This electronic collection of documents is provided for the convenience of the user and is Not a Certified Document –

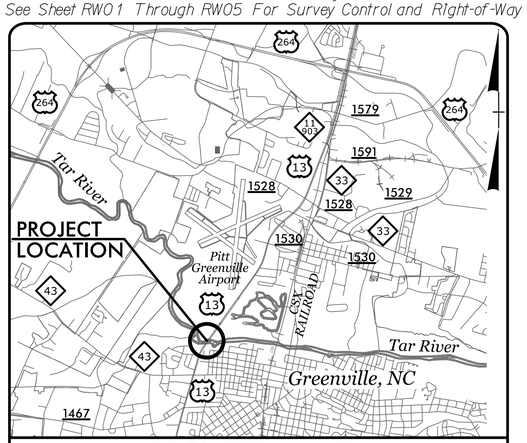
The documents contained herein were originally issued and sealed by the individuals whose names and license numbers appear on each page, on the dates appearing with their signature on that page.
This file or an individual page shall not be considered a certified document.

09/08/99

TIP PROJECT: B–4786

CONTRACT: C204376

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Plan Sheet Symbols
See Sheet RW01 Through RW05 For Survey Control and Right-of-Way Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PITT COUNTY

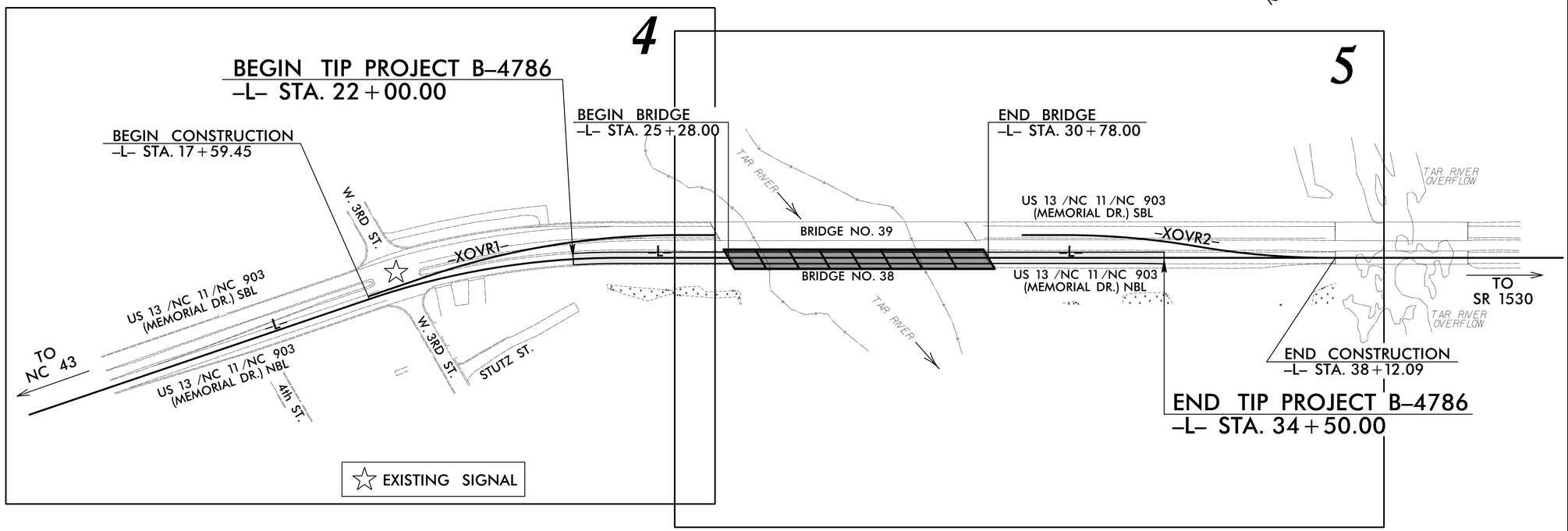
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B–4786	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
38222.1.FR2	BRSTP–0013(041)	PE
38222.2.2	BRSTP–0013(041)	R/W, UTIL
38222.3.3	0013069	CONST.

LOCATION: REPLACE BRIDGE NO. 38 OVER THE TAR RIVER ON US 13 IN GREENVILLE

TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE

NAD 83/
NA 2011



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

PLANS 50 25 0 50 100

PROFILE (HORIZONTAL) 50 25 0 50 100

PROFILE (VERTICAL) 10 5 0 10 20

DESIGN DATA

ADT 2022 = 14300 NBL
15300 SBL
ADT 2042 = 17750 NBL
K = 8 %
D = 55 %
T = 6 % *
V = 50 MPH
* TTST = 3% DUAL 3%
FUNC CLASS =
PRINCIPAL ARTERIAL
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B–4786	=	*0.133 mile*
LENGTH STRUCTURES TIP PROJECT B–4786	=	*0.104 mile*
TOTAL LENGTH TIP PROJECT B–4786	=	*0.237 mile*

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

TGS ENGINEERS
706 HILLSBOROUGH ST
SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
APRIL 16, 2020

LETTING DATE:
AUGUST 16, 2022

V. MARCUS LOWERY, PE
PROJECT ENGINEER

DAVID STUTTS, PE
NCDOT CONTACT

HYDRAULICS ENGINEER

DocuSigned by: David B. Petty
SIGNATURE: 7/11/2022 | 2:46 PM EDT

NORTH CAROLINA PROFESSIONAL SEAL 038697 ENGINEER DAVID B. PETTY
P.E.

ROADWAY DESIGN ENGINEER

DocuSigned by: Marcus Lowery
SIGNATURE: 7/11/2022 | 2:14 PM EDT

NORTH CAROLINA PROFESSIONAL SEAL 027418 ENGINEER V. MARCUS LOWERY
P.E.

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

7/11/2022
C:\Projects\NCDOT\B-4786\Roadway\Proj\b4786_rdy_tsh.dgn
User:mlowery

INDEX OF SHEETS

GENERAL NOTES

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 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

SUBSURFACE DRAINS:

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

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.

SUBSURFACE PLANS:

STRUCTURE SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT.

END BENTS:

THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS–SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE

Water, Sanitary Sewer, & Gas — Greenville Utilities Commission

Telecommunications — CenturyLink and Greenville Utilities Commission

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

PROJECT REFERENCE NO.	SHEET NO.
B–4786	1A

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027418 ENGINEER MARCUS LOWERY

5/18/2022 | 12:13 PM EDT

STANDARD DRAWINGS

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
225.04	Method of Obtaining Superelevation – Two Lane Pavement
275.01	Rock Plating
DIVISION 3 – PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 4 – MAJOR STRUCTURES	
422.01	Bridge Approach Fills – Type I Standard Approach Fill
DIVISION 5 – SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction – High Side of Superelevated Curve – Method I
DIVISION 8 – INCIDENTALS	
815.02	Subsurface Drain
840.00	Concrete Base Pad for Drainage Structures
840.18	Concrete Grated Drop Inlet Type 'B' – 12" thru 36" Pipe
840.20	Frames and Wide Slot Flat Grates
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
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet – for Cast Iron Double Frame and Grates
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
862.04	Anchoring End of Guardrail – B–77 and B–83 Anchor Units
876.02	Guide for Rip Rap at Pipe Outlets

9/10/2021

PROJECT REFERENCE NO.	SHEET NO.
B-4786	1B

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale

BOUNDARIES AND PROPERTY:

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

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY & PROJECT CONTROL:

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

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — 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:

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

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole — HH
- H-Frame Pole
- U/G Power Line Test Hole (SUE – LOS A)*
- U/G Power Line (SUE – LOS B)* — P
- U/G Power Line (SUE – LOS C)* — P
- U/G Power Line (SUE – LOS D)* — 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 Test Hole (SUE – LOS A)*
- U/G Telephone Cable (SUE – LOS B)* — T
- U/G Telephone Cable (SUE – LOS C)* — T
- U/G Telephone Cable (SUE – LOS D)* — T
- U/G Telephone Conduit (SUE – LOS B)* — TC
- U/G Telephone Conduit (SUE – LOS C)* — TC
- U/G Telephone Conduit (SUE – LOS D)* — TC
- U/G Fiber Optics Cable (SUE – LOS B)* — T FO
- U/G Fiber Optics Cable (SUE – LOS C)* — T FO
- U/G Fiber Optics Cable (SUE – LOS D)* — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- U/G Water Line Test Hole (SUE – LOS A)*
- U/G Water Line (SUE – LOS B)* — W
- U/G Water Line (SUE – LOS C)* — W
- U/G Water Line (SUE – LOS D)* — W
- Above Ground Water Line — A/G Water

TV:

- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- U/G TV Test Hole (SUE – LOS A)*
- U/G TV Cable (SUE – LOS B)* — TV
- U/G TV Cable (SUE – LOS C)* — TV
- U/G TV Cable (SUE – LOS D)* — TV
- U/G Fiber Optic Cable (SUE – LOS B)* — TV FO
- U/G Fiber Optic Cable (SUE – LOS C)* — TV FO
- U/G Fiber Optic Cable (SUE – LOS D)* — TV FO

GAS:

- Gas Valve
- Gas Meter
- U/G Gas Line Test Hole (SUE – LOS A)*
- U/G Gas Line (SUE – LOS B)* — G
- U/G Gas Line (SUE – LOS C)* — G
- U/G Gas Line (SUE – LOS D)* — 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 Force Main Line Test Hole (SUE – LOS A)*
- SS Force Main Line (SUE – LOS B)* — FSS
- SS Force Main Line (SUE – LOS C)* — FSS
- SS Force Main Line (SUE – LOS D)* — FSS

MISCELLANEOUS:

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

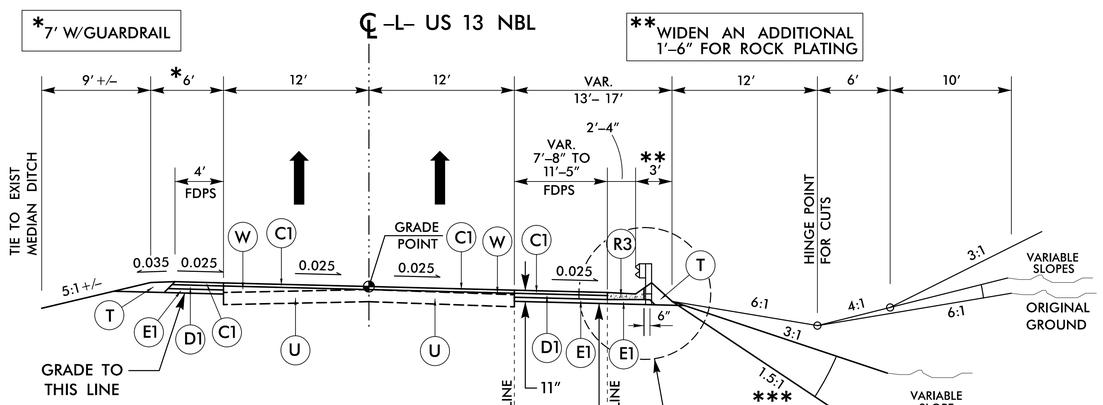
6/2/99

PAVEMENT SCHEDULE

FINAL PAVEMENT DESIGN: DECEMBER 4, 2017

C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
C3	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C4	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. 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.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
R1	2'-6" CONCRETE CURB AND GUTTER
R2	EXISTING CONCRETE CURB AND GUTTER
R3	SHOULDER BERM GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	1.5" MILLING EXISTING PAVEMENT
V2	INCIDENTAL MILLING EXISTING PAVEMENT (0" TO 3" - SEE MILLING DETAIL THIS SHEET)
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

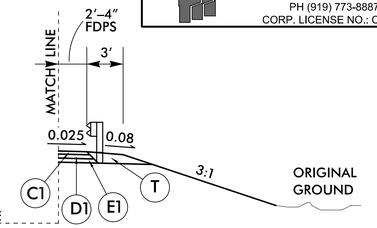
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1 AS FOLLOWS:

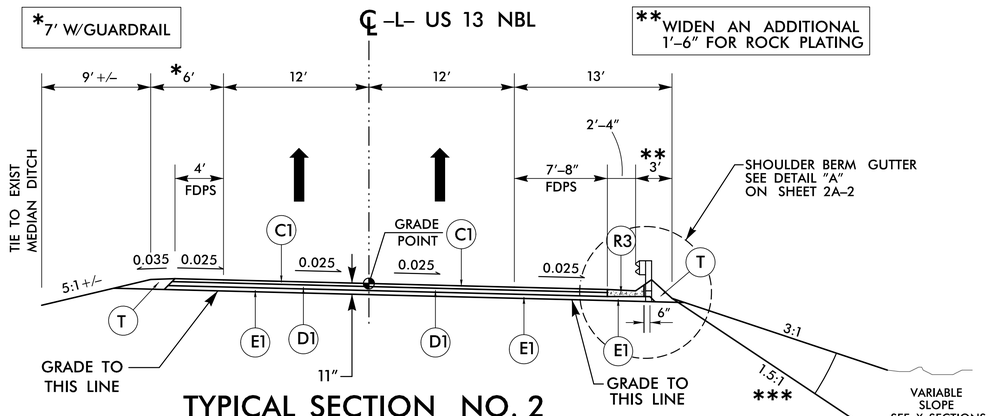
FROM –L– STA 22+00.00 TO 24+25.00
FROM –L– STA 31+75.00 TO STA 34+50.00



TYPICAL SECTION NO. 1B

USE FOR SHOULDER:

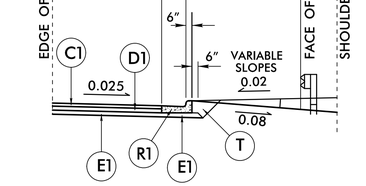
FROM –L– STA. 32+93.80 TO 34+50.00



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2 AS FOLLOWS:

FROM –L– STA 24+25.00 TO 25+28.00 (BEGIN BRIDGE)
FROM –L– STA 30+78.00 (END BRIDGE) TO STA 31+75.00



TYPICAL SECTION NO. 1A

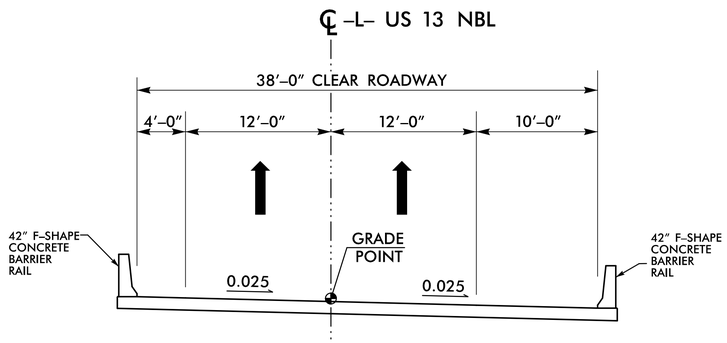
USE FOR 2'–6" CURB AND GUTTER:

FROM –L– STA. 22+00.00 TO 22+16.36

*** TYPICAL MAXIMIM SLOPE= 3:1 WITH THE FOLLOWING STEEPER SLOPE EXCEPTIONS:

USE ROCK PLATING:
FROM –L– STA. 23+75 TO 25+49
FROM –L– STA. 30+87 TO 31+75

USE STANDARD APPROVED EMBANKMENT MATERIAL:
FROM –L– STA 31+75 TO 33+00



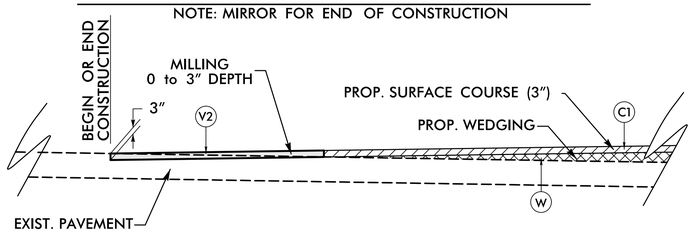
TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3 AS FOLLOWS:

FROM –L– STA 25+28.00 (BEGIN BRIDGE) TO STA 30+78.00 (END BRIDGE)

INCIDENTAL MILLING DETAIL

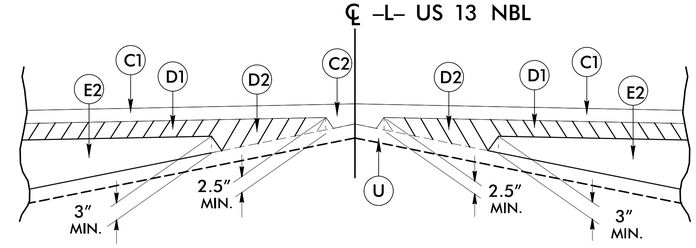
NOTE: MIRROR FOR END OF CONSTRUCTION



USE MILLING DETAIL AS FOLLOWS:

MILLING AND WEDGING:
-L- STA. 22+00.00 TO -L- STA. 23+00.00
-L- STA. 33+50.00 TO -L- STA 34+50.00

Detail Showing Method of Wedging



PROJECT REFERENCE NO.	SHEET NO.
B–4786	2A–1

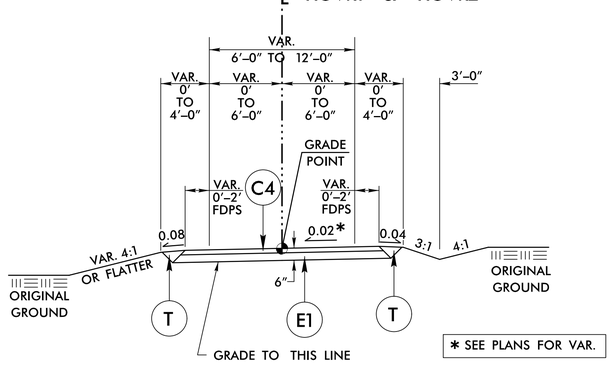
ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 027418 ENGINEER MARCUS LOWERY
2/18/2022 | 11:46 AM EST

PAVEMENT DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 022896 ENGINEER CLARKE S. MORRISON
2/18/2022 | 11:55 AM PST

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

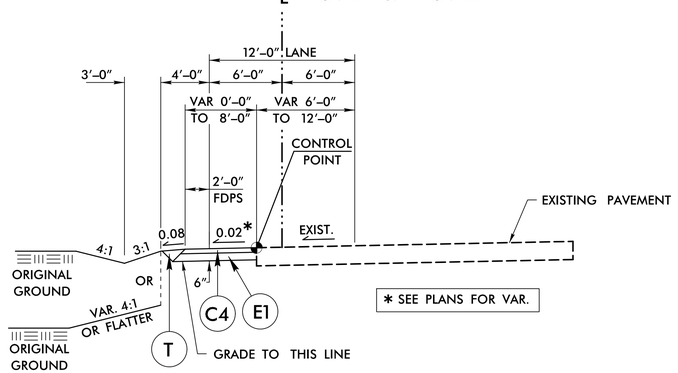
6/2/99



TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4 AS FOLLOWS:

FROM –XOVR1– STA. 11+85.23 TO 13+34.23
FROM –XOVR2– STA. 12+70.85 TO 14+26.05



TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5 AS FOLLOWS:

WIDEN USING EXISITNG RIGHT MEDIAN EDGE OF PAVEMENT AND –XOVR1– OR –XOVR2– SUPERELEVATION AS CONTROL:

FROM –XOVR1– STA. 11+20.39 TO 11+85.23
FROM –XOVR2– STA. 14+26.05 TO 14+90.89

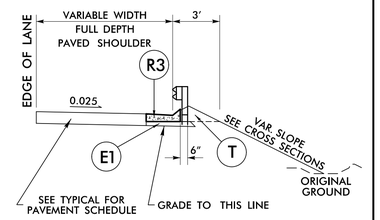
WIDEN USING EXISTING LEFT MEDIAN EDGE OF PAVEMENT AND –XOVR1– OR –XOVR2– SUPERELEVATION AS CONTROL:

FROM –XOVR1– STA. 13+34.23 TO 15+44.44 (MIRROR TYPICAL; EXIST. PVMT. ON LEFT, WIDEN ON RIGHT)
FROM –XOVR2– STA. 11+71.85 TO 12+70.85 (MIRROR TYPICAL; EXIST. PVMT. ON LEFT, WIDEN ON RIGHT)

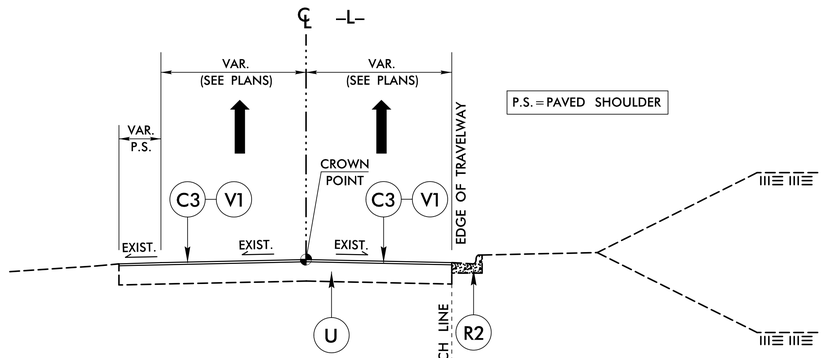
DETAIL "A" FOR SHOULDER BERM GUTTER

(USE IN CONJUNCTION WITH TYPICAL SECTIONS NO. 1 & NO. 2)

SEE CORRESPONDING TYPICAL SECTION FOR PAVEMENT DESIGN.
SEE TYPICAL SECTIONS AND PLANS FOR ACTUAL DIMENSIONS.



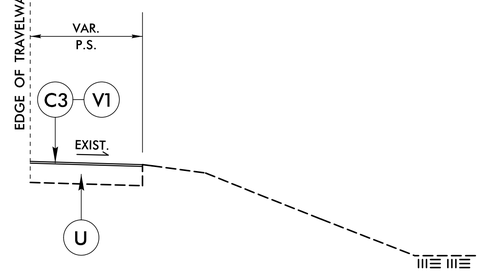
LINE	STATIONS
–L–	22+16.36 to 25+16.94 RT
–L–	31+14.46 to 32+93.80 RT



TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO. 6 AS FOLLOWS:

FROM –L– STA. 17+59.45 TO 22+00.00
FROM –L– STA. 34+50.00 TO 38+12.09



TYPICAL SECTION NO. 6A

USE FOR SHOULDER SECTION:

FROM –L– STA. 34+50.00 TO 38+12.09

PROJECT REFERENCE NO.	SHEET NO.
B-4786	2A-2

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 027418 ENGINEER MARCUS LOWERY
2/18/2022 | 11:46 AM EST

PAVEMENT DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 022896 ENGINEER CLARK S. MORRISON
2/18/2022 | 11:55 AM PST

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

C1	3″ S9.5C
C2	VAR. S9.5C
C3	1½″ S9.5C
C4	2″ S9.5C
D1	3″ I19.5C
D2	VAR. I19.0C
E1	4″ B25.0C
E2	VAR. B25.0C
R1	2′-6″ C & G
R2	EXIST. C & G
R3	SBG
T	EARTH MATERIAL
U	EXIST. PAVEMENT
V1	1½″ MILLING
V2	0″to 3″ MILLING
W	WEDGING

2/18/2022
C:\Projects\NCDOT\B-4786\Roadway\Proj\b4786_rdy_typ.dgn
User:mlowery

PROJECT REFERENCE NO.	SHEET NO.
B-4786	2B-1

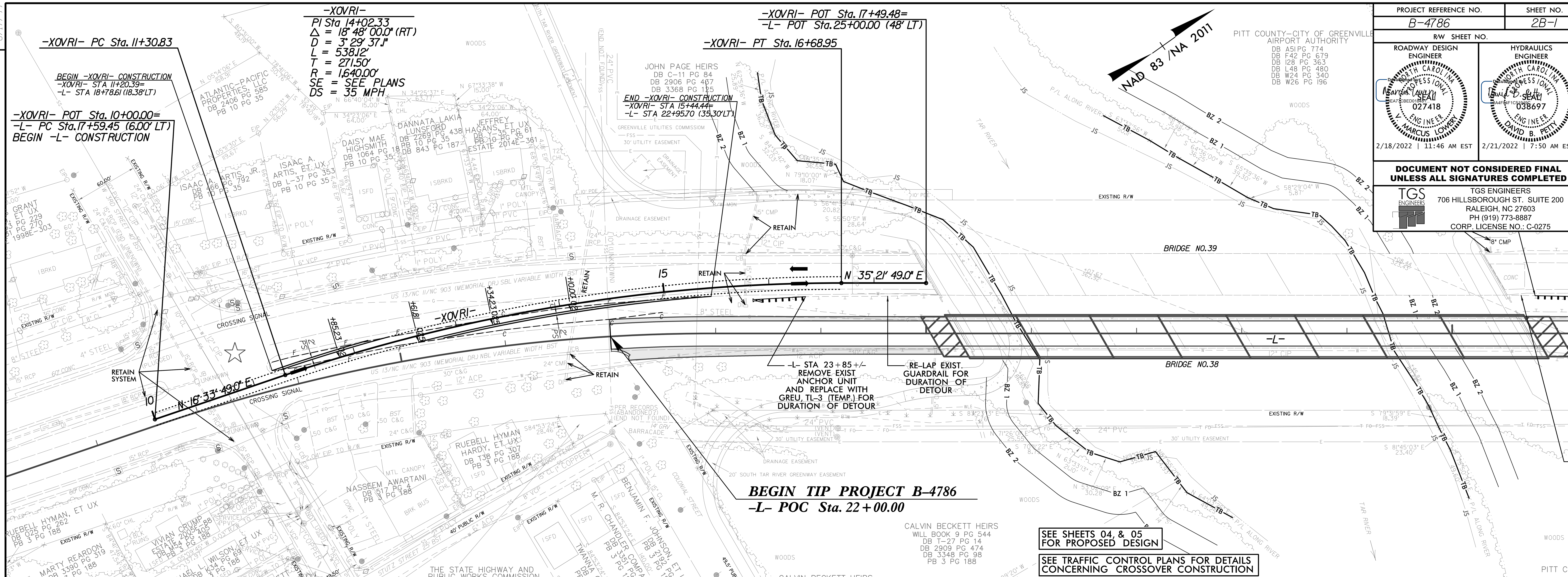
R/W SHEET NO.

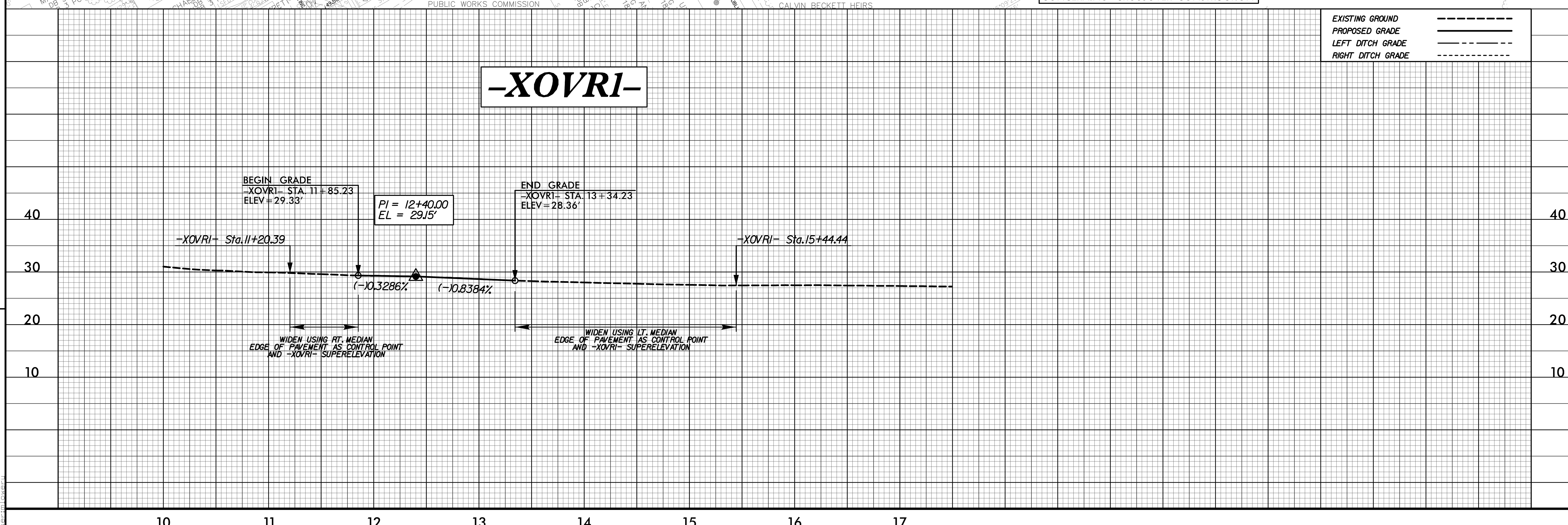
ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027418 — MARCUS LOWERY — 2/18/2022 | 11:46 AM EST

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 038697 — DAVID B. PETTY — 2/21/2022 | 7:50 AM EST

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275





REVISIONS

8/17/99

2/18/2022
C:\Projects\NCDOT\B-4786\Roadway\Proj\b4786_rdy_psh_2b-1.dgn

8/17/99

REVISIONS

-CITY OF GREENVILLE PORT AUTHORITY
A51PG 774
F42 PG 679
I28 PG 363
L48 PG 480
W24 PG 340
W26 PG 196

-XOVR2-
PI Sta 12+31.72
Δ = 9° 48' 50.9" (RT)
D = 3° 29' 37.1"
L = 280.91'
T = 140.80'
R = 1,640.00'
SE = SEE PLANS
DS = 35 MPH

PI Sta 15+12.63
Δ = 9° 48' 50.9" (LT)
D = 3° 29' 37.1"
L = 280.91'
T = 140.80'
R = 1,640.00'
SE = SEE PLANS
DS = 35 MPH

NAD 83 /NA 2011

-XOVR2- POT Sta. 10+00.00=
-L- POT Sta. 31+50.00 (48' LT)

BEGIN -L- STA 30+79 +/-
REMOVE EXIST GUARDRAIL AND ANCHOR UNIT AND REPLACE WITH GREU TL-3 (TEMP.) FOR DURATION OF DETOUR

-XOVR2- PRC Sta. 13+71.83

BEGIN -XOVR2- CONSTRUCTION
-XOVR2- STA 11+71.85=
-L- STA 33+21.43 (38.01'LT)

EXTRA WIDE PAVED SHOULDER

PLACE TEMP STEEL PLATE OVER 2GI DURING DETOUR

REMOVE EXISTING DI

END -XOVR2- CONSTRUCTION
-XOVR2- STA 14+90.89=
-L- STA 36+39.20 (15.94'LT)

-XOVR2- PC Sta. 10+90.92

RE-LAP EXIST. GUARDRAIL FOR DURATION OF DETOUR

-XOVR2- PT Sta. 16+52.74=
-L- POT Sta. 38+00.00 (0.00' LT)

END TIP PROJECT B-4786
-L- POT Sta. 34+50.00

END -L- CONSTRUCTION
-L- STA 38+12.09

SEE SHEET 05 FOR PROPOSED DESIGN

SEE TRAFFIC CONTROL PLANS FOR DETAILS CONCERNING CROSSOVER CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
B-4786	2B-2
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 027418 ENGINEER MARCUS LOWERY
2/18/2022 | 11:46 AM EST

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 038697 ENGINEER DAVID B PETTY
2/21/2022 | 7:50 AM EST

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

EXISTING GROUND
PROPOSED GRADE
LEFT DITCH GRADE
RIGHT DITCH GRADE

-XOVR2-

BEGIN GRADE
-XOVR2- STA. 12+70.85
ELEV=25.61'

END GRADE
-XOVR2- STA. 14+26.05
ELEV=24.88'

-XOVR2- Sta.11+71.85

-XOVR2- Sta.14+90.89

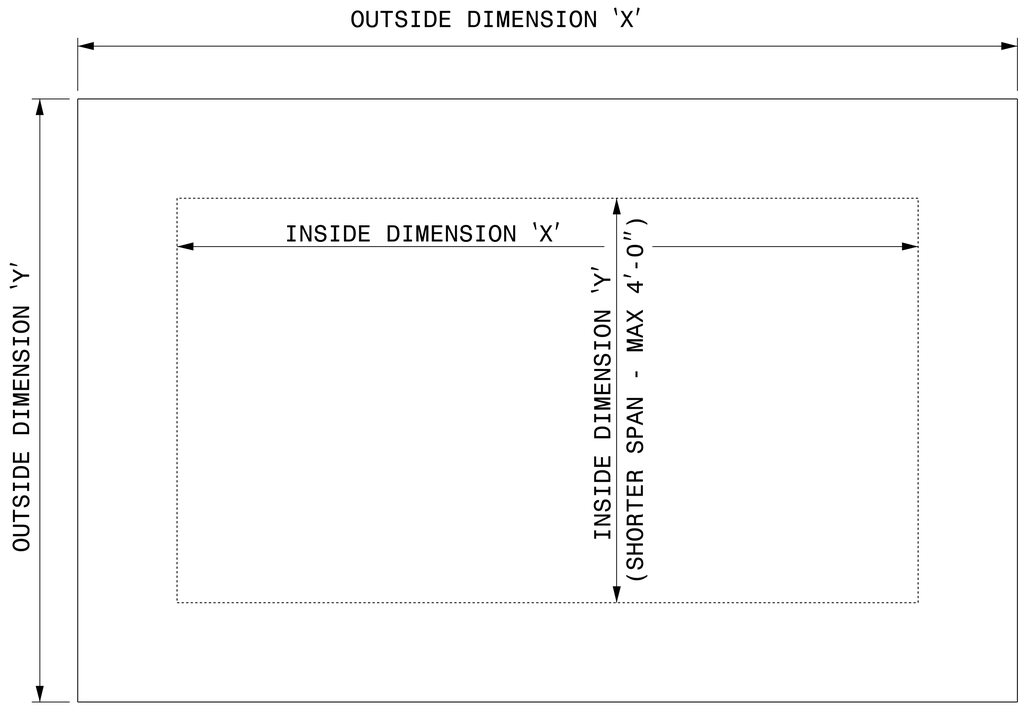
(-)0.47.04%

WIDEN USING LT. MEDIAN EDGE OF PAVEMENT AS CONTROL POINT AND -XOVR2- SUPERELEVATION

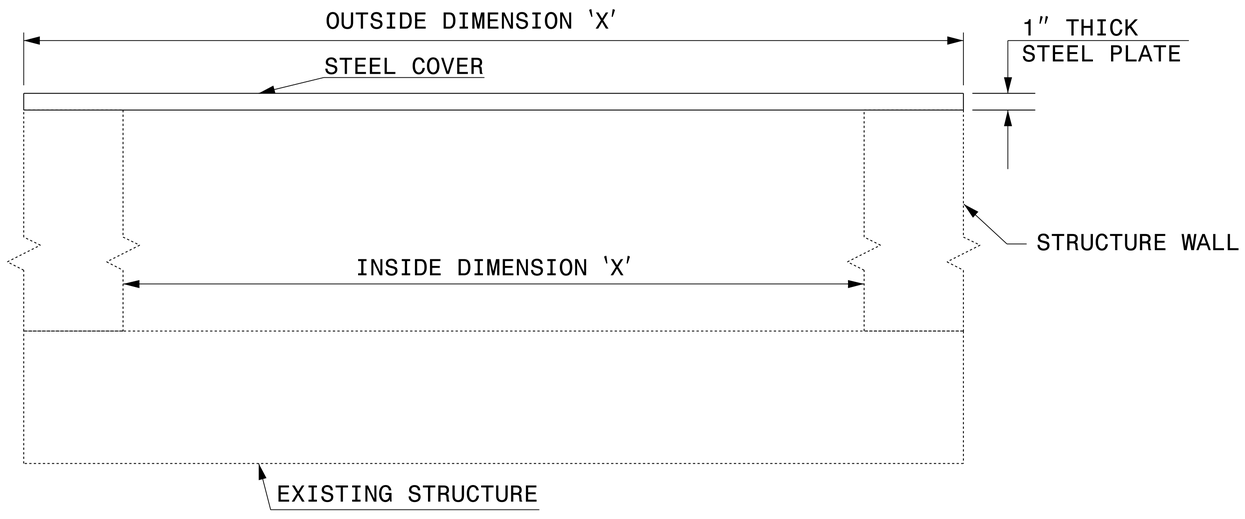
WIDEN USING RT. MEDIAN EDGE OF PAVEMENT AS CONTROL POINT AND -XOVR2- SUPERELEVATION

2/18/2022
C:\Projects\NCDOT\B-4786\Roadway\Proj\b4786_rdy_psh_2b-2.dgn
User:mlowery

PROJECT REFERENCE NO.	SHEET NO.
B-4786	2C-1



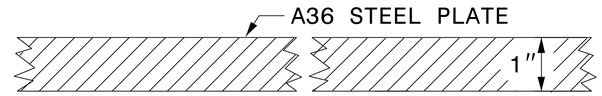
PLAN VIEWS



ELEVATION VIEWS

GENERAL NOTES:

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



SECTION VIEW OF STEEL TOP PLATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

DETAIL OF TEMPORARY 1" STEEL COVER

ORIGINAL BY: E.E. WARD DATE: 2-2-98
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: eric:/usr/details/metric/stand/stlcvr2.dgn

07-DEC-2018 09:57
S:\Contracts\Contracts\Special Details\jhowerton\Steel Cover.dgn
jhowerton AT CSD-292595

5/14/99

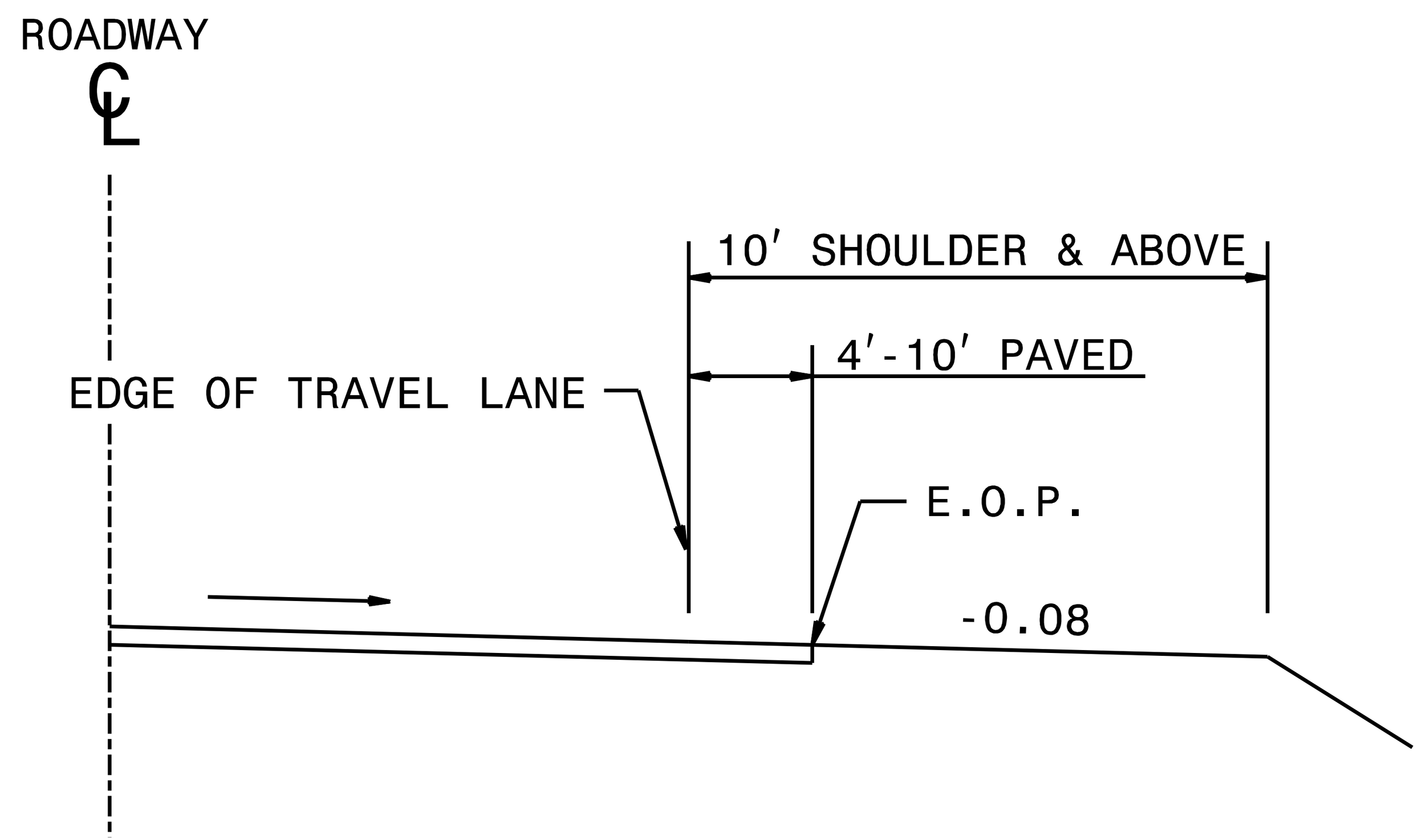
PROJECT REFERENCE NO.	SHEET NO.
B-4786	2C-2

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

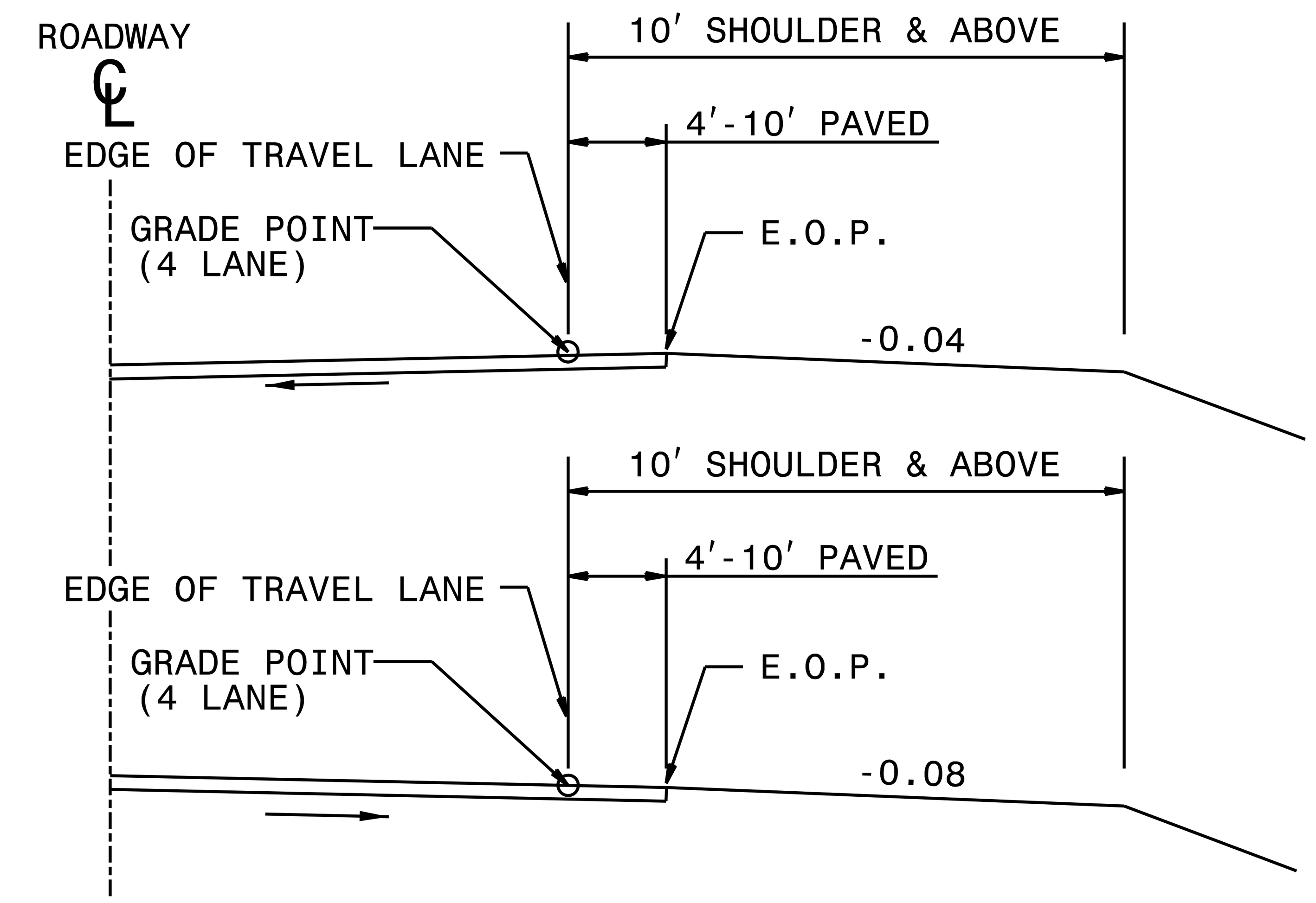
ROADWAY DETAIL DRAWING FOR
METHOD OF SHOULDER CONSTRUCTION
HIGH SIDE OF SUPERELEVATED CURVE
METHOD II (SHOULDERS 10' AND ABOVE)

SHEET 1 OF 2
560d02

NORMAL OUTSIDE SHOULDER SLOPES

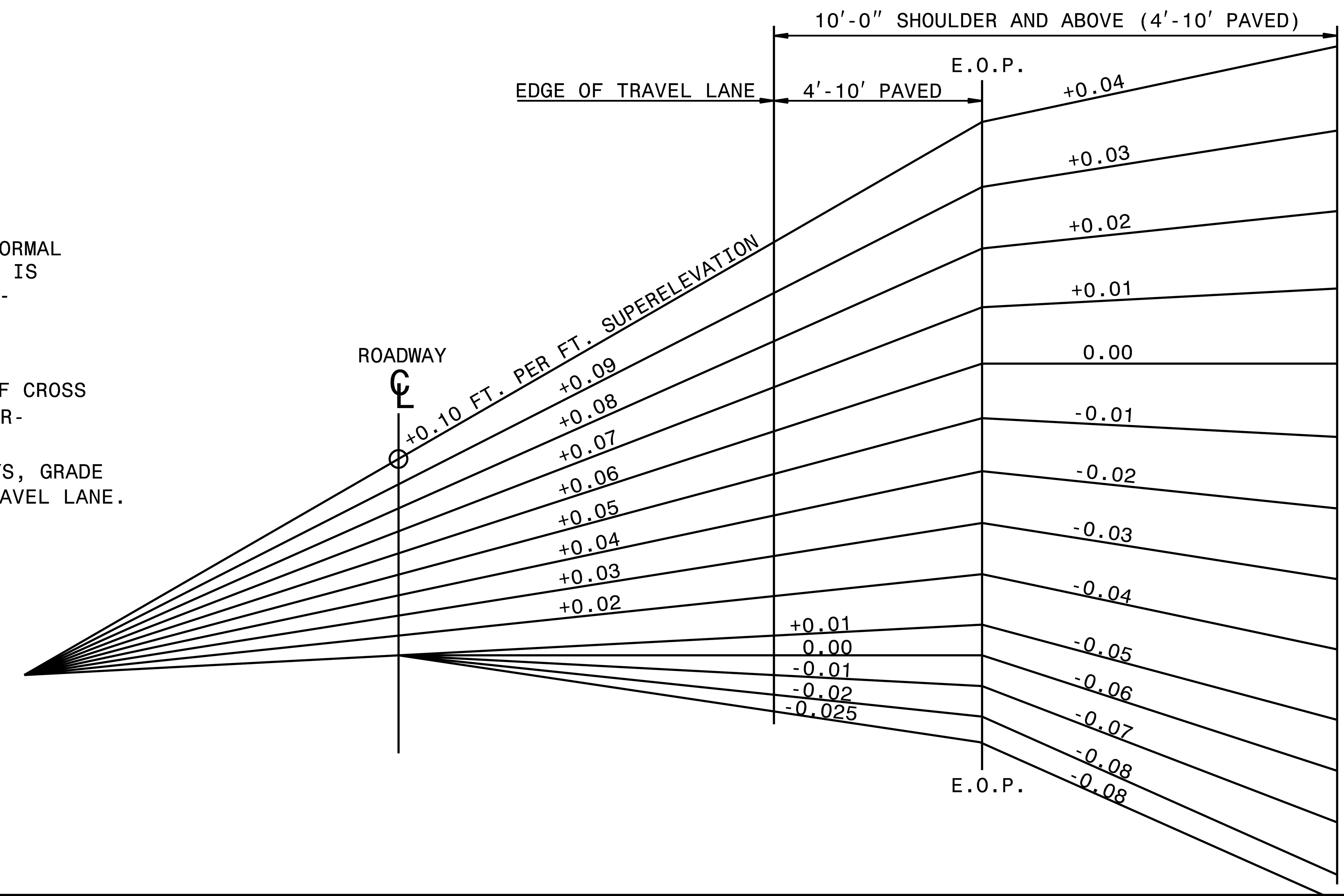


NORMAL MEDIAN SHOULDER SLOPES



NOTE: ON LOW SIDE OF SUPERELEVATED PAVEMENT USE NORMAL SHOULDER SLOPE UNLESS NORMAL SHOULDER SLOPE IS FLATTER THAN SUPERELEVATION, THEN USE SUPER-ELEVATION RATE ON SHOULDER.

NOTE: "ROLL-OVER" ALGEBRAIC DIFFERENCE IN RATES OF CROSS SLOPE NOT TO EXCEED 0.06 AS SHOWN. IF SUPER-ELEVATION IS REVOLVED ABOUT CENTER LINE OF PAVEMENT, SAME APPLIES. ON DIVIDED ROADWAYS, GRADE POINT TO BE AT THE MEDIAN EDGE OF INSIDE TRAVEL LANE.



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

ROADWAY DETAIL DRAWING FOR
METHOD OF SHOULDER CONSTRUCTION
HIGH SIDE OF SUPERELEVATED CURVE
METHOD II (SHOULDERS 10' AND ABOVE)

SHEET 1 OF 2
560d02

DocuSigned by: Ronald Elton Davenport, Jr.
E81B6038A47A442...
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022071 RONALD ELTON DAVENPORT, JR.
2/18/2022 | 8:12 AM EST

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: KKempf DATE: 5-15-09
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC: c:/ericward/stds/stdstodetails/30001/0300d01.dgn

$$$$$SYSTIME$$$$$
$$$$$$$$DGN$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

12/06/07

COMPUTED BY: VML DATE: 18 FEB 2022
CHECKED BY: DBE DATE: 18 FEB 2022

PROJECT REFERENCE NO.	SHEET NO.
B-4786	3B-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK
IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT+%	BORROW	WASTE
PHASE I (CROSSOVER CONSTRUCTION)					
–XOVR1– (CONSTRUCTION)					
–L–(TEMP) 18+78.61 TO –L–(TEMP) 22+95.70	99				99
–XOVR2– (CONSTRUCTION)					
–L–(TEMP) 33+21.43 TO –L–(TEMP) 36+39.20	22		44	22	
SUBTOTAL	121		44	22	99
PHASE II (NBL BRIDGE CONST /–L– LINE WORK)					
–L– 22+00.00 TO –L– 25+28.00 BEG. BRIDGE	332		166		166
–L– 30+78.00 END BRIDGE TO –L– 35+00.00	422		246		176
SUBTOTAL	754		412		342
PHASE III (CROSSOVER REMOVAL)					
–XOVR1– (REMOVAL)					
–L–(TEMP) 18+78.61 TO –L–(TEMP) 22+95.70			124	124	
–XOVR2– (REMOVAL)					
–L–(TEMP) 33+21.43 TO –L–(TEMP) 36+39.20	35		28		8
SUBTOTAL	35		152	124	8
TOTAL	910		608	146	448
WASTE IN LIEU OF BORROW				–146	–146
PROJECT TOTAL	910		608		302
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT					
GRAND TOTAL	910		608		302
SAY	950				

PER "GEOTECHNICAL REPORT – DESIGN AND CONSTRUCTION RECOMMENDATIONS" DATED NOVEMBER 20, 2017:

ESTIMATED UNDERCUT = 600 CY (CONTINGENCY, AS DIRECTED BY THE ENGINEER)
ESTIMATED SELECT GRANULAR MATERIAL = 600 CY (CONTINGENCY, TO BE USED AS BACKFILL FOR UNDERCUT AREAS)
ESTIMATED GEOTEXTILE FOR SOIL STABILIZATION = 1,100 SY (CONTINGENCY, AS DIRECTED BY THE ENGINEER)

ESTIMATED SHOULDER BORROW = 175 CY

Earthwork quantities are calculated using NCDOT Roadway Design Unit Guidelines. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

Approximate quantities only. Clearing and Grubbing, Unclassified Excavation, Borrow Excavation, Shoulder Borrow, Fine Grading, and Removal of Existing Asphalt Pavement will be paid for at the contract lump sum price for "Grading".

PAVEMENT REMOVAL SUMMARY
IN SQUARE YARDS

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	SY
–L–	22+00	24+25	LT	103
–L–	24+25	25+39 (EX. BRIDGE)	CL	310
–L–	30+65 (EX. BRIDGE)	31+75	CL	405
–L–	31+75	34+50	LT	104
–L–	31+75	34+50	RT	285
–XOVR1–	11+20	15+44	CL	287
–XOVR2–	11+72	14+91	CL	339
			TOTAL:	1,833
			SAY:	1,840

SHOULDER BERM GUTTER SUMMARY

SURVEY LINE	STATION	STATION	LOCATION	LENGTH (LF)
–L–	22+16.36	25+16.94	RT	300.58
–L–	31+14.46	32+93.80	RT	179.34
			TOTAL:	479.92
			SAY:	480

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
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			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH		W		ANCHORS							IMPACT ATTENUATOR TYPE 350			SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	RE-LAP EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	TYPE GREU, TL-3	CAT-1	AT-1	TYPE III	B-77	TEMP. TYPE GREU, TL-3				EA	G	NG				
–L–	21+40.42	25+40.70	RT	397.875′			22+50		10′	13′	264.17′		4′		1				1										
–L–	23+58.58	25+18.76	MED LT	160.375′			25+18.76		4′	6′	137.50′		6.8′		1				1										
–L–	30+68.76	31+91.63	MED LT	122.875′				30+68.76	4′	6′		50.00′		1′	1				1										
–L–	30+90.70	34+50.00	RT	359.30′				30+90.70	10′	13′		0′		0′					1										
–L–	23+85.00	24+35.00	MED LT	50.00′				23+83.58	6′	8′		50.00′		1′	1														SBL TRAILING END–FINAL PLACEMENT AFTER DETOUR REMOVAL
–L–	30+79.00	32+16.09	MED LT	137.50′			30+79.00		6′	8′	137.50′		6.8′		1														SBL APPROACH END–FINAL PLACEMENT AFTER DETOUR REMOVAL
–L–	23+35.45	23+85.00	MED LT	50.00′			25+11.67		6′	8′	50.00′		1′							1									SBL APPROACH END–TEMPORARY PLACEMENT DURING DETOUR
–L–	30+79.00	31+28.78	MED LT	50.00′				30+52.44	6′	8′		50.00′		1′						1									SBL TRAILING END–TEMPORARY PLACEMENT DURING DETOUR
–L–	21+56.42	25+40.17	RT																							383.04′		
–L–	23+58.27	25+24.33	MED LT																							166.58′		
–L–	30+67.33	32+08.15	MED LT																							140.82′		
–L–	30+97.06	34+50.00	RT																							352.95′		
–L–	23+72.52	24+35.00	MED LT																							62.50′		SBL – TOTAL REMOVAL FOR FINAL CONDITION
–L–	30+79.00	32+17.53	MED LT																							138.53′		SBL – TOTAL REMOVAL FOR FINAL CONDITION
–L–	23+35.45	23+85.00	MED LT																							50.00′		SBL REMOVAL OF TEMP. ANCHOR UNIT
–L–	30+79.00	31+28.78	MED LT																							50.00′		SBL REMOVAL OF TEMP. ANCHOR UNIT
–L–	23+85.00	25+12.00	MED LT																								127′	RE-LAP EXISTING GUARDRAIL FOR DETOUR
–L–	30+51.00	30+79.00	MED LT																								28′	RE-LAP EXISTING GUARDRAIL FOR DETOUR
–L–	24+35.00	25+12.00	MED LT																								77′	RE-LAP EXISTING GUARDRAIL FOR FINAL CONDITION
–L–	30+51.00	30+79.00	MED LT																								28′	RE-LAP EXISTING GUARDRAIL FOR FINAL CONDITION
		SUBTOTAL (LF)		1327.925′									TOTAL ANCHORS OR ATTENUATORS (EA)		5				4	2							TOTAL 1344.42′	TOTAL 260′	
		LESS ANCHORS (LF)		441.50′																									
		TOTAL GUARDRAIL (LF)		886.425′									ANCHOR UNIT LENGTH (LF)		50′	6.25′	6.25′	18.75′	22.875′	50′							SAY 1350′	SAY 262.5′	
		SAY GUARDRAIL (LF)		887.50′			ADDITIONAL GUARDRAIL POSTS: SAY 10 EA						DEDUCTION PER TYPE (LF)		250′				91.5′	100′									
													TOTAL DEDUCTION (LF)		441.50′														

2/18/2022
Z:\NCDOT\B-4786\Roadway\Proj\b4786_rdy_psh_3b-1.dgn
User:dbell

TGSZACH-LAPTOP

COMPUTED BY: Kathleen Gray, PE DATE: 10/22/2021

CHECKED BY: Zachary J. Richard, PE DATE: 12/2/2021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
B-4786	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)

STATION	LOCATION (LT, RT, OR CL)*	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) SIZE	12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE
								SIDE DRAIN PIPE (RCP, CSP, CAAP, HDPE, or PVC) THICKNESS OR GAUGE												
-L- 25+09	RT	0501		28.3																
		0501	0403		25.0	23.9														
-L- 23+47	RT	0403		27.2																
		0403	0402		23.8	23.5														
-L- 22+89	RT	0402		27.0																
		0402	0401		23.4	13.5														
-L- 31+23	RT	0502		28.1																
		0502	0508		24.8	24.2														
-L- 31+80	RT	0508		27.5																
		0508	0504		22.6	7.5														
-L- 32+87	RT	0503		26.6																
		0503	0508		23.3	22.7														
-L- 34+00	LT	0505		24.5																
		0505	0506		21.7	20.0														
-L- 35+49	LT	0506		23.2																
		0506	EX		19.0															
-L- 36+00	LT	0507		23.3																
		0507	0506		20.5	20.0			48											
SHEET TOTALS									48											

STATION	C.S. PIPE 12"	15"	18"	24"	30"	36"	42"	48"	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"
THICKNESS OR GAUGE	.064	.064	.064	.064	.079	.079	.109	.109																
-L- 25+09																								
																		160						
-L- 23+47																								
																		56						
-L- 22+89																								
		28																						
-L- 31+23																								
																		54						
-L- 31+80																								
		56																						
-L- 32+87																								
																		104						
-L- 34+00																								
																		148						
-L- 35+49																								
-L- 36+00																								
SHEET TOTALS		84																522						

STATION	** " R.C. PIPE (CLASS V)	***** RC PIPE CULVERTS, CONTRACTOR DESIGN	***** RC PIPE CULVERTS, CONTRACTOR DESIGN	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YARDS	QUANTITIES FOR DRAINAGE STRUCTURES *TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') PER EACH (0' THRU 5.0')	LIN. FT. A 5.0' THRU 10.0'	LIN. FT. B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	TYPE OF GRATE E	F	G	CONCRETE TRANSITIONAL SECTION DROP INLET	CATCH BASIN
-L- 25+09							1									
-L- 23+47							1									
-L- 22+89							1									
-L- 31+23							1									
-L- 31+80							1									
-L- 32+87							1									
-L- 34+00							1									
-L- 35+49							1									
-L- 36+00							1									
SHEET TOTALS							9									

STATION	T.B.D.I STD. 840.35 OR 840.46	G.D.I. TYPE "B" STD. 840.18 OR 840.27 OR 840.45	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (W.S. FLAT) FRAME W/ 2 GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22	15" C.S. ELBOW	TEMP STEEL PLATE COVER MASONRY DRAINAGE SEE SHEET 2C-1	PIPE REMOVAL LIN. FT.	REMARKS
-L- 25+09		1	1						63	REMOVE EXISTING C.B.
-L- 23+47		1	1							
-L- 22+89		1		1						
							2			
-L- 31+23		1	1							
-L- 31+80		1	1							
							2			
-L- 32+87		1	1							
-L- 34+00		1			1					
-L- 35+49	1					1		1		REMOVE EXISTING DI.
										RETAIN 15" CMP.
-L- 36+00		1			1					
SHEET TOTALS	1	8	5	1	2	1	4.000	1	63	

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I.(N.S.)	(NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

COMPUTED BY: J. PARK DATE: 10/20/17
CHECKED BY: J. BATTS DATE: 10/20/17

(1-16-18)

PROJECT NO.	SHEET NO.
B-4786	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	500
				TOTAL LF:	500

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

SUMMARY OF ROCK PLATING

LINE	Beginning Slope (H:V)	Approx. Station	Ending Slope (H:V)	Approx. Station	Location LT/RT	Rock Plating Detail No. 1/2/3/4	Riprap Class* 1/2/B	Rock Plating SY
-L-	2.5:1	23+75	1.5:1	25+49	RT	2		645
-L-	1.5:1	30+87	2.5:1	31+75	RT	2		505
							TOTAL SY:	1150

*Use Class 1, 2 or B riprap if riprap class is not shown for rock plating location.

PROJECT REFERENCE NO.	SHEET NO.
B-4786	04
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 027418 ENGINEER MARCUS LOWERY
1/31/2022 | 9:25 AM EST

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 038697 ENGINEER DAVID B. PETT
1/31/2022 | 3:15 PM EST

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

NAD 83 /NA 2011

BEGIN TIP PROJECT B-4786
-L- POC Sta. 22+00.00

APPROX. LOCATION OF PROPOSED SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539) (FUTURE PROJECT BY OTHERS)

JOHN PAGE HEIRS
DB C-11 PG 84
DB 2906 PG 437
DB 3368 PG 125

RE-LAP EXIST. GUARDRAIL AFTER DETOUR REMOVAL

ATLANTIC-PACIFIC PROPERTIES, LLC
DB 2406 PG 585
PB 10 PG 35

ISAAC A. ARTIS, JR.
DB 466 PG 792
PB 10 PG 35

ISAAC A. ARTIS, ET UX
DB L-37 PG 353
PB 10 PG 35

DAISY MAE HIGHSMITH
DB 1064 PG 18
PB 10 PG 35

DANNATA LAKIA UNIFORD
DB 2269 PG 438
DB 843 PG 187

JEFFREY HAGANS, ET UX
DB V-35 PG 61
PB 10 PG 35
ESTATE 2014E-361

ULYSSES GRANT BELL, III, ET UX
DB A-31 PG 229
DB C-31 PG 270
ESTATE 1998E-303

JO ANN B. STATON
DB 3223 PG 210
DB M-29 PG 517
ESTATE 1996E-8

WALTER BOLDEN
DB 1642 PG 43
PB 10 PG 105

LYMAN EARL SCOTT, ET UX
DB 935 PG 638
PB 10 PG 105

JACQUELINE SCOTT SMITH
DB 410 PG 793
PB 10 PG 105

WILLIAM D. DAVIS
DB 3375 PG 311
PB 10 PG 105

RUEBELL HYMAN HARDY, ET UX
DB 738 PG 307
PB 3 PG 188

MARTY REARDON
DB 3390 PG 319
PB 3 PG 188

PATRICIA GRIMES SHORT, ET UX
DB 839 PG 850
PB 3 PG 188

VIVIAN CRUMP
ESTATE 2007E-108
DB PB 3 PG 188

MICHAEL E. WILSON, ET UX
DB 3399 PG 699
PB 3 PG 188

ROY CLAYTON EVERETT
DB 703 PG 762
PB 3 PG 188

ULYSSES G. BELL JR.
DB 0747 PG 803
PB 3 PG 188

NASSEEM AWARTANI
DB 917 PG 1
PB 3 PG 188

THE STATE HIGHWAY AND PUBLIC WORKS COMMISSION
DB 028 PG 5
PB 3 PG 188

M. R. CHANDLER COMPANY, LLC
DB 3382 PG 366
PB 3 PG 188

BENJAMIN F. JOHNSON, ET UX
DB 3382 PG 372
PB 3 PG 188

TYMANN G. HENDERSON
DB 3318 PG 194
PB 3 PG 188

THE CITY OF GREENVILLE, NORTH CAROLINA
DB H44 PG 522

CALVIN BECKETT HEIRS
WILL BOOK 9 PG 544
DB T-27 PG 14
DB 2909 PG 474
DB 3348 PG 98
PB 3 PG 188

-L- POT Sta. 10+00.00

-L- PC Sta. 17+59.45
BEGIN CONSTRUCTION

-L- PT Sta. 22+96.59

-L-
PI Sta 20+30.46
Δ = 18° 48' 00.0" (RT)
D = 3° 30' 00.0"
L = 537.14'
T = 271.01'
R = 1,637.02'
SE = SEE PLANS

MATCHLINE -L- STA. 24+50.00
SEE SHEET 05

SEE SHEET 06 FOR -L- PROFILE
SEE SHEETS S-1 THRU S-57 FOR STRUCTURE PLANS
SEE SHEETS 2B-1 & 2B-2 FOR TEMPORARY CROSSOVER PLANS

RADII DIMENSIONS ARE TO FACE OF CURB (F/C) UNLESS OTHERWISE NOTED

☆ EXISTING SIGNAL

REVISIONS
8/17/99

12/10/2021
C:\Users\dlowery\Documents\NCDOT\B-4786\Roadway\Proj\b4786_rdy_psh_04.dgn
dlowery

PROJECT REFERENCE NO.	SHEET NO.
B-4786	05
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 027418 ENGINEER MARCUS LOWERY
1/31/2022 | 9:25 AM EST

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 038697 ENGINEER DAVID B. PETH
1/31/2022 | 3:15 PM EST

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

END TIP PROJECT B-4786
-L- POT Sta. 34+50.00

NAD 83 /NA 2011

MATCHLINE -L- STA. 24+50.00
SEE SHEET 04

REVISIONS 8/17/99

BEGIN APPROACH SLAB
-L- STA 25+04.24

BEGIN BRIDGE
-L- STA 25+28.00

END APPROACH SLAB
-L- STA 31+01.76

END BRIDGE
-L- STA 30+78.00

PITT COUNTY-CITY OF GREENVILLE AIRPORT AUTHORITY
DB A51 PG 774
DB F42 PG 679
DB I28 PG 363
DB L48 PG 480
DB W24 PG 340
DB W26 PG 196

RE-LAP EXIST. GUARDRAIL AFTER DETOUR REMOVAL

BRIDGE NO.39

BRIDGE NO.38

RETAIN 8" CMP

REMOVE & REPLACE EXIST GUARDRAIL BEGIN STA 30+79 +/-

GREU, TL-3

REMOVE EXIST.

REMOVE TEMP STEEL PLATE OVER 2GI AFTER DETOUR IS REMOVED

REMOVE EXISTING DI

REMOVE CB

APPROX. LOCATION OF PROPOSED SOUTH TAR RIVER GREENWAY, PHASE 3 (EB-5539) (FUTURE PROJECT BY OTHERS)

END SBG +16.94 19.67'RT

BEGIN SBG +14.46 19.67'RT

CLASS B RIP RAP 1 TON,5 SY GEO

END SBG +93.80 19.67'RT

100' GUARDRAIL TAPER

15" CSP

ELBOW

TIE TO EXIST W/S

USE ROCK PLATING FROM -L- STA 23+75 +/- TO 25+49 +/- RT
EXTEND ROCK PLATING LIMITS TO 2.5:1 SLOPES
CLASS II RIP RAP

USE ROCK PLATING FROM -L- STA 30+87 +/- TO 31+75 +/- RT
EXTEND ROCK PLATING LIMITS TO 2.5:1 SLOPES
CLASS II RIP RAP

1 CALVIN BECKETT HEIRS
WILL BOOK 9 PG 544
DB T-27 PG 14
DB 2909 PG 474
DB 3348 PG 98
PB 3 PG 188

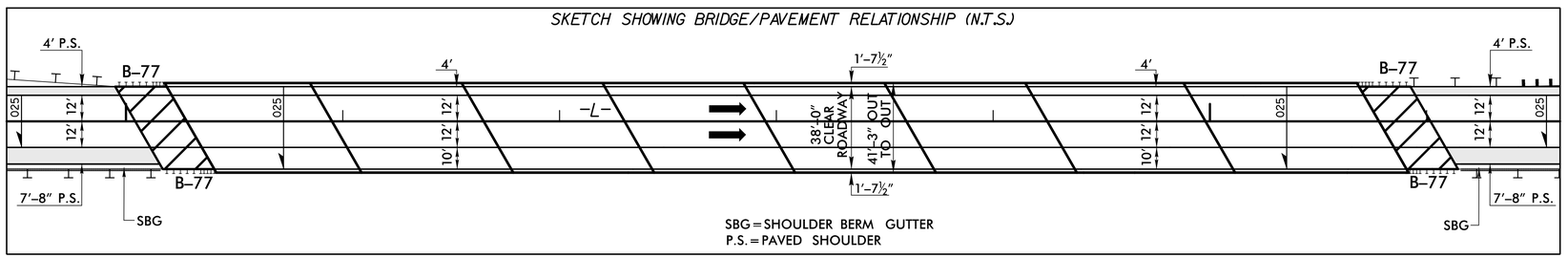
2 PITT COUNTY-CITY OF GREENVILLE AIRPORT AUTHORITY
DB A51 PG 774
DB F42 PG 679
DB I28 PG 363
DB L48 PG 480
DB W24 PG 340
DB W26 PG 196

THE HISTORIC HIGH WATER MARK COULD NOT BE DETERMINED BY PHYSICAL OR PAROLE EVIDENCE

END CONSTRUCTION
-L- STA 38+12.09

SEE SHEET 06 FOR -L- PROFILE
SEE SHEETS S-1 THRU S-57 FOR STRUCTURE PLANS
SEE SHEETS 2B-1 & 2B-2 FOR TEMPORARY CROSSOVER PLANS

SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP (N.T.S.)



SBG = SHOULDER BERM GUTTER
P.S. = PAVED SHOULDER

12/14/2021
C:\Projects\NCDOT\B-4786\Roadway\Proj\b4786_rdy_psh_05.dgn
User:mlowery

5/28/99

-L- US 13

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

PROJECT REFERENCE NO.	SHEET NO.
B-4786	06

EXISTING GROUND
PROPOSED GRADE
LEFT DITCH GRADE
RIGHT DITCH GRADE

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 027418 ENGINEER MARCUS LOWERY
1/31/2022 | 9:25 AM EST

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 038697 ENGINEER DAVID B PETTY
1/31/2022 | 3:15 PM EST

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

BM#1 ELEVATION = 42.35'
N 682701' E 2477934'
-L- STA. 15+33 50' RT.
BM-A RR SPIKE SET IN BASE OF 36" TWIN WATER OAK (72" DIAMETER BASE)

BM#2 ELEVATION = 32.23'
N 683236' E 2478119'
-L- STA. 21+09 39' RT.
BM-B RR SPIKE SET IN BASE OF 14" ELM

BEGIN GRADE
-L- STA. 22+00.00
ELEV=27.86'

-L- STA 17+59.45 TO -L- STA 22+00.00
MAINTAIN EXISTING GRADE
(MILL & FILL 1.5")

PI = 23+50.00
EL = 27.36'
VC = 250'
K = 193

(-)0.3333% (+)0.9644%

US 13 INTERSECTION W/ WEST 3RD STREET

PI = 28+00.00
EL = 31.70'
VC = 650'
K = 342

BEGIN BRIDGE
-L- STA. 25+28.00

LOW SIDE LOW CHORD

END BRIDGE
-L- STA. 30+78.00

(+)0.9644% (-)0.9382%

REMOVE EXISTING BRIDGE

CLASS II RIP RAP KEY-IN 3.5' (TYP.)

1.5:1 NORMAL SLOPE (RIP RAP) (TYP.)

UNCLASSIFIED STRUCTURE EXCAVATION TO ELEV. 19' EST. 60 CY (STRUCTURES PAY ITEM)

EX. CONCRETE SLOPING ABUTMENTS TO BE RETAINED (TYP.)

UNCLASSIFIED STRUCTURE EXCAVATION TO ELEV. 19' EST. 60 CY (STRUCTURES PAY ITEM)

NORMAL WSEL=1'

BM#3 ELEVATION = 26.64'
N 684104' E 2478695'
-L- STA. 31+55 17' RT.
BM-C RR SPIKE SET IN ASPHALT SHOULDER

PI = 33+50.00
EL = 26.54'
VC = 200'
K = 649

(-)0.9382% (-)0.6300%

END GRADE
-L- STA. 34+50.00
ELEV=25.91'

-L- STA 34+50 TO -L- STA 38+12.09
MAINTAIN EXISTING GRADE
(MILL & FILL 1.5")

BM#4 ELEVATION = 24.66'
N 684485' E 2478968'
-L- STA. 36+24 19' RT.
BM-D RR SPIKE SET IN ASPHALT SHOULDER

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 45200	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 22.9	FT
BASE DISCHARGE	= 53100	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 24.3	FT
OVERTOPPING DISCHARGE	= 47600	CFS
OVERTOPPING FREQUENCY	= 50+	YRS
OVERTOPPING ELEVATION	= 23.2	FT
		FT
DATE OF SITE VISIT	= 9/8/2017	
W.S. ELEVATION AT DATE OF SITE VISIT	= 1	FT

FOR -L- PLAN SEE SHEETS 04 & 05

12/10/2021
C:\Projects\NCDOT\B-4786\Roadway\Proj\b4786_rdy_pf1.06.dgn
(Barrier Gates)