

09/08/19

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAYNE COUNTY

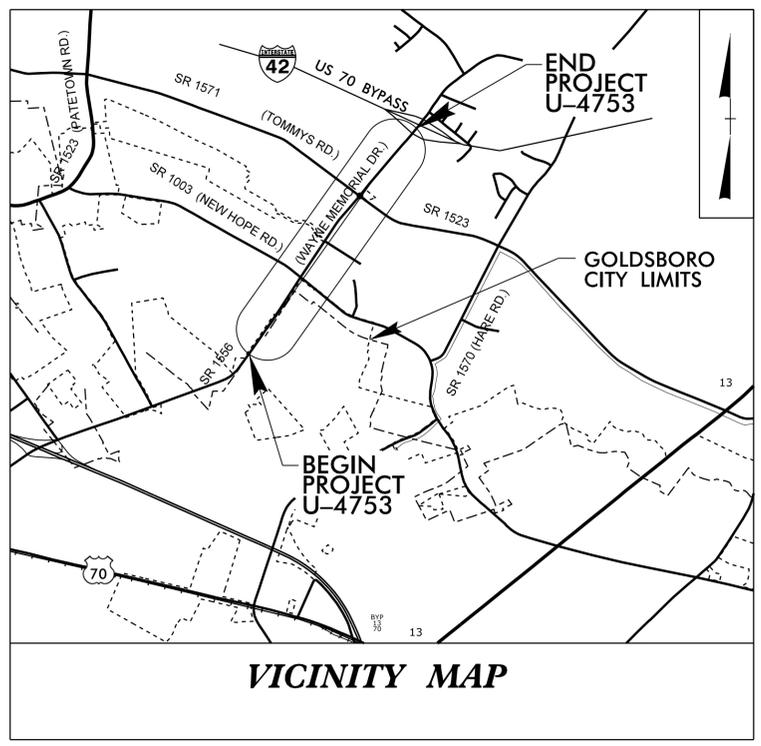
LOCATION: SR 1556 (WAYNE MEMORIAL DRIVE) FROM SR 1003 (NEW HOPE ROAD) TO I-42 (FORMERLY US-70) IN GOLDSBORO WIDEN TO FOUR LANES.

TYPE OF WORK: DRAINAGE, GRADING, PAVING, SIGNALS & SIGNING

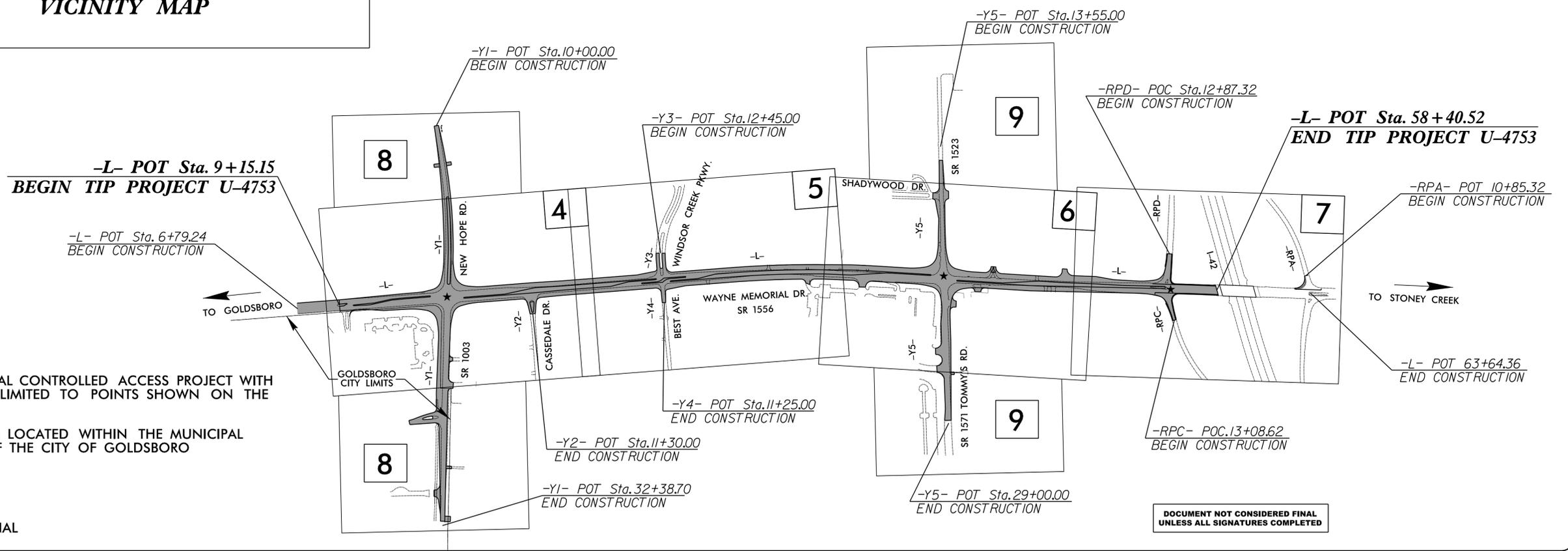
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4753	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
39927.1.1	N/A	PE	
39927.2.1		ROW	
39927.2.2		UTIL	
39927.3.1		CONST	

TIP PROJECT: U-4753

CONTRACT: C205130



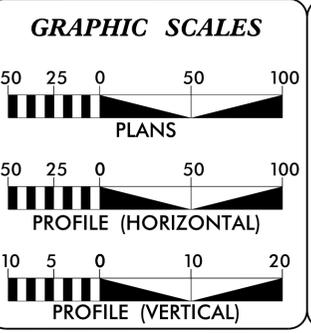
VICINITY MAP



THIS IS A PARTIAL CONTROLLED ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS SHOWN ON THE PLANS.
THIS PROJECT IS LOCATED WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF GOLDSBORO

★ DENOTES SIGNAL

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA

ADT 2026 =	20,700
ADT 2046 =	26,600
K =	8 %
D =	60 %
T =	3 % *
V =	50 MPH
* TTST =	1 DUAL = 2
FUNC CLASS =	MINOR ARTERIAL

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT U-4753 =	0.933 MI.
TOTAL LENGTH OF TIP PROJECT U-4753 =	0.933 MI.

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

PLANS PREPARED BY:

PARSONS
5500 Capital Blvd., Suite 2117
Raleigh, NC 27617
919.873.8200
www.parsons.com

SUNGATE DESIGN GROUP, P.A.
10000 S. HARRIS BLVD.
SUITE 100
DURHAM, NC 27703
919.286.1000
www.sungatedesign.com

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MAY 21 2019

LETTING DATE:
APRIL 21, 2026

AYMAN L. ALQUDWAH, PE
PROJECT ENGINEER

DAVID B. GARRETT
PROJECT DESIGN ENGINEER

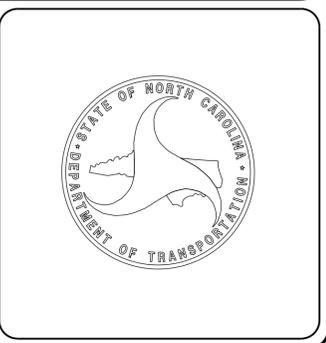
RACHEL EVANS, PE
NCDOT CONTACT

HYDRAULICS ENGINEER

Signed by: **Josh Dalton** 11/5/2025
SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

DocuSigned by: **Ayman Alqudwah** 11/5/2025
SIGNATURE: _____ P.E.

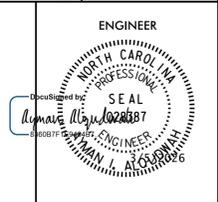


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\$\$\$\$\$USERNAME\$\$\$\$\$

8/17/99

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

PROJECT REFERENCE NO. U-4753	SHEET NO. 1A
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ENGINEER


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

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1 THRU 2A-3	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2C-1	MINIMUM DEPTH CONCRETE CATCH BASIN
2C-2 THRU 2C-3	METHOD OF PIPE INSTALLATION
2C-4 THRU 2C-5	CURB RAMP
2C-6	CONCRETE SIDEWALK
2C-7 THRU 2C-9	GUARDRAIL PLACEMENT
2C-10	DETAIL OF TEMPORARY 1" STEEL COVER
2C-11	MEDIAN CURB FOR TRAFFIC BEARING GRATED DROP INLET
2C-12	DETAIL OF 1'-6" TO 2'-9" CURB & GUTTER TRANSITION SECTION
2C-13	TRAFFIC BEARING GRATED INLET
3B-1	ROADWAY SUMMARIES
3D-1 THRU 3D-7	DRAINAGE SUMMARIES
3G-1	GEOTECHNICAL SUMMARY
3P-1	PARCEL INDEX SHEET
4-9	PLAN SHEETS
10-14	PROFILE SHEETS
RW01 THRU RW03E-2	SURVEY CONTROL SHEETS
TMP-1 THRU TMP-21	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-9	PAVEMENT MARKING PLANS
EC-1 THRU EC-15	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-15	SIGNING PLANS
SIG.1 THRU SIG.7.3	SIGNAL PLANS
SIG M1A THRU SIG M9	METAL POLE PLANS
SCP1 THRU SCP9	SIGNAL COMMUNICATION PLANS
UC-1 THRU UC-22	UTILITIES CONSTRUCTION PLANS
UO-1 THRU UO-7	UTILITIES BY OTHERS PLANS
X-1A	CROSS-SECTION INDEX
X-1B THRU X-1C	CROSS-SECTION SUMMARY SHEETS
X-1 THRU X-43	CROSS-SECTIONS

GENERAL NOTES: 2024 SPECIFICATIONS
 EFFECTIVE: 01-16-2024
 REVISED:

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.

SUBSURFACE DRAINS:

SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.02 AT LOCATIONS DIRECTED BY THE ENGINEER.

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.

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

TEMPORARY SHORING:

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

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE DUKE ENERGY, PIEDMONT NATURAL GAS, AT&T, SPECTRUM, BRIGHTSPEED.

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

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS.

CURB RAMPS

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

2024 ROADWAY ENGLISH STANDARD DRAWINGS

EFF. 01-16-2024
 REV.

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January 16, 2024 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
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
225.06	Method of Grading Sight Distance at Intersections
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation (Use Details in Lieu of Standards for Sheets 1 and 2 of 2)
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	
815.02	Subsurface Drain
838.01	Concrete Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.11	Brick Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
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
840.17	Concrete Grated Drop Inlet Type 'A' - 12" thru 72" Pipe
840.24	Frames and Narrow Slot Sag Grates
840.26	Brick Grated Drop Inlet Type 'A' - 12" thru 72" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.51	Brick Manhole - 12" thru 36" Pipe
840.52	Precast Manhole 4', 5' and 6' Diameter - 12" thru 48" Pipe
840.53	Precast Manhole with Masonry Base - 12" thru 42" Pipe
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
848.01	Concrete Sidewalk (Use Detail in Lieu of Standard for Sheet 1 of 1)
848.02	Driveway Turnout - Radius Type
848.04	Street Turnout
848.06	Curb Ramp - Proposed Curb & Gutter (Use Details in Lieu of Standards for Sheets 9 and 10 of 13)
852.01	Concrete Islands
852.04	Method for Placement of Drop Inlets in Grassed Median - Using 1'-6" Curb and Gutter
852.05	Median Curb for Catch Basin - For use with 1'-6" Curb and Gutter
852.06	Method for Placement of Drop Inlets in Concrete Islands
852.07	Median Curb for Traffic Bearing Grated Drop Inlet for Use with 2'-9" Curb and Gutter (Use Detail in Lieu of Standard for Sheet 1 of 1)
852.10	Median Construction - With Curb and Gutter
862.01	Guardrail Placement (Use Details in Lieu of Standards for Sheets 4, 6, 12, and 14 of 15)
862.02	Guardrail Installation
866.02	Woven Wire Fence - with Wood Post
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

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 USER:RMANE

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale

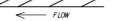
BOUNDARIES AND PROPERTY:

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	-x-x-x-x-
Proposed Woven Wire Fence	-o-o-o-o-
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	-SC-S-SC-S-
Potential Contamination Area: Soil	-SC-S-SC-S-
Known Contamination Area: Water	-SC-W-SC-W-
Potential Contamination Area: Water	-SC-W-SC-W-
Contaminated Site: Known or Potential	

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

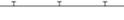
RAILROADS:

Standard Gauge	-----
RR Signal Milepost	
Switch	
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY & PROJECT CONTROL:

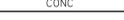
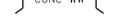
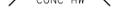
Primary Horiz Control Point	
Primary Horiz and Vert Control Point	
Secondary Horiz and Vert Control Point	
Vertical Benchmark	
Existing Right of Way Monument	
Proposed Right of Way Monument (Rebar and Cap)	
Proposed Right of Way Monument (Concrete)	
Existing Permanent Easement Monument	
Proposed Permanent 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	-E-
Proposed Temporary Construction Easement	-E-
Proposed Temporary Drainage Easement	-TDE-
Proposed Permanent Drainage Easement	-PDE-
Proposed Permanent Drainage/Utility Easement	-DUE-
Proposed Permanent Utility Easement	-PUE-
Proposed Temporary Utility Easement	-TUE-
Proposed Aerial Utility Easement	-AUE-

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-C-
Proposed Slope Stakes Fill	-F-
Proposed Curb Ramp	
Existing Metal Guardrail	
Proposed Guardrail	
Existing Cable Guiderail	
Proposed Cable Guiderail	
Equality Symbol	
Pavement Removal	
VEGETATION:	
Single Tree	
Single Shrub	
Hedge	

Woods Line	-----
Orchard	
Vineyard	

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	
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	-S-

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	A/G Water

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	A/G Gas

SANITARY SEWER:

Sanitary Sewer Manhole	
Sanitary Sewer Cleanout	
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	A/G 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:

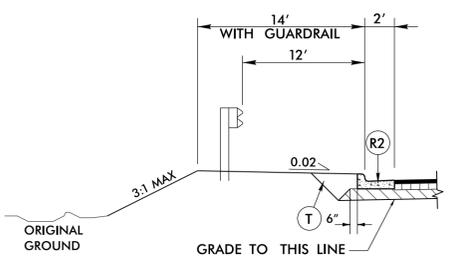
Utility Pole	
Utility Pole with Base	
Utility Located Object	
Utility Traffic Signal Box	
Utility Unknown U/G Line (SUE - LOS B)*	-----
U/G Tank; Water, Gas, Oil	
Underground Storage Tank, Approx. Loc.	
A/G Tank; Water, Gas, Oil	
Geoenvironmental Boring	
Abandoned According to Utility Records	AATUR
End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

FINAL PAVEMENT SCHEDULE

CODE	DESCRIPTION	CODE	DESCRIPTION	CODE	DESCRIPTION
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	D2	PROP. VAR. DEPTH OF ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 119.0C AT AN AVERAGE RATE OF 114 LBS PER SQ YD PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2 1/2" IN DEPTH OR GREATER THAN 4" IN DEPTH.	R2	2'-6" CURB AND GUTTER
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1 1/2" IN DEPTH.	D3	PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 119.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	R3	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)
C3	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.	E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R4	2'-9" CURB AND GUTTER
C4	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. 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 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.	S	4" CONCRETE SIDEWALK
C5	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	L	CLASS IV SUBGRADE STABILIZATION (SEE DETAILS ON SHEET 2A-3)	T	EARTH MATERIAL.
C6	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.	N	GEOTEXTILE FOR SUBGRADE STABILIZATION (SEE DETAILS ON SHEET 2A-3)	U	EXISTING PAVEMENT
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 119.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R1	1'-6" CURB AND GUTTER	V	MILLING ASPHALT PAVEMENT 1.5" DEPTH
				W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL ON THIS SHEET).

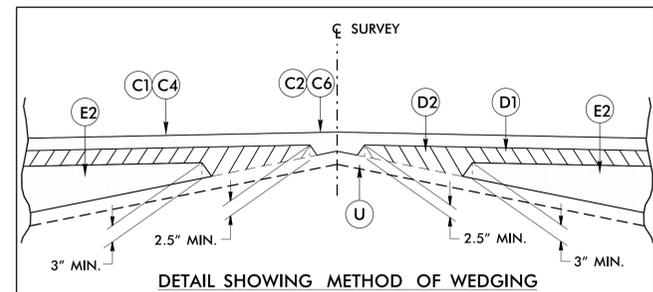
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

PROJECT REFERENCE NO. U-4753	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER 	PAVEMENT DESIGN 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	

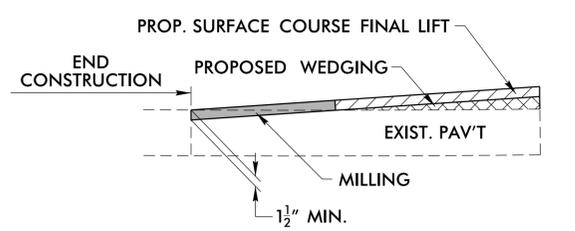


DETAIL SHOWING GUARDRAIL

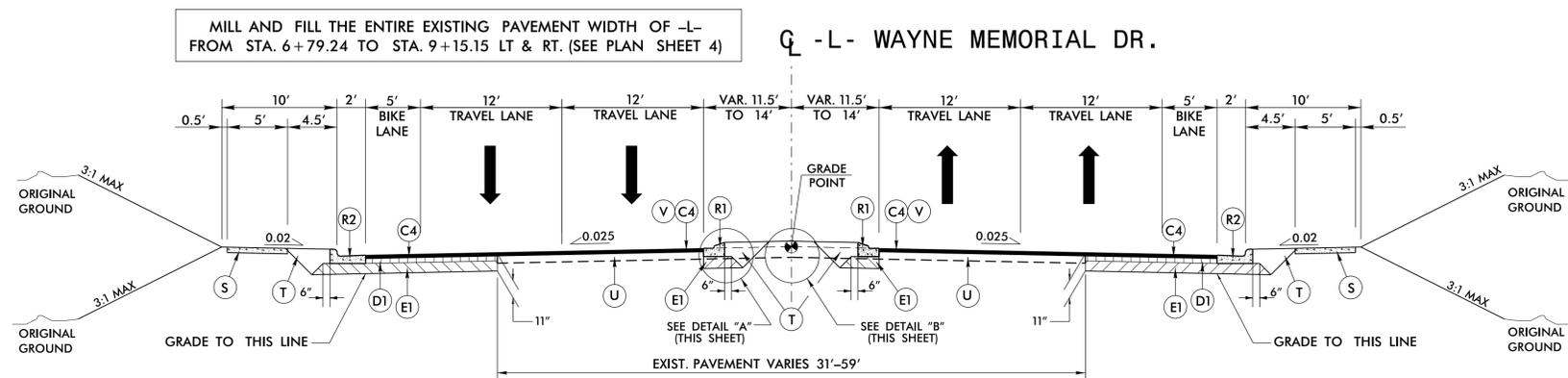
-L- STA. 51+42.00 TO STA. 55+18.00 RT
-L- STA. 51+52.00 TO STA. 55+02.00 LT



DETAIL SHOWING METHOD OF WEDGING

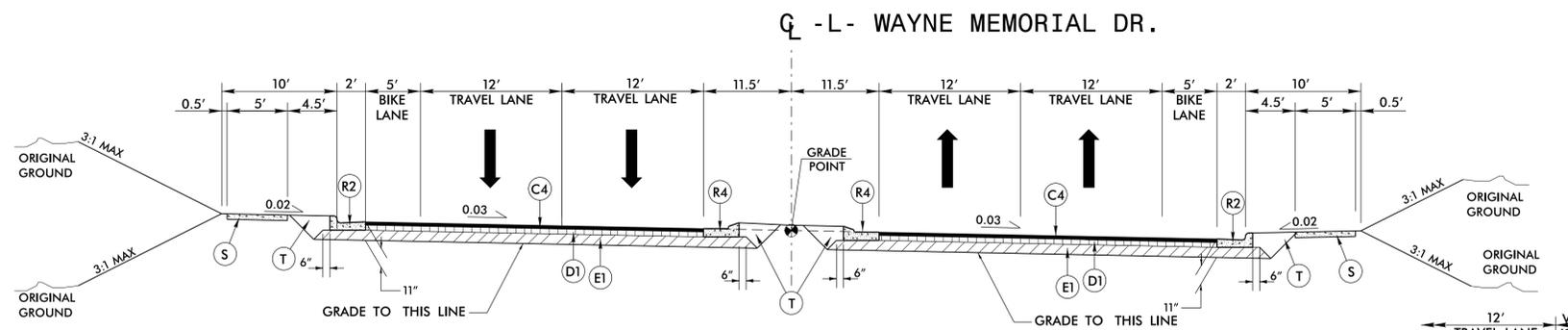


DETAIL OF INCIDENTAL MILLING



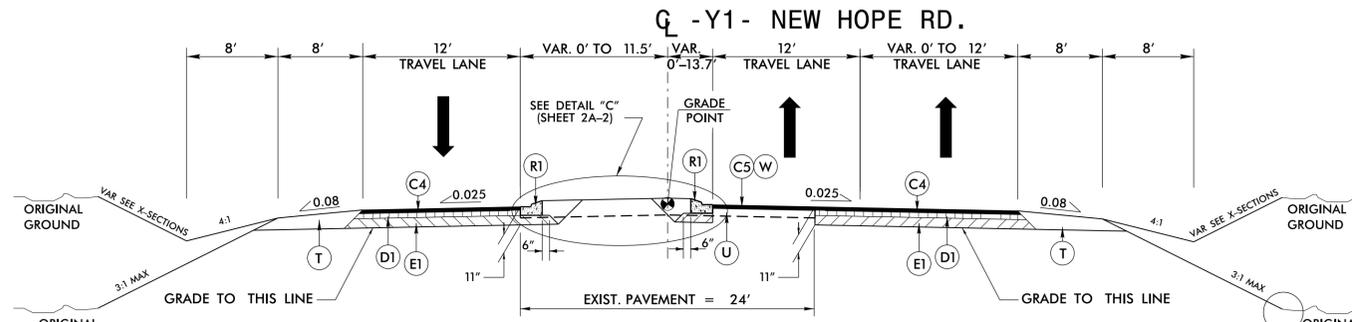
TYPICAL SECTION NO. 1

-L- STA. 9+15.15 TO STA. 33+00.00
-L- STA. 35+00.00 TO STA. 58+40.52



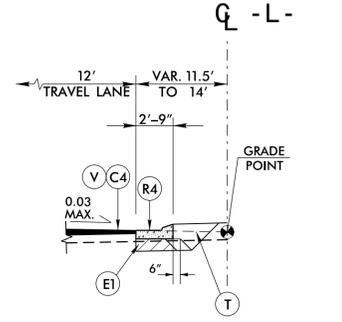
TYPICAL SECTION NO. 2

-L- STA. 33+00.00 TO STA. 35+00.00



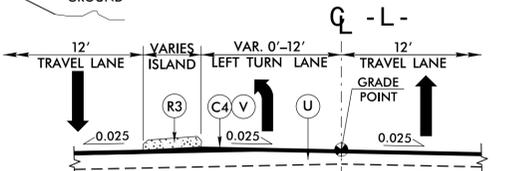
TYPICAL SECTION NO. 3

-Y1- STA. 10+00.00 TO STA. 16+50.02
-Y1- STA. 25+84.09 TO STA. 32+14.68

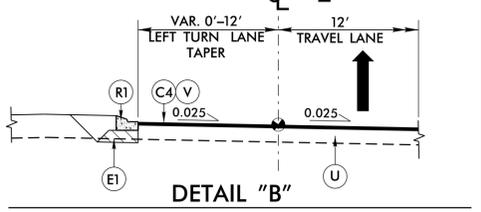


DETAIL "A"

-L- STA. 30+27.61 TO STA. 33+00.00 LT
-L- STA. 35+00.00 TO STA. 39+40.11 LT



DETAIL "B"



DETAIL "B"

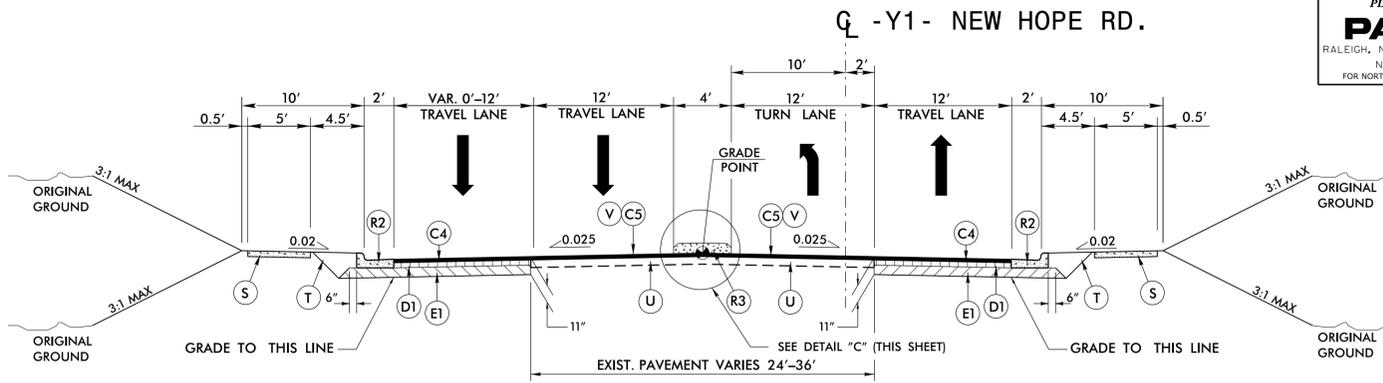
-L- STA. 9+93.96 RT TO STA. 11+21.20 CL (OPPOSITE)
-L- STA. 11+50.48 CL TO STA. 14+23.95 LT
-L- STA. 14+23.95 LT TO STA. 16+14.80 RT (TRANSITION)
-L- STA. 16+14.80 RT TO STA. 19+07.12 CL (OPPOSITE)
-L- STA. 39+19.40 CL TO STA. 42+33.15 LT
-L- STA. 42+33.15 LT TO STA. 43+85.00 RT (TRANSITION)
-L- STA. 43+85.00 RT TO STA. 47+16.20 CL (OPPOSITE)

6/2/2019

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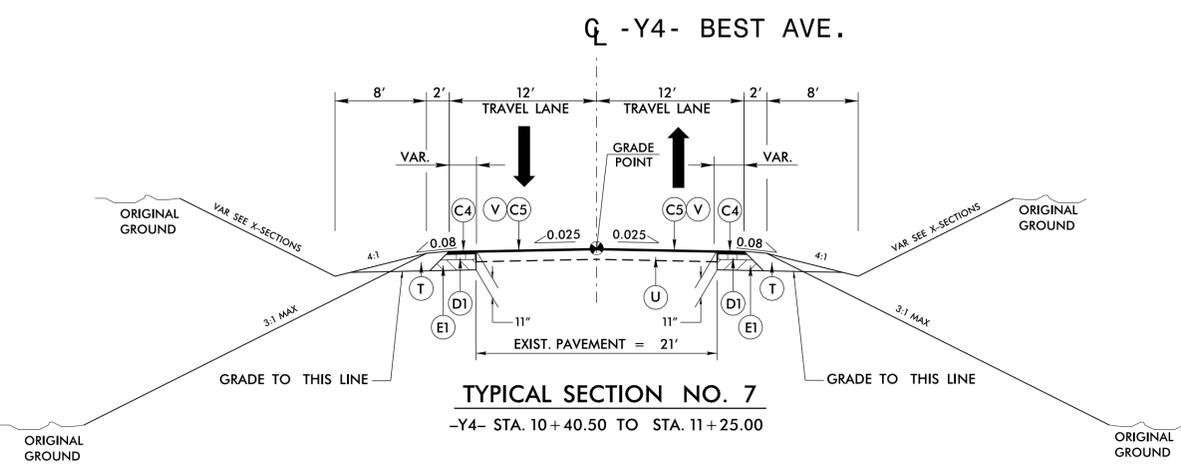
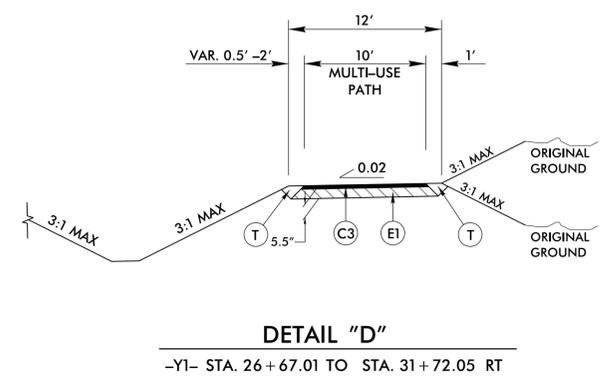
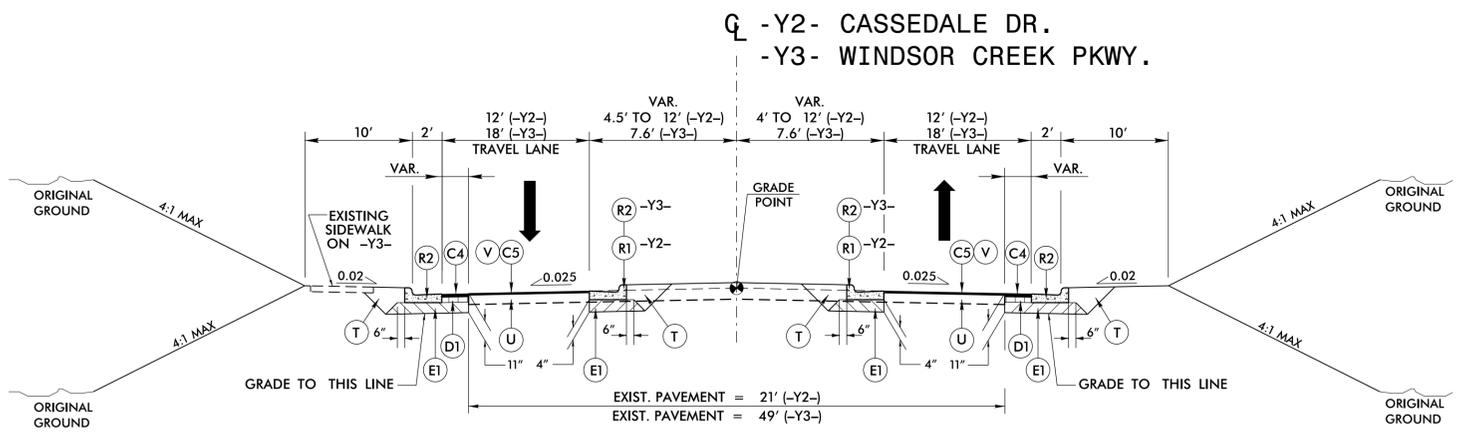
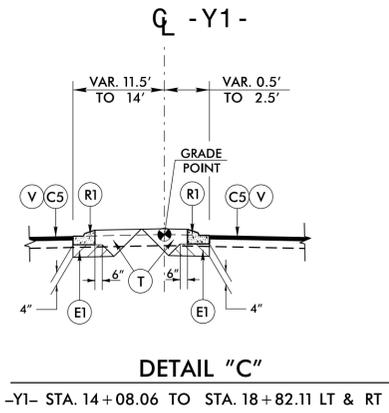
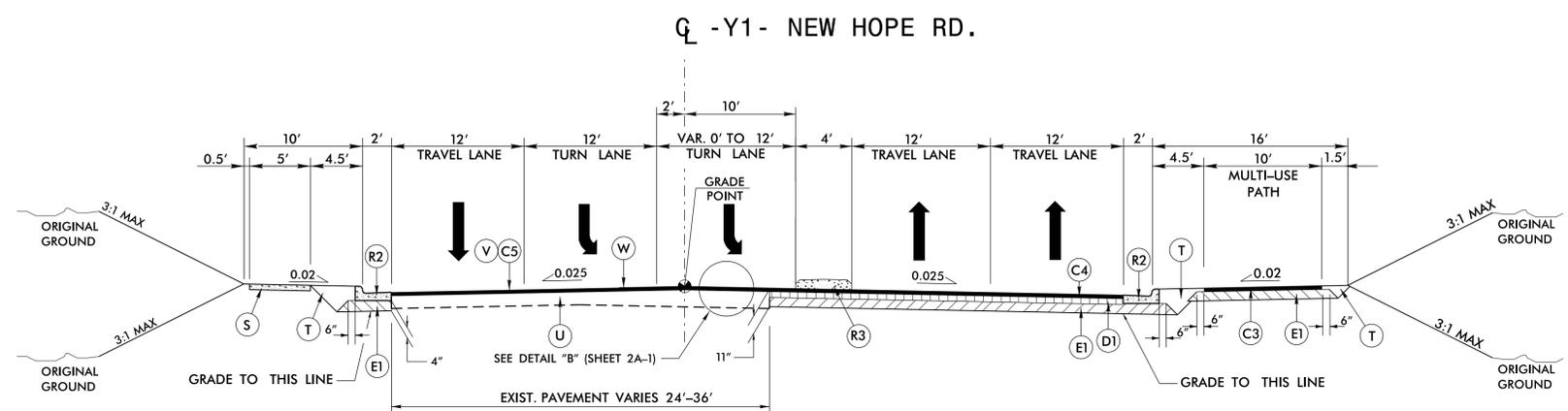
6/2/19

CODE	DESCRIPTION
C3	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C4	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.
C5	PROP. APPROX. 1.5" 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.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
R1	1'-6" CURB AND GUTTER
R2	2'-6" CURB AND GUTTER
R3	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL.
U	EXISTING PAVEMENT
V	MILLING ASPHALT PAVEMENT 1.5" DEPTH
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL ON SHEET 2A-1).



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

PROJECT REFERENCE NO. U-4753	SHEET NO. 2A-2
ROADWAY DESIGN ENGINEER <i>[Signature]</i>	PAVEMENT DESIGN ENGINEER <i>[Signature]</i>
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>	



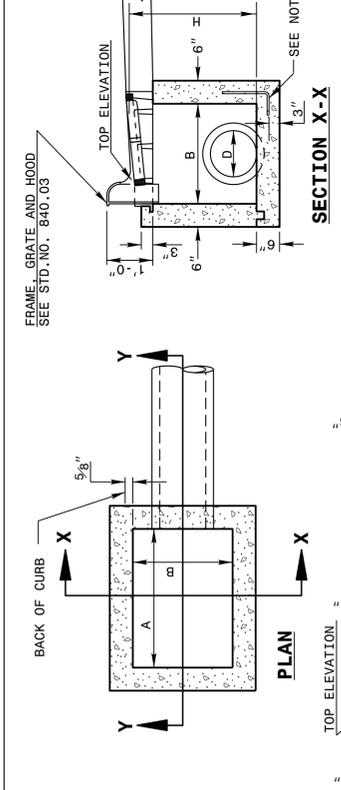
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STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
**MINIMUM DEPTH
 CONCRETE CATCH BASIN**
 12" THRU 84" PIPE

SHEET 1 OF 2
840D02

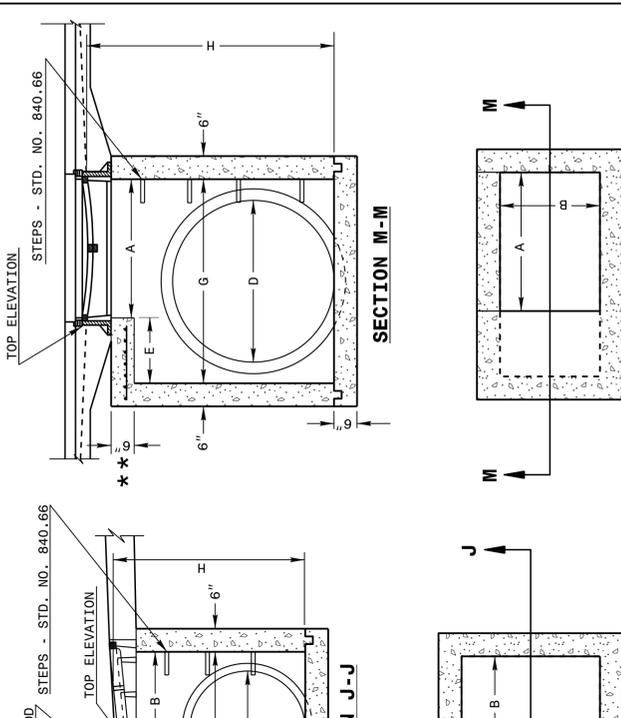
GENERAL NOTES:
 USE CLASS "B" CONCRETE THROUGHOUT.
 PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.
 OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12 CENTERS AS DIRECTED BY THE ENGINEER.
 USE FORMS FOR THE 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.
 USE TYPE "E", "F" AND "G" GRATES UNLESS OTHERWISE INDICATED.
 FOR 8'-0" IN HEIGHT OR LESS USE 6" WALLS AND BOTTOM SLAB. OVER 8'-0" TO 16'-0" IN HEIGHT USE 8" WALLS AND BOTTOM SLAB. ADJUST QUANTITIES ACCORDINGLY.
 CONSTRUCT WITH PIPE CROWNS MATCHING.
 CHAMFER ALL EXPOSED CORNERS 1".
 ** FOR STRUCTURES WITH PIPE LARGER THAN 54", MAKE THE TOP SLAB 8" THICK.



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

ENGLISH DETAIL DRAWING FOR
**MINIMUM DEPTH
 CONCRETE CATCH BASIN**
 12" THRU 84" PIPE

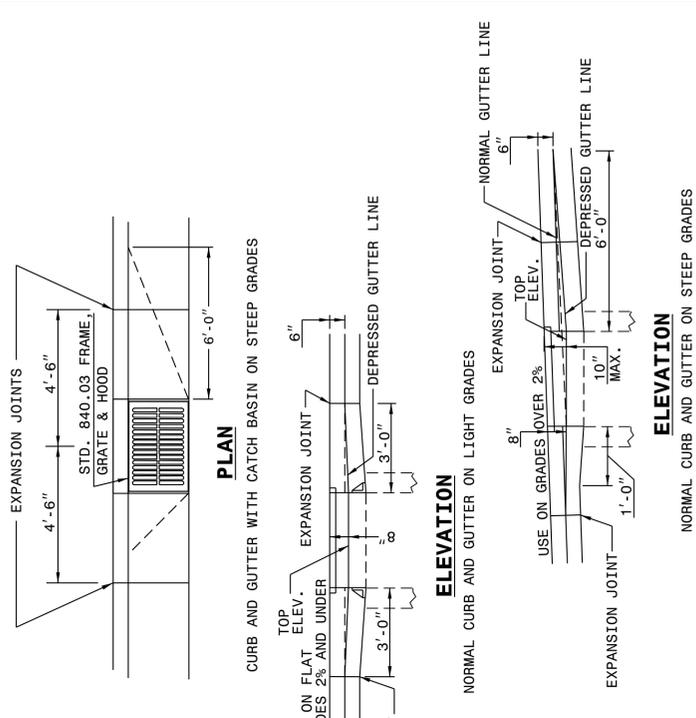
SHEET 1 OF 2
840D02



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

ENGLISH DETAIL DRAWING FOR
**MINIMUM DEPTH
 CONCRETE CATCH BASIN**
 12" THRU 84" PIPE

SHEET 2 OF 2
840D02



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

ENGLISH DETAIL DRAWING FOR
**MINIMUM DEPTH
 CONCRETE CATCH BASIN**
 12" THRU 84" PIPE

SHEET 2 OF 2
840D02

* RISER HAS .228 CUBIC YARDS OF CONCRETE PER FOOT HEIGHT

PIPE D.	DIMENSIONS OF BOX AND PIPE			COVER DIMENSION			MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE CATCH BASIN (BASED ON MIN. HEIGHT, H, WITH NO RISER) *			DEDUCTIONS						
	SPAN A	WIDTH B	SPAN C	E	F	H	BAR-S-U NO.	BAR-S-V LENGTH	BAR-S-W NO.	TOTAL LBS.	TOP SLAB FOR MINIMUM HEIGHT, H	BOTTOM SLAB	C.U. YDS. CONC. IN BOX	ONE PIPE	R.C.	
12"	3'-0"	2'-2"	2'-2"	2'-0"	2'-3"	3'-1"	..	..	..	..	0.235	0.772	0.015	0.026	0.015	
15"	3'-0"	2'-2"	2'-2"	2'-0"	2'-3"	3'-1"	..	..	..	..	0.235	0.829	0.023	0.036	0.023	
18"	3'-0"	2'-2"	2'-2"	2'-0"	2'-3"	3'-1"	..	..	..	..	0.235	0.887	0.033	0.049	0.033	
24"	3'-0"	2'-2"	2'-2"	2'-0"	2'-3"	3'-1"	..	..	..	..	0.235	1.001	0.059	0.085	0.059	
30"	3'-0"	2'-2"	3'-4"	3'-4"	3'-10"	4'-4"	4	1'-5"	2	4'-1"	39	0.123	0.347	1.433	0.092	0.127
36"	3'-0"	2'-2"	3'-10"	3'-10"	4'-6"	4'-10"	4	1'-11"	3	4'-7"	43	0.161	0.432	1.714	0.132	0.178
42"	3'-0"	2'-2"	4'-5"	4'-5"	5'-5"	5'-5"	5	2'-5"	4	5'-2"	47	0.200	0.543	1.738	0.180	0.243
48"	3'-0"	2'-2"	5'-0"	5'-0"	6'-0"	6'-0"	5	3'-1"	4	5'-9"	51	0.235	0.667	2.052	0.235	0.317
54"	3'-0"	2'-2"	5'-7"	5'-7"	6'-7"	6'-7"	6	3'-8"	5	6'-4"	56	0.289	0.802	2.387	0.287	0.401
60"	3'-0"	2'-2"	6'-3"	6'-3"	7'-3"	7'-3"	6	4'-4"	5	7'-0"	61	0.340	0.973	2.722	0.363	0.546
66"	3'-0"	2'-2"	6'-11"	6'-11"	7'-6"	7'-6"	7	5'-0"	6	7'-8"	66	0.391	1.160	3.057	0.440	0.655
72"	3'-0"	2'-2"	7'-6"	7'-6"	8'-6"	8'-6"	7	5'-6"	6	8'-3"	72	0.442	1.340	3.392	0.524	0.774
78"	3'-0"	2'-2"	8'-1"	8'-1"	9'-1"	9'-1"	8	6'-2"	7	8'-10"	78	0.493	1.530	3.727	0.615	0.893
84"	3'-0"	2'-2"	8'-9"	8'-9"	9'-9"	9'-9"	8	6'-10"	7	9'-6"	84	0.544	1.760	4.062	0.713	1.010

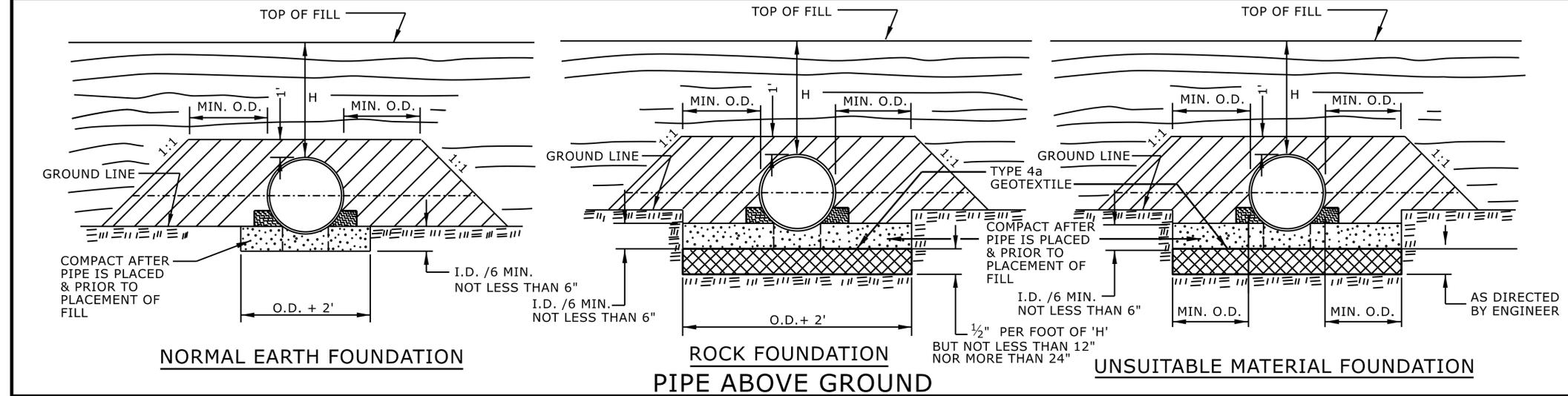
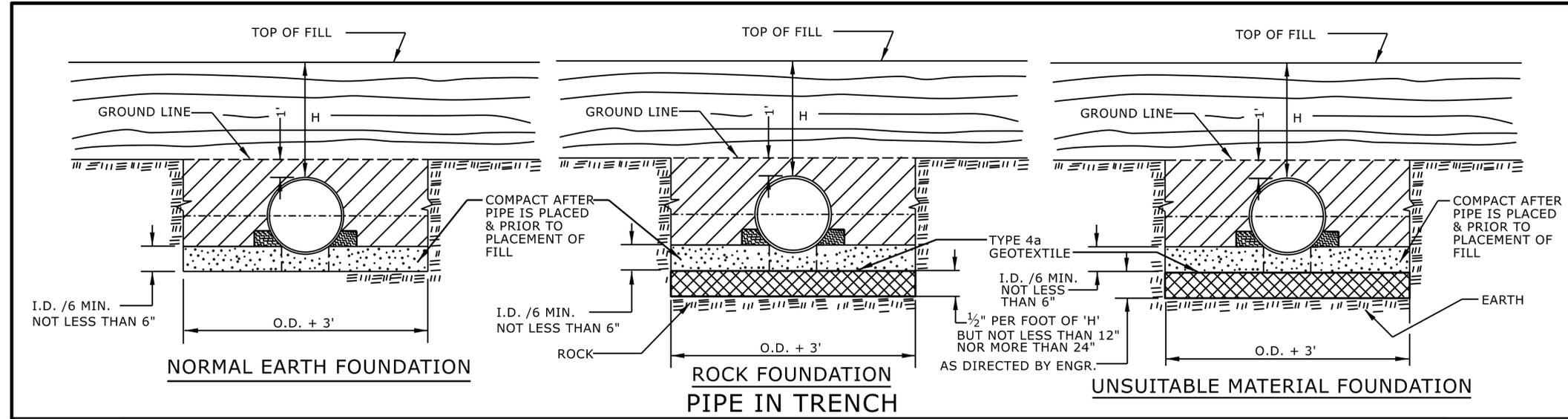
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**CONTRACT STANDARDS
 AND DEVELOPMENT UNIT**
 Office 919-707-6950 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: 2002 Std.840.01 DATE: _____
 MODIFIED BY: E.E. WARD DATE: 3-1-02
 CHECKED BY: _____ DATE: _____
 FILE SPEC.: s:Special Details/jhowerton/840d02.dgn





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, 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.

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

ROADWAY DETAIL DRAWING FOR
METHOD OF PIPE INSTALLATION
 FLEXIBLE PIPE

SHEET 1 OF 2
300.01

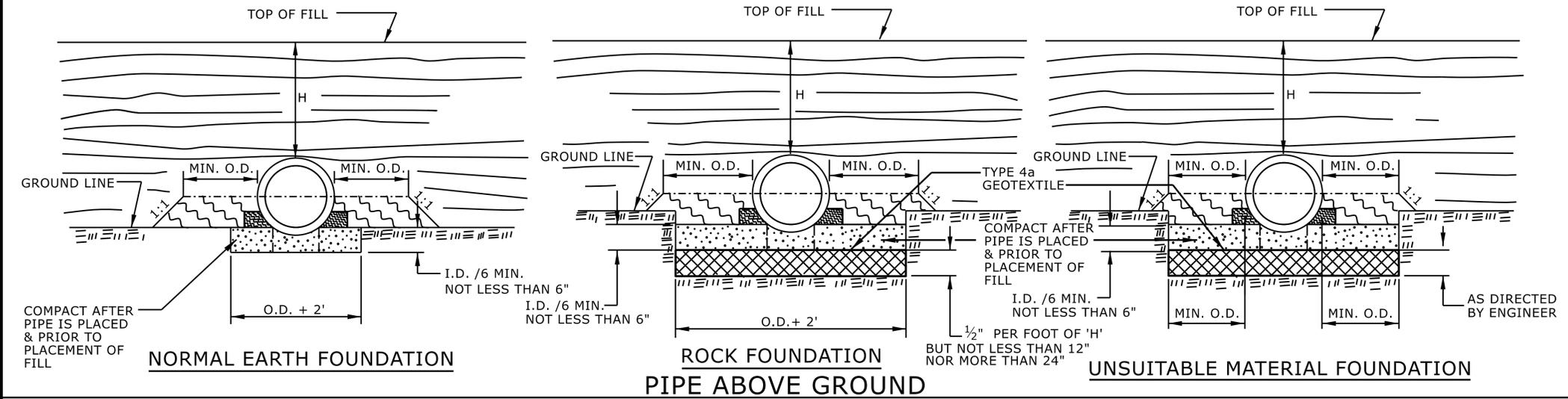
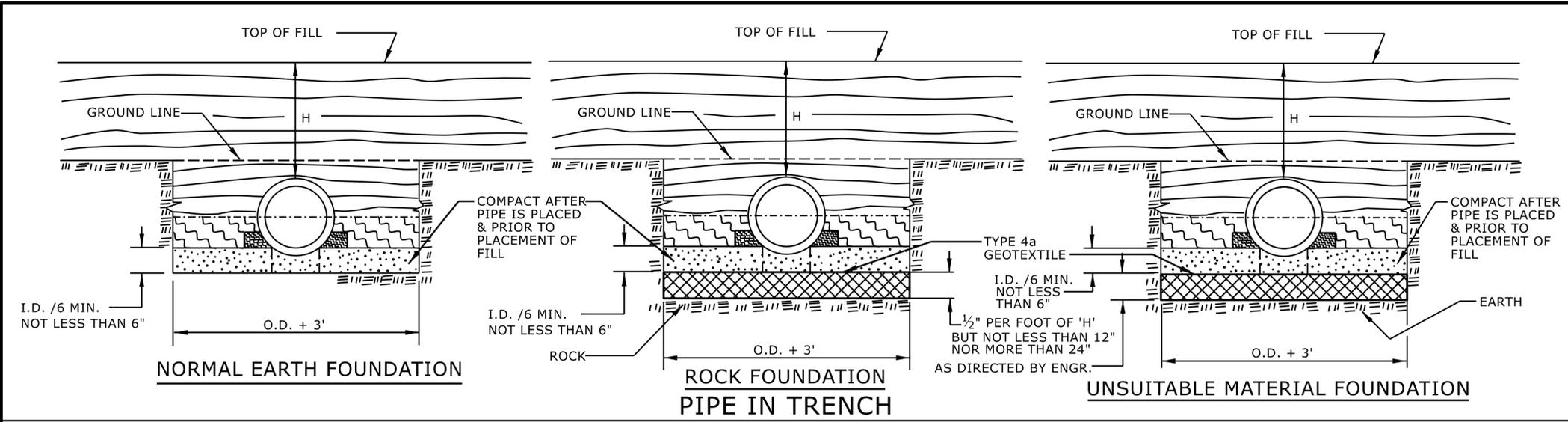


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 CHECKED BY: DATE: _____
 FILE SPEC: _____



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.

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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.

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

ROADWAY DETAIL DRAWING FOR
METHOD OF PIPE INSTALLATION
RIGID PIPE



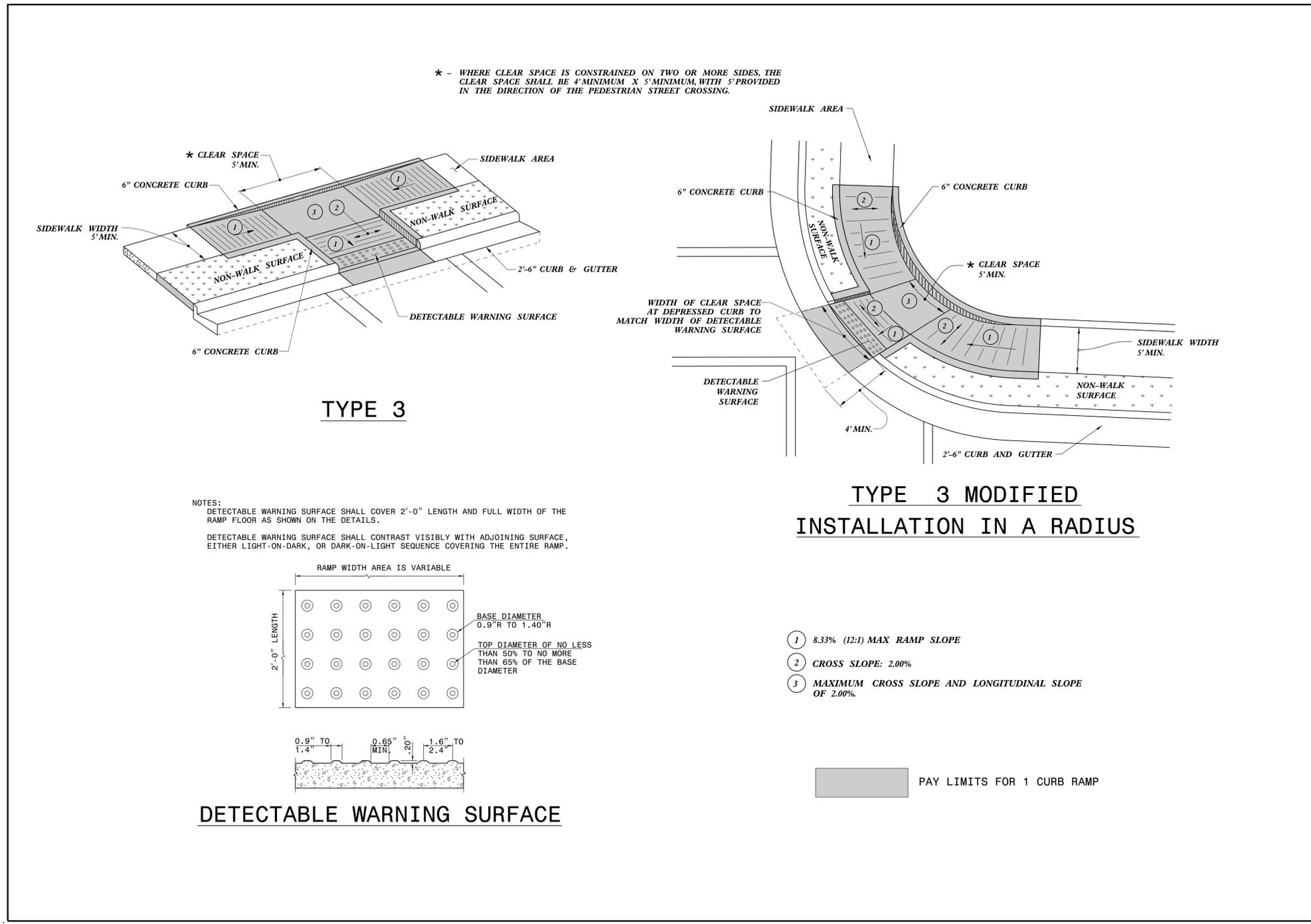
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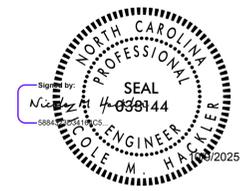
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STATE OF NORTH CAROLINA
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DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
CURB RAMP
PARALLEL RAMP

SHEET 9 OF 13
848D06

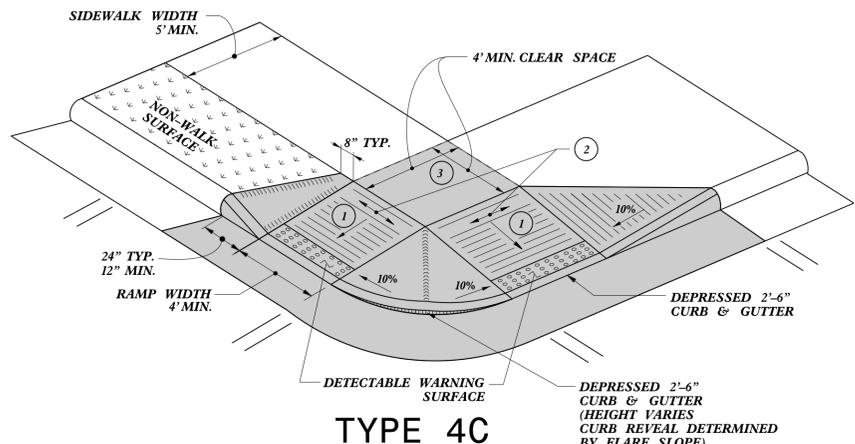
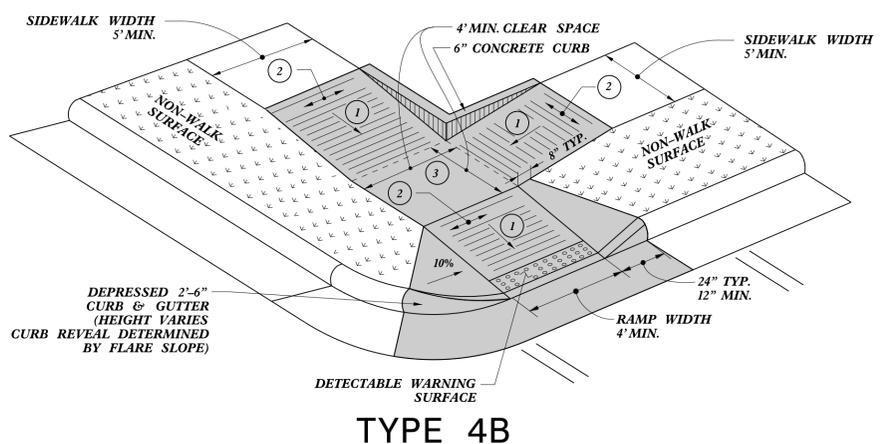
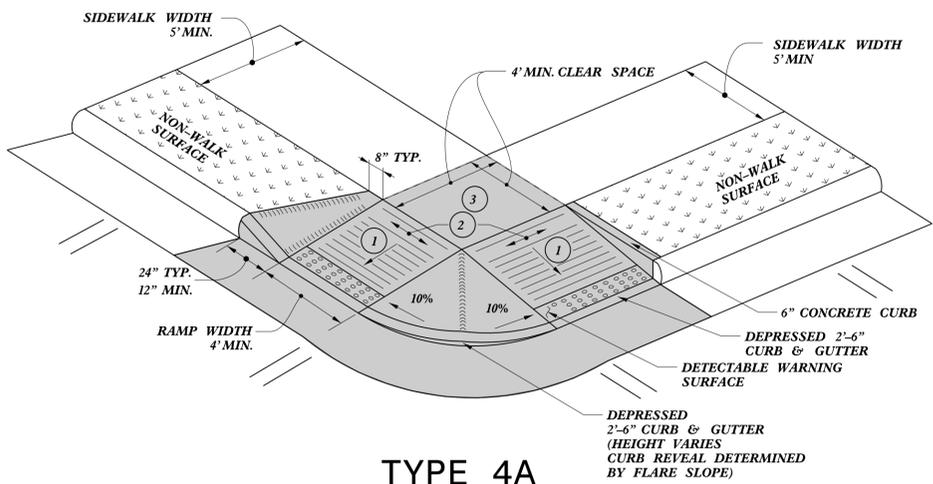
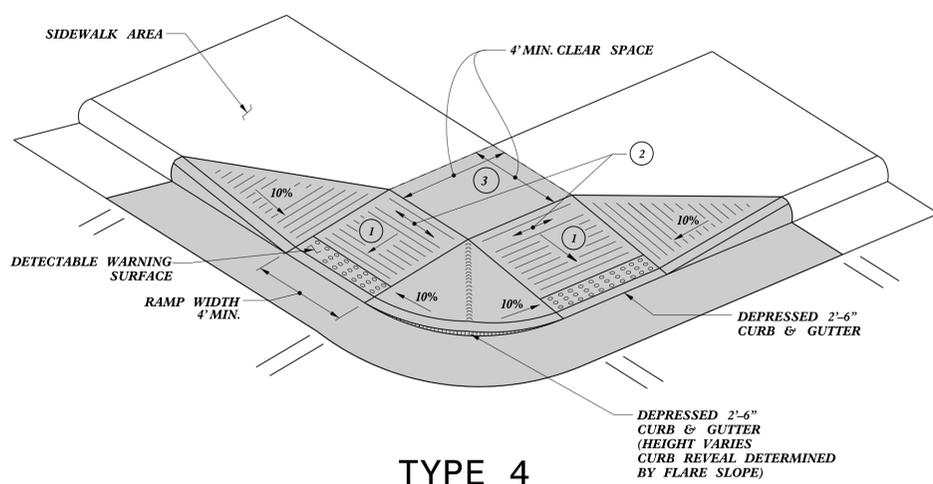


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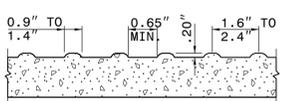
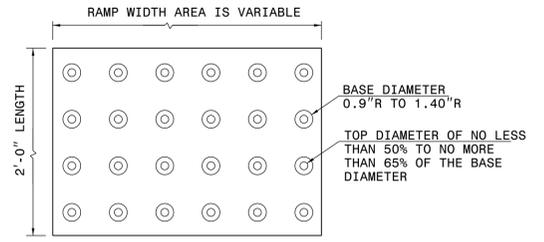
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CHECKED BY:	DATE:
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NOTES:
 DETECTABLE WARNING SURFACE SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
 DETECTABLE WARNING SURFACE SHALL CONTRAST VISIBLY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



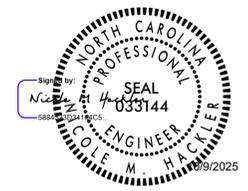
- 1 8.33% (12:1) MAX RAMP SLOPE
- 2 CROSS SLOPE: 2.00%
- 3 MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00%

PAY LIMITS FOR 1 OR 2 CURB RAMPS (CALCULATE BASED ON NUMBER OF SETS OF DETECTABLE WARNING SURFACES)

DETECTABLE WARNING SURFACE

STATE OF NORTH CAROLINA
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ROADWAY DETAIL DRAWING FOR
CURB RAMP
 SHARED LANDING



SHEET 10 OF 13
848D06

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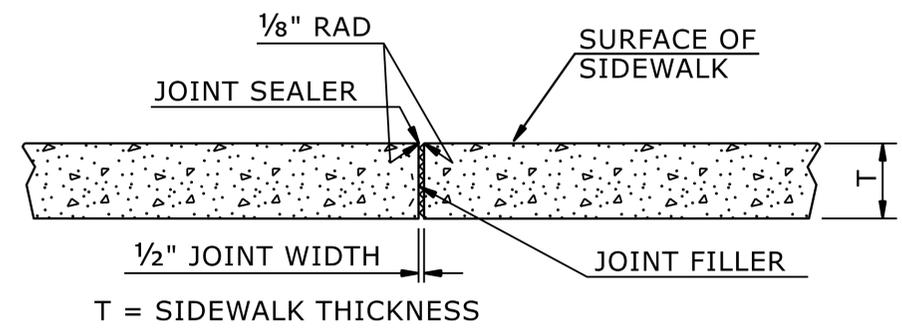
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NOTES:

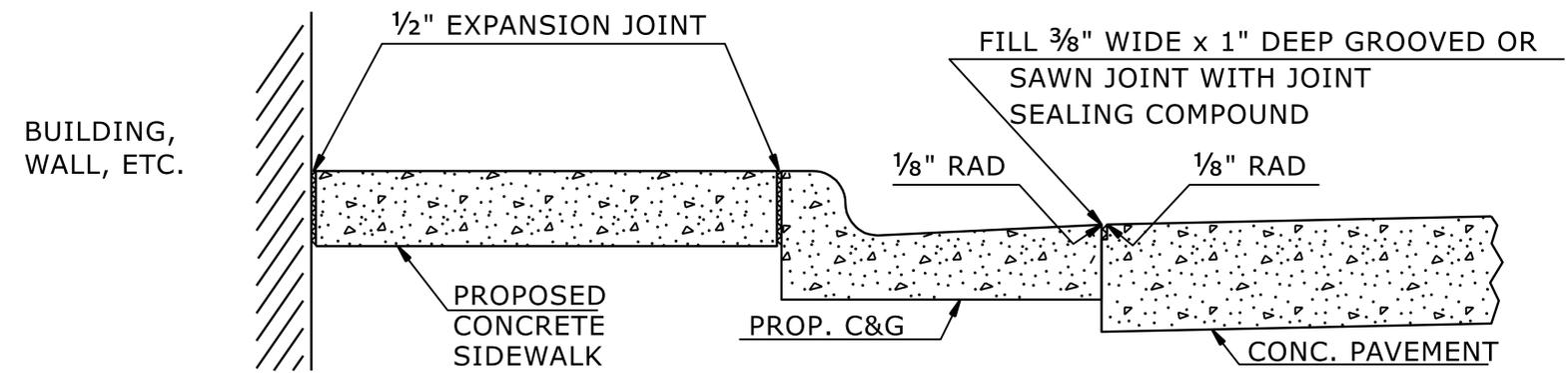
CONSTRUCT STANDARD SIDEWALK 5' WIDE AND 4" THICK UNLESS OTHERWISE DENOTED ON PLANS.

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



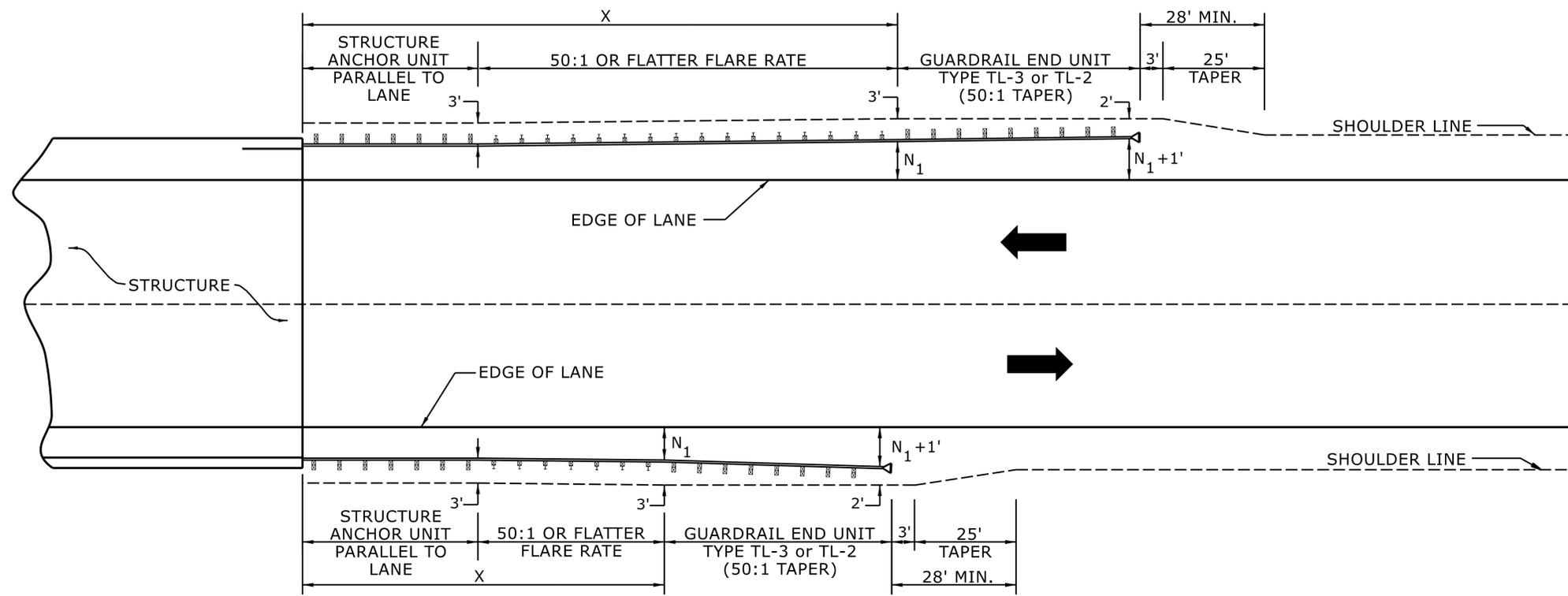
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848D01

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



USE FLARE RATE AS THE CONTROL IF THE "N₁" DISTANCE IS NOT OBTAINED.
 ("N₁" IS BASED ON SHOULDER WIDTHS IN THE ROADWAY DESIGN MANUAL)
 SEE STD. 862.03 FOR STRUCTURE ANCHOR UNITS
 FOR POSTED SPEEDS ≥ 45MPH USE GREU TYPE TL-3
 FOR POSTED SPEEDS < 45MPH USE GREU TYPE TL-2
 GUARDRAIL LENGTH OF NEED (X) IS CALCULATED BASED ON THE AASHTO ROADSIDE DESIGN GUIDE.

LENGTHS AND OFFSETS FOR PROPOSED GUARDRAIL AT TWO LANE - TWO WAY LOCATIONS

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT



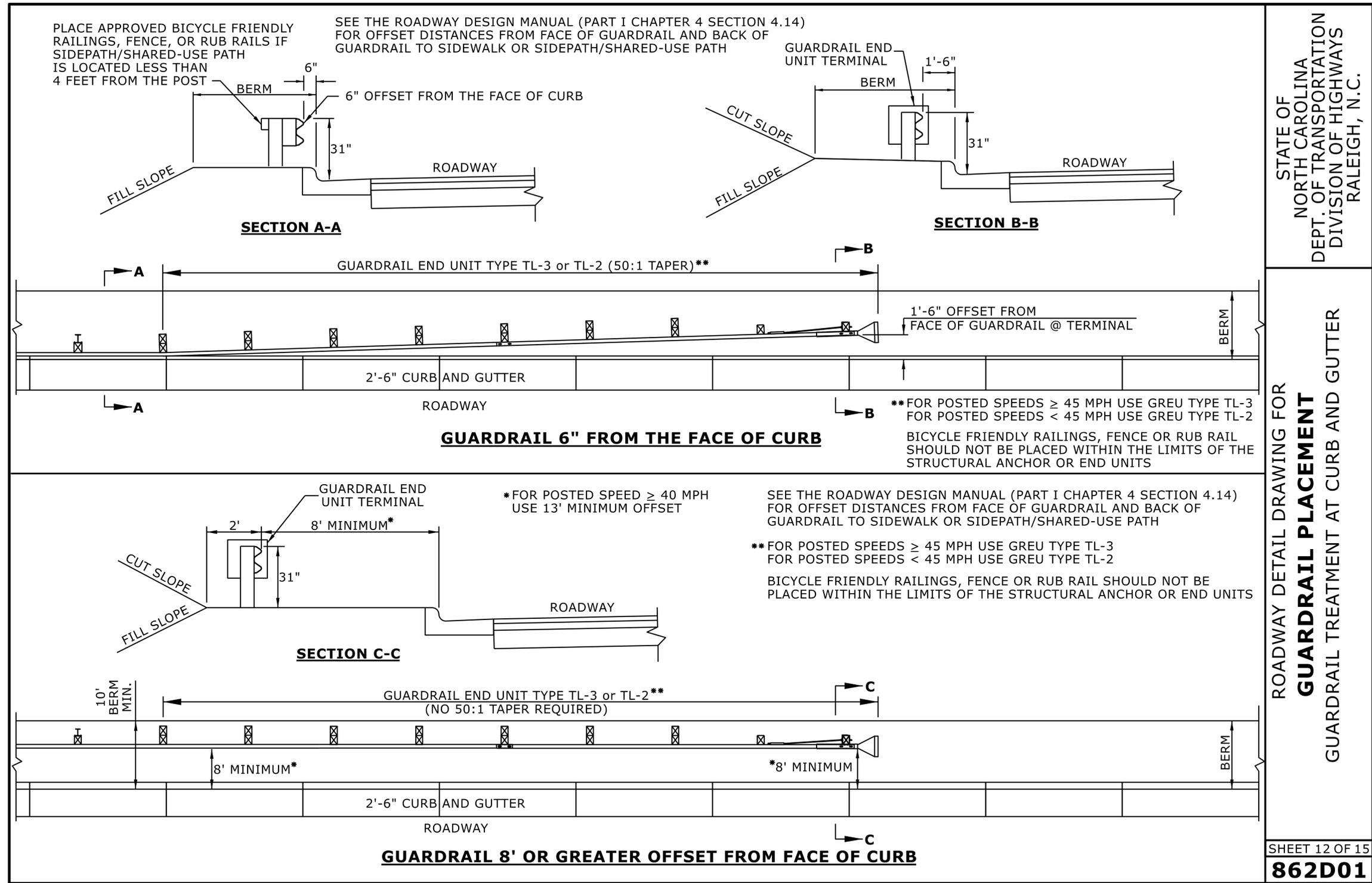
SHEET 4 OF 15
862D01

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

**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: _____
 FILE SPEC.: _____



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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT
GUARDRAIL TREATMENT AT CURB AND GUTTER



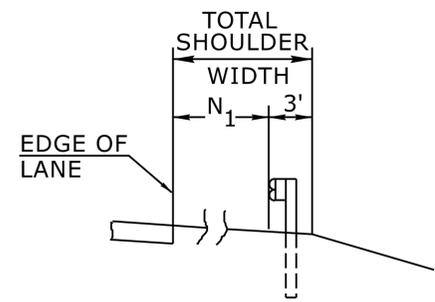
SHEET 12 OF 15
862D01

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

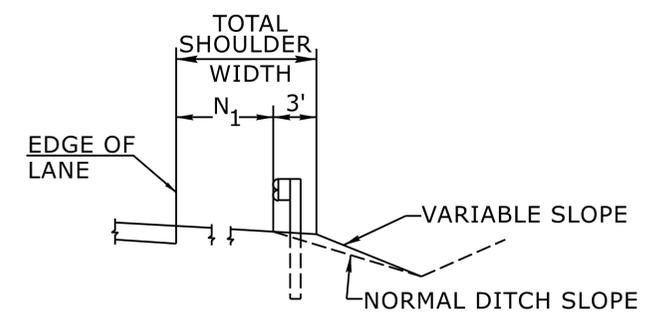
CONTRACTS STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

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

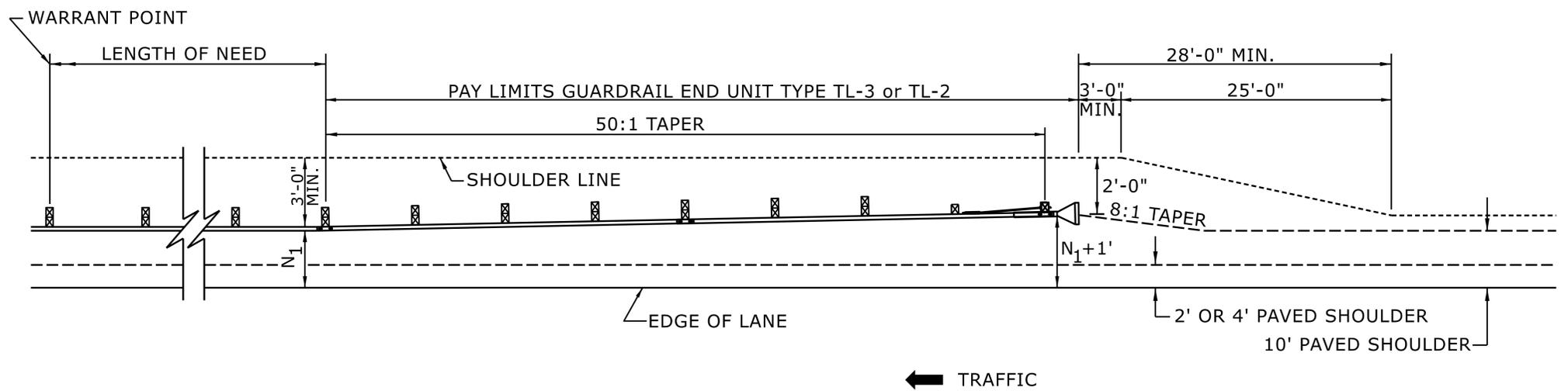


FILL SECTION



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

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT



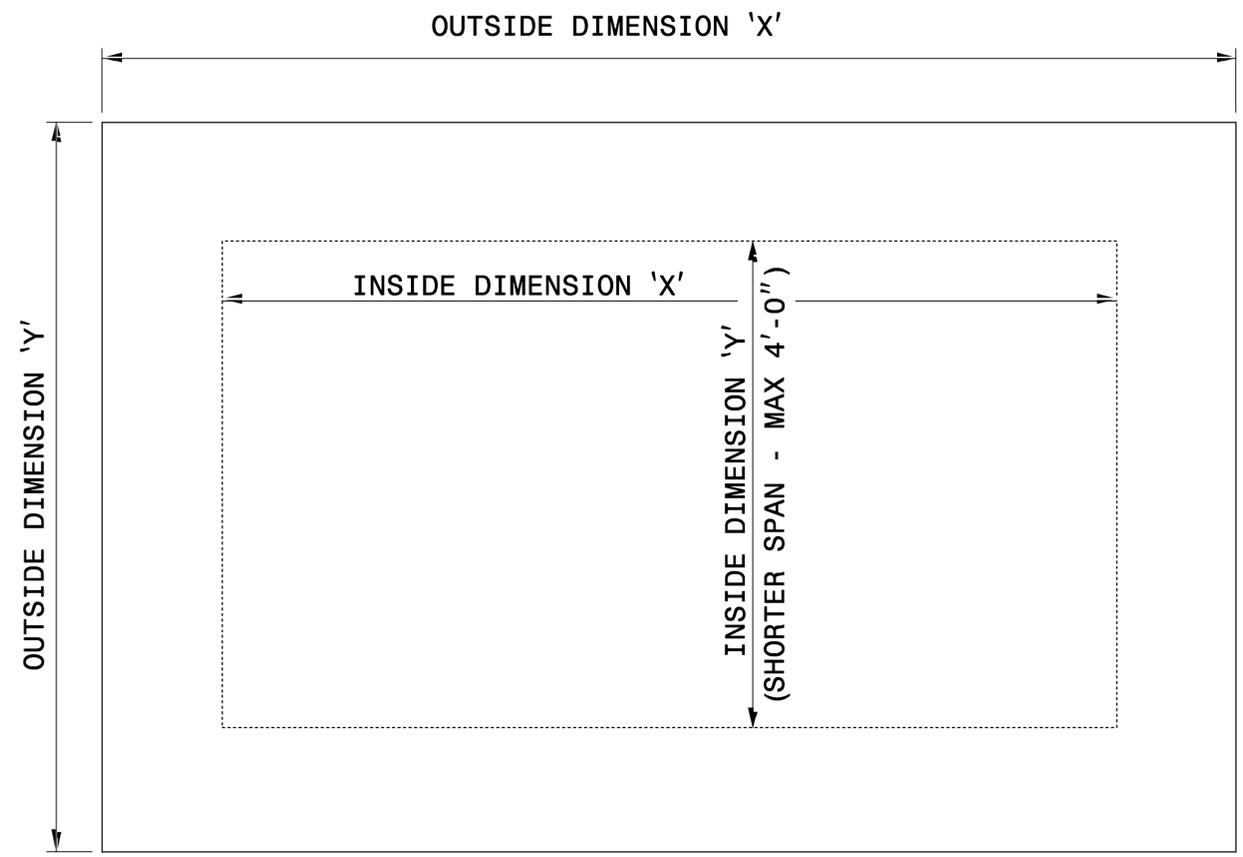
SHEET 6 OF 15
862D01

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**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**
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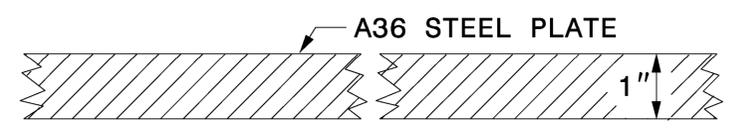
SEE TITLE BLOCK

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



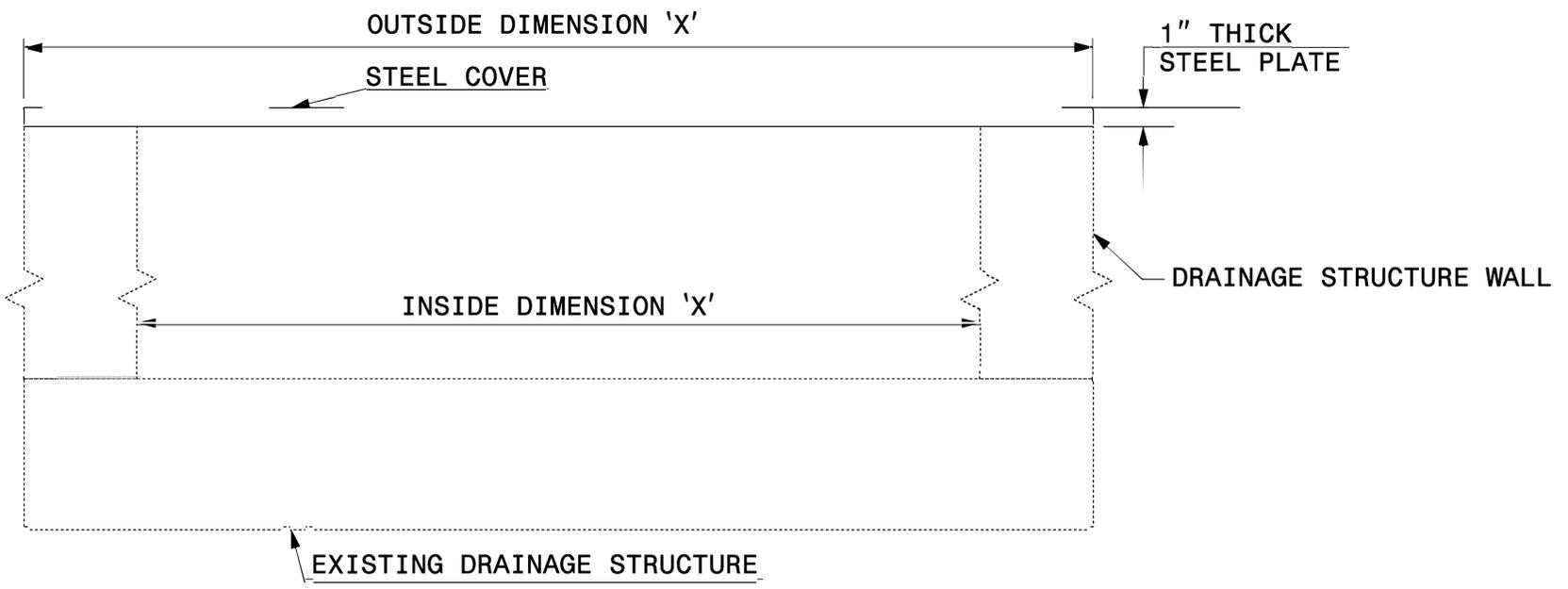
GENERAL NOTES:

- 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



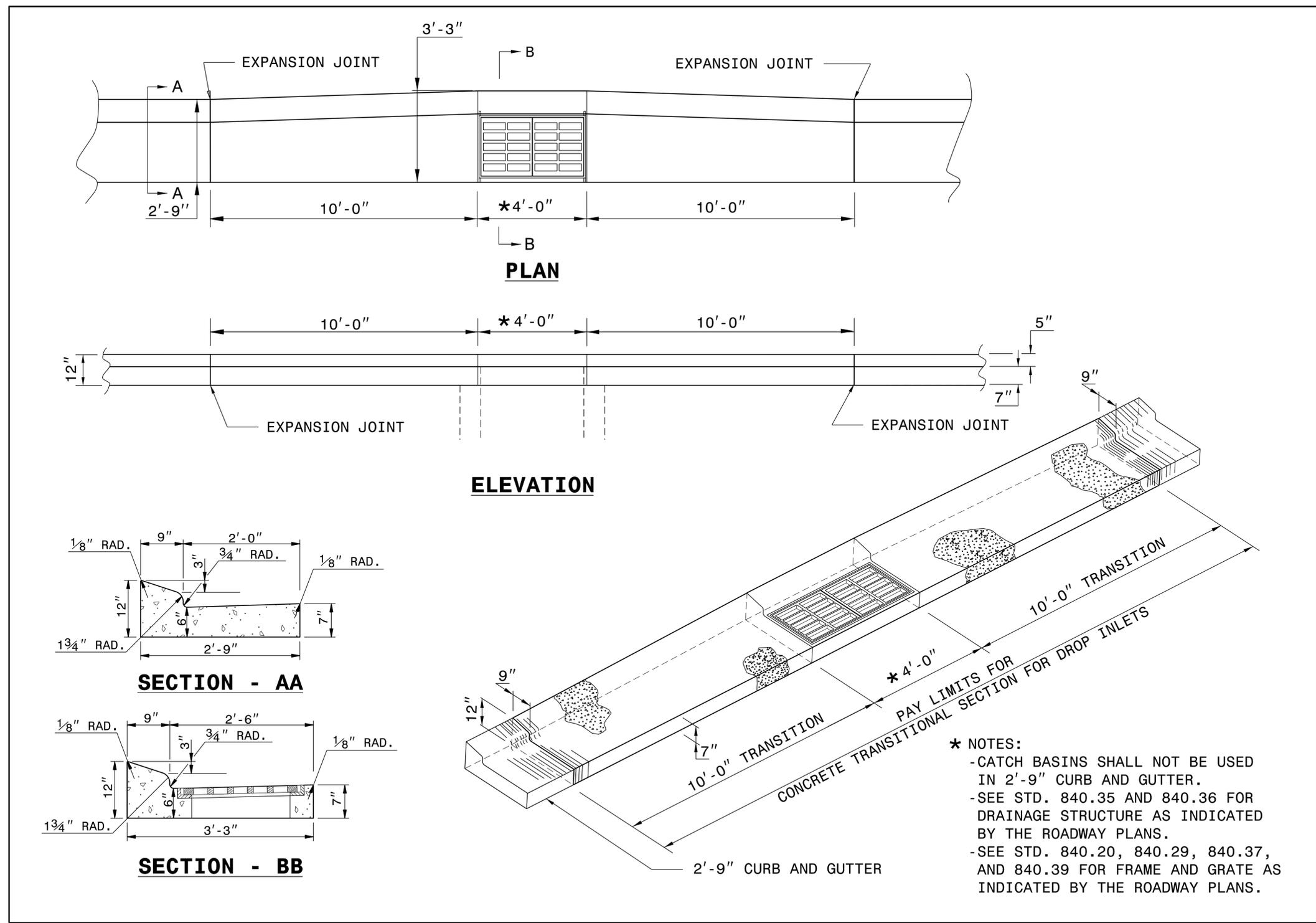
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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/stlcvr2.dgn

Y:\TIME\58843\CONTRACT STANDARDS AND DEVELOPMENT UNIT\DETAILS\STLCVR2.DGN



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

ROADWAY DETAIL DRAWING FOR
**MEDIAN CURB FOR TRAFFIC BEARING
GRADED DROP INLET**
(FOR USE WITH 2'-9" CURB AND GUTTER)

SHEET 1 OF 1
852D07

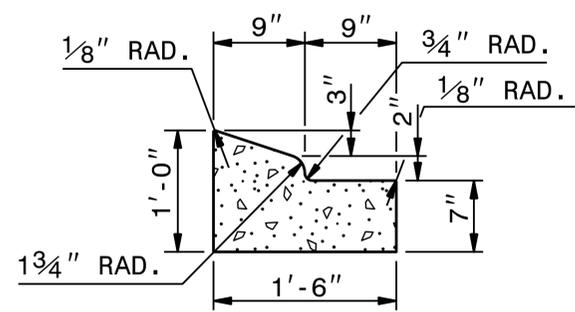


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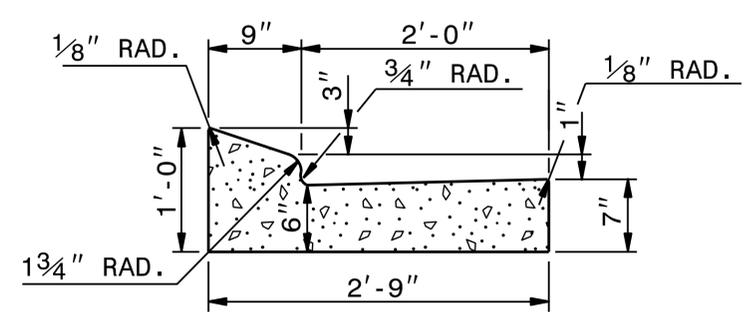
**CONTRACT STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: K.A. KEMPF	DATE: 7-20-23
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC.: 2024 details in lieu\852D0701.dgn	



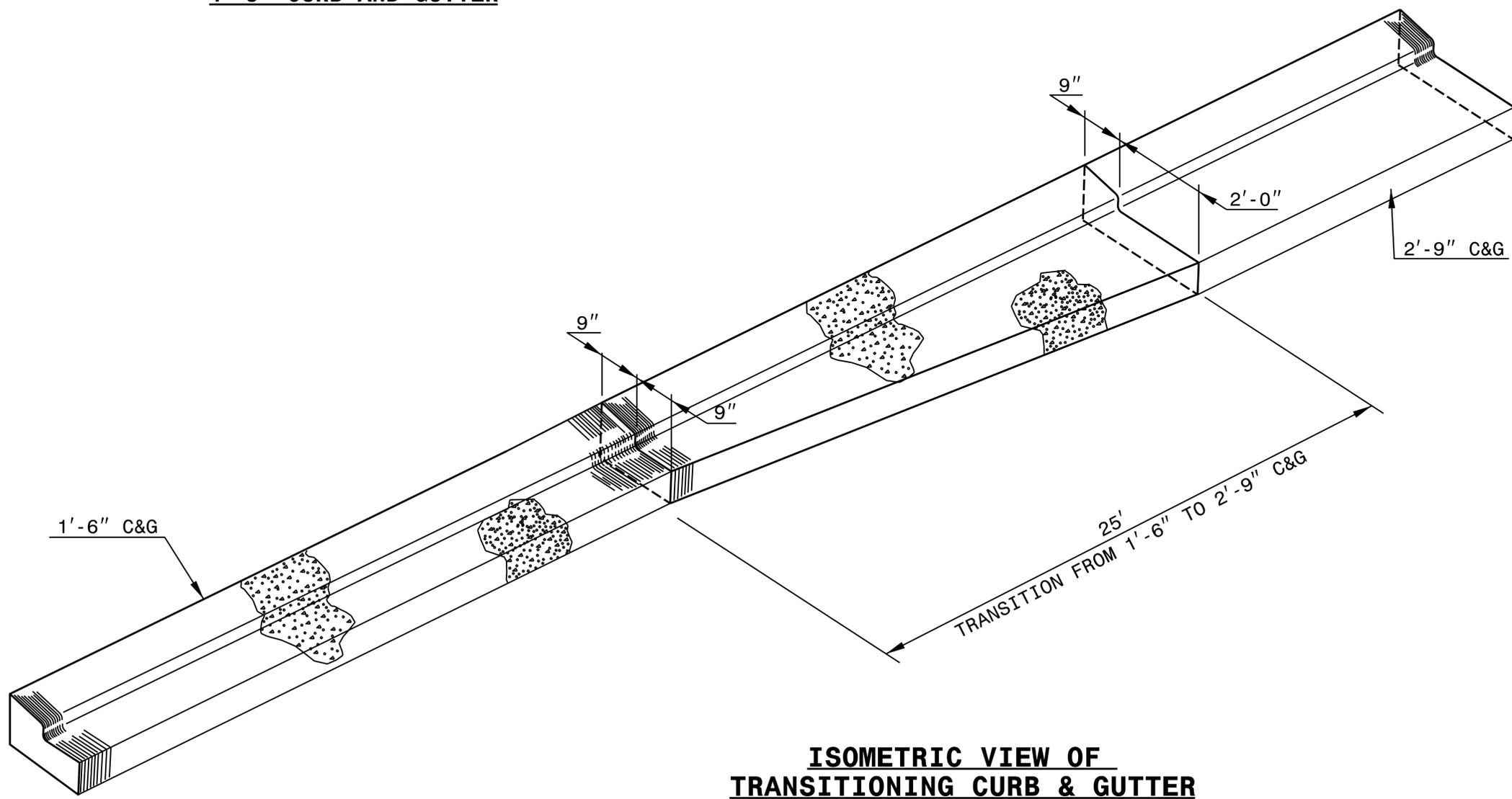
1'-6" CURB AND GUTTER



2'-9" CURB AND GUTTER

NOTE: SEE STD. DWG. 846.01 FOR ADDITIONAL CURB AND GUTTER INFORMATION.

SEE ROADWAY PLANS FOR LOCATION OF CURB TRANSITION.



**ISOMETRIC VIEW OF
TRANSITIONING CURB & GUTTER**



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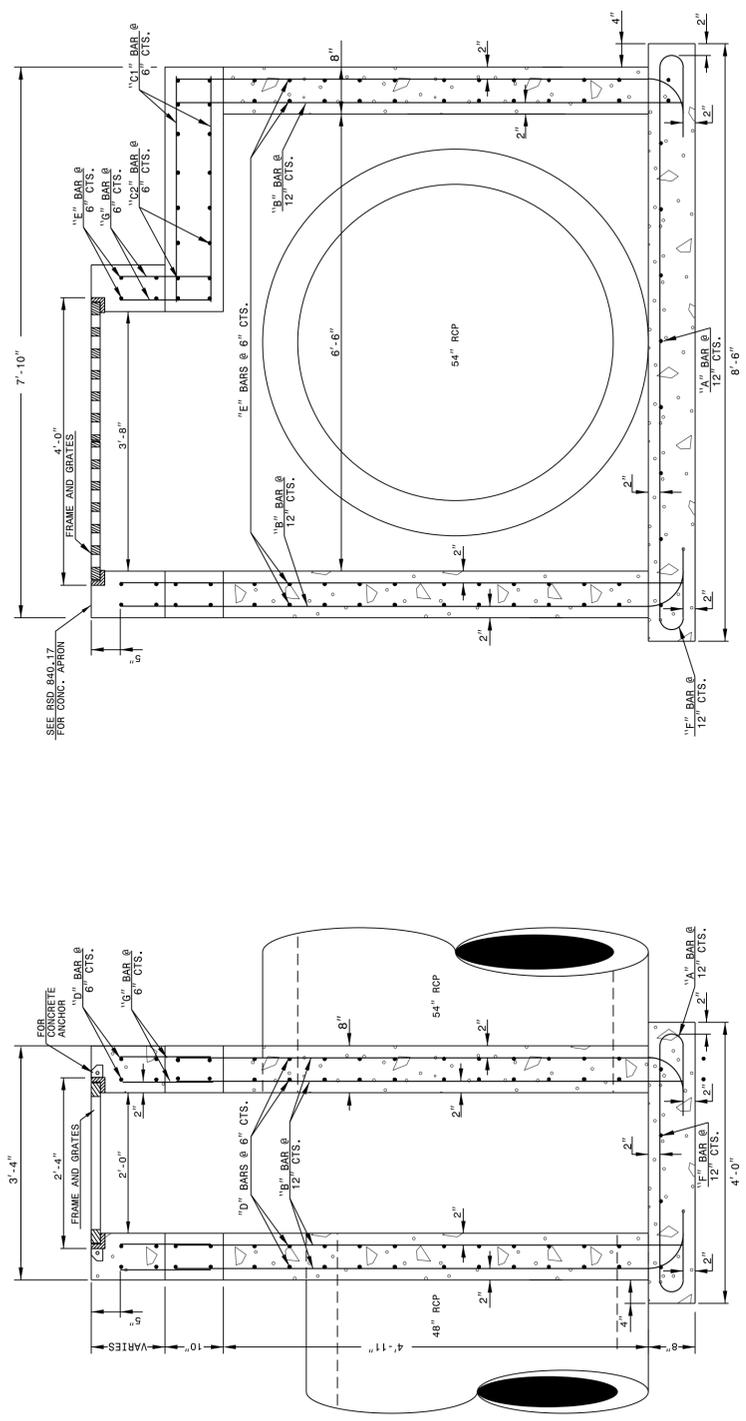
CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950 FAX 919-250-4119	
DETAIL OF 1'-6" TO 2'-9" CURB & GUTTER TRANSITION SECTION	
ORIGINAL BY: T.S.SPELL	DATE: NOV. 26, 2001
MODIFIED BY: T.S.SPELL	DATE: JAN. 23, 2007
CHECKED BY:	DATE:
FILE SPEC.: DS174:/usr/details/stand/catransit.dgn	

I3-AUG-2018 09:00
 S:\Contracts\Contractors\Special Details\Jhewerton\840d35 TBDI Up to 54in.dgn
 Jhewerton AT_CSD-292595

ENGLISH DETAIL DRAWING FOR
TRAFFIC BEARING GRATED INLET
FOR PIPES UP TO 54"

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

SHEET 1 OF 2
840D35



SECTION X-X

SECTION Y-Y

- GENERAL NOTES:**
- BUILD WITH CLASS 'AA' CONCRETE
 - CHAMFER ALL EXPOSED CONCRETE CORNERS 3".
 - USE FORMS TO CONSTRUCT THE BOTTOM SLAB.
 - PIPE ANCHORS IN THE BASE, FOLLOW CONSTRUCTION PRACTICES SHOWN IN THE DRAWING.
 - PRECAST UNITS CONCRETE MAY BE USED IN LIEU CAST IN PLACE CONCRETE.
 - REFERENCE STD. DWG. 840.25 FOR FRAME ANCHORAGE.
 - FRAME AND GRATES OVER RCP SHALL BE DIRECTED BY STD. DWG. 840.66.
 - FRAME AND GRATES ARE SEPARATE CONTRACT ITEM.

- NOTES:**
- HORIZONTAL (UP TO 10' MAX. IN BOTH DIRECTIONS) AND VERTICAL (UP TO 20' MAX.) DIMENSIONS MAY BE ADJUSTED AS THE FIELD CONDITIONS AND/OR ALTERNATE DESIGNS REQUIRE.
 - ALL ADJUSTMENTS ARE TO BE MADE AS DIRECTED BY THE ENGINEER.

ENGLISH DETAIL DRAWING FOR
TRAFFIC BEARING GRATED INLET
FOR PIPES UP TO 54"

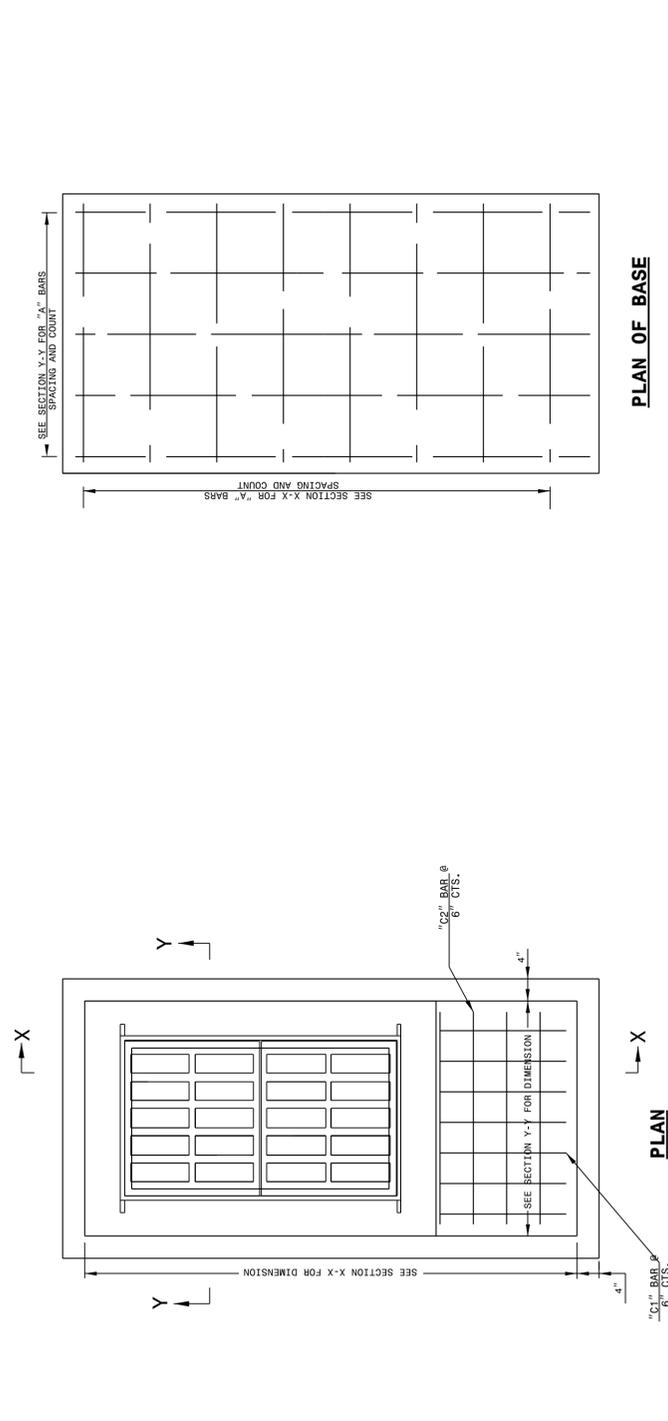
STATE OF
NORTH CAROLINA
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DIVISION OF HIGHWAYS
RALEIGH, N.C.

SHEET 1 OF 2
840D35

ENGLISH DETAIL DRAWING FOR
TRAFFIC BEARING GRATED INLET
FOR PIPES UP TO 54"

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

SHEET 2 OF 2
840D35

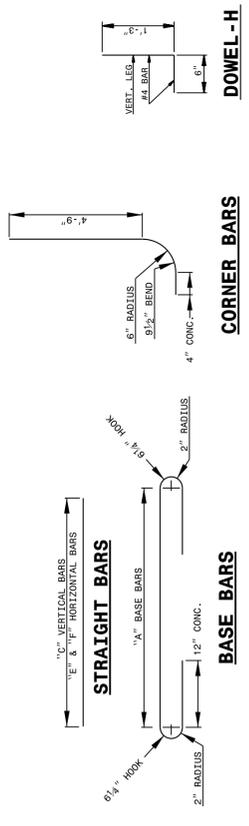


PLAN OF BASE

BILL OF MATERIALS

BAR	SIZE	LENGTH	QUANTITY	WEIGHT
A	#2	5'-0"	42	47
B	#2	7'-6"	104	790
C1	#3	3'-0"	9	32
C2	#3	3'-0"	6	19
D	#5	3'-6"	48	376
E	#5	3'-0"	48	151
F	#5	1'-0"	4	42
G	#5	1'-0"	104	1626
REFIN. STEEL (TOTAL WEIGHT LBS.)				5111
CONCRETE TOTAL (CU. YDS.) CLASS 'AA'				5.1
NO DEDUCTIONS HAVE BEEN MADE TO ACCOMMODATE PIPES				

FOR EVERY 1 FOOT OF RISER USE 0.41 CU. YDS CONCRETE AND 390 LBS STEEL.



DOWEL-H

CORNER BARS

STRAIGHT BARS

BASE BARS

ENGLISH DETAIL DRAWING FOR
TRAFFIC BEARING GRATED INLET
FOR PIPES UP TO 54"

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

SHEET 2 OF 2
840D35

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

SEE PLATE FOR TITLE

ORIGINAL BY: K. KEMPF DATE: 03-03-2015
 MODIFIED BY: DATE:
 CHECKED BY: DATE:
 FILE SPEC.: jhewerton/840d35 TBDI Up to 54in.dgn



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COMPUTED BY: M. HARTMAN DATE: JANUARY 2026
 CHECKED BY: A. RIGGS, JR. DATE: JANUARY 2026

(9-17-24)

PROJECT NO.
U-4753

SHEET NO.
3G-1

**STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS**

SUMMARY OF SUBSURFACE DRAINAGE

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
-L-	16+00	47+00	LT/RT	SD	6200
-Y1-	10+00	32+15	LT/RT	SD	4430
-Y5-	13+55	29+00	LT/RT	SD	3090
CONTINGENCY				SD	1000
TOTAL LF:					14720

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

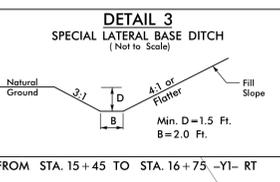
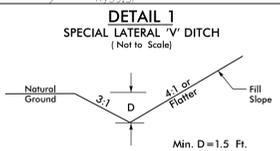
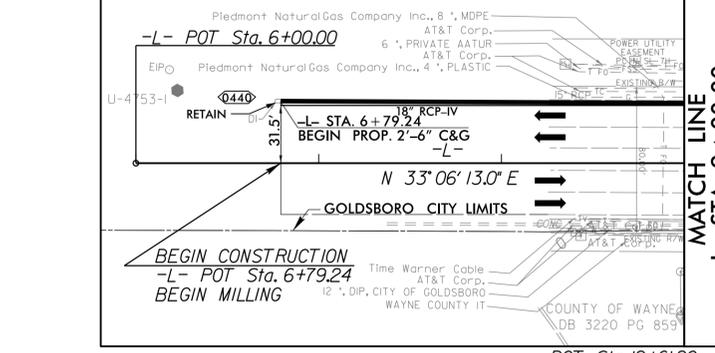
SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

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-	10+75	21+75	ASU(1)	12"	1570	3600	5550		
-L-	37+75	39+75	ASU(1)	12"	100	230	350		
-Y1-	10+00	13+75	ASU(1)	12"	225	585	900		
-Y1-	22+25	26+25	ASU(1)	12"	285	1210	1865		
-Y1-	27+75	32+15	ASU(1)	12"	337	820	1263		
-Y2-	10+43	11+30	ASU(1)	12"	53	150	230		
-Y5-	26+75	28+25	ASU(1)	12"	30	80	117		
CONTINGENCY			ASU(1)	12"	250	500	750		
TOTAL CY/TONS/SY:					2850	7175**	11025**	0	0

*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.

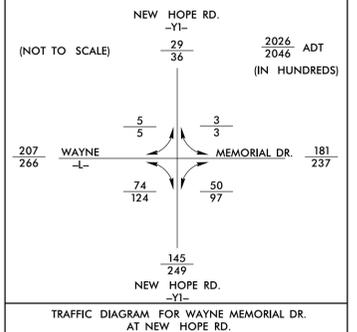
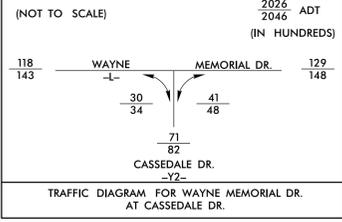
MATCH LINE -L- STA 9+00.00 SEE THIS SHEET

BEGIN TIP PROJECT U-4753
-L- POT Sta. 9+15.15
END MILLING



MATCH LINE -Y1- STA 24+50 SEE SHEET 8

MATCH LINE -Y1- STA 15+00 SEE SHEET 8



-Y1-
PI Sta 14+96.24
Δ = 11' 22" 45.7" (RT)
D = 1' 54" 35.5"
L = 595.82'
T = 298.89'
R = 3,000.00'
R.O. = 14'
SE = .05
DS = 60 MPH

★ DENOTES SIGNAL
DENOTES PROPOSED 5' MONOLITHIC ISLAND

MARGUERITE H COX
DB 1357 PG 850

MARSHALL E COX
DB 1357 PG 850

NOTE:
SEE SHEET 10 FOR -L- PROFILE
SEE SHEET 12 FOR -Y1 PROFILE
SEE SHEET 13 FOR -Y2 PROFILE

MATCH LINE -L- STA 23+00 SEE SHEET 5

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 27608
TEL: (919) 856-2344 FAX: (919) 856-2591
ENG FIRM LICENSE NO. C4860

PROJECT REFERENCE NO. U-4753	SHEET NO. 4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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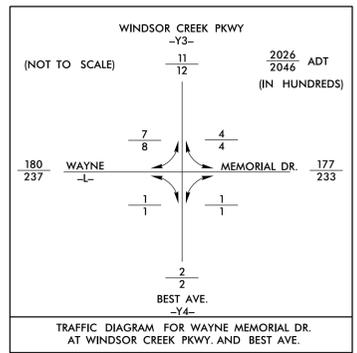
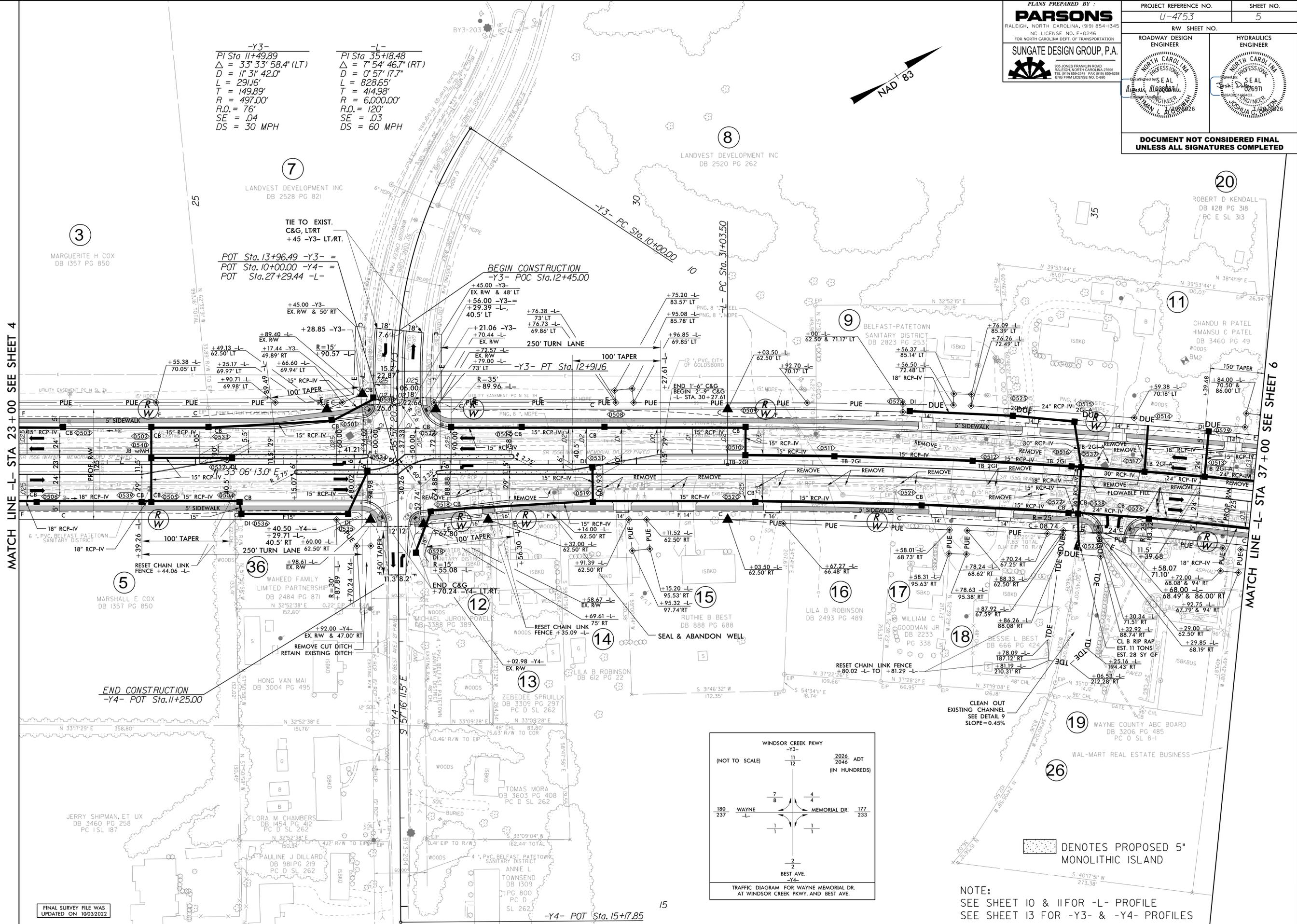
PLANS PREPARED BY:

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
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 TEL: (919) 859-2244 FAX: (919) 859-2528
 ENG FIRM LICENSE NO. C-680

PROJECT REFERENCE NO. U-4753	SHEET NO. 5
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	SEAL

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NOTE:
 SEE SHEET 10 & 11 FOR -L- PROFILE
 SEE SHEET 13 FOR -Y3- & -Y4- PROFILES

FINAL SURVEY FILE WAS
 UPDATED ON 10/03/2022

28 JAN 2023 14:24
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 8:58:58 AM

8/17/19

MATCH LINE -Y5- STA 16+00 SEE SHEET 9

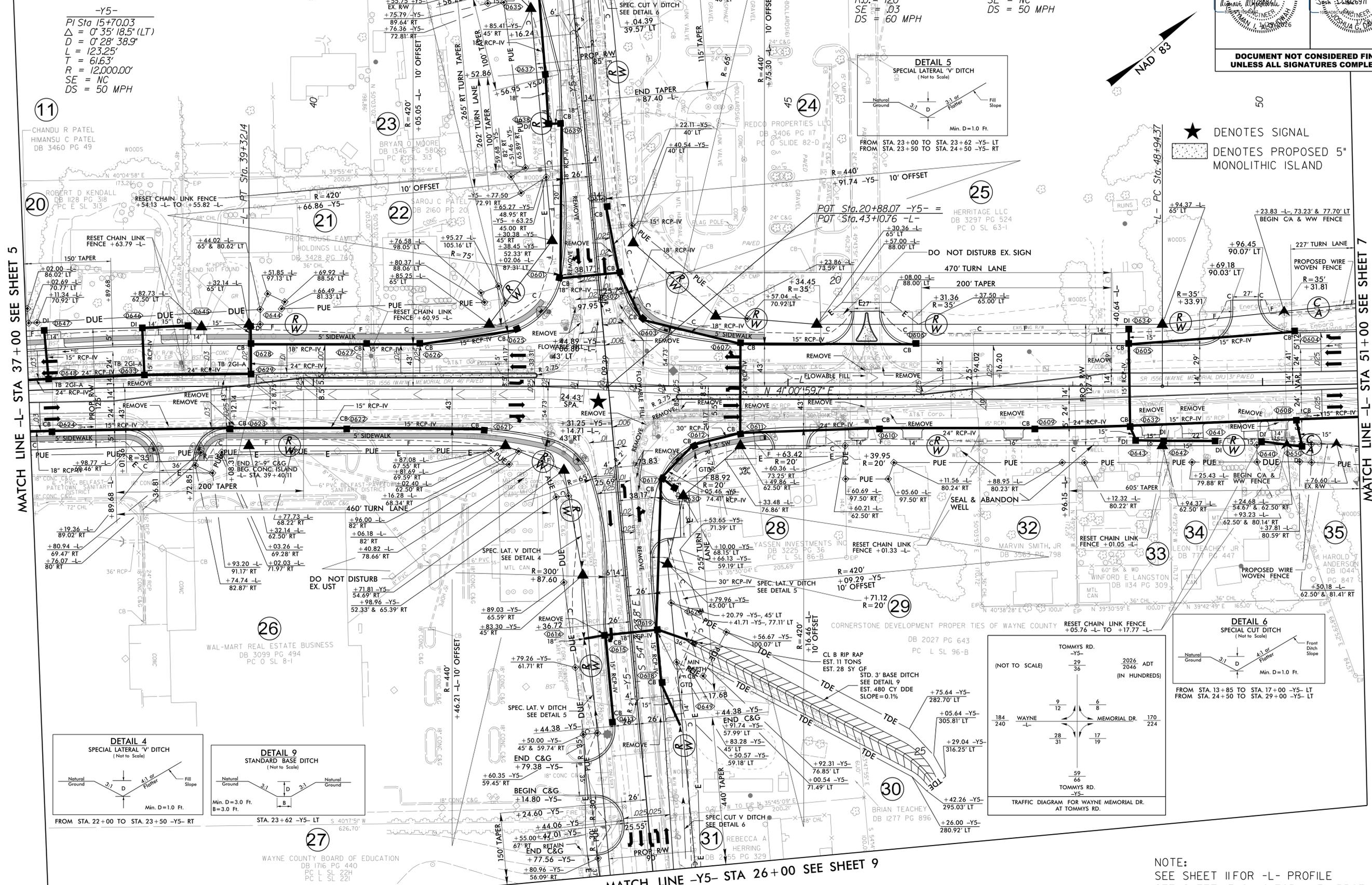
PLANS PREPARED BY:

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 NC LICENSE NO. F-0246
 FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

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 900 JONES FRANKLIN ROAD
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 TEL: (919) 858-2244 FAX: (919) 858-2258
 ENG. FIRM LICENSE NO. C-889

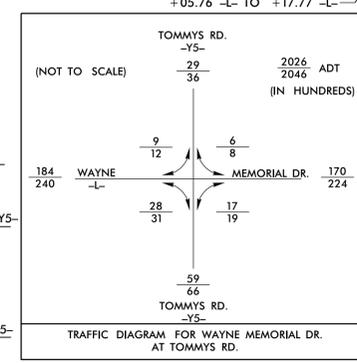
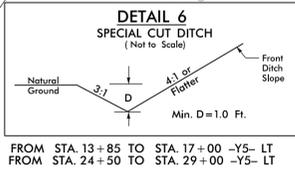
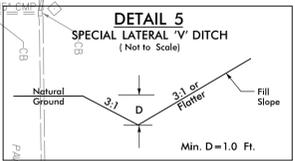
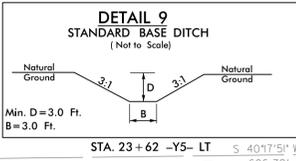
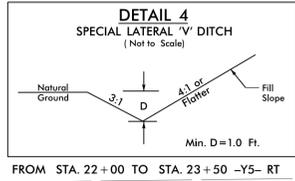
PROJECT REFERENCE NO. U-4753	SHEET NO. 6
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	SEAL

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MATCH LINE -L- STA 37+00 SEE SHEET 5

MATCH LINE -L- STA 51+00 SEE SHEET 7



★ DENOTES SIGNAL

■ DENOTES PROPOSED 5' MONOLITHIC ISLAND

NOTE:
SEE SHEET 11 FOR -L- PROFILE
SEE SHEET 13 & 14 FOR -Y5- PROFILE

MATCH LINE -Y5- STA 26+00 SEE SHEET 9

23 JAN 2020 15:09 N:\Projects\U-4753_Rd\psh.dgn

8/17/99

PLANS PREPARED BY:

PARSONS
 RALEIGH, NORTH CAROLINA, (919) 854-1345
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 FOR NORTH CAROLINA DEPT. OF TRANSPORTATION

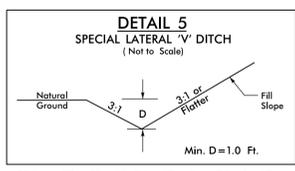
SUNGATE DESIGN GROUP, P.A.
 905 JONES FRANKLIN ROAD
 RALEIGH, NORTH CAROLINA 27608
 TEL: (919) 859-2343 FAX: (919) 859-6258
 ENG FIRM LICENSE NO. C-680

PROJECT REFERENCE NO. U-4753	SHEET NO. 7
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	SEAL 028387
	SEAL 026971

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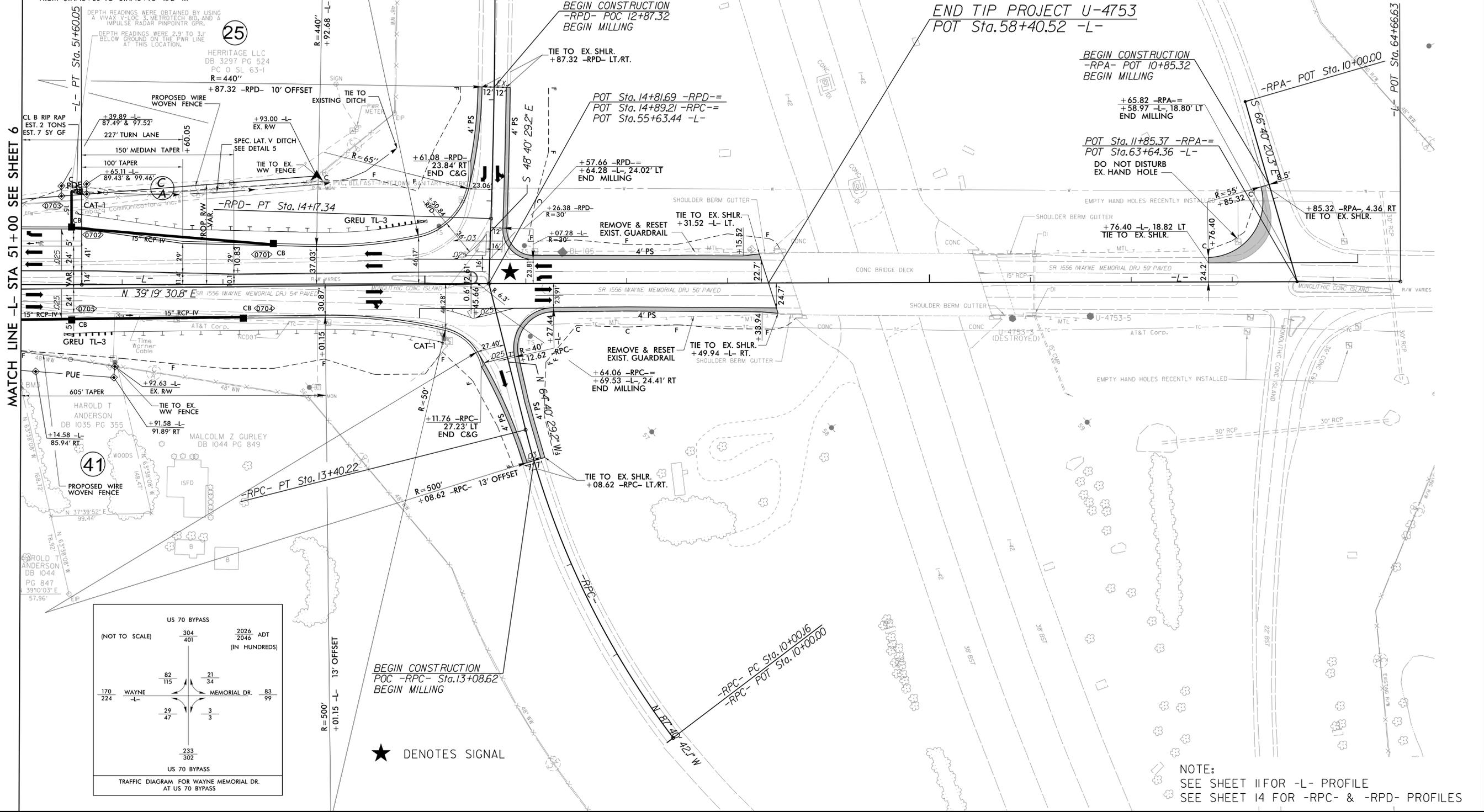
-L-
 PI Sta 50+27.22
 $\Delta = 1^{\circ} 41' 28.9"$ (LT)
 $D = 0^{\circ} 38' 11.8"$
 $L = 265.68'$
 $T = 132.85'$
 $R = 9,000.00'$
 $SE = NC$
 $DS = 50 MPH$

-RPC-
 PI Sta 11+72.51
 $\Delta = 23^{\circ} 00' 12.9"$ (RT)
 $D = 6^{\circ} 45' 52.4"$
 $L = 340.06'$
 $T = 172.35'$
 $R = 847.00'$
 $R.O. = 95'$
 $SE = EXIST.$
 $DS = 30 MPH$



-RPD-
 PI Sta 12+80.39
 $\Delta = 2^{\circ} 05' 33.4"$ (RT)
 $D = 0^{\circ} 45' 50.2"$
 $L = 273.92'$
 $T = 136.98'$
 $R = 7,500.00'$
 $R.O. = 108'$
 $SE = EXIST.$
 $DS = 50 MPH$

MATCH LINE -L- STA 51+00 SEE SHEET 6



DEPTH READINGS WERE OBTAINED BY USING A VIVAX V-LOC 3, METROTECH BIO, AND A IMPULSE RADAR PINPOINTR GPR.

DEPTH READINGS WERE 2.9' TO 3.1' BELOW GROUND ON THE PWR LINE AT THIS LOCATION.

25

HERRITAGE LLC
 DB 3297 PG 524
 PC 0 SL 63-1
 $R = 440'$

FROM STA. 51+50 TO STA. 54+75 -L- LT
 FROM STA. 13+50 TO STA. 13+75 -RPD- RT

CL B RIP RAP EST. 2 TONS
 EST. 7 SY GF

VAR 24' 5.1'
 VAR 14' 4.1'
 VAR 14' 4.1'
 VAR 14' 4.1'

39.89 -L-
 87.49' & 97.52'
 227' TURN LANE

150' MEDIAN TAPER
 100' TAPER
 65.11 -L-
 89.43' & 99.46'

CAT-1
 GREU TL-3
 ROP RW TYPAR
 RCP-IV
 CB 0703

15' RCP-IV
 15' RCP-IV
 15' RCP-IV
 15' RCP-IV

605' TAPER
 HAROLD T ANDERSON
 DB 1035 PG 355

14.58 -L-
 85.94' RT

92.63 -L-
 EX. RW

91.58 -L-
 91.89' RT

41

PROPOSED WIRE WOVEN FENCE

ISFD

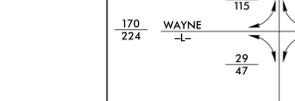
HAROLD T ANDERSON
 DB 1044 PG 847
 39'10'03" E
 57.96'

37'39'52" E
 99.44'

US 70 BYPASS
 (NOT TO SCALE)

304
 401

2026 ADT
 2046
 (IN HUNDREDS)



US 70 BYPASS
 233
 302

TRAFFIC DIAGRAM FOR WAYNE MEMORIAL DR.
 AT US 70 BYPASS

★ DENOTES SIGNAL

NOTE:
 SEE SHEET IIFOR -L- PROFILE
 SEE SHEET I4 FOR -RPC- & -RPD- PROFILES

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8/17/99

PLANS PREPARED BY:

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

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 TEL: (919) 858-2244 FAX: (919) 858-6258
 ENG FIRM LICENSE NO. C-890

PROJECT REFERENCE NO. U-4753	SHEET NO. 8
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	PROFESSIONAL ENGINEER NORTH CAROLINA SEAL 0028387 JOSHUA G. DALTON 10/2025

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UNLESS ALL SIGNATURES COMPLETED

-YI-

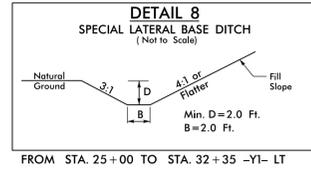
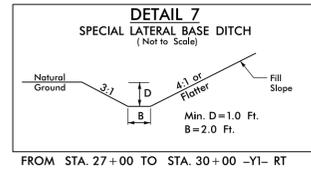
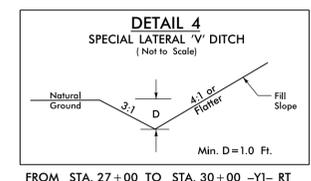
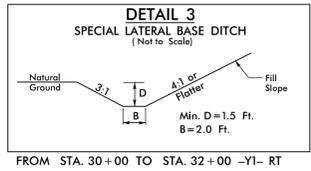
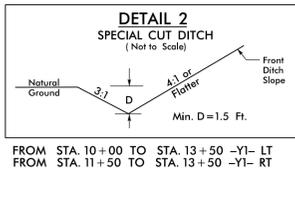
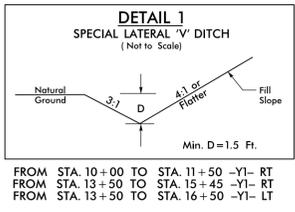
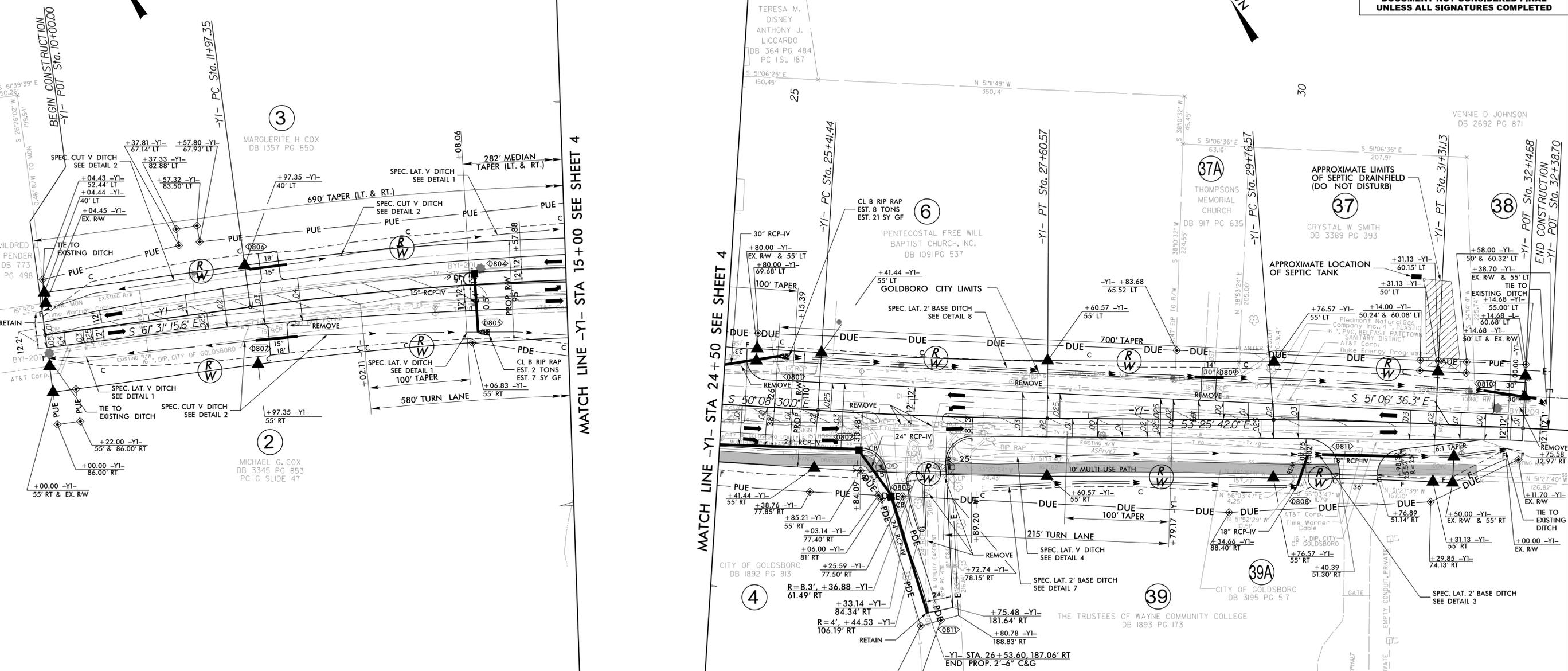
PI Sta 14+96.24
 $\Delta = 1' 22' 45.7''$ (RT)
 $D = 1' 54' 35.5''$
 $L = 595.82'$
 $T = 298.89'$
 $R = 3,000.00'$
 $R.O. = 144'$
 $SE = .04$
 $DS = 50$ MPH

-YI-

PI Sta 26+51.04
 $\Delta = 3' 17' 12.0''$ (LT)
 $D = 1' 29' 59.6''$
 $L = 219.13'$
 $T = 109.59'$
 $R = 3,820.00'$
 $R.O. = 72'$
 $SE = .03$
 $DS = 50$ MPH

-YI-

PI Sta 30+53.86
 $\Delta = 2' 19' 05.7''$ (RT)
 $D = 1' 29' 59.6''$
 $L = 154.56'$
 $T = 77.29'$
 $R = 3,820.00'$
 $R.O. = 72'$
 $SE = .03$
 $DS = 50$ MPH

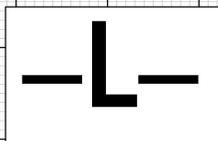


NOTE:
SEE SHEET I2 FOR -YI- PROFILE

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BM #1 ELEVATION = 128.03
N 605354 E 2314798
-L- STATION 14+27.89 210.91' RIGHT
BENCHTIE NAIL SET IN 30" OAK



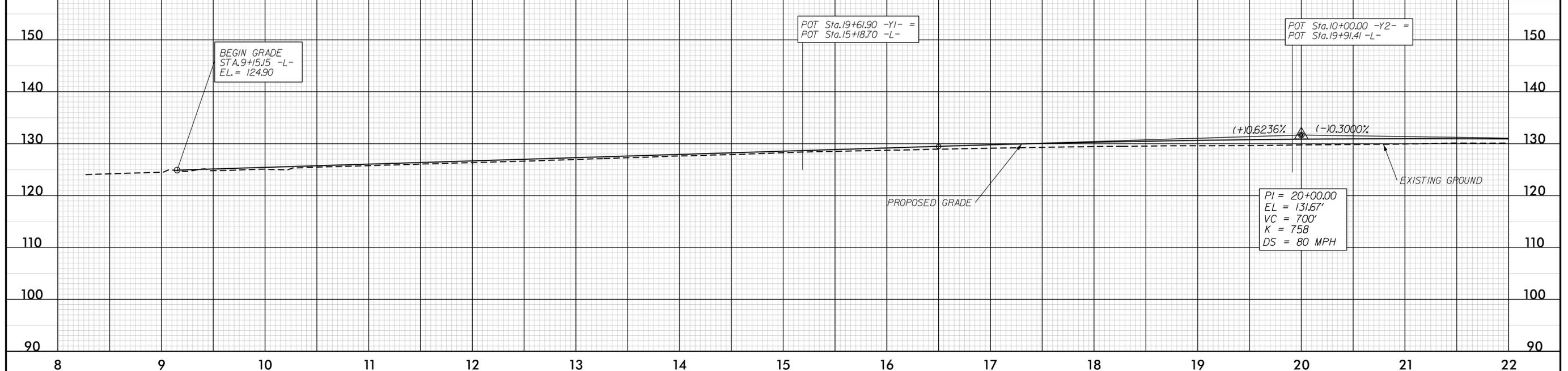
PLANS PREPARED BY :

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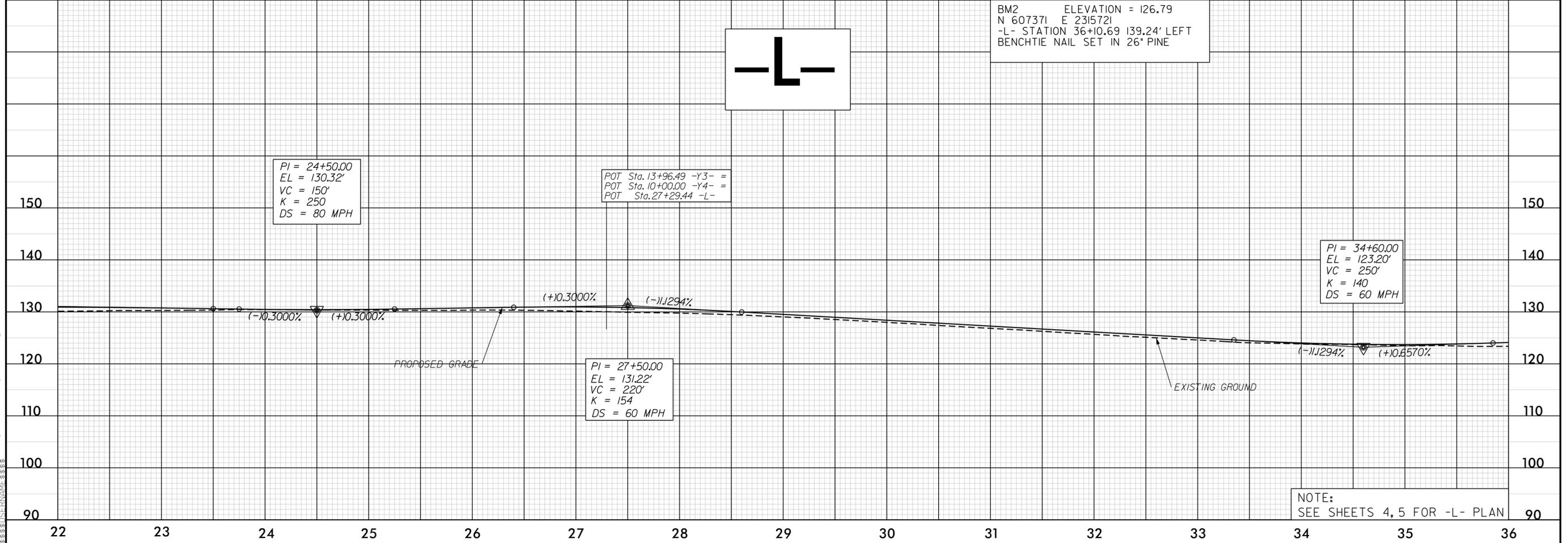
SUNGATE DESIGN GROUP, P.A.
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SUNGATE LICENSE NO. C480

PROJECT REFERENCE NO. U-4753	SHEET NO. 10
ROADWAY DESIGN ENGINEER [Signature]	HYDRAULICS ENGINEER [Signature]
Professional Engineer Seal Shahid C. Dalton 026971 2026	Professional Engineer Seal Shahid C. Dalton 026971 2026

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



BM2 ELEVATION = 126.79
N 607371 E 2315721
-L- STATION 36+10.69 139.24' LEFT
BENCHTIE NAIL SET IN 26" PINE



NOTE:
SEE SHEETS 4, 5 FOR -L- PLAN

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5/28/99 10:58:31 AM
SUNGATE DESIGN GROUP, P.A.

