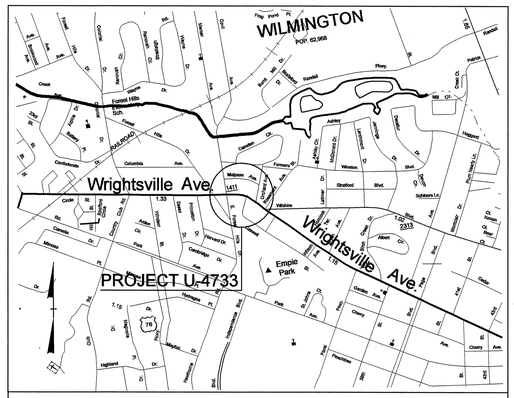
09/08/09

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NEW HANOVER COUNTY

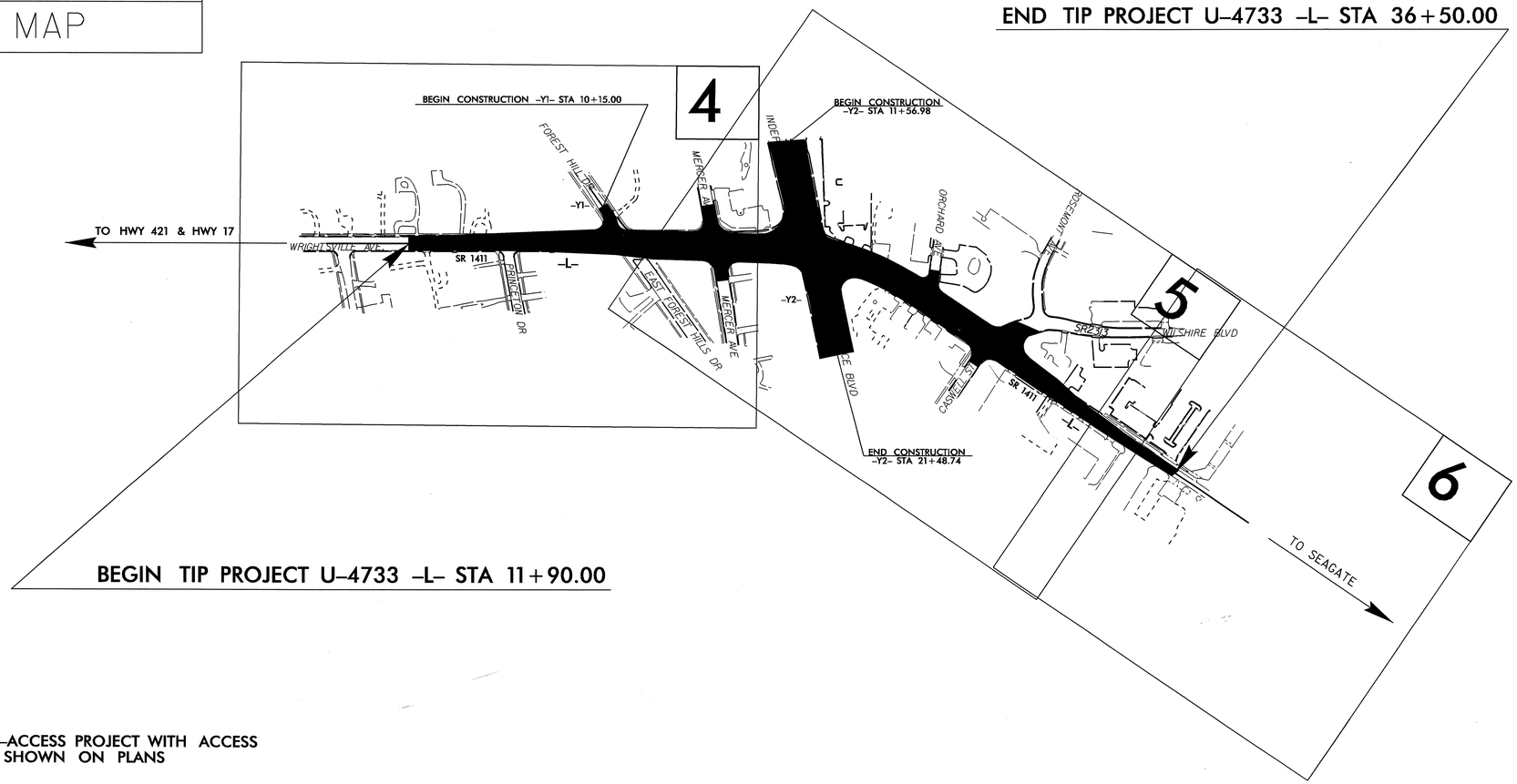
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4733	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
36306.1.1	STP-0332(15)	P.E.
36306.2.1	STP-0332(15)	R/W & UTIL
36306.3.1	STP-0332(15)	CONST.

LOCATION: WILMINGTON – SR 1411 (WRIGHTSVILLE AVE.) FROM FOREST HILLS DR TO SR 2313 (WILSHIRE BLVD.)

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

END TIP PROJECT U-4733 –L– STA 36+50.00



BEGIN TIP PROJECT U-4733 –L– STA 11+90.00

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

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 2007 = 27160
ADT 2030 = 36000
DHV = 10 %
D = 75 %
T = 4 % *
V = 50 MPH

* TTST 1 % DUAL 3 %

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-4733 = 0.466 MILES
TOTAL LENGTH OF TIP PROJECT U-4733 = 0.466 MILES

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: FEBRUARY 17, 2006

LETTING DATE: JULY 15, 2008

TED S. WALLS
PROJECT ENGINEER

ALLISON K. WHITE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 16533 ENGINEER
SIGNATURE: 5/21/08

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 15892 ENGINEER DEWAYNE L. SYKES
SIGNATURE: 5/21/08

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION
P.E.
STATE HIGHWAY DESIGN ENGINEER

TIP PROJECT: U-4733

CONTRACT: C201847

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-4733	1-A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 15892 ENGINEER DEWAYNE L SYKES

Dewayne L Sykes 4/14/08

INDEX OF SHEETS

GENERAL NOTES:

2006 SPECIFICATIONS
EFFECTIVE: 07-18-06
REVISED: 07-18-06

GRADING AND SURFACING OR RESURFACING AND WIDENING:

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

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.

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.

UNDERDRAINS:

UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.03 AT LOCATIONS DIRECTED BY THE ENGINEER.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.03 AT LOCATIONS SHOWN ON 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.

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE CITY OF WILMINGTON.

PROGRESS ENERGY, A.T.&T., BTI DELTO COM. TELEPHONE.

PIEDMONT NATURAL GAS, & TIME WARNER CABLE.

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.

WHEELCHAIR RAMPS:

WHEELCHAIR RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. THE CONSTRUCTION OF ALL WHEELCHAIR RAMPS SHALL BE IN ACCORDANCE WITH DETAILS IN PLANS. STD 848.05

EFF. 07-18-06
REV. 01-02-07

2006 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 July 18, 2006 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
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation - Method 'A'
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
815.03	Pipe Underdrain and Blind 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
840.17	Concrete Grated Drop Inlet Type 'A' - 12" thru 72" Pipe
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.19	Concrete Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.24	Frames and Narrow Slot Sag Grates
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.28	Brick Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.34	Traffic Bearing Junction Box - for Use with Pipes 42" and Under
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
846.02	Drop Inlet Installation in Expressway Gutter
848.01	Concrete Sidewalk
848.03	Driveway Turnout - Drop Curb Type
848.04	Street Turnout
848.05	Wheelchair Ramp - Curb Cut
852.01	Concrete Islands
852.06	Method for Placement of Drop Inlets in Concrete Islands
862.01	Guardrail Placement
862.02	Guardrail Installation
866.01	Chain Link Fence - 4', 5' and 6' High Fence
876.02	Guide for Rip Rap at Pipe Outlets

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3/15/06

PROJECT REFERENCE NO.	SHEET NO.
U-4733	1B

Note: Not to Scale

****S.U.E. = Subsurface Utility Engineering***

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- 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

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:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite Marker — RW
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Utility Easement — PUE

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Wheel Chair Ramp — WCR
- Proposed Wheel Chair Ramp Curb Cut — WCC
- Curb Cut for Future Wheel Chair Ramp — CCFR
- 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 — HH
- H-Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (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
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

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

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
U-4733	1C
Location and Surveys	

SURVEY CONTROL SHEET U-4733

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "U4733-2" WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 174,312.3759(1) EASTING: 2,331,113.7300(1)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999963918
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "U4733-2" TO -L- STATION 12+40.00 IS 1,363.724 N 59°32'03.6" W
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

CONTROL DATA

NAD 83

-BL-

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
BL172	"U3116-172"	174968.3020	2329996.9330	33.07	13+03.41	26.06 RT
BL171	"U3116-171"	174972.5650	2330296.3130	34.96	15+98.56	24.25 LT
BL13	"BL-13"	174950.4760	2330575.7140	35.57	18+77.23	46.93 LT
BL12	"BL-12"	174906.9690	2330850.5130	37.58	21+54.47	54.44 LT
BL11	"BL-11"	174893.6670	2331090.4420	40.11	23+79.65	96.54 LT
BL194	"U3116-194"	174614.4260	2331427.0700	38.43	27+88.22	31.95 LT
BL9	"BL-9"	174497.8740	2331551.9620	39.41	29+58.96	32.31 LT
BL183	"U3116-183"	174173.1200	2331878.1470	38.32	34+19.04	21.85 LT
BL170	"U3116-170"	173617.5170	2332465.3150	39.79	OUTSIDE PROJECT LIMITS	

-BY-

POINT	DESC.	NORTH	EAST	ELEVATION	Y2 STATION	OFFSET
BL11	BL-11	174893.6670	2331090.4420	40.11	16+68.97	6.56 LT
GPS2	NCDOT GPS MON.	174312.3750	2331113.7300	37.52	22+50.57	1.86 LT

BM4 ELEVATION = 37.70
N 174711 E 2330754
L STATION 20+97 156 RIGHT
RR SPIKE SET IN 15" PINE

BM5 ELEVATION = 38.49
N 174307 E 2331459
L STATION 30+23 170 RIGHT
RR SPIKE SET IN 12" PINE

-Y2- POT STA. 10+00.00
LOCALIZED PROJECT COORDINATES
N: 175,559.863
E: 2,331,091.570

S 5° 48' 05.0" E

-Y2- PC STA. 13+33.74
LOCALIZED PROJECT COORDINATES
N: 175,227.1545
E: 2,331,054.8916

MALPASS AVE.

-L- POT STA. 10+00.00
LOCALIZED PROJECT COORDINATES
N: 175,040.7662
E: 2,329,701.1531

-L- POT STA. 12+40.00 BEGIN PROJECT 36306.11
LOCALIZED PROJECT COORDINATES
N: 175,003.8132
E: 2,329,938.2912

-Y1- PT STA. 10+00.00
LOCALIZED PROJECT COORDINATES
N: 175,089.514
E: 2,330,478.138

-Y1- PC STA. 10+95.00
LOCALIZED PROJECT COORDINATES
N: 175,003.9789
E: 2,330,519.4680

NCDOT BASELINE STATION "BL-171"
LOCALIZED PROJECT COORDINATES
N = 174,972.5650
E = 2,330,296.3130
CAP STAMPED (U3116-171)

NCDOT BASELINE STATION "BL-13"
LOCALIZED PROJECT COORDINATES
N = 174,950.4760
E = 2,330,575.7140

NCDOT BASELINE STATION "BL-12"
LOCALIZED PROJECT COORDINATES
N = 174,906.9690
E = 2,330,850.5130

NCDOT BASELINE STATION "BL-11"
LOCALIZED PROJECT COORDINATES
N = 174,893.6670
E = 2,331,090.4420

-Y1- PT STA. 11+56.73
LOCALIZED PROJECT COORDINATES
N: 174,943.8252
E: 2,330,528.0331

S 29° 47' 23.1" E

PRINCE ST.

S 9° 34' 56.5" W

MERCER AVE.

I-SR 1209 INDEPENDENCE BLVD.

-L- POC STA. 24+13.19 =
-Y2- POC STA. 17+71.50
LOCALIZED PROJECT COORDINATES
N: 174,790.90.32
E: 2,331,090.8170

S 81° 08' 34.4" E
(SR 1413) WRIGHTSVILLE AVE.

S 79° 07' 08.4" E

PRINCETON DR.

NCDOT BASELINE STATION "BL-172"
LOCALIZED PROJECT COORDINATES
N = 174,968.3020
E = 2,329,996.9330
CAP STAMPED (U3116-172)

-L- PC STA. 17+04.96
LOCALIZED PROJECT COORDINATES
N: 174,932.2223
E: 2,330,397.7099

-L- POC STA. 18+31.54 =
-Y1- POT STA. 11+89.07
LOCALIZED PROJECT COORDINATES
N: 174,911.9422
E: 2,330,522.6506

-L- PT STA. 20+58.20
LOCALIZED PROJECT COORDINATES
N: 174,871.6824
E: 2,330,745.6975

-L- PC STA. 22+50.58
LOCALIZED PROJECT COORDINATES
N: 174,835.3656
E: 2,330,934.6256

BM 4 ELEVATION = 37.70
RR SPIKE SET IN 15" PINE

-Y2- PT STA. 21+11.10
LOCALIZED PROJECT COORDINATES
N: 174,451.7069
E: 2,331,107.2021

NCDOT GPS STATION "U4733-2"
LOCALIZED PROJECT COORDINATES
N = 174,312.3750
E = 2,331,113.7300

S 56° 05.0" E

-Y2- POT STA. 29+40.18
LOCALIZED PROJECT COORDINATES
N: 173,623.0950
E: 2,331,349.373

NCDOT GPS STATION "U4733-3"
LOCALIZED PROJECT COORDINATES
N = 173,266.459
E = 2,331,121.240

NCDOT BASELINE STATION "BL-194"
LOCALIZED PROJECT COORDINATES
N = 174,614.4260
E = 2,331,427.0700
CAP STAMPED (U3116-194)

NCDOT BASELINE STATION "BL-1"
LOCALIZED PROJECT COORDINATES
N = 174,497.8740
E = 2,331,551.9620

OSMOND AVE.

ROSEMONT AVE.

I-SR 233 WILSHIRE BLVD.

S 46° 32' 23.4" E

-L- PT STA. 27+73.98
LOCALIZED PROJECT COORDINATES
N: 174,600.8381
E: 2,331,394.8333

-L- PC STA. 29+26.40
LOCALIZED PROJECT COORDINATES
N: 174,496.6475
E: 2,331,506.0691

DARELL ST.

-L- PT STA. 30+27.36
LOCALIZED PROJECT COORDINATES
N: 174,427.3163
E: 2,331,579.4669

BM 5 ELEVATION = 38.49
RR SPIKE SET IN 12" PINE

NCDOT BASELINE STATION "BY-197"
LOCALIZED PROJECT COORDINATES
N = 174,379.9530
E = 2,332,160.2420
CAP STAMPED (U3116-197)

S 46° 23' 21.7" E

NCDOT BASELINE STATION "BL-183"
LOCALIZED PROJECT COORDINATES
N = 174,173.1200
E = 2,331,878.1470
CAP STAMPED (U3116-183)

-L- PC STA. 33+69.93
LOCALIZED PROJECT COORDINATES
N: 174,091.0324
E: 2,331,827.5116

-L- PT STA. 34+69.09
LOCALIZED PROJECT COORDINATES
N: 174,022.9398
E: 2,331,899.5873

-L- POT STA. 36+50.00 END PROJECT 36306.11
LOCALIZED PROJECT COORDINATES
N: 173,999.2459
E: 2,332,031.6052

I-SR 140 WRIGHTSVILLE AVE.

S 46° 51' 52.0" E

NCDOT BASELINE STATION "BL-170"
LOCALIZED PROJECT COORDINATES
N = 173,617.5170
E = 2,332,465.3150
CAP STAMPED (U3116-170)

-L- POT STA. 42+04.37
LOCALIZED PROJECT COORDINATES
N: 173,620.2095
E: 2,332,436.1488

NOTES:

THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:

HTTP:\WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT
FILE NAME: U4733_LS_CONTROL_050502.TXT

SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT.
IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

● INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.

PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.

NETWORK ESTABLISHED FROM EXISTING HARN MONUMENTS NAD 83/95

NOTE: DRAWING NOT TO SCALE

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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-4733	2

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 15892 ENGINEER DEWAYNE L. SYKES

Dewayne L. Sykes 5/16/08

PAVEMENT DESIGN ENGINEER

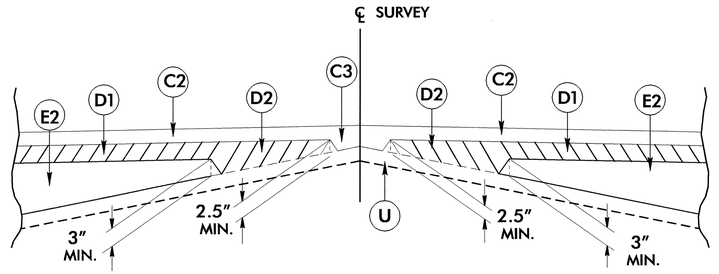
NORTH CAROLINA PROFESSIONAL SEAL 13368 ENGINEER CHUNG CHI CHEN

5/20/08

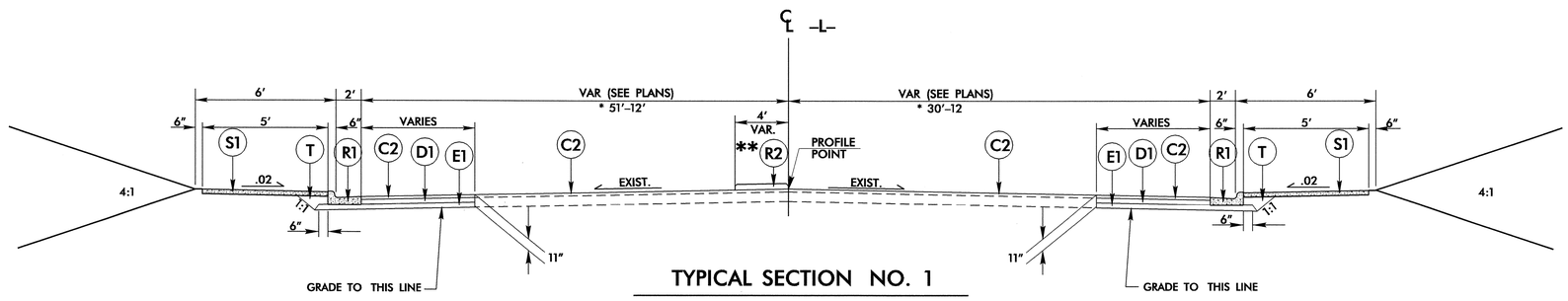
PAVEMENT SCHEDULE

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, 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 B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, 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	5" MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED)
R3	EXISTING CURB AND GUTTER OR EXPRESSWAY GUTTER
S1	4" CONCRETE SIDEWALK.
T	EARTH MATERIAL
U	EXISTING PAVEMENT.
W	WEDGING

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



Detail Showing Method of Wedging
USE WHERE NECESSARY
(SEE SHEET 2C)



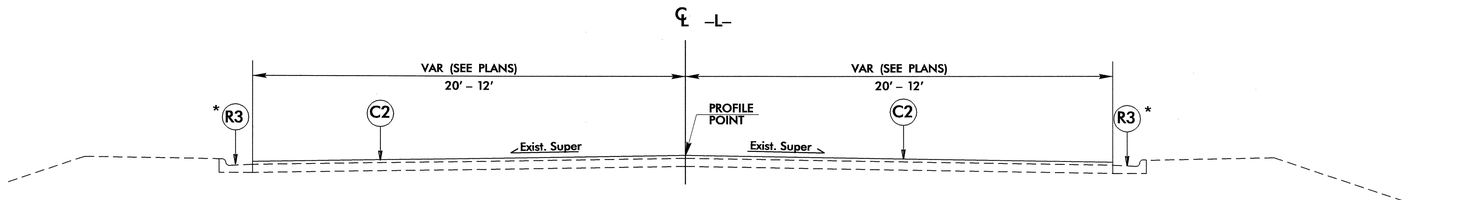
TYPICAL SECTION NO. 1

USE TYPICAL NO. 1 AS FOLLOWS :

–L– STA. 11+90.00 TO 17+90.00

* –L– STA. 29+78.72 TO 33+00.00

** SEE PLANS FOR ISLAND LOCATION AND DIMENSIONS



TYPICAL SECTION NO. 2

USE TYPICAL NO. 2 AS FOLLOWS :

–L– STA. 33+00.00 TO 36+50.00

* SEE PLANS FOR LOCATION OF EXIST. CURB & GUTTER

5/28/99

PAVEMENT SCHEDULE	
C1	1.5" S9.5B
C2	3" S9.5B
C3	VAR. DEPTH S9.5B
D1	4" I19.0B
D2	VAR. DEPTH I19.0B
E1	4" B25.0B
E2	VAR. DEPTH B25.0B
R1	2'-6" CURB & GUTTER
R2	CONC. ISLAND
R3	EXIST. GUTTER
S1	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

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

PROJECT REFERENCE NO.	SHEET NO.
U-4733	2A

ROADWAY DESIGN ENGINEER

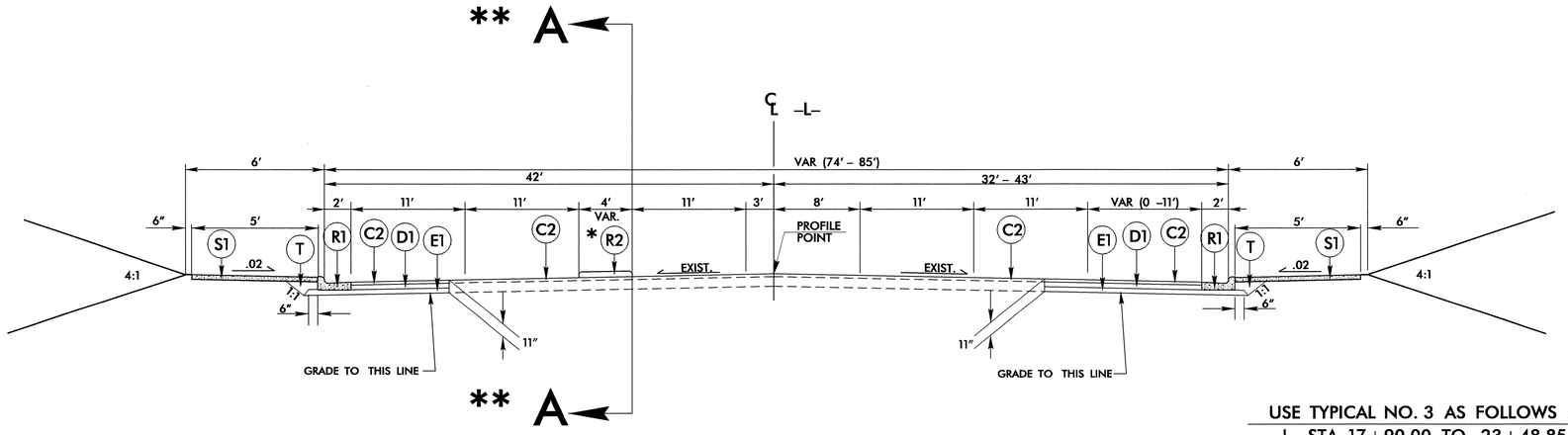
NORTH CAROLINA PROFESSIONAL SEAL 15892 ENGINEER DEWAYNE L. STYERS

5/2/08

PAVEMENT DESIGN ENGINEER

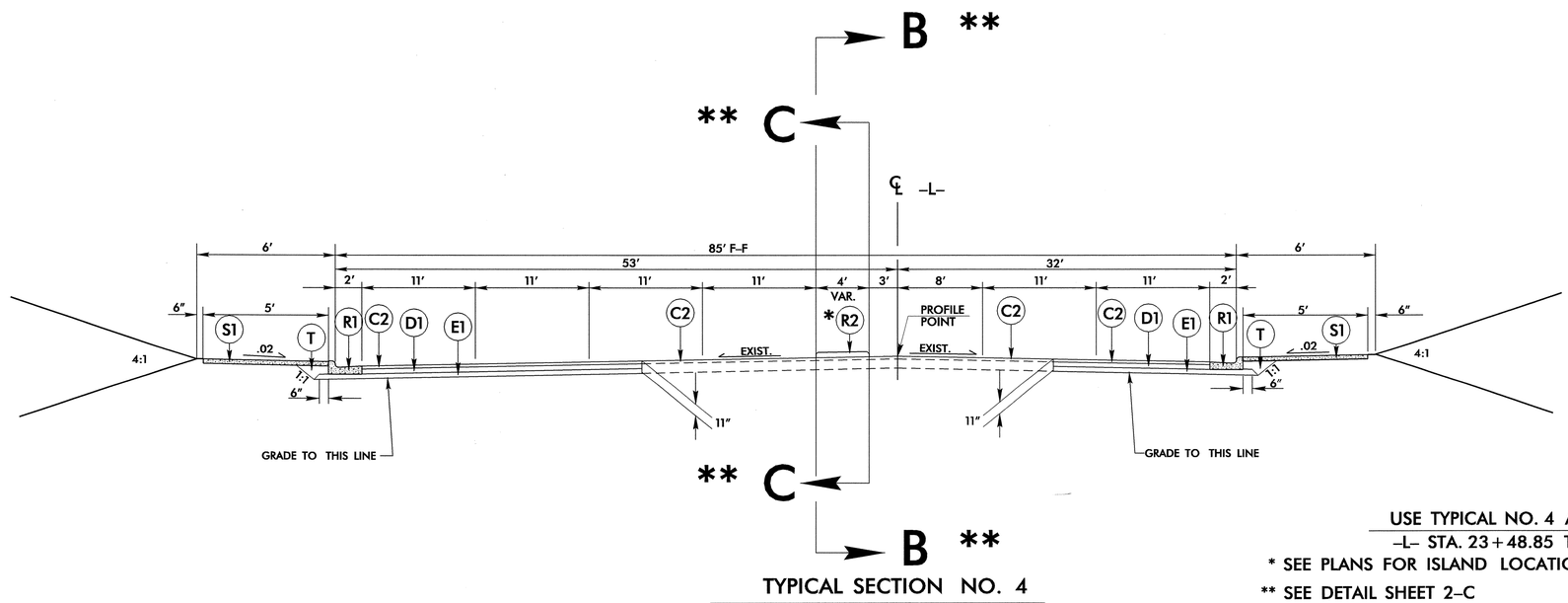
NORTH CAROLINA PROFESSIONAL SEAL 13368 ENGINEER JOHN CARTER CHEN

5/20/08



TYPICAL SECTION NO. 3

USE TYPICAL NO. 3 AS FOLLOWS :
–L– STA. 17+90.00 TO 23+48.85
* SEE PLANS FOR ISLAND LOCATION AND DIMENSIONS
** SEE DETAIL SHEET 2-C



TYPICAL SECTION NO. 4

USE TYPICAL NO. 4 AS FOLLOWS :
–L– STA. 23+48.85 TO 29+78.72
* SEE PLANS FOR ISLAND LOCATION AND DIMENSIONS
** SEE DETAIL SHEET 2-C

19-MAY-2008 14:09
T:\ROADWAY\projects\u4733_rdy_typ.dgn
$$$$USERNAME$$$$

5/28/99

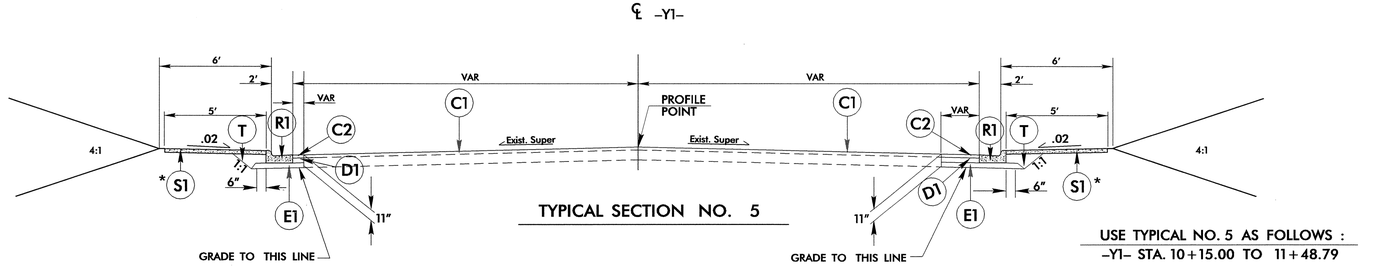
PAVEMENT SCHEDULE	
C1	1.5" S9.5B
C2	3" S9.5B
C3	VAR. DEPTH S9.5B
D1	4" I19.0B
D2	VAR. DEPTH I19.0B
E1	4" B25.0B
E2	VAR. DEPTH B25.0B
R1	2'-6" CURB & GUTTER
R2	CONC. ISLAND
R3	EXIST. GUTTER
S1	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

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

PROJECT REFERENCE NO.	SHEET NO.
U-4733	2B

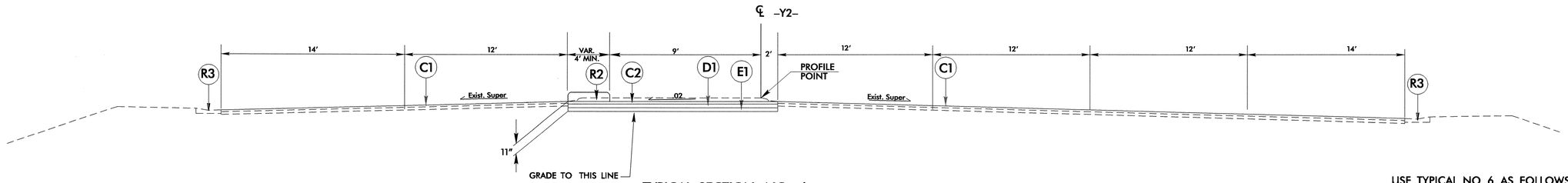
ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 15892 ENGINEER DEWAYNE L SYKES
Dewayne L Sykes 5/21/08

PAVEMENT DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 13708 ENGINEER DAVID CHI CHEN
5/20/08



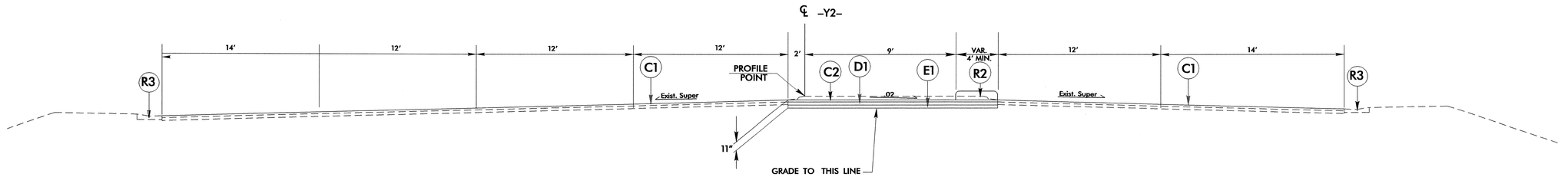
TYPICAL SECTION NO. 5

USE TYPICAL NO. 5 AS FOLLOWS :
-Y1- STA. 10+15.00 TO 11+48.79
* SEE PLANS FOR SIDEWALK LOCATIONS



TYPICAL SECTION NO. 6

USE TYPICAL NO. 6 AS FOLLOWS :
-Y2- STA. 11+56.98 TO 16+97.19



TYPICAL SECTION NO. 7

USE TYPICAL NO. 7 AS FOLLOWS :
-Y2- STA. 18+26.40 TO 21+48.74

19-MAY-2008 14:09
R:\Roadway\Plans\u4733_rdy_typ.dgn
akwhite
AT RD22157

SUPERELEVATION DETAILS

PROJECT REFERENCE NO.	SHEET NO.
U-4733	2C
RW SHEET NO.	

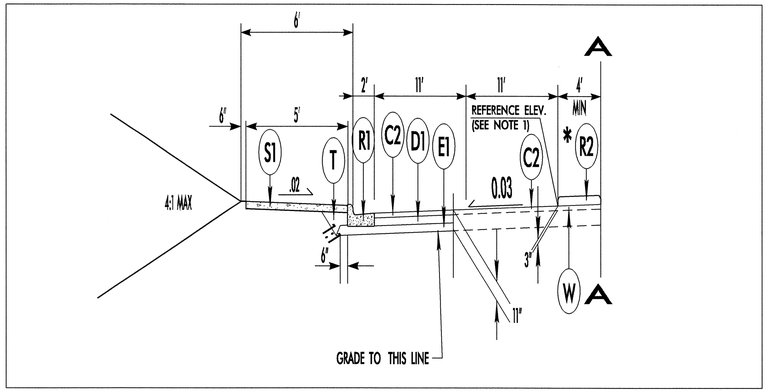
ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 15892 ENGINEER DEWAYNE L. STYKES

PAVEMENT DESIGN ENGINEER

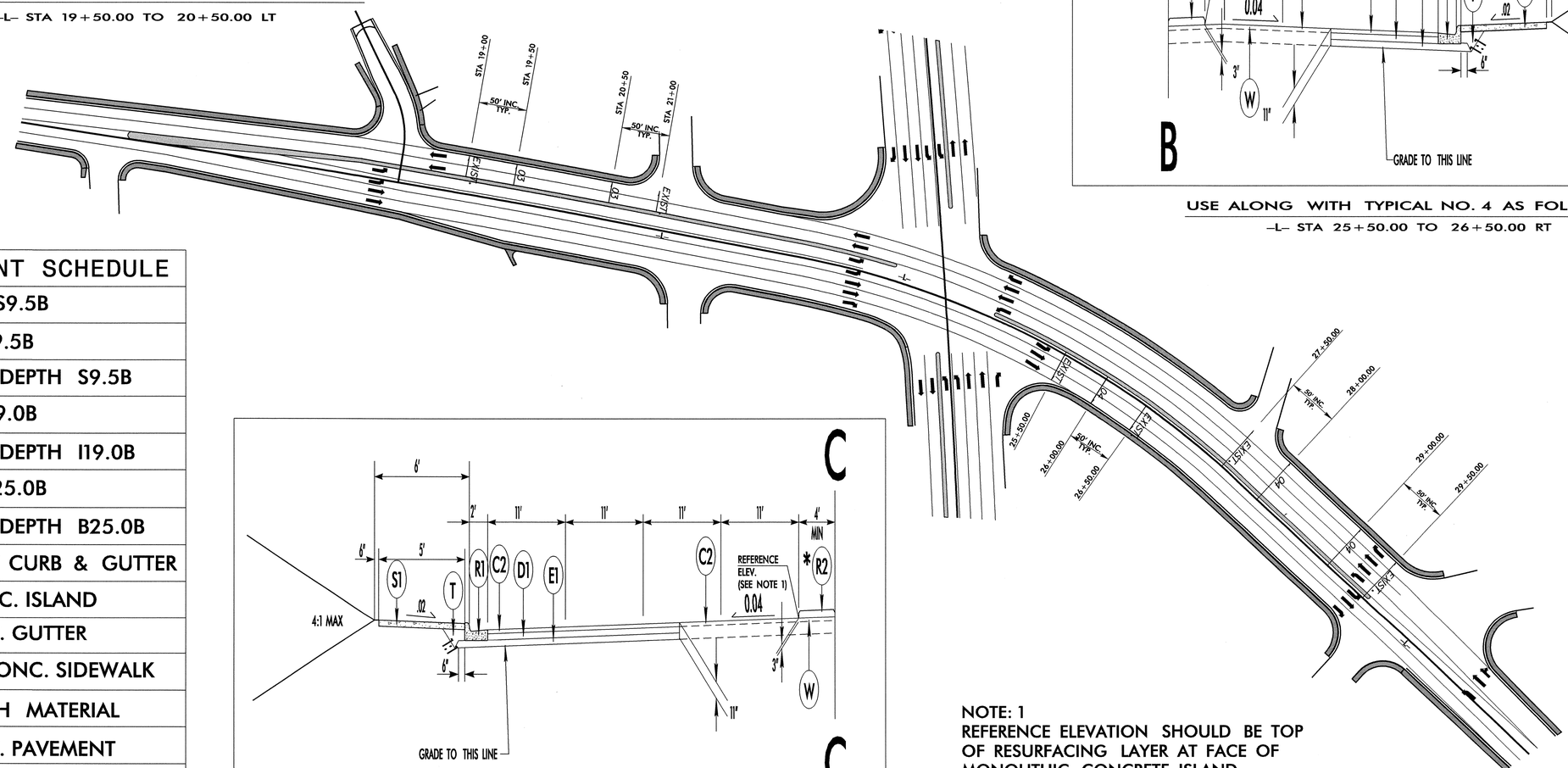
NORTH CAROLINA PROFESSIONAL SEAL 13368 ENGINEER DONTCHI CHEN

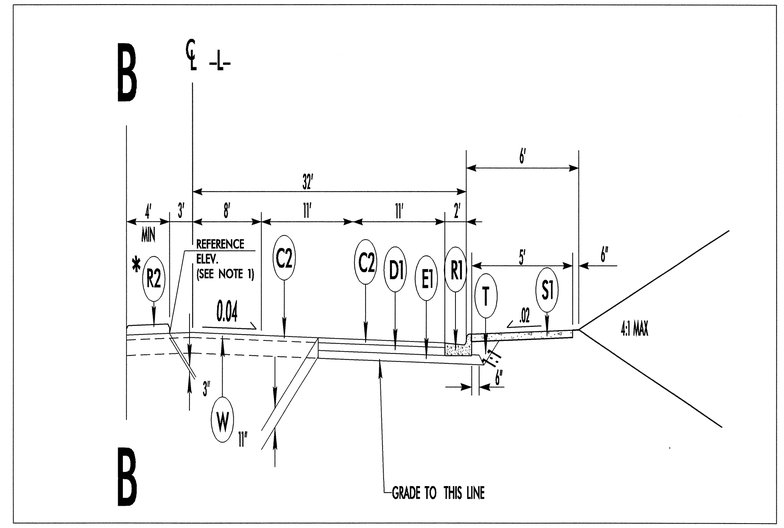
5/20/08



USE ALONG WITH TYPICAL NO. 3 AS FOLLOWS :

–L– STA 19+50.00 TO 20+50.00 LT





USE ALONG WITH TYPICAL NO. 4 AS FOLLOWS :

–L– STA 25+50.00 TO 26+50.00 RT

PAVEMENT SCHEDULE	
C1	1.5" S9.5B
C2	3" S9.5B
C3	VAR. DEPTH S9.5B
D1	4" I19.0B
D2	VAR. DEPTH I19.0B
E1	4" B25.0B
E2	VAR. DEPTH B25.0B
R1	2'–6" CURB & GUTTER
R2	CONC. ISLAND
R3	EXIST. GUTTER
S1	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

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

USE ALONG WITH TYPICAL NO. 4 AS FOLLOWS :

–L– STA 27+50.00 TO 29+50.00 LT

NOTE: 1
REFERENCE ELEVATION SHOULD BE TOP OF RESURFACING LAYER AT FACE OF MONOLITHIC CONCRETE ISLAND

8/17/99

19-MAY-2008 14:09
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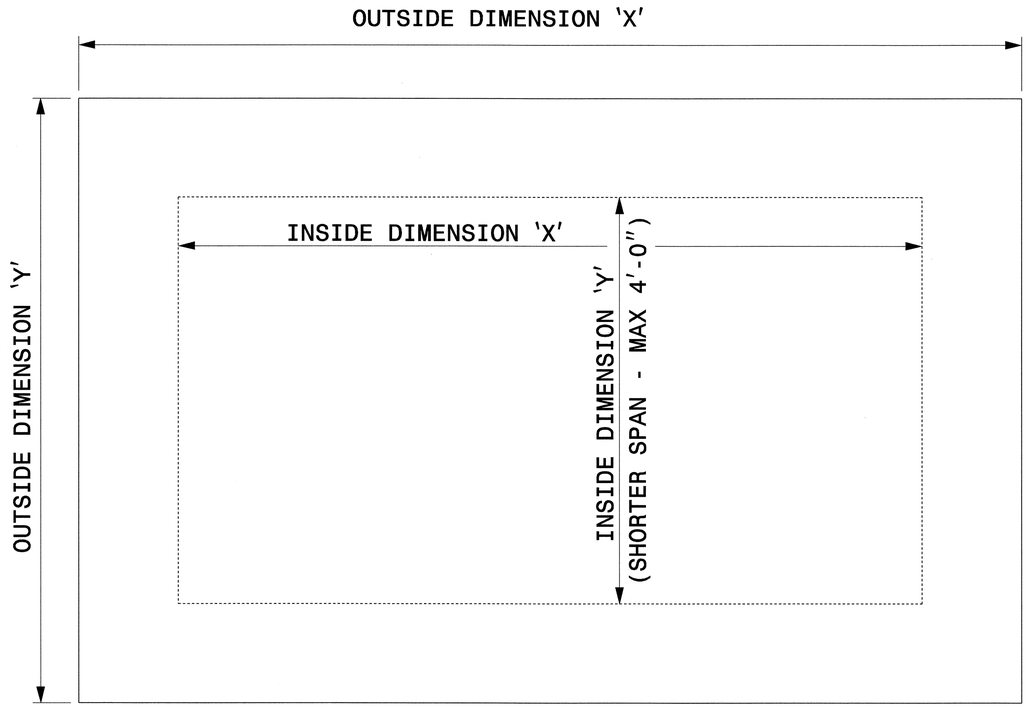
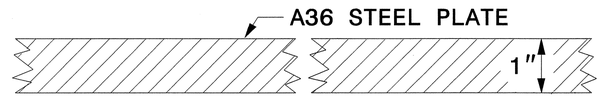
PROJECT REFERENCE NO.	SHEET NO.
U-4733	2.D



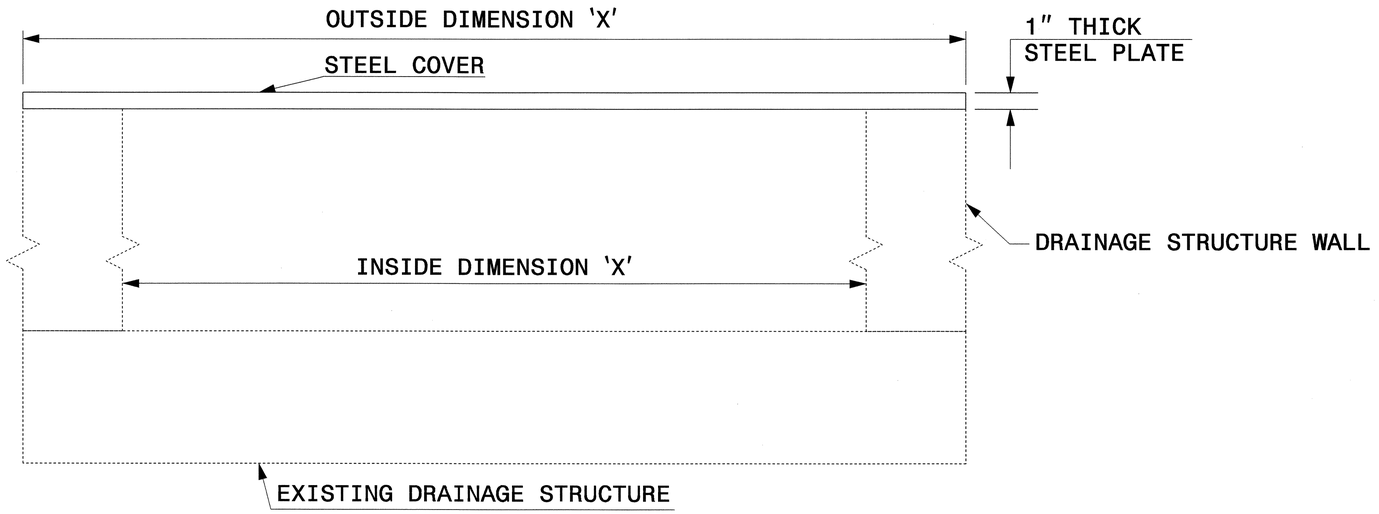
PLAN VIEWS

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



ELEVATION VIEWS

$$$$$$SYSTIME$$$$$$
$$$$$$ODN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER JOEL S. HOWINGTON
5/22/08

PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

DETAIL OF TEMPORARY 1" STEEL COVER OVER DRAINAGE STRUCTURE

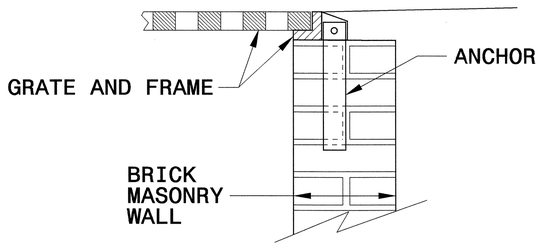
ORIGINAL BY: E.E. WARD DATE: 2-2-98
MODIFIED BY: DATE:
CHECKED BY: DATE: 3/11/08
FILE SPEC.: efpc:/usr/details/metric/stand/stlcvr2.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-4733	2-E

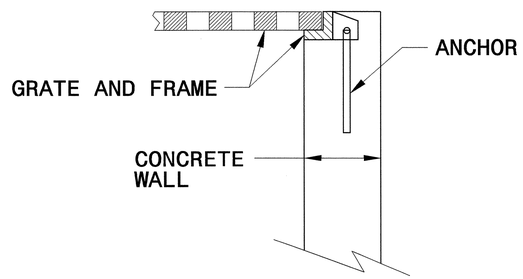
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
ANCHORAGE FOR FRAMES
BRICK/CONCRETE/PRECAST CONCRETE

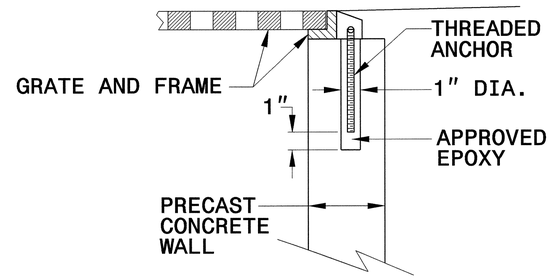
SHEET 1 OF 1
840D25



BRICK MASONRY CONSTRUCTION



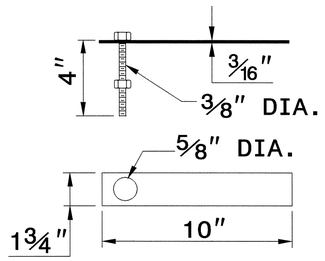
CONCRETE CONSTRUCTION



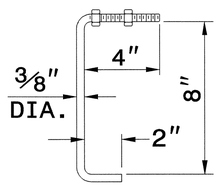
PRECAST CONCRETE CONSTRUCTION

DETAIL SHOWING ANCHORAGE OF FRAME FOR GRATED DROP INLET

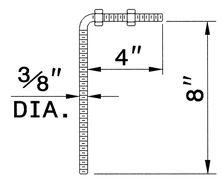
NOTE:
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



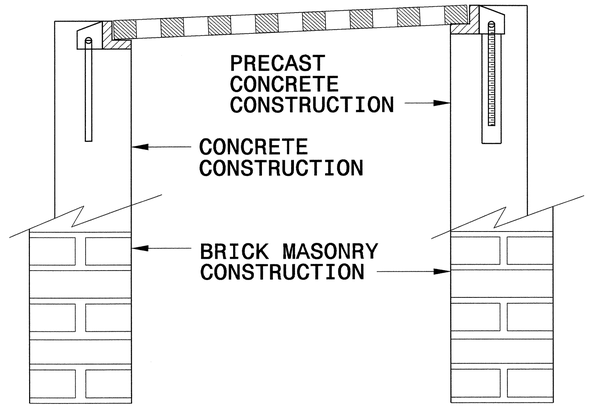
MASONRY ANCHOR
3/8" DIA. BOLT WITH PLATE



CONCRETE ANCHOR
3/8" DIA. BENT BAR



PRECAST CONCRETE ANCHOR
3/8" DIA. BENT BAR



FRAME AND GRATE INSTALLATION FOR NORMAL CROWN AND SUPERELEVATED SECTIONS

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

ENGLISH DETAIL DRAWING FOR
ANCHORAGE FOR FRAMES
BRICK/CONCRETE/PRECAST CONCRETE

SHEET 1 OF 1
840D25

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER JOEL S. HOWERTON
5/22/08

PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: 2006 STD 840.25 DATE: 07/18/06
MODIFIED BY: E.E. WARD DATE: 9/25/06
CHECKED BY: DATE:
FILE SPEC.:

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

PROJECT REFERENCE NO.	SHEET NO.
U-4733	2F
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 15892 ENGINEER DEWAYNE L SYKES

Dewayne L Sykes

4/14/06

REVISIONS

8/17/99

-L-
PI Sta 25+19.42
△ = 32° 14' 45.3" (RT)
D = 6° 09' 39.0"
L = 523.40'
T = 268.83'
R = 930.00'

-L- STA 24+13.19
-Y2- STA 17+71.50

INDEPENDENCE BLVD.
-Y2-

WALL POT Sta. 10+00.00

WALL POT Sta. 10+53.38

WALL POT Sta. 11+25.75

INDEPENDENCE BLVD.
-Y2-

-Y2-
PI Sta 17+22.57
△ = 3° 53' 03.5" (RT)
D = 0° 29' 58.8"
L = 777.36'
T = 388.83'
R = 11,466.51'

WRIGHTSVILLE AVE.
-L-

S 24° 03' 24.0" E
-WALL-

S 8° 59' 38.1" E

PT Sta. 24+11.10

20' 0' 20' 40'
10'

WALL

-WALL- POT STA 10+53.38
(EL 47.5)
-Y2- STA 18+69.36
(OFFSET 59.57)

-WALL- POT STA 11+13.97
(EL 49.5)
-Y2- STA 19+30.44

-WALL- POT STA 11+25.22
(EL 47.5)
-Y2- STA 19+42.22
(OFFSET 78.53)

-WALL- POT STA 10+00.00
(EL 47.5)
-Y2- STA 18+19.17
(OFFSET 78.53)

50

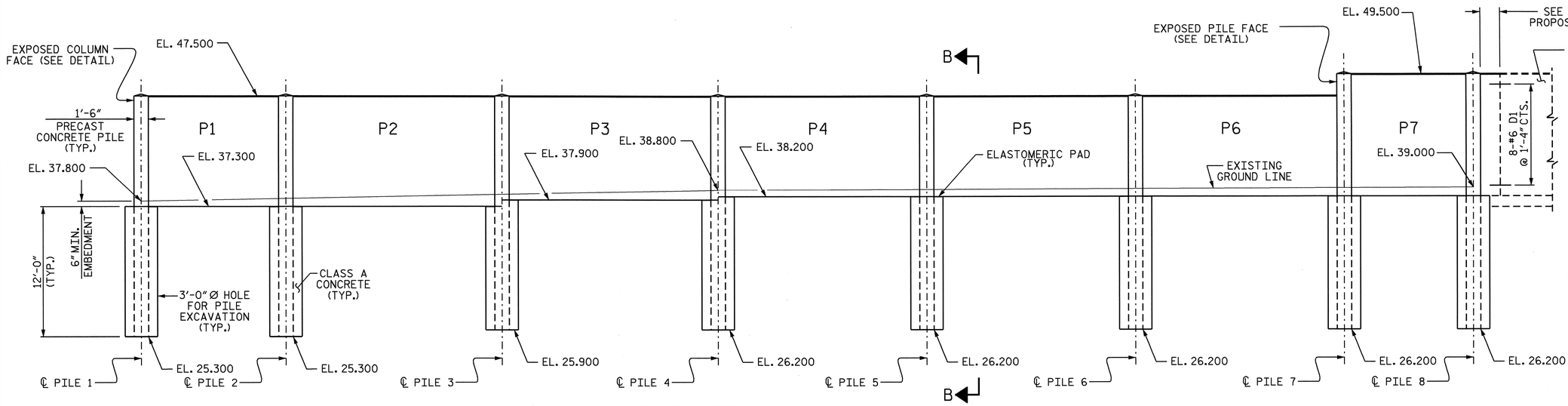
40

30

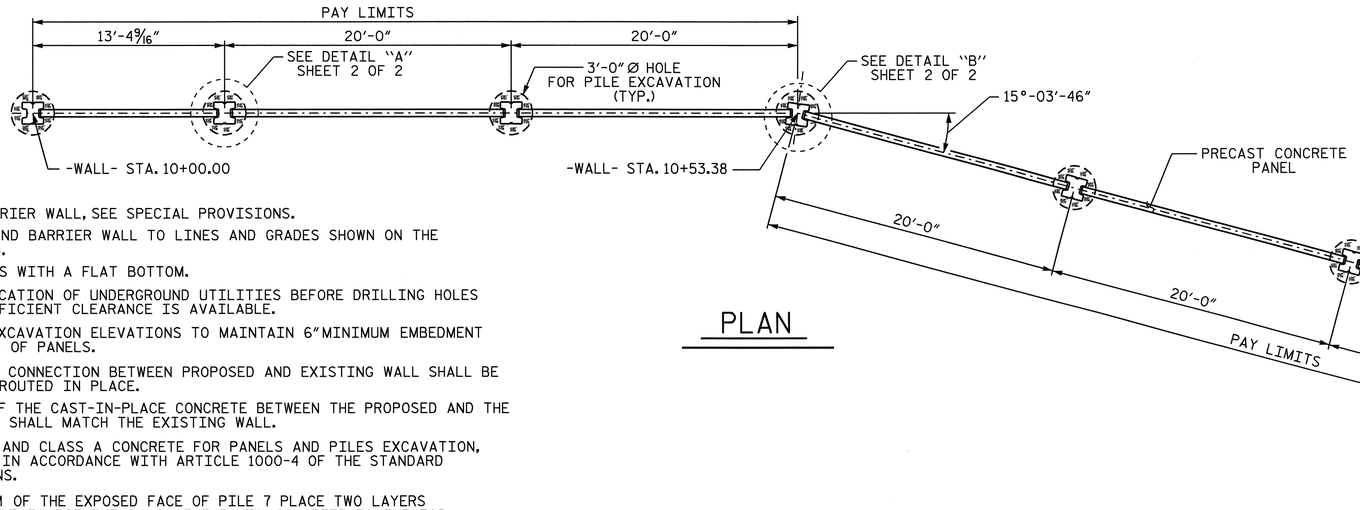
10

11

11-APR-2008 08:04
r:\roadway\proj\u-4733_rdy_dtl_wall.dgn
$$$$USERNAME$$$$

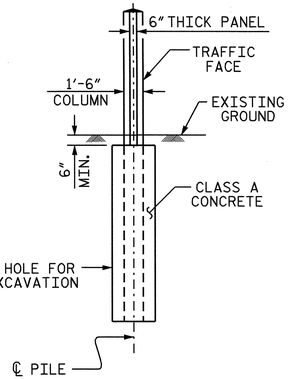


ELEVATION



PLAN

SECTION B-B



BILL OF MATERIAL

SOUND BARRIER WALL	S.F.	1262
REMOVAL OF EXISTING STRUCTURE	LUMP SUM	

QUANTITIES PROVIDED ARE APPROXIMATE AND ARE FOR BID PURPOSES ONLY.

BILL OF MATERIAL

CONNECTING WALL

NO.	BAR	SIZE	TYPE	LENGTH	WEIGHT (lb)
8	D1	#6	STR	2'-0"	24
8	H1	#6	STR	1'-9"	21
2	V5	#4	STR	10'-11"	15
REINFORCING STEEL					LBS. 60
CLASS AA CONCRETE FOR PILE EXPOSED FACE AND CONNECTING WALL					
TOTAL					C.Y. 0.7

NOTES

FOR SOUND BARRIER WALL, SEE SPECIAL PROVISIONS.

CONSTRUCT SOUND BARRIER WALL TO LINES AND GRADES SHOWN ON THE ROADWAY PLANS.

PROVIDE PANELS WITH A FLAT BOTTOM.

VERIFY THE LOCATION OF UNDERGROUND UTILITIES BEFORE DRILLING HOLES TO ENSURE SUFFICIENT CLEARANCE IS AVAILABLE.

ADJUST PILE EXCAVATION ELEVATIONS TO MAINTAIN 6" MINIMUM EMBEDMENT OF THE BOTTOM OF PANELS.

ALL DOWELS IN CONNECTION BETWEEN PROPOSED AND EXISTING WALL SHALL BE DRILLED AND GROUTED IN PLACE.

THE SURFACE OF THE CAST-IN-PLACE CONCRETE BETWEEN THE PROPOSED AND THE EXISTING WALL SHALL MATCH THE EXISTING WALL.

USE CLASS AA AND CLASS A CONCRETE FOR PANELS AND PILES EXCAVATION, RESPECTIVELY, IN ACCORDANCE WITH ARTICLE 1000-4 OF THE STANDARD SPECIFICATIONS.

AT THE BOTTOM OF THE EXPOSED FACE OF PILE 7 PLACE TWO LAYERS OF ROOFING FELT TO PREVENT BOND OF THE NEW CONCRETE TO THE TOP OF PANEL.

USE ANGLES MEETING THE REQUIREMENTS OF AASHTO M270, GRADE 50. GALVANIZE ANGLES IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS. REPAIR ANY DAMAGED GALVANIZATION IN ACCORDANCE WITH ARTICLE 1076-6 OF THE STANDARD SPECIFICATIONS.

THE ENGINEER SHALL VERIFY PILE LOCATIONS AND PANEL LENGTHS IN THE FIELD PRIOR TO CONSTRUCTION OF THE SOUND BARRIER WALL.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FILL 3/8" GROOVE IN PRECAST CONCRETE PILES WITH SILICONE SEALANT TO MATCH EXISTING SOUND BARRIER WALL.

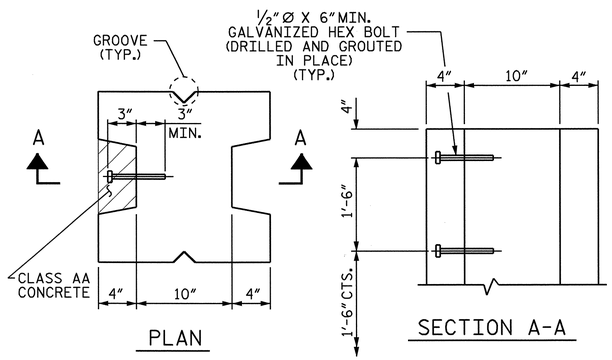
THE FINISH ON ALL EXPOSED SURFACES OF PILES, PANELS, AND CONNECTIONS SHALL MATCH THE COLOR AND TEXTURE OF THE FINISH ON THE EXISTING SOUND BARRIER WALL, SEE SPECIAL PROVISIONS

FOR THE SILICONE SEALANT AND BACKER ROD, SEE SECTION 1028 OF THE STANDARD SPECIFICATIONS. THE COLOR OF THE SEALANT SHALL MATCH THE SEALANT ON THE EXISTING SOUND BARRIER WALL.

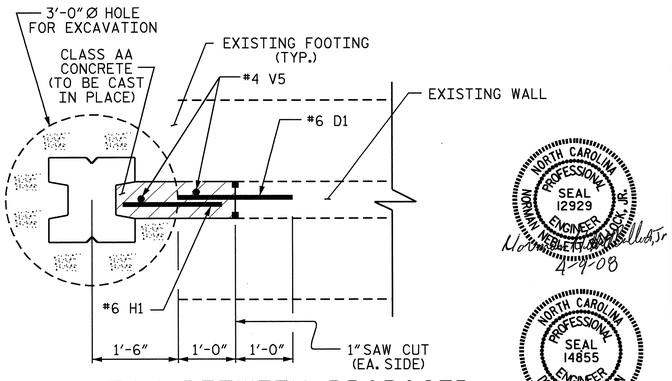
FOR PARTIAL REMOVAL OF THE EXISTING STRUCTURE, SEE SECTION 402 OF THE STANDARD SPECIFICATIONS. NO SUBMITTAL WILL BE NECESSARY.

APPROXIMATELY 150'-0" OF THE EXISTING WALL SHALL BE REMOVED PRIOR TO CONSTRUCTION OF THE WALL. FOR LIMITS OF REMOVAL, SEE ROADWAY PLANS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.



DETAIL AT EXPOSED PILE FACE



CONNECTION BETWEEN PROPOSED WALL AND EXISTING WALL

NORTH CAROLINA PROFESSIONAL SEAL 12929 ENGINEER NORMAN NEILL BLALOCK, JR. 4-9-08

NORTH CAROLINA PROFESSIONAL SEAL 14855 ENGINEER DOUGLAS R. CALHOUN 4-9-08

PROJECT NO. U-4733

NEW HANOVER COUNTY

STATION: 10+00.00 -WALL-

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SOUND BARRIER WALL

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2-G
1			3			TOTAL SHEETS
2			4			

DRAWN BY : J.L. WALTON DATE : 2-08
CHECKED BY : J.D. LOEHR DATE : 3-08

09-APR-2008 16:51
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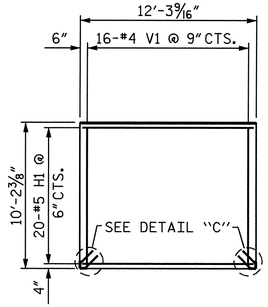
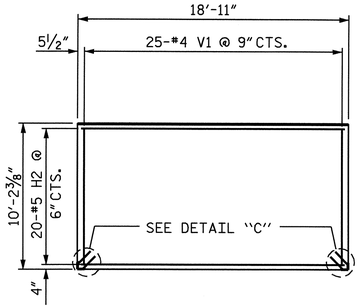
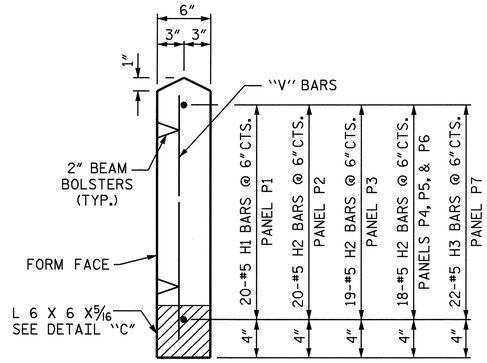


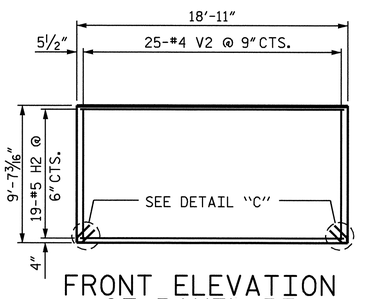
FRONT ELEVATION OF PANEL P1



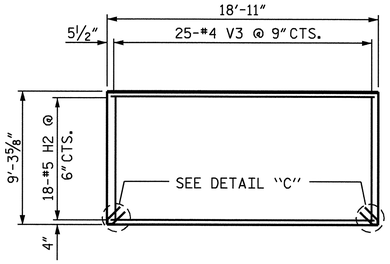
FRONT ELEVATION OF PANEL P2



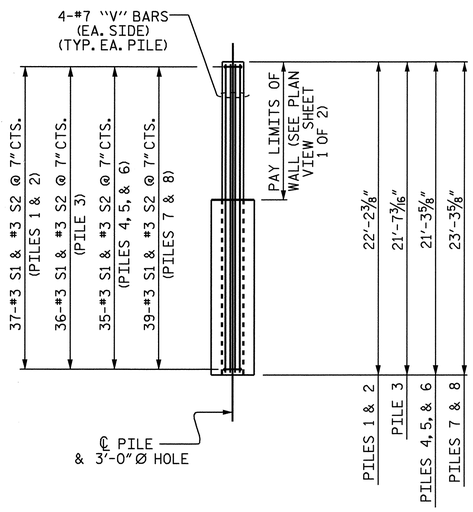
SECTION THROUGH PRECAST PANELS



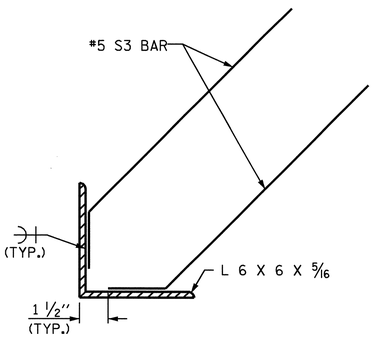
FRONT ELEVATION OF PANEL P3



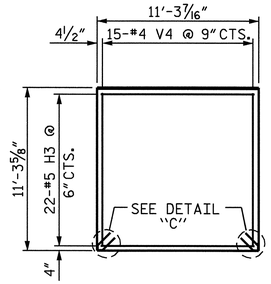
FRONT ELEVATION OF PANELS P4, P5 & P6



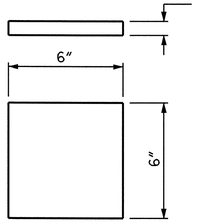
SECTION THROUGH PILE



DETAIL "C"



FRONT ELEVATION OF PANEL P7



ELASTOMERIC PAD

14 REQUIRED

QUANTITIES FOR PRECAST PANELS

PANELS	PANEL LENGTH	PANEL HEIGHT	CLASS AA CONCRETE C.Y.	BAR TYPES											
				HORIZONTAL						VERTICAL					
				NO.	BAR	SIZE	TYPE	LENGTH	WEIGHT (lb)	NO.	BAR	SIZE	TYPE	LENGTH	WEIGHT (lb)
P1	12′-3 9/16″	10′-2 3/8″	2.31	20	H1	#5	STR	11′-11″	249	16	V1	#4	STR	9′-10″	105
P2	18′-11″	10′-2 3/8″	3.56	20	H2	#5	STR	18′-7″	388	25	V1	#4	STR	9′-10″	164
P3	18′-11″	9′-7 3/16″	3.36	19	H2	#5	STR	18′-7″	368	25	V2	#4	STR	9′-3″	154
P4-P6	18′-11″	9′-3 5/8″	9.77	54	H2	#5	STR	18′-7″	1047	75	V3	#4	STR	8′-11″	447
P7	11′-3 7/16″	11′-3 5/8″	2.36	22	H3	#5	STR	10′-11″	250	15	V4	#4	STR	10′-11″	109

BILL OF MATERIAL
PILES 1 & 2

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
S1	74	#3	1	3′-3″	90
S2	74	#3	2	3′-10″	107
V1	16	#7	STR	21′-10″	714
REINFORCING STEEL				LBS.	911
CLASS AA CONCRETE					
PILES				C.Y.	3.0
CLASS A CONCRETE					
3′-0″Ø HOLES				C.Y.	4.6

BILL OF MATERIAL
PILE 3

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
S1	36	#3	1	3′-3″	44
S2	36	#3	2	3′-10″	52
V2	8	#7	STR	21′-3″	347
REINFORCING STEEL				LBS.	443
CLASS AA CONCRETE					
PILE				C.Y.	1.5
CLASS A CONCRETE					
3′-0″Ø HOLE				C.Y.	2.3

BILL OF MATERIAL
PILES 4, 5, & 6

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
S1	105	#3	1	3′-3″	128
S2	105	#3	2	3′-10″	151
V3	24	#7	STR	20′-11″	1026
REINFORCING STEEL				LBS.	1305
CLASS AA CONCRETE					
PILES				C.Y.	4.4
CLASS A CONCRETE					
3′-0″Ø HOLES				C.Y.	7.0

BILL OF MATERIAL
PILES 7 & 8

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
S1	78	#3	1	3′-3″	95
S2	78	#3	2	3′-10″	112
V4	16	#7	STR	22′-11″	749
REINFORCING STEEL				LBS.	956
CLASS AA CONCRETE					
PILES				C.Y.	3.2
CLASS A CONCRETE					
3′-0″Ø HOLES				C.Y.	4.6

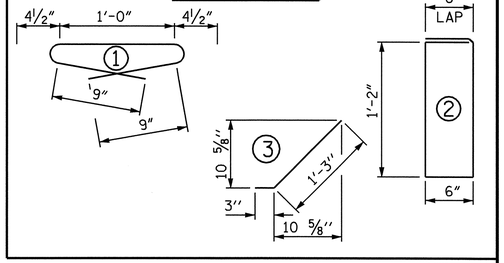
CONCRETE TOTALS FOR PILES AND HOLES

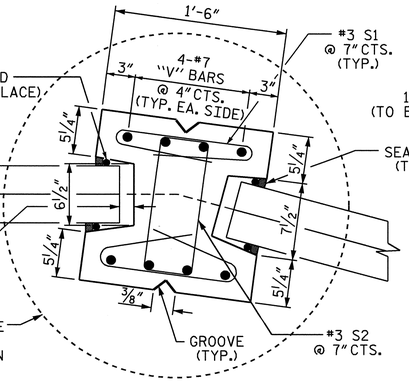
CLASS AA CONCRETE	
TOTAL	C.Y. 12.1
CLASS A CONCRETE	
TOTAL	C.Y. 18.5

ADDITIONAL BARS AT BOTTOM OF PANEL

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
S3	28	#5	3	1′-6″	44

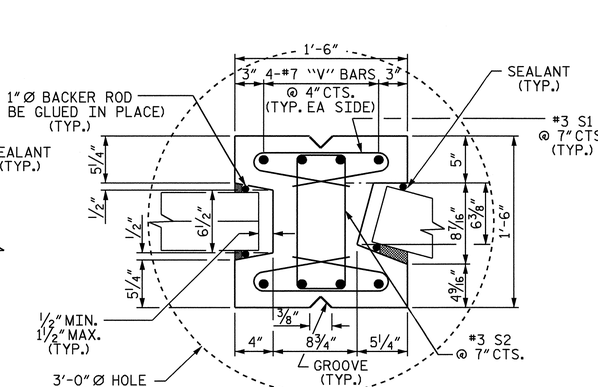
BAR TYPES



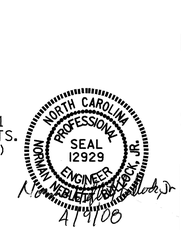


DETAIL "A"

DETAIL "B"



OPTIONAL DETAIL "B"



PROJECT NO. U-4733

NEW HANOVER COUNTY

STATION: 10+00.00 -WALL-

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SOUND BARRIER WALL

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2-H
1			3			TOTAL SHEETS
2			4			

DRAWN BY : J.L. WALTON DATE : 2-08
CHECKED BY : J.D. LOEHR DATE : 3-08

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PROJECT REFERENCE NO.	SHEET NO.
U-4733	3

5/28/99

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C201847

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0043000000-N	226	Lump Sum		GRADING
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUBBING
0057000000-E	226	100	CY	UNDERCUT EXCAVATION
0195000000-E	265	100	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	100	SY	FABRIC FOR SOIL STABILIZATION
0318000000-E	300	525	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRS
0366000000-E	310	1,944	LF	15" RC PIPE CULVERTS, CLASS III
0372000000-E	310	168	LF	18" RC PIPE CULVERTS, CLASS III
0378000000-E	310	84	LF	24" RC PIPE CULVERTS, CLASS III
0384000000-E	310	12	LF	30" RC PIPE CULVERTS, CLASS III
0995000000-E	340	252	LF	PIPE REMOVAL
1220000000-E	545	250	TON	INCIDENTAL STONE BASE
1489000000-E	610	1,590	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1498000000-E	610	1,290	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0B
1519000000-E	610	4,470	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
1560000000-E	620	400	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
1693000000-E	654	200	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
2022000000-E	815	22.4	CY	SUBDRAIN EXCAVATION
2033000000-E	815	16.8	CY	SUBDRAIN FINE AGGREGATE
2044000000-E	815	100	LF	6" PERFORATED SUBDRAIN PIPE
2055000000-E	815	3	EA	6" SUBDRAIN PIPE WYES, TEES, & ELBOWS
2066000000-N	815	1	EA	CONCRETE PAD FOR SUBDRAIN PIPE OUTLET
2077000000-E	815	6	LF	6" OUTLET PIPE (SUBDRAINS)
2190000000-N	828	24	EA	TEMPORARY STEEL PLATE COVERS FOR MASONRY DRAINAGE STRUCTURE
2253000000-E	840	0.798	CY	PIPE COLLARS
2275000000-E	SP	10	CY	FLOWABLE FILL
2286000000-N	840	39	EA	MASONRY DRAINAGE STRUCTURES
2308000000-E	840	9.74	LF	MASONRY DRAINAGE STRUCTURES
2364000000-N	840	9	EA	FRAME WITH TWO GRATES, STD 840.16
2366000000-N	840	1	EA	FRAME WITH TWO GRATES, STD 840.24
2367000000-N	840	1	EA	FRAME WITH TWO GRATES, STD 840.29
2374000000-N	840	3	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (E)
2374000000-N	840	10	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F)
2374000000-N	840	13	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (G)
2396000000-N	840	2	EA	FRAME WITH COVER, STD 840.54
2549000000-E	846	3,710	LF	2'-6" CONCRETE CURB & GUTTER
2591000000-E	848	2,630	SY	4" CONCRETE SIDEWALK
2605000000-N	848	22	EA	CONCRETE WHEELCHAIR RAMPS
2612000000-E	848	470	SY	6" CONCRETE DRIVEWAY
2647000000-E	852	1,190	SY	5" MONOLITHIC CONCRETE ISLANDS (SURFACE MOUNTED)
2800000000-N	858	1	EA	ADJUSTMENT OF CATCH BASINS
2830000000-E	858	9	EA	ADJUSTMENT OF MANHOLES
3030000000-E	862	200	LF	STEEL BM GUARDRAIL
3045000000-E	862	62.5	LF	STEEL BM GUARDRAIL, SHOP CURVED
3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
3210000000-N	862	3	EA	GUARDRAIL ANCHOR UNITS, TYPE CAT-1
3270000000-N	SP	2	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
3360000000-E	863	245	LF	REMOVE EXISTING GUARDRAIL
3536000000-E	866	200	LF	CHAIN LINK FENCE, 48" FABRIC
3542000000-E	866	15	EA	METAL LINE POSTS FOR 48" CHAIN LINK FENCE
3548000000-E	866	4	EA	METAL TERMINAL POSTS FOR 48" CHAIN LINK FENCE
3649000000-E	876	10	TON	RIP RAP, CLASS B
3656000000-E	876	425	SY	FILTER FABRIC FOR DRAINAGE
3984000000-E	SP	1,262	SF	GENERIC WALL ITEM SOUND BARRIER WALL
4400000000-E	1110	436	SF	WORK ZONE SIGNS (STATIONARY)
4405000000-E	1110	852	SF	WORK ZONE SIGNS (PORTABLE)
4410000000-E	1110	135	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4415000000-N	1115	3	EA	FLASHING ARROW PANELS, TYPE C
4420000000-N	1120	5	EA	CHANGEABLE MESSAGE SIGN
4430000000-N	1130	250	EA	DRUMS
4435000000-N	1135	25	EA	CONES
4445000000-E	1145	216	LF	BARRICADES (TYPE III)
4450000000-N	1150	1,800	HR	FLAGGER
4480000000-N	1165	3	EA	TMIA
4510000000-N	SP	300	HR	POLICE
4516000000-N	1180	50	EA	SKINNY DRUM
4650000000-N	1251	44	EA	TEMPORARY RAISED PAVEMENT MARKERS
4810000000-E	1205	23,545	LF	PAINT PAVEMENT MARKING LINES (4")
4820000000-E	1205	2,009	LF	PAINT PAVEMENT MARKING LINES (8")
4835000000-E	1205	477	LF	PAINT PAVEMENT MARKING LINES (24")
4840000000-N	1205	24	EA	PAINT PAVEMENT MARKING CHARACTER
4845000000-N	1205	78	EA	PAINT PAVEMENT MARKING SYMBOL
4847000000-E	1205	13,023	LF	POLYUREA PAVEMENT MARKING LINES (4", **********) (STANDARD GLASS BEADS)
4847110000-E	1205	1,909	LF	POLYUREA PAVEMENT MARKING LINES (8", **********) (STANDARD GLASS BEADS)
4847140000-E	1205	877	LF	POLYUREA PAVEMENT MARKING LINES (24", **********) (STANDARD GLASS BEADS)
4847200000-N	1205	24	EA	POLYUREA PAVEMENT MARKING CHARACTER (**********) (STANDARD GLASS BEADS)
4847220000-N	1205	80	EA	POLYUREA PAVEMENT MARKING SYMBOL (**********) (STANDARD GLASS BEADS)
4850000000-E	1205	7,655	LF	REMOVAL OF PAVEMENT MARKING LINES (4")
4860000000-E	1205	625	LF	REMOVAL OF PAVEMENT MARKING LINES (8")
4870000000-E	1205	324	LF	REMOVAL OF PAVEMENT MARKING LINES (24")
4875000000-N	1205	43	EA	REMOVAL OF PAVEMENT MARKING SYMBOLS & CHARACTERS
4900000000-N	1251	30	EA	PERMANENT RAISED PAVEMENT MARKERS
4905000000-N	1253	330	EA	SNOWPLOWABLE PAVEMENT MARKERS
5325200000-E	1510	163.9	LF	2" WATER LINE
5325600000-E	1510	195.7	LF	6" WATER LINE
5325800000-E	1510	666.1	LF	8" WATER LINE
5326200000-E	1510	178.5	LF	12" WATER LINE
5326600000-E	1510	1,951.3	LF	16" WATER LINE
5536000000-E	1515	3	EA	2" VALVE
5540000000-E	1515	3	EA	6" VALVE
5546000000-E	1515	4	EA	8" VALVE
5558000000-E	1515	3	EA	12" VALVE
5558600000-E	1515	10	EA	16" VALVE
5648000000-N	1515	18	EA	RELOCATE WATER METER
5666000000-E	1515	1	EA	FIRE HYDRANT
5672000000-N	1515	8	EA	RELOCATE FIRE HYDRANT
5775000000-E	1525	23	EA	4' DIA UTILITY MANHOLE
5781000000-E	1525	39	LF	UTILITY MANHOLE WALL, 4' DIA
5800000000-E	1530	264	LF	ABANDON 6" UTILITY PIPE
5801000000-E	1530	1,745	LF	ABANDON 8" UTILITY PIPE
5804000000-E	1530	1,052	LF	ABANDON 12" UTILITY PIPE
5810000000-E	1530	952	LF	ABANDON 16" UTILITY PIPE
5816000000-N	1530	13	EA	ABANDON UTILITY MANHOLE
5835800000-E	1540	284.6	LF	18" ENCASEMENT PIPE
5836000000-E	1540	91.2	LF	24" ENCASEMENT PIPE
5836200000-E	1540	256.2	LF	30" ENCASEMENT PIPE
5872000000-E	1550	142.3	LF	TRENCHLESS INSTALLATION OF 18" IN SOIL
5872010000-E	1550	142.3	LF	TRENCHLESS INSTALLATION OF 18" NOT IN SOIL
5872200000-E	1550	45.6	LF	TRENCHLESS INSTALLATION OF 24" IN SOIL
5872210000-E	1550	45.6	LF	TRENCHLESS INSTALLATION OF 24" NOT IN SOIL
5872300000-E	1550	128.1	LF	TRENCHLESS INSTALLATION OF 30" IN SOIL
5872310000-E	1550	128.1	LF	TRENCHLESS INSTALLATION OF 30" NOT IN SOIL
5882000000-N	SP	10	EA	GENERIC UTILITY ITEM RELOCATE SANITARY SEWER CLEANOUT
5888000000-E	SP	369	LF	GENERIC UTILITY ITEM 16" PVC WATER PIPE (C905), DR18
5888000000-E	SP	1,132.7	LF	GENERIC UTILITY ITEM 8" DI SEWER PIPE, PC 350
5888000000-E	SP	1,013	LF	GENERIC UTILITY ITEM 8" PVC GRAVITY SEWER PIPE, (C900), DR 18
6000000000-E	1605	2,150	LF	TEMPORARY SILT FENCE
6006000000-E	1610	125	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	110	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	300	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	0.5	ACR	TEMPORARY MULCHING
6018000000-E	1620	50	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	0.25	TON	FERTILIZER FOR TEMPORARY SEEDING
6030000000-E	1630	2,650	CY	SILT EXCAVATION
6036000000-E	1631	475	SY	MATTING FOR EROSION CONTROL
6037000000-E	SP	10	SY	COIR FIBER MAT
6042000000-E	1632	1,325	LF	1/4" HARDWARE CLOTH
6071030000-E	SP	60	LF	COIR FIBER BAFFLES
6084000000-E	1660	0.5	ACR	SEEDING & MULCHING
6087000000-E	1660	0.5	ACR	MOWING
6090000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
6093000000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
6096000000-E	1662	50	LB	SEED FOR SUPPLEMENTAL SEEDING
6108000000-E	1665	0.25	TON	FERTILIZER TOPDRESSING
6114000000-N	SP	2	HR	SPECIALIZED HAND MOWING
6117000000-N	SP	12	EA	RESPONSE FOR EROSION CONTROL
7000000000-E	1705	4	EA	PEDESTRIAN SIGNAL HEAD (**", ** SECTION) (16", 1 SECT WITH COUNTDOWN)
7060000000-E	1705	6,480	LF	SIGNAL CABLE
7120000000-E	1705	42	EA	VEHICLE SIGNAL HEAD (12", 3 SECTION)
7144000000-E	1705	9	EA	VEHICLE SIGNAL HEAD (12", 5 SECTION)
7252000000-E	1710	1,280	LF	MESSENGER CABLE (1/4")
7264000000-E	1710	1,160	LF	MESSENGER CABLE (3/8")
7279000000-E	1715	455	LF	TRACER WIRE
7300000000-E	1715	1,910	LF	UNPAVED TRENCHING (**********) (1, 2")
7301000000-E	1715	860	LF	DIRECTIONAL DRILL (**********) (2, 2")
7301000000-E	1715	455	LF	DIRECTIONAL DRILL (**********) 1, 2")
7324000000-N	1716	22	EA	JUNCTION BOX (STANDARD SIZE)
7348000000-N	1716	8	EA	JUNCTION BOX (OVER-SIZED, HEAVY DUTY)
7360000000-N	1720	8	EA	WOOD POLE
7372000000-N	1721	20	EA	GUY ASSEMBLY
7432000000-E	1722	3	EA	2" RISER WITH HEAT SHRINK TUBING
7444000000-E	1725	3,525	LF	INDUCTIVE LOOP SAWCUT
7456000000-E	1726	5,045	LF	LEAD-IN CABLE (**********) (14-2)
7481000000-N	SP	2	EA	SITE SURVEY
7481200000-N	SP	8	EA	LUMINAIRE ARM FOR VIDEO SYSTEM
7481240000-N	SP	8	EA	CAMERA WITHOUT INTERNAL LOOP EMULATOR PROCESSING UNIT
7481260000-N	SP	2	EA	EXTERNAL LOOP EMULATOR PROCESSING UNIT
7516000000-E	1730	1,610	LF	COMMUNICATIONS CABLE (**FIBER) (24)
7566000000-N	1733	8	EA	DELINEATOR MARKER
7568000000-N	SP	1	EA	FURNISH FIBER-OPTIC RESTORATION KIT
7570000000-N	SP	1	EA	FURNISH FIBER-OPTIC POWER METER
7572000000-N	SP	1	EA	FURNISH OPTICAL LIGHT GENERATOR
7575142000-N	SP	2	EA	900MHZ WIRELESS RADIO SYSTEM
7588000000-N	SP	3	EA	METAL POLE WITH SINGLE MAST ARM
7590000000-N	SP	2	EA	METAL POLE WITH DUAL MAST ARM
7613000000-N	SP	6	EA	SOIL TEST
7614100000-E	SP	46	CY	DRILLED PIER FOUNDATION
7624000000-N	1743	2	EA	SIGNAL PEDESTAL WITH FOUNDATION
7631000000-N	SP	5	EA	MAST ARM WITH METAL POLE DESIGN
7636000000-N	1745	3	EA	SIGN FOR SIGNALS
7684000000-N	1750	2	EA	SIGNAL CABINET FOUNDATION
7756000000-N	1751	2	EA	CONTROLLER WITH CABINET (TYPE 2070L, BASE MOUNTED)
7780000000-N	1751	24	EA	DETECTOR CARD (TYPE 2070L)
7901000000-N	1753	2	EA	CABINET BASE EXTENDER
7960000000-N	SP	7	EA	METAL POLE FOUNDATION REMOVAL
7972000000-N	SP	6	EA	METAL POLE REMOVAL
7980000000-N	SP	2	EA	GENERIC SIGNAL ITEM ANTENNA TRANSFER
7980000000-N	SP	2	EA	GENERIC SIGNAL ITEM FURNISH WIRELESS RADIO LIGHTNING ARRESTOR
7980000000-N	SP	1	EA	GENERIC SIGNAL ITEM FURNISH WIRELESS RADIO MODEM
7980000000-N	SP	2	EA	GENERIC SIGNAL ITEM POWER COAT FOR DUAL MAST ARM W/ METAL POLE
7980000000-N	SP	3	EA	GENERIC SIGNAL ITEM POWER COAT FOR SINGLE MAST ARM W/ METAL POLE
7980000000-N	SP	1	EA	GENERIC SIGNAL ITEM RELOCATE EXISTING METAL POLE

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CHECKED BY: AKW	DATE: 3-07-08

PROJECT REFERENCE NO.	SHEET NO.
U-4733	3A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF QUANTITIES

SUMMARY OF EARTHWORK
IN CUBIC YARDS

STATION TO STATION	UNCL. EXCAVATION	EMBT +%	BORROW	WASTE
-L- STA. 11+90.00 TO 36+50.00	3328	206	0	3122
-Y1- STA. 10+90.00 TO 11+30.00	43	8	0	35
SUBTOTAL	3371	214	0	3157
PROJECT TOTAL	3371		0	3157
GRAND TOTAL	3371		0	3157
SAY	3400		0	3200
DDE = 90 CY				
CONT. UNDERCUT = 100 CY				

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

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

REMOVAL OF EXISTING ASPHALT PAVEMENT

STATION TO STATION	SIDE	
-L- 18+12.73	LT	47.48
-L- 18+90.57	LT	21.34
TOTAL		68.82
SAY		70

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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
U-4733	3-B

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

STATION / SIZE / THICKNESS OR GAUGE	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 12"	15"	18"	24"	30"	36"	42"	48"	BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHRWISE) 12" .064	15" .064	18" .064	24" .064	30" .079	36" .079	42" .109	48" .109	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	* TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. *FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16	M.D.I. TYPE "B" STD. 840.18 OR 840.27	T.B.J.B. STD. 840.34	M.H. FRAME & COVER STD. 840.54	ADJUST CB	ADJUST MANHOLE	CONC. COLLARS CL. "B" C.Y. STD 840.72	PIPE REMOVAL LIN.FT.	M.D.I. Type 'D' STD. 840.19 OR 840.28	M.D.I. (NS) FRAME W/2 GRATES STD. 840.24	M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.29	REMARKS
–L– STA 12+00	LT	1		32.31	29.31																								1			1		1														
–L– STA 11+96	LT	1	2						28																																							
–L– STA 11+97	RT	3	4									12																																				
–L– STA 12+03	RT	4		32.44	27.37																								1	0.07		1			1													
–L– STA 13+09	RT	5																																								3						
–L– STA 15+22	RT	6																																								2						
–L– STA 15+59	RT	7																																							1							
–L– STA 15+71	CL	8		35.57	32.40																								1							1	1											
–L– STA 15+80	LT	9																																									.399					REMOVE CB, ADD COLLAR AND EXTEND
–L– STA 15+88	LT	9	10						16																																							
–L– STA 15+87	LT	10		34.11	31.11																								1			1		1														
–L– STA 16+31	LT	10	11						92																																							
–L– STA 16+83	LT	11		34.99	31.99																								1			1		1														
–L– STA 16+52	RT	7	13						200																																							
–L– STA 16+20	LT	8	12						100																																							
–L– STA 16+74	LT	12		35.57	32.40																								1							1	1											
–L– STA 17+61	RT	13		34.86	31.86																								1			1			1													
–L– STA 18+70	LT	14		35.22	32.22																								1			1		1														
–L– STA 19+18	LT	14	15						40																																							
–L– STA 19+12	LT	15		35.40	32.40																								1			1		1														REMOVE AND REPLACE CB
–L– STA 19+73	LT	15	16						124																																							
–L– STA 20+38	LT	16		36.37	33.37																								1			1		1														
–L– STA 20+38	LT	16	17						12																																							
–L– STA 20+38	LT	17		36.64	34.39																								1							1	1											
–L– STA 19+13	LT	15	18						28																																							REMOVE CB
–L– STA 19+13	LT	18		36.46	32.35																								1							1	1											REMOVE DI
–L– STA 19+16	LT	18	19						32																																							
–L– STA 19+17	RT	19																																								1						
–L– STA 19+46	RT	19	20						60																																			44				
–L– STA 19+75	RT	20		35.84	32.84																								1			1			1													
–L– STA 20+30	RT	20	21						104																																							
–L– STA 20+89	RT	21		36.43	33.43																								1			1			1													
–L– STA 21+60	RT	22		36.90	32.90																								1										1	1								
–L– STA 21+54	RT	23																																								1						
–L– STA 21+69	RT	24																																								1						
–L– STA 21+54	LT	25																																									.399					REMOVE DI
–L– STA 21+53	LT	25	26						8																																							
–L– STA 21+50	LT	26																																								1						
–L– STA 21+71	LT	27		37.39	34.59																								1			1		1														REMOVE CB
–L– STA 22+13	LT	27	28						100																																							
–L– STA 22+55	LT	28		38.58	34.59																								1			1		1														
TOTAL SHEET									944			12																	17	0.07		12		8	4	4	4		1	1	1	9	.798	44				

ABBREVIATIONS

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

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PROJECT REFERENCE NO.	SHEET NO.
U-4733	3-C

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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

STATION	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) SIZE	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) THICKNESS OR GAUGE	BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHRWISE) SIZE	BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHRWISE) THICKNESS OR GAUGE	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YDS. C.S.P.	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	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16		M.D.I. TYPE "B" STD. 840.18 OR 840.27	T.B.J.B. STD. 840.34	M.H. FRAME & COVER STD. 840.54	ADJUST CB	ADJUST MANHOLE	CONC. COLLARS CL. "B" C.Y. STD 840.72		PIPE REMOVAL LIN.FT.	M.D.I. Type "D" STD. 840.19 OR 840.28	M.D.I. (NS) FRAME W/2 GRATES STD. 840.24	M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.29										REMARKS
								12" 15" 18" 24" 30" 36" 42" 48"		12" 15" 18" 24" 30" 36" 42" 48"	.064 .064 .064 .064 .079 .079 .109 .109																																			
–L– STA 21+94	RT	29																																										REMOVE CB
–L– STA 21+78	RT	22	30					40																																				
–L– STA 21+99	RT	30		36.54	33.54													1			1			1																			
–L– STA 22+40	RT	30	31					84																																				
–L– STA 22+85	RT	31		37.83	34.83													1			1			1																			
–L– STA 23+12	RT	31	32					60																																				
–L– STA 23+45	RT	32		37.79	35.89													1																			1	1						
–L– STA 23+85	RT	33																																			24							REMOVE CB AND DI
–Y2– STA 19+76	RT	34		33.84	32.35													1									1	1															
–Y2– STA 19+79	RT	34	35					64																																				
–Y2– STA 19+83	RT	35		37.85	32.71													1	0.14												1												REMOVE DI
–Y2– STA 19+71	LT	35	36					24																																				
–Y2– STA 19+58	RT	36		39.22	32.85													1	1.37								1	1															REMOVE DI
–Y2– STA 19+22	RT	36	37					104																																				
–L– STA 25+93	RT	37		36.84	33.65													1			1		1																				REMOVE STORM SEWER MH
–L– STA 25+95	RT	37	38					44																																				
–L– STA 25+97	LT	38		39.58	34.38													1	0.2															1	1							
–L– STA 26+00	LT	38	39					44																																				
–L– STA 26+01	LT	39		35.17	37.37													1			1			1																				MIN DEPTH
–L– STA 25+53	LT	39	40					104																																				
–L– STA 25+14	LT	40		39.15	36.15													1			1				1																		
–L– STA 25+57	CL	38	41					84																																				
–L– STA 25+14	CL	41		38.64	35.47													1			1			1																			
–L– STA 26+44	RT	37	42					96																																				
–L– STA 26+96	RT	42		37.55	34.07													1			1			1																			
–L– STA 27+22	RT	42	43					48																																				
–L– STA 27+49	RT	43		37.64	34.28													1			1		1																			
–L– STA 27+92	RT	43	44					88																																				
–L– STA 28+37	RT	44		37.67	34.67													1			1			1																			
–L– STA 27+08	LT	45		36.58	34.08													1			1				1																		
–L– STA 27+49	LT	45	46					92																																				REMOVE CB
–L– STA 27+94	LT	46		37.08	33.81													1			1			1																			
–L– STA 28+07	LT	46	47					24																																				
–L– STA 28+19	LT	47		37.12	35.78													1			1		1																				REMOVE CB (2)
–L– STA 28+86	LT	47	48						132																																			
–L– STA 29+55	LT	48		38.63	33.35													1	0.28		1			1																				REMOVE CB
–L– STA 29+63	LT	48	49						36																																			
–L– STA 30+45	LT	50	51							84																																		
–L– STA 30+75	LT	52		37.73	34.80													1			1			1																				REMOVE CB
–Y2– STA 11+69	RT	53		31.40	23.96													1	2.44									1	1														
–Y2– STA 14+38	LT	54		36.90	27.69													1	4.21									1	1														
–Y2– STA 21+38	RT	55		38.38	32.35													1	1.03									1	1														
TOTAL SHEET								1000	168	84								22	9.67		14	3	2	9		5	5		1	1	1					208	1	1	1					

ABBREVIATIONS

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

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PROJECT REFERENCE NO.	SHEET NO.
U-4733	3-D

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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

STATION / SIZE / THICKNESS OR GAUGE	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 12"	15"	18"	24"	30"	36"	42"	48"	BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHRWISE) 12" .064	15" .064	18" .064	24" .064	30" .079	36" .079	42" .109	48" .109	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	C.S.P.	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'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16	M.D.I. TYPE "B" STD. 840.18 OR 840.27	T.B.J.B. STD. 840.34	M.H. FRAME & COVER STD. 840.54	ADJUST CB	ADJUST MANHOLE	CONC. COLLARS CL. "B" C.Y. STD 840.72	PIPE REMOVAL LIN.FT.	M.D.I. Type 'D' STD. 840.19 OR 840.28	M.D.I. (NS) FRAME W/2 GRATES STD. 840.24	M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.29	REMARKS
SHEET TOTAL 3B									944			12																	17	.07		12		8	4	4	4		1	1	1	9	.798	44				
SHEET TOTAL 3C									1000	168	84																		22	9.61		14	3	2	9	5	5	1	1	1				208	1	1	1	
GRAND TOTAL									1944	168	84	12																	39	9.74		26	3	10	13	9	9	1	2	2	1	9	.798	252	1	1	1	

ABBREVIATIONS

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

"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 STRAIGHT	SHOP CURVED	DOUBLE FACED	WARRANT POINT APPROACH END	TRAILING END	"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH APPROACH END	TRAILING END	W APPROACH END	TRAILING END	ANCHORS GRAU 350	CAT-1	IMPACT ATTENUATOR TYPE 350 EA	G	NG	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
-L-	15+69.61	16+41.31	RT	75.00'			15+69.61	16+41.31	2'	5.5'					1	1							
-L-	16+76.72	18+49.05	RT	175.00			16+76.72	18+49.05	2'	5.5'					1	1							
-Y2-	18+09.82	19+24.32	RT	62.50'	56'		18+09.82	19+24.32	29' to 7'							1					245		TIE TO EXISTING GUARDRAIL
			SUBTOTAL	312.50'	56'										2	3					245		
	DEDUCTION FOR ANCHORS		2 GRAU 350 @ 50'	-100'																			
			3 CAT-1 @ 6.25'	-18.75'																			
			PROJECT TOTAL	193.75'	56'																		
			SAY	200'	62.5'																245		
			5 ADDITIONAL GUARDRAIL POSTS																				

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PROJ. REFERENCE NO.	SHEET NO.
U-4733	3E

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
1	4	THOMAS S. BALDWIN
2	4	DAVID L. NANCE
3	4	FRED H. THOMPSON
4	4	SAMUEL P. HADDOCK
5	4	THOMAS G. O'NEAL JR
6	4	DIANA L. PELLINGTON
7	4	THOMAS M. DALTON
8	4	BRANNON C. LANCASTER
9	5	JESSIE C. ROBERTSON
10	5	G.K. HORTON
11	5	CITY OF WILMINGTON
12	5	TRL REAL ESTATE HOLDINGS, LLC
13	5	ANNIE WILLARD
14	5	3115 WRIGHTSVILLE, LLC
15	5	UNITED HEALTH STANDARDS
16	5	CHRISTOPHER ALAN PERRY
17	5	GLENN W. HODGES
18	5	MARKET STREET INVESTMENTS, LLC
19	5	CAMS PROPERTIES
20	5	BOB S. MCKOY
21	5	JEFFERY D. NORVIL
22	5	CITY OF WILMINGTON
23	5	
24	5	ROBERT HENRY ORRELL, JR
25	5	JOSEPHINE B. CHADWICK

PARCEL No.	SHEET No.	PROPERTY OWNER NAME

8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-4733	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 15892 ENGINEER DEWAYNE L SYKES — 4/14/08

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 16333 ENGINEER — 4/1/08

-L-

PI Sta 18+81.60
Δ = 2° 01' 26.0" (RT)
D = 0° 34' 22.6"
L = 353.23'
T = 176.63'
R = 10,000.00'
S.E. (SEE EXISTING)

PI Sta 25+19.42
Δ = 32° 14' 45.3" (RT)
D = 6° 09' 39.0"
L = 523.40'
T = 268.83'
R = 930.00'
S.E. (SEE EXISTING)

-Y1-

PI Sta 11+26.88
Δ = 35° 22' 20.1" (RT)
D = 57° 17' 44.8"
L = 61.74'
T = 31.89'
R = 100.00'

BEGIN TIP PROJECT U-4733
-L- STA 11+90.00

MATCHLINE -L- STA 20+50 SEE SHEET 5

-BL- 172 POT 5+00.00
-L- STA. 13+03.41 (26.06 RT)

-BL- 13 PINC 10+79.68
-L- STA. 18+77.23 (46.93 LT)

-BL- 171 PINC 7+99.41
-L- STA. 15+98.56 (24.25 LT)

-L- STA 18+33.04
-Y1- POT Sta. 11+89.07

POT Sta. 10+00.00

-Y1- POT Sta. 10+00.00

PT Sta. 11+56.73

PC Sta. 10+95.00

BEGIN CONSTRUCTION -Y1- STA 10+15.00

Y1- STA 10+48.33 TIE TO EXIST. SIDEWALK

FOR ROADWAY SLOPE SEE DETAIL SHEET 2C

STEPHANIA G. GOODWIN DB 1503 PG 969

DAVID L. NANCE DB 1595 PG 420

SAMUEL P. HADDOCK DB 1293 PG 286

DIANA L. PELLINGTON DB 2392 PG 839

THOMAS M. DALTON DB 2648 PG 20

BRANNON C. LANCASTER DB 2127 PG 813

JOSEPHINE CORBETT HORTON DB 418 PG 345 DB 1228 PG 1859

THOMAS S. BALDWIN DB 1927 PG 1242

FRED H. THOMPSON DB 1824 PG 466

THOMAS G. O'NEAL JR DB 1642 PG 539

JESSIE C. ROBERTSON DB 1849 PG 1185

CITY OF WILMINGTON DB 950 PG 483

DO NOT DISTURB BRICK WALL

DO NOT DISTRUB DOGWOOD TREE, WORK AROUND

REMOVE THREE LARGE PINE TREES AND GRIND STUMPS WITHIN TCE AREA

TIE SIDEWALK TO EXIST.

200' LANE TAPER
250' UNIFORM TRANSITION (RT.)

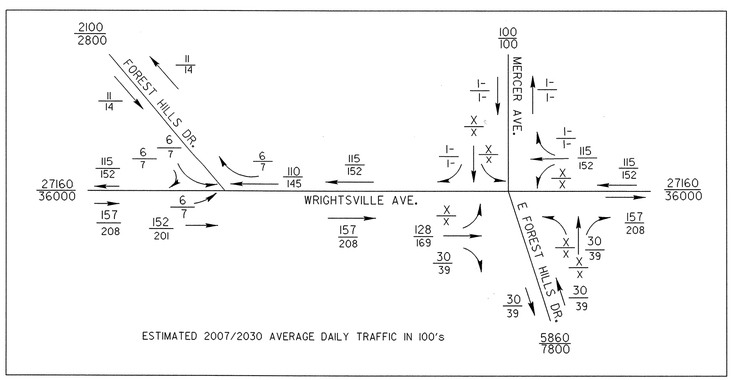
500' UNIFORM TRANSITION

5' SIDEWALK

4' MONOLITHIC CONCRETE ISLAND

MH COVERED WITH ASPHALT

NAD 83



ESTIMATED 2007/2030 AVERAGE DAILY TRAFFIC IN 100's

SEE SHEET 7 FOR -L- PROFILE
SEE SHEET 8 FOR -Y1- PROFILE

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8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-4733	5
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 15892 ENGINEER DEWAYNE L. SYKES
Dewayne L. Sykes 4/14/08

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 16933 ENGINEER T. MONTGOMERY
4/14/08

BEGIN CONSTRUCTION
-Y2- STA 11+56.98

-L-
PI Sta 25+19.42
Δ = 32° 14' 45.3" (RT)
D = 6° 09' 39.0"
L = 523.40'
T = 268.83'
R = 930.00'
S.E.(SEE EXISTING)

PI Sta 29+76.88
Δ = 0° 28' 55.5" (RT)
D = 0° 28' 38.9"
L = 100.97'
T = 50.48'
R = 12,000.00'
S.E.(SEE EXISTING)

PI Sta 34+19.51
Δ = 0° 28' 24.3" (LT)
D = 0° 28' 38.9"
L = 99.15'
T = 49.58'
R = 12,000.00'
S.E.(SEE EXISTING)

DETAIL A
GRASS SWALE
(Not to Scale)
Natural Ground, 3d, D, 3d, Natural Ground, B
Min. D= 2.0 ft.
B= 3.0 ft.

-L- STA 29+71 TO 30+13 LT DDE = 50 CY
-L- STA 30+80 TO 31+48 LT DDE = 40 CY

-Y2-
PI Sta 17+22.57
Δ = 3° 53' 03.5" (RT)
D = 0° 29' 58.8"
L = 777.36'
T = 388.83'
R = 11,466.51'

ESTIMATED 2007/2030 AVERAGE DAILY TRAFFIC

NAD 83

-BL- 12 PINC 13+57.90
-L- STA. 21+54.47 (54.44 LT)

-BL- 11 PINC 15+98.20
5+60.09 (96.54 LT)
-BY- 11 POT
-L- STA. 23+79.65

-BL- 9 PINC 11+19.60
-BL- 9 PINC 22+06.40
-L- STA. 29+580.96 (32.31 LT)

-BL- 194 PINC 20+35.57
-L- STA. 27+88.22 (31.95 LT)

-BY- 1 PINC 10+81.76
NCDOT GPS MON. U4733-2

END CONSTRUCTION
-Y2- STA 21+48.74

-L- STA 24+13.19
-Y2- STA 17+71.50

MATCHLINE -L- STA 20+50 SEE SHEET 4

MATCHLINE -L- STA 32+40 SEE SHEET 6

SEE SHEET 7 FOR -L- PROFILE
SEE SHEET 8 FOR -Y2- PROFILE

BM4
N 174711
E 2330754
BL STATION 12+93.20B RIGHT
RR SPIKE SET IN 15" PINE
ELEVATION = 17.70

BM5
N 174307
E 2331459
BL STATION 22+75.20B RIGHT
RR SPIKE SET IN 12" PINE
ELEVATION = 38.49

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8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-4733	6
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 15892 ENGINEER DEWAYNE L STYES
Dewayne L. Styes
4/14/08

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 19533 ENGINEER M. MATTHEWMAN
4/1/08

-L-

PI Sta 34+19.51
Δ = 0° 28' 24.3" (LT)
D = 0° 28' 38.9"
L = 99.15'
T = 49.58'
R = 12,000.00'
S.E.(SEE EXISTING)

NAD 83

MATCHLINE -L- STA 32+40 SEE SHEET 5

END TIP PROJECT U-4733
-L- STA 36+50.00

-BL- 183 PINC 26+66.69
-L- STA. 34+19.04 (21.85 LT)

-BL- 170 POT 34+75.06

POT Sta. 42+04.37

PC Sta. 34+16.93

PT Sta. 34+46.92

ALLIANCE MD PORTFOLIO DB 2721 PG 897 -BY/- 197 POT 5+00.00

2 S BK APTS

WILSHIRE BLVD 67 BST

GEORGE H., CHADWICK III DB 4476 PG 521

25

THOMAS C. NEEDHAM DB 1111 PG 465

1 S BK BUS

F&W ENTERPRISES DB 2341 PG 989

2 S M BUS

1 S M BUS

1½ S BK BUS

500' UNIFORM TRANSITION

HVAC UNITS

WD DK

RETAIN

100' TAPER

+15.39 38.00 LT +15.39 EXIST. R/W EXISTING R/W

43.00 RT EXIST R/W EXIST PL

400' UNIFORM TRANSITION

KENAN LAMBETH, LLC 1 S BK BUS DB 3393 PG 710

26

DO NOT DISTRUB SIGN, WORK AROUND 1 S BK BUS

HERBERT T. FISHER ET AL DB 1070 PG 787

H.T. FISHER & H.C. WALLACE DB 1081 PG 511

1 S M BUS

ROBERT G. PATE DB 1129 PG 1213

SOIL

1 S MTL BUS

1 S BK BUS

RICHARD LOMONO DB 2402 PG 711

MYRICK FAMILY TRUST
DB 688 PG 277
DB 737 PG 500
DB 1078 PG 960
DB 1852 PG 923
DB 2538 PG 651

S. FRANK MCNEILL
DB 660 PG 261
DB 1931 PG 30
DB 1932 PG 134
DB 1967 PG 299

1 S F BUS

CITY OF WILMINGTON
DB 771 PG 230 & 372
DB 793 PG 93-94
DB 770 PG 655
DB 753 PG 184
DB 777 PG 266
DB 1783 PG 602
DB 1793 PG 332
DB 1810 PG 816
DB 1852 PG 923-927
DB 1931 PG 30

S 43° 29' 27" W 255.93'

S 43° 13' 09" W 189.15'

S 47° 09' 49" E 69.94'

S 46° 54' 07" E 140.19'

N 42° 00' 32" E 64.74'

N 43° 29' 21" E 236.85'

S 46° 51' 52.0" E

S 42° 53' 45" W 45.748'

S 42° 50' 31" W 41.237'

S 42° 53' 23" W 163.06'

S 42° 53' 18" W 169.99'

N 47° 05' 34" W 99.92'

S 42° 53' 49" W 299.87'

SEE SHEET 7 FOR -L- PROFILE

EXISTING R/W

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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-4733	7

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 15892 ENGINEER DEWAYNE L SYKES
4/14/08

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 18533 ENGINEER MATTHEW T HOTTINGER
4/10/08

BEGIN RESURFACING
-L- STA 12+90.00

BM #4 RR SPIKE IN 14' PINE
155.96' RIGHT OF -L- STA 20+96.68
EL. = 37.70

BM #5 RR SPIKE IN 12' PINE
169.77' RIGHT OF -L- STA 30+22.80
EL. = 38.49

END RESURFACING
-L- STA 33+00.00

SEE SHEETS 4 THRU 6 FOR PLAN VIEW

70 60 50 40 30 20 10 0 –10

12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00 26+00

26+00 27+00 28+00 29+00 30+00 31+00 32+00 33+00 34+00 35+00 36+00 37+00 38+00 39+00 40+00

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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-4733	8

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 15892 ENGINEER DEWAYNE L STYKES
DeWayne L. Stykes 4/1/08

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 18533 ENGINEER ANDREW T NOTTINGHAM
4/1/08

-Y1-

BEGIN RESURFACING
-Y1- STA 10+15.00

END RESURFACING
-Y1- STA 11+48.79

SEE SHEET 4 FOR PLAN VIEW

-Y2-

BEGIN CONSTRUCTION
BEGIN EXIST GRADE
-L- STA 11+56.98
EL. = 31.72

END CONSTRUCTION
END EXISTING GRADE
-L- STA 21+48.74
EL. = 38.43

SEE SHEET 5 FOR PLAN VIEW

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