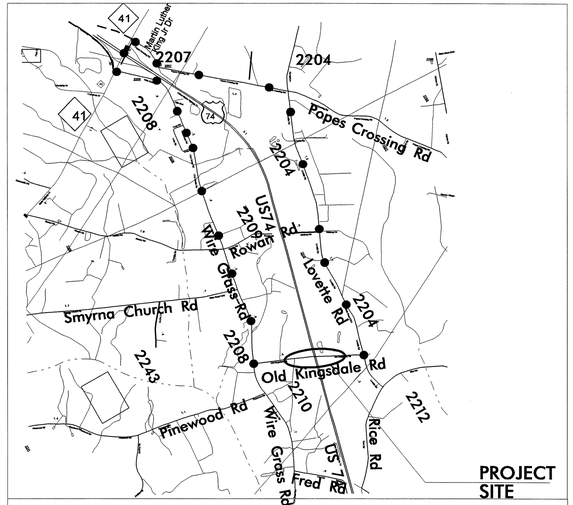
09/08/99

TIP PROJECT: W-4704

CONTRACT: C201569

See Sheet 1-A For Index of Sheets
See Sheet 1-B For conventional symbols
See Sheet 1-C For Survey Control Sheet



VICINITY MAP ●—●—●—● off site detour

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

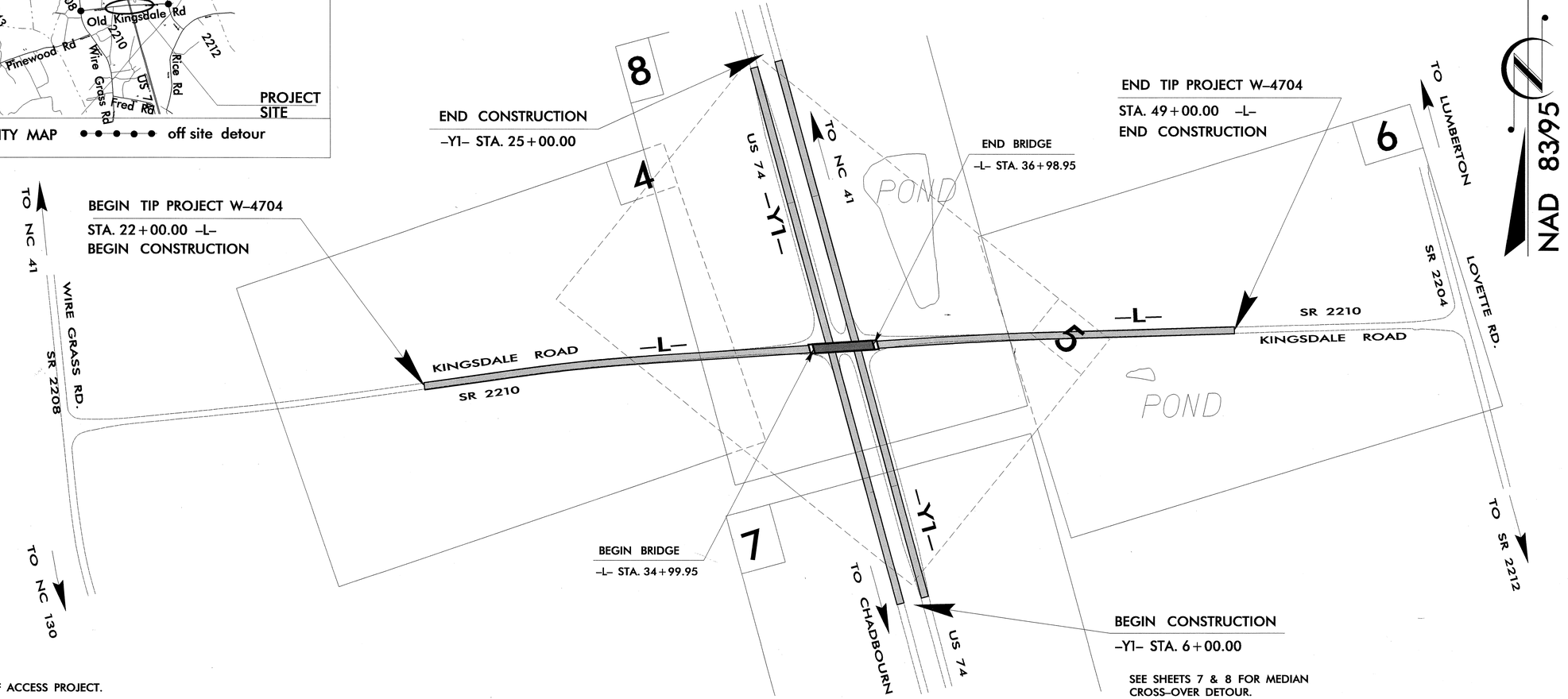
ROBESON COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-4704	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
37723.1.1	STPNHS-74(66)	PE
37723.2.1	STPNHS-0074(66)	ROW & UTIL
37723.3.1	STPNHS-74(66)	CONST.

LOCATION: BRIDGE OVER US 74 AT SR 2210 (OLD KINGSDALE RD)

TYPE OF WORK: GRADE SEPARATION, GRADING, DRAINAGE, PAVING AND STRUCTURE.



NAD 83

95

THIS IS A CONTROL OF ACCESS PROJECT.

SEE SHEETS 7 & 8 FOR MEDIAN CROSS-OVER DETOUR.

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2008 = 1350
ADT 2030 = 400
DHV = 11 %
D = 60 %
T = 3 % *
V = 60 MPH
CLASS = RURAL COLLECTOR
* TTST 1 % DUAL 2 %

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT W-4704 = 0.473 MILES
LENGTH STRUCTURE TIP PROJECT W-4704 = 0.038 MILES
TOTAL LENGTH TIP PROJECT W-4704 = 0.511 MILES

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
OCTOBER 19, 2007

LETTING DATE:
OCTOBER 21, 2008

JASON MOORE, PE
PROJECT ENGINEER

KEVIN E. MOORE, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 19669 ENGINEER JEROME BEARD
SIGNATURE: 9/1/08 P.E.

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 24912 ENGINEER KEVIN E. MOORE
SIGNATURE: 7-28-08 P.E.

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

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
W-4704	1-A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 24912 ENGINEER KEVIN E. MOORE 7-28-08

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL SHEET
2 & 2-A	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2-B	DETAIL OF ANCHORAGE FOR FRAMES
2-C	DETAIL TO CONVERT EXISTING DROP INLET OR CATCH BASIN TO JUNCTION BOX
2-D	DETAIL OF MEDIAN HAZARD PROTECTION
3	SUMMARY OF QUANTITIES
3-A	SUMMARY OF DRAINAGE QUANTITIES
3-B	SUMMARY OF GUARDRAIL
3-C	SUMMARY OF EARTHWORK, SUMMARY OF ASPHALT PAVEMENT REMOVAL & BREAK-UP
3-D	PARCEL INDEX SHEET
4 THRU 8	PLAN SHEETS
9 THRU 10	PROFILE SHEETS
TCP-1 THRU TCP-7	TRAFFIC CONTROL PLANS
SD-1	SPECIAL SIGN DESIGN
PM-1	PAVEMENT MARKING PLANS
EC-1 THRU EC-13	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-3	SIGNING PLANS
UC-1 THRU UC- 4	UTILITY CONSTRUCTION PLANS
UO-1 THRU UO-4	UTILITIES BY OTHERS PLANS
X-1 THRU X-28	CROSS-SECTIONS
S-1 THRU S- 29	STRUCTURE PLANS

GENERAL NOTES:

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

GRADE LINE:
GRADING AND SURFACING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01 AND STD. NO. 560.02

SIDE ROADS:

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

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.

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 AT&T - TELEPHONE

LUMBEE RIVER EMC - POWER DISTRIBUTION

ROBESON COUNTY PUBLIC WORKS DEPARTMENT-WATER AND SEWER

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

RIGHT-OF-WAY MARKERS:

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

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	
200.03	Method of Clearing - Method III
225.01	Guide for Grading Subgrade - Interstate and Freeway
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
225.09	Guide for Shoulder and Ditch Transition at Grade Separations
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation - Method 'A'
310.10	Driveway Pipe Construction
DIVISION 4 - MAJOR STRUCTURES	
422.10	Reinforced Bridge Approach Fills
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
560.02	Method of Shoulder Construction - High Side of Superelevated Curve - Method II
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
610.03	Guide for Paving Shoulders Under Bridges - Method III
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
838.01	Concrete Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.05	Concrete 'L' Endwall for Single Pipe Culverts - 15" thru 48" Pipe
838.11	Brick Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.15	Brick 'L' Endwall for Single Pipe Culverts - 15" thru 48" Pipe
838.80	Precast Endwalls - 12" thru 72" Pipe 90 Skew
840.00	Concrete Base Pad for Drainage Structures
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.22	Frames and Wide Slot Sag Grates
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.66	Drainage Structure Steps
840.71	Concrete and Brick Pipe Plug
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
852.01	Concrete Islands
857.01	Precast Reinforced Concrete Barrier - 41" Single Faced
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
866.02	Woven Wire Fence - with Wood Post
876.02	Guide for Rip Rap at Pipe Outlets

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3/15/06

PROJECT REFERENCE NO.	SHEET NO.
W-4704	1-B

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
- 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.

5/28/99

SURVEY CONTROL SHEET W-4704

PROJECT REFERENCE NO.	SHEET NO.
W-4704	I-C
Location and Surveys	

NC GRID
NAD 83/95

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	W4704-BL1	288967.9760	1990979.4360	119.90	10+25.28	48.86 LT
2	W4704-BL2	289001.3440	1991638.6320	121.42	16+84.75	16.88 LT
3	W4704-BL3	289115.3400	1992458.6020	122.66	25+13.16	17.62 LT
4	W4704-BL4	289240.6330	1993529.4440	126.92	35+88.93	56.94 LT
5	W4704-BL5	289240.0800	1994329.8660	123.54	43+87.28	14.82 LT
6	W4704-BL6	289258.2710	1994925.1680	121.71	49+82.86	14.96 LT
7	W4704-BL7	289293.3250	1995614.0270	121.07	OUTSIDE PROJECT LIMITS	

BY2

POINT	DESC.	NORTH	EAST	ELEVATION	Y1 STATION	OFFSET
10	W4704-BY2-10	289850.4520	1993384.3630	127.08	OUTSIDE PROJECT LIMITS	
40		289240.6330	1993529.4440	UNKNOWN	15+48.07	4.91 RT
11	W4704-BY2-11	288359.1250	1993783.6610	126.46	OUTSIDE PROJECT LIMITS	

```
**********************************************
BM81      ELEVATION = 124.44
N 290001      E 1993205
L STATION 33+14.837 LEFT
R/R SPIKE IN BASE OF 18IN PINE
**********************************************

**********************************************
BM80      ELEVATION = 121.91
N 289367      E 1990851
Y STATION 10+41.62 RIGHT
R/R SPIKE IN BASE OF 48IN OAK
**********************************************

**********************************************
BM82      ELEVATION = 122.80
N 290048      E 1995427
Y2 STATION 20+00
 N 9° 54' 43.2" W  DIST    304.79
R/R SPIKE IN BASE OF 15IN PINE
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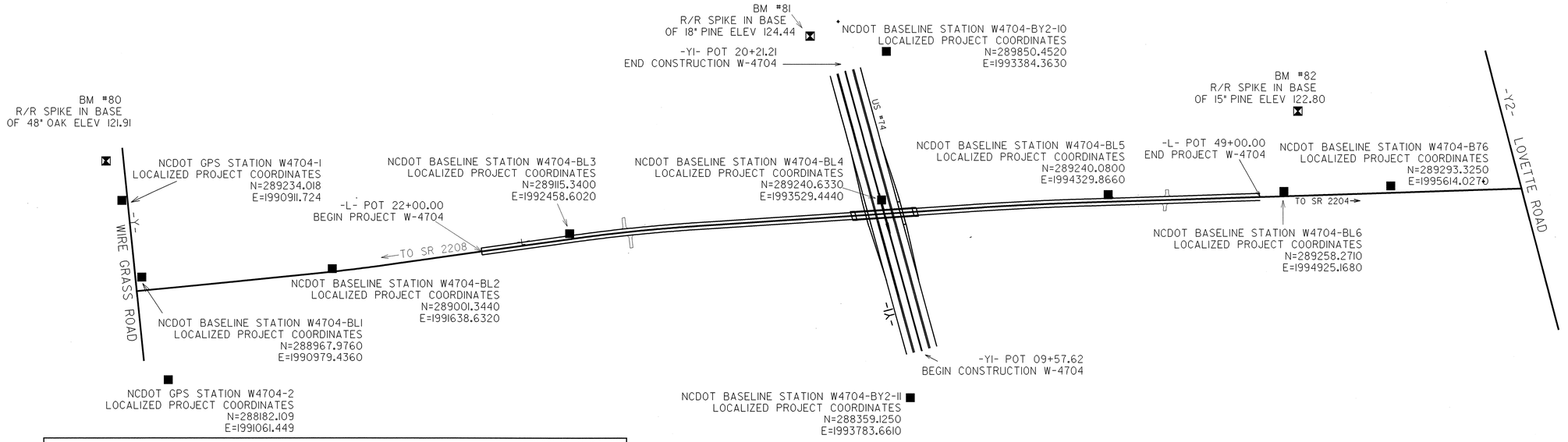

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "W-4704-1" WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 289234.0180(ft) EASTING: 1990911.7236(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999948000

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "W-4704-1" TO -L- STATION 22+00.00 IS S81°44'08.9"E 1,252.28'

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTES:

1. *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/*

   THE FILES TO BE FOUND ARE AS FOLLOWS: W4704_LS_CONTROL_060217.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 MONUMENTATION
SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

NOTE: DRAWING NOT TO SCALE

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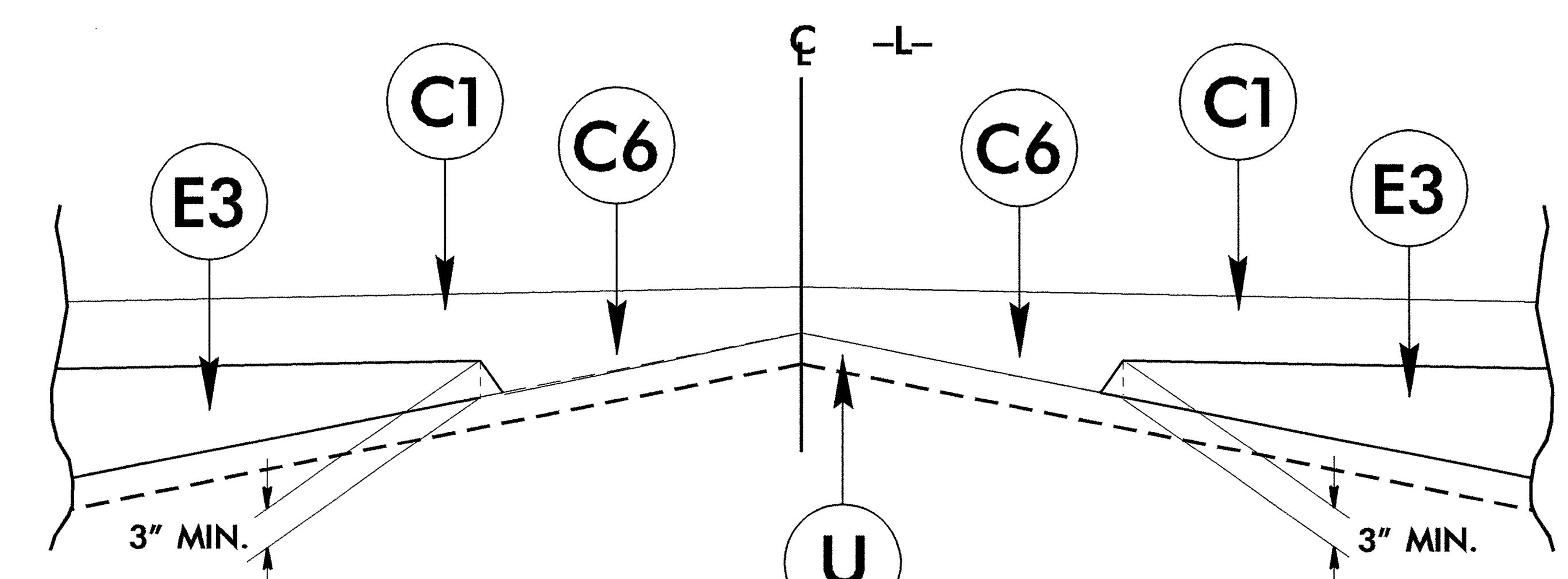
PROJECT REFERENCE NO.	SHEET NO.
W-4704	2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
SEAL 24912 NORTH CAROLINA PROFESSIONAL ENGINEER KEVIN E. MOORE 7-29-08	SEAL 22896 NORTH CAROLINA PROFESSIONAL ENGINEER CLARK S. MORRISON 8/5/08

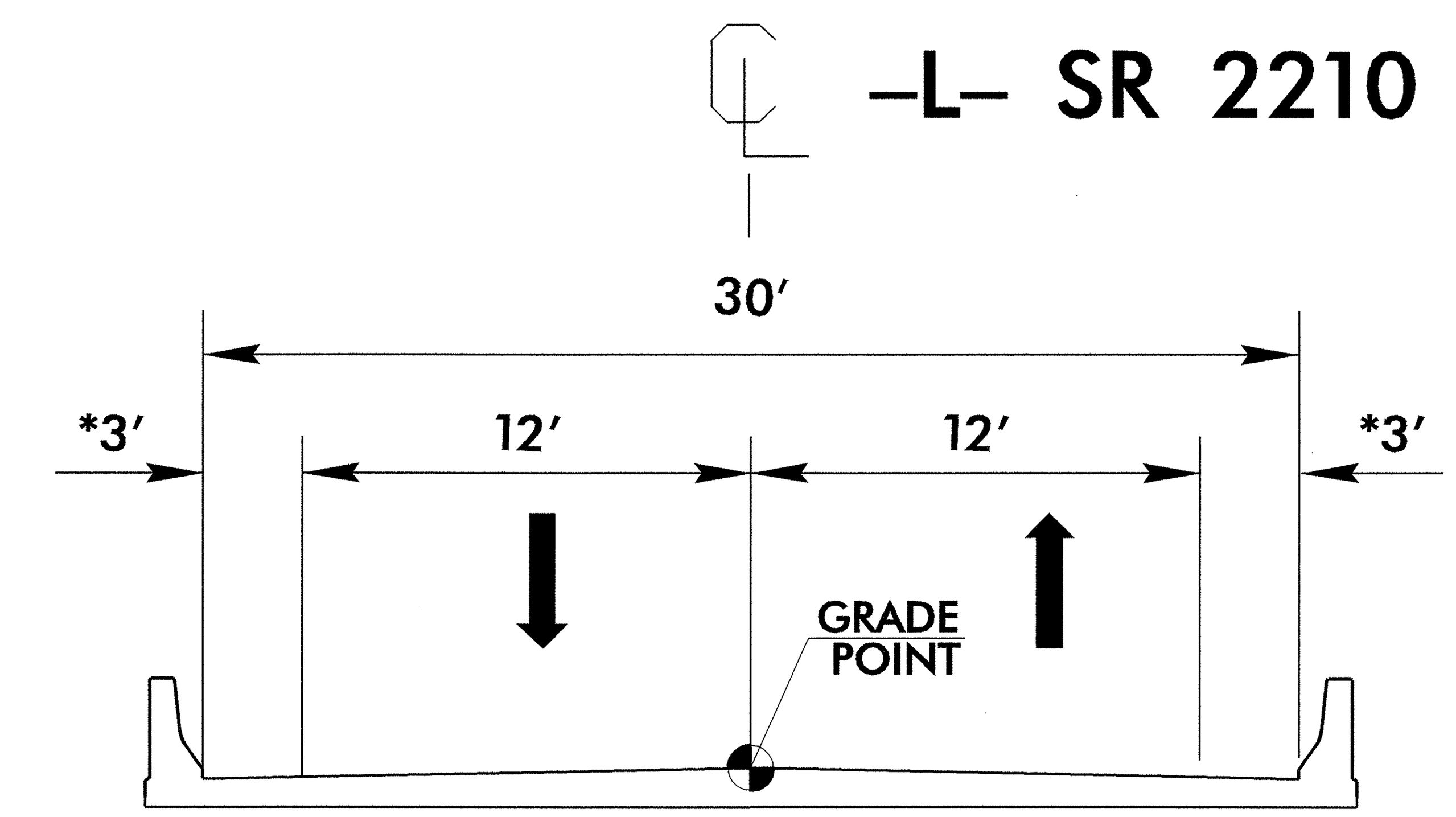
PAVEMENT SCHEDULE

C1	PROP. APPROX. 1¼" ASPHALT CONC. SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.	E2	PROP. APPROX. 5½" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
C2	PROP. APPROX. 1½" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	E3	PROP. VAR. DEPTH ASPHALT CONC. 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.
C3	PROP. APPROX. 2½" ASPHALT CONC. SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	J1	6" ABC
C4	PROP. APPROX. 2½" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 140 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R1	SHOULDER BERM GUTTER.
C5	PROP. APPROX. 3" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R2	4" CONCRETE ISLAND COVERS
C6	PROP. VAR. DEPTH ASPHALT CONC. SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1½" IN DEPTH.	T	EARTH MATERIAL.
D1	PROP. APPROX. 2½" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	U	EXISTING PAVEMENT.
D2	PROP. APPROX. 4" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	W	VARIABLE DEPTH ASPHALT PAVEMENT. (SEE WEDGING DETAIL)
E1	PROP. APPROX. 4" ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.		

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

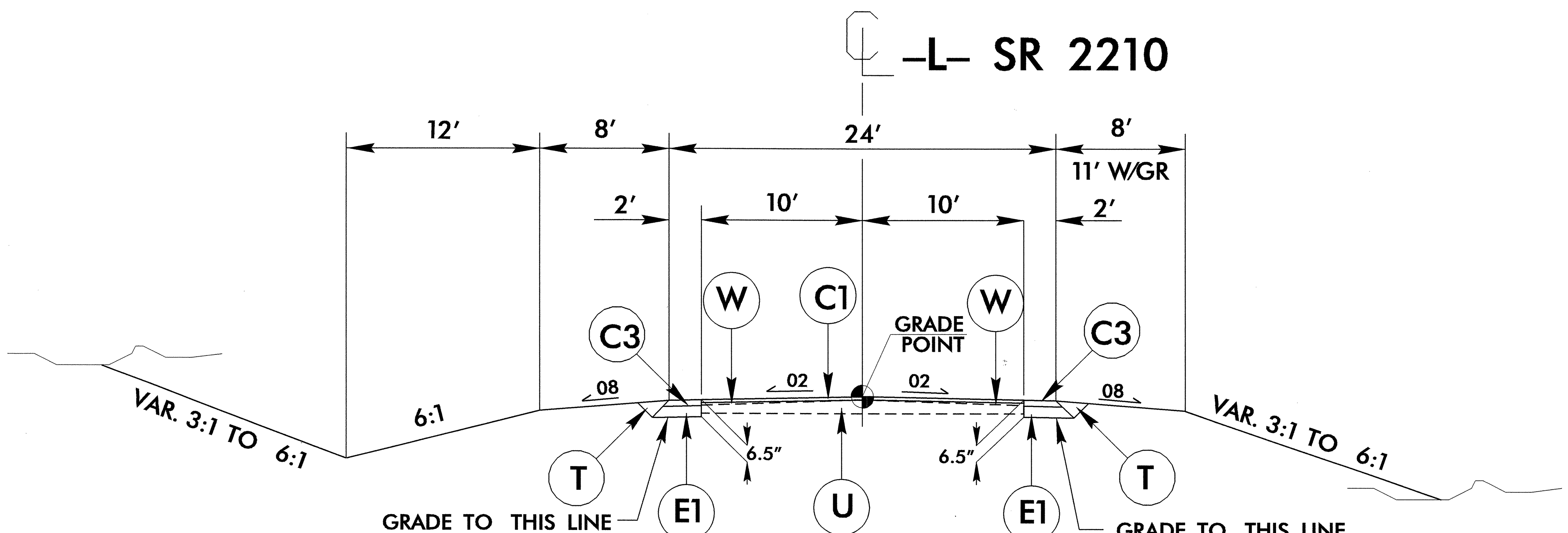


Detail Showing Method of Wedging



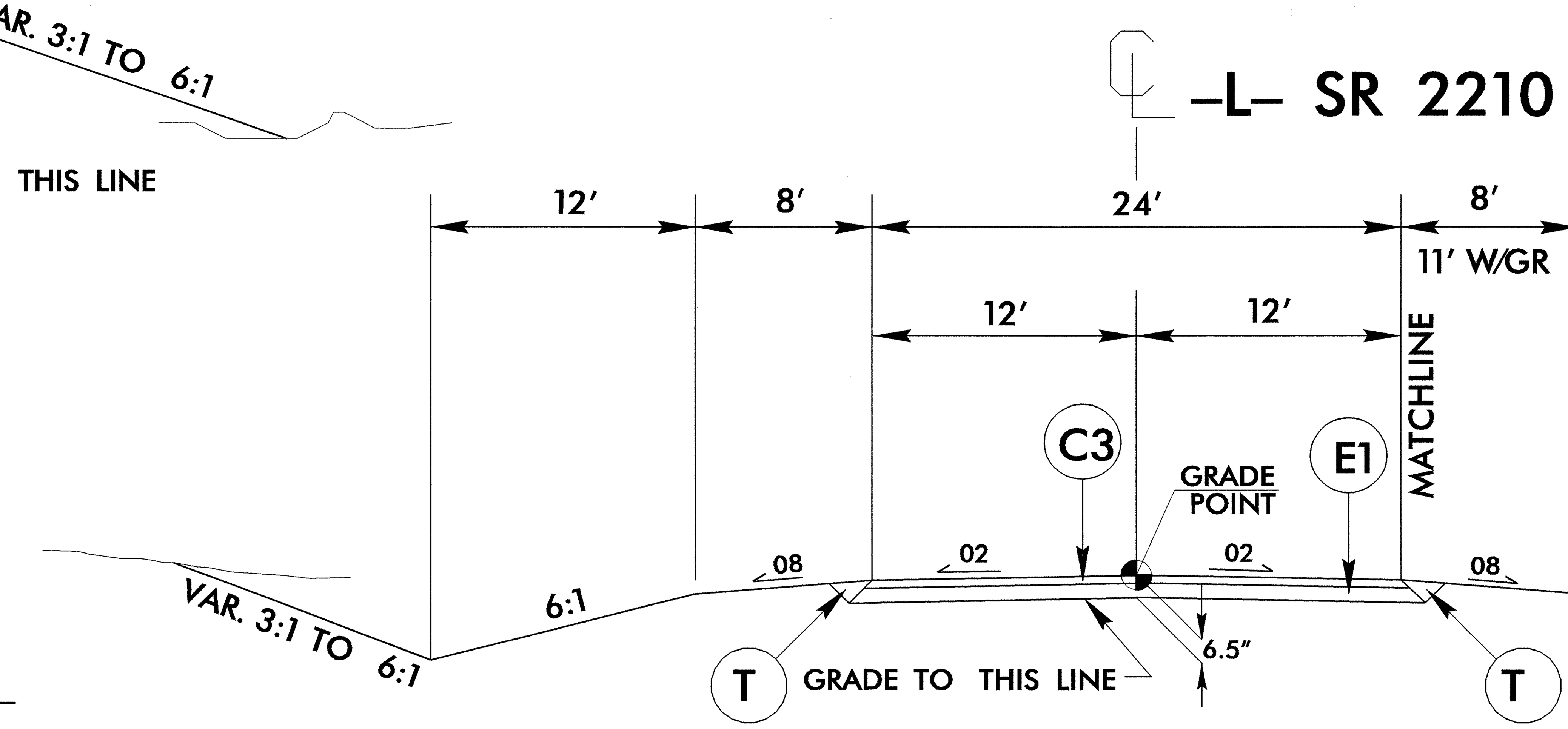
TYPICAL SECTION ON STRUCTURE

-L- STA. 34+99.95 (BEGIN BRIDGE) TO
-L- STA. 36+98.95 (END BRIDGE)
* STRUCTURE IS OVER 100' IN LENGTH



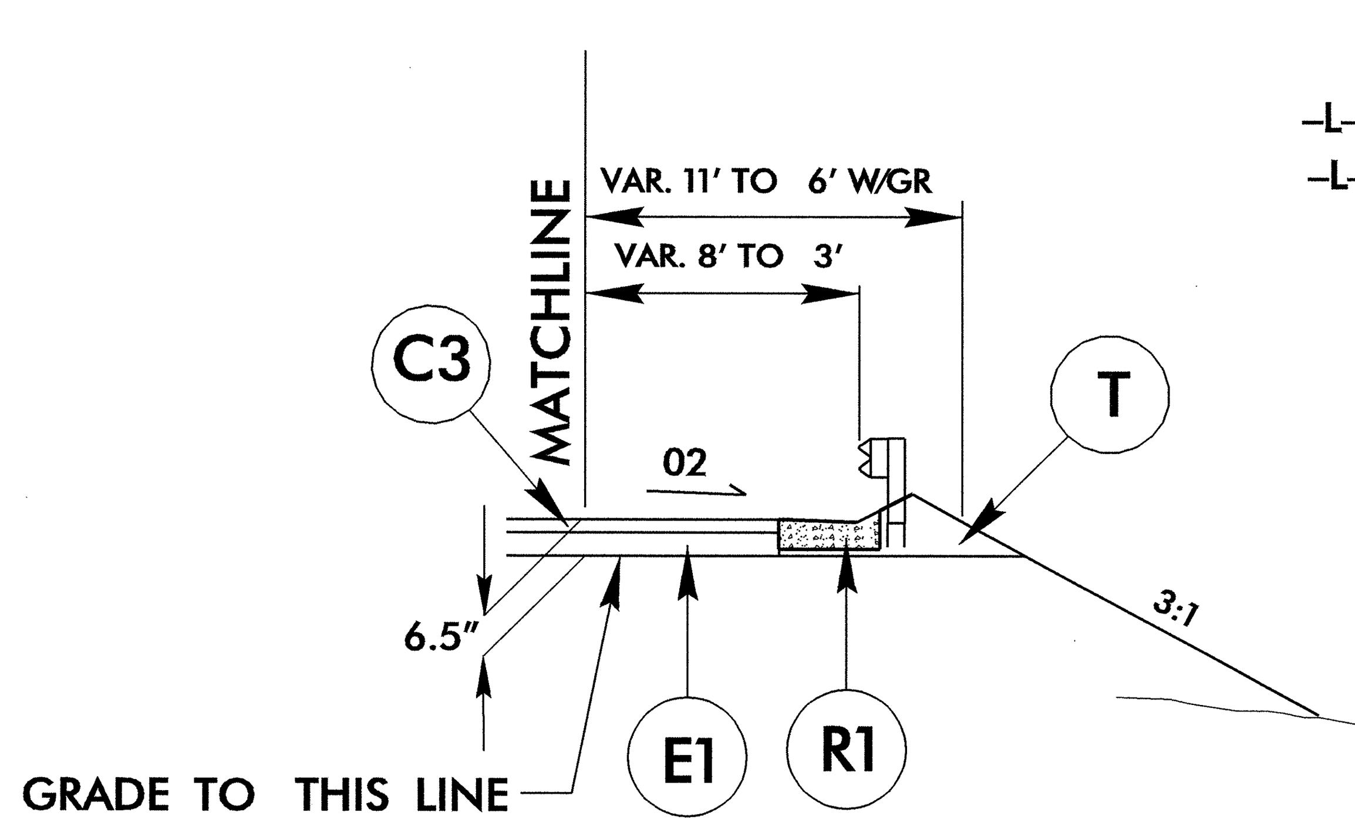
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1
-L- STA.22+00.00 TO STA. 23+20.00
-L- STA. 47+60.00 TO STA. 49+00.00



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2
-L- STA.23+20.00 TO STA. 34+99.95 (BEGIN BRIDGE)
-L- STA. 36+98.95 (END BRIDGE) TO STA. 47+60.00



TYPICAL SECTION NO. 2A

USE TYPICAL SECTION NO. 2A
IN CONJUNCTION WITH TYPICAL SECTION NO. 2
-L- STA. 30+18.00 TO STA. 34+83.52 LT.
-L- STA. 37+09.87 TO STA. 44+77.00 LT.
-L- STA. 27+98.00 TO STA. 34+89.03 RT.
-L- STA. 37+15.38 TO STA. 44+77.00 RT.

5/14/99
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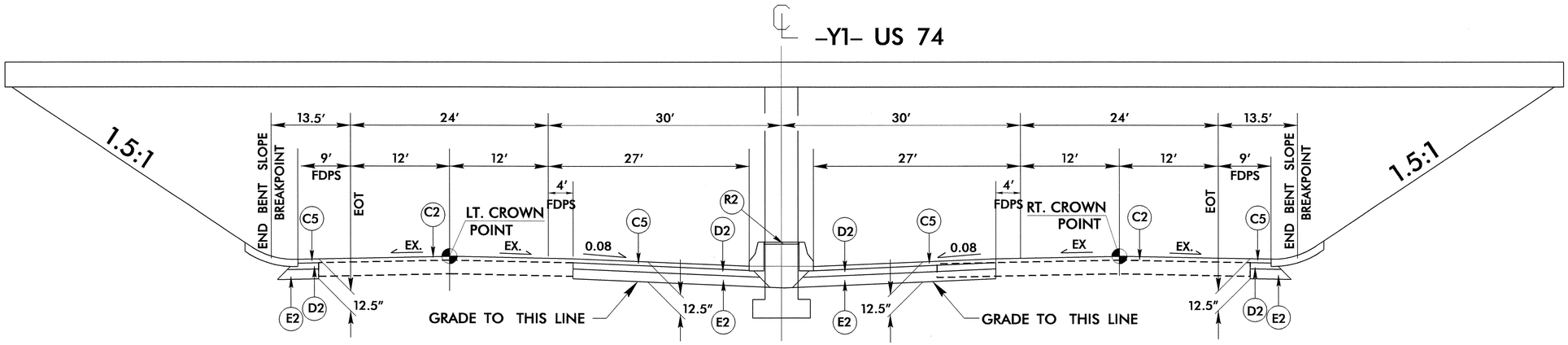
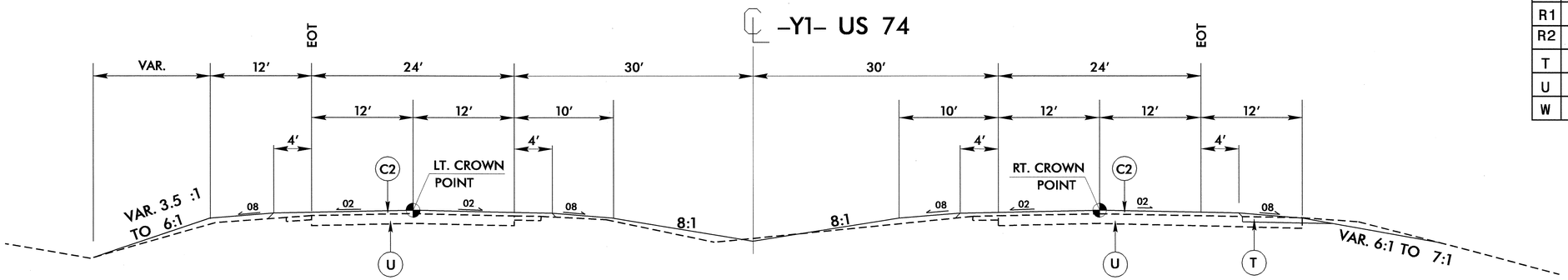
5/14/99

PROPOSED TYPICAL SECTION ON ROADWAY UNDER STRUCTURE



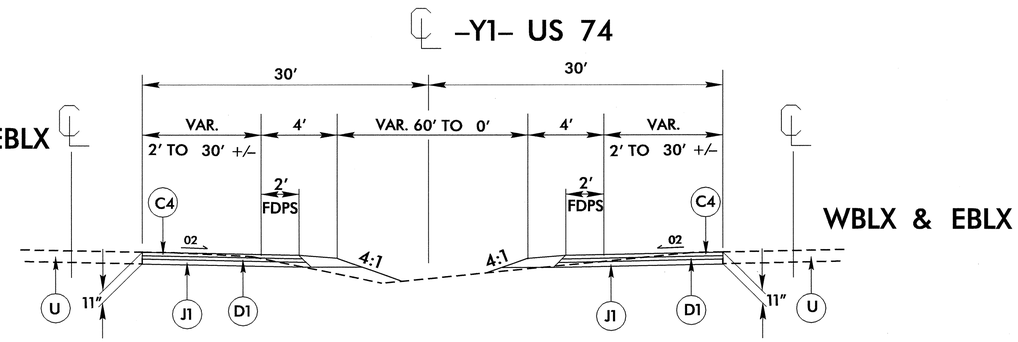
NOTE: SEE STD.'S 610.03, 862.01, STRUCTURE PLANS, AND DETAIL SHEET 2–D



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3
–Y1– STA. 6+15.00 TO STA. 24+65.06

WBLX & EBLX



WBLX & EBLX

TYPICAL SECTION NO. 4 (TEMPORARY MEDIAN CROSSOVER)

USE TYPICAL SECTION NO. 4
–Y1– STA. 6+63.92 TO STA. 12+07.11
–Y1– STA.19+22.46 TO STA. 24+65.06

PROJECT REFERENCE NO.	SHEET NO.
W-4704	2-A
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 24018 ENGINEER KEVIN E. MOORE
7-29-08

PAVEMENT DESIGN ENGINEER

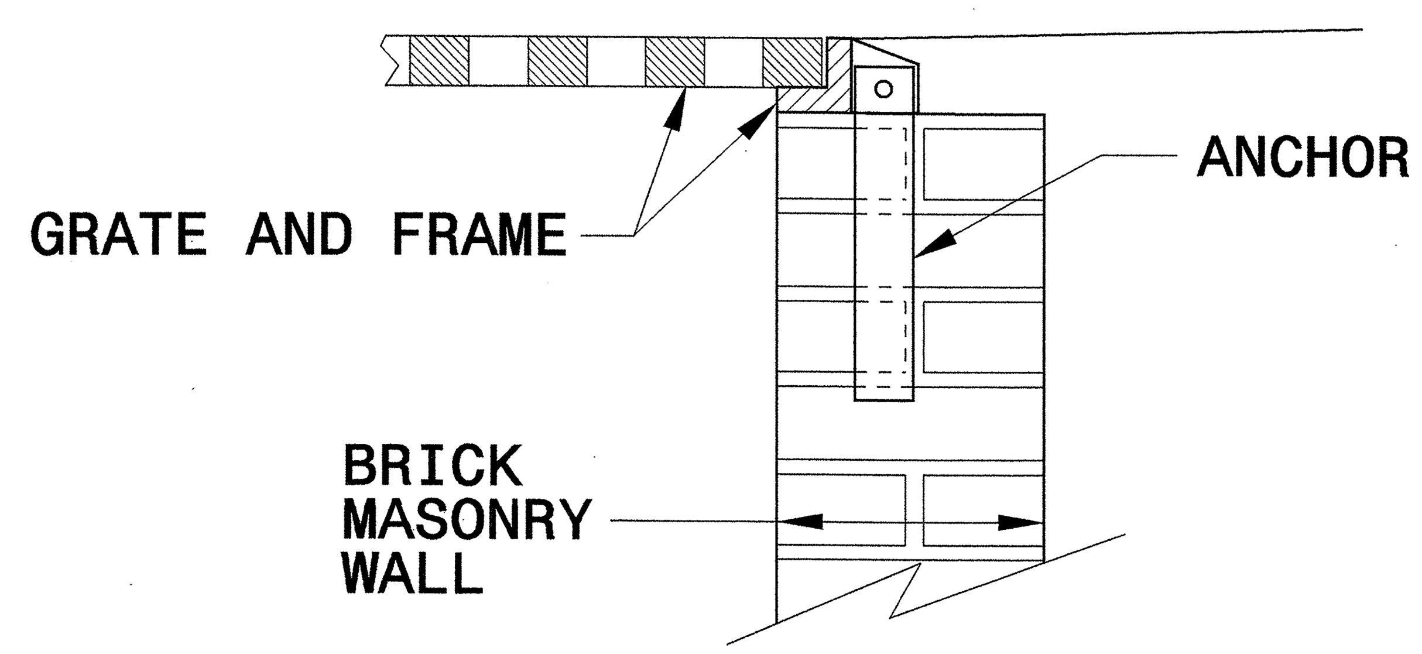
NORTH CAROLINA PROFESSIONAL SEAL 22896 ENGINEER CLARK S. MORRISON
8/5/08

PAVEMENT SCHEDULE

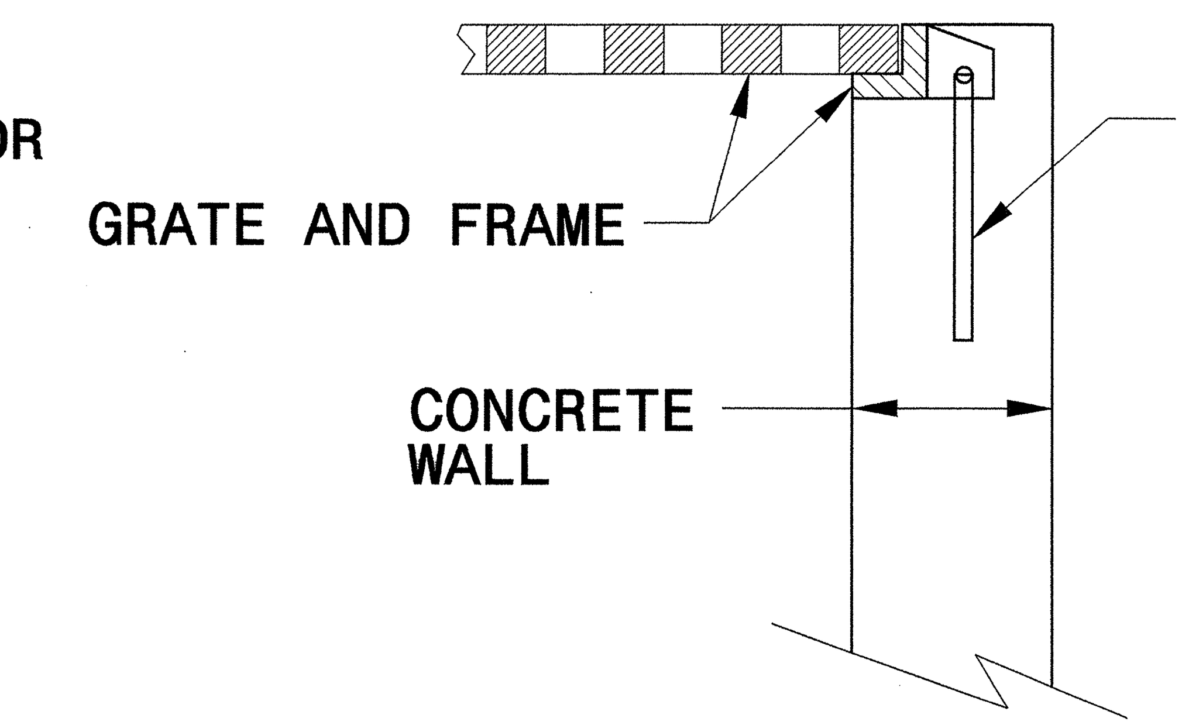
C1	1¼″ TYPE SF9.5A
C2	1½″ TYPE S9.5C
C3	2½″ TYPE SF9.5A
C4	2½″ TYPE S9.5C
C5	3″ TYPE S9.5C
C6	VARIABLE DEPTH TYPE SF9.5A
D1	2½″ TYPE I19.0C
D2	4″ TYPE I19.0C
E1	4″ TYPE B25.0B
E2	5½″ TYPE B25.0C
E3	VARIABLE DEPTH TYPE B25.0B
J1	6″ ABC
R1	SHOULDER BERM GUTTER
R2	4″ CONCRETE ISLAND COVERS
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

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

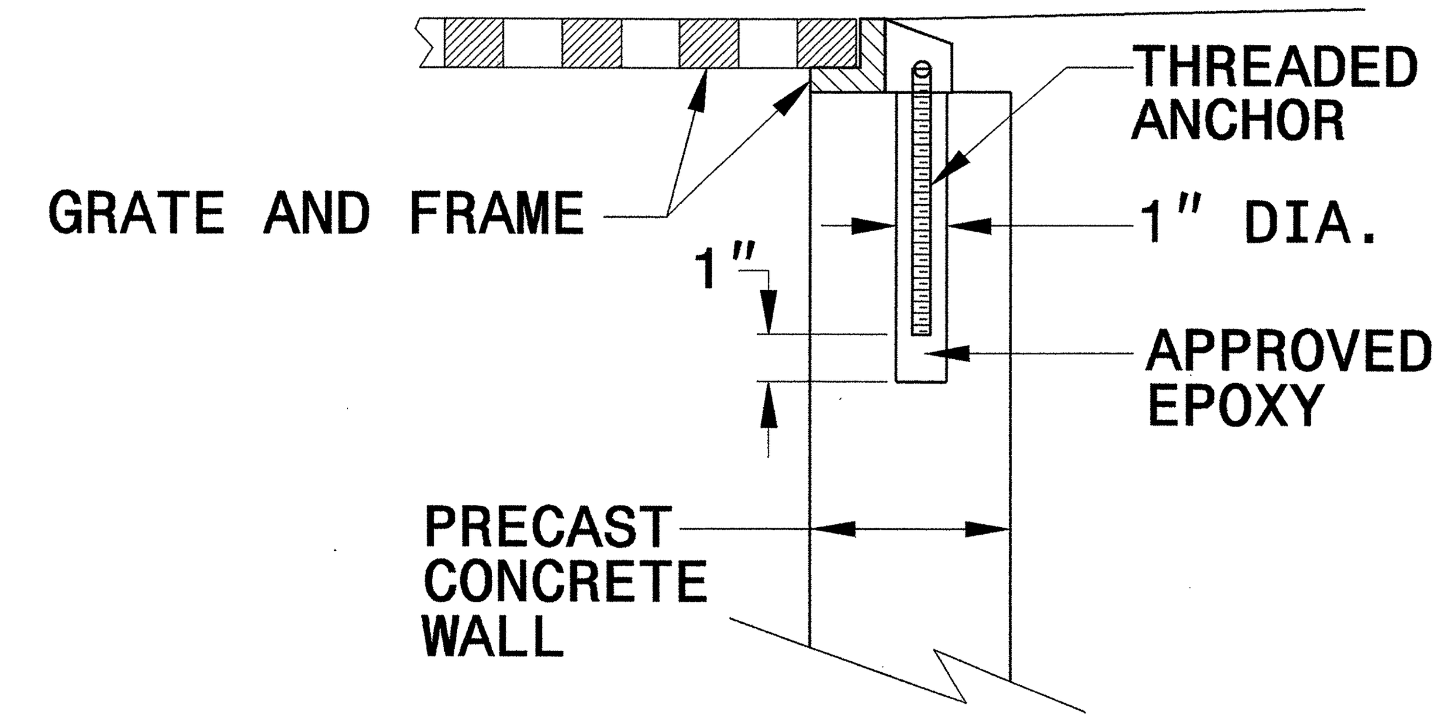
ENGLISH DETAIL DRAWING FOR
ANCHORAGE FOR FRAMES
BRICK/CONCRETE/PRECAST CONCRETE



BRICK MASONRY CONSTRUCTION



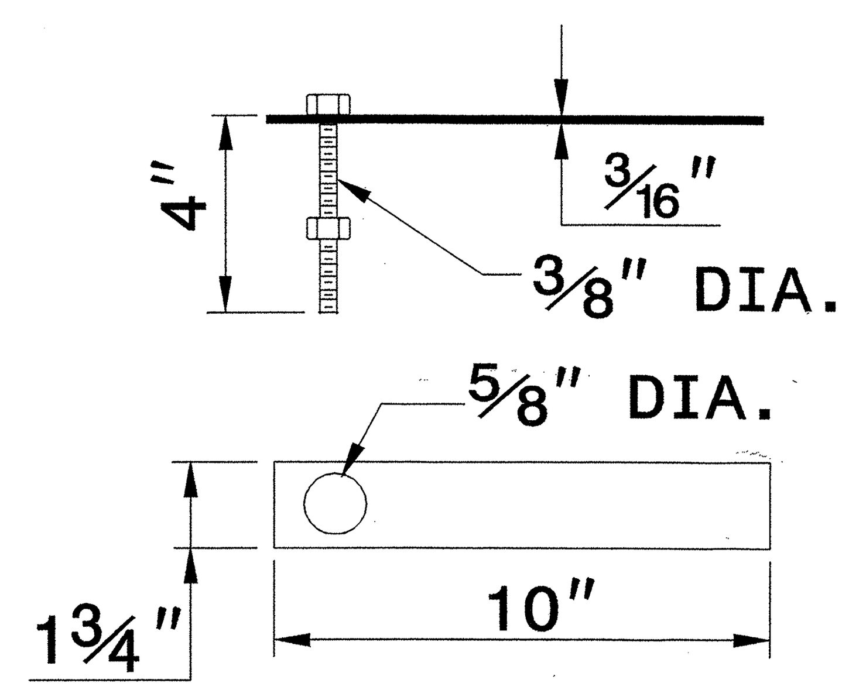
CONCRETE CONSTRUCTION



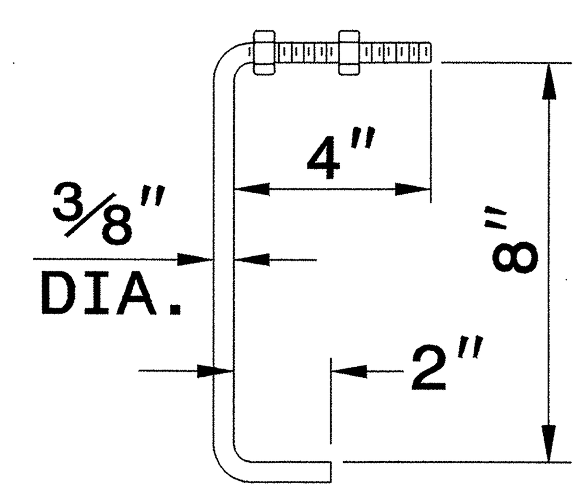
PRECAST CONCRETE CONSTRUCTION

DETAIL SHOWING ANCHORAGE OF FRAME FOR GRATED DROP INLET

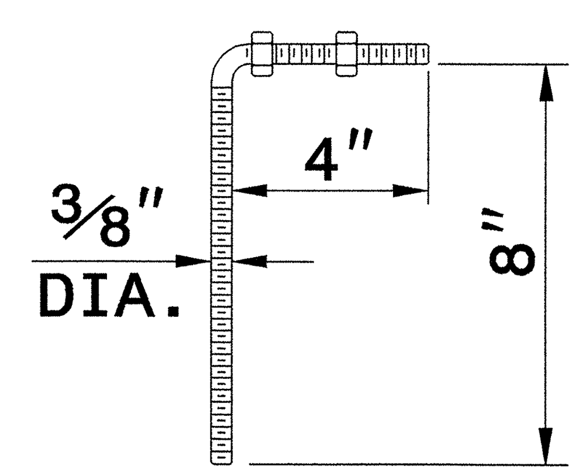
NOTE:
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



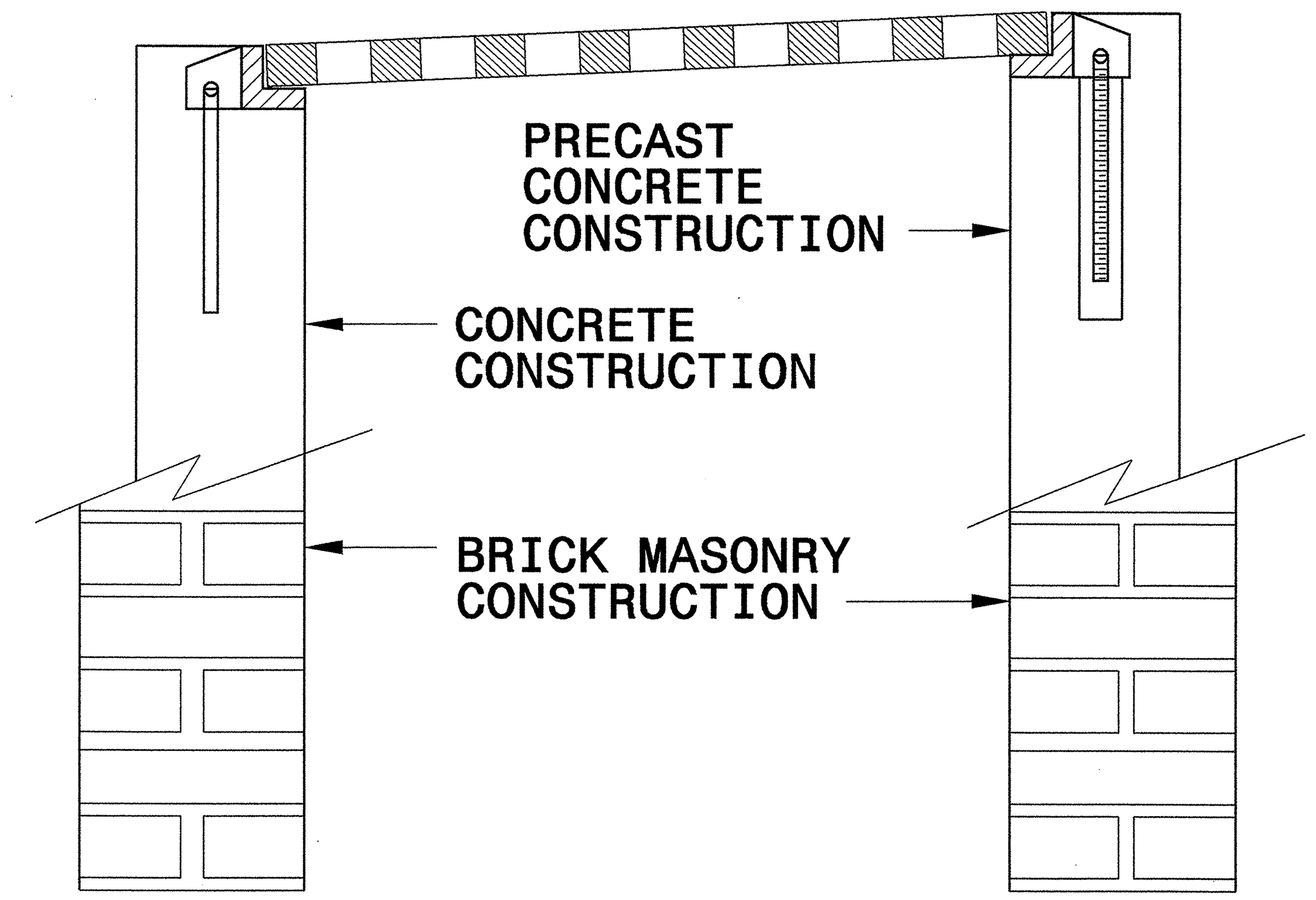
MASONRY ANCHOR
3⁄8" DIA. BOLT WITH PLATE



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

SHEET 1 OF 1
840D25

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

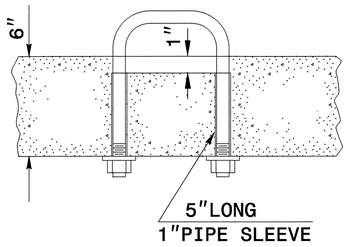
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022956 JOEL S. HOWERTON 8/5/08

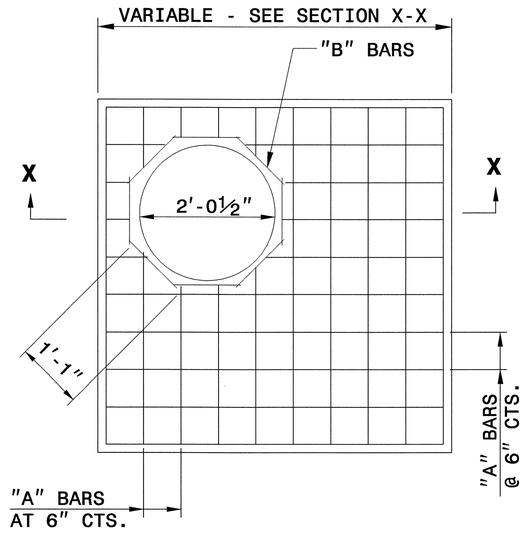
PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

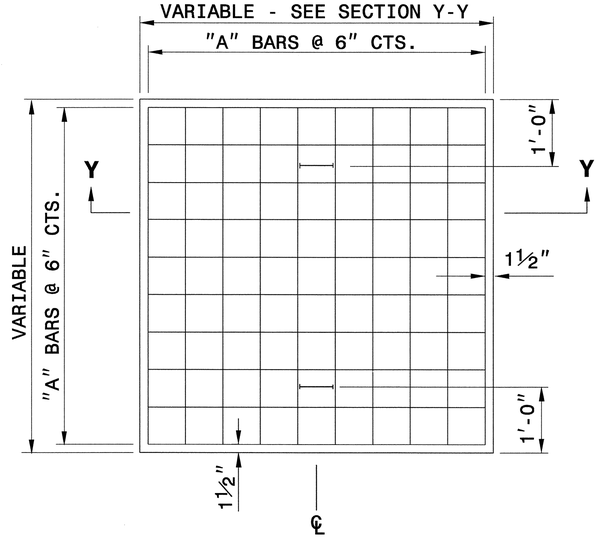
SEE PLATE FOR TITLE

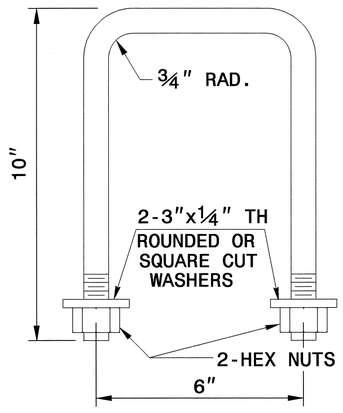
ORIGINAL BY: 2006 STD 840.25 DATE: 07/18/06
MODIFIED BY: E.E. WARD DATE: 9/25/06
CHECKED BY: DATE:
FILE SPEC.:

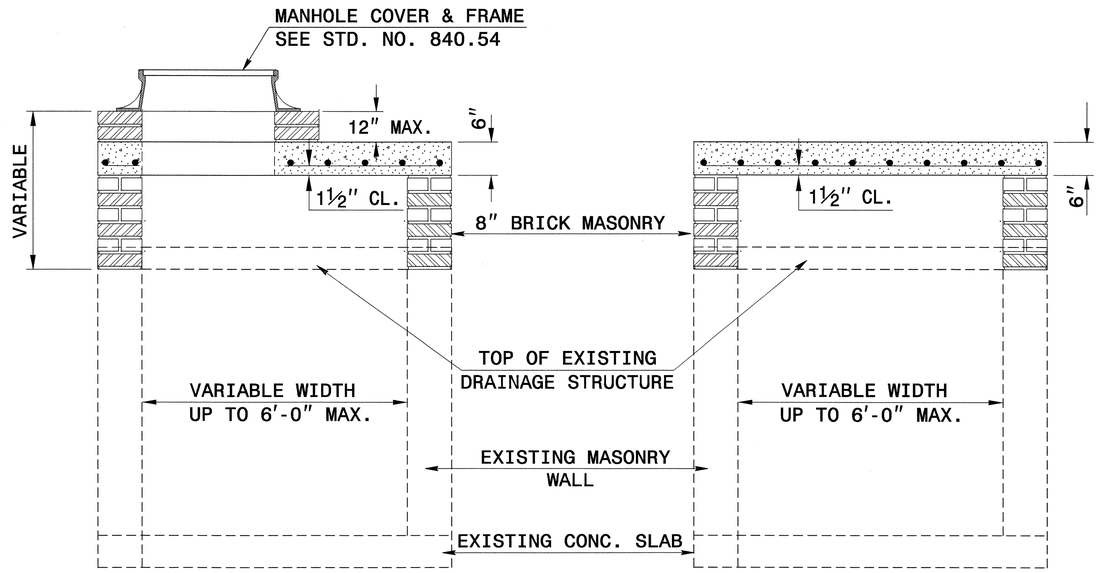
$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$USERNAME$$$$











PROJECT REFERENCE NO.	SHEET NO.
W-4704	2-C

5/14/99

PARTIAL SECTION

PLAN

PLAN

GENERAL NOTES:

CONSTRUCT IN ACCORDANCE WITH SECTION 859 OF THE STANDARD SPECIFICATIONS.

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

DETAIL INTENDED FOR NON-TRAFFIC BEARING DRAINAGE STRUCTURES.

BILL OF MATERIALS

REINFORCING STEEL				
CODE	SIZE	QTY.	LENGTH	REINF. STEEL LBS.
A	#4	20	4'-6"	60.12
B	#4	8	1'-1"	5.79
TOTAL				65.91 *

MASONRY	CU YDS
TOP SLAB CONCRETE CLASS "B"	.4326 *
BRICK MASONRY PER FT HT (MIN)	.4111

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

DETAIL OF HANDLE

SECTION X-X

SECTION Y-Y

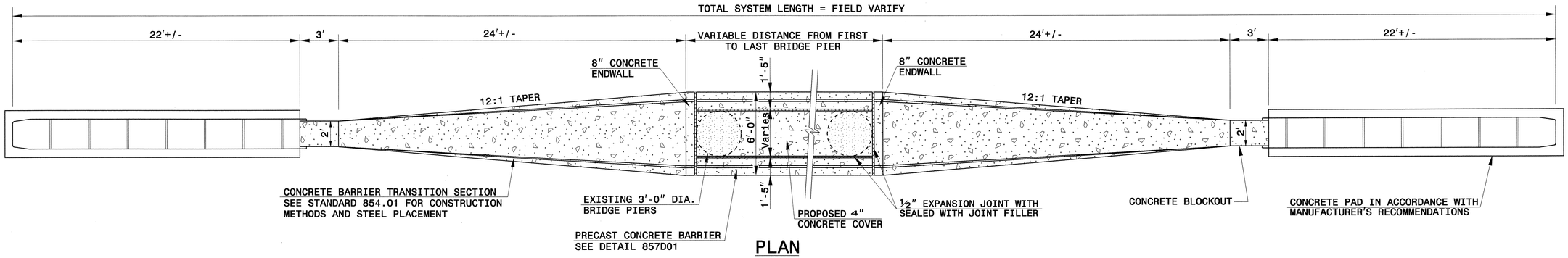
SEAL 022966
JOEL S. HOWERTON
8/5/08

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

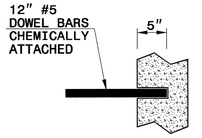
DETAIL TO CONVERT EXISTING DROP INLET OR CATCH BASIN TO JUNCTION BOX (MANHOLE OPTIONAL)

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

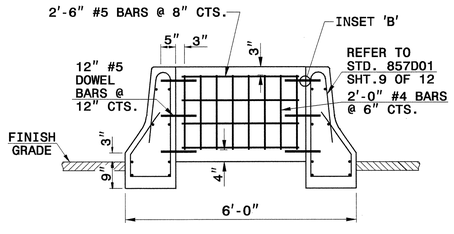
PROJECT REFERENCE NO.	SHEET NO.
W-4704	2-D



PLAN



INSET 'B'



8" CONCRETE ENDWALL

GENERAL NOTES:

CONCRETE BARRIER TO BE CONSTRUCTED OF CLASS 'AA' CONCRETE. (SEE SPECIFICATIONS SECTION 854).

EXPANSION AND CONTRACTION JOINTS SHALL BE CONSTRUCTED AS SHOWN IN STANDARD DRAWING 854.01 SHEET 2.

EXPANSION JOINTS SHALL BE SEALED WITH JOINT FILLER. (SEE SECTION 1028 OF THE SPECIFICATIONS).

ALTERNATIVE METHODS FOR STEEL FABRICATION PLACEMENT SHALL BE SUBMITTED FOR REVIEW.

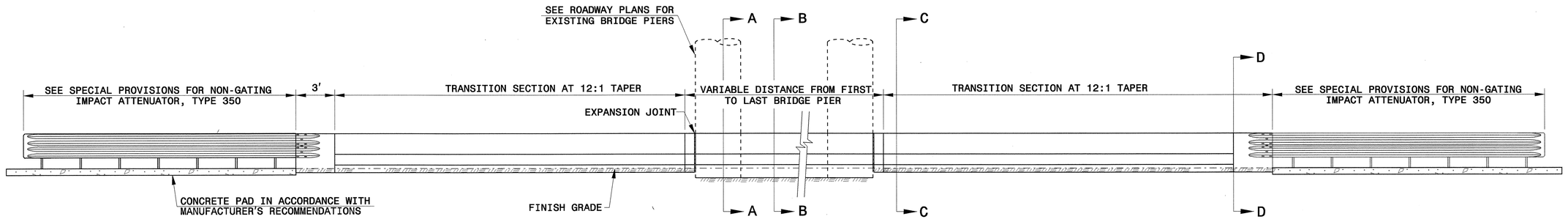
SEE STANDARD DRAWING 854.01 SHEET 3 FOR STEEL LAYOUT OF BARRIERS.

*THE 2" DIMENSION FROM FINSIH GRADE TO THE BASE IS A MINIMUM DIMENSION.

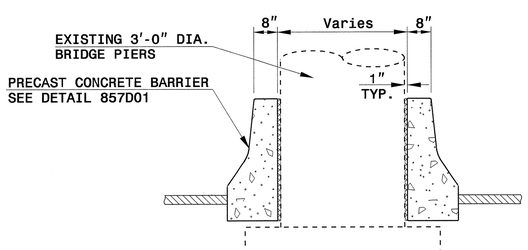
INSET FIRST 1" DIA. GALVANIZED BAR 12'-6" AND SPACE THE REMAINING 1' BARS AT 25'-0".

USE AN APPROVED BONDING SYSTEM IN ACCORDANCE WITH SECTION 1081-1, TYPE 3A OF THE STANDARD SPECIFICATIONS.

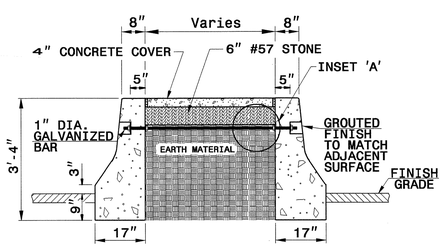
SEAL ALL EXPANSION JOINTS WITH JOINT FILLER (SEE SECTION 1028 OF THE SPECIFICATIONS).



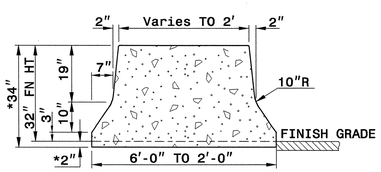
ELEVATION



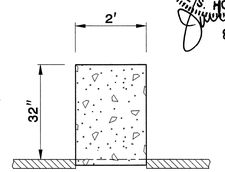
SECTION A-A



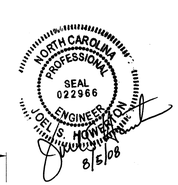
SECTION B-B

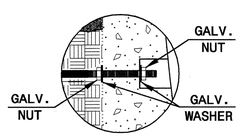


SECTION C-C



SECTION D-D





INSET 'A'

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

DETAIL OF MEDIAN HAZARD PROTECTION

ORIGINAL BY: E.E. WARD DATE: 7-24-03
MODIFIED BY: rnbritt DATE: 7-18-08
CHECKED BY: DATE: 7/21/08
FILE SPEC.: c:\usr\details\stand\transbarrier.dgn

revision: 7-18-08, rnbritt, changed bridge column width and barrier taper length.

5/14/99

18-JUL-2008 15:03
c:\projects\contracts\special details\nbritt\english\misc\tranbarrier.dgn
rnbritt

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
W-4704	3

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF QUANTITIES

ItemNumber	Sec #	Quantity	Unit	Description
2738000000-E	SP	7	SY	GENERIC PAVING ITEM 4" CONCRETE ISLAND COVERS
2905000000-N	859	1	EA	CONVERT EXISTING DROP INLET TO JUNCTION BOX
3000000000-N	SP	2	EA	IMPACT ATTENUATOR UNIT, TYPE 350
3030000000-E	862	2,925	LF	STEEL BM GUARDRAIL
3150000000-N	862	10	EA	ADDITIONAL GUARDRAIL POSTS
3270000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
3317000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE B-77
3503000000-E	866	2,450	LF	WOVEN WIRE FENCE, 47" FABRIC
3509000000-E	866	160	EA	4" TIMBER FENCE POSTS, 7'-6" LONG
3515000000-E	866	40	EA	5" TIMBER FENCE POSTS, 8'-0" LONG
3557000000-E	866	150	LF	ADDITIONAL BARBED WIRE
3628000000-E	876	26	TON	RIP RAP, CLASS I
3649000000-E	876	40	TON	RIP RAP, CLASS B
3656000000-E	876	555	SY	FILTER FABRIC FOR DRAINAGE
4155000000-N	907	22	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
4158000000-N	907	1	EA	DISPOSAL OF SIGN SYSTEM, WOOD
4400000000-E	1110	447	SF	WORK ZONE SIGNS (STATIONARY)
4405000000-E	1110	338	SF	WORK ZONE SIGNS (PORTABLE)
4410000000-E	1110	114	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4415000000-N	1115	2	EA	FLASHING ARROW PANELS, TYPE C
4420000000-N	1120	2	EA	CHANGEABLE MESSAGE SIGN
4430000000-N	1130	190	EA	DRUMS
4435000000-N	1135	15	EA	CONES
4445000000-E	1145	440	LF	BARRICADES (TYPE III)
4465000000-N	1160	4	EA	TEMPORARY CRASH CUSHIONS

ItemNumber	Sec #	Quantity	Unit	Description
4480000000-N	1165	2	EA	TMIA
4485000000-E	1170	1,180	LF	PORTABLE CONCRETE BARRIER
4510000000-N	SP	40	HR	POLICE
4650000000-N	1251	100	EA	TEMPORARY RAISED PAVEMENT MARKERS
4770000000-E	1205	800	LF	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (4") (III)
4775000000-E	1205	250	LF	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (6") (III)
4810000000-E	1205	25,830	LF	PAINT PAVEMENT MARKING LINES (4")
4847000000-E	1205	12,000	LF	POLYUREA PAVEMENT MARKING LINES (4", *********) (STANDARD GLASS BEADS)
4847100000-E	1205	9,230	LF	POLYUREA PAVEMENT MARKING LINES (6", *********) (STANDARD GLASS BEADS)
4850000000-E	1205	1,120	LF	REMOVAL OF PAVEMENT MARKING LINES (4")
4900000000-N	1251	40	EA	PERMANENT RAISED PAVEMENT MARKERS
4905000000-N	1253	60	EA	SNOWPLOWABLE PAVEMENT MARKERS
5325800000-E	1510	2,710	LF	8" WATER LINE
5648000000-N	1515	1	EA	RELOCATE WATER METER
5672000000-N	1515	1	EA	RELOCATE FIRE HYDRANT
5801000000-E	1530	2,720	LF	ABANDON 8" UTILITY PIPE
6000000000-E	1605	6,500	LF	TEMPORARY SILT FENCE
6006000000-E	1610	150	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	1,150	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	480	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	16	ACR	TEMPORARY MULCHING
6018000000-E	1620	650	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	3.25	TON	FERTILIZER FOR TEMPORARY SEEDING
6024000000-E	1622	1,300	LF	TEMPORARY SLOPE DRAINS
6027000000-N	1622	21	EA	INLET PROTECTION AT TEMPORARY SLOPE DRAINS
6029000000-E	SP	3,500	LF	SAFETY FENCE
6030000000-E	1630	3,150	CY	SILT EXCAVATION
6036000000-E	1631	3,800	SY	MATTING FOR EROSION CONTROL
6037000000-E	SP	60	SY	COIR FIBER MAT
6042000000-E	1632	320	LF	1/4" HARDWARE CLOTH
6071030000-E	SP	1,320	LF	COIR FIBER BAFFLES
6071050000-E	SP	10	EA	**" SKIMMER (1-1/2")
6084000000-E	1660	29	ACR	SEEDING & MULCHING
6087000000-E	1660	17	ACR	MOWING
6090000000-E	1661	150	LB	SEED FOR REPAIR SEEDING
6093000000-E	1661	0.75	TON	FERTILIZER FOR REPAIR SEEDING
6096000000-E	1662	675	LB	SEED FOR SUPPLEMENTAL SEEDING
6108000000-E	1665	20.25	TON	FERTILIZER TOPDRESSING
6114000000-N	SP	5	HR	SPECIALIZED HAND MOWING
6117000000-N	SP	27	EA	RESPONSE FOR EROSION CONTROL

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C201569

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0001000000-E	200	Lump Sum		CLEARING & GRUBBING .. ACRE(S)
0008000000-E	200	1	ACR	SUPPLEMENTARY CLEARING & GRUBBING
0022000000-E	225	4,500	CY	UNCLASSIFIED EXCAVATION
0029000000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ********** (35+99.45)
0036000000-E	225	200	CY	UNDERCUT EXCAVATION
0106000000-E	230	178,200	CY	BORROW EXCAVATION
0134000000-E	240	3,150	CY	DRAINAGE DITCH EXCAVATION
0156000000-E	250	6,390	SY	REMOVAL OF EXISTING ASPHALT PAVEMENT
0177000000-E	250	4,870	SY	BREAKING OF EXISTING ASPHALT PAVEMENT
0195000000-E	265	200	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	200	SY	FABRIC FOR SOIL STABILIZATION
0318000000-E	300	535	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRS
0343000000-E	310	64	LF	15" SIDE DRAIN PIPE
0345000000-E	310	48	LF	24" SIDE DRAIN PIPE
0360000000-E	310	8	LF	12" RC PIPE CULVERTS, CLASS III
0366000000-E	310	500	LF	15" RC PIPE CULVERTS, CLASS III
0384000000-E	310	164	LF	30" RC PIPE CULVERTS, CLASS III
0390000000-E	310	236	LF	36" RC PIPE CULVERTS, CLASS III
0396000000-E	310	116	LF	42" RC PIPE CULVERTS, CLASS III
0402000000-E	310	212	LF	48" RC PIPE CULVERTS, CLASS III
0582000000-E	310	440	LF	15" CS PIPE CULVERTS, 0.064" THICK
0708000000-E	310	504	LF	15" BIT COAT CS PIPE CULVERTS, TYPE B 0.064" THICK
0806000000-E	310	14	EA	15" BIT COAT CS PIPE ELBOWS, TYPE B 0.064" THICK
0995000000-E	340	900	LF	PIPE REMOVAL
1000000000-E	462	80	SY	6" SLOPE PROTECTION
1011000000-N	500	Lump Sum		FINE GRADING
1077000000-E	SP	2	TON	#57 STONE
1121000000-E	520	850	TON	AGGREGATE BASE COURSE
1220000000-E	545	250	TON	INCIDENTAL STONE BASE
1489000000-E	610	1,980	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1491000000-E	610	170	TON	ASPHALT CONC BASE COURSE, TYPE B25.0C
1503000000-E	610	430	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C
1523000000-E	610	1,690	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5C
1525000000-E	610	1,220	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
1560000000-E	620	195	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
1565000000-E	620	105	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 70-22
1693000000-E	654	163	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
2209000000-E	838	14	CY	ENDWALLS
2253000000-E	840	0.4	CY	PIPE COLLARS
2275000000-E	SP	16.5	CY	FLOWABLE FILL
2286000000-N	840	17	EA	MASONRY DRAINAGE STRUCTURES
2365000000-N	840	3	EA	FRAME WITH TWO GRATES, STD 840.22
2367000000-N	840	12	EA	FRAME WITH TWO GRATES, STD 840.29
2556000000-E	846	2,686	LF	SHOULDER BERM GUTTER
2710000000-N	854	2	EA	CONCRETE BARRIER TRANSITION SECTION
2724000000-E	857	44	LF	PRECAST REINFORCED CONCRETE BARRIER, SINGLE FACED

RD238346

COMPUTED BY:	C. MOZINGO	DATE:	1/4/2007
CHECKED BY:	K. MOORE	DATE:	2/16/2007

PROJECT NO.	SHEET NO.
W-4704	3-A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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

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.)	GRATED 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 JUNCTION BOX

STATION	LOCATION (LT, RT, OR CL)'	STRUCTURE NO.		TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE)								BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHERWISE)													CLASS III R.C. PIPE OR C.S.PIPE OR TYPE IR ALUMINIZED OR HDPE, TYPE S OR D							
SIZE								12"	15"	18"	24"	30"	36"	42"	48"	12"	15"	18"	15"		30"		36"		42"		48"		12"	15"	18"	24"	30"	36"	42"	48"
THICKNESS OR GAUGE		FROM	TO													.064	.064	.064	.064	PLAIN	.079		.079		.109		.109									
-L- 24+80	LT	1																																		
-L- 26+68	CL	2																																		
-L- 26+68	CL	2	3		117.9	117.6								116																						
-L- 27+00	LT	4																																		
-L- 27+17	RT	5																																		
-L- 28+00	RT	6		133.83																																
-L- 28+00	RT	6	7		131.08	118.8											52																			
-L- 30+20	LT	8		141.46																																
-L- 30+20	LT	8	9		138.71	120.4											72																			
-L- 31+51	LT	10		145.3																																
-L- 31+51	LT	10	11		142.55	142.05			36																											
-L- 31+51	RT	11		145.3																																
-L- 31+51	RT	11	12		142.05	119.87											84																			
-L- 34+50	CL	15		150.6																																
-L- 34+50	CL	15	16		147.85	147.35			28																											
-L- 34+50	RT	16		150.6																																
-L- 34+50	RT	16	17		147.35	120.77											100																			
-L- 37+12	CL	21	22		120.25	119.55									212																					
-L- 37+76	LT	23		149.95																																
-L- 37+76	LT	23	24		147.2	146.7			28																											
-L- 37+76	RT	24		149.95																																
-L- 37+76	RT	24	25		146.7	119.47											100																			
-L- 41+80	CL	26	27		119.6	118.28							184																							
-L- 42+50	LT	28		137.41																																
-L- 42+50	LT	28	29		134.66	134.16			36																											
-L- 42+50	RT	29		137.41																																
-L- 42+50	RT	29	30		134.16	118.7											64																			
-L- 44+75	LT	31		129.37																																
-L- 44+75	LT	31	32		126.62	126.12			36																											
-L- 44+75	RT	32		129.37																																
-L- 44+75	RT	32	33		126.12	119.84											32																			
-L- 45+80	LT	34																																		
-L- 45+80	RT	35																																		
-Y1- 16+39	LT	13																																		
-Y1- 16+01	LT	14		125.21																																
-Y1- 16+01	LT	13	14		121.17	120.94						56																								
-Y1- 15+98	RT	20																																		
-Y1- 15+52	RT	21		125.02																																
-Y1- 15+52	RT	20	21		120.35	120.25							52																							
-Y1- 15+77	RT	19		125.22																																
-Y1- 15+77	LT	14	19		120.94	120.49						108																								
-Y1- 11+04	CL	37		124.85																																
-Y1- 11+04	CL	37			121.91			8																												
-Y1- 16+00	CL	18		125.38																																
-Y1- 16+00	RT	18	19		121.13	120.49			28																											
-Y1- 19+05	CL	36		124.94																																
-Y1- 16+00	CL	18	36		121.13	123.02			308																											
-Y1- 9+50	CL	38																	216																	
-Y1- 22+00	CL	39																	224																	
SHEET TOTALS								8	500			164	236	116	212		504		440																	
SAY TOTAL								8	500			164	236	116	212		504		440																	

STATION	LOCATION (LT, RT, OR CL)'	STRUCTURE NO.		15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS		QUANITIES FOR DRAINAGE STRUCTURES	*TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT.		C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE			D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH GRATE STD. 840.20	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH GRATE STD. 840.24	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	G.D.I. (N.S.) FRAME W/ TWO FLAT GRATES STD. 840.29	J.B. STD. 840.31 OR 840.32	MANHOLE STD. 840.51	M.H. STD. 840.51 OR 840.53	M.H. FRAME AND COVER STD. 840.54	CONVERT DI TO JB (SEE DETAIL SHEET 2-C)	G.D.I (N.S) TRAFFIC BEARING, STANDARD 840.35, 840.46	CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD. 840.72	FLOWABLE FILL, C.Y.	PIPE REMOVAL LIN. FT.	REMARKS
		FROM	TO				R.C.P.	C.S.P.	PER EACH (0' THRU 5.0')	A 5.0' THRU 10.0'	B 10.0' AND ABOVE		E	F	G																					
-L- 24+80	LT	1		24																															20	
-L- 26+68	CL	2					4.5																													HEADWALL
-L- 26+68	CL	2	3																																	
-L- 27+00	LT	4				24																													25	
-L- 27+17	RT	5				24																													20	
-L- 28+00	RT	6							1										1						1											
-L- 28+00	RT	6	7																													2 @ 15"				
-L- 30+20	LT	8							1										1						1											
-L- 30+20	LT	8	9																													2 @ 15"				
-L- 31+51	LT	10							1										1						1											
-L- 31+51	LT	10	11																																	
-L- 31+51	RT	11							1										1						1											
-L- 31+51	RT	11	12																													2 @ 15"				
-L- 34+50	CL	15							1																1						1					
-L- 34+50	CL	15	16																																	
-L- 34+50	RT	16							1																1						1					
-L- 34+50	RT	16	17																													2 @ 15"				
-L- 37+12	CL	21	22																															8.18		
-L- 37+76	LT	23							1																1						1					
-L- 37+76	LT	23	24																																	
-L- 37+76	RT	24							1																1						1					
-L- 37+76	RT	24	25																													2 @ 15"				
-L- 41+80	CL	26	27				3.4																													HEADWALL
-L- 42+50	LT	28							1										1						1											
-L- 42+50	LT	28	29																																	
-L- 42+50	RT	29							1										1						1											
-L- 42+50	RT	29	30																													2 @ 15"				
-L- 44+75	LT	31							1										1						1											
-L- 44+75	LT	31	32																																	
-L- 44+75	RT	32							1										1						1											
-L- 44+75	RT	32	33																													2 @ 15"				
-L- 45+80	LT	34		20																															25	
-L- 45+80	RT	35		20																															20	
-Y1- 16+39	LT	13					2.5																													STR #13 "L"-ENDWALL STD 838.05, 838.15
-Y1- 16+01	LT	14							1																	1										
-Y1- 16+01	LT	13	14																															7.85		
-Y1- 15+98	RT	20					3.6																													STR #20 "L"-ENDWALL STD 838.05, 838.15
-Y1- 15+52	RT	21							1																	1										
-Y1- 15+52	RT	20	21																																	
-Y1- 15+77	RT	19																												1						STR #19 CONVERT DI TO JB
-Y1- 15+77	LT	14	19																																	
-Y1- 11+04	CL	37							1										1			1														
-Y1- 11+04	CL	37																															0.36			REMOVE DI, EXTEND EXIST. PIPE
-Y1- 16+00	CL	18							1										1			1														
-Y1- 16+00	RT	18	19																																350	
-Y1- 19+05	CL	36							1										1			1														STR #36 REMOVE EXIST. DI
-Y1- 16+00	CL	18	36																																	
-Y1- 9+50	CL	38																																	216	REMOVE TEMP. 15" CSP
-Y1- 22+00	CL	39																																	224	REMOVE TEMP. 15" CSP
SHEET TOTALS				64		48	14		17										11			3			12	2				1	4	14 @ 15"	0.36	16.03	900	
SAY TOTAL				64		48	14		17										11			3			12	2				1	4	14 @ 15"	0.4	16.5	900	

COMPUTED BY: *CSM* DATE: *12-12-06*
CHECKED BY: *N. ADIMA* DATE: *6/19/08*

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
GUARDRAIL SUMMARY

PROJECT REFERENCE NO.	SHEET NO.
W-4704	*3-B*

RD238346

"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 BEGIN

G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

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 CONCRETE BARRIER	REMOVE EXISTING GUARDRAIL	REMOVE & STOCKPILE EXISTING GUARDRAIL	CONCRETE BARRIER TRANSITION SECTION	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	XI MOD	XI	GRAU 350	M-350	B-77	CAT-1	VI MOD	IAU-350	TYPE III	G	NG				
-L-	27+46.78	35+03.01	RT	756.23			28+75.00		3	11	250		5				1		1										
-L-	37+02.01	45+27.00	RT	824.99				44+00.00	3	11		250		5			1		1										
-L-	27+21.62	34+96.89	LT	775.27				28+50.00	3	11		250		5			1		1										
-L-	36+95.88	45+27.00	LT	831.12			44+00.00		3	11	250		5				1		1										
-Y1A-	14+30.00		CL																			1		X	X				
-Y1A-	15+29.00		CL																			1		X	X				
-Y1A-	14+54.43		CL																									1	
-Y1A-	15+01.93		CL																									1	
-Y1A-	14+74.93	15+05.43	LT																							22.00			
-Y1A-	14+74.93	15+05.43	RT																							22.00			
	SUB -TOTALS			**3187.61**	**LF**																								
	LESS GUARDRAIL ANCHORS			275.00	LF																								
				---											---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	PROJECT TOTALS			**2912.61**	**LF**										0	0	4	0	4	0	0	2	0			44			2	
	SAY			**2925.00**	**LF**																					**44.0**			**2**	
ADDITIONAL GUARDRAIL POST				**10**	**EA**																								

TYPE GRAU 350, 4 EA @ 50.00 FT	200.00
TYPE B- 77, 4 EA @ 18.75	75.00
DEDUCTION FOR GUARDRAIL ANCHORS	275.00

COMPUTED BY: HLE DATE: 10/9/07
CHECKED BY: N. ADIMA DATE: 12/11/07

PROJECT NO.	SHEET NO.
W-4704	3-C

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF WOVEN WIRE FENCE

LINE	SIDE	STATION	STATION	FABRIC 1200 mm (FEET)	LINE POST (4")	TERMINAL POST (5")
-L--	LT	27+33.50	32+97.01	563.51	37	7
-L-	LT.	39+44.00	45+50.00	606.00	38	10
-L-	RT.	27+33.07	33+52.80	620.00	39	10
-L-	RT.	38+91.11	45+50.00	659.00	42	10
PROJECT TOTALS:				2448.51	156	37
SAY				**2450.0**	**160**	**40**
				FEET	**EA**	**EA**

ADDITIONAL BARBED WIRE : 150.0 FEET

SUMMARY OF EXISTING ASPHALT PAVEMENT REMOVAL & BREAK-UP

LINE	Station	Station	LOC LT/RT/CL	PAVEMENT REMOVAL YD^2	PAVEMENT BREAK-UP YD^2
-L-	23+20.00	23+89.41	CL	153.6	
-L-	23+89.41	34+68.59	CL		2573.8
-L-	37+30.31	46+80.64	CL		2295.7
-L-	46+80.64	47+60.00	CL	175.4	
-Y1-	15+00.00		LT	1053.8	
-Y1-	15+00		RT	1119.3	
-Y1-	15+00		MED	1240.3	
-Y1-	15+62.000	29+10.000	MED	1086.6	
	11+30.000	11+88.000	MED	1045.8	
-Y1-	6+63.92	10+00.00	RT	293.4	
-Y1-	19+99.63	23+57.60	LT	218.8	
			TOTAL:	6387.0	4869.5
			SAY	6390.0	4870.0

SUMMARY OF EARTHWORK

(IN CUBIC YARDS)

LINE	Station	Station	Uncl. Excav.	Embank. +%	Borrow	Waste
-L-	21+50.00	35+50.00	426	87421	86995	0
SUBTOTAL NO 1			426	87421	86995	0
-L-	37+00.00	49+50.00	8	76780	76772	0
SUBTOTAL NO 2			8	76780	76772	0
-Y1- LT	6+50.00	15+00.00	23	2074	2051	0
-Y1- LT	15+00.00	25+00.00	700	1561	861	0
-Y1- MED	6+50.00	15+00.00	1061	296	0	765
-Y1- MED	15+00.00	25+00.00	1106	416	0	690
-Y1- RT	6+50.00	15+00.00	713	2266	1553	0
-Y1- RT	15+00.00	25+00.00	44	1840	1796	0
-Y1- (DET)	6+63.92	12+07.11	183	344	161	0
-Y1- (DET)	19+22.00	24+65.06	216	280	64	0
-Y1- (Barrier Fill)	14+78.5	15+02	0	8	8	0
SUBTOTAL NO 3			4046	9085	6494	1455
PROJECT SUBTOTALS:			4480	173286	170261	1455
LOSS DUE TO CLEAR. GRUB.			0	0		0
ADDITIONAL UNDERCUT EXCAV.				0		
EST. FOR DRIVEWAYS				0		0
WASTE IN LIEU OF BORROW					-1455	-1455
SHOULDER CONSTRUCTION				830	830	
LESS SELECT GRANULAR MATERIAL				0		
PROJECT TOTALS:			4480	174116	169636	0
5% REPLACE TOP SOIL BORROW PITS					8482	
GRAND TOTALS:			4480		178118	
SAY			4500		178200	

DRAINAGE DITCH EXCAVATION = 3150 CUBIC YARDS

UNDERCUT EXCAVATION = 200 CUBIC YARDS (Contingency Item)

SELECT GRANULAR MATERIAL = 200 CUBIC YARDS (Contingency Item)

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.

RD214565,10/8/2007,R:\Roadway\Proj\W-4704_rowparcels.xls

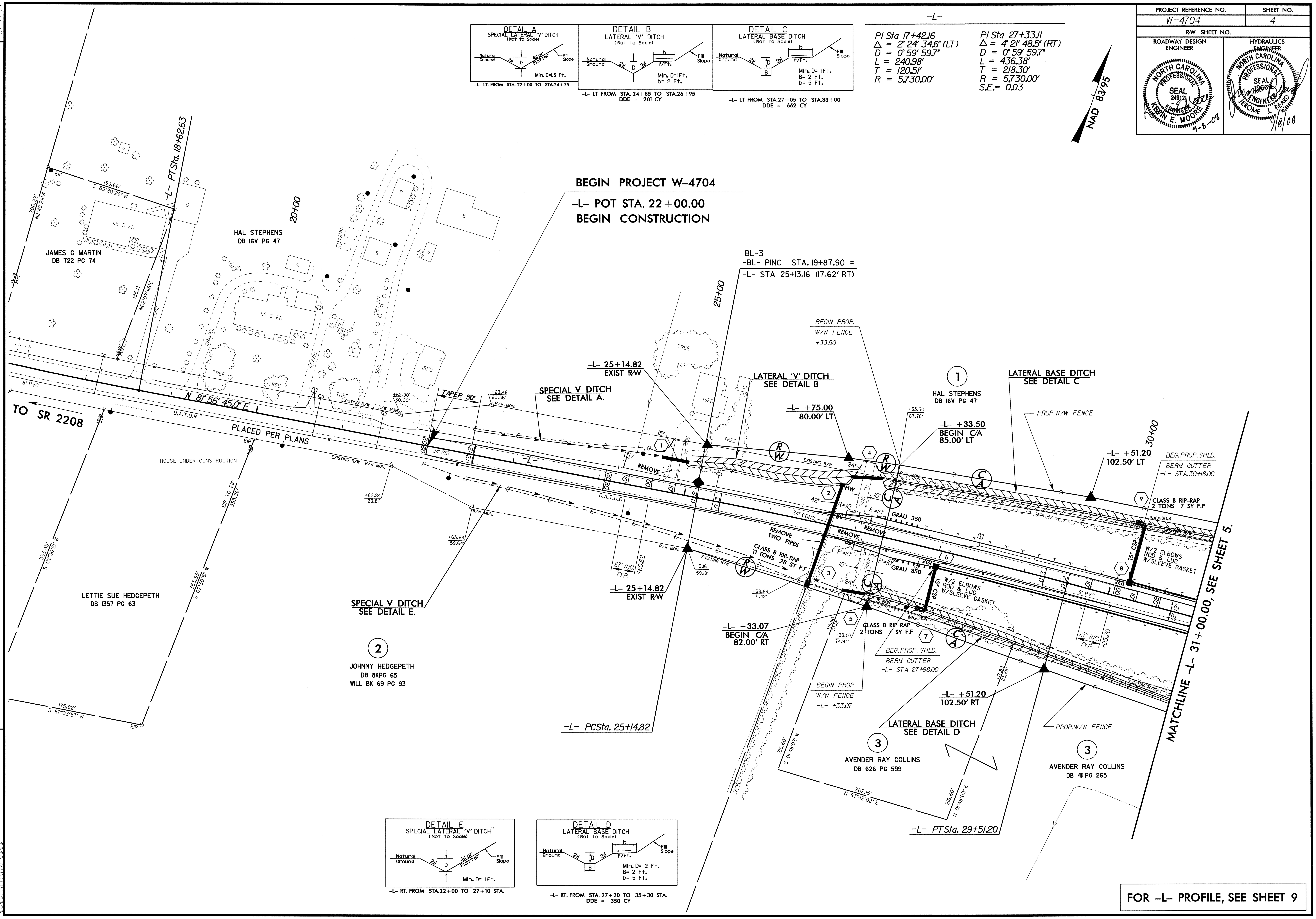
PROJ. REFERENCE NO.	SHEET NO.
W-4704	3-D

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
1	4	HAL STEPHENS
2	4	JOHNNY HEDGEPETH
3	4	AVENDER RAY COLLINS
4	4 & 5	AVENDER RAY COLLINS
5	5,6,& 8	LADONNA BOOTH
6	5	LADONNA BOOTH
7	5 & 6	LOUISE OLIVER

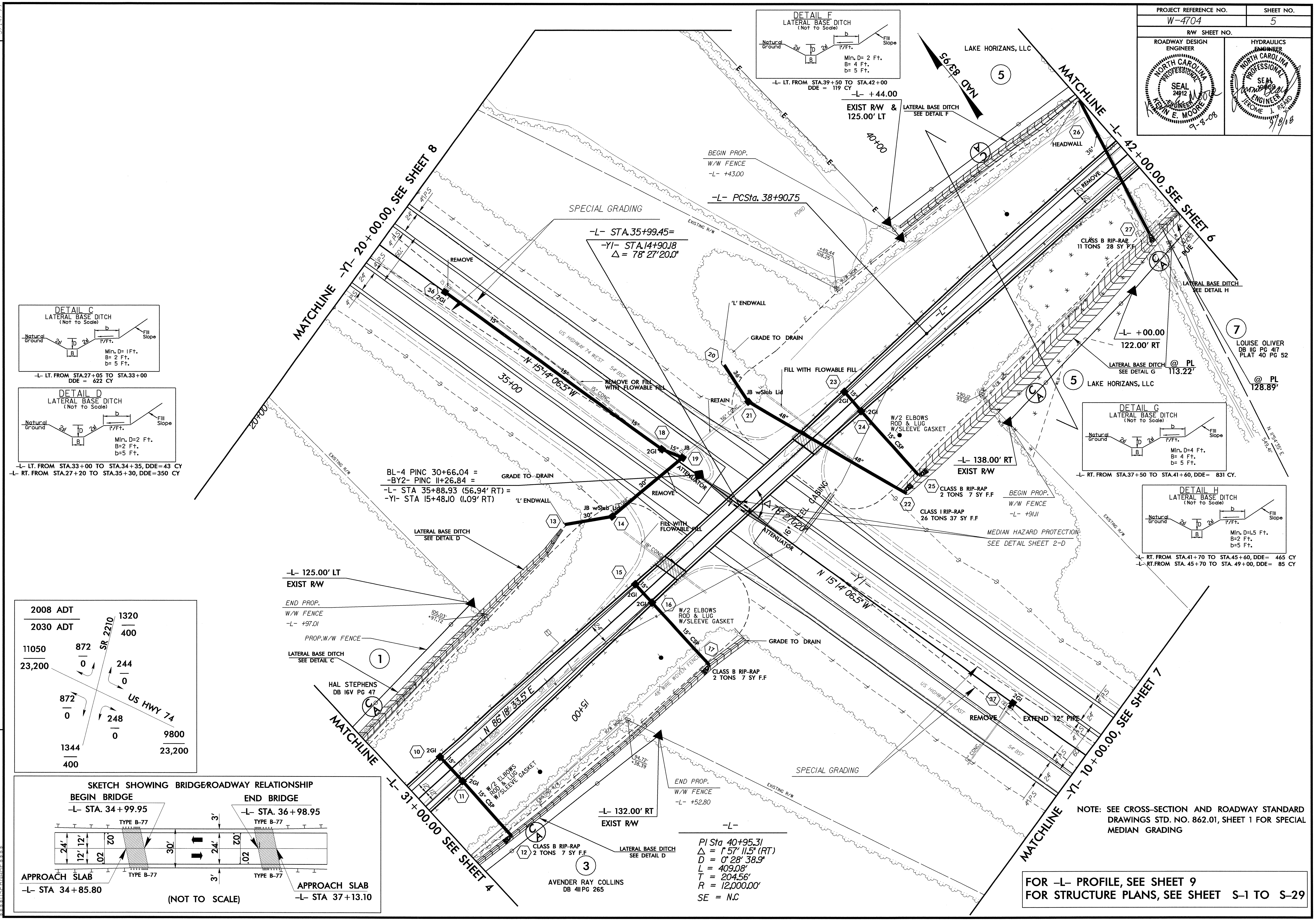
PARCEL No.	SHEET No.	PROPERTY OWNER NAME


PROJECT REFERENCE NO.
SHEET NO.
W-4704
4
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 24912 ENGINEER KEVIN E. MOORE
NORTH CAROLINA PROFESSIONAL SEAL ENGINEER JEROME L. READ
-L-
PI Sta 17+42.16
Δ = 2° 24' 34.6" (LT)
D = 0° 59' 59.7"
L = 240.98'
T = 120.51'
R = 5,730.00'
PI Sta 27+33.11
Δ = 4° 21' 48.5" (RT)
D = 0° 59' 59.7"
L = 436.38'
T = 218.30'
R = 5,730.00'
S.E.= 0.03
NAD 83/95
DETAIL A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
-L- LT. FROM STA. 22+00 TO STA.24+75
DETAIL B
LATERAL 'V' DITCH
(Not to Scale)
Min. D=1 Ft.
b= 2 Ft.
-L- LT FROM STA. 24+85 TO STA.26+95
DDE = 201 CY
DETAIL C
LATERAL BASE DITCH
(Not to Scale)
Min. D= 1 Ft.
B= 2 Ft.
b= 5 Ft.
-L- LT FROM STA.27+05 TO STA.33+00
DDE = 662 CY
BEGIN PROJECT W-4704
-L- POT STA. 22+00.00
BEGIN CONSTRUCTION
BL-3
-BL- PINC STA. 19+87.90 =
-L- STA 25+13.16 (17.62' RT)
-L- PTSta. 18+62.63
TO SR 2208
N 81° 56' 45.0" E
PLACED PER PLANS
HAL STEPHENS
DB 16V PG 47
JAMES G MARTIN
DB 722 PG 74
HOUSE UNDER CONSTRUCTION
LETTIE SUE HEDGEPETH
DB 1357 PG 63
JOHNNY HEDGEPETH
DB 8KPG 65
WILL BK 69 PG 93
AVENDER RAY COLLINS
DB 626 PG 599
AVENDER RAY COLLINS
DB 411PG 265
TAPER 50'
SPECIAL V DITCH
SEE DETAIL A.
SPECIAL V DITCH
SEE DETAIL E.
-L- 25+14.82
EXIST R/W
LATERAL 'V' DITCH
SEE DETAIL B
LATERAL BASE DITCH
SEE DETAIL C
LATERAL BASE DITCH
SEE DETAIL D
BEGIN PROP.
W/W FENCE
PROP.W/W FENCE
-L- +75.00
80.00' LT
-L- +33.50
BEGIN C/A
85.00' LT
-L- +51.20
102.50' LT
-L- +51.20
102.50' RT
-L- +33.07
BEGIN C/A
82.00' RT
BEG.PROP.SHLD.
BERM GUTTER
-L- STA.30+18.00
-L- STA 27+98.00
CLASS B RIP-RAP
2 TONS 7 SY F.F
CLASS B RIP-RAP
11 TONS 28 SY F.F
W/2 ELBOWS
ROD & LUG
W/SLEEVE GASKET
REMOVE
REMOVE TWO PIPES
GRAU 350
-L- PCSta. 25+14.82
-L- PTSta. 29+51.20
MATCHLINE -L- 31+00.00, SEE SHEET 5.
DETAIL E
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Min. D= 1 Ft.
-L- RT. FROM STA.22+00 TO 27+10 STA.
DETAIL D
LATERAL BASE DITCH
(Not to Scale)
Min. D= 2 Ft.
B= 2 Ft.
b= 5 Ft.
-L- RT. FROM STA. 27+20 TO 35+30 STA.
DDE = 350 CY
FOR -L- PROFILE, SEE SHEET 9
REVISIONS
8/17/99
04-SEP-2008 11:10

PROJECT REFERENCE NO.	SHEET NO.
W-4704	5
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 24912 KEVIN E. MOORE 9-8-08

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL JEROME L. READ 9/8/08



NAD 83/95
LAKE HORIZANS, LLC
5
MATCHLINE -L- 42+00.00, SEE SHEET 6
MATCHLINE -Y1- 20+00.00, SEE SHEET 8
MATCHLINE -L- 31+00.00 SEE SHEET 4
MATCHLINE -Y1- 10+00.00, SEE SHEET 7
DETAIL F
LATERAL BASE DITCH
(Not to Scale)
Natural Ground
Fill Slope
Min. D= 2 Ft.
B= 4 Ft.
b= 5 Ft.
-L- LT. FROM STA.39+50 TO STA.42+00
DDE = 119 CY
-L- +44.00
EXIST R/W & 125.00' LT
LATERAL BASE DITCH SEE DETAIL F
BEGIN PROP. W/W FENCE -L- +43.00
-L- PCSta. 38+90.75
SPECIAL GRADING
-L- STA.35+99.45=
-Y1- STA.14+90.18
Δ = 78° 27' 20.0"
REMOVE
US HIGHWAY 74 WEST
N 15°14'06.5"W
35+00
40+00
REMOVE OR FILL WITH FLOWABLE FILL
'L' ENDWALL
GRADE TO DRAIN
JB wSlab Lid
RETAIN
FILL WITH FLOWABLE FILL
W/2 ELBOWS ROD & LUG W/SLEEVE GASKET
HEADWALL
CLASS B RIP-RAP 11 TONS 28 SY F.F.
LATERAL BASE DITCH SEE DETAIL H
-L- +00.00
122.00' RT
7
LOUISE OLIVER
DB 11G PG 417
PLAT 40 PG 52
LATERAL BASE DITCH SEE DETAIL G
@ PL 113.22'
@ PL 128.89'
LAKE HORIZANS, LLC
-L- 138.00' RT
EXIST R/W
CLASS B RIP-RAP 2 TONS 7 SY F.F
CLASS I RIP-RAP 26 TONS 37 SY F.F
BEGIN PROP. W/W FENCE -L- +91.11
MEDIAN HAZARD PROTECTION
SEE DETAIL SHEET 2-D
DETAIL G
LATERAL BASE DITCH
(Not to Scale)
Min. D=4 Ft.
B= 4 Ft.
b= 5 Ft.
-L- RT. FROM STA.37+50 TO STA.41+60, DDE= 831 CY.
DETAIL H
LATERAL BASE DITCH
(Not to Scale)
Min. D=1.5 Ft.
B=2 Ft.
b=5 Ft.
-L- RT. FROM STA.41+70 TO STA.45+60, DDE= 465 CY
-L- RT.FROM STA. 45+70 TO STA. 49+00, DDE= 85 CY
DETAIL C
LATERAL BASE DITCH
(Not to Scale)
Min. D= 1 Ft.
B= 2 Ft.
b= 5 Ft.
-L- LT. FROM STA.27+05 TO STA.33+00
DDE = 622 CY
DETAIL D
LATERAL BASE DITCH
(Not to Scale)
Min. D=2 Ft.
B=2 Ft.
b=5 Ft.
-L- LT. FROM STA.33+00 TO STA.34+35, DDE=43 CY
-L- RT. FROM STA.27+20 TO STA.35+30, DDE=350 CY
BL-4 PINC 30+66.04 =
-BY2- PINC 11+26.84 =
-L- STA 35+88.93 (56.94' RT) =
-Y1- STA 15+48.10 (1.09' RT)
GRADE TO DRAIN
ATTENUATOR
LATERAL BASE DITCH SEE DETAIL D
STEEL CASING
N 15°14'06.5"W
-Y1-
-L- 125.00' LT
EXIST R/W
END PROP. W/W FENCE -L- +97.01
PROP. W/W FENCE
LATERAL BASE DITCH SEE DETAIL C
1
HAL STEPHENS
DB 16V PG 47
N 86°18'33.5"E
15+00
CLASS B RIP-RAP 2 TONS 7 SY F.F
GRADE TO DRAIN
US HIGHWAY 74 EAST
REMOVE
EXTEND 12" PIPE
SPECIAL GRADING
END PROP. W/W FENCE -L- +52.80
-L- 132.00' RT
EXIST R/W
CLASS B RIP-RAP 2 TONS 7 SY F.F
LATERAL BASE DITCH SEE DETAIL D
3
AVENDER RAY COLLINS
DB 411 PG 265
-L-
PI Sta 40+95.31
Δ = 1° 57' 11.5" (RT)
D = 0° 28' 38.9"
L = 409.08'
T = 204.56'
R = 12,000.00'
SE = N.C
2008 ADT
2030 ADT
SR 2210
US HWY 74
1320 / 400
11050 / 23,200
872 / 0
244 / 0
872 / 0
248 / 0
9800 / 23,200
1344 / 400
SKETCH SHOWING BRIDGE/ROADWAY RELATIONSHIP
BEGIN BRIDGE
-L- STA. 34+99.95
END BRIDGE
-L- STA. 36+98.95
TYPE B-77
APPROACH SLAB
-L- STA 34+85.80
APPROACH SLAB
-L- STA 37+13.10
(NOT TO SCALE)
REVISIONS

NOTE: SEE CROSS-SECTION AND ROADWAY STANDARD DRAWINGS STD. NO. 862.01, SHEET 1 FOR SPECIAL MEDIAN GRADING

FOR -L- PROFILE, SEE SHEET 9
FOR STRUCTURE PLANS, SEE SHEET S-1 TO S-29

08-SEP-2008 09:07

8/17/99

REVISIONS

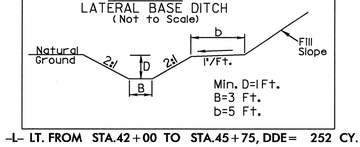
PROJECT REFERENCE NO.	SHEET NO.
W-4704	6
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 24912 ENGINEER KEVIN E. MOORE — 9-3-08

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 031662 ENGINEER JEROME I. BEARD — 9/8/08

NAD 83'95

DETAIL I
LATERAL BASE DITCH
(Not to Scale)



-L- LT. FROM STA.42+00 TO STA.45+75, DDE= 252 CY.
-L- LT. FROM STA. 45+85 TO 49+00, DDE= 140 CY.

-L-
PI Sta 40+95.31
Δ = 1° 57' 11.5" (RT)
D = 0° 28' 38.9"
L = 409.08'
T = 204.56'
R = 12,000.00'
SE = N.C.

5
LAKE HORIZANS, LLC

LATERAL BASE DITCH
SEE DETAIL I

-L- +99.83
96.00' LT

PINC 38+66.47 =
-L- STA. 43+87.28 (14.82' RT)

END PROP.W/W FENCE
-L- +50.00

END PROP.SHLD.
BERM GUTTER
-L- STA.44+77.00

-L- 45+50.00
END C/A
EXIST. R/W

LATERAL BASE DITCH
SEE DETAIL I

END PROJECT W-4704
-L- POT STA. 49+00.00
END CONSTRUCTION

-Y2- POT Sta. 20+00.00

MATCHLINE -L- 42+00.00 SHEET 5.

PROP.W/W FENCE

RETAIN

26 HEADWALL

28 2GI

29 2GI

15" CSP

W/2 ELBOWS ROD & LUG W/SLEEVE GASKET

D.A.T.U.R

31 2GI

GRAU 350

32 2GI

INV.=88.7

30 PUE

CLASS B RIP-RAP 2 TONS 7 SY F.F

-L- +99.83
95.00' RT

PROP.W/W FENCE

ABAN. BARN

LATERAL BASE DITCH
SEE DETAIL H

7
LOUISE OLIVER
DB IIG PG. 417
PLAT 40 PG 52

-L- +20.00
100'

-L- PT Sta. 42+99.83

45+00

50+00

55+00

15+00

REMOVE

TAPER 50'

-L-

34

R=10'

10'

15'

8" PVC

INV.=83.84

33 CLASS B RIP-RAP 2 TONS 7 SY F.F

-L- +20.00
83.28'

35

+63.32
10.00'

POND

END PROP.SHLD.
BERM GUTTER
-L- STA.44+77.00

END PROP.W/W FENCE
-L- +50.00

-L- 45+50.00
END C/A
EXIST. R/W

LATERAL BASE DITCH
SEE DETAIL H

-BL- PINC 44+62.05 =
-L- STA. 49+82.86 (14.96' RT)
BL-6

N 88° 15' 45" E

EXISTING R/W

R/W MONU.
+63.31
30.00

OLD KINGSDALE ROAD SR 2210 24' BST

BL-7 POT 51+51.80 =
-BY3- PINC 12+53.95

-L- POT Sta. 56+63.24

15" CONC.

24" BK HEAD WALL

CONC

N 14° 37' 18" W

LOUISE OLIVER
DB IIG PG. 417
PLAT 40 PG 52

G

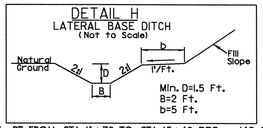
15 BK 0

CHRISTOPHER DAVIS
DB 1018 PG 227

N 04°45'44" W
238.28

240.44'
S 75°25'55" W

DETAIL H
LATERAL BASE DITCH
(Not to Scale)



-L- RT. FROM STA.41+70 TO STA.45+60, DDE= 465 CY.
-L- RT. FROM STA. 45+70 TO STA. 49+00, DDE= 85 CY.

FOR -L- PROFILE, SEE SHEET 10

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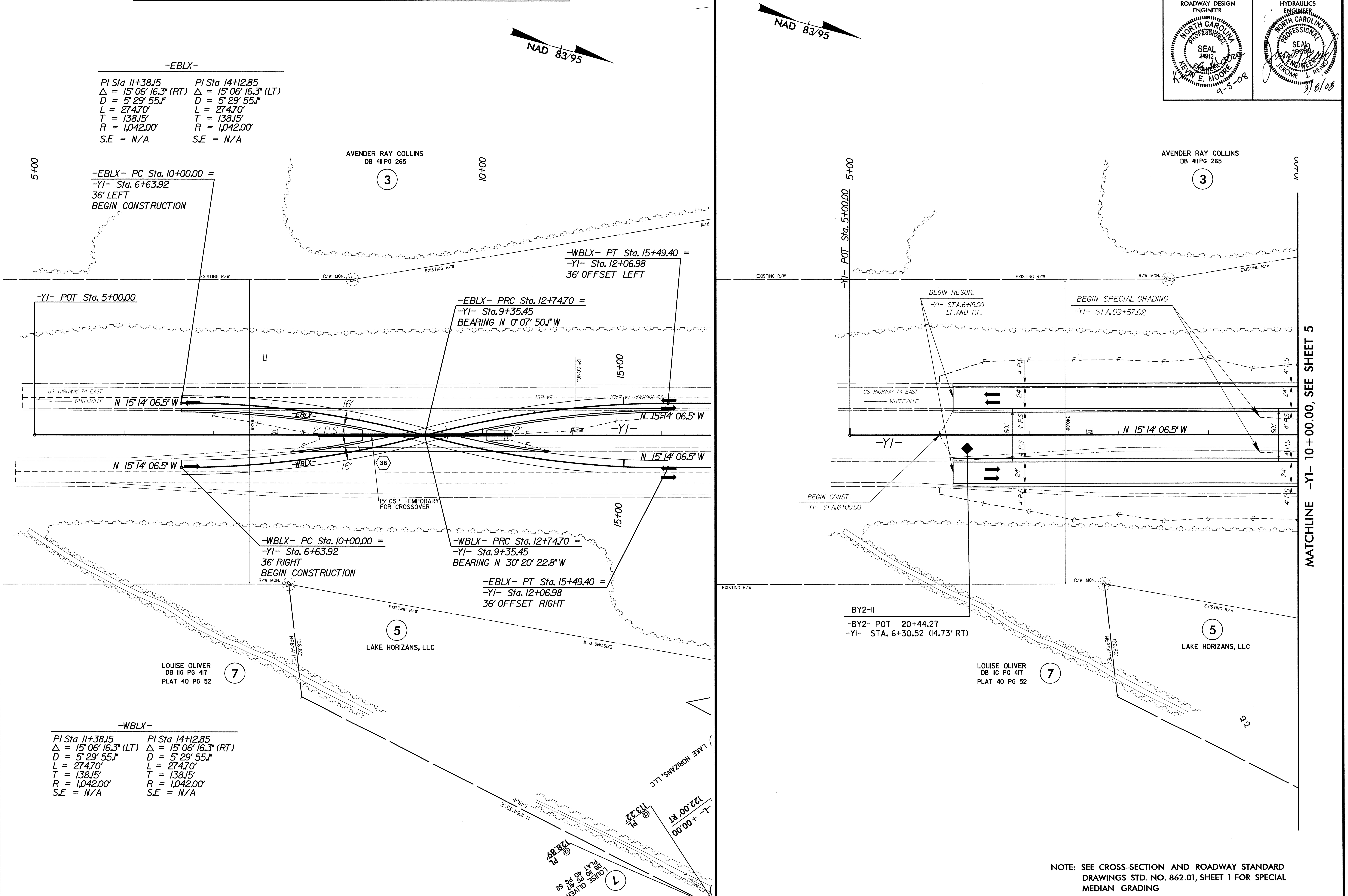
cshelton

US 74 TEMPORARY CROSSOVER FOR BRIDGE CONSTRUCTION (SOUTH)

PROJECT REFERENCE NO.	SHEET NO.
W-4704	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NAD 83/95
-EBLX-
PI Sta 11+38.15
△ = 15° 06' 16.3" (RT)
D = 5° 29' 55.1"
L = 274.70'
T = 138.15'
R = 1,042.00'
S.E = N/A
PI Sta 14+12.85
△ = 15° 06' 16.3" (LT)
D = 5° 29' 55.1"
L = 274.70'
T = 138.15'
R = 1,042.00'
S.E = N/A
AVENDER RAY COLLINS
DB 411 PG 265
-EBLX- PC Sta. 10+00.00 =
-Y1- Sta. 6+63.92
36' LEFT
BEGIN CONSTRUCTION
-WBLX- PT Sta. 15+49.40 =
-Y1- Sta. 12+06.98
36' OFFSET LEFT
-Y1- POT Sta. 5+00.00
-EBLX- PRC Sta. 12+74.70 =
-Y1- Sta. 9+35.45
BEARING N 0° 07' 50.1" W
EXISTING R/W
R/W MON.
US HIGHWAY 74 EAST
WHITEVILLE
N 15° 14' 06.5" W
-Y1-
15' CSP TEMPORARY
FOR CROSSOVER
-WBLX- PC Sta. 10+00.00 =
-Y1- Sta. 6+63.92
36' RIGHT
BEGIN CONSTRUCTION
-WBLX- PRC Sta. 12+74.70 =
-Y1- Sta. 9+35.45
BEARING N 30° 20' 22.8" W
-EBLX- PT Sta. 15+49.40 =
-Y1- Sta. 12+06.98
36' OFFSET RIGHT
LAKE HORIZANS, LLC
LOUISE OLIVER
DB 116 PG 417
PLAT 40 PG 52
-WBLX-
PI Sta 11+38.15
△ = 15° 06' 16.3" (LT)
D = 5° 29' 55.1"
L = 274.70'
T = 138.15'
R = 1,042.00'
S.E = N/A
PI Sta 14+12.85
△ = 15° 06' 16.3" (RT)
D = 5° 29' 55.1"
L = 274.70'
T = 138.15'
R = 1,042.00'
S.E = N/A
-Y1- POT Sta. 5+00.00
BEGIN RESUR.
-Y1- STA.6+15.00
LT. AND RT.
BEGIN SPECIAL GRADING
-Y1- STA.09+57.62
BEGIN CONST.
-Y1- STA.6+00.00
BY2-11
-BY2- POT 20+44.27
-Y1- STA. 6+30.52 (14.73' RT)
MATCHLINE -Y1- 10+00.00, SEE SHEET 5

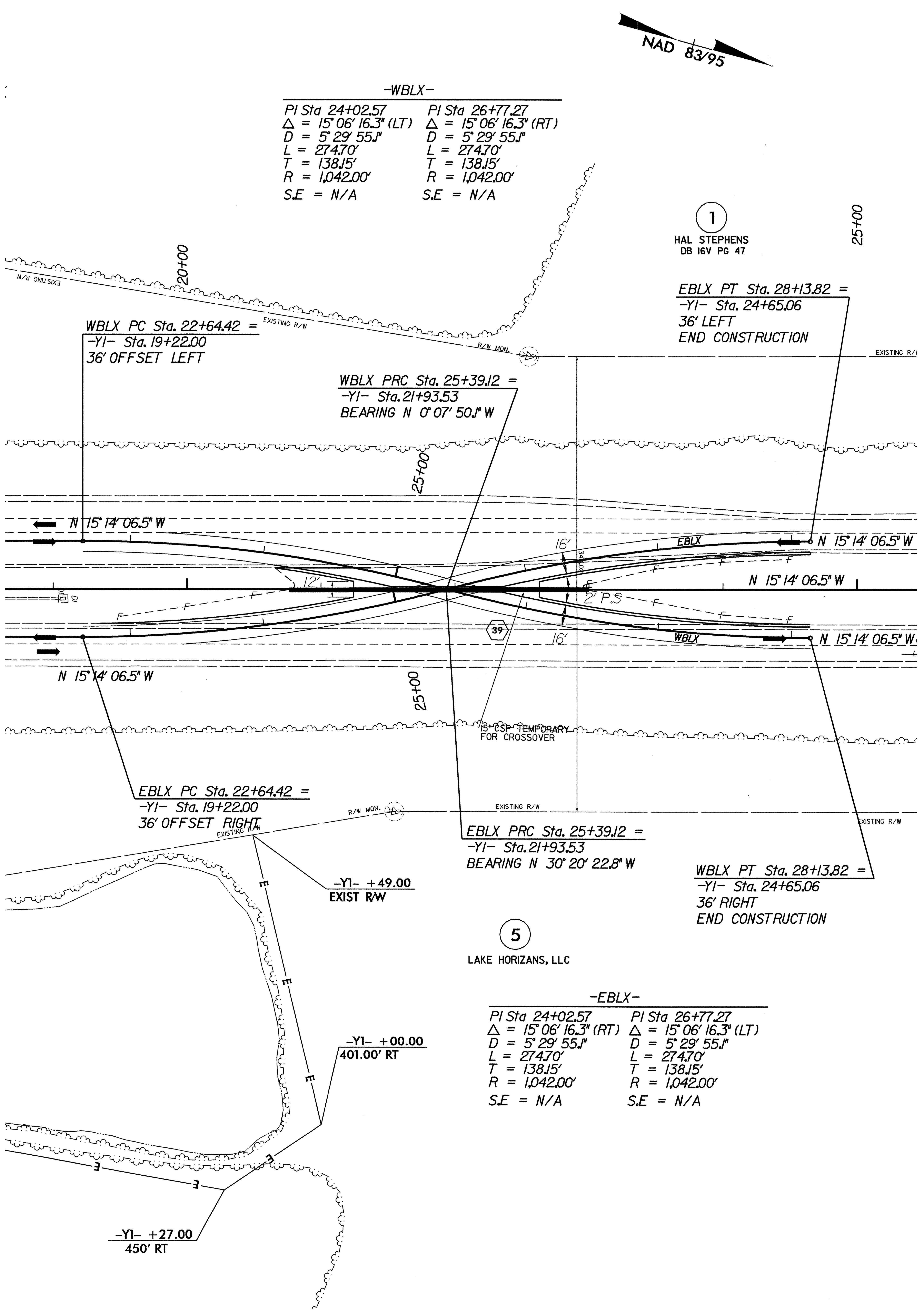
NOTE: SEE CROSS-SECTION AND ROADWAY STANDARD DRAWINGS STD. NO. 862.01, SHEET 1 FOR SPECIAL MEDIAN GRADING

REVISIONS

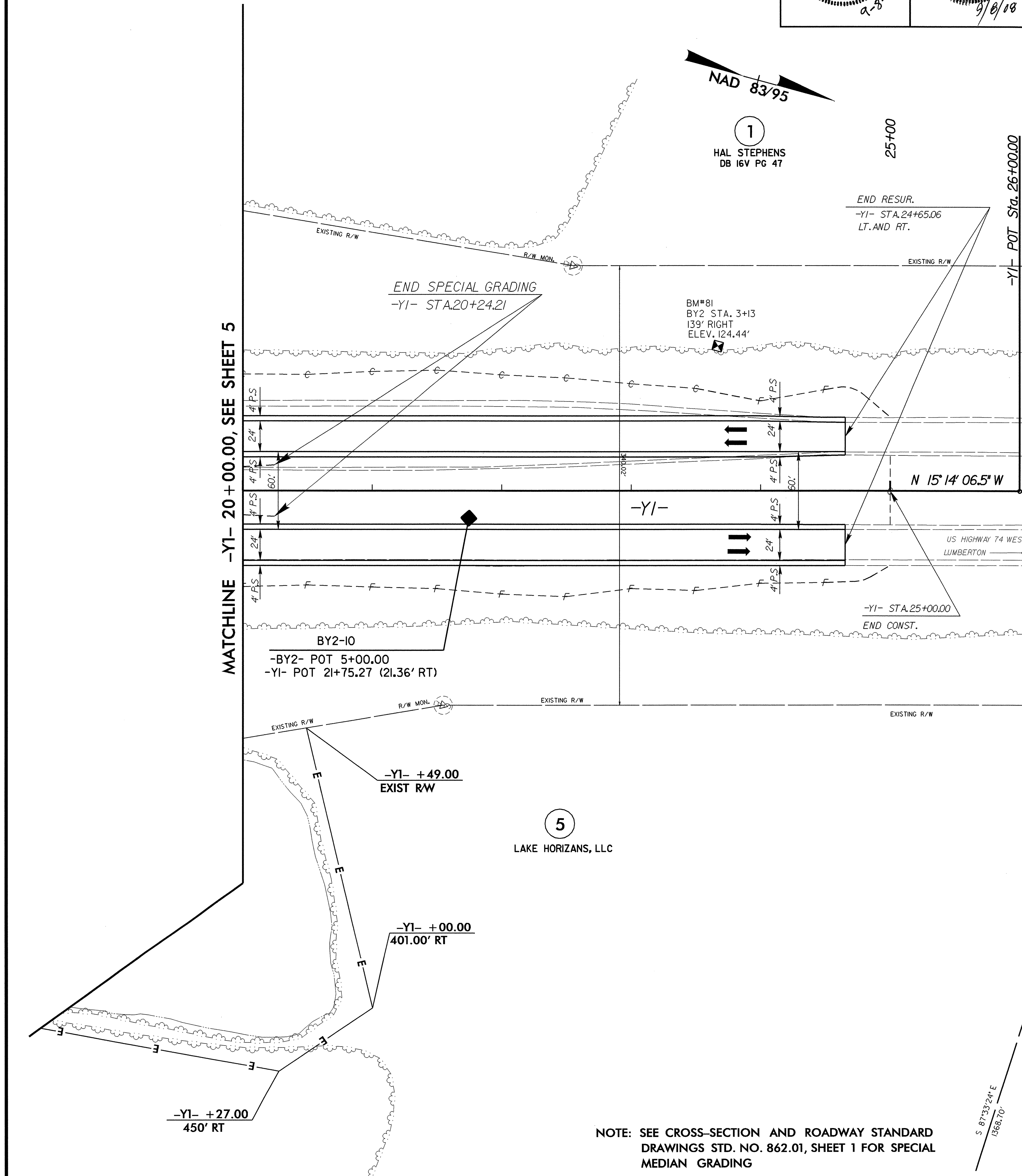
04-SEP-2008 11:09

US 74 TEMPORARY CROSSOVER FOR BRIDGE CONSTRUCTION (NORTH)

PROJECT REFERENCE NO.	SHEET NO.
W-4704	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NAD 83/95
-WBLX-
PI Sta 24+02.57
△ = 15° 06' 16.3" (LT)
D = 5° 29' 55.1"
L = 274.70'
T = 138.15'
R = 1,042.00'
S.E = N/A
PI Sta 26+77.27
△ = 15° 06' 16.3" (RT)
D = 5° 29' 55.1"
L = 274.70'
T = 138.15'
R = 1,042.00'
S.E = N/A
1
HAL STEPHENS
DB 16V PG 47
20+00
25+00
EXISTING R/W
R/W MON.
WBLX PC Sta. 22+64.42 =
-Y1- Sta. 19+22.00
36' OFFSET LEFT
EBLX PT Sta. 28+13.82 =
-Y1- Sta. 24+65.06
36' LEFT
END CONSTRUCTION
WBLX PRC Sta. 25+39.12 =
-Y1- Sta. 21+93.53
BEARING N 0° 07' 50.1" W
N 15° 14' 06.5" W
EBLX
WBLX
12'
16'
2' P.S
39
15" CSP TEMPORARY FOR CROSSOVER
EBLX PC Sta. 22+64.42 =
-Y1- Sta. 19+22.00
36' OFFSET RIGHT
EBLX PRC Sta. 25+39.12 =
-Y1- Sta. 21+93.53
BEARING N 30° 20' 22.8" W
WBLX PT Sta. 28+13.82 =
-Y1- Sta. 24+65.06
36' RIGHT
END CONSTRUCTION
-Y1- +49.00
EXIST R/W
5
LAKE HORIZANS, LLC
-Y1- +00.00
401.00' RT
-Y1- +27.00
450' RT
-EBLX-
PI Sta 24+02.57
△ = 15° 06' 16.3" (RT)
D = 5° 29' 55.1"
L = 274.70'
T = 138.15'
R = 1,042.00'
S.E = N/A
PI Sta 26+77.27
△ = 15° 06' 16.3" (LT)
D = 5° 29' 55.1"
L = 274.70'
T = 138.15'
R = 1,042.00'
S.E = N/A



NAD 83/95
MATCHLINE -Y1- 20+00.00, SEE SHEET 5
1
HAL STEPHENS
DB 16V PG 47
25+00
-Y1- POT Sta. 26+00.00
END RESUR.
-Y1- STA.24+65.06
LT. AND RT.
EXISTING R/W
R/W MON.
END SPECIAL GRADING
-Y1- STA.20+24.21
BM#81
BY2 STA. 3+13
139' RIGHT
ELEV. 124.44'
4' P.S
24'
60'
50'
N 15° 14' 06.5" W
-Y1-
US HIGHWAY 74 WEST
LUMBERTON
-Y1- STA.25+00.00
END CONST.
BY2-10
-BY2- POT 5+00.00
-Y1- POT 21+75.27 (21.36' RT)
-Y1- +49.00
EXIST R/W
5
LAKE HORIZANS, LLC
-Y1- +00.00
401.00' RT
-Y1- +27.00
450' RT
S 87°33'24" E
1368.70'

NOTE: SEE CROSS-SECTION AND ROADWAY STANDARD DRAWINGS STD. NO. 862.01, SHEET 1 FOR SPECIAL MEDIAN GRADING

REVISIONS

5/14/99

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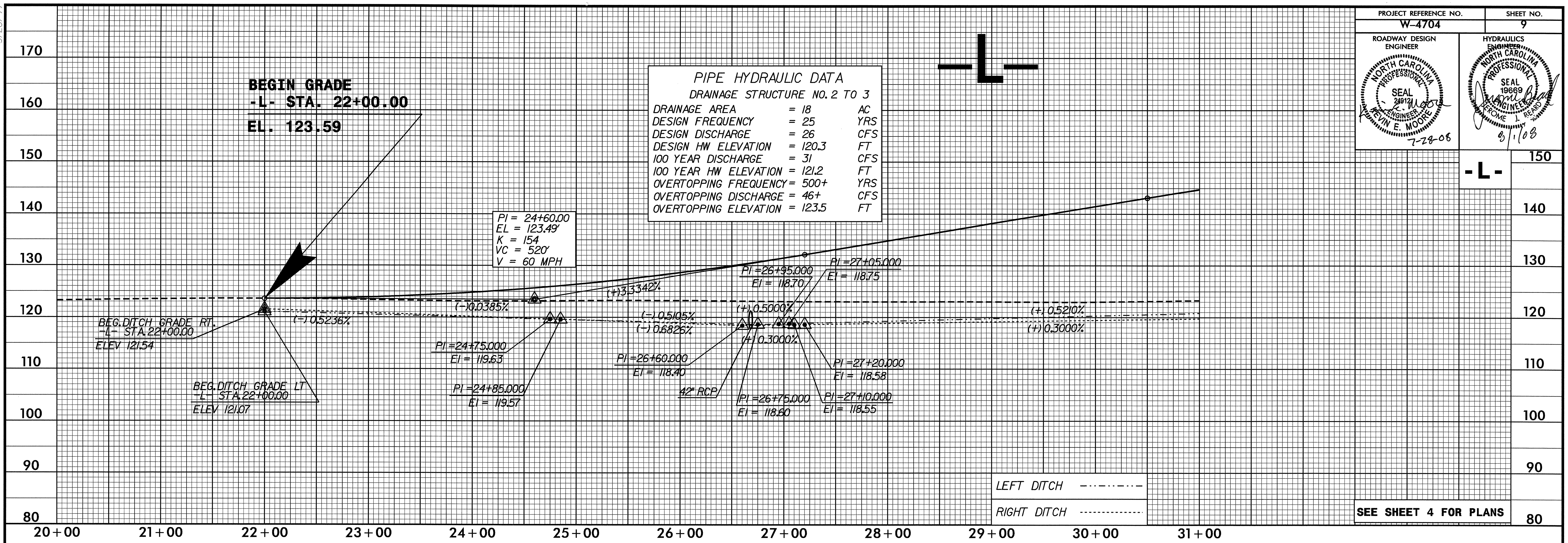
PROJECT REFERENCE NO.	SHEET NO.
W-4704	9

ROADWAY DESIGN ENGINEER — SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER, SEAL 24912, KEVIN E. MOORE, 7-28-08

HYDRAULICS ENGINEER — SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER, SEAL 19669, JEROME J. BEARD, 8/1/08

-L-

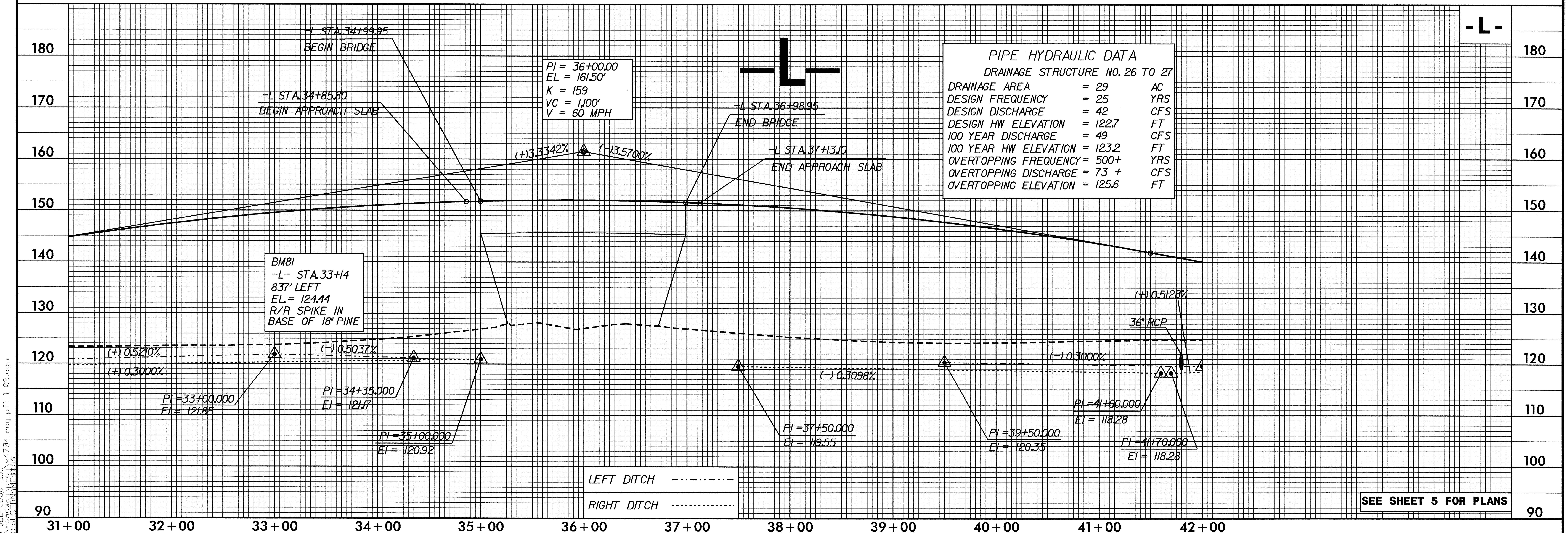


PIPE HYDRAULIC DATA

DRAINAGE STRUCTURE NO. 2 TO 3

DRAINAGE AREA	= 18	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 26	CFS
DESIGN HW ELEVATION	= 120.3	FT
100 YEAR DISCHARGE	= 31	CFS
100 YEAR HW ELEVATION	= 121.2	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 46+	CFS
OVERTOPPING ELEVATION	= 123.5	FT

-L-



PIPE HYDRAULIC DATA

DRAINAGE STRUCTURE NO. 26 TO 27

DRAINAGE AREA	= 29	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 42	CFS
DESIGN HW ELEVATION	= 122.7	FT
100 YEAR DISCHARGE	= 49	CFS
100 YEAR HW ELEVATION	= 123.2	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 73 +	CFS
OVERTOPPING ELEVATION	= 125.6	FT

5/28/99

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PROJECT REFERENCE NO.	SHEET NO.
W-4704	10

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 24912 ENGINEER KEVIN E. MOORE 7-28-08	NORTH CAROLINA PROFESSIONAL SEAL 19669 ENGINEER JEROME J. 8/1/08

-L-
END GRADE
-L- STA. 49+00.00
EL. 122.78
PI = 46+65.00
EL = 123.48'
K = 144
VC = 470'
V = 60 MPH
(-)3.5700%
(-)0.2979%
(+) 0.3040%
(+) 0.5128%
(-) 0.1152%
(-) 0.4825%
PI =42+00.000
El = 119.60
PI =45+60.000
El = 120.28
PI =45+70.000
El = 120.28
PI =45+85.000
El = 120.74
PI =45+75.000
El = 120.74
END.DITCH GRADE
-L- STA.49+00.00
ELEV 119.22
END.DITCH GRADE
-L- STA.49+00.00
ELEV 119.90
LEFT DITCH
RIGHT DITCH
170
160
150
140
130
120
110
100
90
80
42+00
43+00
44+00
45+00
46+00
47+00
48+00
49+00
50+00
51+00
52+00
53+00
-L-
SEE SHEET 6 FOR PLANS

5/28/99

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