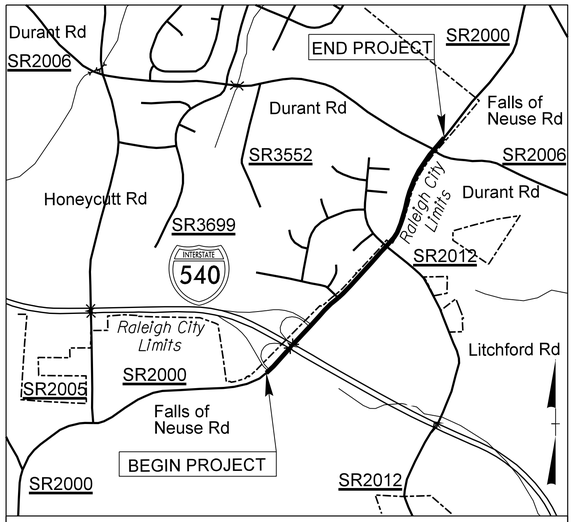
09/08/99

TIP PROJECT: U-5826

CONTRACT: C204380

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



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

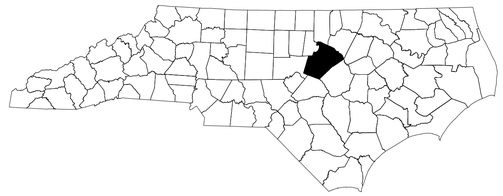
WAKE COUNTY

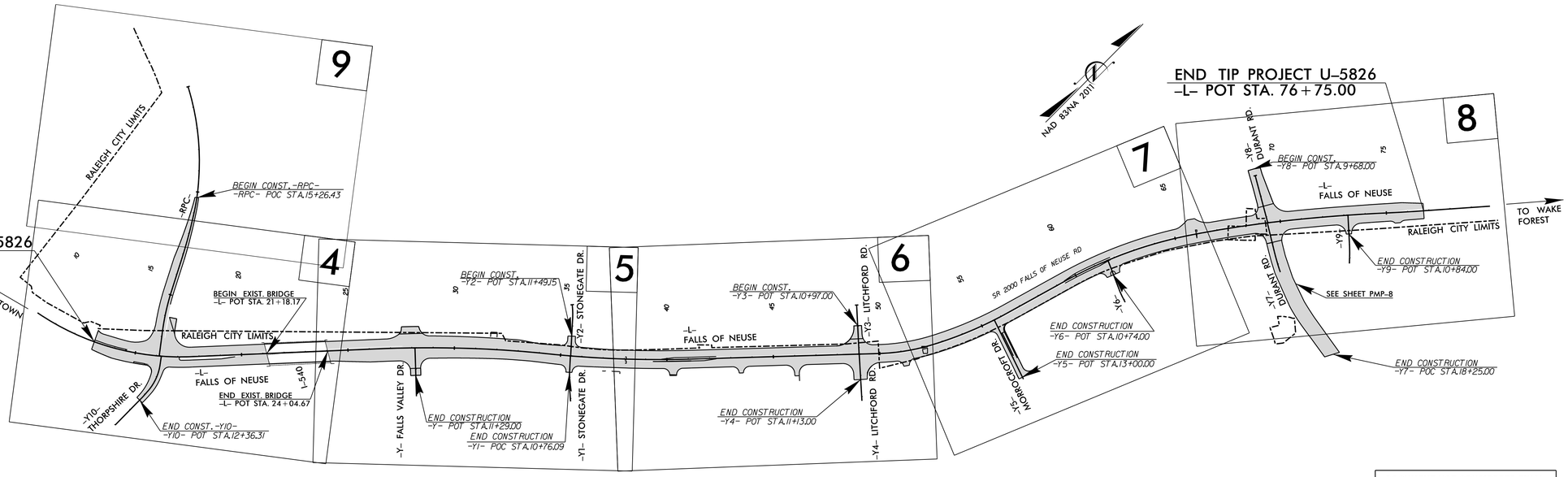
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5826	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
44398.1.1	NA	P.E.
44398.2.1	NA	R/W & UTIL.
44398.3.1	NA	CONST.

LOCATION: FALLS OF NEUSE ROAD (SR 2000)
FROM I-540 TO DURANT ROAD (SR 2006)

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND SIGNALS





ACCESS WILL BE FULLY CONTROLLED IN THE AREA OF THE INTERCHANGE.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2023 = 55,752
ADT 2043 = 66,632
K = 8 %
D = 60 %
T = 3 % *
V = 50 MPH
* TTST =1% DUAL 2%
FUNC CLASS = MINOR ARTERIAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-5826 = 1.153 MILES
LENGTH EXIST. STRUCTURE TIP PROJECT U-5826 = 0.054 MILES
TOTAL LENGTH TIP PROJECT U-5826 = 1.207 MILES

Prepared In the Office of:
KCI Associates of N.C., P.A.
4505 Falls of Neuse Road
Suite 400
Raleigh, NC 27609
Phone (919) 783-9214
Fax (919) 783-9266
http://www.kci.com

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JANUARY 18, 2019

LETTING DATE:
APRIL 18, 2023

Plans Prepared For:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr.
Raleigh NC, 27610

CHARLES L. FLOWE, PE
PROJECT ENGINEER

BRYAN E. HOUGH, PE
PROJECT DESIGN ENGINEER

NCDOT CONTACT: JOHN W. BRAXTON JR.
SENIOR PROJECT ENGINEER

HYDRAULICS ENGINEER

DocuSigned by: Joshua G Dalton 1089AD8C14994C3...
P.E. 2/6/2023
SIGNATURE:

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 26971 JOSHUA G. DALTON

ROADWAY DESIGN ENGINEER

DocuSigned by: Bryan Hough 398761EFEF93446...
P.E. 2/6/2023
SIGNATURE:

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036853 BRYAN E. HOUGH

STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION *

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-5826	1A

ROADWAY DESIGN ENGINEER

2/6/2023

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1 THRU 2A-4	TYPICAL SECTIONS, PAVEMENT SCHEDULE, WEDGING DETAILS, AND MILLING DETAIL
2B-1 THRU 2B-3	INTERSECTION DETAIL SHEETS
2C-1	GUARDRAIL INSTALLATION
2C-2	2'-9" CONCRETE CURB AND GUTTER
2C-3	MODIFIED CONCRETE FLUME
2C-4	DETAIL TO INSTALL DROP INLET IN 2'-9" CURB AND GUTTER
2C-5	DETAIL TO CONVERT DROP INLET TO CATCH BASIN
2C-6	CONCRETE STEPS WITH HANDRAIL DETAIL
2C-7	CURB RAMP DETAIL - MEDIAN OR TURN LANE ISLANDS
2C-8	CURB RAMP DETAIL - PARALLEL RAMPS
2C-9	CURB RAMP DETAIL - SHARED LANDING
2C-10	CURB RAMP DETAIL - DIRECTIONAL RAMPS
2C-11	DETAIL TO CONVERT DROP INLET TO JUNCTION BOX
2D-1	DITCH DETAILS
3B-1	SUMMARY OF GUARDAIL, SUMMARY OF PAVEMENT REMOVAL, AND SUMMARY OF EARTHWORK
3D-1 THRU 3D-6	DRAINAGE SUMMARIES
3G-1	GEOTECHNICAL SUMMARIES
3P-1	PARCEL INDEX SHEET
4 THRU 9	PLAN SHEETS
10 THRU 14	PROFILE SHEETS
RW-01 THRU RW-09	RIGHT OF WAY SHEETS
TMP-1 THRU TMP-5D	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THRU PMP-9	PAVEMENT MARKING PLANS
E-1 THRU E-4	ELECTRICAL PLAN
ECS-1 THRU ECS-4	ELECTRICAL CONDUIT PLANS
EC-1 THRU EC-15	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-9	SIGNING PLANS
SIG-1 THRU SIG-16.4	SIGNAL PLANS
SIG M-1 THRU SIG M-8	STANDARD METAL POLE PLANS
SCP-1 THRU SCP-13	SIGNAL COMMUNICATION PLANS
UC-1 THRU UC-8	UTILITY CONSTRUCTION
UO-1 THRU UO-6	UTILITIES BY OTHERS PLANS
X-1A	INDEX OF CROSS-SECTIONS
X-1B	CROSS-SECTION SUMMARY SHEET
X-1 THRU X-24	CROSS-SECTIONS
S-1 THRU SN	STRUCTURE REHABILITATION PLANS

GENERAL NOTES:

2018 SPECIFICATIONS
EFFECTIVE: 01-16-2018
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 II.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 AND STD. NO. 225.05 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 AND STD. NO. 560.02

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.

BERM DITCHES:

BERM DITCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 240.01 AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

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. NO. 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 VERIZON BUSINESS/MCI (COM.), ATT (COM.), CHARTER SPECTRUM (COM.), PSNC ENERGY (GAS), DUKE ENERGY (POWER), CITY OF RALEIGH (WATER & SEWER)

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 IN ACCORDANCE WITH STD 848.05 AND/OR 848.06

EFF. 01-16-2018
REV.

2018 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2018 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.01	Guide for Grading Subgrade - Interstate and Freeway
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
225.05	Method of Obtaining Superelevation - Divided Highways
225.06	Method of Grading Sight Distance at Intersections
240.01	Guide for Berm Ditch Construction
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
560.02	Method of Shoulder Construction - High Side of Superelevated Curve - Method II
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
815.02	Subsurface Drain
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
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.22	Frames and Wide Slot Sag Grates
840.24	Frames and Narrow Slot Sag Grates
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.45	Precast Drainage Structure
840.51	Brick Manhole - 12" thru 36" Pipe
840.52	Precast Manhole - 4', 5' and 6' Diameter
840.53	Precast Manhole with Masonry Base - 12" thru 42" Pipe
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
848.01	Concrete Sidewalk
848.02	Driveway Turnout - Radius Type
848.04	Street Turnout
848.05	Curb Ramp - Proposed Curb & Gutter
848.06	Curb Ramp - Existing Curb & Gutter
852.01	Concrete Islands
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
852.10	Median Construction - with Curb and Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
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

12/2/2016

PROJECT REFERENCE NO.	SHEET NO.
U-5826	1-B

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

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

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin (EIP)
- Computed Property Corner
- Property Monument (ECM)
- Parcel/Sequence Number (123)
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary (WLB)
- Proposed Wetland Boundary (WLB)
- Existing Endangered Animal Boundary (EAB)
- Existing Endangered Plant Boundary (EPB)
- Existing Historic Property Boundary (HPB)
- Known Contamination Area: Soil (S)
- Potential Contamination Area: Soil (S)
- Known Contamination Area: Water (W)
- Potential Contamination Area: Water (W)
- Contaminated Site: Known or Potential

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

- Standard Gauge (CSX TRANSPORTATION)
- RR Signal Milepost (MILEPOST 35)
- Switch (SWITCH)
- RR Abandoned
- RR Dismantled

RIGHT OF WAY & PROJECT CONTROL:

- Secondary Horiz and Vert Control Point
- Primary Horiz Control Point
- Primary Horiz and Vert Control Point
- Exist Permanent Easement Pin and Cap
- New Permanent Easement Pin and Cap
- Vertical Benchmark
- Existing Right of Way Marker
- Existing Right of Way Line
- New Right of Way Line (RW)
- New Right of Way Line with Pin and Cap (RW)
- New Right of Way Line with Concrete or Granite R/W Marker (RW)
- New Control of Access Line with Concrete C/A Marker (CA)
- Existing Control of Access (CA)
- New Control of Access (CA)
- Existing Easement Line (E)
- New Temporary Construction Easement (E)
- New Temporary Drainage Easement (TDE)
- New Permanent Drainage Easement (PDE)
- New Permanent Drainage / Utility Easement (DUE)
- New Permanent Utility Easement (PUE)
- New Temporary Utility Easement (TUE)
- New Aerial Utility Easement (AUE)

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut (C)
- Proposed Slope Stakes Fill (F)
- Proposed Curb Ramp (CR)
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard (Vineyard)

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert (CONC)
- Bridge Wing Wall, Head Wall and End Wall (CONC WW)

MINOR:

- Head and End Wall (CONC HW)
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB (CB)
- Paved Ditch Gutter
- Storm Sewer Manhole (S)
- Storm Sewer (S)

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole (P)
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- U/G Power Line LOS B (S.U.E.*) (P)
- U/G Power Line LOS C (S.U.E.*) (P)
- U/G Power Line LOS D (S.U.E.*) (P)

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole (T)
- Telephone Pedestal (T)
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole (HH)
- U/G Telephone Cable LOS B (S.U.E.*) (T)
- U/G Telephone Cable LOS C (S.U.E.*) (T)
- U/G Telephone Cable LOS D (S.U.E.*) (T)
- U/G Telephone Conduit LOS B (S.U.E.*) (TC)
- U/G Telephone Conduit LOS C (S.U.E.*) (TC)
- U/G Telephone Conduit LOS D (S.U.E.*) (TC)
- U/G Fiber Optics Cable LOS B (S.U.E.*) (T FO)
- U/G Fiber Optics Cable LOS C (S.U.E.*) (T FO)
- U/G Fiber Optics Cable LOS D (S.U.E.*) (T FO)

WATER:

- Water Manhole (W)
- Water Meter
- Water Valve
- Water Hydrant
- U/G Water Line LOS B (S.U.E*) (W)
- U/G Water Line LOS C (S.U.E*) (W)
- U/G Water Line LOS D (S.U.E*) (W)
- Above Ground Water Line (A/G Water)

TV:

- TV Pedestal (C)
- TV Tower
- U/G TV Cable Hand Hole (HH)
- U/G TV Cable LOS B (S.U.E.*) (TV)
- U/G TV Cable LOS C (S.U.E.*) (TV)
- U/G TV Cable LOS D (S.U.E.*) (TV)
- U/G Fiber Optic Cable LOS B (S.U.E.*) (TV FO)
- U/G Fiber Optic Cable LOS C (S.U.E.*) (TV FO)
- U/G Fiber Optic Cable LOS D (S.U.E.*) (TV FO)

GAS:

- Gas Valve
- Gas Meter
- U/G Gas Line LOS B (S.U.E.*) (G)
- U/G Gas Line LOS C (S.U.E.*) (G)
- U/G Gas Line LOS D (S.U.E.*) (G)
- Above Ground Gas Line (A/G Gas)

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line (SS)
- Above Ground Sanitary Sewer (A/G Sanitary Sewer)
- SS Forced Main Line LOS B (S.U.E.*) (FSS)
- SS Forced Main Line LOS C (S.U.E.*) (FSS)
- SS Forced Main Line LOS D (S.U.E.*) (FSS)

MISCELLANEOUS:

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

6/2/99

PAVEMENT SCHEDULE

FINAL PAVEMENT DESIGN

C1	PROP. APPROX. 1.5″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	R2	2′-6″ CONCRETE CURB AND GUTTER.
C2	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.	R3	2′-9″ CONCRETE CURB AND GUTTER.
C3	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 TO EXCEED 2″ IN DEPTH.	R4	5″ MONOLITHIC CONCRETE ISLAND (SURFACE MOUNT)
D1	PROP. APPROX. 4″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	S	4″ CONCRETE SIDEWALK
D2	PROP. VAR. DEPTH 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″ IN DEPTH OR GREATER THAN 4″ IN DEPTH.	T	EARTH MATERIAL.
E1	PROP. APPROX. 4.5″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.	U	EXISTING PAVEMENT.
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 GREATER THAN 5½″ IN DEPTH OR LESS THAN 3″ IN DEPTH.	V1	INCIDENTAL MILLING
K	CLASS IV SUBGRADE STABILIZATION	V2	MILLING ASPHALT PAVEMENT (1.5″)
N	GEOTEXTILE FOR SOIL STABILIZATION	W	WEDGING DETAIL
R1	1′-6″ CONCRETE CURB AND GUTTER.	Y	4″ JOINTED CONCRETE WITH WIRE MESH (MULTI-USE PATH)

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

PROJECT REFERENCE NO.	SHEET NO.
U-5826	2A-1

ROADWAY DESIGN ENGINEER

Docusigned by: Brian Hogh
SEAL 036853 ENGINEER BRIAN E. HOGH
2/17/2023

PAVEMENT DESIGN ENGINEER

Docusigned by: Jinhai Zhang
SEAL 038176 ENGINEER JINHAI ZHANG
2/21/2023

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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Engineers • Planners • Scientists • Construction Managers
4505 Falls of Neuse Road, Suite 400
Raleigh, NC 27609
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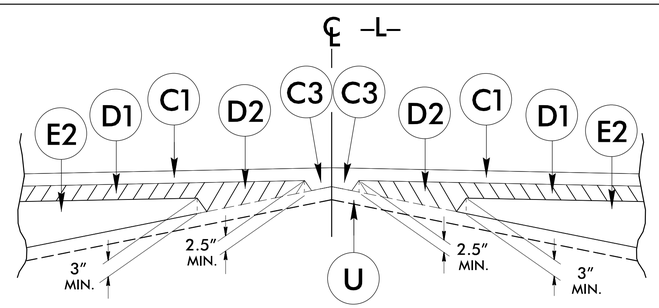
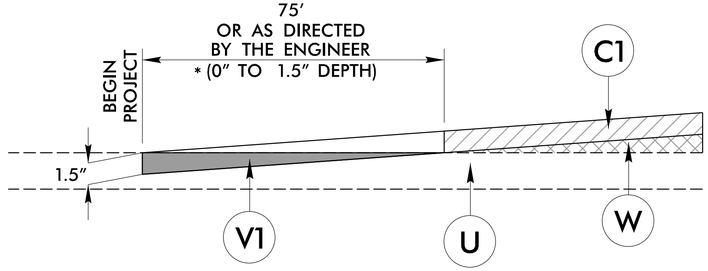


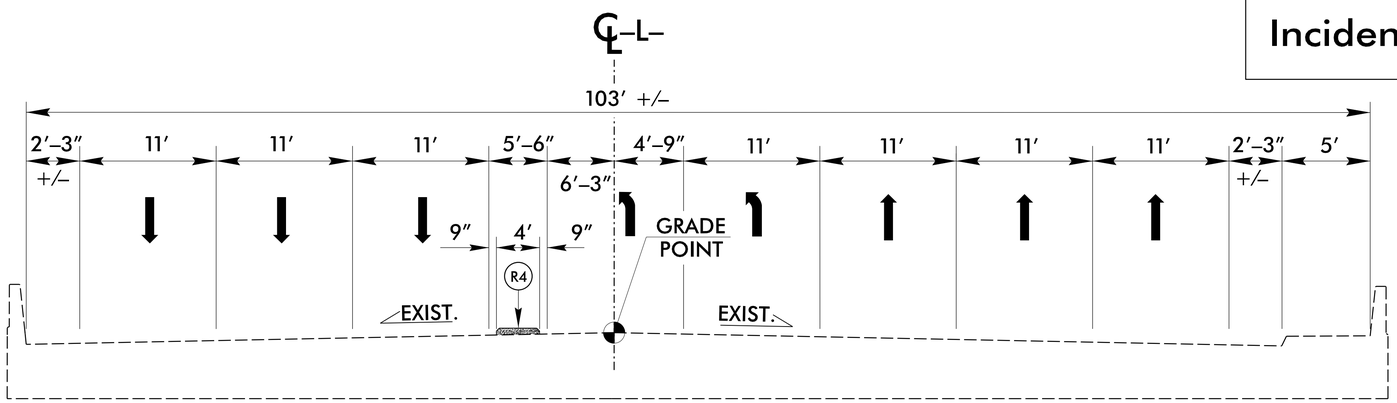
DETAIL SHOWING METHOD OF WEDGING



NOTE: MIRROR FOR END PROJECT

* MILL DEPTH AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER

Incidental Milling Pavement Key–In Detail (Tie–In)



TYPICAL SECTION NO. 1 EXISTING BRIDGE

USE TYPICAL SECTION NO. 1

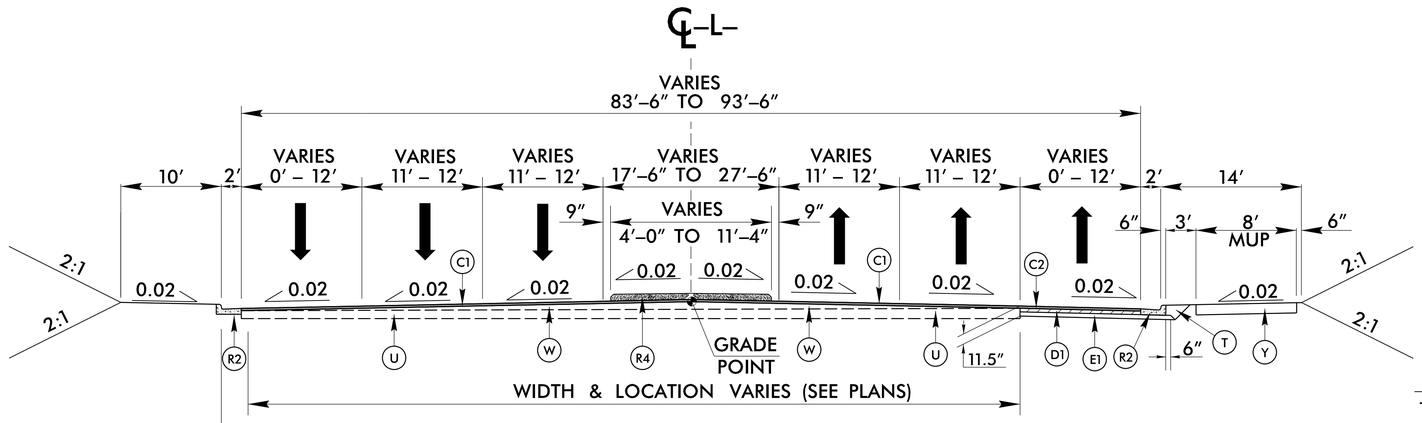
–L– STA. 21+18.17 (BEG. EX. BR.) TO STA. 24+04.67 (END EX. BR.)

17-FEB-2023 07:38
M:\2013\2013388.03 NCDOT U-5826 Falls of the Neuse Rd\Roadway\Proj\U-5826_Rdy_typ.dgn
$$$$USERNAME$$$$

6/2/99

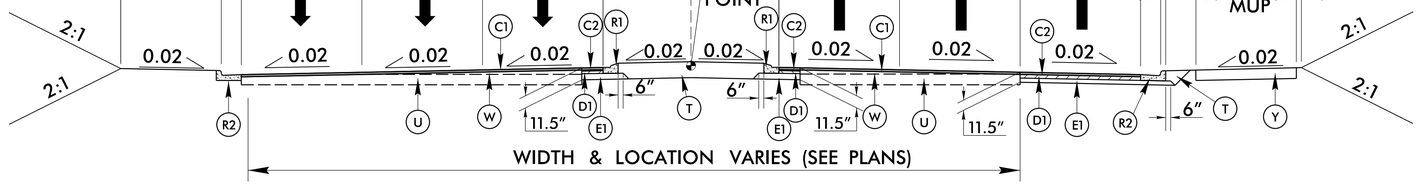
PAVEMENT SCHEDULE	
C1	1.5" TYPE S9.5C
C2	3" TYPE S9.5C
C3	VAR. TYPE S9.5C
D1	4" TYPE I19.0C
D2	VAR. TYPE I19.0C
E1	4.5" TYPE B25.0C
E2	VAR.TYPE B25.0C
K	CLASS IV SUBGRADE STAB.
N	GEOTEXTILE FOR SOIL STAB.
R1	1'-6" C&G
R2	2'-6" C&G
R3	2'-9" C&G
R4	5" MONO. ISLAND (SURFACE MOUNT)
S	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	INCIDENTAL MILLING
V2	1.5" MILLING
W	WEDGING DETAIL
Y	4" JOINTED CONCRETE WITH WIRE MESH

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



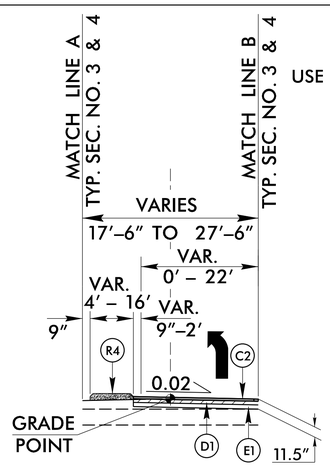
TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2
–L– STA. 13+00.00 TO STA. 15+50.00
–L– STA. 73+65.00 TO STA. 76+75.00



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3
–L– STA. 15+50.00 TO STA. 21+18.17 (BEG. EX. BR.)
–L– STA. 24+04.67 (END EX. BR.) TO STA. 29+80.00

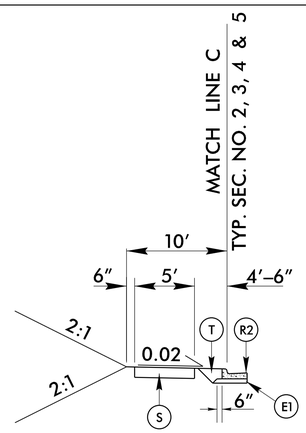


INSET 1

USE INSET FOR AREAS WITH CONCRETE ISLAND

USE IN CONJUNCTION WITH TYPICAL SECTION NO. 3 & 4
–L– STA. 19+68.00 TO STA. 39+69.00
–L– STA. 42+42.00 TO STA. 59+34.00
–L– STA. 61+87.00 TO STA. 73+65.00

MIRROR TYPICAL FOR SOUTH BOUND TURN LANES



INSET 2

USE INSET FOR AREAS WITH SIDEWALK

USE IN CONJUNCTION WITH TYPICAL SECTION NO. 2, 3, 4 & 5
–L– STA. 13+00.00 TO STA. 15+60.81
–L– STA. 28+55.35 TO STA. 76+75.00
–RPC– STA. 21+34.22 TO STA. 22+30.34

PROJECT REFERENCE NO.	SHEET NO.
U-5826	2A-2

ROADWAY DESIGN ENGINEER

DocuSigned by: Brian Hough
SEAL 036853 ENGINEER BRIAN E. HOUGH
2/17/2023

PAVEMENT DESIGN ENGINEER

DocuSigned by: Shihai Zhang
SEAL 038176 ENGINEER SHIHAI ZHANG
2/21/2023

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

KCI http://www.kci.com
Engineers • Planners • Scientists • Construction Managers
4505 Falls of Neuse Road, Suite 400
Raleigh, NC 27609
Phone (919) 783-9214 • Fax (919) 783-9266

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M:\Roadway\Proj\U-5826 Falls of the Neuse Rd\Roadway\Proj\U-5826_Rdy_typ.dgn
$$$$USERNAME$$$$

6/2/99

PAVEMENT SCHEDULE	
C1	1.5" TYPE S9.5C
C2	3" TYPE S9.5C
C3	VAR. TYPE S9.5C
D1	4" TYPE I19.0C
D2	VAR. TYPE I19.0C
E1	4.5" TYPE B25.0C
E2	VAR.TYPE B25.0C
K	CLASS IV SUBGRADE STAB.
N	GEOTEXTILE FOR SOIL STAB.
R1	1'-6" C&G
R2	2'-6" C&G
R3	2'-9" C&G
R4	5" MONO. ISLAND (SURFACE MOUNT)
S	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	INCIDENTAL MILLING
V2	1.5" MILLING
W	WEDGING DETAIL
Y	4" JOINTED CONCRETE WITH WIRE MESH

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

PROJECT REFERENCE NO.	SHEET NO.
U-5826	2A-3

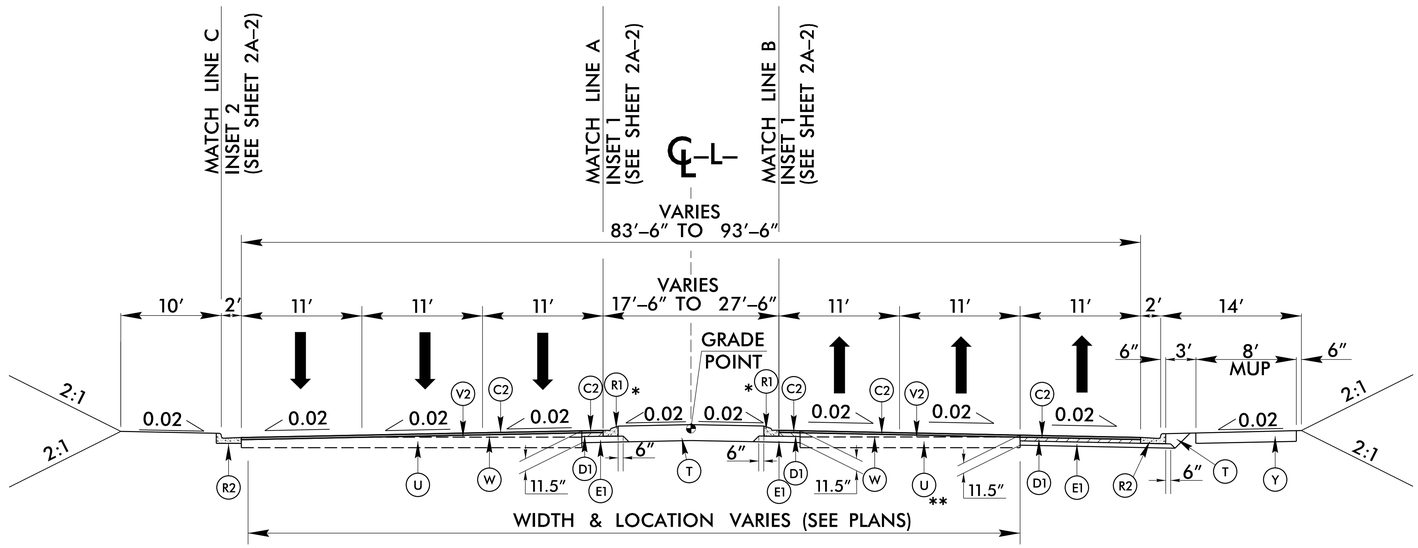
ROADWAY DESIGN ENGINEER

DocuSigned by: Brian Hough
SEAL 036853 ENGINEER BRIAN E. HOUGH
2/17/2023

PAVEMENT DESIGN ENGINEER

DocuSigned by: Jinhai Zhang
SEAL 038176 ENGINEER JINHAI ZHANG
2/21/2023

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



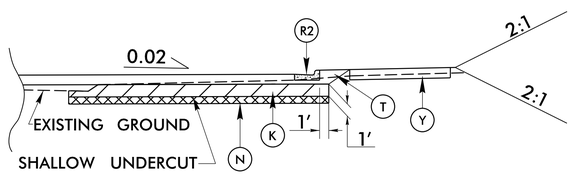
TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4
–L– STA. 29+80.00 TO STA. 73+65.00

*(R3) 2'–9" C&G
*USE R3 –L– MEDIAN RT
STA. 39+73.88 TO STA. 42+31.52

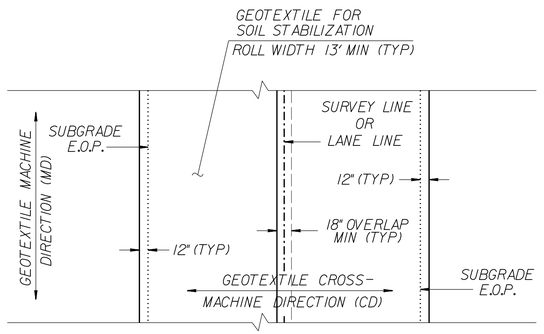
*USE R3 –L– MEDIAN LT
STA. 59+39.05 TO STA. 61+81.79

**NOTE: REMOVE EXISTING RIGHT TURN LANE PAVEMENT FROM –L– STA. 38+00 TO STA. 39+00



DETAIL SHOWING SHALLOW UNDERCUT

–L– STA. 34+75.00 TO STA. 42+25.00 (RT)



GEOTEXTILE FOR SOIL STABILIZATION PLACEMENT (PLAN VIEW)

(100% COVERAGE REQUIRED)

6/2/99

PAVEMENT SCHEDULE	
C1	1.5″ TYPE S9.5C
C2	3″ TYPE S9.5C
C3	VAR. TYPE S9.5C
D1	4″ TYPE I19.0C
D2	VAR. TYPE I19.0C
E1	4.5″ TYPE B25.0C
E2	VAR.TYPE B25.0C
K	CLASS IV SUBGRADE STAB.
N	GEOTEXTILE FOR SOIL STAB.
R1	1′-6″ C&G
R2	2′-6″ C&G
R3	2′-9″ C&G
R4	5″ MONO. ISLAND (SURFACE MOUNT)
S	4″ CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	INCIDENTAL MILLING
V2	1.5″ MILLING
W	WEDGING DETAIL
Y	4″ JOINTED CONCRETE WITH WIRE MESH

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

PROJECT REFERENCE NO.	SHEET NO.
U-5826	2A-4

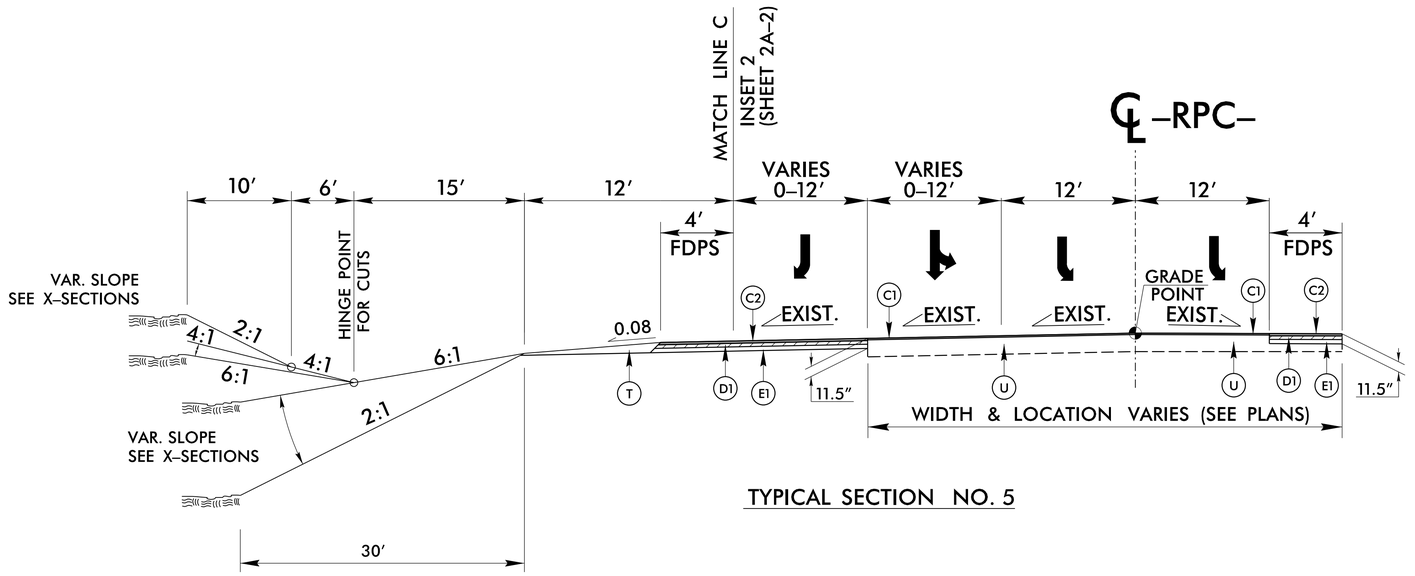
ROADWAY DESIGN ENGINEER

NORTH CAROLINA — Digitally signed by Brian E. Hoagh — SEAL 036853 — ENGINEER — BRIAN E. HOAGH — 2/17/2023

PAVEMENT DESIGN ENGINEER

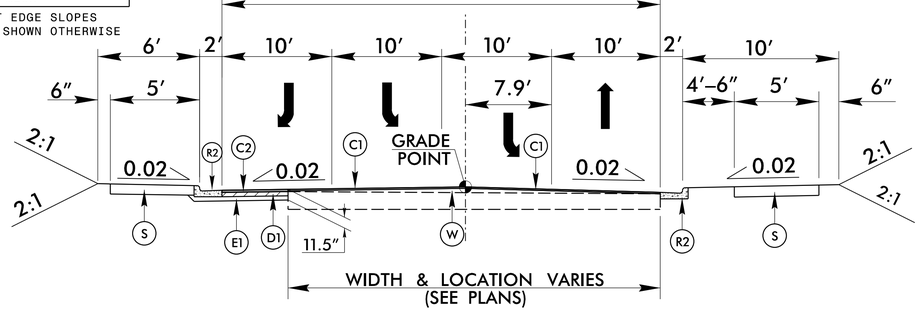
NORTH CAROLINA — Digitally signed by Shifiai Zhang — SEAL 038176 — ENGINEER — SHIFIAI ZHANG — 2/21/2023

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



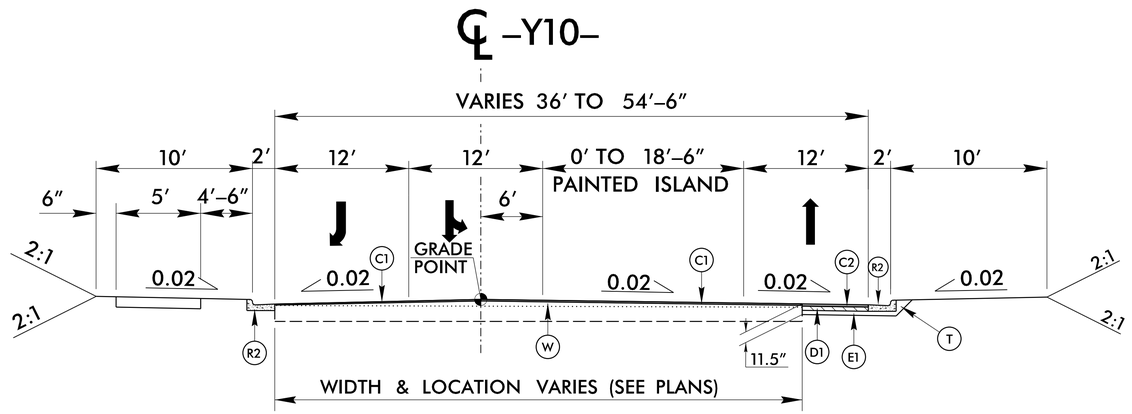
TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5
–RPC– STA. 15+26.43 TO STA. 22+47.70



TYPICAL SECTION NO. 6

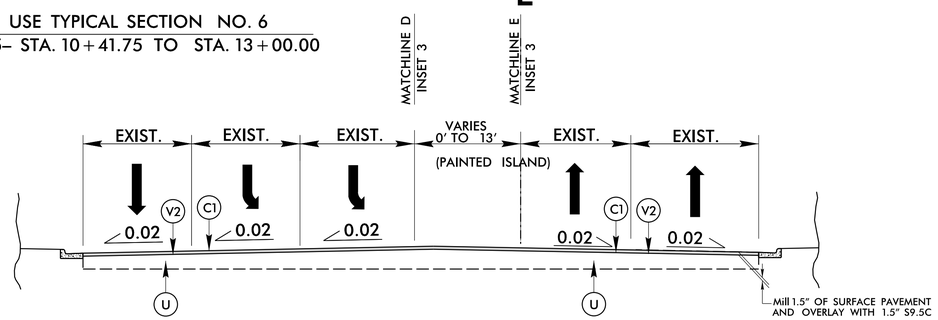
USE TYPICAL SECTION NO. 6
–Y5– STA. 10+41.75 TO STA. 13+00.00



TYPICAL SECTION NO. 7

USE TYPICAL SECTION NO. 7
–Y10– STA. 10+48.85 TO STA. 12+36.31

℄(–Y7–) DURANT ROAD

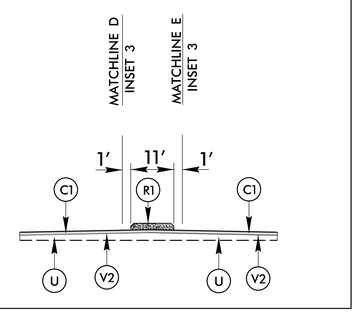


TYPICAL SECTION NO. 8

MILLING ON DURANT ROAD FROM –Y7– STA. 10+50 TO –Y7– STA. 18+25 (SEE PMP–8)

INSET 3

USE IN CONJUNCTION WITH TYPICAL SECTION 8



PROJECT REFERENCE NO.	SHEET NO.
U-5826	2B-1
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036853 ENGINEER BRIAN E. HAY 2/6/2023

DocuSigned by: 2B9B761EFEF8466...

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

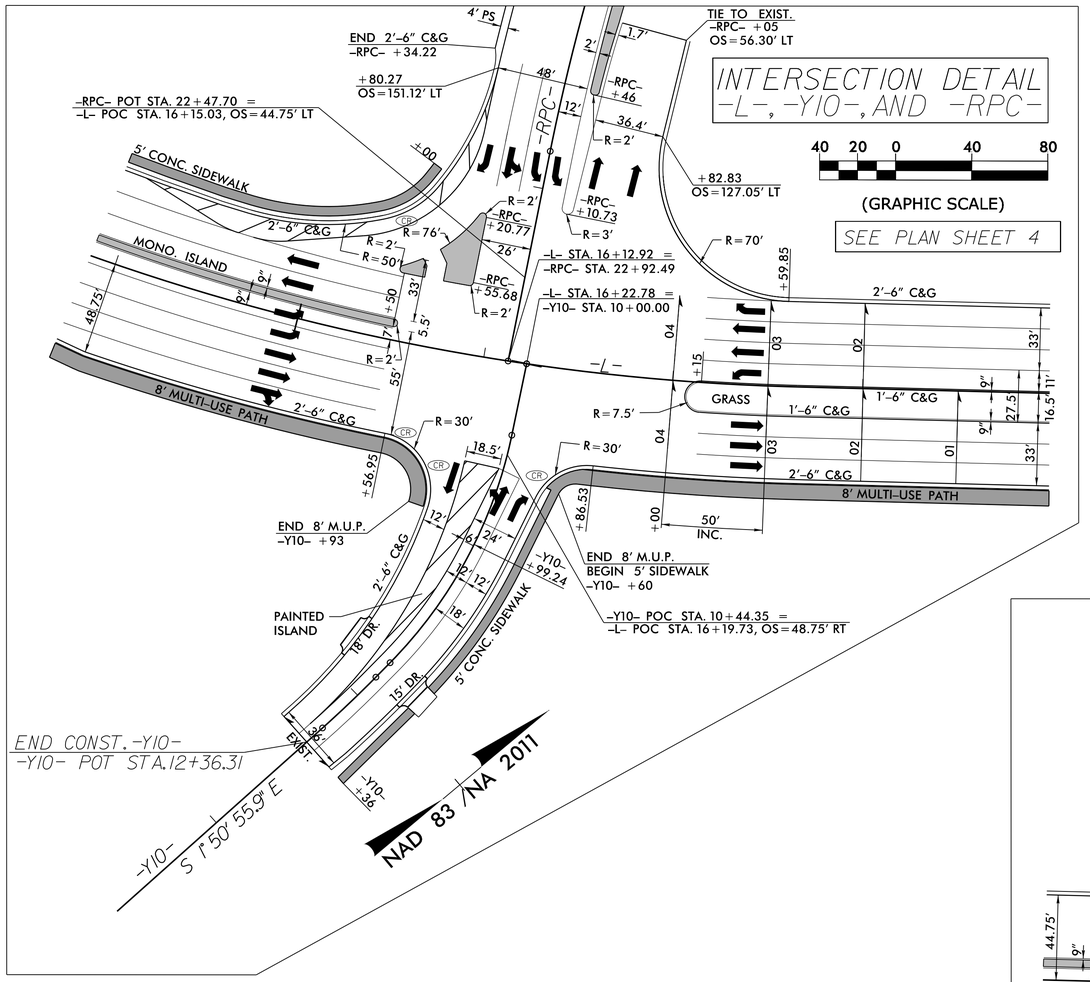
REVISIONS 8/17/99

INTERSECTION DETAIL -L-, -Y10-, AND -RPC-

40 20 0 40 80

(GRAPHIC SCALE)

SEE PLAN SHEET 4

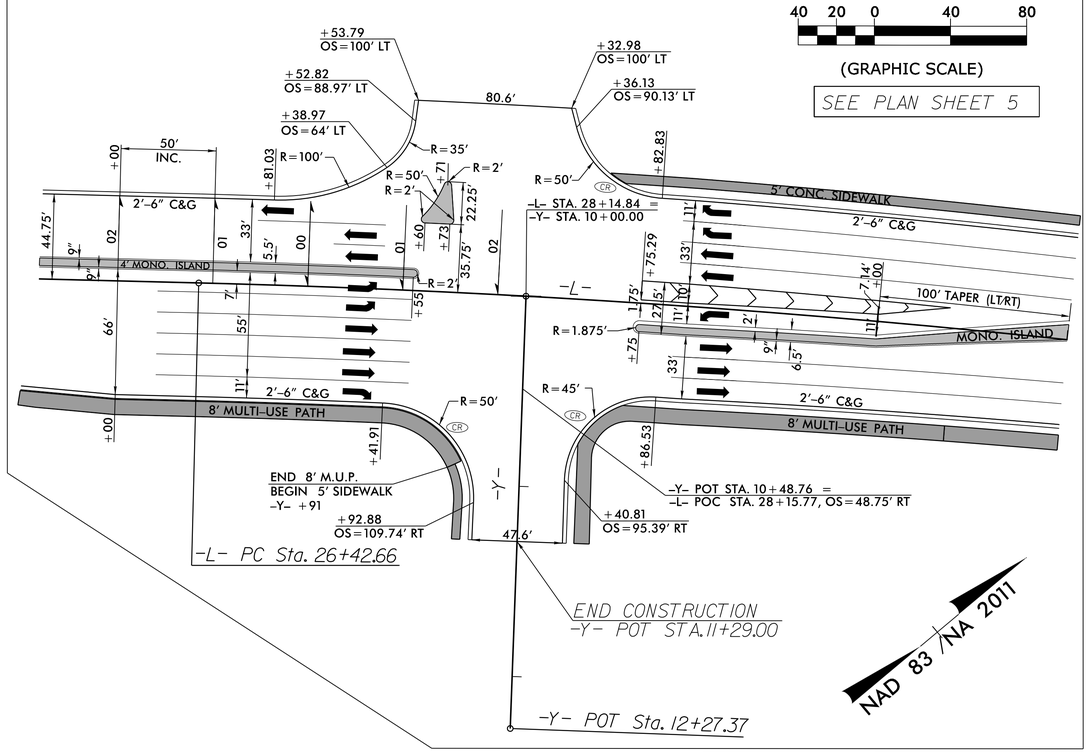


INTERSECTION DETAIL -Y- AND -L-

40 20 0 40 80

(GRAPHIC SCALE)

SEE PLAN SHEET 5



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PROJECT REFERENCE NO.	SHEET NO.
U-5826	2B-2
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

8/17/99

INTERSECTION DETAIL -L-, -Y3-, AND -Y4-

NAD 83 /NA 2011

BEGIN CONST. -Y3- POT STA.10+97.00

-Y3- POT Sta. 10+00.00

-L- PC Sta. 49+93.35

+82.10 OS=128.71' LT

-Y3- POT STA. 11+89.02 = -L- POT STA. 49+01.82, OS=41.75' LT

+19.74 OS=89.90' LT

50' INC.

5' CONC. SIDEWALK

2'-6" C&G

4' MONO. ISLAND

3.75' MONO. ISLAND

8' MULTI-USE PATH

R=85' R=50' R=45' R=2' R=65' R=30'

-L- STA. 49+03.40 = -Y3- STA. 12+30.79

-L- STA. 49+02.67 = -Y4- STA. 10+00.00

-Y4- POT STA. 10+35.49 = -L- POT STA. 49+04.59, OS=41.75' RT

-L- +74.66 OS=90.38' RT

-L- +37.95 OS=106.84' RT

+98.18 OS=86.40' RT

+19.32 OS=87.23' RT

TIE TO EXIST. +08.75 (93.00' RT)

TIE TO EXIST. +16.00 (69.5' RT)

+56.39 OS=73.68' LT

-L- STA. 35+47.49 = -Y2- STA. 12+42.13

-L- +26.97 OS=75.59' LT

137.5' MEDIAN TRANSITION

-L- +31.41 OS=72.55' RT

-L- STA. 35+45.95 = -Y1- STA. 10+00.00

-L- +60.10 OS=76.41' RT

-Y1- POT STA. 10+43.53 = -L- POC STA. 35+47.64, OS=44.35' RT

40 20 0 40 80

(GRAPHIC SCALE)

SEE PLAN SHEET 6 AND 7

SEE PLAN SHEET 5

END CONSTRUCTION -Y4- POT STA.11+13.00

-Y4- POT Sta. 12+19.74

-Y2- PC Sta. 10+00.00

BEGIN CONST. -Y2- POT STA.11+15.55

-Y2- PT Sta. 10+65.48

-Y2- POT STA. 11+97.45 = -L- POC STA. 35+46.17, OS=44.66' LT

-L- PRC Sta. 34+35.22

100' TAPER LT

-Y1- PC Sta.10+68.48

-Y1- PT Sta. 11+75.93

-Y1- POT Sta. 12+13.80

END CONSTRUCTION -Y1- POC STA.11+08.00

INTERSECTION DETAIL -L-, -Y1-, AND -Y2-

PROJECT REFERENCE NO.	SHEET NO.
U-5826	2B-3
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

8/17/99

INTERSECTION DETAIL -L- AND -Y5-

NAD 83 /NA 2011

-L- PT STA. 55+29.90

-L- STA. 55+64.47 =
-Y5- STA. 10+00.00

5' CONC. SIDEWALK
2'-6" C&G
8' MULTI-USE PATH
3.75' MONO. ISLAND
50' INC.
100' TAPER
1'-6" C&G
R=1.875'
R=30'
-L- +84.93
OS=70.82' RT
-Y5- POT STA. 10+41.75 =
-L- POC STA. 55+63.98, OS=41.75' RT
-L- +46.44
OS=71.56' RT
-Y5- +89
-Y5- +17.69
-Y5-
5' CONC. SIDEWALK
-Y5- POT Sta. 13+10.04

40 20 0 40 80
(GRAPHIC SCALE)

SEE PLAN SHEET 7

END CONSTRUCTION
-Y5- POT STA.13+00.00

INTERSECTION DETAIL -L-, -Y7-, AND -Y8-

BEGIN CONSTRUCTION
-Y8- POT STA.11+48.53

NAD 83 /NA 2011

-L- +04.10
OS=75.98' LT
-L- +78.28
OS=86.49' LT
-Y8- POT STA. 11+86.68 =
-L- POC STA. 69+35.22, OS=41.75' LT
50' INC.
5' CONC. SIDEWALK
2'-6" C&G
8' MULTI-USE PATH
3.75' MONO. ISLAND
4' MONO. ISLAND
R=40'
R=75'
R=1.875'
R=2'
R=100'
R=50'
R=5.5'
-L- STA. 69+41.01 =
-Y8- STA. 12+28.83
-L- STA. 69+39.27 =
-Y7- STA. 10+00.00
-Y7- POT STA. 10+37.86 =
-L- POC STA. 69+44.16, OS=41.75' RT
-L- +22.70
OS=86.14' RT
-L- +97.24
OS=88.49' RT
110' TAPER
11' MONO. ISLAND
70'
PAINTED ISLAND

40 20 0 40 80
(GRAPHIC SCALE)

SEE PLAN SHEET 8

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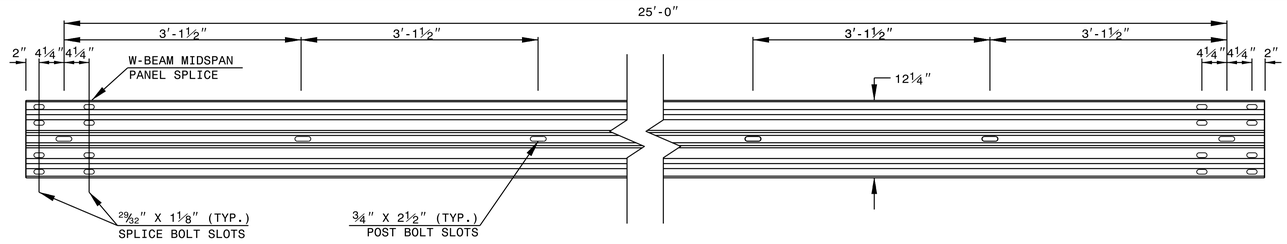
PROJECT REFERENCE NO.	SHEET NO.
U-5826	2C-1
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

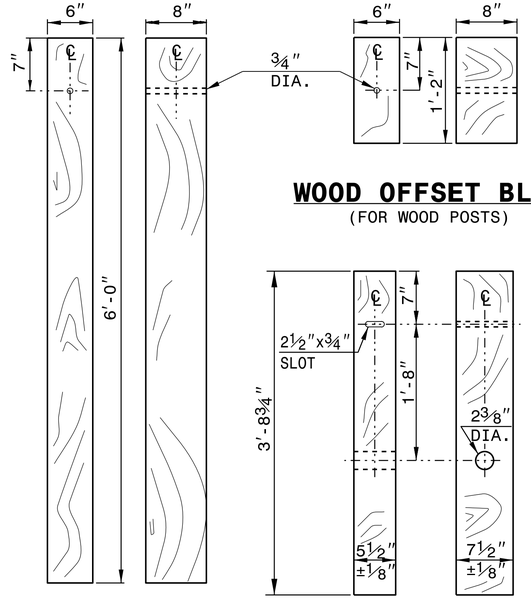
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 6 OF 8
862D02



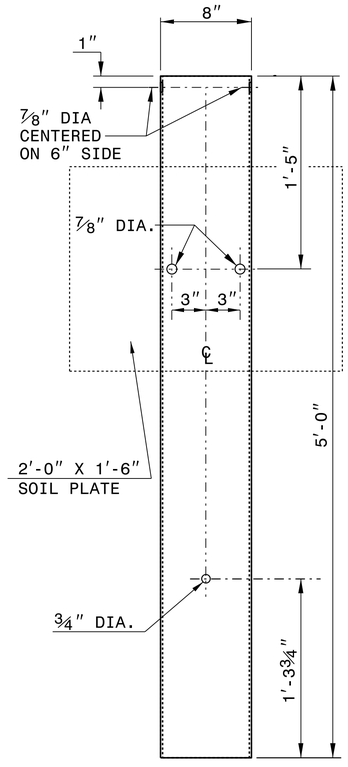
STANDARD W-BEAM GUARDRAIL



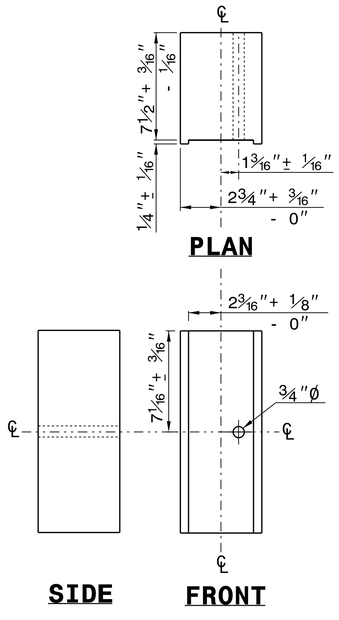
WOOD OFFSET BLOCK
(FOR WOOD POSTS)

STANDARD LINE POST

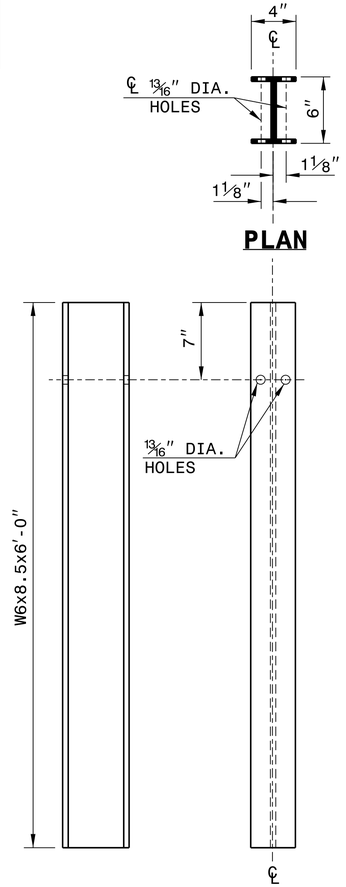
SHORT WOOD BREAKAWAY POST



STEEL TUBE
TS 6"x8"x0.1875"



ROUTED OFFSET BLOCK



"W6" STEEL POST

SYSTEM PARTS

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 6 OF 8
862D02

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 33144 NICOLE M. WACKER
2/6/2023

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

SEE TITLE BLOCK

ORIGINAL BY: J.HOWERTON DATE: 3-7-2018
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.:

PROJECT REFERENCE NO.	SHEET NO.
U-5826	2C-2

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

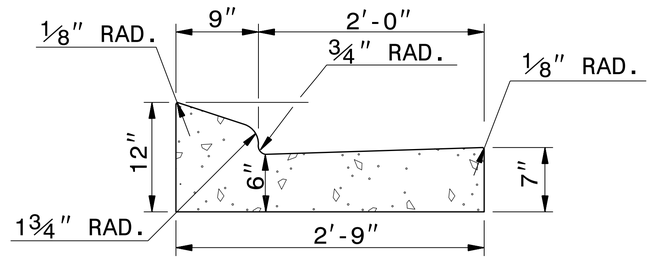
ENGLISH DETAIL DRAWING FOR

2′-9″ CONCRETE CURB & GUTTER

SHEET 1 OF 1

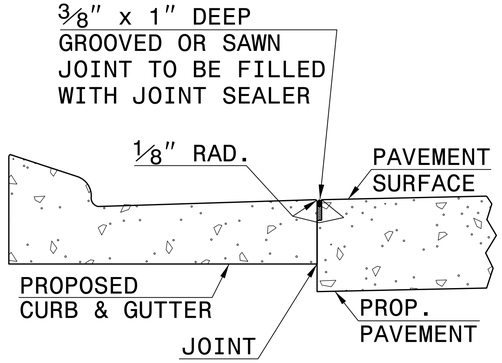
846D01

GENERAL NOTES:
- -PLACE CONTRACTION JOINTS AT 10′ INTERVALS, EXCEPT THAT A 15′ SPACING MAY BE USED WHEN A MACHINE IS USED OR WHEN SATISFACTORY SUPPORT FOR THE FACE FORM CAN BE OBTAINED WITHOUT THE USE OF TEMPLATES AT 10′ INTERVALS.
- -JOINT SPACING MAY BE ALTERED IF REQUIRED BY THE ENGINEER.
- -CONTRACTION JOINTS MAY BE INSTALLED WITH THE USE OF TEMPLATES OR FORMED BY OTHER APPROVED METHODS. MAKE NON-TEMPLATE FORMED JOINTS A MIN. OF 1½″ DEEP.
- -FILL ALL CONSTRUCTION JOINTS WITH JOINT FILLER AND SEALER.
- -SPACE EXPANSION JOINTS AT 90′ INTERVALS AND ADJACENT TO ALL RIGID OBJECTS.
- -SEE RDWY. STD. DWG. NO. 846.01, SHEET 2 OF 3 FOR PLACEMENT IN SUPERELEVATIONS. (USE 2′-6″ CURB AND GUTTER RATES)

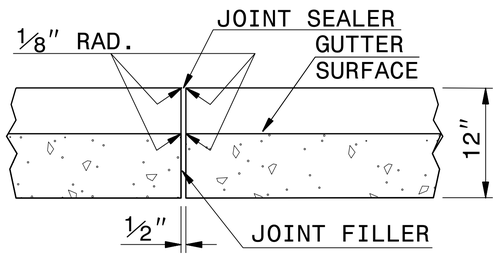


2′-9″ CURB AND GUTTER

SECTION VIEW OF CURB AND GUTTER



LONGITUDINAL JOINT



TRANSVERSE EXPANSION JOINT IN CURB AND GUTTER

SECTION VIEW OF JOINTS

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

ENGLISH DETAIL DRAWING FOR

2′-9″ CONCRETE CURB & GUTTER

SHEET 1 OF 1

846D01

NICOLE M. HAGLER
NORTH CAROLINA
PE 056432
SEAL
33144
ENGINEER

2/6/2023

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

SEE PLATE FOR TITLE

ORIGINAL BY: STD. 846.01 DATE:
MODIFIED BY: E.E. WARD DATE: 8-15-00
CHECKED BY: DATE:
FILE SPEC.: /usr/details/stand/c&g2'-9".dgn

10-AUG-2017 11:46
S:\Contracts\Contracts\Special Details\erieward\usr\details\stand\c&g2'-9.dgn
jhowerton AT CSD-292595

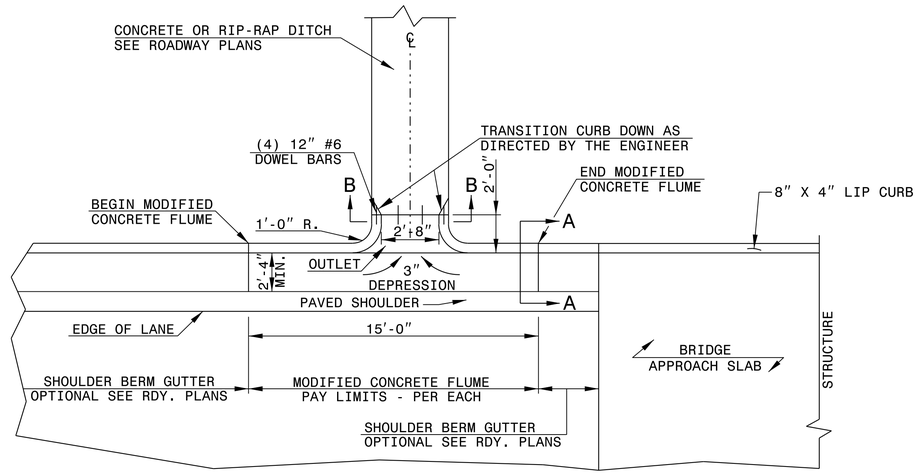
PROJECT REFERENCE NO.	SHEET NO.
U-5826	2C-3

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

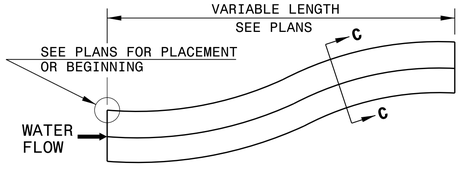
ENGLISH DETAIL DRAWING FOR

MODIFIED CONCRETE FLUME

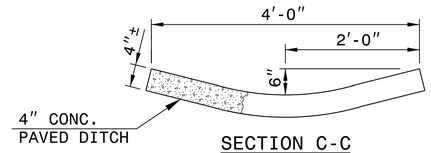
WITH CONCRETE OR RIP-RAP DITCH



PLAN VIEW

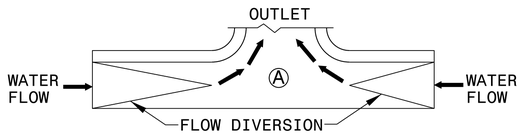


DOWNGRADE OR SAG

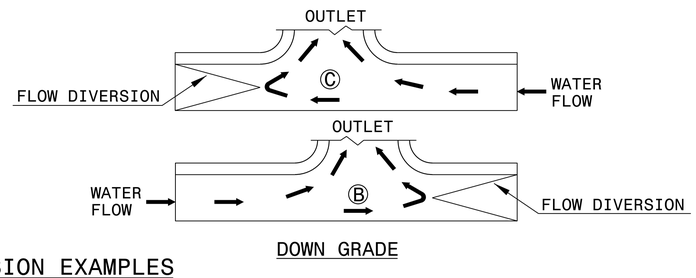


SECTION C-C

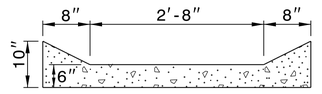
SECTION A-A



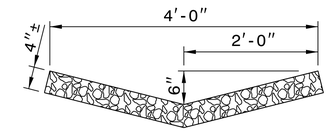
SAG



DOWN GRADE



SECTION B-B



RIP-RAP LINED DITCH

FLOW DIVERSION EXAMPLES

NOTES:

- CONSTRUCT MODIFIED CONCRETE FLUME AND SHOULDER BERM GUTTER IN ACCORDANCE WITH THIS DETAIL.
- CONSTRUCT CONCRETE DITCH IN ACCORDANCE WITH STD. DWG. NO. 850.01.
- CONSTRUCT RIP RAP LINED DITCH IN ACCORDANCE WITH THIS DETAIL, IF CALLED FOR IN PLANS.
- CONCRETE OR RIP RAP LINED DITCH SHALL BE THE TYPE AND LENGTH SPECIFIED BY THE ROADWAY PLANS. THE DITCH SHALL TERMINATE AS SHOWN ON THE PLANS. IF NO TERMINATION IS INDICATED PLACE RIP-RAP AT THE END OF THE DITCH AS INDICATED BY STD. DWG. 876.02 FOR AN 18″ PIPE. TRANSITIONS FROM THE DITCH TO TERMINATION SHALL BE AS DIRECTED BY THE ENGINEER.
- MODIFICATIONS SHALL BE AS DICTATED BY SITE CONDITIONS AND DIRECTED BY THE ENGINEER.

SHEET 1 OF 1
MODFLMDTCH

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

ENGLISH DETAIL DRAWING FOR
MODIFIED CONCRETE FLUME
WITH CONCRETE OR RIP-RAP DITCH

SHEET 1 OF 1
MODFLMDTCH

2/6/2023

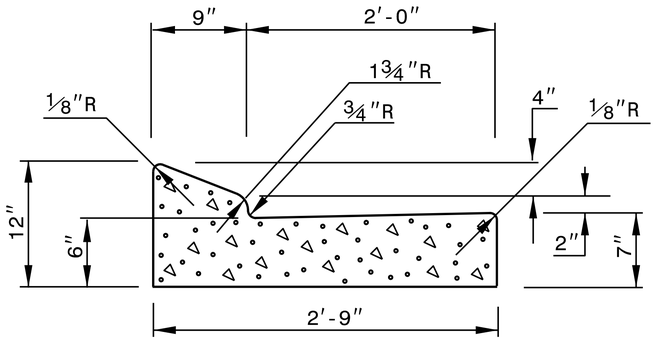
CONTRACT STANDARDS
AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE PLATE FOR TITLE

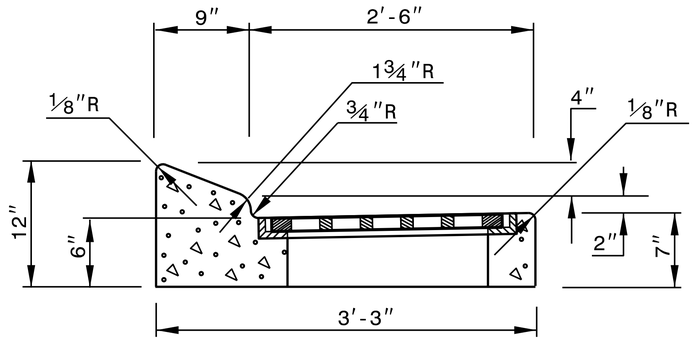
ORIGINAL BY: E.E. Ward DATE: Apr. 2002
MODIFIED BY: J.S. Howerton DATE: October 2017
CHECKED BY: _____ DATE: _____
FILE SPEC.: w:details\stand\modifiedflume.dgn

5/14/99

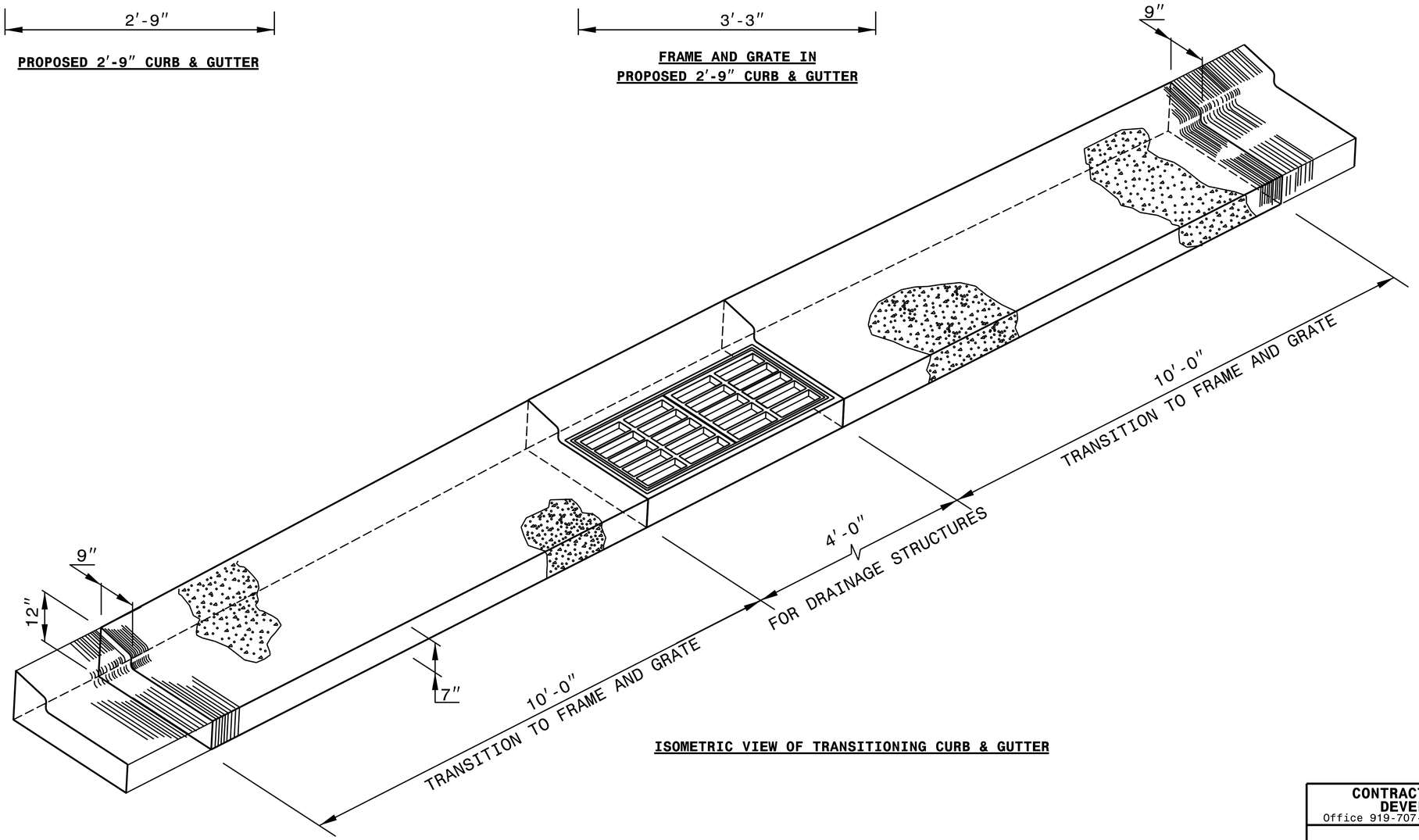
PROJECT REFERENCE NO.	SHEET NO.
U-5826	2C-4



PROPOSED 2′-9″ CURB & GUTTER



FRAME AND GRATE IN PROPOSED 2′-9″ CURB & GUTTER



ISOMETRIC VIEW OF TRANSITIONING CURB & GUTTER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 33144 KATHLEEN H. KELLER

2/6/2023

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

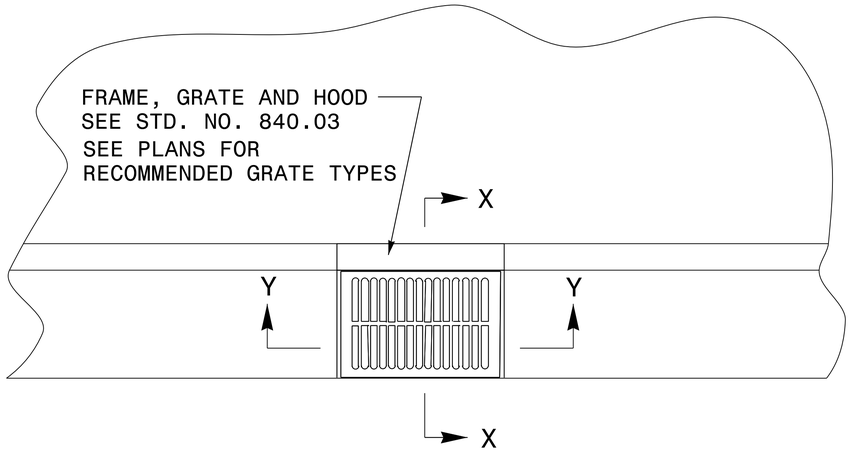
CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

DETAIL OF 2′-9″ TO FRAME AND GRATE

ORIGINAL BY: _____ DATE: _____
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: kkempf/english/curb gutter transition.dgn

5/14/99

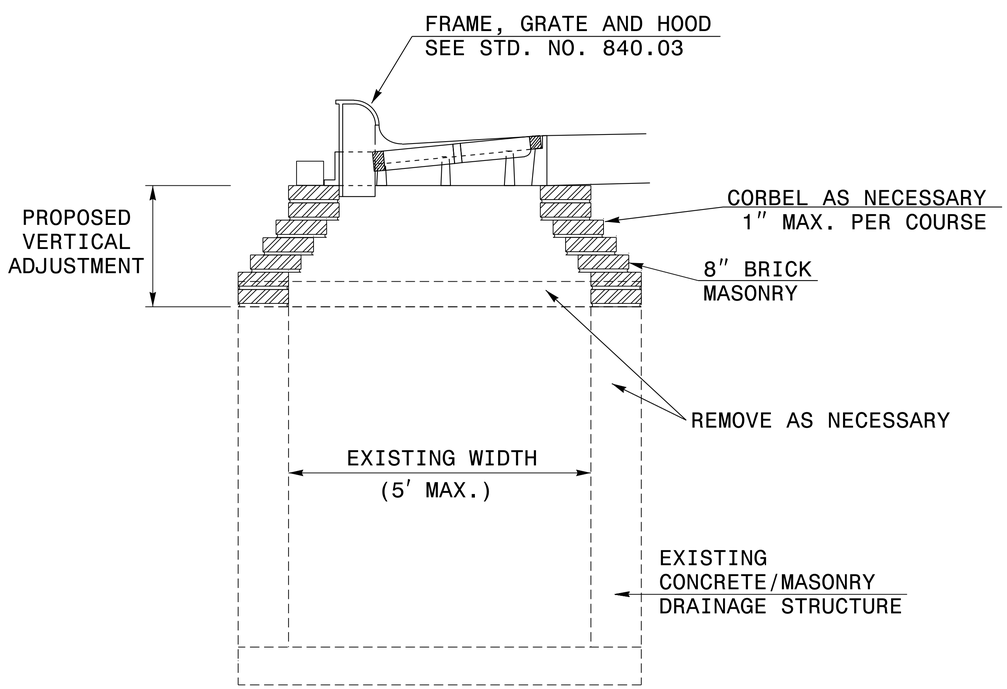
PROJECT REFERENCE NO.	SHEET NO.
U-5826	2C-5



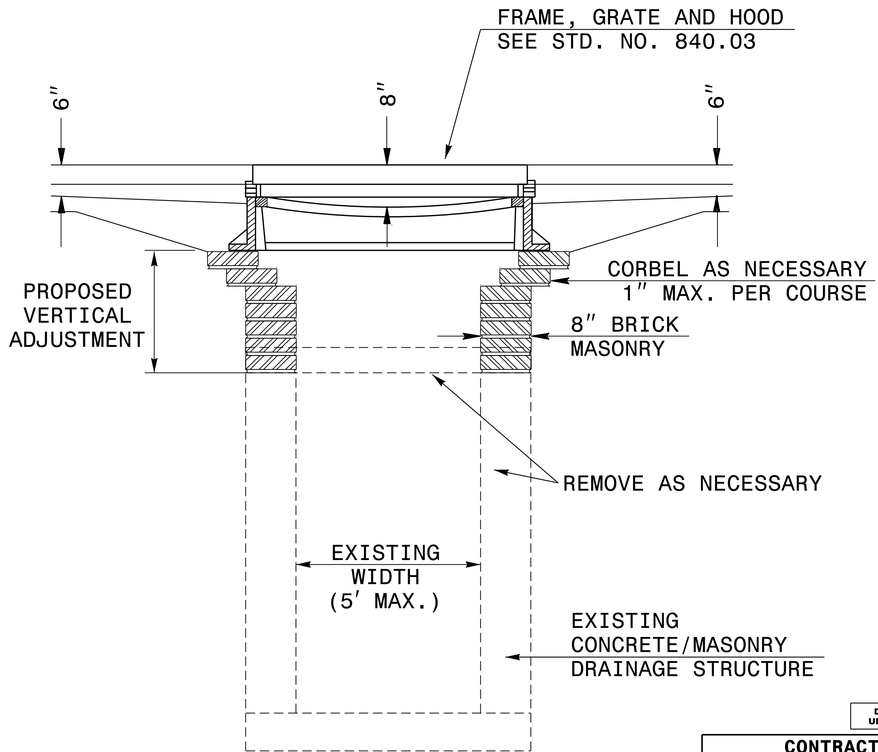
PLAN

GENERAL NOTES:

- THE ROADWAY PLANS INDICATE STRUCTURES TO BE CONVERTED.
- AFTER REMOVAL, STORE GRATES AND FRAMES AS DIRECTED BY THE ENGINEER.
- 4″ SOLID CLAY BRICK, JUMBO BRICK, CONCRETE, OR 4″ SOLID CONCRETE BLOCK MAY BE USED FOR VERTICAL ADJUSTMENT OF THE STRUCTURE.
- CONVERT IN ACCORDANCE WITH SECTION 859 OF THE STANDARD SPECIFICATIONS.



SECTION X-X



SECTION Y-Y

2/6/2023

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

DETAIL TO CONVERT DROP INLET OR JB TO CATCH BASIN

ORIGINAL BY: E.E. WARD DATE: 11-97
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.: DS37:usr\details\stand\jbtocb.dgn

26-JUN-2017 10:42
S:\Contracts\Special Details\jhowerton\convert DI or JB to CB.dgn
jhowerton AT CSD-292595

PROJECT REFERENCE NO.	SHEET NO.
U-5826	2C-6

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

ENGLISH DETAIL DRAWING FOR

CONCRETE STEPS WITH HANDRAIL

SHEET 1 OF 1

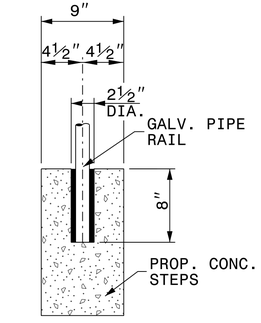
844D01

GENERAL NOTES :

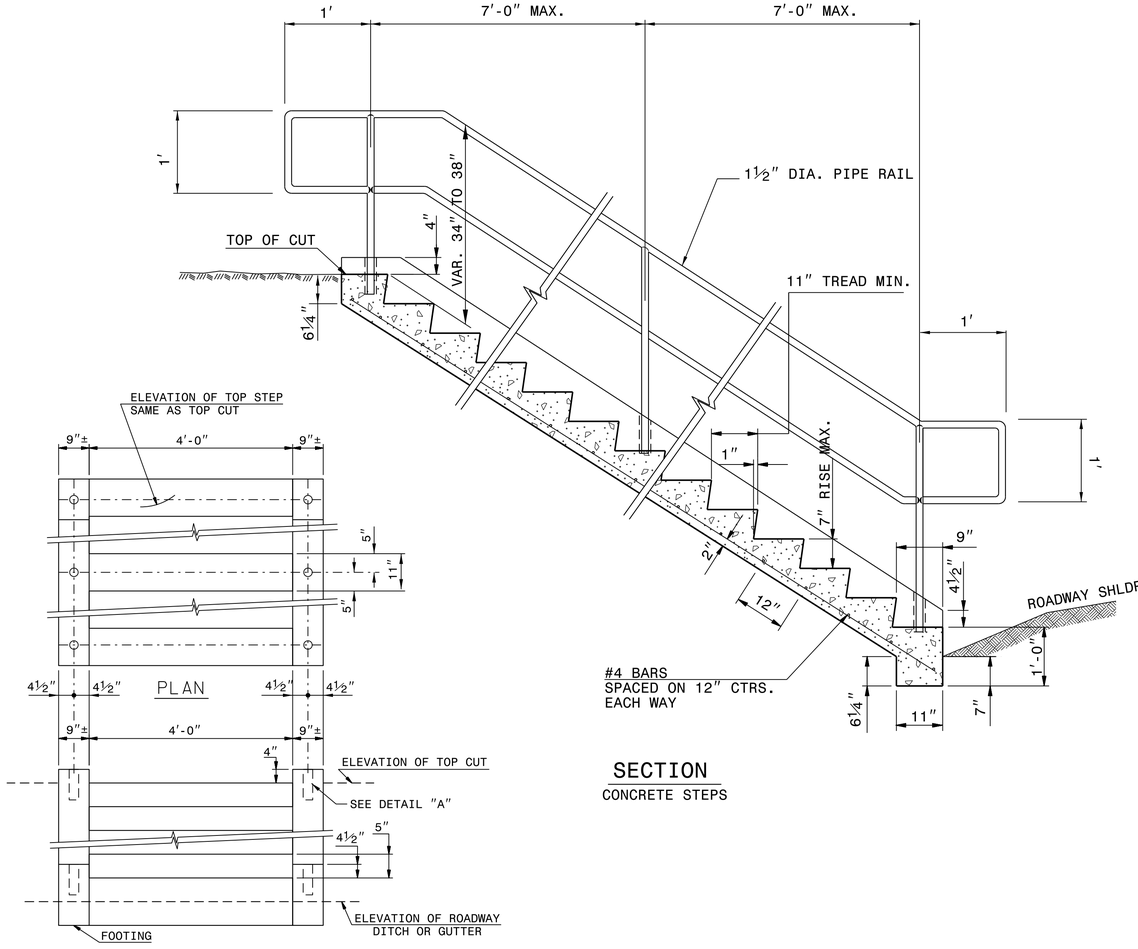
1- CONSTRUCT PROPOSED STEEL PIPE RAIL OF 1½″ DIAMETER SCHEDULE 40 PLAIN END GALVANIZED STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A53. EMBED PIPE RAIL 8″ INTO PROPOSED STEPS WITH CHEMICAL OR CONCRETE GROUT ANCHORING SYSTEM AS DIRECTED BY THE ENGINEER.
2- USE A ROTARY DRILL FOR DRILLING THE HOLES FOR THE PIPE RAIL. NO IMPACT DRILLS ALLOWED.
3- USE CLASS "B" CONCRETE THROUGHOUT FOR CONCRETE STEPS.
4- LOCATION AND QUANTIES SHOWN ARE APPROXIMATE ONLY. EXACT LOCATION AND QUANTIES WILL BE DETERMINED BY THE ENGINEER.
5- ALL WORK AS DIRECTED BY THE ENGINEER.
6- REPAIR OF GALVANIZING IN ACCORDANCE WITH SCT.1076 OF THE STANDARD SPECIFICATIONS.
7- WELD IN ACCORDANCE WITH ARTICLE 1072-18 OF THE STANDARD SPECIFICATIONS.
8- 2″ CLEAR SPACING ON ALL REINFORCING BARS.
9- EXTEND HORIZONTAL REINFORCING BARS UPWARD INTO SIDE WALLS.
10- ALL HANDRAILS AND STEPS MUST COMPLY WITH ADA STANDARDS FOR ACCESSIBLE DESIGN.

CUBIC YARDS IN STANDARD CONCRETE STEPS

NO. OF STEPS	4′ WIDE	5′ WIDE	6′ WIDE	7′ WIDE	ADDITIONAL CU. YDS. PER 1′ WIDTH
2	0.4	0.5	0.5	0.6	0.1
3	0.6	0.7	0.8	0.9	0.1
4	0.8	0.9	1.0	1.2	0.1
5	1.0	1.2	1.3	1.4	0.1
6	1.2	1.4	1.5	1.7	0.2
7	1.4	1.6	1.8	2.0	0.2
8	1.6	1.8	2.0	2.3	0.2
9	1.8	2.0	2.3	2.6	0.3
10	2.0	2.3	2.5	2.8	0.3
ADDITIONAL STEP INCREMENT	0.2	0.2	0.2	0.3	0.1



DETAIL "A"



FRONT ELEVATION

SECTION
CONCRETE STEPS

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

ENGLISH DETAIL DRAWING FOR

CONCRETE STEPS WITH HANDRAIL

SHEET 1 OF 1

844D01

07-FEB-2018 10:06
S:\Contracts\Contracts\Special Details\jhowerton\844d01e Concrete Steps with Handrail.dgn
jhowerton AT CSD-232915

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

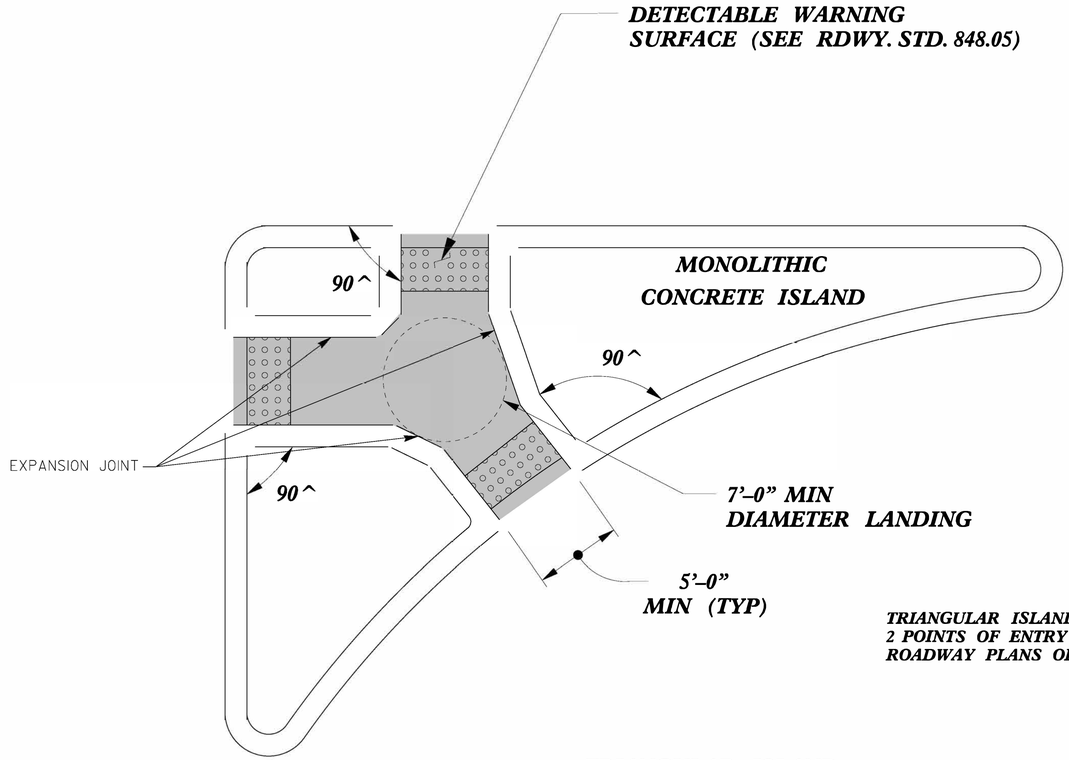
CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: T.Spell DATE: Oct.7,1998
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: s:usr/details/stand/844d01e.dgn

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-5826	2C-7

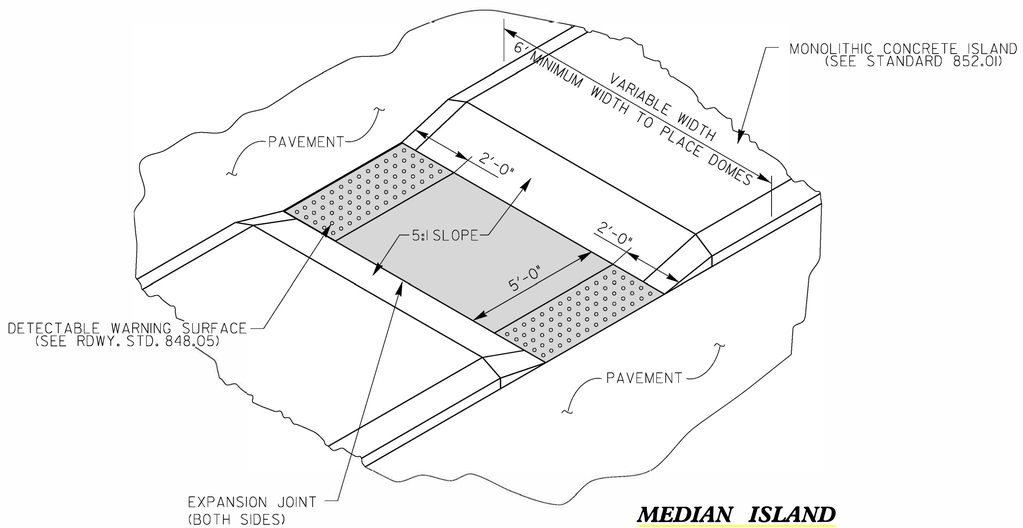


PAY LIMITS FOR 2 OR 3 CURB RAMPS (CALCULATE BASED ON NUMBER OF SETS OF TRUNCATED DOMES)

TRIANGULAR ISLANDS MAY BE CONSTRUCTED WITH ONLY 2 POINTS OF ENTRY AND EXIT AS SHOWN IN THE ROADWAY PLANS OR AS DIRECTED BY THE ENGINEER.

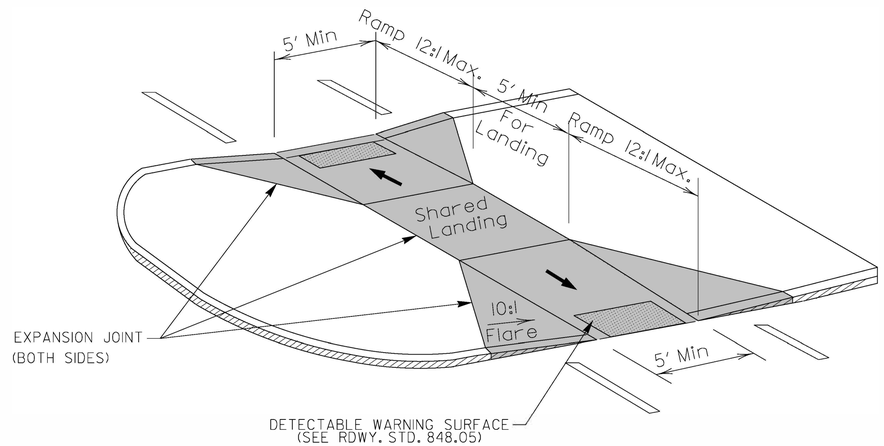
TRIANGULAR ISLAND WITH CUT THROUGH

TYPE 6



MEDIAN ISLAND WITH CUT THROUGH

TYPE 7



MEDIAN ISLAND CURB RAMPS

TYPE 8

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 33144 NICOLE M. HACKLER
2/6/2023

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

CURB RAMPS

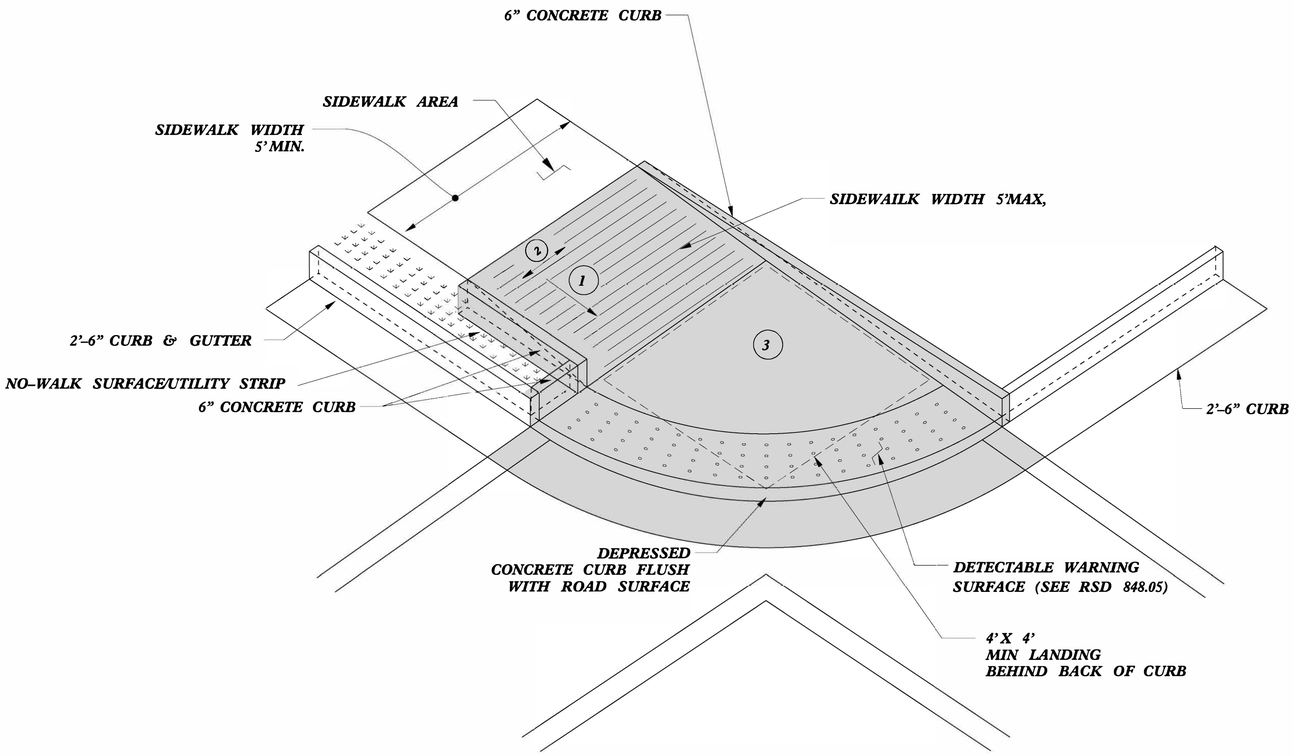
Median or Turn Lane Islands

ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC. stds/2012CurbRamp/CurbRampDetails.dgn

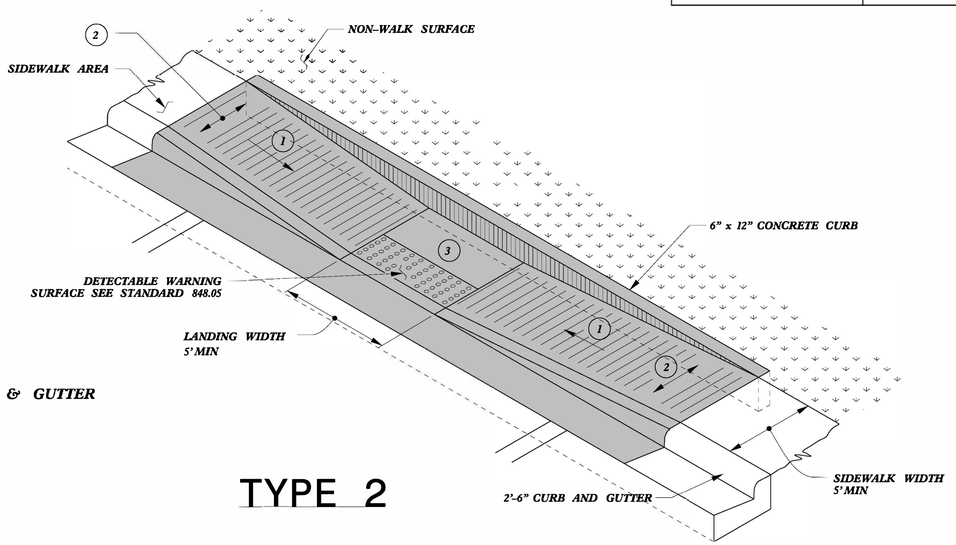
$$$$SYSTIME$$$$
$$$$ICONS$$$$
$$$$USERNAME$$$$

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-5826	2C-8



TYPE 2A MOD



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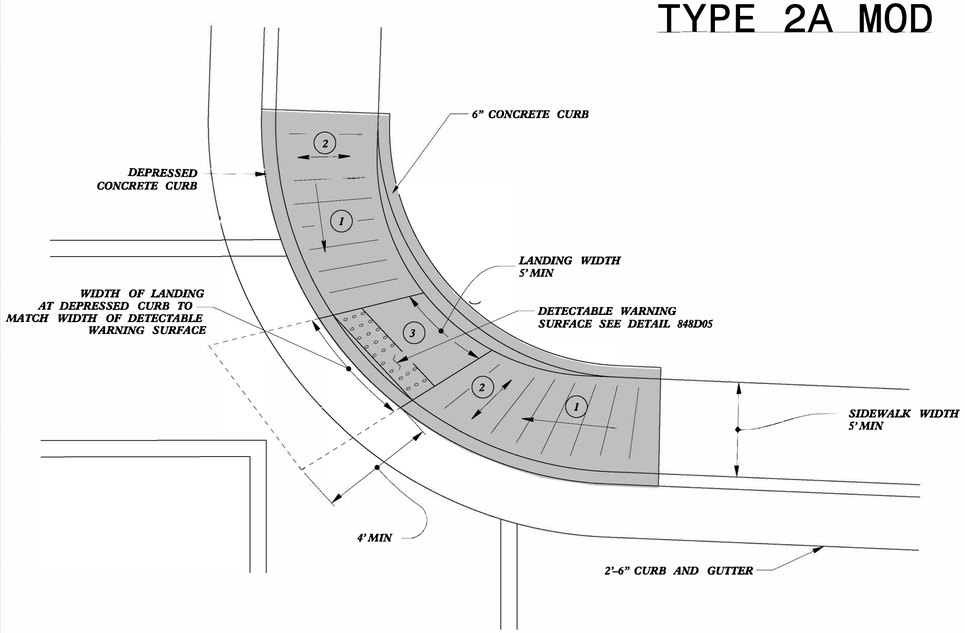
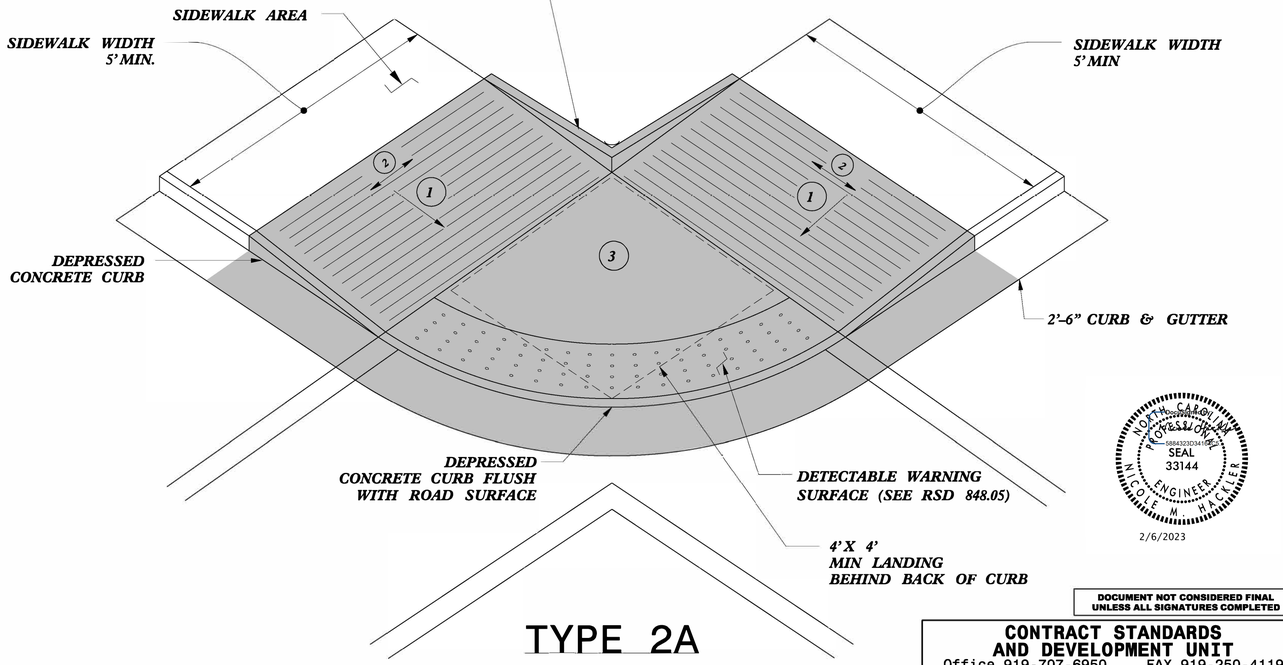


TYPE 2B



TYPE 2A

1. 8.33% (12:1) MAX RAMP SLOPE
2. CROSS SLOPE: 2.00%
3. CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

PAY LIMITS FOR 1 CURB RAMP

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 33144 NICOLE M. HACKLER
5884323D3418...
2/6/2023

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

CURB RAMPS

ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC. stds/2012CurbRamp/CurbRampDetails.dgn

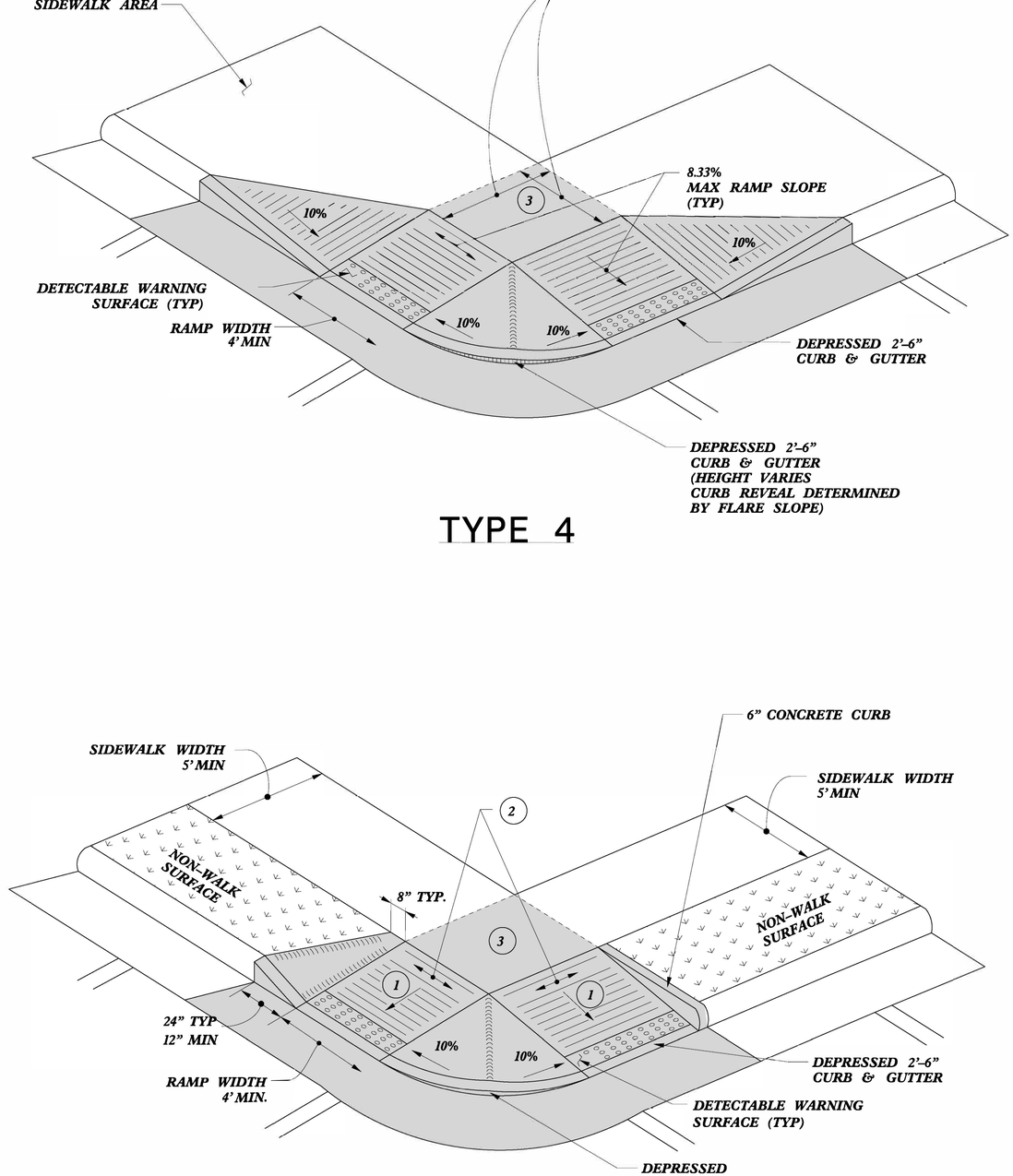
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-5826	2C-9

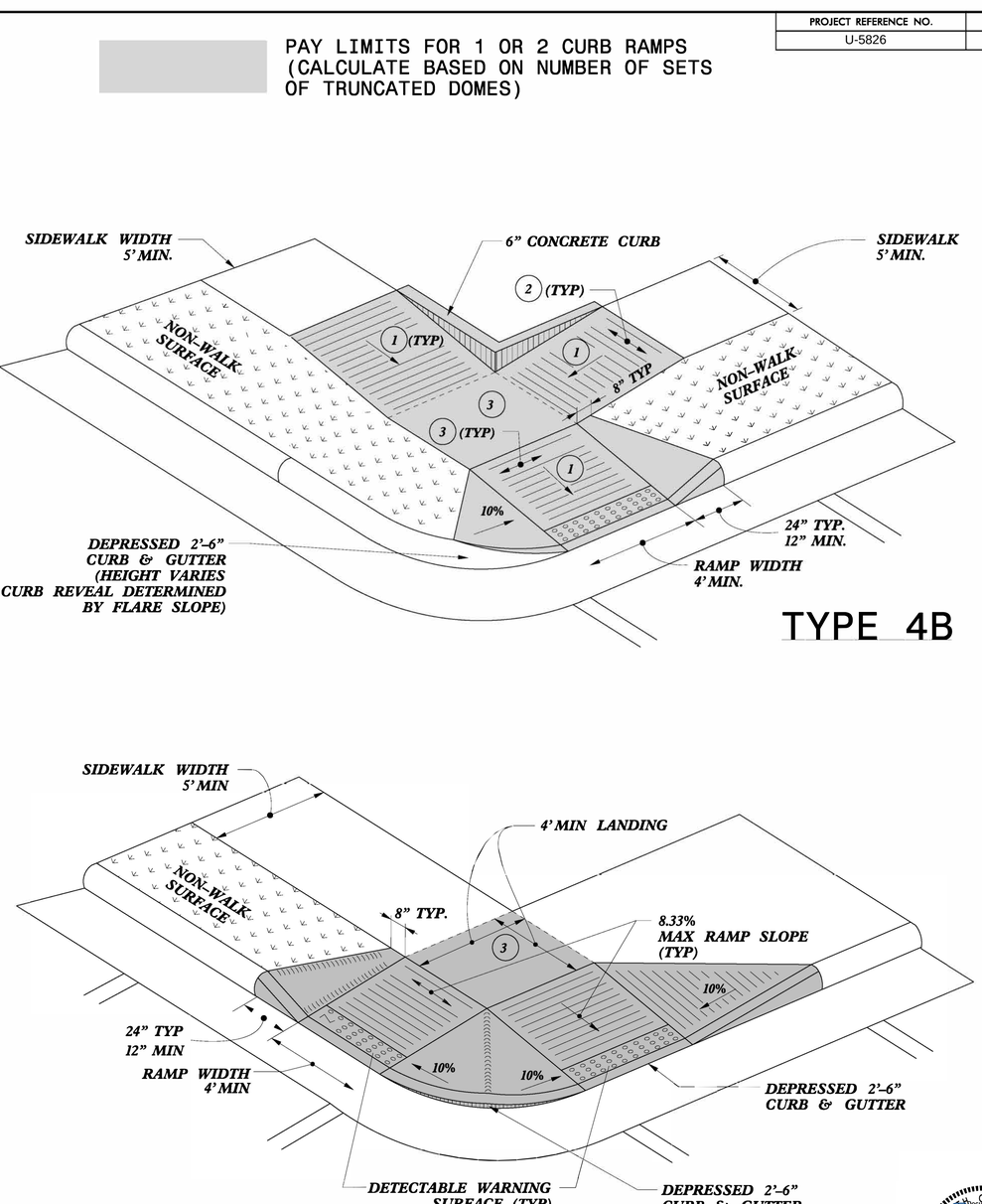
PAY LIMITS FOR 1 OR 2 CURB RAMPS (CALCULATE BASED ON NUMBER OF SETS OF TRUNCATED DOMES)

TYPE 4

TYPE 4B



TYPE 4A



TYPE 4C

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 33144 NICOLE M. HICKLER

2/6/2023

1. 8.33% (12:1) MAX RAMP SLOPE
2. CROSS SLOPE: 2.00%
3. CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

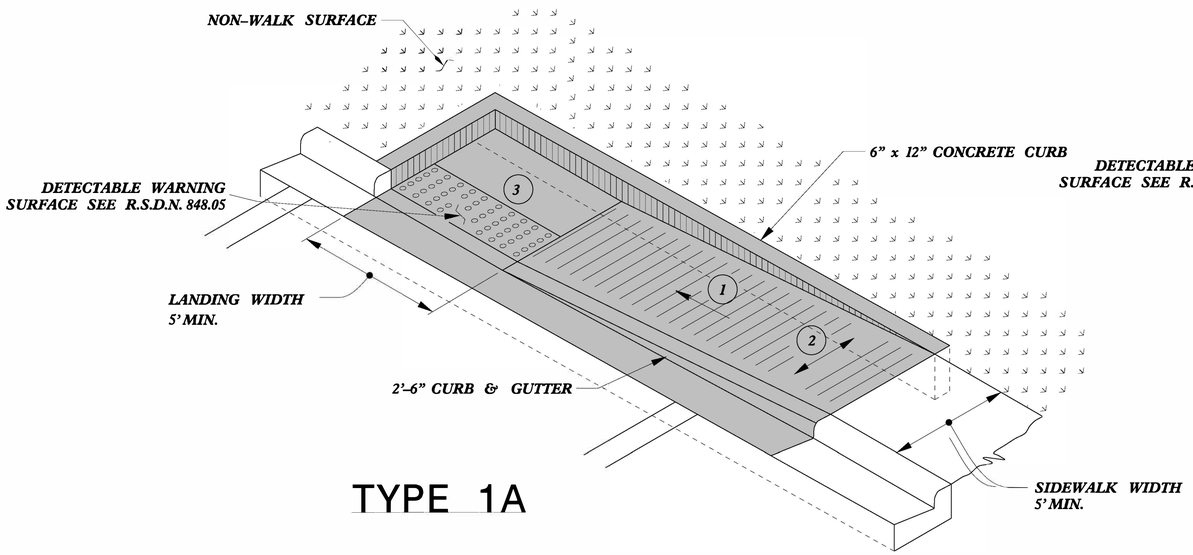
CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

CURB RAMPS

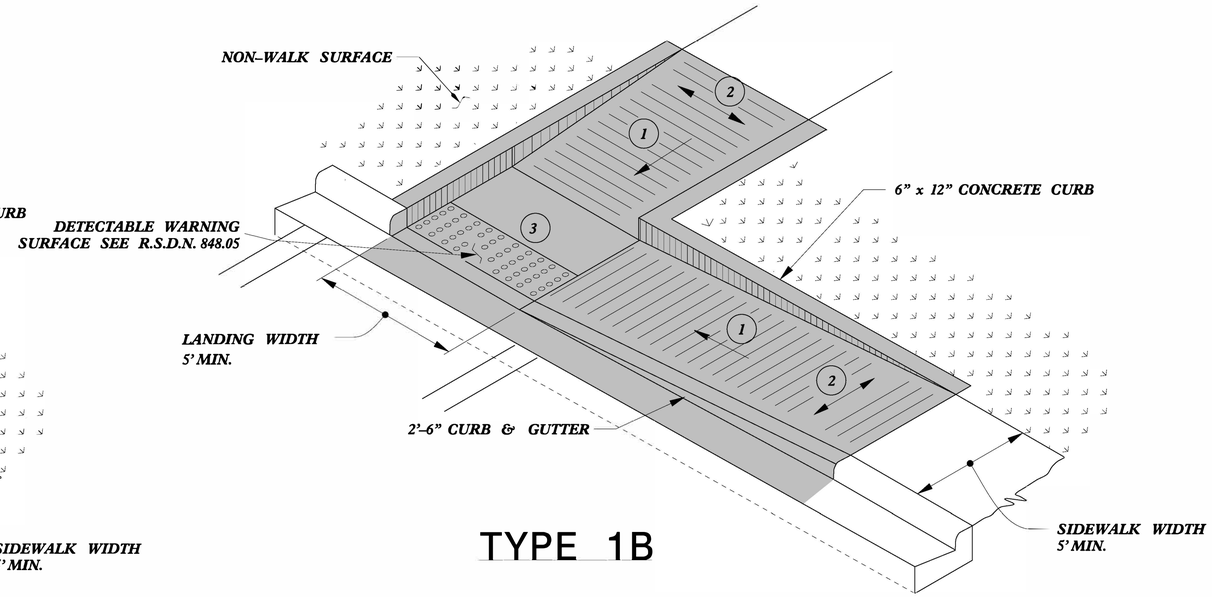
ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: stds/2012CurbRamp/CurbRampDetails.dgn

USER:
PSWISE
DGN:
ENGLISH

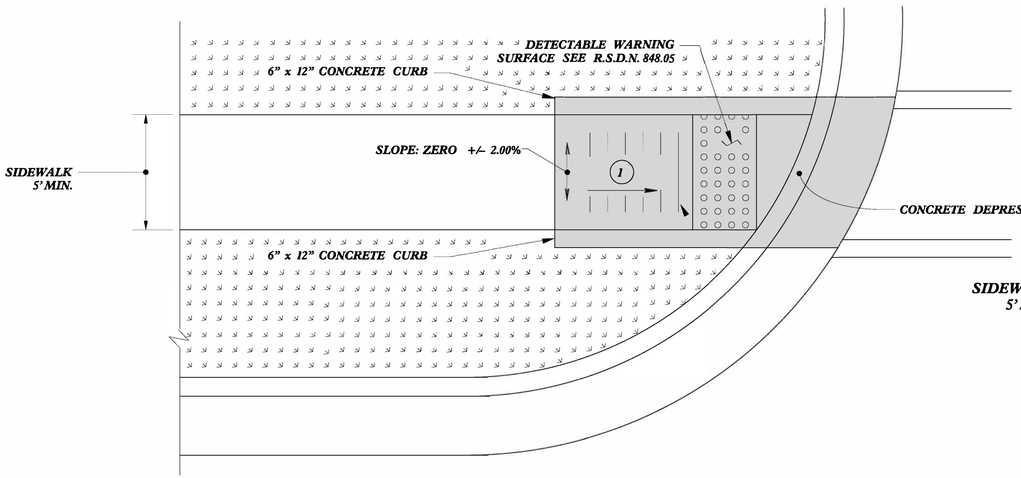
PROJECT REFERENCE NO.	SHEET NO.
U-5826	2C-10



TYPE 1A



TYPE 1B



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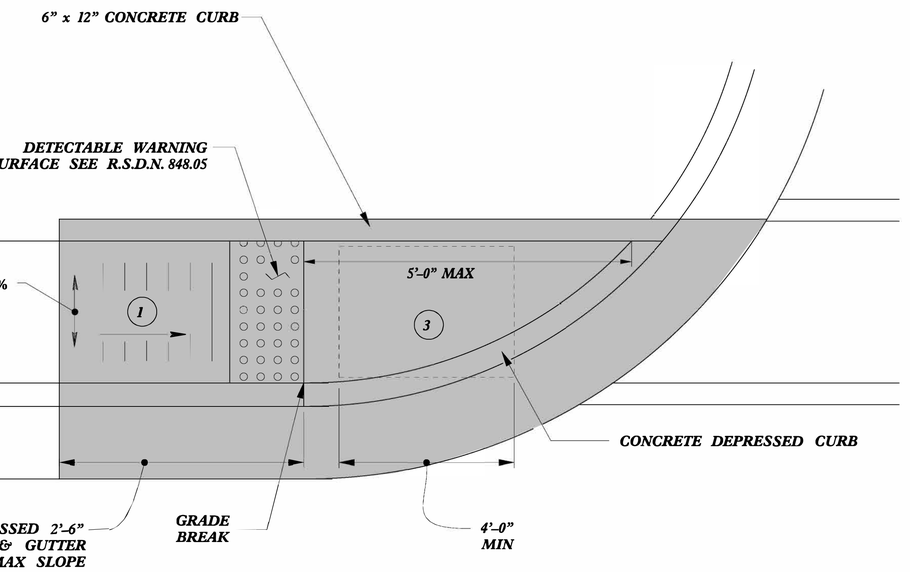

TYPE 1

① 8.33% (12:1) MAX RAMP SLOPE

② CROSS SLOPE: 2.00%

③ CURB RAMPS REQUIRE A (4'–0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

▨ PAY LIMITS FOR 1 CURB RAMP

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

SEAL 33144
NICOLE M HACKER
2/6/2023

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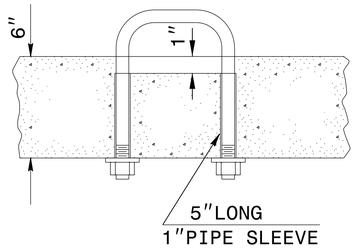
CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

CURB RAMPS

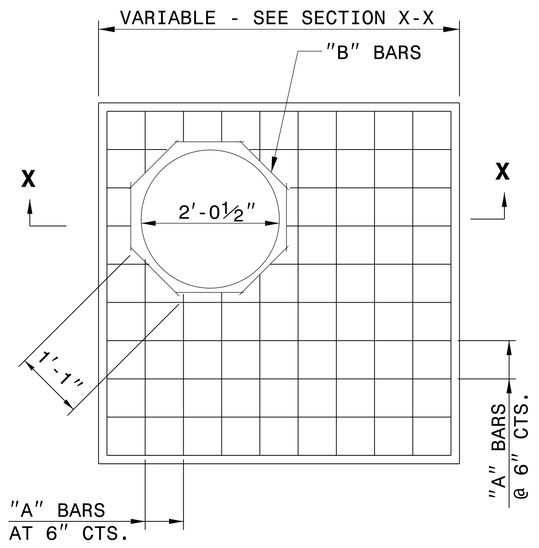
Directional Ramps

ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.: stds/2012CurbRamp/CurbRampDetails.dgn

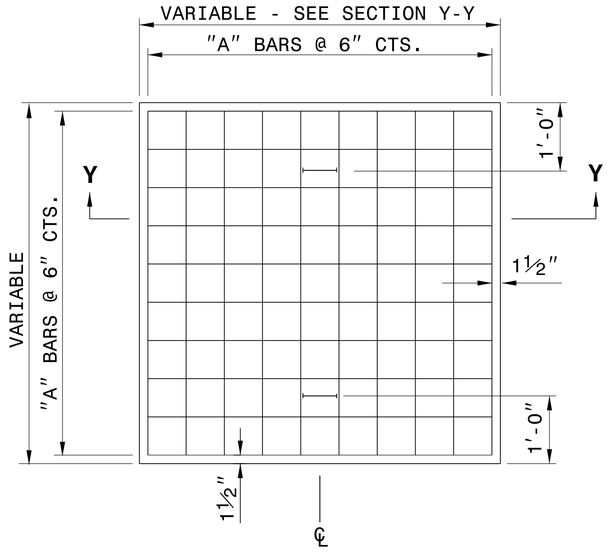
PROJECT REFERENCE NO.	SHEET NO.
U-5826	2C-11



PARTIAL SECTION



PLAN



PLAN

GENERAL NOTES:

CONSTRUCT IN ACCORDANCE WITH SECTION 859 OF THE STANDARD SPECIFICATIONS.

THE DIMENSIONS FOR THE EXISTING BOXES ARE APPROXIMATE AND MAY VARY SLIGHTLY.

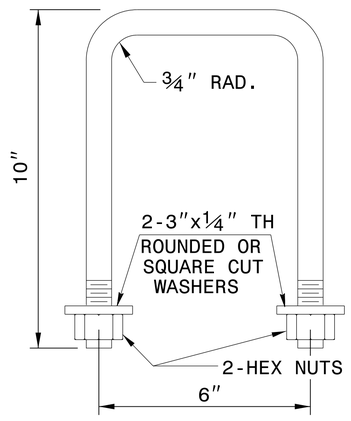
DETAIL INTENDED FOR NON-TRAFFIC BEARING DRAINAGE STRUCTURES.

BILL OF MATERIALS

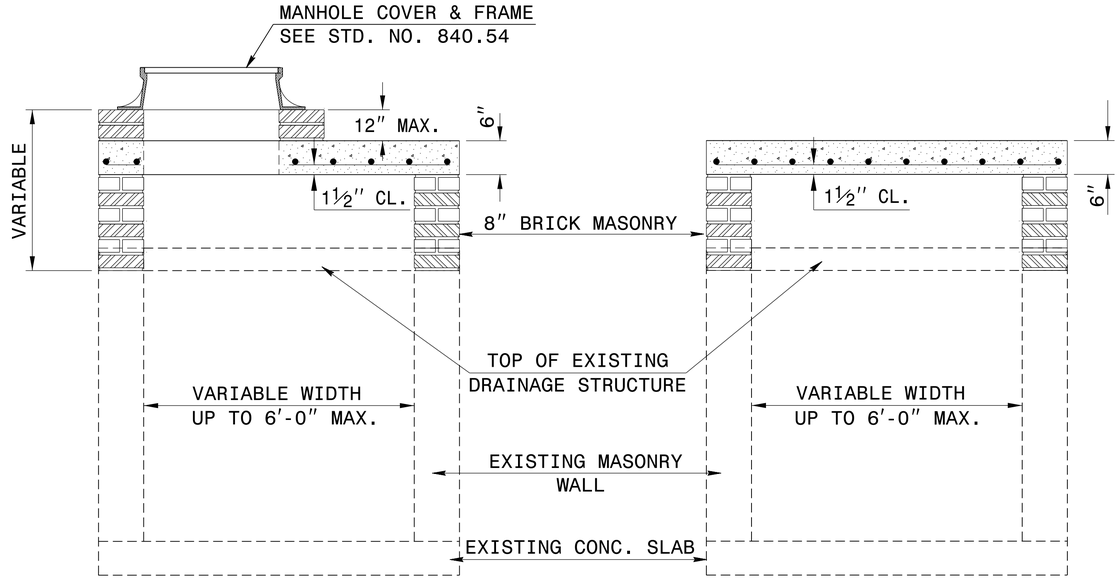
REINFORCING STEEL

CODE	SIZE	QTY.	LENGTH	REINF. STEEL LBS.
A	#4	20	4'-6"	60.12
B	#4	8	1'-1"	5.79
TOTAL				65.91 *
MASONRY				CU YDS
TOP SLAB CONCRETE CLASS "B"				.4326 *
BRICK MASONRY PER FT HT (MIN)				.4111

* NOTE:
QUANTITIES BASED ON 3'-6" X 3'-6" DRAINAGE STRUCTURE. ADJUST QUANTITIES FOR LARGER STRUCTURES AND MANHOLE CONSTRUCTION.

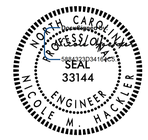


DETAIL OF HANDLE



SECTION X-X

SECTION Y-Y



2/6/2023

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

DETAIL TO CONVERT EXISTING DI, CB, OTCB or GI TO JUNCTION BOX (MANHOLE OPTIONAL)

ORIGINAL BY: T.S.S. DATE: NOV.1997
MODIFIED BY: T.S.S. DATE: FEB.2000
CHECKED BY: DATE:
FILE SPEC.: ds174:/usr/details/stand/boxtojbe.dgn

$$$$USERNAME=$$$$
$$$$USERNAME=$$$$
$$$$DATE=$$$$
$$$$TIME=$$$$
$$$$SYSTEM=$$$$
$$$$SIZE=$$$$

PROJECT REFERENCE NO.	SHEET NO.
U-5826	2D-1
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

DocuSigned by: Joshua C. Dalton
E1984ABC7B94C3...

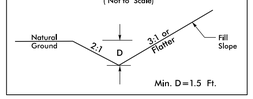
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 26971 ENGINEER JOSHUA C. DALTON

2/6/2023

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

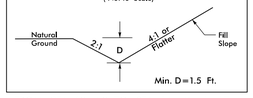
KCI http://www.kci.com
Engineers • Planners • Scientists • Construction Managers
4505 Falls of Neuse Road, Suite 400
Raleigh, NC 27609-6270
Phone (919) 783-9214 • Fax (919) 783-9266

DETAIL 1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



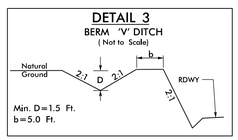
FROM STA. 13+00 TO STA. 15+50 –L– RT

DETAIL 2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



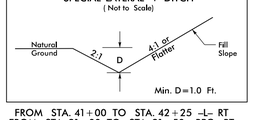
FROM STA. 60+50 TO STA. 64+75 –L– LT

DETAIL 3
BERM 'V' DITCH
(Not to Scale)



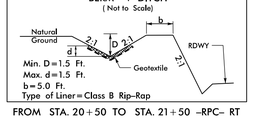
FROM STA. 16+00 TO STA. 21+50 –RPC– RT

DETAIL 4
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



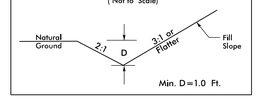
FROM STA. 41+00 TO STA. 42+25 –L– RT
FROM STA. 21+00 TO STA. 21+50 –RPC– RT

DETAIL 5
BERM 'V' DITCH
(Not to Scale)



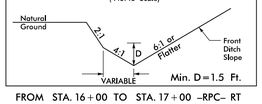
FROM STA. 20+50 TO STA. 21+50 –RPC– RT

DETAIL 6
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



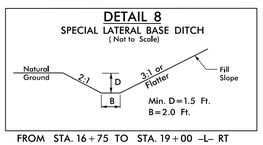
FROM STA. 38+50 TO STA. 40+00 –L– RT

DETAIL 7
SPECIAL CUT DITCH wHINGE
(Not to Scale)



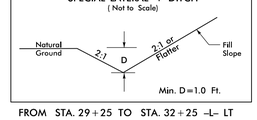
FROM STA. 16+00 TO STA. 17+00 –RPC– RT

DETAIL 8
SPECIAL LATERAL BASE DITCH
(Not to Scale)



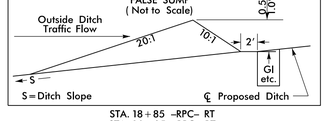
FROM STA. 16+75 TO STA. 19+00 –L– RT

DETAIL 9
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



FROM STA. 29+25 TO STA. 32+25 –L– LT

DETAIL 11
FALSE SUMP
(Not to Scale)

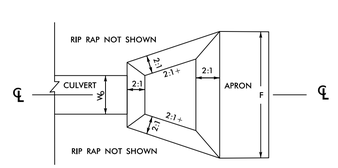


STA. 18+85 –RPC– RT
STA. 20+85 –RPC– RT

DETAIL 10
RIP–RAPPED ENERGY DISSIPATOR BASIN

DIM. (ft)	RIP RAP BASIN # 1		
A	2.5′		
B	1.7′		
C	1.5′		
D	2.0′		
E	10.0′		
F	22.0′		
G	20.0′		

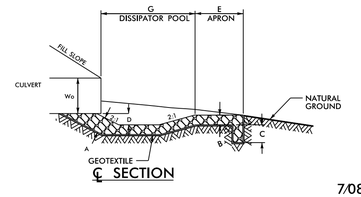
ALL DIMENSIONS APPROXIMATE



PLAN

BASIN #	LOCATION (AT OUTLET)
1	55+67 –L– LT

CL I RIP RAP
EST. 55 TONS
EST. 100 SY GF
EST. 30 CY DDE



℄ SECTION

7/08

STA. 55+67 –L– LT

4/24/26

COMPUTED BY: SLR DATE: 1/4/2019
CHECKED BY: BEH DATE: 4/23/2019

PROJECT REFERENCE NO.	SHEET NO.
U-5826	3B-1

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SUMMARY OF EARTHWORK IN CUBIC YARDS

STATION	STATION	UNCL. EXCAV.	EMBANK. + %	BORROW	WASTE
-L-, LT 13+00.00	21+18.17	59	949	890	
-L-, LT 24+04.67	76+75.00	1,312	3,558	2,246	
-L-, RT 13+00.00	21+18.17	514	1,189	675	
-L-, RT 24+04.67	76+75.00	2,233	4,235	2,002	
SUBTOTAL:		4,118	9,931	5,813	
-Y5-, 10+36.76	13+00.00	27	617	590	
-Y10-, 10+44.35	12+36.31	251	186		65
-RPC-, 15+26.43	22+47.70	2,541	522		2,019
SUBTOTAL:		2,819	1,325	590	2,084
TOTALS:		6,937	11,256	6,403	2,084
MATERIAL FOR SHOULDER CONSTRUCTION			168	168	
WASTE IN LEIU OF BORROW				-2,084	-2,084
PROJECT TOTAL:		6,937	11,424	4,487	
EST 5% TO REPLACE TOP SOIL ON BORROW PIT				224	
GRAND TOTAL:		6,937	11,424	4,711	
SAY:		6,950		4,750	

NOTE:
APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, FINE GRADING, CLEARING AND GRUBBING, BORROW EXCAVATION, AND REMOVAL OF EXISTING ASPHALT PAVEMENT WILL BE PAID FOR AT THE LUMP SUM PRICE FOR "GRADING".

THESE EARTHWORK QUANTITIES ARE BASED IN PART ON SUBSURFACE DATA PROVIDED BY THE GEOTECHNICAL ENGINEERING UNIT.

PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	LENGTH OR AREA (SF)	ASPHALT REMOVAL (SY)
-L-	17+07	19+69	CL	3675.00	408.33
-L-	33+53	35+25	LT	950.50	105.61
-L-	38+00	39+00	CL	1200.00	133.33
-L-	39+74	42+31	CL	3403.20	378.13
-L-	59+39	61+82	CL	3165.50	351.72
-L-	66+24	67+81	LT	476.10	52.90
				TOTAL:	1,430.40
				SAY:	1,440.00

FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH STRAIGHT	LENGTH SHOP CURVED	LENGTH DOUBLE FACED	WARRANT POINT APPROACH END	WARRANT POINT TRAILING END	"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH APPROACH END	FLARE LENGTH TRAILING END	W APPROACH END	W TRAILING END	ANCHORS XI MOD	ANCHORS B-77	ANCHORS GRAU 350	ANCHORS M-350	ANCHORS TEMP. W-BEAM RETROFIT	ANCHORS TYPE III	ANCHORS W-TR STEEL BEAM TRANS. SECT.	ANCHORS GREU TL-3	ANCHORS CAT-1	TEMP. CRASH CUSHIONS EA	TEMP. CRASH CUSHIONS G	TEMP. CRASH CUSHIONS NG	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND RESET EXISTING GUARDRAIL	REMARKS
-L-	19+43.75	20+00.00	LEFT	56.25'				19+50.00	2'	4'													1							
-L-	20+00.00	21+09.04 (BR.)	LEFT						2'	4'											1								90'	RETAIN EXIST. TYPE III, REPLACE WTR SECTION
-L-	19+12.18	21+30.93 (BR.)	RIGHT				21+30.93 (BR.)		7.25'	9.25'	150'		3'								1	1							150'	RETAIN EXIST. TYPE III, REPLACE WTR SECTION
-L-	23+94.71 (BR.)	26+13.46	LEFT				23+94.71 (BR.)		2'	4'	150'		3'								1	1							150'	RETAIN EXIST. TYPE III, REPLACE WTR SECTION
-L-	24+16.62 (BR.)	25+23.00	RIGHT					25+16.75	6.33'	8.33'		75'		1.5'							1		1						85'	RETAIN EXIST. TYPE III, REPLACE WTR SECTION
			SUBTOTAL	56.25'																										
		LESS ANCHOR DEDUCTIONS:																												
		CAT-1	1 @ 6.25'	-6.25'																										
		ANCHOR DEDUCTION TOTAL:		-6.25'																										
			PROJECT TOTAL	50'																	4	2	2						475'	
			SAY	50'																										
		ADDITIONAL GUARDRAIL POST =		10 EA																										

2:36:57 PM
U-5826_Rdy_sum.dgn
Division

FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

DTALBERT-NEW

COMPUTED BY:	DWT	DATE:	11/20/2018
CHECKED BY:	JDG	DATE:	11/20/2018

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
U-5826	3D-1

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

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

LINE & STATION / SIZE / THICKNESS OR GAUGE	OFFSET	STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC) 4 Irrigation Conduit	15	18	24	30	36	42	48	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	DO NOT USE PVC
L 15+50	69 RT	0401																		
		0401	0402		445.1	444.9				40							X	X		X
Y10 10+91	32 RT	0402		448.1																
		0402	0403		444.9	444.8	0.3													
Y10 10+84	11 RT	0403																		
Y10 10+99	20 LT	0404		448.5																
		0404	0405		445.5	445.1														
Y10 10+75	21 LT	0405		448.1																
		0405	0406		443.9	443.6	0.7			44							X	X		X
L 17+17	14 RT	0407		447.4																
		0407	0408		444.2	442.7														
L 19+35	51 RT	0409		449.6																
		0409	0410		446.6	446.4														
L 19+75	51 RT	0410		449.8																
		0410	0411		446.4	439.2			40							X				X
L 20+87	47 LT	0412		450.3																
L 21+08	51 RT	0413		450.2																
L 13+30	11 LT	0414		449.6																
L 13+27	50 LT	0415		446.7																
L 14+71	49 LT	0416		444.5																
L 14+00	10 LT	0417		448.1																
		0417	0418		445.0	443.5														
L 15+00	9 LT	0418		446.7																
		0418	0419		443.5	443.1														
L 15+48	8 LT	0419		446.3																
RPC 21+64	51 RT	0420		442.5																
RPC 20+99	67 RT	0421		440.0																
		0421	0423		436.0	435.9			8											
RPC 19+00	69 RT	0422		434.9																
		0422	0424		430.9	430.8			8											
RPC 21+00	46 RT	0423		441.7																
RPC 19+02	53 RT	0424		436.5																
L 18+08	40 RT	0425														X	X	X	X	
L 24+16	47 LT	0501		452.1																
L 24+41	51 RT	0502		451.6																
L 25+98	62 RT	0503		450.3																
		0503	0504		447.3	446.4														
L 26+65	62 RT	0504		449.4																
		0504	0505		446.4	445.8														
L 27+28	62 RT	0505		448.8																
L 27+28	1 LT	0506																		
		0506	0507		445.5	445.4														
L 27+28	10 LT	0507		450.4																
		0507	0508		445.4	444.1														
L 29+75	80 LT	0509																		
		0509	0510		447.8	447.1					24									
L 29+87	62 LT	0510		451.5																
L 33+35	8 LT	0511		453.2																
		0511	0512		450.0	449.3														
L 32+72	7 LT	0512		452.5																
SHEET TOTALS									56	84	24									

FROM	TO	R. C. PIPE CLASS III 12	15	18	24	30	36	42	48	R. C. PIPE CLASS IV 12	15	18	24	30	36	42	48	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 0' THRU 5' EACH	A 5' THRU 10' LIN. FT.	B 10' AND ABOVE LIN. FT.	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E	F	G	
0401																												
0401	0402																											
0402																					1			1			1	
0402	0403											24																
0403																												
0404																					1			1		1		
0404	0405										24																	
0405																										1		
0405	0406																											
0407																					1							
0407	0408										80																	
0409																					1			1			1	
0409	0410										40																	
0410																					1	2.0		1			1	
0410	0411																											
0412																										1		
0413																											1	
0414																												
0415																											1	
0416																											1	
0417																					1							
0417	0418										96																	
0418																					1							
0418	0419										44																	
0419																												
0420																												
0421																					1							
0421	0423																											
0422																					1							
0422	0424																											
0423																					1	4.9						
0424																												
0425																												
0501																											1	
0502																										1		
0503																					1			1		1		
0503	0504										84																	
0504																					1			1		1		
0504	0505										60																	
0505																										1		
0506																												
0506	0507										12																	
0507																					1							
0507	0508										68																	
0509																												
0509	0510																											
0510																					1	0.4						
0511																					1							
0511	0512										60																	
0512																					1							
SHEET TOTALS											568	24									16	7.3		6		7	7	

FROM	TO	CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	DI IN 2'-9" CURB AND GUTTER	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATES STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26	G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27	G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28	G.D.I. (W.S. FLAT) FRAME WITH GRATE STD. 840.20	G.D.I. (W.S. FLAT) FRAME W/ 2 GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22	G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	J.B. STD. 840.31 OR STD. 840.32	T.B.D.I. STD. 840.35	M.H. STD. 840.51, STD. 840.52, OR STD. 840.53	M.H. FRAME AND COVER STD. 840.54		CONVERT EXISTING D.I. TO C.B.	CONVERT EXISTING D.I. TO J.B.	ADJUST C.B.	ADJUST D.I.		15" DRAINAGE PIPE ELBOW		MODIFIED CONC. FLUME		FLOWABLE FILL CY	CONCRETE COLLARS CL. "B" STD. 840.72 CY	PIPE REMOVAL LIN. FT.	REMARKS
0401																																		
0401	0402																																	
0402																																		
0402	0403																																	Remove +/- 8 LF of 18" RCP
0403																																0.4465		
0404																																		
0404	0405																																	
0405																								1										
0405	0406																																	
0407		1		1	1																													Remove Existing DI
0407	0408																																	
0409																																		
0409	0410																																	
0410																																		
0410	0411																										2							
0412																						1												
0413																								1										
0414		1			1																				1									
0415																								1										
0416																								1										
0417		1		1	1																													
0417	0418																																	
0418		1		1	1																													
0418	0419																																	
0419		1			1																				1									
0420																				1			1											
0421							1					1																						
0421	0423																																	
0422							1					1																						
0422	0424																																	
0423																	1			1														Remove +/- 4 LF of 24" RCP
0424																				1			1											
0425																																		
0501																						1												
0502																								1										
0503																																		
0503	0504																																	
0504																																		
0504	0505																																	
0505																								1										
0506																																0.3990		Remove Existing DI
0506	0507																																	
0507		1		1	1																													
0507	0508																																	Remove +/- 74 LF of 15" RCP
0509																																		
0509	0510																																	
0510																	1			1														
0511		1		1	1																													
0511	0512																																	
0512		1		1	1																													
SHEET TOTALS		8		6	8		2					2					2			4		2	2	6	2		2					0.8455		

ABBREVIATIONS

C.A.A.	CORRUGATED ALUMINIUM ALLOY
C.B.	CATCH BASIN
C.S.	CORRUGATED STEEL
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
H.D.P.E.	HIGH DENSITY POLYETHYLENE
J.B.	JUNCTION BOX
M.H.	MANHOLE
N.S.	NARROW SLOT
P.V.C.	POLYVINYL CHLORIDE
R.C.	REINFORCED CONCRETE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX
W.S.	WIDE SLOT

DTALBERT-NEW

COMPUTED BY:	DWT	**DATE:**	11/20/2018
CHECKED BY:	JDG	**DATE:**	11/20/2018

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
U-5826	3D-2

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

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

ABBREVIATIONS

C.A.A.	CORRUGATED ALUMINIUM ALLOY
C.B.	CATCH BASIN
C.S.	CORRUGATED STEEL
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
H.D.P.E.	HIGH DENSITY POLYETHYLENE
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M.H.	MANHOLE
N.S.	NARROW SLOT
P.V.C.	POLYVINYL CHLORIDE
R.C.	REINFORCED CONCRETE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX
W.S.	WIDE SLOT

LINE & STATION / SIZE / THICKNESS OR GAUGE	OFFSET	STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC) 4 Irrigation Conduit	15	18	24	30	36	42	48	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	DO NOT USE PVC	R. C. PIPE CLASS III 12	15	18	24	30	36	42	48	R. C. PIPE CLASS IV 12	15	18	24	30	36	42	48	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 0' THRU 5' EACH	A 5' THRU 10' LIN. FT.	B 10' AND ABOVE LIN. FT.	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E	F	G		CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	DI IN 2'-9" CURB AND GUTTER	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATES STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26	G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27	G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28	G.D.I. (W.S. FLAT) FRAME WITH GRATE STD. 840.2	G.D.I. (W.S. FLAT) FRAME W/ 2 GRATES STD. 840.	G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22	G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.2	G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.2	J.B. STD. 840.31 OR STD. 840.32	T.B.D.I. STD. 840.35	M.H. STD. 840.51, STD. 840.52, OR STD. 840.53	M.H. FRAME AND COVER STD. 840.54		CONVERT EXISTING D.I. TO C.B.	CONVERT EXISTING D.I. TO J.B.	ADJUST C.B.	ADJUST D.I.		15" DRAINAGE PIPE ELBOW		MODIFIED CONC. FLUME		FLOWABLE FILL CY	CONCRETE COLLARS CL. "B" STD. 840.72 CY	PIPE REMOVAL LIN. FT.	REMARKS
		0512	0513		449.3	448.4																								76																																																		
L 31+95	8 LT	0513		451.6																																				1								1		1	1																													
		0513	0514		448.4	447.6																								72																																																		
L 31+23	9 LT	0514		450.8																																				1								1		1	1																													
		0514	0515		447.6	447.1																								52																																																		
L 30+69	3 LT	0515		450.3																																				1								1		1	1																													
		0515	0516		447.1	446.7																								44																																																		
L 30+23	5 RT	0516		449.9																																				1								1		1	1																													
		0516	0526		446.7	446.4																								36																																																		
L 28+84	51 RT	0517		448.1																																				1			1	1																																					
		0517	0521		445.1	444.9																								60																																																		
L 33+17	44 RT	0518		451.7																																				1			1			1																																				
		0518	0519		448.7	446.9																								156																																																		
L 31+59	46 RT	0519		449.9																																				1			1			1																																				
		0519	0520		446.9	445.9																								100																																																		
L 30+59	48 RT	0520		448.9																																				1			1			1																																				
		0520	0522		445.9	445.7																64																																																														
L 29+44	50 RT	0521		448.3																																				1			1			1																																				
		0521	0522		444.1	443.9																		48																																																									Remove +/- 47 LF of 24" RCP
L 29+93	52 RT	0522		449.3																																				1	4.2																							1			1														
L 37+82	60 RT	0523																																																																											1					
L 29+86	9 RT	0526		449.6																																				1								1		1	1																													
		0526	0529		446.4	446.2																								40																																																		
L 28+83	11 RT	0527		449.1																																				1								1		1	1																													
		0527	0528		446.0	445.9																								8																																																		
L 28+95	11 RT	0528		449.1																																				1								1		1	1																													
		0528	0529		445.9	445.7																								48																																																		
L 29+46	10 RT	0529		449.4																																				1								1		1	1																													
		0529	0521		445.0	444.5																										40																																																	Remove +/- 33 LF of 24" RCP, DI, and CB
L 37+15	8 RT	0530		452.3																																				1								1		1	1																													
		0530	0620		449.1	446.0																								136																																																		
L 39+76	7 RT	0601		445.8																																				1									1	1	1																													
		0601	0603		442.6	439.9																								100																																																		
L 41+05	8 RT	0602		442.2																																				1									1	1	1																													
		0602	0603		439.1	439.0																								28																																																		
L 40+76	7 RT	0603		443.1																																				1									1	1	1																													
		0603	0605		439.0	438.7																								52																																																		
L 38+57	44 LT	0604		447.8																																				1			1			1																																				
		0604	0624		444.8	444.7			12																																																																						Remove +/- 229 LF of 12" RPC and CB
L 40+79	44 LT	0605		441.7																																				1			1			1																																			Remove Existing CB
		0605	0625		438.5	438.4			12																																																																					Remove +/- 227 LF of 12/15" RCP
L 42+55	44 LT	0606		437.7																																				1			1			1																																				
		0606	0626		434.7	434.6			12																																																																					Remove Existing CB and 15" RCP
L 43+64	44 LT	0607		436.7																																				1			1			1																																				
		0607	0627		433.8	433.7			12																																																																					Remove Existing 15" RCP
L 44+58	44 LT	0608		436.3																																				1			1			1																																				
		0608	0628		433.3	433.2			12																																																																					Remove Existing 15" RCP
L 46+70	44 LT	0609		436.4																																				1			1		1																																					
		0609	0629		433.4	433.3			12																																																																					Remove +/- 97 LF of 15" RCP and CB
L 45+54	44 LT	0610		436.0																																				1			1	1																																						
SHEET TOTALS									72													64		48						1008		40								25	4.2		12	2	1	9		9	3	12	12												1			1									1					

DTALBERT-NEW

COMPUTED BY: DWT DATE: 11/20/2018
CHECKED BY: JDG DATE: 11/20/2018

PROJECT NO.	SHEET NO.
U-5826	3D-3

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

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

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

LINE & STATION	OFFSET	STRUCTURE NUMBER		TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	MINIMUM REQUIRED SLOPE	Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC)													R. C. PIPE CLASS III								R. C. PIPE CLASS IV							
SIZE THICKNESS OR GAUGE		FROM	TO	FT.	FT.	FT.	%	4 Irrigation Conduit	15	18	24	30	36	42	48	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	DO NOT USE PVC	12	15	18	24	30	36	42	48	12	15	18	24	30	36	42	48
L 45+54	44 LT	0610		436.0																																
		0610	0630		433.0	432.9			12																											
L 45+33	44 LT	0611		436.0																																
		0611	0617		432.0	431.7																										84				
L 43+06	44 RT	0612		437.1																																
		0612	0613		434.1	433.3																								156						
L 44+64	44 RT	0613		436.3																																
		0613	0617		433.3	433.0																								64						
L 47+97	44 RT	0614		438.2																																
		0614	0615		435.2	432.5																								128						
L 46+70	44 RT	0615		436.4																																
		0615	0616		432.3	431.9																									116					
L 45+53	44 RT	0616		436.0																																
		0616	0617		431.9	431.8																									24					
L 45+29	44 RT	0617		436.0																																
		0617	0618		430.6	429.6	0.6				40																									
L 38+52	8 RT	0620		449.2																																
		0620	0601		446.0	442.6																								124						
L 51+44	8 RT	0621		440.3																																
		0621	0701		437.2	435.8																								80						
L 39+99	69 RT	0622		444.0																																
		0622	0623		441.3	441.2			8																											
L 38+57	55 LT	0624																																		
		0624	0625		444.7	439.0	0.4		220																											
L 40+79	55 LT	0625																																		
		0625	0626		438.4	434.7	1.5			176																										
L 42+55	55 LT	0626																																		
		0626	0627		434.4	433.7	0.5			108																										
L 43+64	55 LT	0627																																		
		0627	0628		433.0	432.7					92																									
L 44+58	55 LT	0628																																		
		0628	0631		432.6	432.3					76																									
L 46+70	55 LT	0629																																		
		0629	0630		433.4	433.0			116																											
L 45+54	55 LT	0630																																		
		0630	0631		433.0	432.9			20																											
L 45+33	55 LT	0631																																		
		0631	0611		432.2	432.1					12																									
L 41+42	32 RT	0632														X	X	X	X																	
L 52+27	7 RT	0701		439.0																																
		0701	0702		435.8	434.9																								60						
L 52+87	8 RT	0702		438.1																																
		0702	0703		434.9	434.3																								60						
L 53+49	7 RT	0703		437.5																																
		0703	0723		434.3	434.1																								76						
L 52+55	44 LT	0704		436.4																																
		0704	0705		433.4	432.1																								140						
L 53+99	44 LT	0705		435.1																																
		0705	0706		432.1	432.0																								24						
L 54+26	44 LT	0706		435.1																																
SHEET TOTALS									376	284	220																			912	140	84				

LINE & STATION	FROM	TO	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE)	REINFORCED ENDWALLS	DRAINAGE STRUCTURE MASONRY	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 0' THRU 5'	A 5' THRU 10'	B 10' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E	F	G		CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	DI IN 2'-9" CURB AND GUTTER	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATES STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26	G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27	G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28	G.D.I. (W.S. FLAT) FRAME WITH GRATE STD. 840.20	G.D.I. (W.S. FLAT) FRAME W/ 2 GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22	G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	J.B. STD. 840.31 OR STD. 840.32	T.B.D.I. STD. 840.35	M.H. STD. 840.51, STD. 840.52, OR STD. 840.53	M.H. FRAME AND COVER STD. 840.54		CONVERT EXISTING D.I. TO C.B.	CONVERT EXISTING D.I. TO J.B.	ADJUST C.B.	ADJUST D.I.		15" DRAINAGE PIPE ELBOW		MODIFIED CONC. FLUME		FLOWABLE FILL	CONCRETE COLLARS CL. "B" STD. 840.72	PIPE REMOVAL	REMARKS
			CY	CY	CY	EACH	LIN. FT.	LIN. FT.																																			CY	CY	LIN. FT.	
L 45+54	0610					1			1	1																																				
	0610	0630																																												Remove Exising 15" RCP
L 45+33	0611					1	0.1		1			1																																		Remove Existing CB
	0611	0617																																												Remove +/- 72 LF of 18" RCP and CB
L 43+06	0612					1			1		1																																			
	0612	0613																																												
L 44+64	0613					1			1		1																																			
	0613	0617																																												
L 47+97	0614					1			1			1																																		
	0614	0615																																												
L 46+70	0615					1			1			1																																		
	0615	0616																																												
L 45+53	0616					1			1	1																																				
	0616	0617																																												
L 45+29	0617					1	0.4		1		1																																			
	0617	0618																																												
L 38+52	0620					1								1		1	1																													
	0620	0601																																												
L 51+44	0621					1								1		1	1																													
	0621	0701																																												
L 39+99	0622					1													1								1																			
	0622	0623																																												
L 38+57	0624					1																								1			1													
	0624	0625																																												
L 40+79	0625					1																								1			1													
	0625	0626																																												
L 42+55	0626					1																								1			1													
	0626	0627																																												
L 43+64	0627					1																								1			1													
	0627	0628																																												
L 44+58	0628					1																								1			1													
	0628	0631																																												
L 46+70	0629					1																								1			1													
	0629	0630																																												
L 45+54	0630					1																								1			1													
	0630	0631																																												
L 45+33	0631					1																								1			1													
	0631	0611																																												
L 41+42	0632																																													
L 52+27	0701					1								1		1	1																													
	0701	0702																																												
L 52+87	0702					1								1		1	1																													
	0702	0703																																												
L 53+49	0703					1								1		1	1																													
	0703	0723																																												
L 52+55	0704					1			1			1																																		
	0704	0705																																												Remove Existing CB and 15" RCP
L 53+99	0705					1			1			1																																		
	0705	0706																																												Remove Existing 15" RCP
L 54+26	0706					1			1	1																																				
SHEET TOTALS						25	0.5		11	3	3	5		5		5	5		1								1			8			8													

ABBREVIATIONS

C.A.A.	CORRUGATED ALUMINIUM ALLOY
C.B.	CATCH BASIN
C.S.	CORRUGATED STEEL
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
H.D.P.E.	HIGH DENSITY POLYETHYLENE
J.B.	JUNCTION BOX
M.H.	MANHOLE
N.S.	NARROW SLOT
P.V.C.	POLYVINYL CHLORIDE
R.C.	REINFORCED CONCRETE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX
W.S.	WIDE SLOT

DTALBERT-NEW

COMPUTED BY:	DWT	**DATE:**	11/20/2018
CHECKED BY:	JDG	**DATE:**	11/20/2018

PROJECT NO.	SHEET NO.
U-5826	3D-4

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

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

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

LINE & STATION / SIZE / THICKNESS OR GAUGE	OFFSET		STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC) 4 Irrigation Conduit	15	18	24	30	36	42	48	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	DO NOT USE PVC	R. C. PIPE CLASS III 12	15	18	24	30	36	42	48	R. C. PIPE CLASS IV 12	15	18	24	30	36	42	48
			0706	0710		431.3	430.9																										132				
L 56+92	44	LT	0707		437.1																																
			0707	0709		434.1	432.9																								84						
L 56+08	7	RT	0708		437.9																																
			0708	0709		434.7	432.9																								52						
L 56+05	44	LT	0709		435.9																																
			0709	0710		432.9	432.6																								40						
L 55+65	44	LT	0710		435.6																																
			0710	0711		430.7	430.6																	24													
L 58+69	3	RT	0712		440.6																																
			0712	0713		437.4	436.7																								40						
L 58+68	44	RT	0713		439.7																																
			0713	0714		436.7	435.4																								256						
L 56+11	44	RT	0714		438.4																																
L 62+28	7	LT	0715		440.5																																
			0715	0717		437.3	434.9																								248						
L 64+75	63	LT	0716																																		
			0716	0717		437.7	434.6																									56					
L 64+76	7	LT	0717		438.1																																
			0717	0718		434.6	432.5	0.4																								52					
L 64+76	44	RT	0718		435.8																																
			0718	0719		432.0	431.7																										104				
L 65+83	44	RT	0719		435.9																																
			0719	0805		431.7	431.4																										96				
L 65+55	8	LT	0720		437.6																																
			0720	0727		434.4	434.2																								40						
L 56+91	7	RT	0721		438.3																																
			0721	0725		435.2	434.9																								44						
L 54+34	8	RT	0722		437.3																																
			0722	0723		434.1	434.0																								8						
L 54+26	8	RT	0723		437.3																																
			0723	0706		434.0	432.1																								52						
L 59+33	0	CL	0724		441.3																																
			0724	0712		438.2	437.4																								64						
L 56+45	8	RT	0725		438.1																																
			0725	0708		434.9	434.7																								36						
L 65+98	7	LT	0727		437.3																																
			0727	0801		434.2	434.0																								40						
L 60+44	32	RT	0728														X	X	X	X																	
L 66+37	7	LT	0801		437.1																																
			0801	0802		434.0	433.8																								44						
L 66+81	8	LT	0802		437.0																																
			0802	0803		433.8	433.6																								40						
L 67+25	8	LT	0803		436.8																																
			0803	0804		433.6	433.4																								36						
L 67+62	8	LT	0804		436.6																																
			0804	0824		433.4	432.8																								32						
L 66+82	44	RT	0805		435.7																																
			0805	0806		431.4	431.1																										96				
L 67+78	44	RT	0806		435.2																																
SHEET TOTALS																									24						1156	108	428				

LINE & STATION	FROM	TO	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES 0' THRU 5' EACH	5' THRU 10' (A) LIN. FT.	10' AND ABOVE (B) LIN. FT.	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E	F	G	CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	DI IN 2'-9" CURB AND GUTTER	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATES STD. 840.16
	0706	0710														
L 56+92	0707					1			1		1					
	0707	0709														
L 56+08	0708					1							1		1	1
	0708	0709														
L 56+05	0709					1			1		1					
	0709	0710														
L 55+65	0710					1			1		1					
	0710	0711														
L 58+69	0712					1							1		1	1
	0712	0713														
L 58+68	0713					1			1			1				
	0713	0714														
L 56+11	0714					1			1			1				
L 62+28	0715					1							1		1	1
	0715	0717														
L 64+75	0716															
	0716	0717														
L 64+76	0717					1							1		1	1
	0717	0718														
L 64+76	0718					1			1		1					
	0718	0719														
L 65+83	0719					1			1		1					
	0719	0805														
L 65+55	0720					1							1		1	1
	0720	0727														
L 56+91	0721					1							1		1	1
	0721	0725														
L 54+34	0722					1							1		1	1
	0722	0723														
L 54+26	0723					1							1		1	1
	0723	0706														
L 59+33	0724					1							1		1	1
	0724	0712														
L 56+45	0725					1							1		1	1
	0725	0708														
L 65+98	0727					1							1		1	1
	0727	0801														
L 60+44	0728															
L 66+37	0801					1							1		1	1
	0801	0802														
L 66+81	0802					1							1		1	1
	0802	0803														
L 67+25	0803					1							1		1	1
	0803	0804														
L 67+62	0804					1							1		1	1
	0804	0824														
L 66+82	0805					1			1		1					
	0805	0806														
L 67+78	0806					1			1		1					
SHEET TOTALS						24			9		7	2	15		15	15

NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)

LINE & STATION	FROM	TO	G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26	G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27	G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28	G.D.I. (W.S. FLAT) FRAME WITH GRATE STD. 840.20	G.D.I. (W.S. FLAT) FRAME W/ 2 GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22	G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	J.B. STD. 840.31 OR STD. 840.32	T.B.D.I. STD. 840.35	M.H. STD. 840.51, STD. 840.52, OR STD. 840.53	M.H. FRAME AND COVER STD. 840.54	CONVERT EXISTING D.I. TO C.B.	CONVERT EXISTING D.I. TO J.B.	ADJUST C.B.	ADJUST D.I.	15" DRAINAGE PIPE ELBOW	MODIFIED CONC. FLUME	FLOWABLE FILL CY	CONCRETE COLLARS CL. "B" STD. 840.72 CY	PIPE REMOVAL LIN. FT.	REMARKS
	0706	0710																									Remove Existing 15" RCP
L 56+92	0707																										
	0707	0709																									Remove Existing 15" RCP
L 56+08	0708																										
	0708	0709																									
L 56+05	0709																										
	0709	0710																									Remove Exising 15" RCP
L 55+65	0710																										Remove Existing CB
	0710	0711																									Remove +/- 22 LF of 24" RCP
L 58+69	0712																										
	0712	0713																									
L 58+68	0713																										
	0713	0714																									
L 56+11	0714																										
L 62+28	0715																										
	0715	0717																									
L 64+75	0716																										
	0716	0717																									Remove Existing 15" RCP, DI, and CB
L 64+76	0717																										
	0717	0718																									Remove Existing 15" RCP and CB
L 64+76	0718																										
	0718	0719																									
L 65+83	0719																										
	0719	0805																									
L 65+55	0720																										
	0720	0727																									
L 56+91	0721																										
	0721	0725																									
L 54+34	0722																										
	0722	0723																									
L 54+26	0723																										
	0723	0706																									
L 59+33	0724																										
	0724	0712																									
L 56+45	0725																										
	0725	0708																									
L 65+98	0727																										
	0727	0801																									
L 60+44	0728																										
L 66+37	0801																										
	0801	0802																									
L 66+81	0802																										
	0802	0803																									
L 67+25	0803																										
	0803	0804																									
L 67+62	0804																										
	0804	0824																									
L 66+82	0805																										
	0805	0806																									
L 67+78	0806																										
SHEET TOTALS																											

ABBREVIATIONS

C.A.A.	CORRUGATED ALUMINIUM ALLOY
C.B.	CATCH BASIN
C.S.	CORRUGATED STEEL
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
H.D.P.E.	HIGH DENSITY POLYETHYLENE
J.B.	JUNCTION BOX
M.H.	MANHOLE
N.S.	NARROW SLOT
P.V.C.	POLYVINYL CHLORIDE
R.C.	REINFORCED CONCRETE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX
W.S.	WIDE SLOT

DTALBERT-NEW

COMPUTED BY:	DWT	**DATE:**	11/20/2018
CHECKED BY:	JDG	**DATE:**	11/20/2018

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
U-5826	3D-5

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

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

LINE & STATION	OFFSET	STRUCTURE NUMBER		TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	MINIMUM REQUIRED SLOPE	Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC)													R. C. PIPE CLASS III								R. C. PIPE CLASS IV							
SIZE		FROM	TO	FT.	FT.	FT.	%	4	15	18	24	30	36	42	48	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	DO NOT USE PVC	12	15	18	24	30	36	42	48	12	15	18	24	30	36	42	48
THICKNESS OR GAUGE								Irrigation Conduit																												
L 68+66	44 RT	0807		434.7	430.2																															
L 70+58	5 RT	0808		434.3																																
		0808	0809		431.2	430.3																								40						
L 70+63	44 RT	0809		433.3																																
		0809	0826		430.3	430.2			8																											
L 71+68	44 RT	0810		432.5																																
		0810	0827		429.5	429.4			16																											
L 72+22	44 RT	0811		432.2																																
		0811	0828		429.2	429.1			16																											
L 72+93	60 RT	0812		432.3																																
		0812	0829		429.3	429.2			28																											
L 75+10	41 RT	0813		434.3																																
L 73+87	43 RT	0814		432.6																																
L 72+65	44 RT	0815		432.1	427.2																															
L 72+65	34 LT	0816																																		
		0816	0822		426.3	426.2	0.3																								8					
L 76+67	38 LT	0817		437.3																																
		0817	0818		434.0	432.4																								92						
L 75+73	47 LT	0818		435.4																																
		0818	0819		432.4	429.8																								168						
L 74+05	44 LT	0819		432.8																																
		0819	0820		429.8	429.2	0.3																							92						
L 73+12	44 LT	0820		432.2																																
		0820	0821		428.9	428.8																									36					
L 72+74	44 LT	0821		432.1																																
		0821	0822		428.8	428.7																									8					
L 72+65	44 LT	0822		432.1																																
		0822	0823		425.5	425.4					32																									
L 67+95	8 LT	0824		436.0																																
		0824	0825		432.8	432.6																								60						
L 68+56	7 LT	0825		436.0																																
		0825	0807		432.6	431.7																								52						
L 70+58	53 RT	0826		434.1																																
		0826	0827		430.2	429.9			108																											
L 71+68	58 RT	0827		433.3																																
		0827	0828		429.4	429.2			52																											
L 72+22	58 RT	0828		433.0																																
		0828	0829		429.1	429.0			40																											
L 72+63	60 RT	0829		432.8																																
		0829	0815		429.0	428.9			16																											
L 15+32	61 RT																																			
L 16+55	73 RT																																			
L 17+27	44 RT																																			
L 29+91	46 RT																																			
L 30+00	64 LT																																			
L 30+41	44 RT																																			
L 31+39	35 RT																																			
L 32+08	38 RT																																			
L 32+74	40 RT																																			
							SHEET TOTALS		284		32																			504	52					

LINE & STATION	FROM	TO	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE)	REINFORCED ENDWALLS	DRAINAGE STRUCTURE	QUANTITIES FOR DRAINAGE STRUCTURES NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)			C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STD. 840.03				CONCRETE TRANSITIONAL SECTION		D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATES STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26	G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27	G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28	G.D.I. (W.S. FLAT) FRAME WITH GRATE STD. 840.2	G.D.I. (W.S. FLAT) FRAME W/ 2 GRATES STD. 840.	G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22	G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.2	G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.2	J.B. STD. 840.31 OR STD. 840.32	T.B.D.I. STD. 840.35	M.H. STD. 840.51, STD. 840.52, OR STD. 840.53	M.H. FRAME AND COVER STD. 840.54		CONVERT EXISTING D.I. TO C.B.	CONVERT EXISTING D.I. TO J.B.	ADJUST C.B.	ADJUST D.I.		15" DRAINAGE PIPE ELBOW		MODIFIED CONC. FLUME		FLOWABLE FILL	CONCRETE COLLARS CL. "B" STD. 840.72	PIPE REMOVAL	REMARKS
			CY	CY	MASONRY CY	0' THRU 5' EACH	A 5' THRU 10' LIN. FT.	B 10' AND ABOVE LIN. FT.		GRATE TYPE E	F	G		D.I. STD. 852.04 OR STD. 852.06	DI IN 2'-9" CURB AND GUTTER																												CY	CY	LIN. FT.	
L 68+66	0807					1			1		1																																			
L 70+58	0808					1								1		1	1																													
	0808	0809																																												
L 70+63	0809					1			1		1																																			
	0809	0826																																												
L 71+68	0810					1			1		1																																			
	0810	0827																																												
L 72+22	0811					1			1		1																																			
	0811	0828																																												
L 72+93	0812					1			1			1																																		
	0812	0829																																												
L 75+10	0813											1																								1										
L 73+87	0814											1																								1										
L 72+65	0815					1			1	1																																				Remove Existing CB
L 72+65	0816																																											0.4465		
	0816	0822																																												Remove Existing CB
L 76+67	0817					1			1		1																																			
	0817	0818																																												
L 75+73	0818					1			1		1																																			
	0818	0819																																												
L 74+05	0819					1			1		1																																			
	0819	0820																																												
L 73+12	0820					1			1		1																																			
	0820	0821																																												
L 72+74	0821					1			1		1																																			
	0821	0822																																												
L 72+65	0822					1	1.6		1	1																																				
	0822	0823																																												
L 67+95	0824					1								1		1	1																													
	0824	0825																																												
L 68+56	0825					1								1		1	1																													
	0825	0807																																												
L 70+58	0826					1																								1			1													
	0826	0827																																												
L 71+68	0827					1										1	1																													
	0827	0828																																												
L 72+22	0828					1										1	1																													
	0828	0829																																												
L 72+63	0829					1										1	1																													
	0829	0815																																												
L 15+32																																													35	Remove Existing 18" RCP
L 16+55																																													43	Remove Existing 18" RCP
L 17+27																																														Remove Existing 15" RCP
L 29+91																																													10	Remove Existing CB and 15" RCP
L 30+00																																													18	Remove Existing 15" RCP
L 30+41																																													95	Remove Existing CB and 15" RCP
L 31+39																																											4			Fill Existing 15" RCP
L 32+08																																											2			Fill Existing 15" RCP
L 32+74																																											4			Fill Existing 15" RCP
SHEET TOTALS						19	1.6		12	2	9	3		3		6	6												1			1				2							10	0.4465	201	

ABBREVIATIONS

C.A.A.	CORRUGATED ALUMINIUM ALLOY
C.B.	CATCH BASIN
C.S.	CORRUGATED STEEL
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
H.D.P.E.	HIGH DENSITY POLYETHYLENE
J.B.	JUNCTION BOX
M.H.	MANHOLE
N.S.	NARROW SLOT
P.V.C.	POLYVINYL CHLORIDE
R.C.	REINFORCED CONCRETE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX
W.S.	WIDE SLOT

DTALBERT-NEW

COMPUTED BY:	DWT	DATE:	11/20/2018
CHECKED BY:	JDG	DATE:	11/20/2018

PROJECT NO.	SHEET NO.
U-5826	3D-6

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

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

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

LINE & STATION / SIZE / THICKNESS OR GAUGE	OFFSET	STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC) 4 Irrigation Conduit	Drainage Pipe 15	Drainage Pipe 18	Drainage Pipe 24	Drainage Pipe 30	Drainage Pipe 36	Drainage Pipe 42	Drainage Pipe 48	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	DO NOT USE PVC	R. C. PIPE CLASS III 12	R. C. PIPE CLASS III 15	R. C. PIPE CLASS III 18	R. C. PIPE CLASS III 24	R. C. PIPE CLASS III 30	R. C. PIPE CLASS III 36	R. C. PIPE CLASS III 42	R. C. PIPE CLASS III 48	R. C. PIPE CLASS IV 12	R. C. PIPE CLASS IV 15	R. C. PIPE CLASS IV 18	R. C. PIPE CLASS IV 24	R. C. PIPE CLASS IV 30	R. C. PIPE CLASS IV 36	R. C. PIPE CLASS IV 42	R. C. PIPE CLASS IV 48	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 0' THRU 5' EACH	A 5' THRU 10' LIN. FT.	B 10' AND ABOVE LIN. FT.	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E	F	G		CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	CONCRETE TRANSITIONAL SECTION DI IN 2'-9" CURB AND GUTTER	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATES STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26	G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27	G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28	G.D.I. (W.S. FLAT) FRAME WITH GRATE STD. 840.20	G.D.I. (W.S. FLAT) FRAME W/ 2 GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22	G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	J.B. STD. 840.31 OR STD. 840.32	T.B.D.I. STD. 840.35	M.H. STD. 840.51, STD. 840.52, OR STD. 840.53	M.H. FRAME AND COVER STD. 840.54		CONVERT EXISTING D.I. TO C.B.	CONVERT EXISTING D.I. TO J.B.	ADJUST C.B.	ADJUST D.I.		15" DRAINAGE PIPE ELBOW		MODIFIED CONC. FLUME		FLOWABLE FILL CY	CONCRETE COLLARS CL. "B" STD. 840.72 CY	PIPE REMOVAL LIN. FT.	REMARKS
L 32+74	40 RT																																																																											4			Fill Existing 15" RCP
L 37+29	36 RT																																																																													29	Remove Existing 15" RCP
L 39+58	45 LT																																																																													229	Remove Existing CB and 12" RCP
L 41+90	44 LT																																																																													227	Remove Existing CB and 12" RCP
L 44+19	43 LT																																																																													227	Remove Existing CB and 15" RCP
L 45+04	48 RT																																																																													32	Remove Existing 24" RCP
L 45+18	31 RT																																																																											2			Fill Existing 18" RCP
L 45+76	32 RT																																																																											4			Fill Existing 15" RCP
L 45+83	43 LT																																																																													97	Remove Existing CB and 15" RCP
L 47+01	32 RT																																																																											7			Fill Existing 15" RCP
L 47+90	38 RT																																																																													19	Remove +/- 19 LF of Existing 15" RCP and CB
L 56+12	38 RT																																																																													12	Remove +/- 12 LF of Existing 15" RCP and CB
L 56+48	44 LT																																																																													32	Remove Existing 15" RCP and CB
L 57+66	32 RT																																																																											14			Fill Existing 15" RCP
L 59+22	32 RT																																																																											1			Fill Existing 15" RCP
L 65+31	37 RT																																																																											12			Fill Existing 24" RCP
L 66+80	39 RT																																																																											22			Fill Existing 24" RCP
L 68+20	42 RT																																																																											10			Fill Existing 24" RCP
L 72+09	44 RT																																																																													97	Remove Existing 15" RCP and CB
L 72+61	35 LT																																																																													5	Remove Existing 15" RCP
L 72+62	44 RT																																																																														4	Remove Existing 15" RCP and CB
L 72+70	47 LT																																																																													25	Remove Existing 24" RCP
L 73+99	34 LT																																																																													268	Remove Existing 15" RCP
L 76+02	37 LT																																																																													132	Remove Existing 15" RCP
Y10 10+80	46 RT																																																																													52	Remove Existing 18" RCP
SHEET TOTALS																																																																														76		1487	
PROJECT TOTALS									828	368	276											64		72							4148	324	640								108	13.6		49	6	27	26		40	3	44	46		3					2		1			12			14		2	2	8	2		2		1		82	1.2920	1688	

ABBREVIATIONS

C.A.A.	CORRUGATED ALUMINIUM ALLOY
C.B.	CATCH BASIN
C.S.	CORRUGATED STEEL
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
H.D.P.E.	HIGH DENSITY POLYETHYLENE
J.B.	JUNCTION BOX
M.H.	MANHOLE
N.S.	NARROW SLOT
P.V.C.	POLYVINYL CHLORIDE
R.C.	REINFORCED CONCRETE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX
W.S.	WIDE SLOT

COMPUTED BY: N. Moore DATE: 5/15/19 CHECKED BY :N. Roberson DATE: 5/15/19	(5-15-18)	PROJECT NO. U-5826	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
CONTINGENCY				SD	200
				TOTAL LF:	200

***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 Soil Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
-L-	34+75	42+25	ASU	12"	600	2200	3300		
CONTINGENCY			AST					50	
CONTINGENCY			ASU	12"	500				
				TOTAL CY/TONS/SY:	1100	2200**	3300**	50	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 Soil 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.**

PROJ. REFERENCE NO.	SHEET NO.
U-5826	3P-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
1	4, 9	NORTH RALEIGH CHURCH OF CHRIST
2	4	SHANNON K. PASCHALL & HUSBAND RICHARD C.
3	4	GILBERT HICKS & KOREN HARRISON
4A	4	CLINTON I. GILBERT & WIFE KIMBERLY D.
4	4	LAP KIM TRAN & HAIYEN NGUYEN
5	4	THORPSHIRE FARM HOMEOWNERS ASSOCIATION, INC.
6	4	SUSANNE L. BUTLER
7	4	HENRY JOHNSON & WIFE CHARLOTTE JOHNSON
8	5	THE FRANKLIN FAMILY LIMITED PARTNERSHIP #1
9	5	CHATHAM PHEASANT POINT, LLC
10	5	LAVAMERICAI, LLC
11	5	FALLS RIDGE WEST, LLC
12	5	RANDALL E. ROYCROFT & CHERETTE
13	5	WILLIAM T. BARKER
14	5	LORETTA L. BRAGG
15	5,6	BERKELEY CAPITAL, LLC
16	5	HARVEY L. NANNEY & WIFE FRANCES L.
17	5,6	WILLIAM E. GRAHAM & WIFE DALE G.
18	5,6	OAKSTAR PROPERTIES, LLC
19	6	CHARLES A. HAYWOOD, JR & WIFE NIKKI P.
20	6	SEAN M. DROWN & WIFE DAWN W.
21	6	OAKSTAR PROPERTIES, LLC
22	6	HOMES BY EDD K. ROBERTS, INC
23	6	OLIVE PARK, LLC
24	6	BRANCH BANKING & TRUST COMPANY
25	6	LUTHER V. WAGONER & WIFE KAREN E.
26	6	GEORGE E. BURKE, JR & WIFE JENNIE W.
27	6	MICHAEL D. NELSEN & WIFE MARY JANE MARCHANT
28	6	TIMOTHY J. GAUS
29	6	CONLEY HOLDINGS AT FALLS POINTE, LLC
30	6,7	KENNETH MASSEY & WIFE SHERRY
31	6,7	HIGHLAND QUARTERS, LLC BERNARD F. MCLEOD, III W. STEWART MCLEOD
32	7	MUIRFIELD GROUP RESIDENTIAL, INC
33	7	WRI/FALLS POINTE, LLC
34	7	MCDONALD'S REAL ESTATE CORPORATION
35	7,8	RALEIGH DURANT, LLC
36	7,8	KOHL'S DEPARTMENT STORES, INC.
37	8	W. SHELBURNE BRANNAN

PARCEL No.	SHEET No.	PROPERTY OWNER NAME

PROJECT REFERENCE NO.	SHEET NO.
U-5826	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

DocuSigned by: Bryan E. Kilgo
38575EFEF93446...
SEAL 036853 ENGINEER BRYAN E. KILGO
2/6/2023

HYDRAULICS ENGINEER

DocuSigned by: Joshua G. Dalton
1D8DA08C14964C3...
SEAL 26971 ENGINEER JOSHUA G. DALTON
2/6/2023

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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Engineers • Planners • Scientists • Construction Managers
4505 Falls of Neuse Road, Suite 400
Raleigh, NC 27609-6270
Phone (919) 783-9214 • Fax (919) 783-9266

REVISIONS 8/17/99

-L-
PI Sta 13+96.43
△ = 36° 33' 46.6" (LT)
D = 4° 46' 28.7"
L = 765.77'
T = 396.43'
R = 1,200.00'
DS = 50 MPH
e = .04
RUNOFF = 200'

-RPC-
PI Sta 20+79.80
△ = 10° 14' 08.5" (LT)
D = 5° 05' 34.6"
L = 200.98'
T = 100.76'
R = 1,125.00'

MATCHLINE -RPC- 17+00.00
SEE SHEET 9

NAD 83 /NA 2011

FALLS OF NEUSE RD. & I-540

111,850 / 158,850
9,600 / 12,245 — 22,430 / 26,630
39,560 / 45,960 — I-540 — FALLS OF NEUSE — 54,230 / 62,430
6,270 / 6,070 — 8,455 / 8,155
94,285 / 134,185
2023 AADT / 2043 AADT

BEGIN TIP PROJECT U-5826
-L- STA. 13+00.00

1 END C/A
TIE TO EXIST.C/A
END 48' WW FENCE
TIE TO EXIST.FENCE
+50.00
84.79'

NORTH RALEIGH CHURCH OF CHRIST
DB 4952 - PG 61
BM 1999 - PG 2285

-RPC- PT Sta. 18+26.64
-RPC- PT Sta. 19+79.04
-L- PC Sta. 10+00.00
-RPC- PT Sta. 21+80.02
-L- PT Sta. 17+65.77
-L- PC Sta. 24+00.00
MATCHLINE -L- 24+00.00 SEE SHEET 5
-Y10- PC Sta. 10+38.33
-Y10- PT Sta. 11+75.82
-Y10- PC Sta. 11+86.46
-Y10- PT Sta. 12+25.20
-Y10- POT Sta. 12+36.31
END CONST. -Y10-
-Y10- POT Sta. 14+01.05

BERM V DITCH SEE DETAIL 3
CONVERT to JB w/MH
BERM V DITCH WCL B RIP RAP EST. 50 TONS EST. 140 SY GF SEE DETAIL 5
SPEC. LAT. V DITCH SEE DETAIL 4
TIE PROPOSED CURB AND GUTTER INTO EXISTING CURB AND GUTTER
RETAIN CONVERT 2GI TO JB w/MH
250' MEDIAN TRANSITION
ADJUST CB
ADJUST DI
MONO. ISLAND
15" RCP-IV
REMOVE CB AND 8 LF OF 18" RCP
2'-6" C&G
100' TAPER RT
SPEC. LAT. V DITCH SEE DETAIL 1
8' MULTI-USE PATH
REMOVE AND REPLACE MONO. ISLAND
REMOVE +/- 4 LF OF 24" RCP
TIE TO EXIST. -RPC-21+05.00 (56.30' LT)
REMOVE AND RESET EXIST.STEEL BEAM GR
CONVERT to CB
100' TAPER
200' TAPER
1'-6" C&G
GRASS
4' MONO. ISLAND
REMOVE EXISTING CONCRETE ISLAND
RETAIN EXISTING TYPE III ANCHOR UNIT. REPLACE EXIST.WTR SECTION WITH NEW W-TR STEEL BEAM TRANSITION SECITON. SEE STANDARD DRAWING 862.03
BEGIN EXIST. BRIDGE -L- POT STA. 21+18.17
TYPE III
ADJUST CB
50' INC.
REMOVE AND RESET EXIST.STEEL BEAM GR
REPLACE EXIST. 15" ANCHOR WITH 45° ELBOWS
RETAIN AND CLEAN OUT
RETAIN EXISTING TYPE III ANCHOR UNIT. REPLACE EXIST.WTR SECTION WITH NEW W-TR STEEL BEAM TRANSITION SECITON. SEE STANDARD DRAWING 862.03
CL 'B' RIP RAP EST. 2 TONS EST. 7 SY GF
CL 'B' RIP RAP EST. 3 TONS EST. 10 SY GF
SPEC. LAT. 2' BASE DITCH SEE DETAIL 8
END 8' MULTI-USE PATHWAY -L- STA. 19+00.00 TRANSITION FROM 8' MUP TO 5' SIDEWALK AS DIRECTED BY THE ENGINEER
END 48' WW FENCE TIE TO EXIST.FENCE +40.00 96.89'
BEG.48' WW FENCE BEG.C/A +14.46 86.13'
END 48' WW FENCE END C/A +73.38 84.38'
BEG.48' WW FENCE BEG.C/A +58.00 97.00'
TIE PROPOSED CURB AND GUTTER INTO EXISTING CURB AND GUTTER
TIE PROPOSED CURB AND GUTTER INTO EXISTING CURB AND GUTTER
TIE PROPOSED CURB AND GUTTER INTO EXISTING CURB AND GUTTER
TIE PROPOSED CURB AND GUTTER INTO EXISTING CURB AND GUTTER
REMOVE
RETAIN
FS, SEE DETAIL 11
FS, SEE DETAIL 13
JB w/MH
2GI
DEP #2 AWG AL(C)
I-WUSN2TP1C Copper
I-540 RAMP
36' BST
30' C&G
S 28° 30' 50.5" E
S 38° 44' 59.0" E
S 37° 43' 39.9" E
S 5° 33' 33.0" E
S 1° 50' 55.9" E
N 41° 20' 46.0" E
BL-98
BL-99
BL-100
BL-101
BL-102
BL-103
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BL-130
BL-131
BL-132
BL-133
BL-134
BL-135
BL-136
BL-137

PROJECT REFERENCE NO.	SHEET NO.
U-5826	5
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
DocuSigned by: Bryan Kluttz
3347A1EEF0244A6...
036853 ENGINEER BRYAN F. KLUTTZ
2/6/2023

HYDRAULICS ENGINEER
DocuSigned by: Joshua G. Dalton
D894DBC74084C3...
26971 ENGINEER JOSHUA G. DALTON
2/6/2023

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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Raleigh, NC 27609-6270
Phone (919) 783-9214 • Fax (919) 783-9266

REVISIONS 8/17/99

-L-
PI Sta 28+77.63
△ = 4° 41' 48.2" (RT)
D = 1° 00' 00.0"
L = 469.67'
T = 234.97'
R = 5,729.58'
DS = 50 MPH
e = .02
RUNOFF = 100'

-L-
PI Sta 32+73.84
△ = 3° 41' 59.9" (RT)
D = 1° 08' 45.3"
L = 322.88'
T = 161.50'
R = 5,000.00'
DS = 50 MPH
e = .02

-Y2-
PI Sta 10+32.89
△ = 9° 03' 44.4" (RT)
D = 13° 50' 23.4"
L = 65.48'
T = 32.89'
R = 415.00'

-L-
PI Sta 37+75.09
△ = 7° 42' 01.5" (LT)
D = 1° 08' 04.5"
L = 678.71'
T = 339.87'
R = 5,050.00'
DS = 50 MPH
e = .02
RUNOFF = 100'

NAD 83/NA 2011

FALLS RIDGE WEST, LLC
DB 10464 - PG 1627
BM 2005 PG 639

WILLIAM P. MERRITT & JENNIFER L. TYCAST
DB 16276 - PG 1960
BM 1980 - PG 75

RANDALL E. ROYCROFT & CHERETTE
DB 8669 - PG 001
DB 7070 - PG 412
BM 1980 - PG 75

HARVEY L. NANNEY & WIFE FRANCES A.
DB 3575 - PG 165
BM 1980 - PG 75

WILLIAM T. BARKER
DB 12003 - PG 182
BM 1965 - PG 61
BM 2007 - PG 1050

LAVAMERICAI, LLC
DB 16147 - PG 2155
BM 2006 - PG 2272

THE FRANKLIN FAMILY LIMITED PARTNERSHIP #1
DB 11517 - PG 999
BM 2002 - PG 1883
BM 2004 - PG 125

CHATHAM PHEASANT POINT, LLC
DB 15872 - PG 1692
BM 2002 - PG 1883
BM 2006 - PG 2272

LORETTA L. BRAGG
DB 1940 - PG 577
BM 1965 - PG 61

BERKELEY CAPITAL, LLC
DB 15924 - PG 1936
BM 1965 - PG 61

MATCHLINE -L- 24+00.00 SEE SHEET 4

MATCHLINE -L- 38+00.00 SEE SHEET 6

-L- PC Sta. 26+42.66

-L- PCC Sta. 31+12.34

-L- PRC Sta. 34+35.22

-Y2- PC Sta. 10+00.00

-Y2- PT Sta. 10+65.48

-Y2- PC Sta. 10+68.48

-Y1- PT Sta. 11+75.93

-Y1- POT Sta. 12+13.80

-Y- POT Sta. 12+27.37

END CONSTRUCTION -Y- POT STA. 11+29.00

BEGIN CONST. -Y2- POT STA. 11+49.15

END CONSTRUCTION -Y1- POC STA. 10+96.09

BEARING BK ≅ S 43° 25' 24.0" E

-Y1-
PI Sta 11+22.31
△ = 7° 14' 49.3" (LT)
D = 6° 44' 40.5"
L = 107.45'
T = 53.83'
R = 850.00'

TIE TO EXIST -L- +53.79 (100' LT)

TIE TO EXIST -L- +82.98 (100' LT)

TIE PROPOSED CURB AND GUTTER INTO EXISTING CURB AND GUTTER

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

REPLACE EXIST ANCHOR WITH GREU-350 TL-3

REMOVE AND RESET EXIST. STEEL BEAM GR

END EXIST BRIDGE -L- POT STA. 24+04.67

RETAIN AND CLEAN OUT

CONVERT TO CB

GREU TL-3

EXIST. MEDIAN TO REMAIN

SPEC. LAT. V DITCH SEE DETAIL 9

5' CONC. SIDEWALK

2'-6" C&G

30" DR

15" RCP-IV

100' TAPER (LT-RT)

48" CONC ISL

MONO. ISLAND

137.5' TAPER

4' MONO. ISLAND

50' CONC ISL

SR 2000 FALLS OF NEUSE RD

N 41° 20' 46.0" E

REMOVE DI

REMOVE EXISTING CONCRETE ISLAND

165' TAPER RT

8' MULTI-USE PATH

ADJUST CB

RETAIN AND CLEAN OUT

REMOVE AND RESET EXIST. STEEL BEAM GR

REPLACE EXIST ANCHORS WITH GREU-350 TL-3

RETAIN EXISTING TYPE III ANCHOR UNIT. REPLACE EXIST WTR SECTION WITH NEW W-TR-STEEL BEAM TRANSITION SECTION, SEE STANDARD DRAWING 862.03

BEGIN 8' MULTI-USE PATH -L- STA. 25+58.62

TRANSITION FROM 5' SIDEWALK TO 8' MUP AS DIRECTED BY THE ENGINEER

TIE PROPOSED CURB AND GUTTER INTO EXISTING CURB AND GUTTER

TBM #1
N - 782162
E - 2116057
ELEV 439.59'
BL Sta 20+19.00 216' Rt
TIE WITH YELLOW TAG IN 9"

S 48° 01' 00.0" E

S 60° 32' 25" E 224.61'

S 42° 08' 41" W 280.55'

70.00'

476'

TIE PROPOSED CURB AND GUTTER INTO EXISTING CURB AND GUTTER

REMOVE DI AND +/- 7 LF OF 24" RCP

REMOVE FLOWABLE FILL

FLOWABLE FILL

350' SHIFT

MULTI-USE PATH

CONC. STEPS WITH HANDRAIL

INSTALL CHANNELIZATION FROM DRIVEWAY TO FLUME

CONC. FLUME

END CONSTRUCTION -Y1- POC STA. 10+96.09

N 36° 39' 56" E 253.52'

S 42° 10' 08" W 146.12'

S 55° 55' 51" W 50.11'

S 50° 40' 13" E 13.37'

S 43° 17' 05" E 23.38'

N 41° 00' 13" E 124.25'

N 39° 33' 22" E 346.81'

N 10° 53' 32" E 351.80'

N 13° 39' 22" W 922.49'

N 13° 39' 22" W 29.12'

N 13° 39' 22" W 10.50'

TOP=434.87'

TOP=453.85'

TOP=457.12'

TOP=459.78'

TOP=460.12'

TOP=460.27'

TOP=460.43'

TOP=460.58'

TOP=460.74'

TOP=460.89'

TOP=461.05'

TOP=461.20'

TOP=461.36'

TOP=461.51'

TOP=461.67'

TOP=461.82'

TOP=461.98'

TOP=462.13'

TOP=462.29'

TOP=462.44'

TOP=462.60'

TOP=462.75'

TOP=462.91'

TOP=463.06'

TOP=463.22'

TOP=463.37'

TOP=463.53'

TOP=463.68'

TOP=463.84'

TOP=463.99'

TOP=464.15'

TOP=464.30'

TOP=464.46'

TOP=464.61'

TOP=464.77'

TOP=464.92'

TOP=465.08'

TOP=465.23'

TOP=465.39'

TOP=465.54'

TOP=465.70'

TOP=465.85'

TOP=466.01'

TOP=466.16'

PROJECT REFERENCE NO.	SHEET NO.
U-5826	6
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — DocuSigned by: Bryan Brown 036853 ENGINEER BRYAN E. BROWN — 2/6/2023

HYDRAULICS ENGINEER — DocuSigned by: Joshua G. Dalton 26971 ENGINEER JOSHUA G. DALTON — 2/6/2023

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Raleigh, NC 27609-6270
Phone (919) 783-9214 • Fax (919) 783-9266

REVISIONS 8/17/99

FALLS OF NEUSE RD. & LITCHFORD RD.

515 / 615	LITCHFORD	100 / 100
54,000 / 62,000	FALLS OF NEUSE	53,780 / 66,980
5,860 / 4,260		6,055 / 9,755
12,130 / 14,330		

2023 AADT / 2043 AADT

NAD 83 /NA 2011

CHARLES A. HAYWOOD, JR & WIFE NIKKI P. DB 5842 - PG 415 BM 1980 - PG 75 (PLAT SHOWN INCORRECT IN DEED)

SEAN M. DROWN & WIFE DAWN W. DB 11392 - PG 878 BM 1980 - PG 75

WILLIAM E. GRAHAM & WIFE DALE G. DB 16383 - PG 2700 BM 1980 - PG 75

LONNIE G. SMITH, III & WIFE MARY H. DB 3957 - PG 367 BM 1983 - PG 1116

JANE B. PARKER DB 9124 - PG 858 BM 1986 - PG 357 BM 1983 - PG 1116

LUTHER V. WAGONER & WIFE KAREN E. DB 5008 - PG 817 BM 1983 - PG 1116

MICHAEL D. NELSEN & WIFE MARY JANE MARCHANT DB 4742 - PG 281 BM 1983 - PG 1116

GEORGE E. BURKE, JR & WIFE JENNIE W. DB 5136 - PG 476 BM 1983 - PG 1116

TIMOTHY J. GALLE DB 15154 - PG 1606 BM 1983 - PG 1288

OAKSTAR PROPERTIES, LLC DB 11022 - PG 2558

OAKSTAR PROPERTIES, LLC DB 11022 - PG 2554 DB 2050 - PG 515

HOMETOWN INSURANCE BROKERS, INC. DB 16139 - PG 2765 CM 2007 - PG 436-AI

HOMES BY EDD K. ROBERTS, INC DB 12543 - PG 1527 CM 2007 - PG 436-AI

HOMES BY EDD K. ROBERTS, INC DB 12611 - PG 688 CM 2007 - PG 436-AI

OLIVE PARK, LLC DB 16174 - PG 1624 BM 2013 - PG 222

BRANCH BANKING & TRUST COMPANY DB 15317 - PG 2080 BM 2013 - PG 222 BM 2015 - PG 1275

CONLEY HOLDINGS AT FALLS POINTE, LLC DB 16154 - PG 1240 BM 2000 - PG 955 BM 2002 - PG 1910

-L- PT Sta. 41+13.93

-L- PC Sta. 39+95.35

-L- PT Sta. 52+00.00

-Y3- POT Sta. 10+00.00

-Y3- POT STA.10+97.00

-Y4- POT Sta. 12+19.74

-Y4- POT STA.11+13.00

MATCHLINE -L- 38+00.00 SEE SHEET 5

MATCHLINE -L- SEE SHEET 7

TIE PROPOSED CURB AND GUTTER INTO EXISTING CURB AND GUTTER

DO NOT DISTURB TREES ON PARCEL 27

DO NOT DISTURB PARKING ON THIS PARCEL

REMOVE CB AND +/- 19 LF OF 18" RCP

REMOVE FLOWABLE FILL

REMOVE FLOWABLE R = 40'

AREA UNDER CONSTRUCTION

DAYLIGHT DITCH TIE TO EXIST. +47.50 (72.00' RT)

TIE TO EXIST. +28.50 (75.00' RT)

TIE TO EXIST. +08.75 (93.00' RT)

TIE TO EXIST. +16.00 (69.5' RT)

SPEC. LAT. V DITCH SEE DETAIL 6

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

CL 'B' RIP RAP EST. 5 TONS EST. 14 SY GF

RIP-RAP

RETAIN

L- STA. 49+03.40
-Y3- STA. 12+30.79
L- STA. 49+02.67
-Y4- STA. 10+00.00

-L-
PI Sta 37+75.09
Δ = 7° 42' 01.5" (LT)
D = 1° 08' 04.5"
L = 678.71'
T = 339.87'
R = 5,050.00'
DS = 50 MPH
e = .02
RUNOFF = 100'

-L-
PI Sta 51+25.00
Δ = 15° 18' 09.5" (LT)
D = 5° 50' 47.4"
L = 261.74'
T = 131.65'
R = 980.00'
DS = 50 MPH
e = .04
RUNOFF = 200'

NOTE: REMOVE EXISTING RIGHT TURN LANE PAVEMENT FROM -L- STA. 38+00 TO 39+00

NOTE: RETAIN ALL TREES WHERE POSSIBLE THAT ARE OUTSIDE OF THE SLOPE STAKES

FOR INTERSECTION DETAIL, SEE SHEET 2B-2

FOR -L- PROFILE VIEW, SEE SHEET 11

★ TRAFFIC SIGNAL

TBM #2
N - 783728
E - 2117590
ELEV - 446.84'
BL Sta 40+65.00 .219' Rt
BENCH TIE WITH YELLOW TAG IN 19" OAK

01-FEB-2023 20:34
M:\2013\21\23395.03 NCDOT U-5826 Falls of the Neuse Rd\Roadway\Proj\U-5826_Rdy_psh_6.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
U-5826	7
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

DocuSigned by: Bryan Kluttz 5B67AEEFF624485...

NORTH CAROLINA 036853 ENGINEER BRYAN E. KLUTTZ

2/6/2023

HYDRAULICS ENGINEER

DocuSigned by: Joshua C Dalton 3DB9ADBC4894C43...

NORTH CAROLINA 26971 ENGINEER JOSHUA C. DALTON

2/6/2023

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Raleigh, NC 27609-6270
Phone (919) 783-9214 • Fax (919) 783-9266

NAD 83 /NA 2011

REVISIONS 8/17/99

-L- PI Sta 51+25.00
Δ = 15° 18' 09.5" (LT)
D = 5° 50' 47.4"
L = 261.74'
T = 131.65'
R = 980.00'
DS = 50 MPH
e = .04
RUNOFF = 200'

-L- PI Sta 54+42.77
Δ = 11° 54' 18.7" (LT)
D = 3° 10' 59.2"
L = 374.01'
T = 187.68'
R = 1,800.00'
DS = 50 MPH
e = .04
RUNOFF = 200'

-L- PI Sta 62+64.12
Δ = 17° 44' 44.1" (RT)
D = 2° 51' 53.2"
L = 619.44'
T = 312.22'
R = 2,000.00'
DS = 50 MPH
e = .04
RUNOFF = 200'

WALGREENS REPRESENTATIVE TO BE ON SITE DURING LOCATING AND PROTECTING DRAIN FIELD. RESIDENT ENGINEER TO COORDINATE.

SEPTIC DRAIN FIELD LOCATION APPROXIMATE. THE CONTRACTOR SHALL FIELD LOCATE DRAIN FIELD LINES WITHIN THE EASEMENT AND PROTECT THEM FROM DAMAGE.

TIE PROPOSED CURB AND GUTTER INTO EXISTING CURB AND GUTTER

SPEC. LAT. V DITCH SEE DETAIL 2

APPROXIMATE LOCATION SEPTIC SYSTEM

SEPTIC JUNCTION BOX

ENERGY DISSIPATOR BASIN SEE DETAIL 10

REMOVE CB AND 24"-RCP

REMOVE ISLAND NOSE

3.75' MONO. ISLAND

TIE PROPOSED CURB AND GUTTER INTO EXISTING CURB AND GUTTER

REMOVE CB AND +/- 12 LF OF 15" RCP

DO NOT DISTURB BACKFLOW PREVENTER (APPROX. LOCATION)

DO NOT DISTURB PARKING LOT LIGHTING

END CONSTRUCTION -Y5- POT STA.13+00.00

END CONSTRUCTION -Y6- POT STA.10+74.00

-Y6- PC Sta. 11+45.57

-Y6- PT Sta. 11+90.69

-Y6- POT Sta. 12+13.39

-Y5- POT Sta. 13+10.04

-Y6-
PI Sta 11+68.21
Δ = 6° 28' 47.2" (LT)
D = 14° 21' 41.4"
L = 45.12'
T = 22.64'
R = 400.00'

FALLS OF NEUSE RD. & MORROCRAFT DR.

53,780 / 66,980	FALLS OF NEUSE	54,790 / 63,390
2,005 / 4,705	MORROCRAFT	3,015 / 1,115
5,020 / 5,820		

2023 AADT / 2043 AADT

NOTE: RETAIN ALL TREES WHERE POSSIBLE THAT ARE OUTSIDE OF THE SLOPE STAKES

FOR -L- PROFILE VIEW, SEE SHEETS 11 & 12
FOR -Y5- PROFILE VIEW, SEE SHEET 13

★ TRAFFIC SIGNAL

MATCHLINE -L- 52+00.00 SEE SHEET 6

MATCHLINE -L- 66+00.00 SEE SHEET 8

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PROJECT REFERENCE NO.	SHEET NO.
U-5826	8

R/W SHEET NO.

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DocuSigned by: Bryan Hough 398761EFEF93446... SEAL 036853 BRYAN E. HOUGH 2/6/2023	DocuSigned by: Joshua G. Dalton 1089AD8C14994C3... SEAL 26971 JOSHUA G. DALTON 2/6/2023

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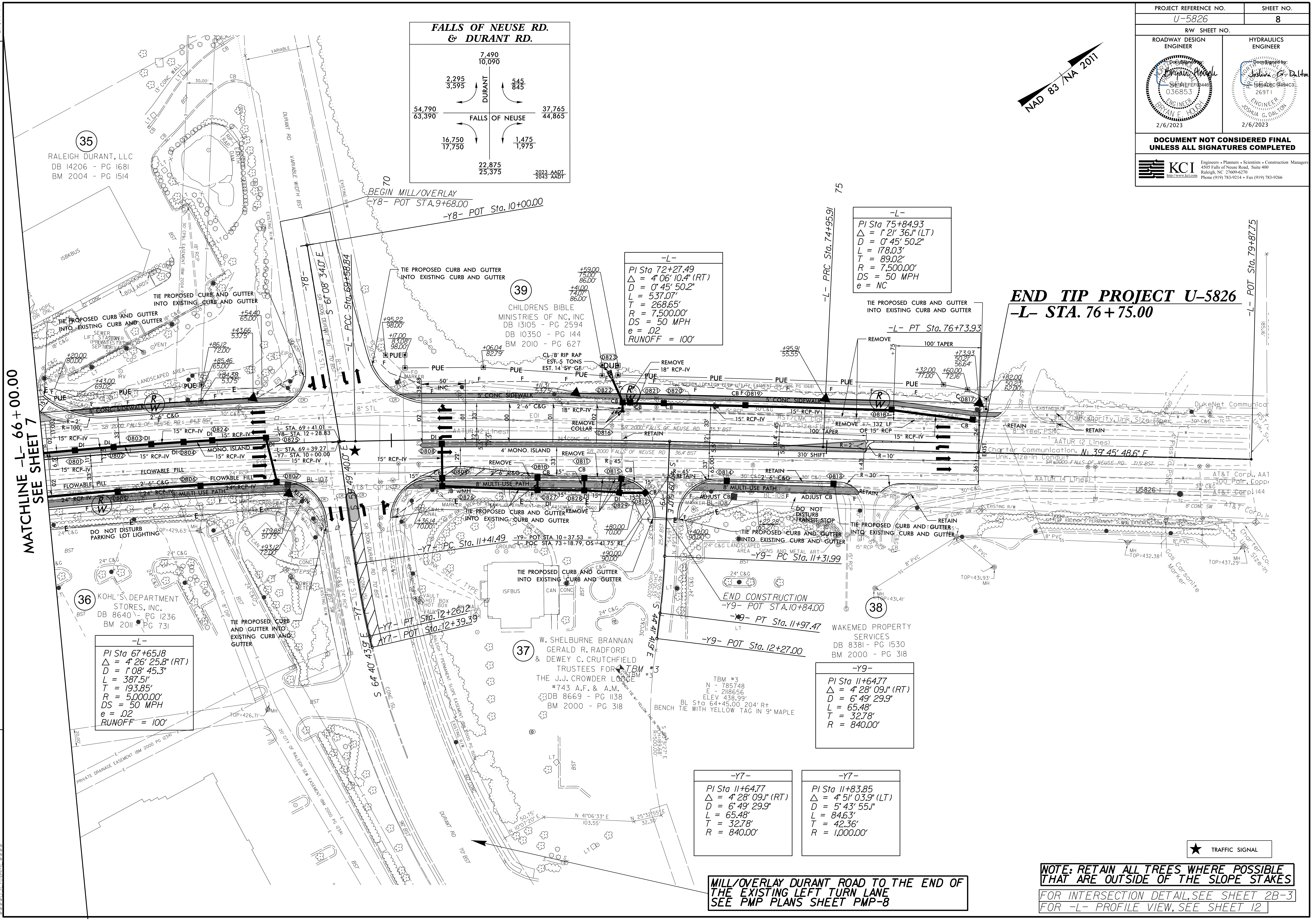

FALLS OF NEUSE RD. & DURANT RD.

-L-
PI Sta 72+27.49
Δ = 4° 06' 10.4" (RT)
D = 0° 45' 50.2"
L = 537.07'
T = 268.65'
R = 7,500.00'
DS = 50 MPH
e = .02
RUNOFF = 100'

-L-
PI Sta 75+84.93
Δ = 1° 21' 36.1" (LT)
D = 0° 45' 50.2"
L = 178.03'
T = 89.02'
R = 7,500.00'
DS = 50 MPH
e = NC

-L-
PI Sta 67+65.18
Δ = 4° 26' 25.8" (RT)
D = 1° 08' 45.3"
L = 387.51'
T = 193.85'
R = 5,000.00'
DS = 50 MPH
e = .02
RUNOFF = 100'

-Y9-
PI Sta 11+64.77
Δ = 4° 28' 09.1" (RT)
D = 6° 49' 29.9"
L = 65.48'
T = 32.78'
R = 840.00'

-Y7-
PI Sta 11+64.77
Δ = 4° 28' 09.1" (RT)
D = 6° 49' 29.9"
L = 65.48'
T = 32.78'
R = 840.00'

-Y7-
PI Sta 11+83.85
Δ = 4° 51' 03.9" (LT)
D = 5° 43' 55.1"
L = 84.63'
T = 42.36'
R = 1,000.00'

NOTE: RETAIN ALL TREES WHERE POSSIBLE THAT ARE OUTSIDE OF THE SLOPE STAKES

FOR INTERSECTION DETAIL, SEE SHEET 2B-3
FOR -L- PROFILE VIEW, SEE SHEET 12

PROJECT REFERENCE NO.	SHEET NO.
U-5826	9
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

DocuSigned by: Bryan Walsh 036853 ENGINEER BRYAN E. WALSH
2/6/2023

HYDRAULICS ENGINEER

DocuSigned by: Joshua G. Dalton 26971 ENGINEER JOSHUA G. DALTON
2/6/2023

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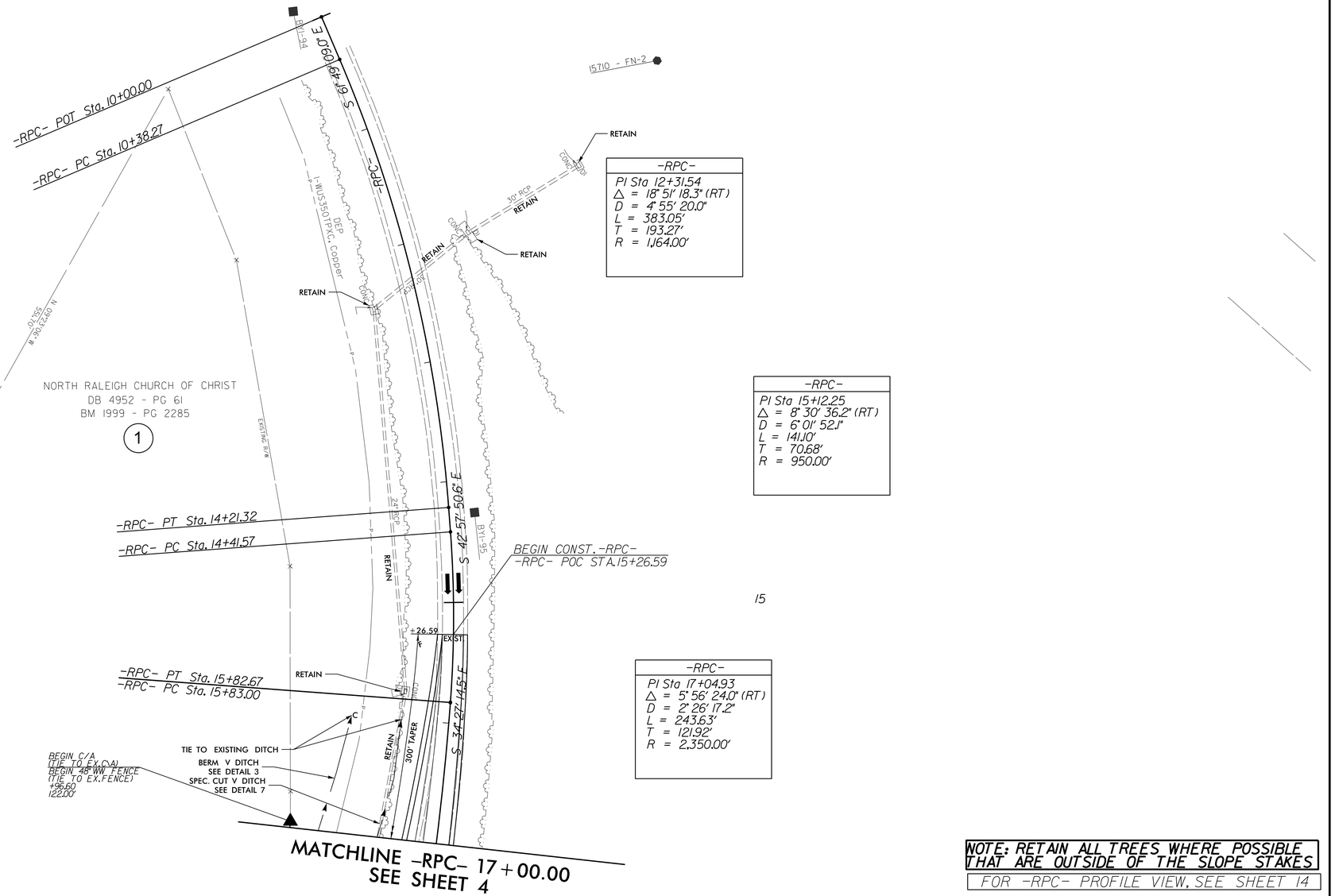
NAD 83 /NA 2011

REVISIONS 8/17/99



NOTE: RETAIN ALL TREES WHERE POSSIBLE THAT ARE OUTSIDE OF THE SLOPE STAKES

FOR -RPC- PROFILE VIEW, SEE SHEET 14

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PROJECT REFERENCE NO.	SHEET NO.
U-5826	10

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036853 ENGINEER BRYAN C. HOLT

DocuSigned by: Bryan Holt 59A974AEF92448...

2/6/2023

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 26971 ENGINEER JOSHUA G. DALTON

DocuSigned by: Joshua G. Dalton 1998AD8C1494C5...

2/6/2023

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-L-

DITCH LEGEND

LEFT DITCH ----------

RIGHT DITCH ----------

460 450 440 430 420 410 400

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00

MATCHLINE -L- STA 22+00.00

BEGIN EXIST. BRIDGE -L- STA. 21+18.17 = ELV. = 451.39'

BEGIN GRADE -L- STA. 13+00.00 ELEV. = 451.07'

EXISTING GROUND

PI = 14+70.00
EL = 447.20'
VC = 160'
K = 96
DS = 50 MPH

PI = 16+40.00
EL = 446.16'
VC = 180'
K = 118
DS = 55 MPH

PI = 18+10.00
EL = 447.70'
VC = 160'
K = 131
DS = 55 MPH

PI = 20+00.00
EL = 451.75'
VC = 220'
K = 91
DS = 50 MPH

(-)2.2765% (-)0.6118% (-)0.6118% (+)0.9080% (+)0.9080% (+)2.2291% (+)2.1291% (-)0.3000%

(-) 4.20% (-) 2.00% (-) 0.33% (-) 1.80% (-) 1.20%

BEG SPEC
LAT V DITCH
PI STA=13+00 -L- RT
ELEV=448.70

PI STA=13+50 -L- RT
ELEV=446.60

PI STA=14+00 -L- RT
ELEV=445.60

END SPEC
LAT V DITCH
PI STA=15+50 -L- RT
ELEV=445.10

-RPC- STA. 22+92.23 = -L- STA. 16+12.74 ELV. = 446.36'

-Y10- STA. 10+00.00 = -L- STA. 16+22.60 ELV. = 447.37'

BEG SPEC
LAT 2' BASE DITCH
PI STA=16+75 -L- RT
ELEV=444.65

END SPEC
LAT 2' BASE DITCH
PI STA=19+00 -L- RT
ELEV=440.90

PI STA=18+50 -L- RT
ELEV=441.50

FOR PLAN VIEW, SEE SHEET 4
FOR BRIDGE PRESERVATION PLANS, SEE SHEETS S-1 TO S-6

-L-

460 450 440 430 420 410 400

22+00 23+00 24+00 25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00 33+00 34+00 35+00

MATCHLINE -L- STA 22+00.00

END EXIST. BRIDGE -L- STA. 21+04.67 ELV. = 452.74'

PI = 24+90.00
EL = 452.59'
VC = 130'
K = 305
DS = 65 MPH

PI = 28+55.00
EL = 449.08'
VC = 150'
K = 102
DS = 50 MPH

PI = 31+00.00
EL = 450.34'
VC = 100'
K = 157
DS = 60 MPH

PI = 35+00.00
EL = 454.94'
VC = 190'
K = 85
DS = 50 MPH

(-)0.5355% (-)0.9616% (-)0.9616% (+)0.5143% (-) 2.50% (+)0.5143% (+) 0.60% (+)1.1504% (+)1.1504%

-Y- STA. 10+00.00 = -L- STA. 28+14.61 ELV. = 449.72'

PI STA=29+75 -L- LT
ELEV=447.75

BEG SPEC
LAT V DITCH
PI STA=29+25 -L- LT
ELEV=449.00

END SPEC
LAT V DITCH
PI STA=32+25 -L- LT
ELEV=449.25

TBM #1 BENCH TIE WITH YELLOW TAG IN 9" BIRCH
-L- STA. 27+70.40 (246.88' RT)
N 782162 E 2116057
ELEV. = 439.59'

FOR PLAN VIEW, SEE SHEETS 4 & 5
FOR BRIDGE PRESERVATION PLANS, SEE SHEETS S-1 TO S-6

MATCHLINE -L- STA 35+00.00

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PROJECT REFERENCE NO.	SHEET NO.
U-5826	11

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 036853 ENGINEER BRYAN C. HOLT
Digitally signed by: Bryan Holt
2/6/2023

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 26971 ENGINEER JOSHUA G. DALTON
DocuSigned by: Joshua G. Dalton
2/6/2023

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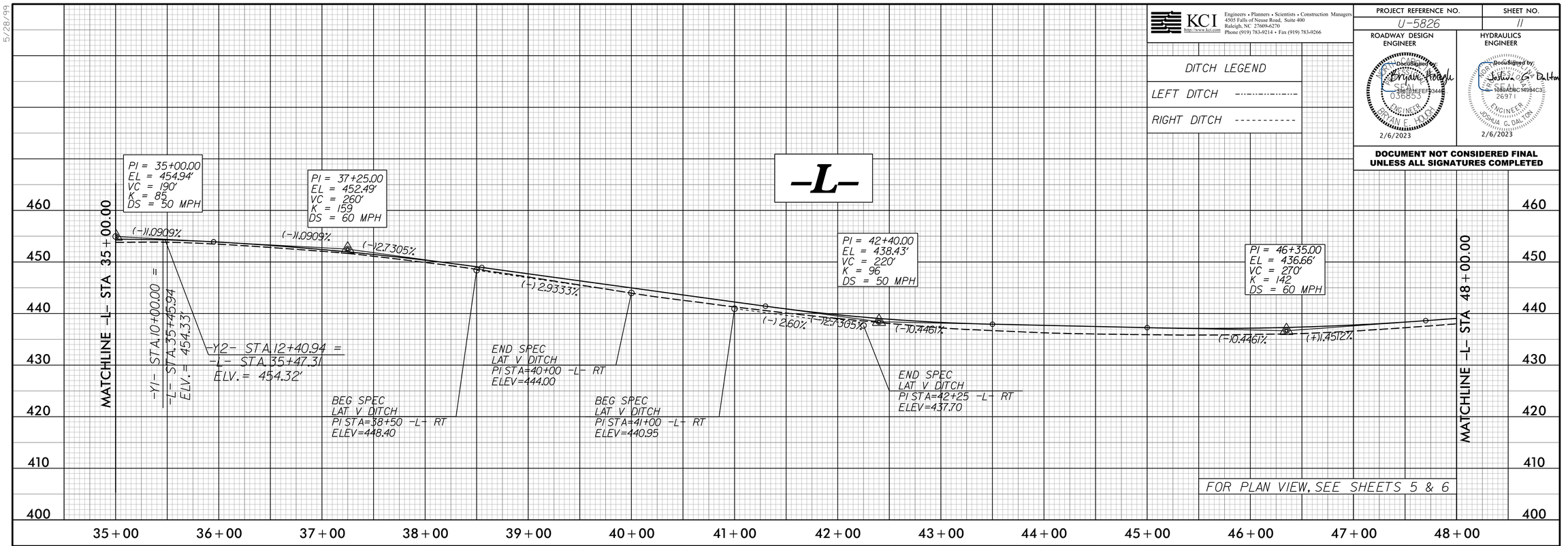
DITCH LEGEND

LEFT DITCH ----------

RIGHT DITCH ----------



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PROJECT REFERENCE NO.	SHEET NO.
U-5826	12

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036853 ENGINEER BRYAN E. HOLT

DocuSigned by: Bryan Holt 3B75A1EEF03446...

2/6/2023

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 26971 ENGINEER JOSHUA G. DALTON

DocuSigned by: Joshua G Dalton 7289AD8C1494C3...

2/6/2023

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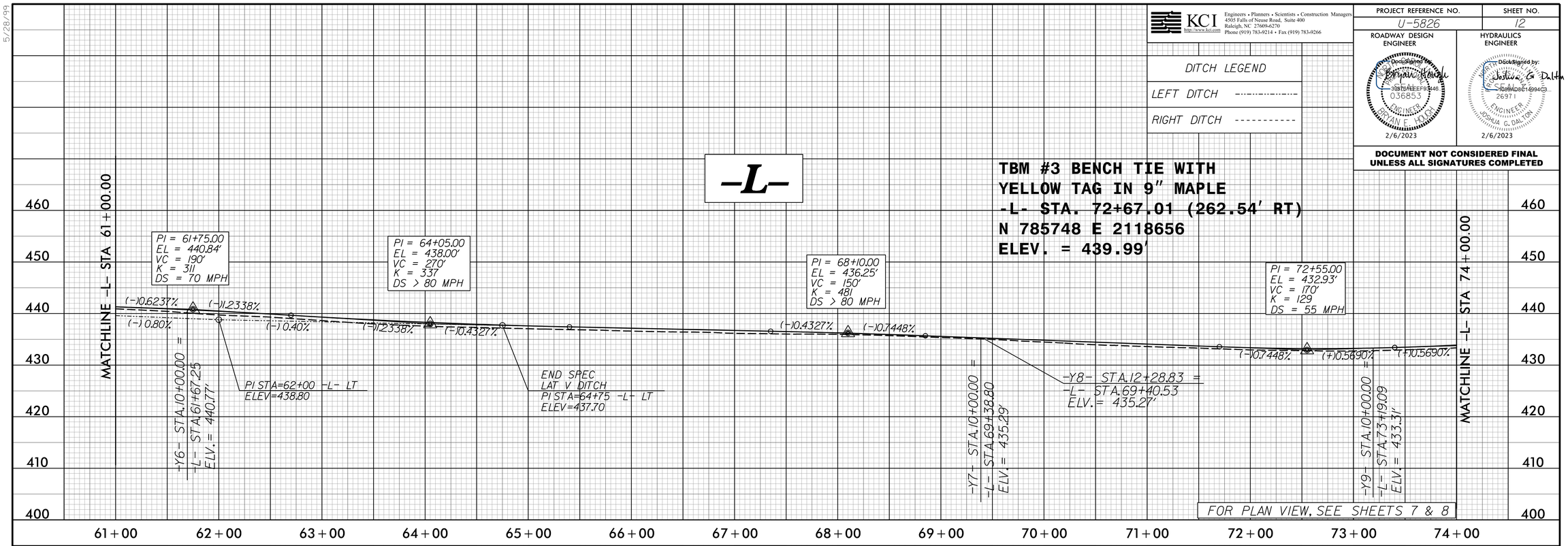
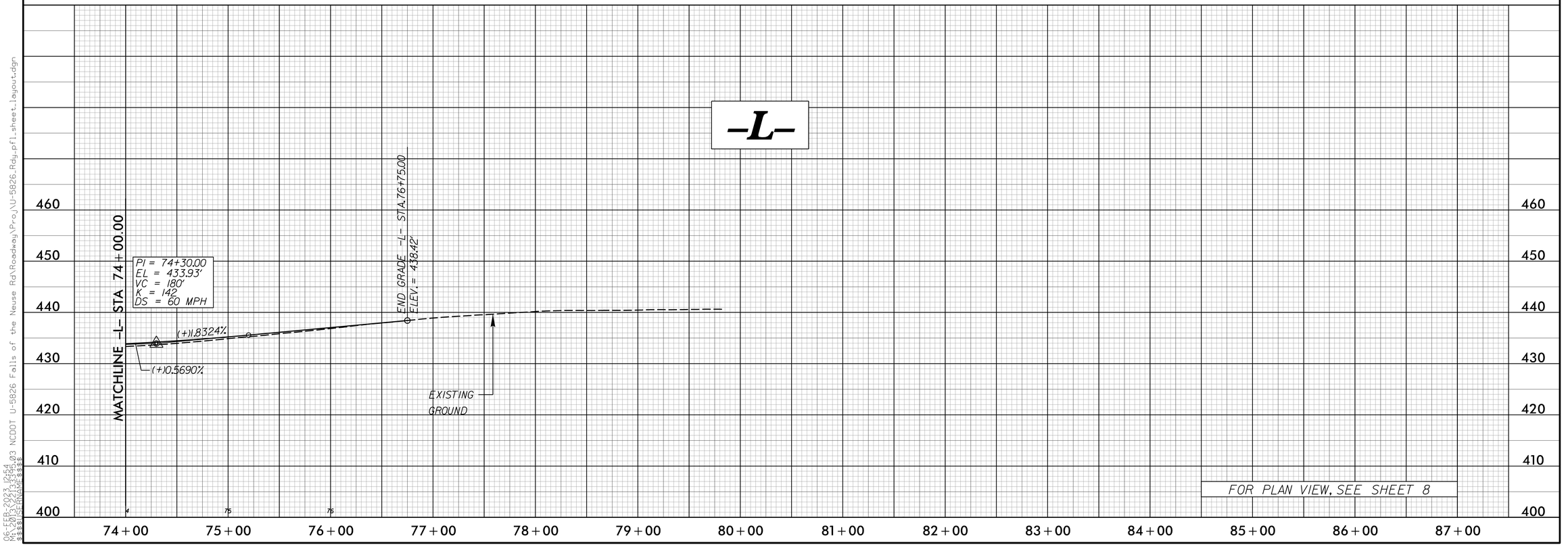
DITCH LEGEND

LEFT DITCH ----------

RIGHT DITCH ----------

TBM #3 BENCH TIE WITH YELLOW TAG IN 9" MAPLE
-L- STA. 72+67.01 (262.54' RT)
N 785748 E 2118656
ELEV. = 439.99'





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–Y5–

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PROJECT REFERENCE NO.	SHEET NO.
U-5826	13

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036853 ENGINEER BRYAN E. HOLDEN

DocuSigned by: Bryan Holden 5BF9A4EFF92446...

2/6/2023

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 26971 ENGINEER JOSHUA G. DALTON

DocuSigned by: Joshua G. Dalton 1B9B4DAC1497AC3...

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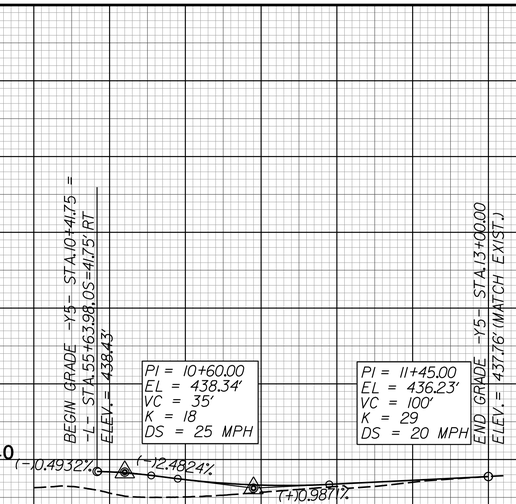
DITCH LEGEND

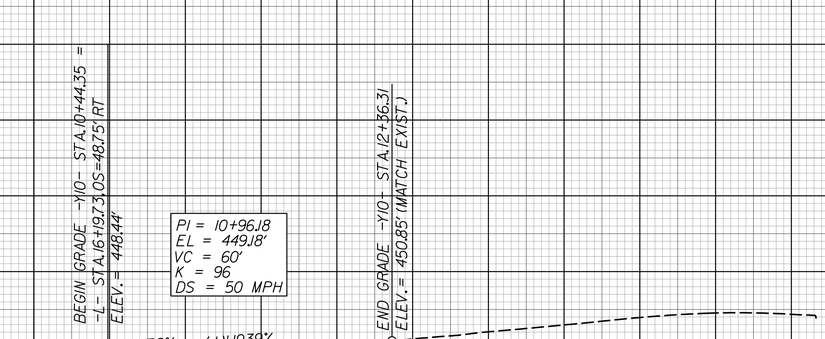
LEFT DITCH ----------

RIGHT DITCH ----------



FOR PLAN VIEW, SEE SHEET 7

–Y10–



FOR PLAN VIEW, SEE SHEET 4

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-RPC-

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PROJECT REFERENCE NO.	SHEET NO.
U-5826	14

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 036853 ENGINEER BRYAN C HOLT
DocuSigned by: Bryan Holt 38676EEEE9344B...
2/6/2023

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 26971 ENGINEER JOSHUA G DALTON
DocuSigned by: Joshua G. Dalton 1B8A0B8C14984C3...
2/6/2023

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DITCH LEGEND

LEFT DITCH ----------

RIGHT DITCH ----------

BEGIN 1.5' OVERLAY -RPC- STA.15+26.43

PI STA=18+50 -RPC- RT
ELEV=447.80

PI STA=18+00 -RPC- RT
ELEV=447.50

BEG BERM
V DITCH
PI STA=16+00 -RPC- RT
ELEV=441.00

(+) 0.60%

(+) 3.2500%

PI STA=20+00 -RPC- RT
ELEV=445.40

(-) 1.6000%

(-) 2.6000%

END BERM
V DITCH
PI STA=21+50 -RPC- RT
ELEV=441.50

END 1.5' OVERLAY/BEGIN GRADE -RPC- STA.21+60.00 ELEV.= 441.38'

END GRADE -RPC-
STA.22+47.70 =
-L- STA 16+15.03,
OS=44.75' LT
ELEV.= 444.70'

(+)2.0000%

(+)4.9715%

(+) 0.30%

PI = 21+95.00
EL = 442.08'
VC = 70'
K = 24
DS = 20 MPH

BEG SPEC
LAT V DITCH
PI STA=21+00 -RPC- RT
ELEV=440.00

END SPEC
LAT V DITCH
PI STA=21+50 -RPC- RT
ELEV=440.15

BEG SPEC
CUT V DITCH
PI STA=16+00 -RPC- RT
ELEV=425.60

(+) 1.6200%

END SPEC
CUT V DITCH
PI STA=17+00 -RPC- RT
ELEV=427.22

FOR PLAN VIEW, SEE SHEETS 4 & 9

460 450 440 430 420 410 400

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00

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