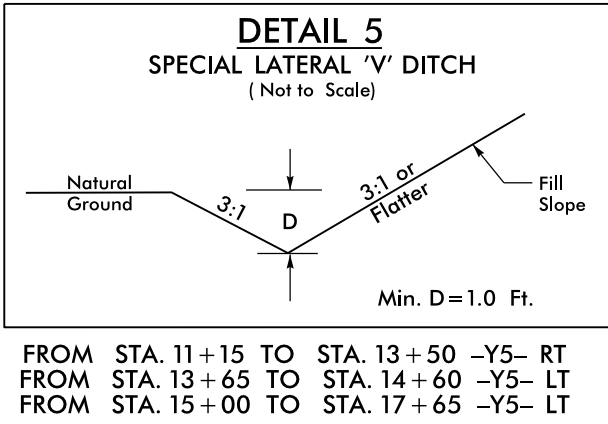
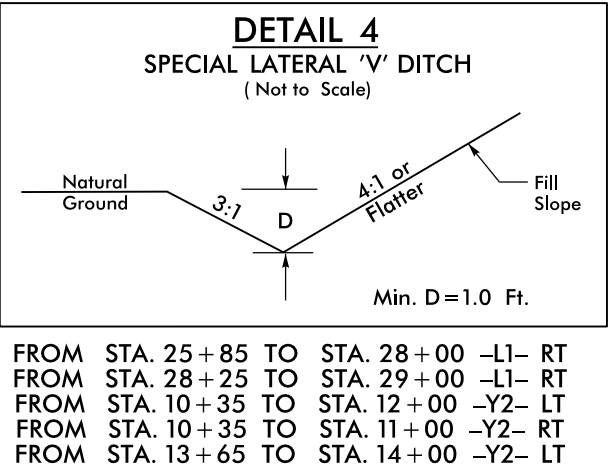
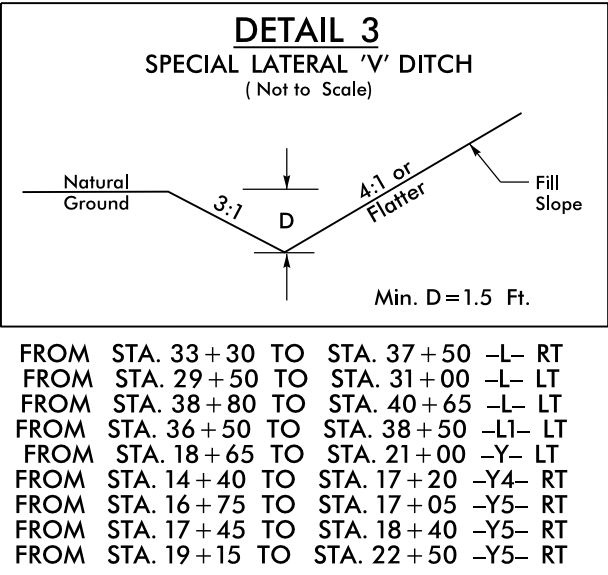
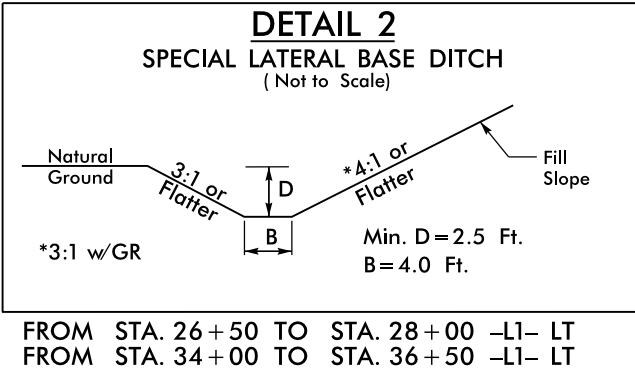
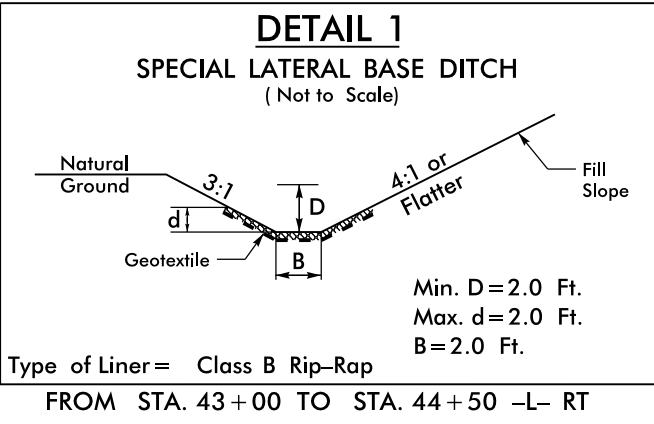
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO.	SHEET NO.
R-5857	2B-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

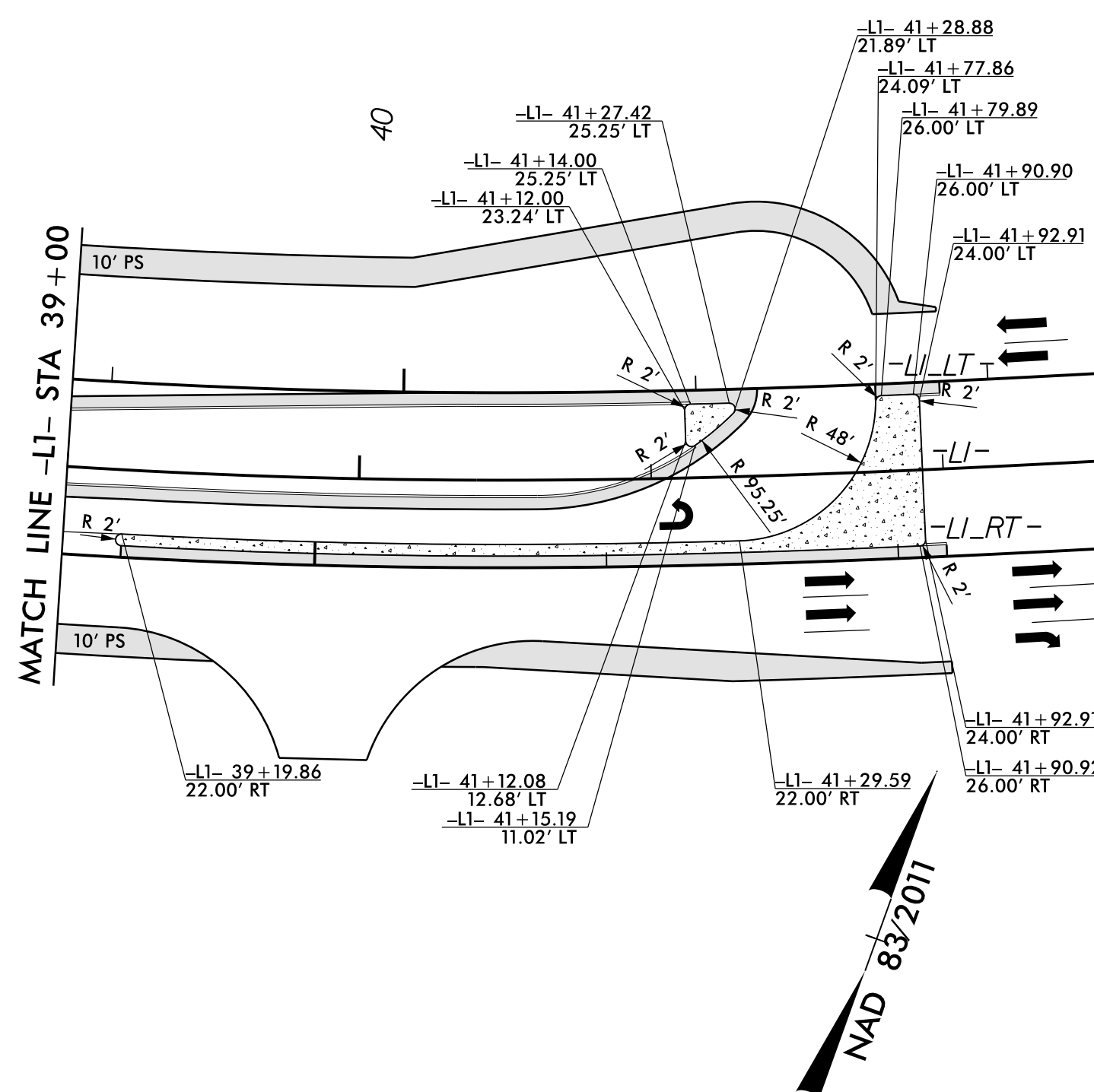
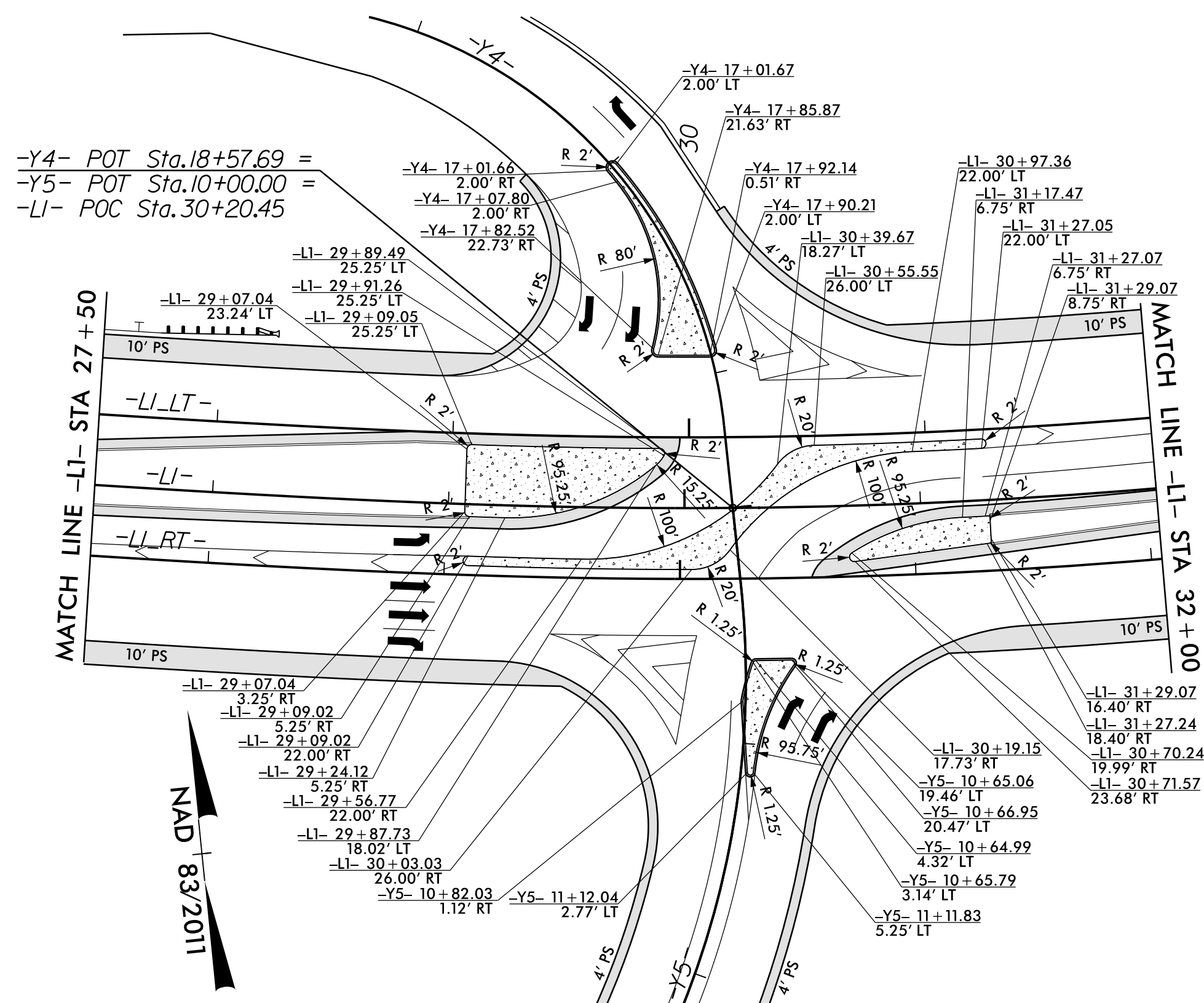
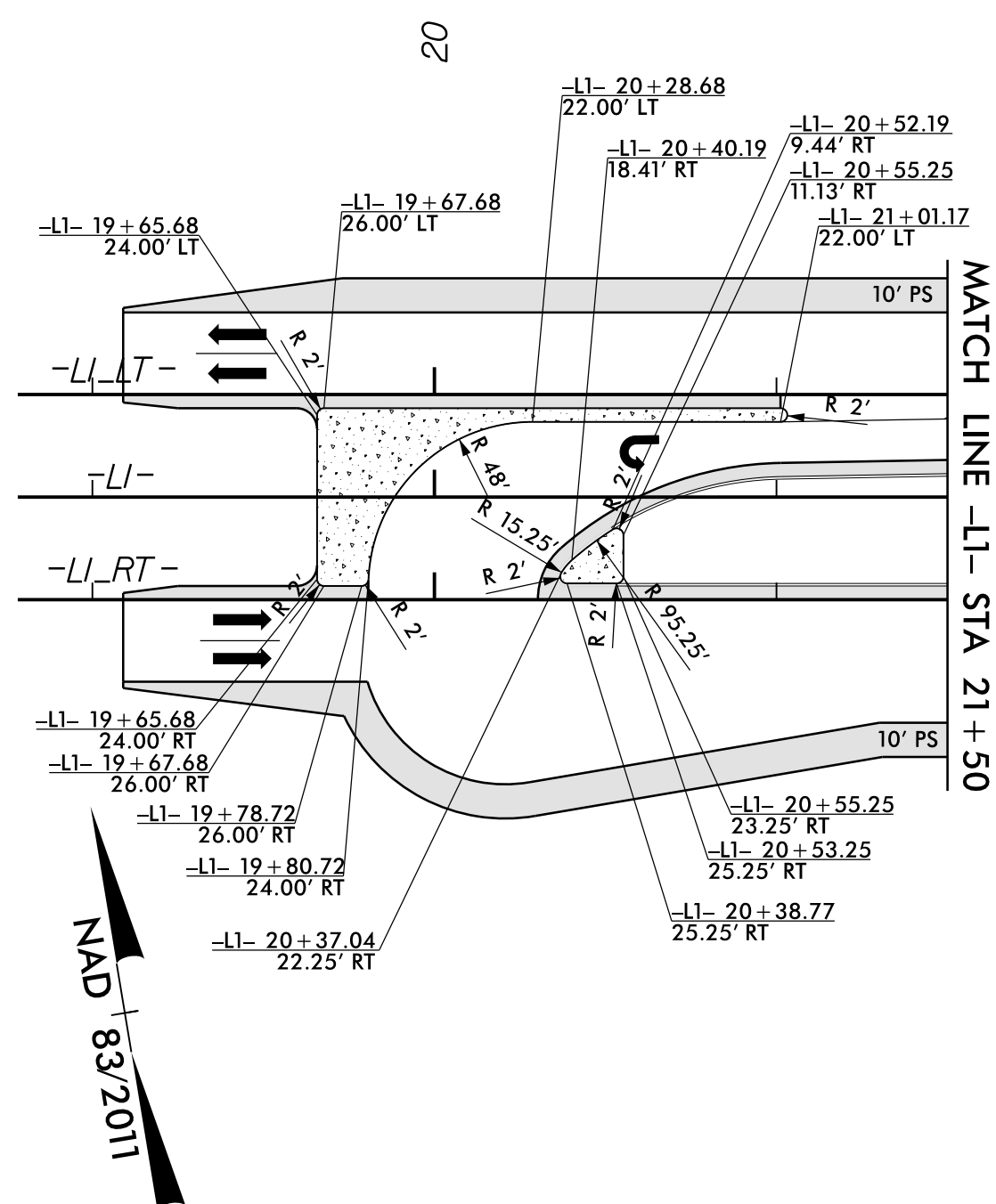
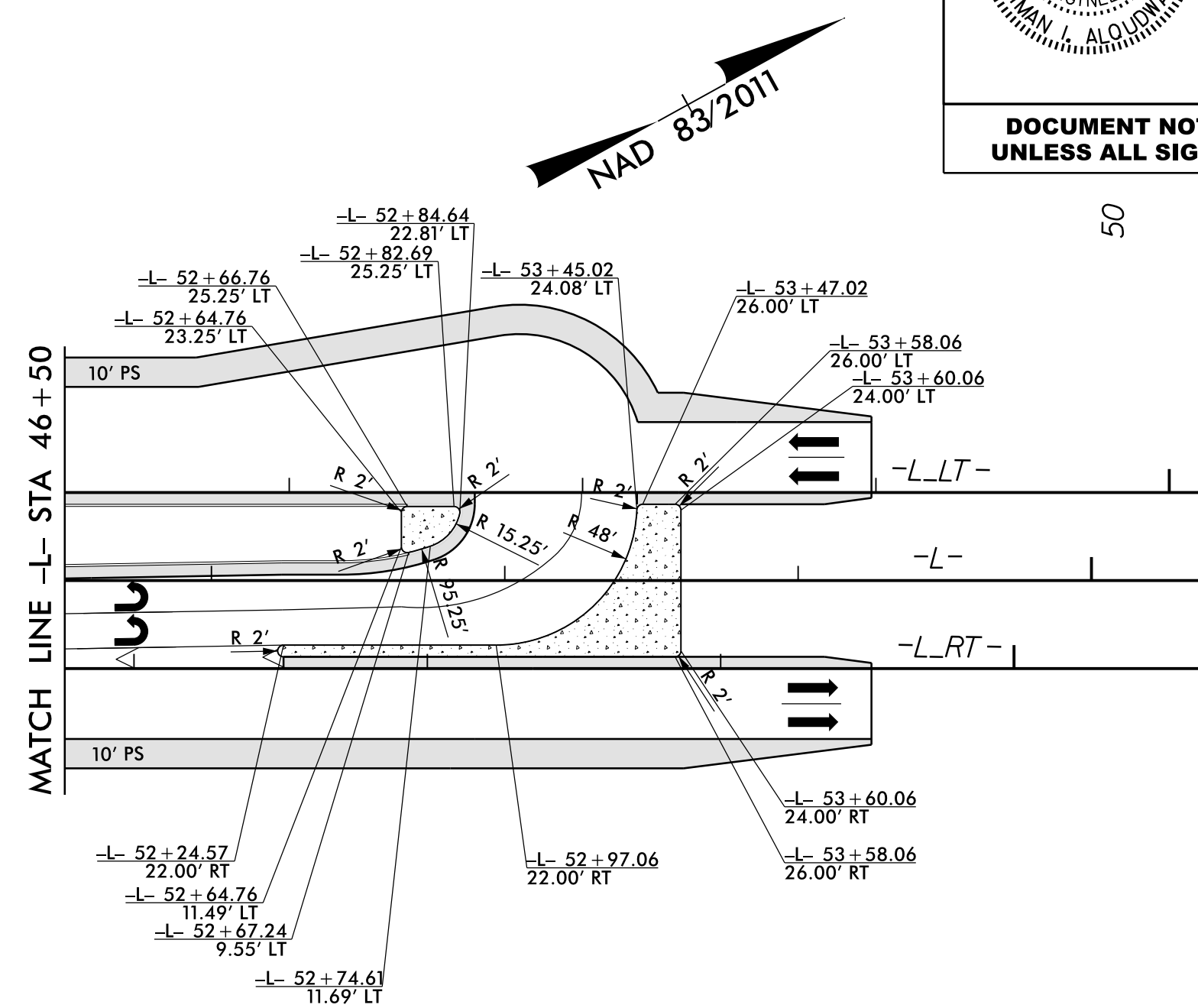
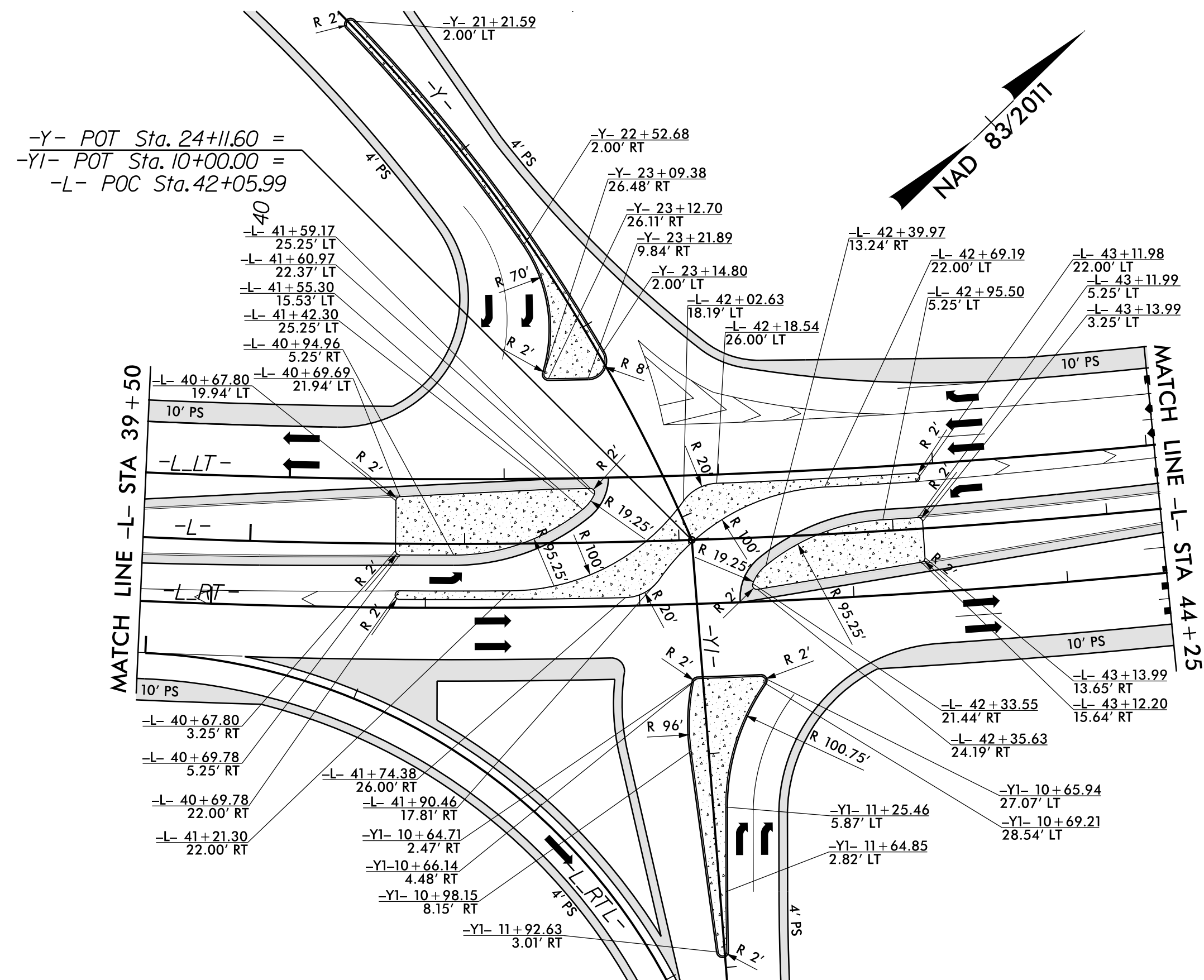
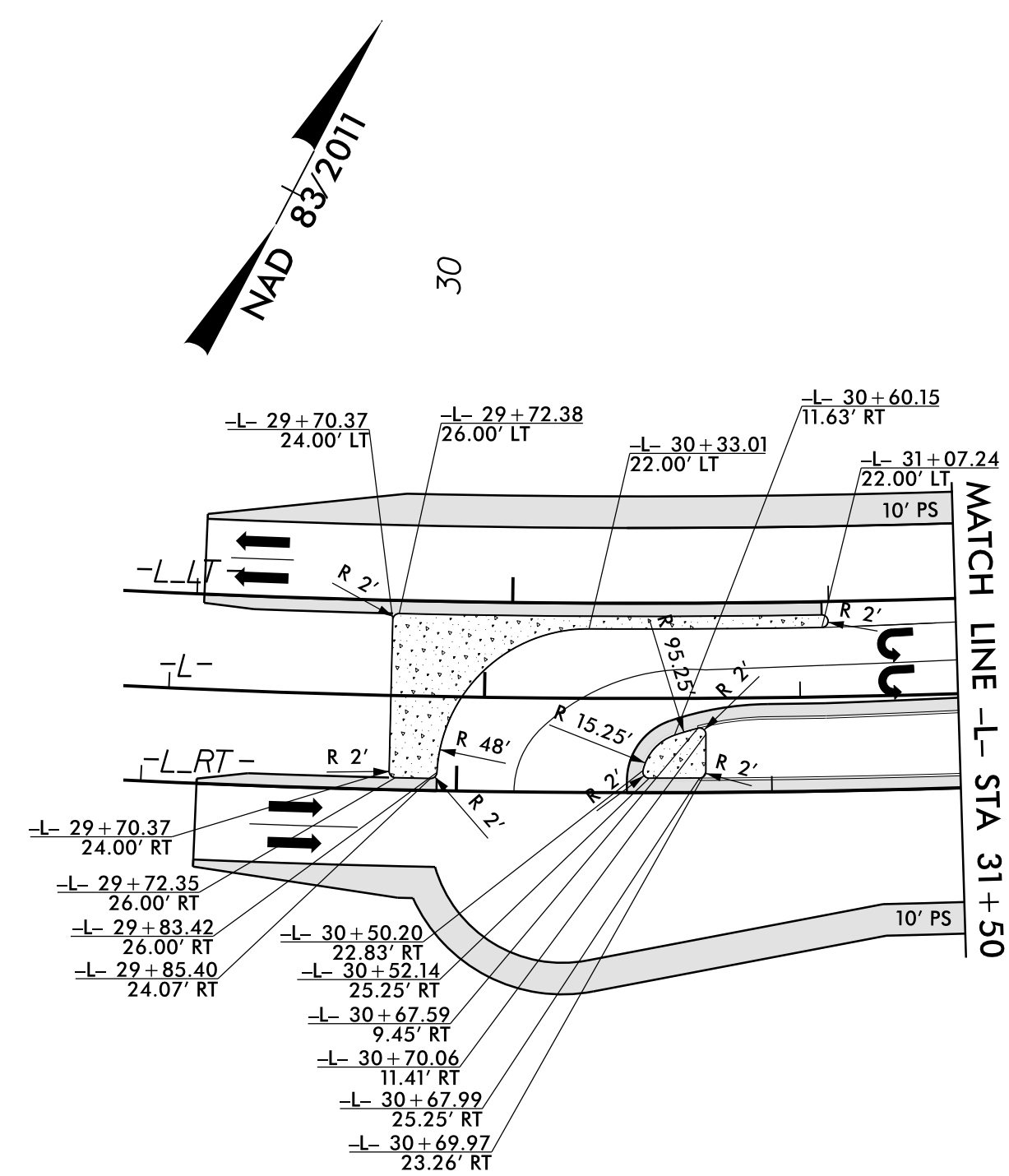
PLANS PREPARED BY :

PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

SUNGATE DESIGN GROUP, P.A.
805 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27608
TEL (919) 859-2343 FAX (919) 859-8258
ENG. FROM LICENSE NO. 5-289



CONCRETE ISLAND DETAIL SHEET



PLANS PREPARED BY :

PARSONS

RALEIGH, NORTH CAROLINA, (919) 854-1345

NC LICENSE NO. F-0246

FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

SUNGATE DESIGN GROUP, P.A.



905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL (919) 858-2245 FAX (919) 859-6225
ENG FROM LICENSE NO. C-890

PROJECT REFERENCE NO. <i>R-5857</i>	SHEET NO. <i>2B-2</i>
RW SHEET NO. _____	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

 5" MONOLITHIC CONCRETE
ISLAND (SURFACE MOUNTED) 

\\SEP-2017 1155\projects\Special Details\840D17 Minimum Depth Type A.dgn
Jhowerton At CSD-262595

STATE OF
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ENGLISH DETAIL DRAWING FOR
CONCRETE GRATED DROP INLET TYPE 'A'
MINIMUM DEPTH
12" THRU 72" PIPE

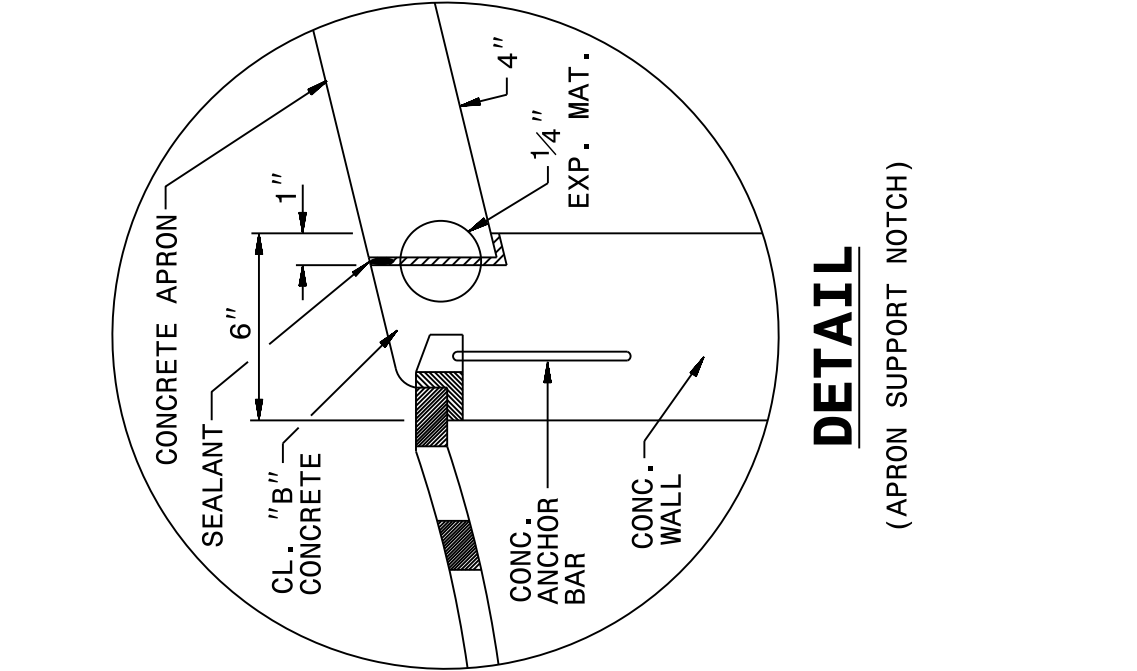
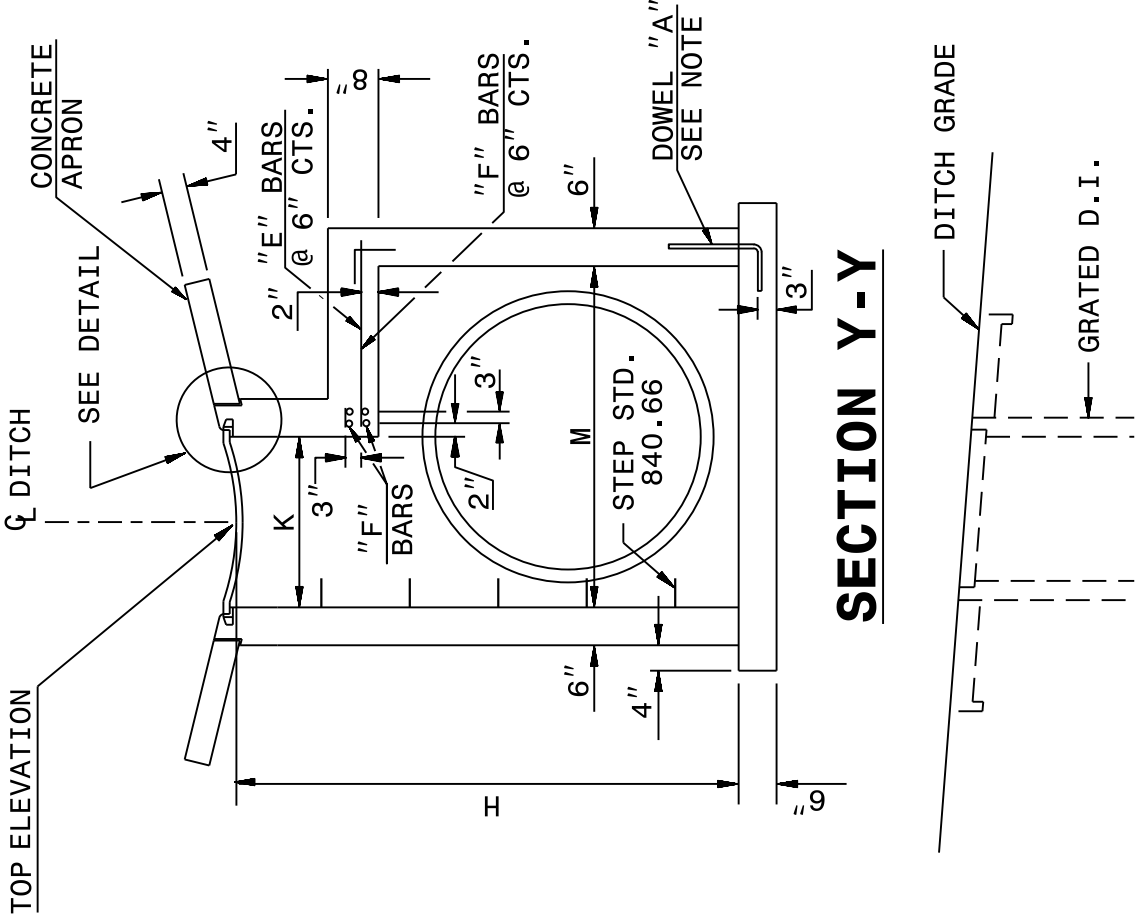
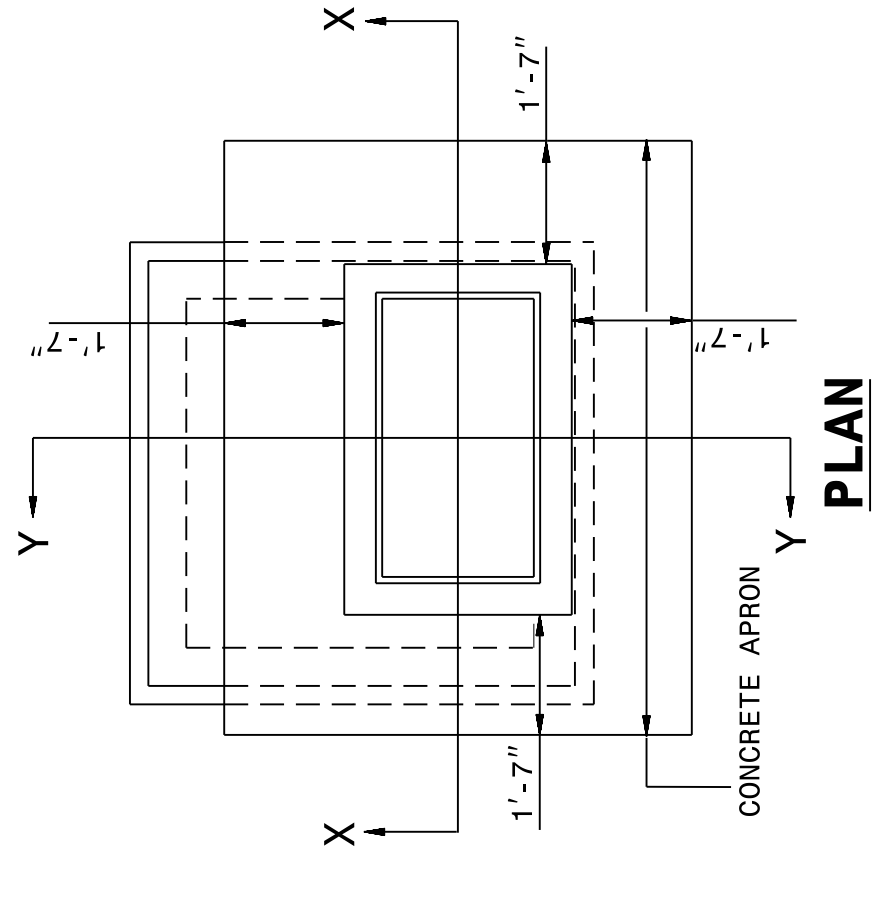
SHEET 1 OF 2
840d17

GENERAL NOTES:
USE CLASS "B" CONCRETE THROUGHOUT.
PROVIDE ALL GRATED DROP INLETS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.
OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 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.
CONSTRUCT WITH PIPE CROWNS MATCHING.
USE STANDARD FRAMES AND GRATES 840.22 (SHOWN), 840.24 (SHOWN), 840.20 (NOT SHOWN) OR 840.29 (NOT SHOWN).
SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES.
CHAMFER ALL EXPOSED CORNERS 1".
DRAWING NOT TO SCALE.
MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 12 FEET.

STATE OF
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RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
CONCRETE GRATED DROP INLET TYPE 'A'
MINIMUM DEPTH
12" THRU 72" PIPE

SHEET 1 OF 2
840d17

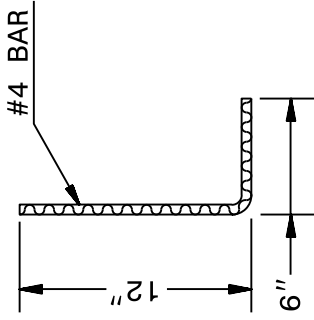


STATE OF
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DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
CONCRETE GRATED DROP INLET TYPE 'A'
MINIMUM DEPTH
12" THRU 72" PIPE

SHEET 1 OF 2
840d17

DOWEL - A



SECTION Y-Y

DETAIL
(APRON SUPPORT NOTCH)

SEE NOTE

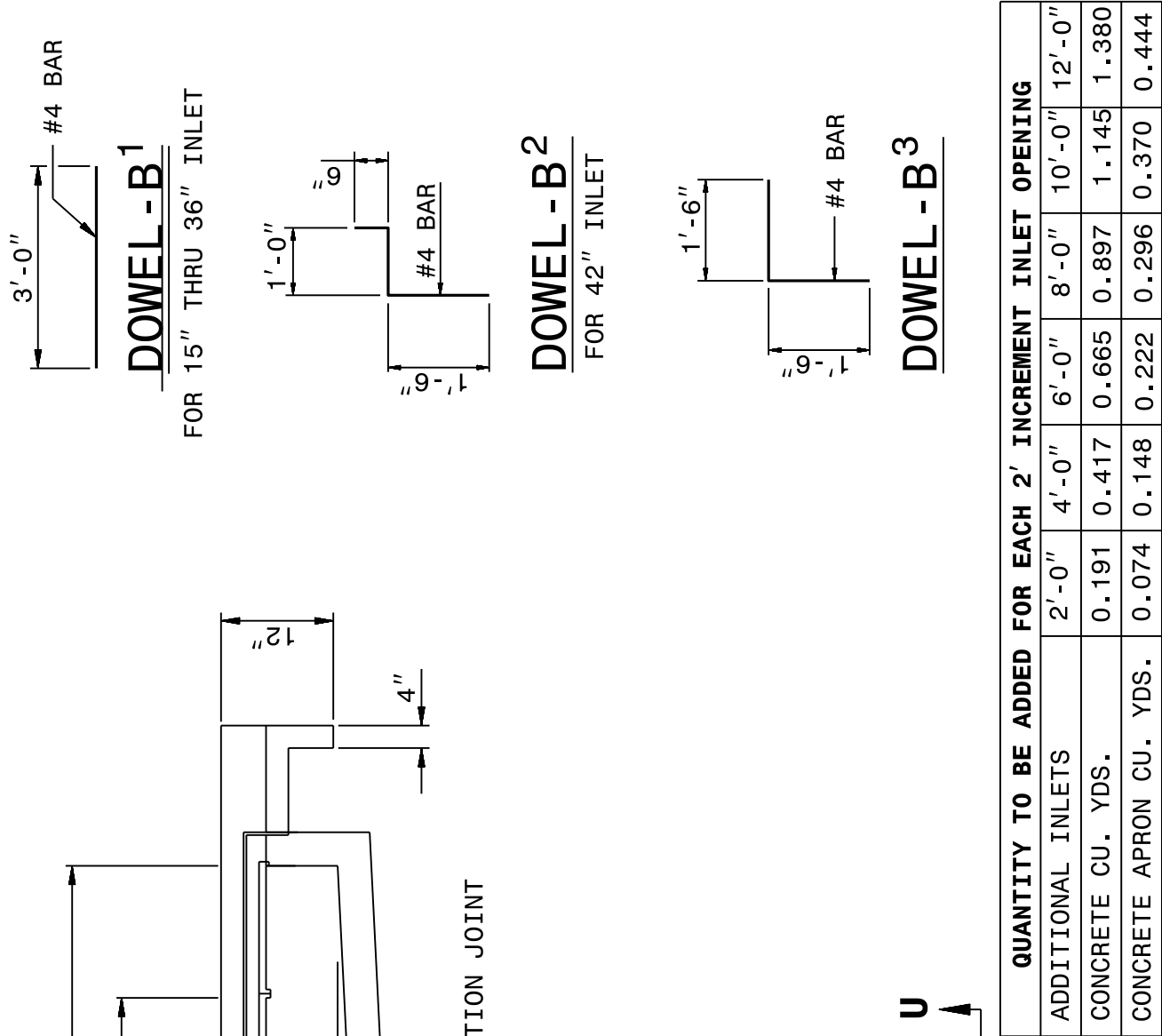
SECTION X-X

SEE NOTE

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

ENGLISH DETAIL DRAWING FOR
CONCRETE GRATED DROP INLET TYPE 'A'
MINIMUM DEPTH
12" THRU 72" PIPE

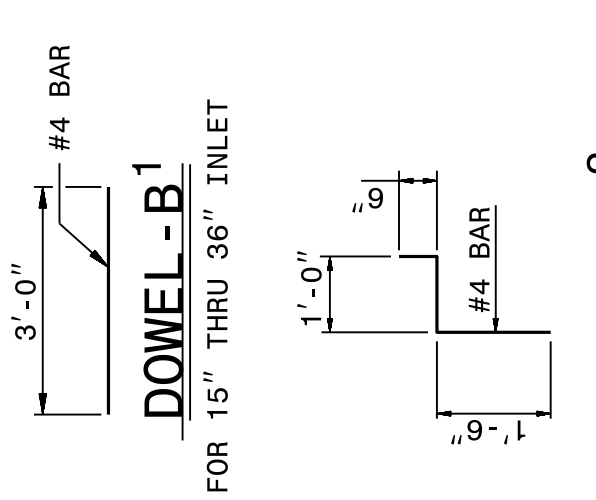
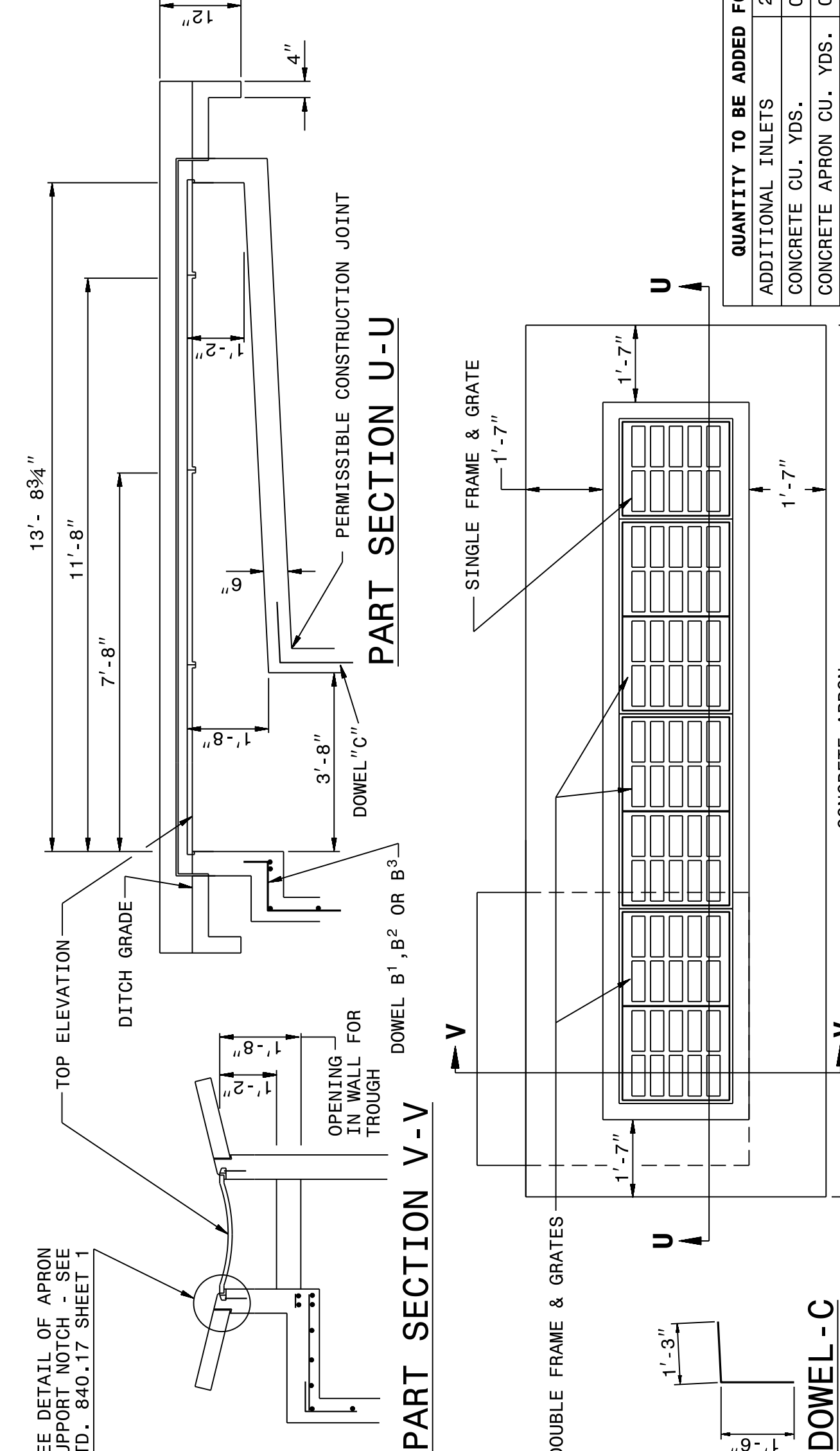
SHEET 2 OF 2
840d17



STATE OF
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DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
CONCRETE GRATED DROP INLET TYPE 'A'
MINIMUM DEPTH
12" THRU 72" PIPE

SHEET 2 OF 2
840d17



DOWEL - B2
FOR 42" INLET

DOWEL - B3

QUANTITY TO BE ADDED FOR EACH 2' INCREMENT INLET OPENING									
ADDITIONAL INLETS	2'-0"	4'-0"	6'-0"	8'-0"	10'-0"	12'-0"	12'-0"	12'-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			

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	SPAN	WIDTH	DEPTH	HEIGHT	BARS E	BARS F	BARS G	BARS H	TOTAL
D	J	K	L	M	NO.	LENGTH	NO.	LENGTH	NO.
12"	3'-8"	2'-0"	2'-3"	2'-3"	—	—	—	—	—
15"	3'-8"	2'-0"	2'-0"	2'-5"	—	—	—	—	—
18"	24"	2'-0"	2'-8"	2'-8"	—	—	—	—	—
24"	3'-8"	2'-0"	3'-3"	3'-3"	8	4'-9"	—	—	—
30"	3'-8"	2'-0"	3'-10"	3'-10"	8	4'-9"	—	—	—
36"	4'-0"	4'-0"	4'-4"	4'-4"	8	4'-11"	4	0'-9"	2
42"	4'-0"	4'-10"	5'-0"	5'-0"	10	5'-7"	9	5'-7"	3
48"	5'-4"	5'-4"	5'-6"	5'-6"	11	6'-1"	10	6'-1"	4
54"	6'-0"	6'-0"	6'-0"	6'-0"	12	6'-7"	11	6'-7"	5
60"	6'-6"	6'-6"	6'-7"	6'-7"	13	7'-3"	12	7'-3"	6
66"	7'-2"	7'-2"	7'-1"	7'-1"	14	7'-10"	13	7'-10"	7
72"	3'-8"	2'-0"	7'-8"	7'-8"	15	8'-5"	4	4'-3"	8

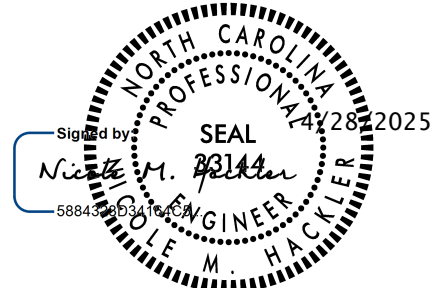
DEDUCTIONS FOR ONE PIPE									
ADDITIONAL INLETS	2'-0"	4'-0"	6'-0"	8'-0"	10'-0"	12'-0"	12'-0"	12'-0"	12'-0"
CONCRETE CU. YDS.	0.191	0.417	0.665	0.897	1.145	1.380			
CONCRETE APRON CU. YDS.	0.074	0.148	0.222	0.296	0.370	0.444			

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

SEE TITLE BLOCK

ORIGINAL BY: J. Howerton DATE: 1/22/14
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.: jhowerton\minimum_depth_type A.dgn

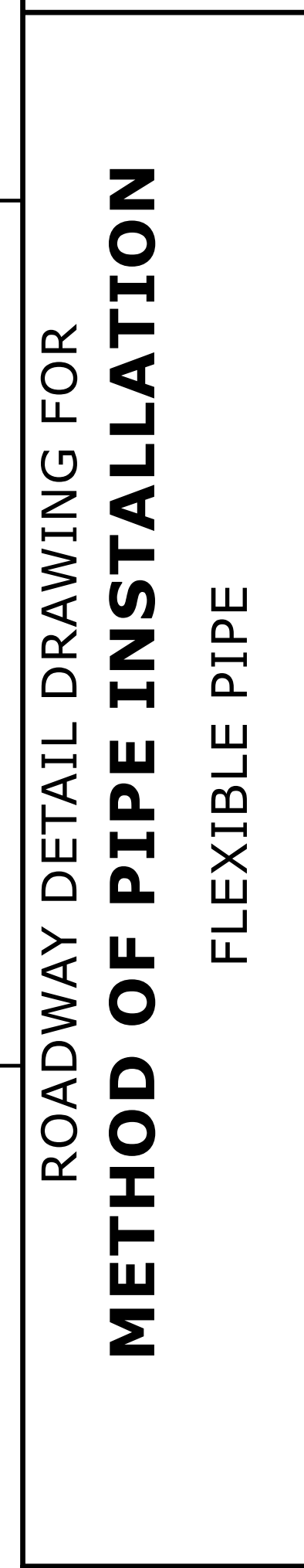
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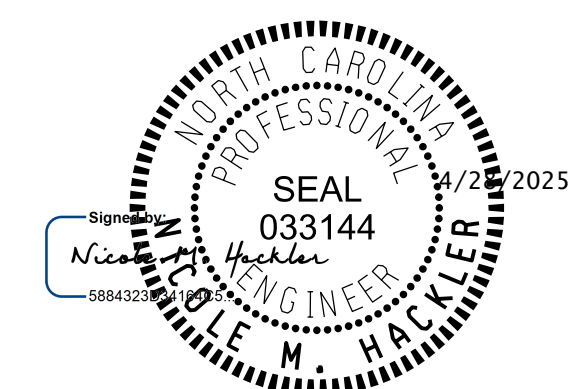
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$$$$$SYTIME$$$$$DGN$$$$$
$$$$$SYSTEMNAME$$$$$

```



	SPRINGLINE OF PIPE
	SELECT BACKFILL MATERIAL CLASS III OR CLASS II, TYPE 1 ABOVE AND BELOW SPRINGLINE.
	UNDISTURBED EARTH MATERIAL
	SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE IV GEOTEXTILE AS DIRECTED BY THE ENGINEER.



SHEET 1 OF 2
300.01

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919-707-6950 FAX 919-250-4

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 MODIFIED BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____
 FILE SPEC.: _____

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

ROADWAY DETAIL DRAWING FOR
METHOD OF PIPE INSTALLATION
RIGID PIPE

SHEET 2 OF 2
300.01

TOP OF FILL

GROUND LINE

H

I.D. /6 MIN.
NOT LESS THAN 6"

O.D. + 3'

NORMAL EARTH FOUNDATION

TOP OF FILL

GROUND LINE

H

I.D. /6 MIN.
NOT LESS THAN 6"

ROCK

O.D. + 3'

**ROCK FOUNDATION
PIPE IN TRENCH**

TOP OF FILL

GROUND LINE

H

TYPE 4a
GEOTEXTILE

I.D. /6 MIN.
NOT LESS
THAN 6"

1½" PER FOOT OF 'H'
BUT NOT LESS THAN 12"
NOR MORE THAN 24"
AS DIRECTED BY ENGR.

O.D. + 3'

UNSUITABLE MATERIAL FOUNDATION

TOP OF FILL

GROUND LINE

H

MIN. O.D.

MIN. O.D.

I.D. /6 MIN.
NOT LESS THAN 6"

O.D. + 2'

NORMAL EARTH FOUNDATION

TOP OF FILL

GROUND LINE

H

MIN. O.D.

MIN. O.D.

I.D. /6 MIN.
NOT LESS THAN 6"

O.D. + 2'

**ROCK FOUNDATION
PIPE ABOVE GROUND**

TOP OF FILL

GROUND LINE

H

MIN. O.D.

MIN. O.D.

I.D. /6 MIN.
NOT LESS THAN 6"

1½" PER FOOT OF 'H'
BUT NOT LESS THAN 12"
NOR MORE THAN 24"
AS DIRECTED BY ENGINEER

MIN. O.D.

MIN. O.D.

UNSUITABLE MATERIAL FOUNDATION

GENERAL NOTES:

I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.

O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.

H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT
ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP
OF THE EMBANKMENT AT THAT POINT.

APPROVED SUITABLE LOCAL MATERIAL.

TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.

LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1
FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE
UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL
ACCOMPLISH COMPACTION.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS
BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

REFER TO NCDOT PIPE MATERIAL SELECTION GUIDE AND STANDARD SPECIFICATIONS
FOR ALLOWABLE PIPE FILL HEIGHTS AND PIPE SPECIFICATIONS.

SPRINGLINE OF PIPE

SELECT BACKFILL MATERIAL CLASS III OR CLASS II,
BELOW SPRINGLINE.

UNDISTURBED EARTH MATERIAL

SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE
WITH TYPE IV GEOTEXTILE AS DIRECTED BY THE ENGINEER.

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CONTRACTS STANDARDS
AND DEVELOPMENT UNIT

Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: S.CALHOUN DATE: 7-25-2024

MODIFIED BY: DATE:

CHECKED BY: DATE:

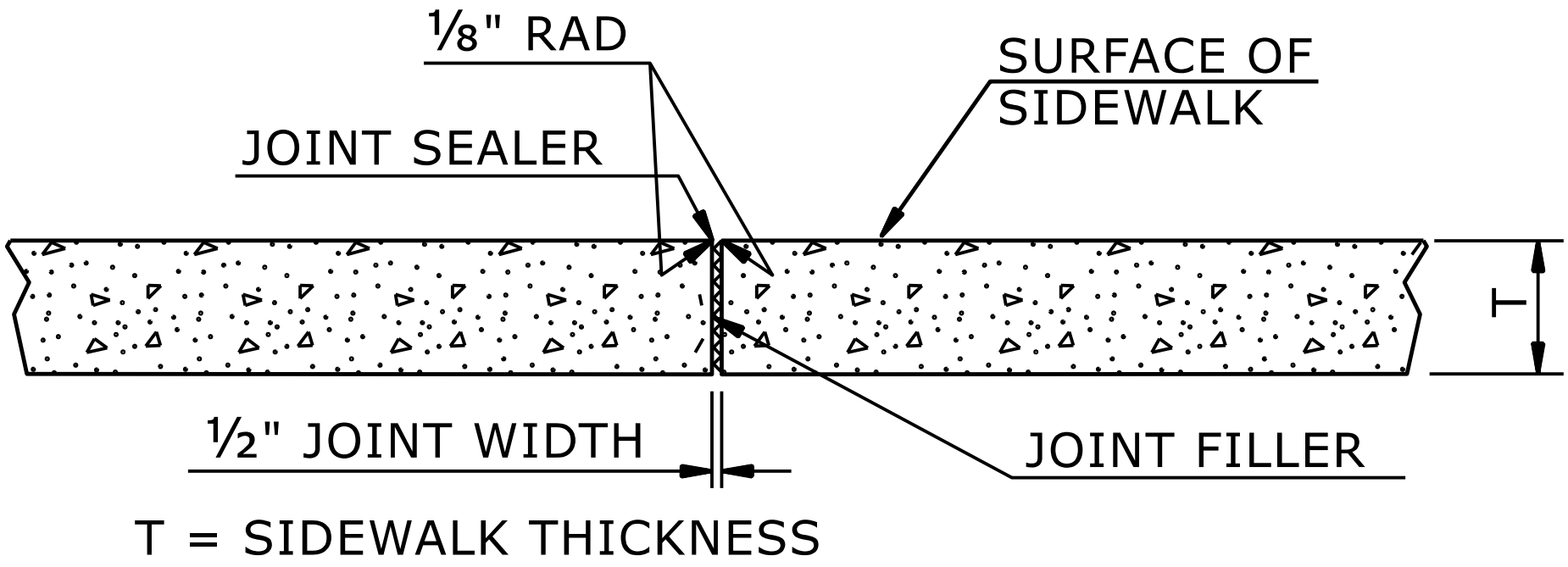
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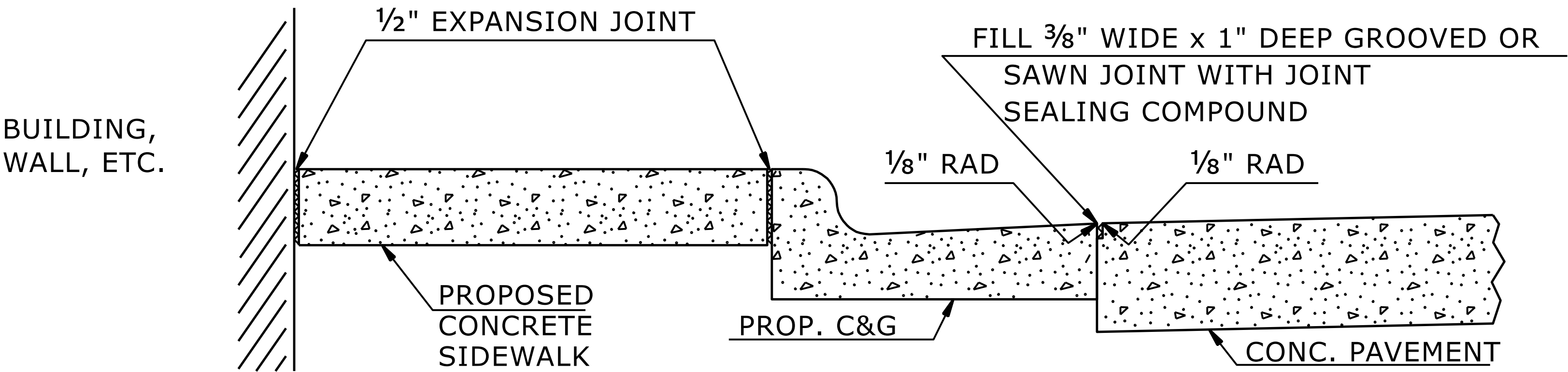
CONSTRUCT STANDARD SIDEWALK 5' WIDE AND 4" THICK UNLESS OTHERWISE DENOTED ON PLANS.

PLACE A GROOVE JOINT 1" DEEP WITH 1/8" RADII IN THE CONCRETE SIDEWALK AT 5' INTERVALS. ONE 1/2" EXPANSION JOINT WILL BE REQUIRED AT 50' INTERVALS. A 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.

SEE STD. DWG. 848.06 FOR CURB RAMP LOCATION REQUIREMENTS AND CONSTRUCTION GUIDELINES.



TRANSVERSE EXPANSION JOINT
IN SIDEWALK



DETAILS SHOWING JOINTS IN CONCRETE SIDEWALK

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

ROADWAY DETAIL DRAWING FOR
CONCRETE SIDEWALK

SHEET 1 OF 1
848D01



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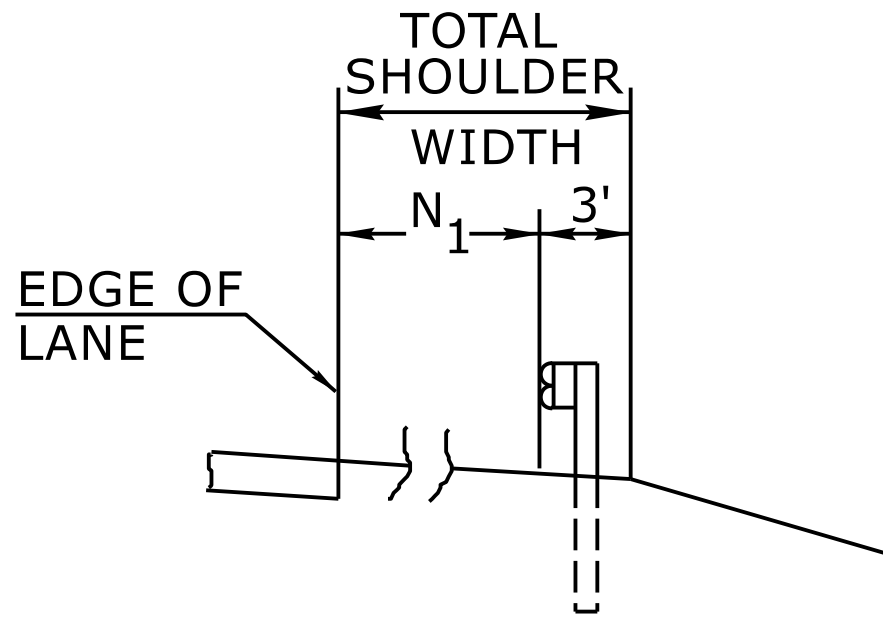
**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**

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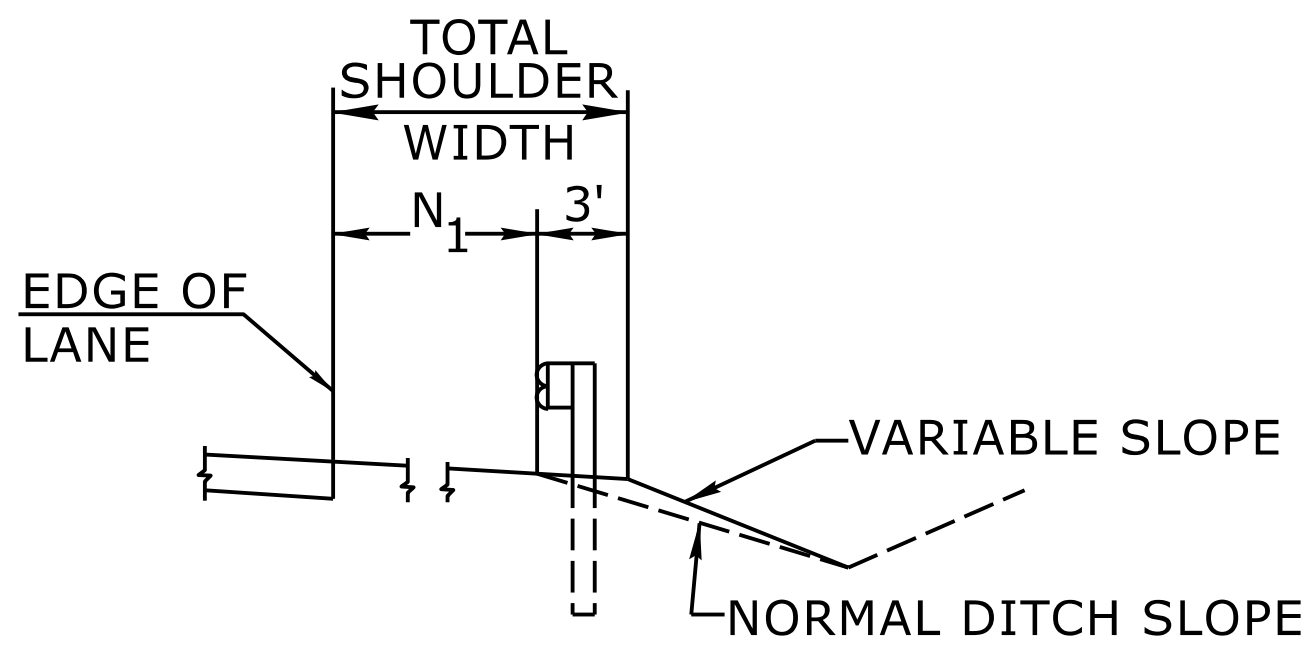
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ORIGINAL BY: S.CALHOUN	DATE: 7-25-2024
MODIFIED BY:	DATE:
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FILE SPEC.:	

PROJECT REFERENCE NO.	SHEET NO.
R-5857	2C-6

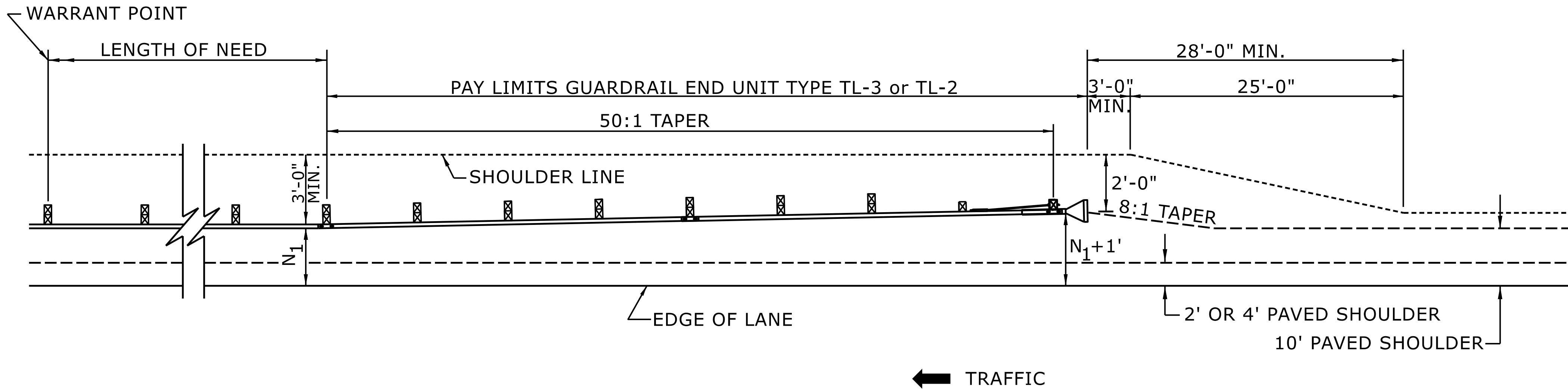


FILL SECTION



CUT SECTION

"N₁"= DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL WHERE GUARDRAIL IS PARALLEL TO LANE.



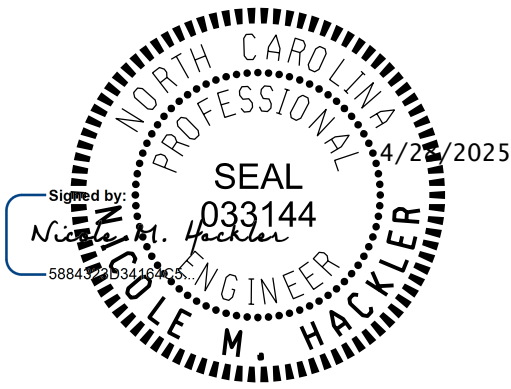
FOR POSTED SPEEDS ≥ 45mph USE GREU TYPE TL-3
FOR POSTED SPEEDS < 45mph USE GREU TYPE TL-2

DETAIL OF BEGINNING OF GUARDRAIL IN CUT OR FILL SECTION

STATE OF
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DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 6 OF 15
862D01



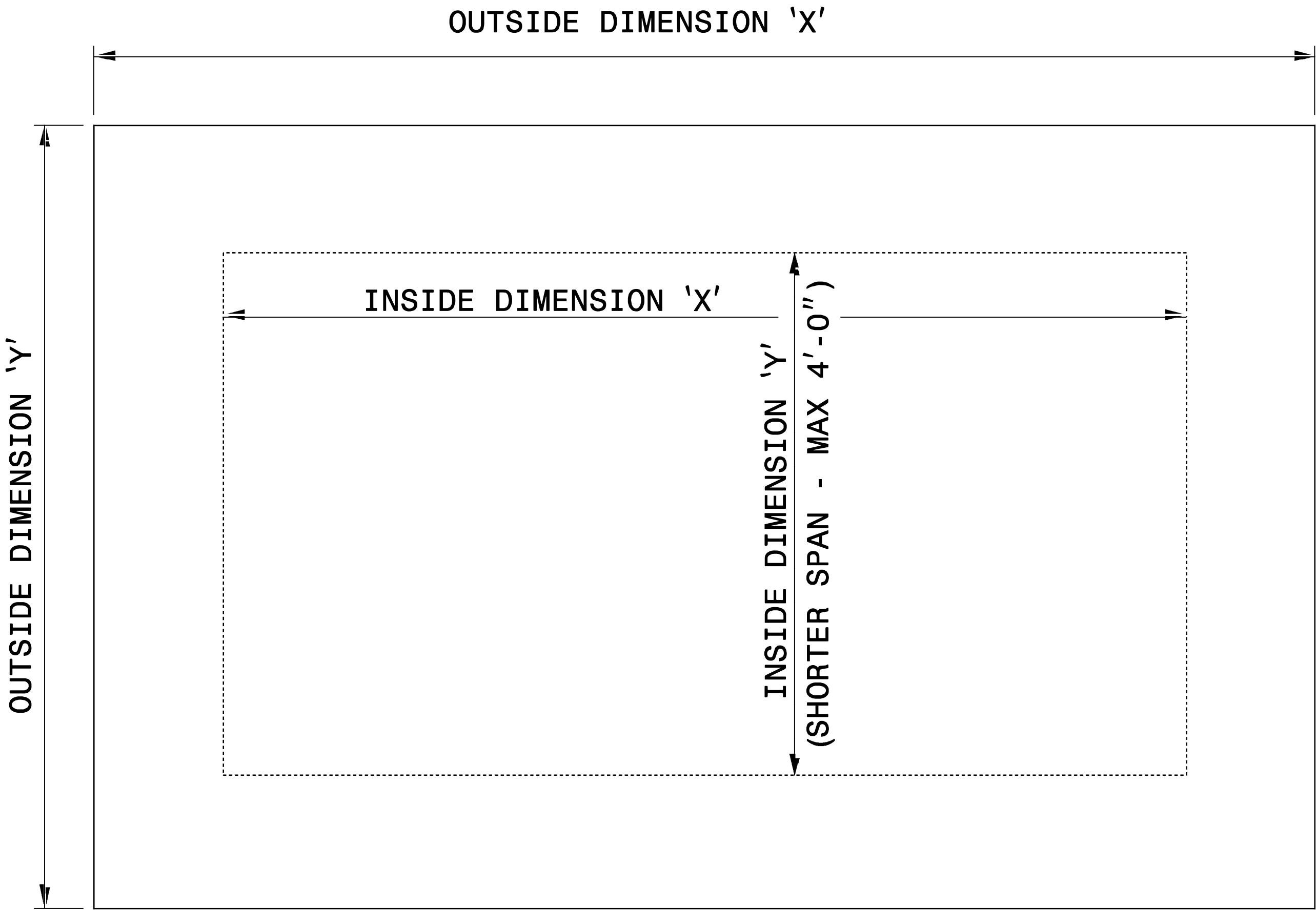
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**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**
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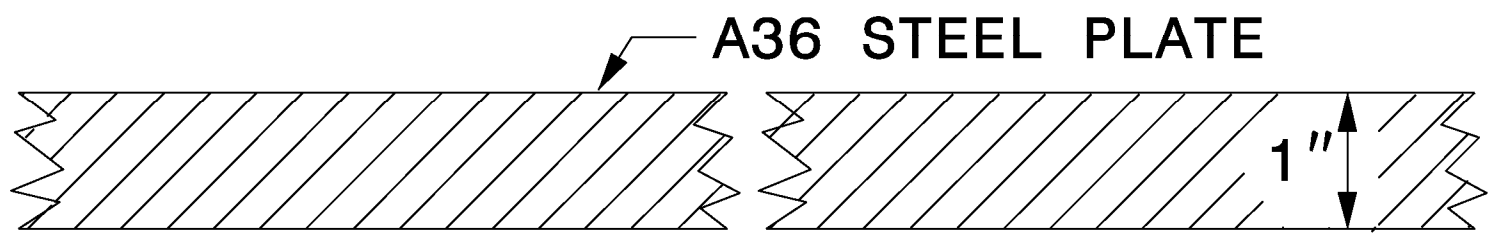
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PROJECT REFERENCE NO.	SHEET NO.
R-5857	2C-7



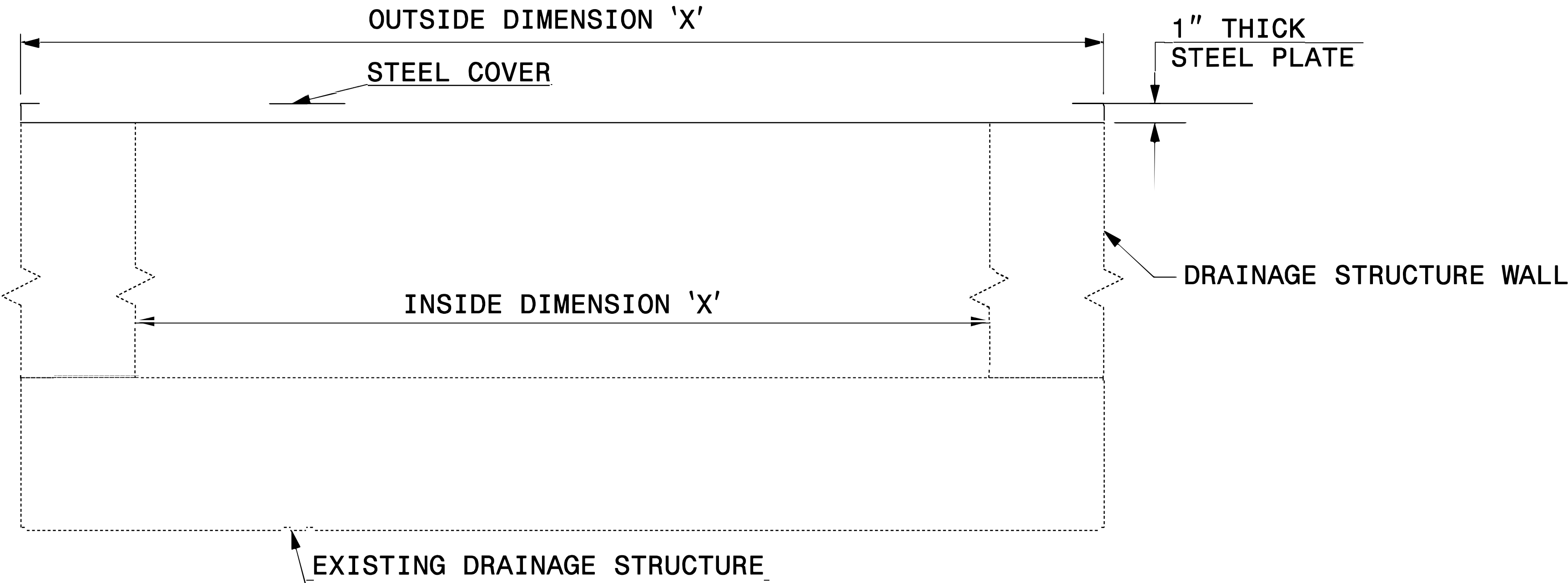
GENERAL NOTES:

- USE GRADE A36 STEEL
- STEEL COVERS ARE FOR TEMPORARY USE DURING PHASE CONSTRUCTION.
- FILL SHALL BE PLACED DIRECTLY OVER THE STEEL PLATES.
- SEE ROADWAY PLANS AND PROVISIONS FOR LOCATIONS
- QUANTITIES TO BE PAID FOR AT THE UNIT PRICE BID PER EACH.

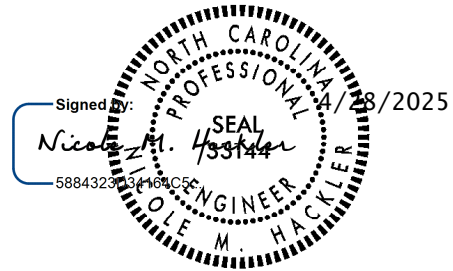


SECTION VIEW OF STEEL TOP PLATE

PLAN VIEWS



ELEVATION VIEWS

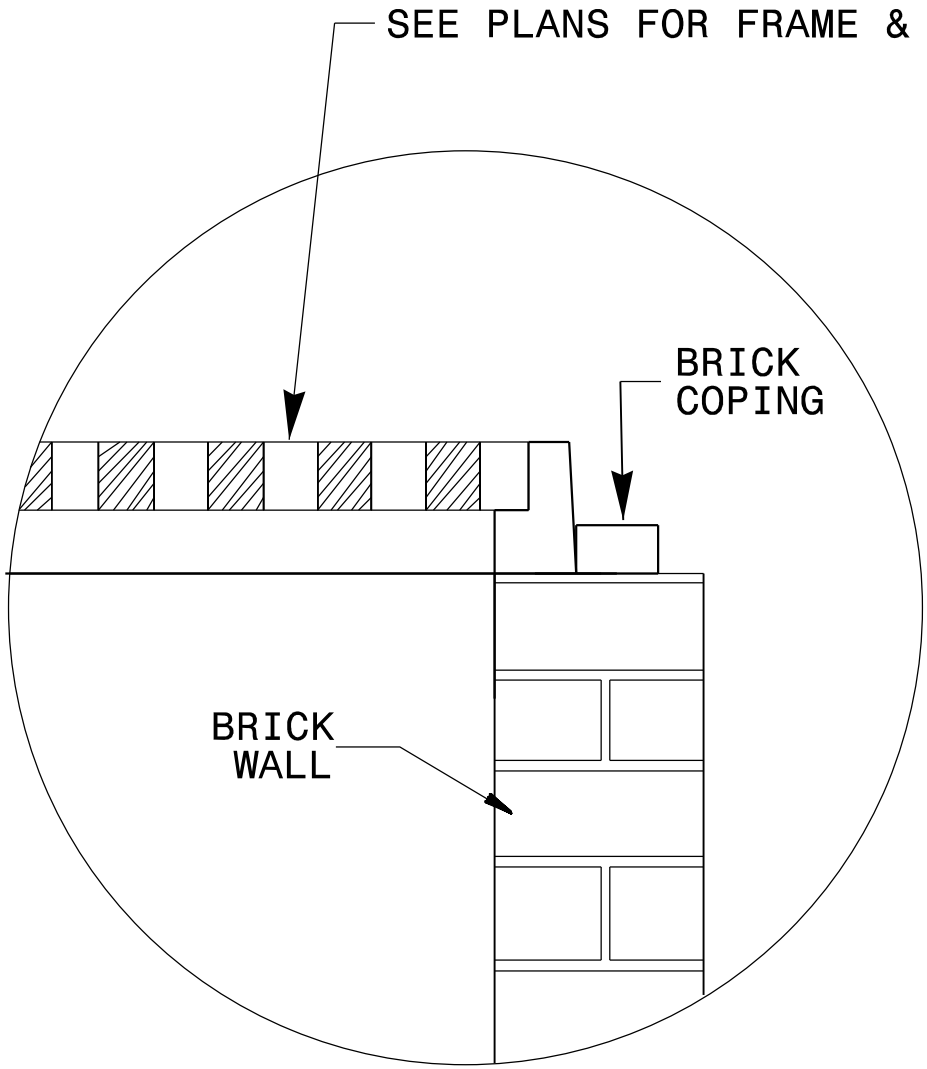


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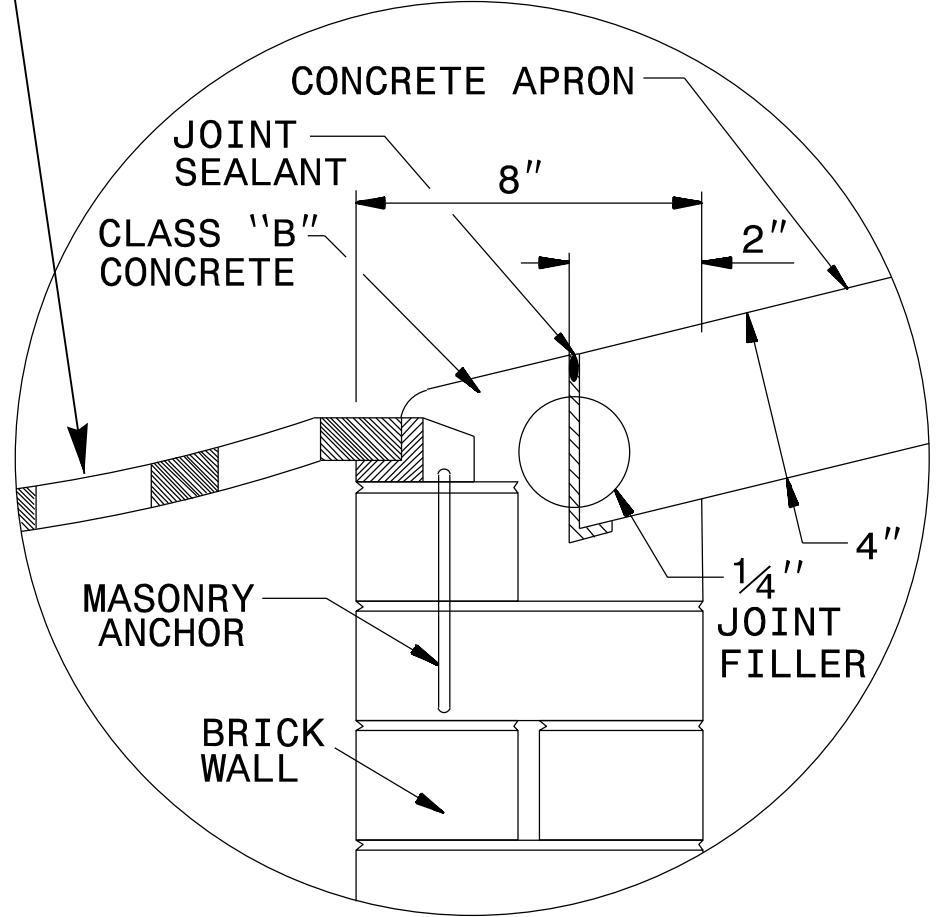
CONTRACT STANDARDS
AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

DETAIL OF TEMPORARY
1" STEEL COVER
OVER DRAINAGE STRUCTURE

ORIGINAL BY: E.E. WARD DATE: 2-2-98
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC: eric:/usr/details/metric/stand/st1cvc2.dgn



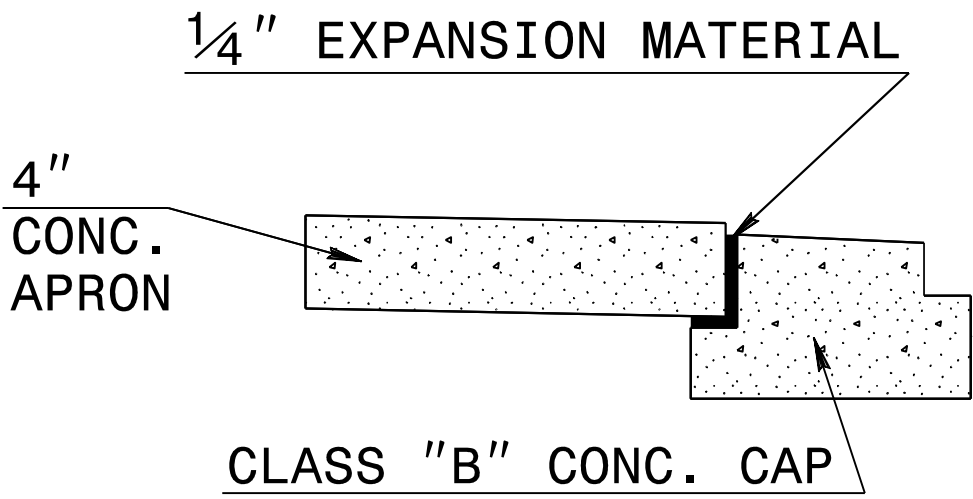
GRATE PLACEMENT DETAIL
FOR DROP INLETS



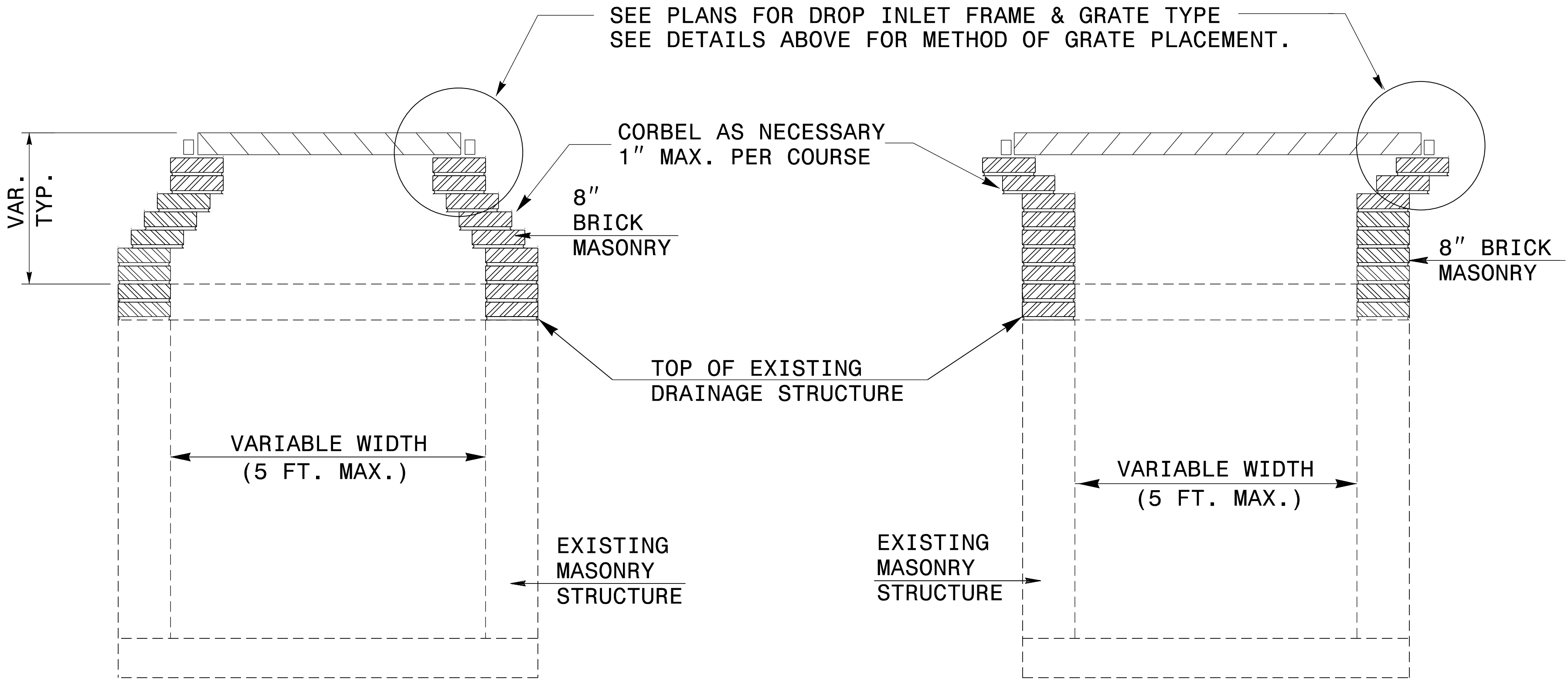
GRATE PLACEMENT DETAIL
FOR GRATED DROP INLETS

GENERAL NOTES:

- CONSTRUCT IN ACCORDANCE WITH SECTION 859 OF THE STANDARD SPECIFICATIONS.
- USE CLASS B CONCRETE.
- THE DIMENSIONS FOR THE EXISTING BOXES ARE APPROXIMATE AND MAY VARY SLIGHTLY.
- JUMBO CONCRETE BRICK WILL BE PERMITTED. 4" CONCRETE BRICK OR 8" SOLID CONCRETE BLOCK ARE REQUIRED FOR DRAINAGE STRUCTURE.
- INCLUDE 18" CONCRETE APRON IN UNIT PRICE BID PER EACH, CONVERT EXISTING CATCH BASIN TO DROP INLET.
- SPECIAL DESIGN IS REQUIRED FOR USE UNDER PAVEMENT.
- CONFIRM DIMENSIONS ON EACH INDIVIDUAL FRAME & GRATE PROPOSAL.
- SEE STD. DRAWING 840.25 FOR MASONRY ANCHORAGE.



EXPANSION JOINT DETAIL



TYPICAL SECTION

TYPICAL SECTION



CONTRACT STANDARDS AND DEVELOPMENT UNIT			
Office 919-707-6950		FAX 919-250-4119	
DETAIL TO CONVERT EXISTING CATCH BASIN OR JUNCTION BOX TO DI OR 2-GI			
ORIGINAL BY:	T.S.S.	DATE:	NOV.1997
MODIFIED BY:	T.S.S.	DATE:	FEB.2000
CHECKED BY:		DATE:	
FILE SPEC.:	s:usr/details/stand/cbtodi02.dgn		

5/28/99

COMPUTED BY:	JMP	DATE:	7-2021
CHECKED BY:	DBG	DATE:	5-2025

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
R-5857	3B-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK
IN CUBIC YARDS

STATION	STATION	UNCL. EXCAV.	UNDERCUT	EMBANK. + %	BORROW	WASTE
-L- 29 + 10.00 LT	42 + 00.00 LT	1,616		2,685	1,069	
-Y- 17 + 00.00	23 + 00.00	933		971	38	
-Y2- 10 + 25.00	14 + 12.62	558		888	380	50
SUBTOTALS:		3,107		4,544	1,487	50
-L- 29 + 10.00 RT	42 + 00.00 RT	1,296		5,474	4,178	
-Y1- 11 + 00.00	-Y1- 15 + 00.00	581		518		63
-L_RTL- 10 + 00.00	14 + 12.62	51		140	89	
SUBTOTALS:		1,928		6,132	4,267	63
-L- 42 + 00.00 LT	-L- 54 + 25.00 LT	2,897		3,421	524	
SUBTOTALS:		2,897		3,421	524	
-L- 42 + 00.00 RT	-L- 54 + 25.00 RT	998		1,746	748	
SUBTOTALS:		998		1,746	748	
-L1- 19 + 09.00 LT	-L1- 30 + 00.00 LT	436		3,534	3,098	
-Y4- 14 + 50.00	-Y4- 18 + 03.30	511		350		161
SUBTOTALS:		947		3,884	3,098	161
-L1- 19 + 09.00 RT	-L1- 30 + 00.00 RT	439		5,065	4,626	
-Y5- 11 + 00.00	-Y5- 23 + 00.00	1,219		3,076	1,857	
SUBTOTALS:		1,658		8,141	6,483	
-L1- 30 + 00.00 LT	-L1- 42 + 00.00 LT	2,145		5,186	3,041	
SUBTOTALS:		2,145		5,186	3,041	
-L1- 30 + 00.00 RT	-L1- 42 + 00.00 RT	445		3,511	3,066	
SUBTOTALS:		445		3,511	3,066	
PROJECT TOTALS:		14,125		36,565	22,714	274
EST. SHOULDER MATERIAL				3,263	3,263	
LOSS DUE TO CLEARING AND GRUBBING		-150			150	
UNSUITABLE MATERIAL					200	200
WASTE IN LIEU OF BORROW					-224	-224
PROJECT TOTAL		13,975		39,828	26,103	250
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT					1,305	
GRAND TOTALS:		13,975		39,828	27,408	250
SAY:		14,000			28,000	

EST. UNDERCUT CONTINGENCY = 2,250 CY
EST. SHALLOW UNDERCUT BY STATIONS = 310 CY
SHALLOW UNDERCUT CONTINGENCY = 500 CY
TOTAL SHALLOW UNDERCUT = 810 CY
CLASS IV SUBGRADE STABILIZATION BY STATIONS = 675 TONS
CLASS IV SUBGRADE STABILIZATION CONTINGENCY = 1,000 TONS
SELECT GRANULAR MATERIAL CONTINGENCY = 2,000 CY
EST. DDE = 750 CY

UNCLASSIFIED EXCAVATION - ACCEPTABLE BUT NOT TO BE IN THE TOP 3' OF EMBANKMENT OR BACKFILL
-Y2- 12 + 25 TO 14 + 15, (50 CY) PER GEOTECH

UNCLASSIFIED EXCAVATION - UNSUITABLE
-Y- 17 + 25 TO 21 + 25
(200 CY) PER GEOTECH

Quantities are approximate only. The Resident Engineer will use methods including but not limited to recross-sectioning, truck measurements, and aerial surveys to compute final quantities which the contractor will be paid.

Note: Earthwork quantities are calculated by the roadway designer. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

REMOVAL OF EXISTING
ASPHALT PAVEMENT SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD'
-L-	26 + 25	29 + 52	RT (TEMP)	86.93
-Y-	20 + 97	23 + 58	LT	676.03
-Y1-	10 + 67	12 + 64	LT (TEMP)	48.52
-Y1-	15 + 13	16 + 63	LT (TEMP)	164.74
			TOTAL:	976.23
			SAY:	980

GUARDRAIL SUMMARY

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

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH		W		ANCHORS										IMPACT ATTENUATOR TYPE 350 TL-2			SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	XI MOD	XI	GREU TL-3	M-350	III	CAT-1	VI MOD	BIC	AT-1	EA	G	NG					
-L-	33 + 20.24	36 + 01.49	LT	281.25			33 + 26.49		12	15	50		1				1			1											
-L1-	25 + 42.88	28 + 24.13	LT	281.25			25 + 49.13		12	15	50		1				1			1											
TOTAL				562.50													2			2											
		DEDUCT FOR ANCHOR UNITS																													
			GREU, TL-3 2 @ 50' =	-100																											
			GRAU CAT-1 2 @ 6.25' =	-12.50																											
SAY				450			8 EA ADDITIONAL GUARDRAIL POSTS										2			2											

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

SUMMARY OF SUBSURFACE DRAINAGE

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
-L-	29+10.00	54+25.00	LT/RT	SD	5,030.00
-L1-	19+09.00	31+00.00	LT/RT	SD	2,385.00
-Y-	17+00.00	23+52.00	LT/RT	SD	655.00
-Y2-	10+00.00	14+15.00	RT	SD	415.00
-Y4-	13+85.00	18+03.00	RT	SD	420.00
-Y5-	14+00.00	23+00.00	RT	SD	900.00
-L_RTL-	10+00.00	14+12.00	RT	SD	415.00
-L1-	37+00.00	42+00.00	LT/RT	SD	1,000.00
CONTINGENCY				SD	500.00
				TOTAL LF:	11,720.00

*UD = Underdrain
*BD = Blind Drain
*SD = Subsurface Drain

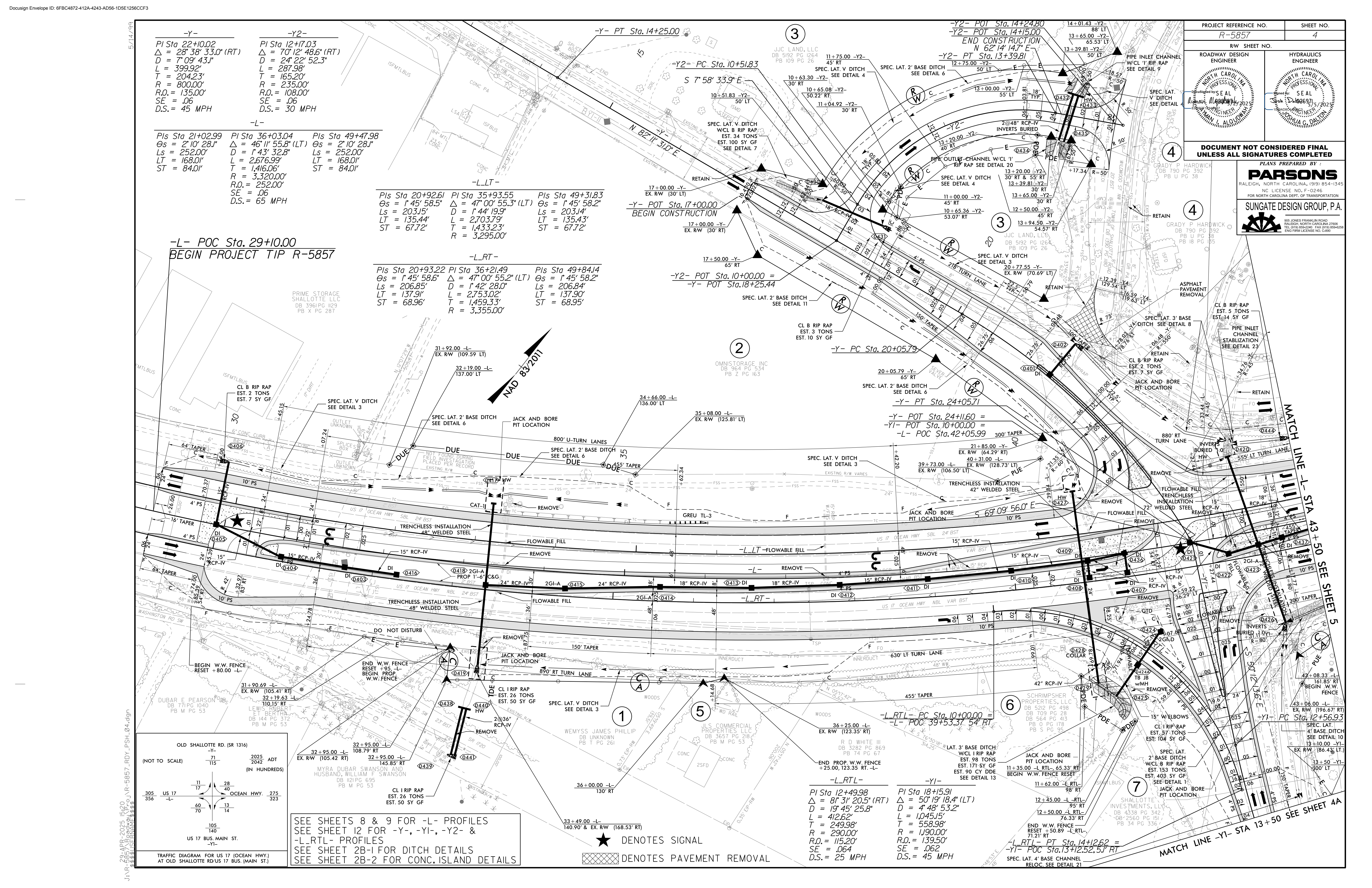
SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	Station	Station	Aggregate Type* ASU(1/2)/ AST	Aggregate Thickness INCHES [8" for ASU(2)]	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Subgrade Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
-L-	39+25.00	40+25.00	ASU (1)	12	60	95	145		
-Y1-	17+25.00	21+25.00	ASU (1)	12	250	580	920		
CONTINGENCY			ASU (1)	12	500	1000	1500		500
TOTAL CY/TONS/SY:					810	1675**	2565**	0	500

*ASU(1/2) = Aggregate Subgrade (Type 1 or 2)
*AST = Aggregate Stabilization
**Total tons of "Class IV Subgrade Stabilization" and total square yards of "Geotextile for Subgrade Stabilization" are only the estimated quantities for ASU(1/2)/AST and may only represent a portion of the subgrade stabilization and geotextile quantities shown in the Item Sheets of the Proposal.

PARCEL INDEX SHEET

[illegible]



-Y-
 PI Sta 22+10.02
 $\Delta = 28^{\circ} 38' 33.0''$ (RT)
 $D = 7^{\circ} 09' 43.1''$
 $L = 399.92'$
 $T = 204.23'$
 $R.O. = 800.00'$
 $SE = .06$
 $D.S. = 45$ MPH

-Y2-
 PI Sta 12+17.03
 $\Delta = 70^{\circ} 12' 48.6''$ (RT)
 $D = 24^{\circ} 22' 52.3''$
 $L = 287.98'$
 $T = 165.20'$
 $R.O. = 235.00'$
 $SE = .06$
 $D.S. = 30$ MPH

Pls Sta 21+02.99
 $\Theta_s = 2^{\circ} 10' 28.1''$
 $L_s = 252.00'$
 $LT = 168.01'$
 $ST = 84.01'$

PI Sta 36+03.04
 $\Delta = 46^{\circ} 11' 55.8''$ (LT)
 $D = 1^{\circ} 43' 32.8''$
 $L = 2676.99'$
 $T = 1,416.06'$
 $R = 3,320.00'$
 $R.O. = 252.00'$
 $SE = .06$
 $D.S. = 65$ MPH

Pls Sta 49+47.98
 $\Theta_s = 2^{\circ} 10' 28.1''$
 $L_s = 252.00'$
 $LT = 168.01'$
 $ST = 84.01'$

-L- POC Sta. 29+10.00
 BEGIN PROJECT TIP R-5857

Pls Sta 20+92.61
 $\Theta_s = 1^{\circ} 45' 58.5''$
 $L_s = 203.15'$
 $LT = 135.44'$
 $ST = 67.72'$

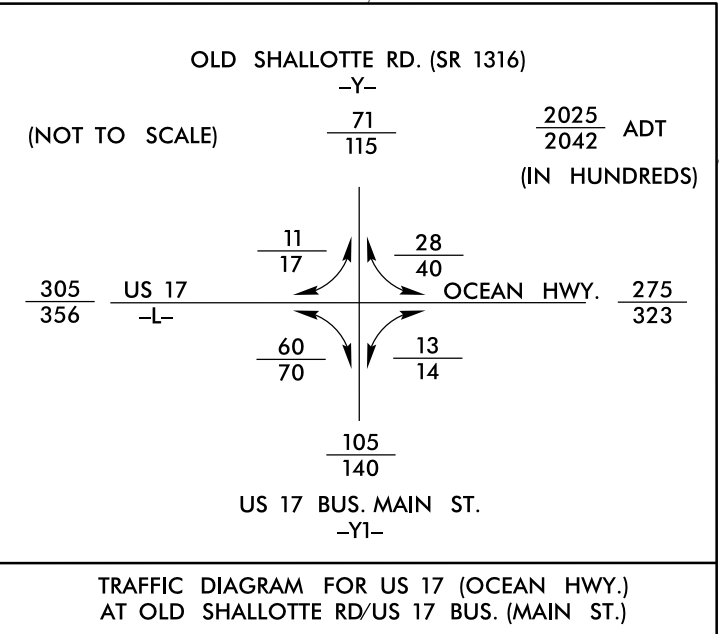
PI Sta 35+93.55
 $\Delta = 47^{\circ} 00' 55.3''$ (LT)
 $D = 1^{\circ} 44' 19.9''$
 $L = 2,703.79'$
 $T = 1,433.23'$
 $R = 3,295.00'$

Pls Sta 49+31.83
 $\Theta_s = 1^{\circ} 45' 58.2''$
 $L_s = 203.14'$
 $LT = 135.43'$
 $ST = 67.72'$

Pls Sta 20+93.22
 $\Theta_s = 1^{\circ} 45' 58.6''$
 $L_s = 206.85'$
 $LT = 137.91'$
 $ST = 68.96'$

PI Sta 36+21.49
 $\Delta = 47^{\circ} 00' 55.2''$ (LT)
 $D = 1^{\circ} 42' 28.0''$
 $L = 2,753.02'$
 $T = 1,459.33'$
 $R = 3,355.00'$

Pls Sta 49+84.14
 $\Theta_s = 1^{\circ} 45' 58.2''$
 $L_s = 206.84'$
 $LT = 137.90'$
 $ST = 68.95'$



SEE SHEETS 8 & 9 FOR -L- PROFILES
 SEE SHEET 12 FOR -Y-, -YI-, -Y2- & -LRTL- PROFILES
 SEE SHEET 2B-1 FOR DITCH DETAILS
 SEE SHEET 2B-2 FOR CONC. ISLAND DETAILS

★ DENOTES SIGNAL
 ■■■■■ DENOTES PAVEMENT REMOVAL

PROJECT REFERENCE NO. R-5857
 SHEET NO. 4

ROADWAY DESIGN ENGINEER
 HYDRAULICS ENGINEER

SEAL
 SEAL

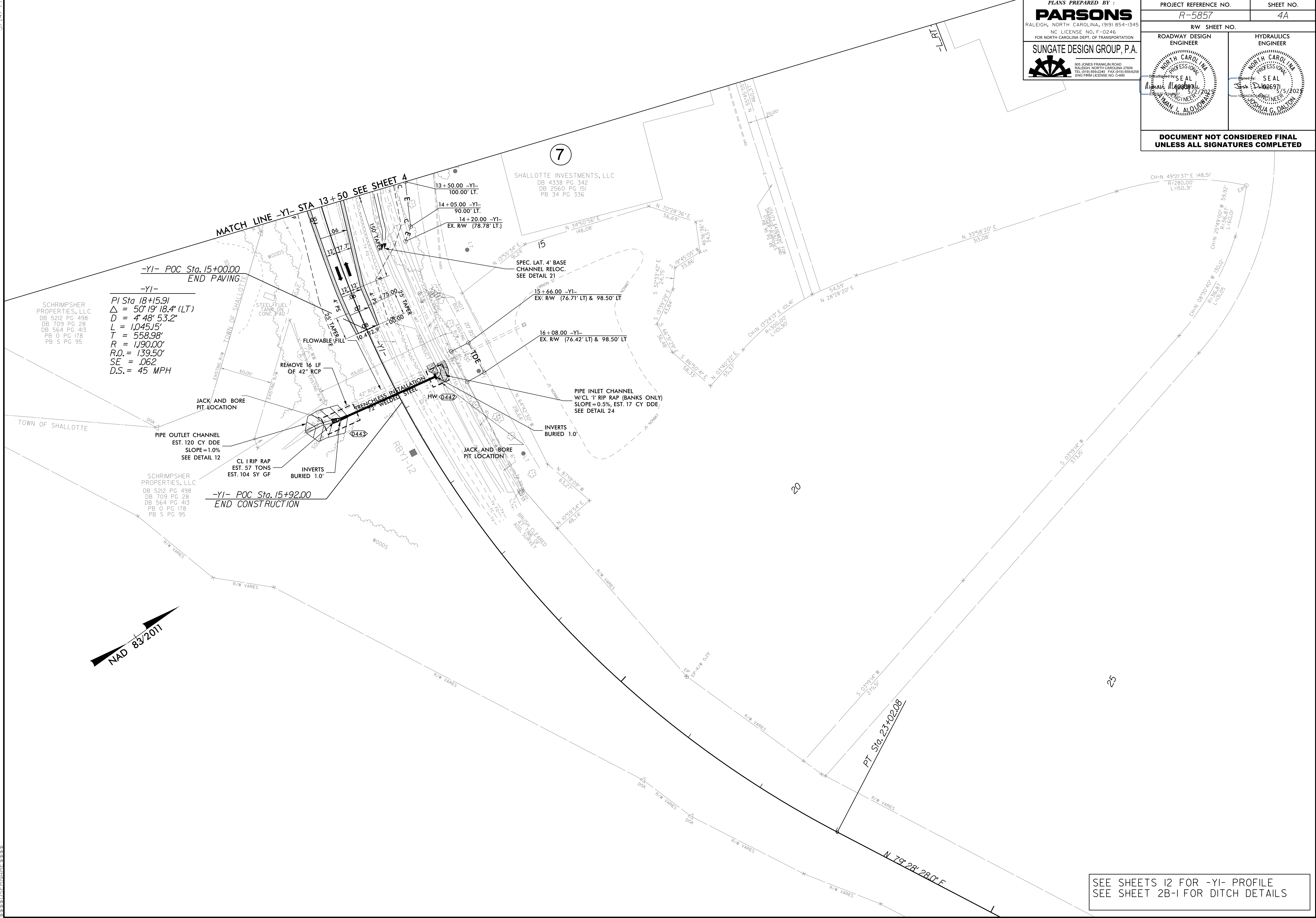
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PLANS PREPARED BY:
PARSONS
 RALEIGH, NORTH CAROLINA, (919) 854-1345
 NC LICENSE NO. F-0246
 FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

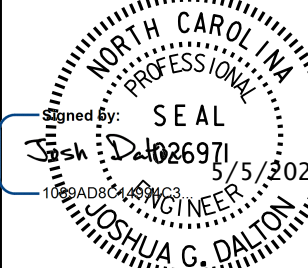
SUNGATE DESIGN GROUP, P.A.
 805 JONES FRANKLIN ROAD
 RALEIGH, NORTH CAROLINA 27608
 TEL (919) 858-2243 FAX (919) 858-8258
 ENG REG LICENSE NO. 5249

5/14/99

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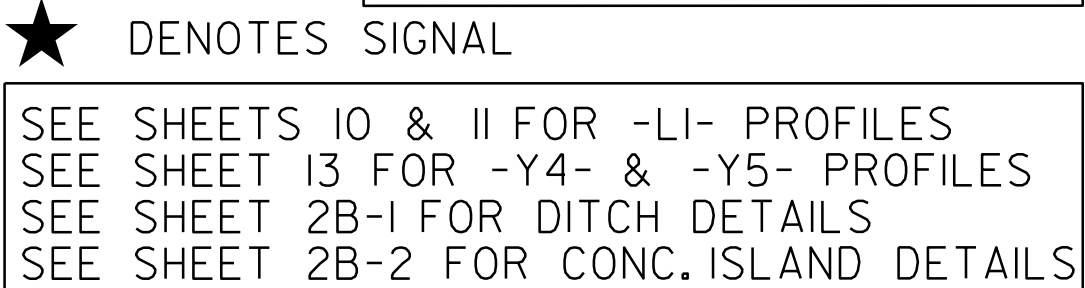


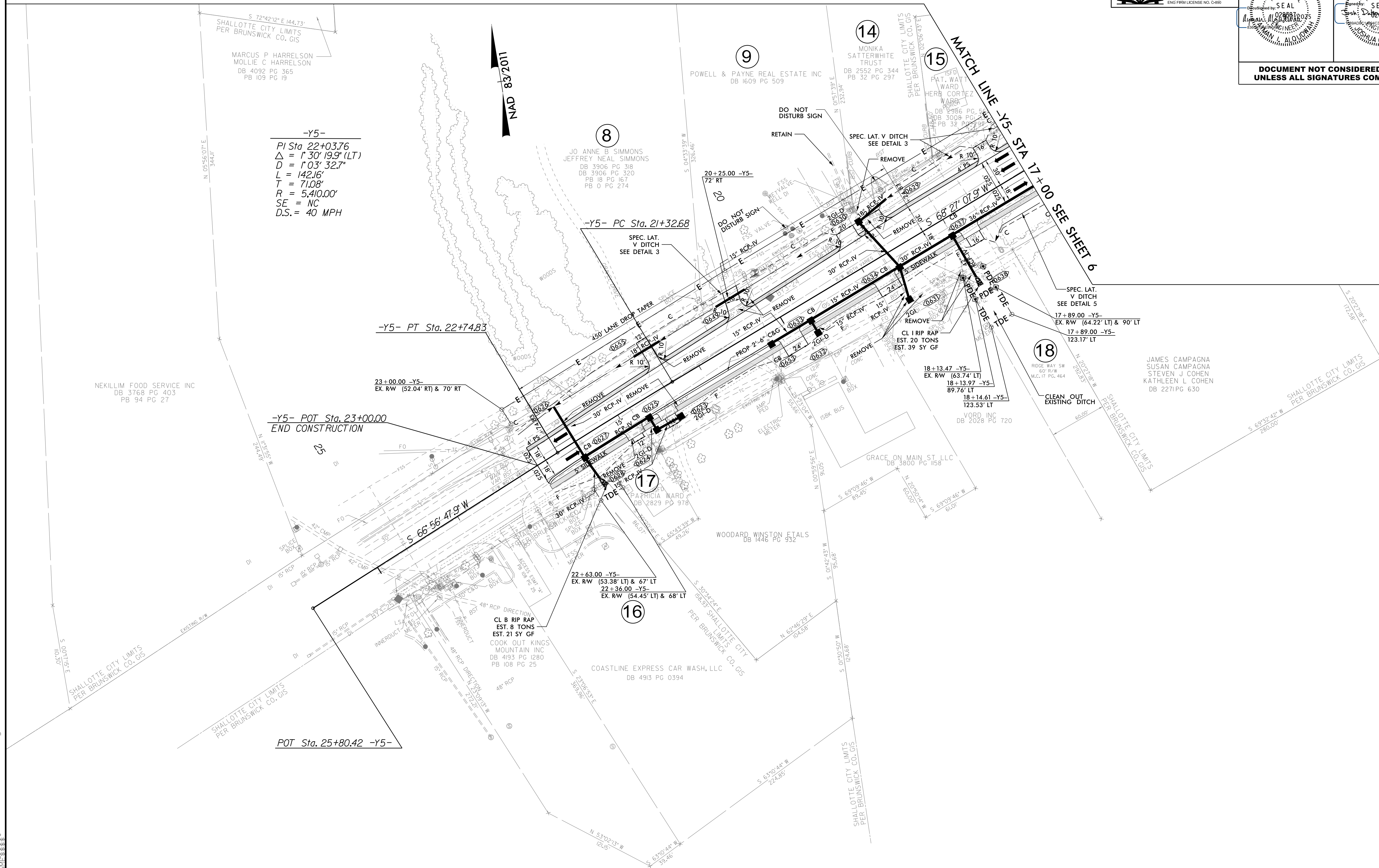
PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION
SUNGATE DESIGN GROUP, P.A.
905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL (919) 859-2243 FAX (919) 859-4258
SUNGATE LICENSE NO. C-400

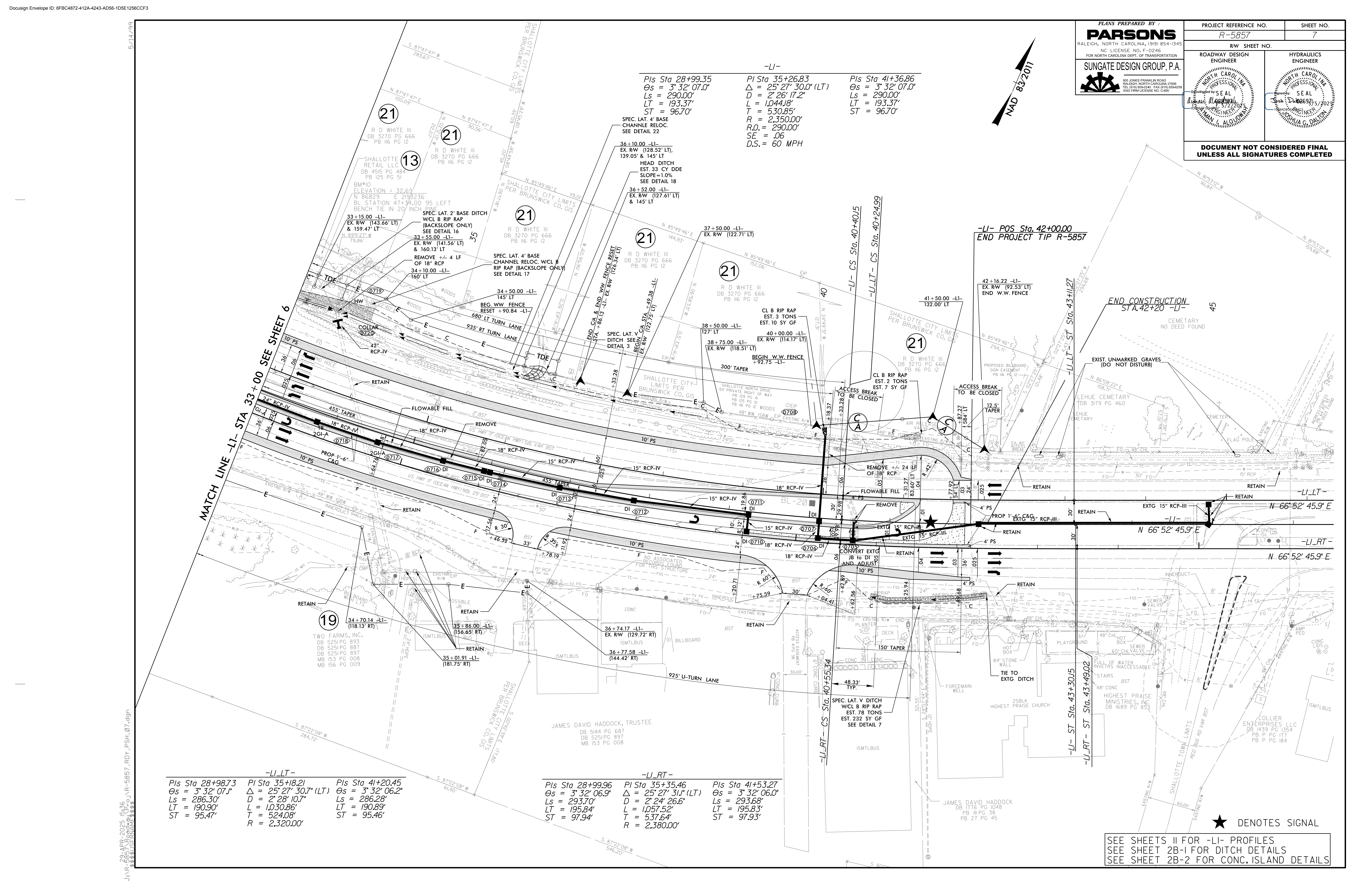
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R-5857		4A
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
		
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SEE SHEETS 12 FOR -YI- PROFILE
SEE SHEET 2B-1 FOR DITCH DETAILS

SEE SHEETS 8 & 9 FOR -L- PROFILES
SEE SHEET 2B-1 FOR DITCH DETAILS
SEE SHEET 2B-2 FOR CONC. ISLAND DETAILS







PLANS PREPARED BY :
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RALEIGH, NORTH CAROLINA, (919) 854-1345
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SUNGATE LICENSE NO. C480

PROJECT REFERENCE NO.
R-5857

SHEET NO.
7

ROADWAY DESIGN ENGINEER
MAN, L. ALOU

HYDRAULICS ENGINEER
WENDY G. DILTON

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-LI- LT -

Pls Sta 28+98.73	Pls Sta 35+18.21	Pls Sta 41+20.45
Δs = 3° 32' 07.1"	Δ = 25° 27' 30.7" (LT)	Δs = 3° 32' 06.2"
Ls = 286.30'	D = 2° 28' 10.7"	Ls = 286.28'
LT = 190.90'	L = 1,030.86'	LT = 190.89'
ST = 95.47'	T = 524.08'	ST = 95.46'
	R = 2,320.00'	

-LI- RT -

Pls Sta 28+99.96	Pls Sta 35+35.46	Pls Sta 41+53.27
Δs = 3° 32' 06.9"	Δ = 25° 27' 31.1" (LT)	Δs = 3° 32' 06.0"
Ls = 293.70'	D = 2° 24' 26.6"	Ls = 293.68'
LT = 195.84'	L = 1,057.52'	LT = 195.83'
ST = 97.94'	T = 537.64'	ST = 97.93'
	R = 2,380.00'	

★ DENOTES SIGNAL

SEE SHEETS II FOR -LI- PROFILES
SEE SHEET 2B-1 FOR DITCH DETAILS
SEE SHEET 2B-2 FOR CONC. ISLAND DETAILS

