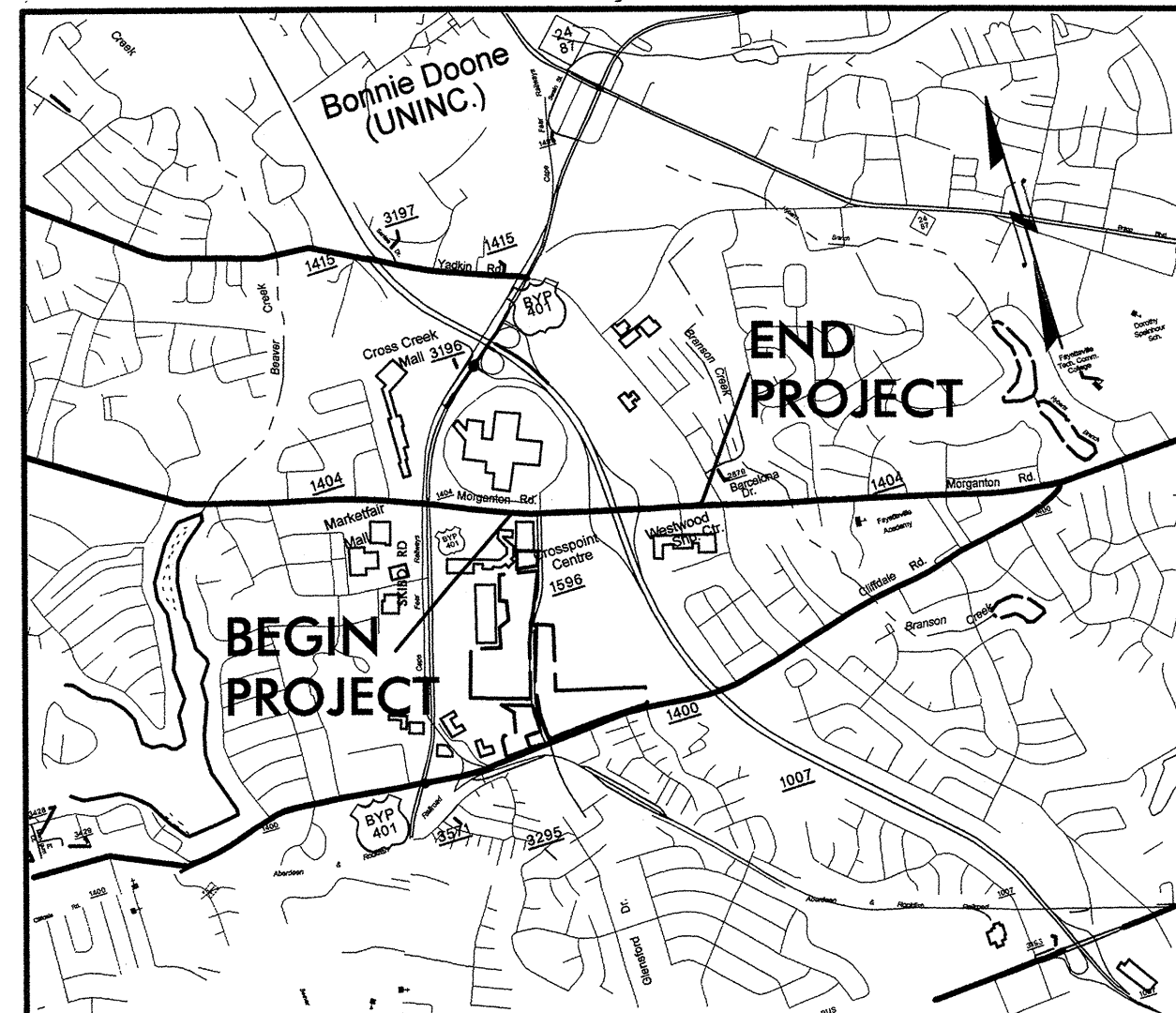


See Sheet 1-A For Index of Sheets  
See Sheet 1-B For Conventional Symbols



VICINITY MAP

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**CUMBERLAND COUNTY**

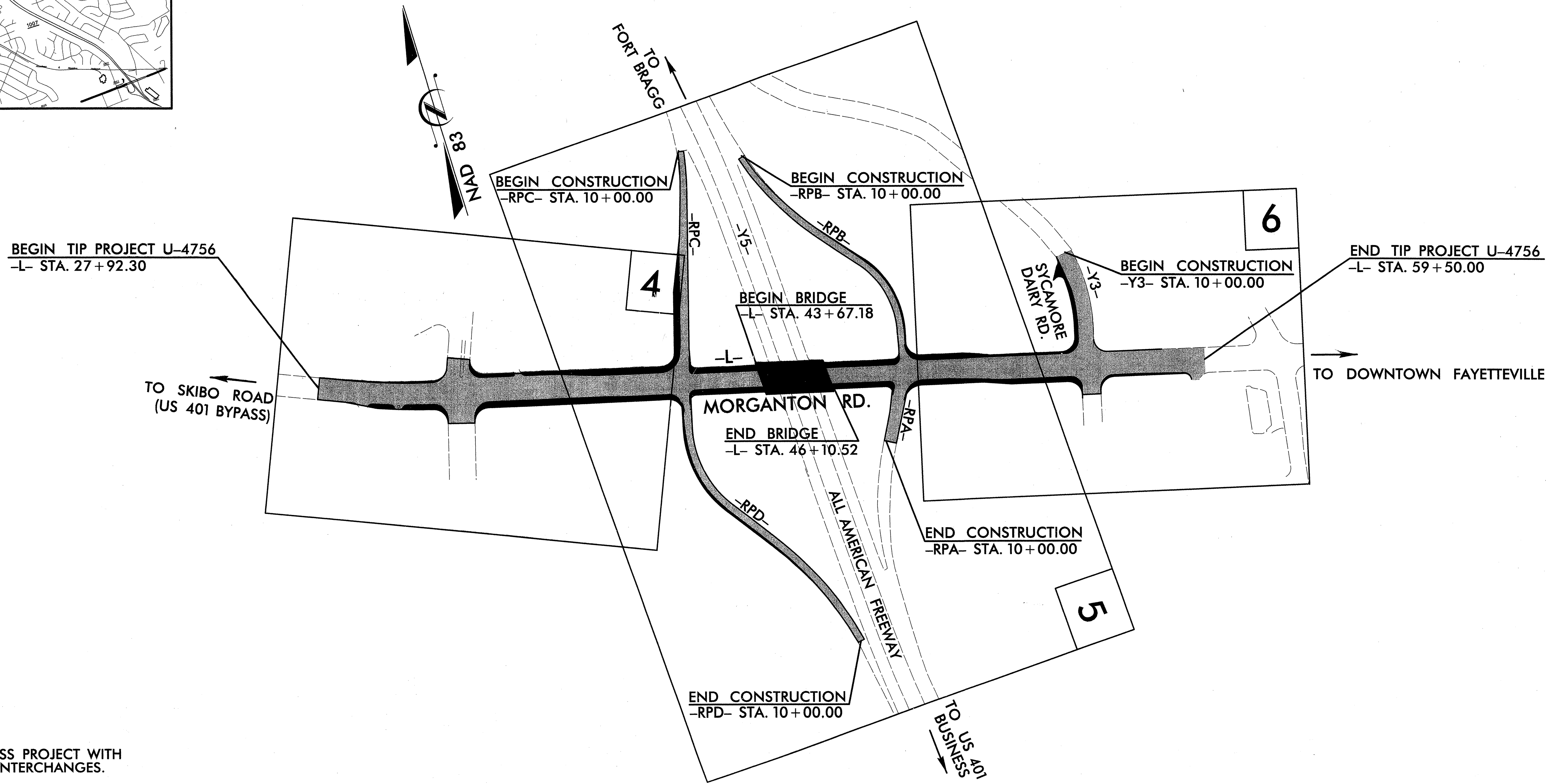
**LOCATION: SR 1404 (MORGANTON ROAD) FROM SYCAMORE DAIRY ROAD TO GLENSFORD ROAD**

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

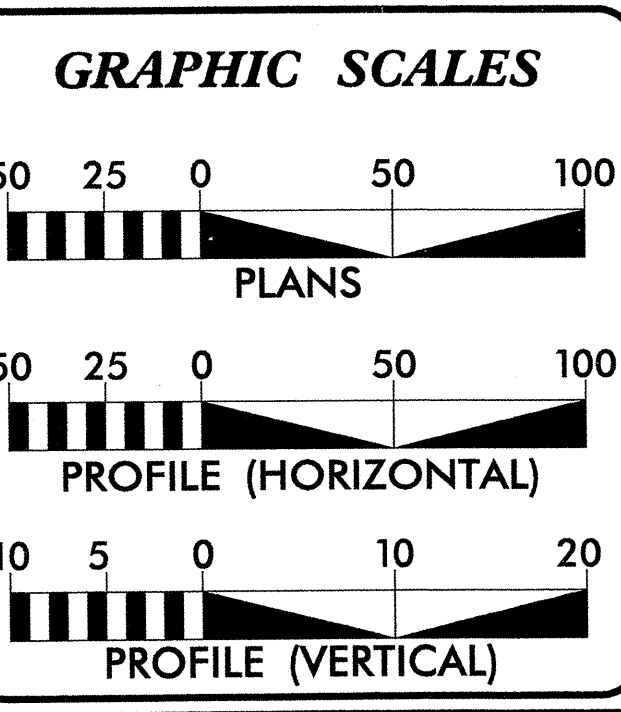
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4756	1	
WBS NO.	F.A. PROJ. NO.	DESCRIPTION	
39750.1.1	STP-1404(9)	P.E.	
39750.2.1	STP-1404(9)	RW, UTL	
39750.3.1	STP-1404(9)	CONST	

**TIP PROJECT: U-4756**

**CONTRACT: C202135**



THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.



**DESIGN DATA**

ADT 2009 =	25,900
ADT 2029 =	52,000
DHV =	9 %
D =	60 %
T =	3 % *
V =	40 MPH
(* TTST 2 % + DUAL 1 %)	
FUNC. CLASS:	URBAN ARTERIAL

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT U-4756	=	0.552 MILES
LENGTH STRUCTURE TIP PROJECT U-4756	=	0.046 MILES
TOTAL LENGTH TIP PROJECT U-4756	=	0.598 MILES

Prepared In the Office of:

**MULKEY**  
ENGINEERS & CONSULTANTS  
FOR  
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2006 STANDARD SPECIFICATIONS

**RIGHT OF WAY DATE:**  
FEBRUARY 16, 2007

**LETTING DATE:**  
AUGUST 19, 2008

NCDOT CONTACTS: TRACEY PITTMAN, PE  
MIKE SUMMERS, PE

**TIM JORDAN, PE**  
PROJECT ENGINEER

**DAVID BOCKER, PE**  
HYDRAULICS ENGINEER

**HYDRAULICS ENGINEER**

SEAL 029984

SIGNATURE: [Signature] P.E. 5/1/08

**ROADWAY DESIGN**

SEAL 21102

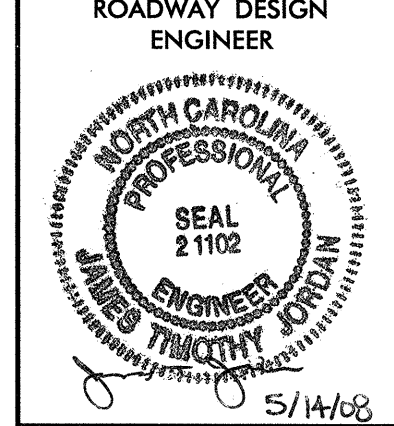
SIGNATURE: [Signature] P.E. 5/1/08

**DIVISION OF HIGHWAYS**  
STATE OF NORTH CAROLINA

**STATE HIGHWAY DESIGN ENGINEER**

[Signature] P.E.

5/1/2008  
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10:05:06 AM



8/17/99

5/14/2008 11:53:00 AM NP-roj\U-4756-RDY\_TSH.dgn

INDEX OF SHEETS

Sheet #	Description
1	Title Sheet
1-A	Index of Sheets, General Notes, and List of Standards
1-B	Conventional Symbols
1-C	Survey Control Sheet
2	Pavement Schedule, Detail for Median Bridge Approach and Wedging Detail
2-A thru 2-E	Typical Sections
2-F	Detail of Anchorage for Frames
2-G	Detail of Convert CB or DI to JB with Manhole Cover
2-H	Detail of Special Junction Box
3	Summary of Quantities
3-A	Guardrail Summary, Summary of Earthwork in Cubic Yards, Summary of Pavement Removal
3-B thru 3-C	List of Pipe, Endwalls, Etc. (For Pipes 48" & Under)
3-D	List of Pipe, Endwalls, Etc. (For Pipes 54" & Over)
3-E	Parcel Index Sheet
4 thru 6	Plan
7 thru 10	Profile
TCP-1 thru TCP-16	Traffic Control Plans
PM-1 thru PM-4	Pavement Marking Plans
EC-1 thru EC-6	Erosion Control Plans
SIGN-1 thru SIGN-13	Signing Plans
SIG-1 thru SIG-14	Signal Plans
TMS-1 thru TMS-12	Cable Routing Plans
UC-1 thru UC-4	Utility Construction Plans
UO-1 thru UO-3	Utilities by Others Plans
X-1	Cross-Section Summary Sheet
X-2 thru X-27	Cross-Sections
W-1 thru W-5	Retaining Wall Plans
S-1 thru S-39	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.

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.

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.

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:  
Fayetteville PWC - Electric Division  
Fayetteville PWC - Water Resources  
Embarq, 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.

2006 ROADWAY 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
225.02	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 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	
610.01	Guide for Paving Shoulders Under Bridges - Method I
610.03	Guide for Paving Shoulders Under Bridges - Method III
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
838.27	Reinforced Concrete Endwall - for Single 60" Pipe 90 Skew
838.34	Reinforced Concrete Endwall - for Double and Triple 66" Pipes 90 Skew
838.45	Notes for Reinforced Concrete Endwall - Std. Dwg 838.21 thru 838.40
838.57	Reinforced Brick Endwall - for Single 60" Pipe 90 Skew
838.64	Reinforced Brick Endwall - for Double and Triple 66" Pipes 90 Skew
838.75	Notes for Reinforced Brick Endwall - Std. Dwg 838.51 thru 838.70
838.80	Precast Endwalls - 12" thru 72" Pipe 90 Skew
840.00	Concrete Base Pad for Drainage Structures
840.01	Brick Catch Basin - 12" thru 54" Pipe
840.02	Concrete Catch Basin - 12" thru 54" Pipe
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.15	Brick Drop Inlet - 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.36	Traffic Bearing Grated Drop Inlet - for Steel (840.37) Double Frame and Grates
840.37	Steel Grate and Frame
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
840.71	Concrete and Brick Pipe Plug
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
848.01	Concrete Sidewalk
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
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
866.01	Chain Link Fence - 4', 5' and 6' High Fence
866.03	Woven Wire Fence - with Steel Post
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets

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

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	○
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	--- W
Proposed Lateral, Tail, Head Ditch	--- FLW
False Sump	◇

**RAILROADS:**

Standard Gauge	_____
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	○
Proposed Right of Way Line with Iron Pin and Cap Marker	○
Proposed Right of Way Line with Concrete or Granite Marker	○
Existing Control of Access	○
Proposed Control of Access	○
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	○
Curb Cut for Future Wheel Chair Ramp	○
Existing Metal Guardrail	—
Proposed Guardrail	—
Existing Cable Guiderail	—
Proposed Cable Guiderail	—
Equality Symbol	⊕
Pavement Removal	□

**VEGETATION:**

Single Tree	○
Single Shrub	○
Hedge	—
Woods Line	—
Orchard	○
Vineyard	□ Vineyard

**EXISTING STRUCTURES:**

MAJOR:	
Bridge, Tunnel or Box Culvert	_____
Bridge Wing Wall, Head Wall and End Wall	_____
MINOR:	
Head and End Wall	_____
Pipe Culvert	_____
Footbridge	_____
Drainage Box: Catch Basin, DI or JB	□ CB
Paved Ditch Gutter	_____
Storm Sewer Manhole	○
Storm Sewer	—

**UTILITIES:**

POWER:	
Existing Power Pole	○
Proposed Power Pole	○
Existing Joint Use Pole	○
Proposed Joint Use Pole	○
Power Manhole	○
Power Line Tower	□
Power Transformer	□
U/G Power Cable Hand Hole	□
H-Frame Pole	—
Recorded U/G Power Line	—
Designated U/G Power Line (S.U.E.*)	---

**TELEPHONE:**

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

**WATER:**

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

**TV:**

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

**GAS:**

Gas Valve	◇
Gas Meter	◇
Recorded U/G Gas Line	—
Designated U/G Gas Line (S.U.E.*)	---
Above Ground Gas Line	— A/G Gas

**SANITARY SEWER:**

Sanitary Sewer Manhole	○
Sanitary Sewer Cleanout	○
U/G Sanitary Sewer Line	—
Above Ground Sanitary Sewer	— A/G Sanitary Sewer
Recorded SS Forced Main Line	—
Designated SS Forced Main Line (S.U.E.*)	---

**MISCELLANEOUS:**

Utility Pole	○
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	□
Utility Unknown U/G Line	—
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.

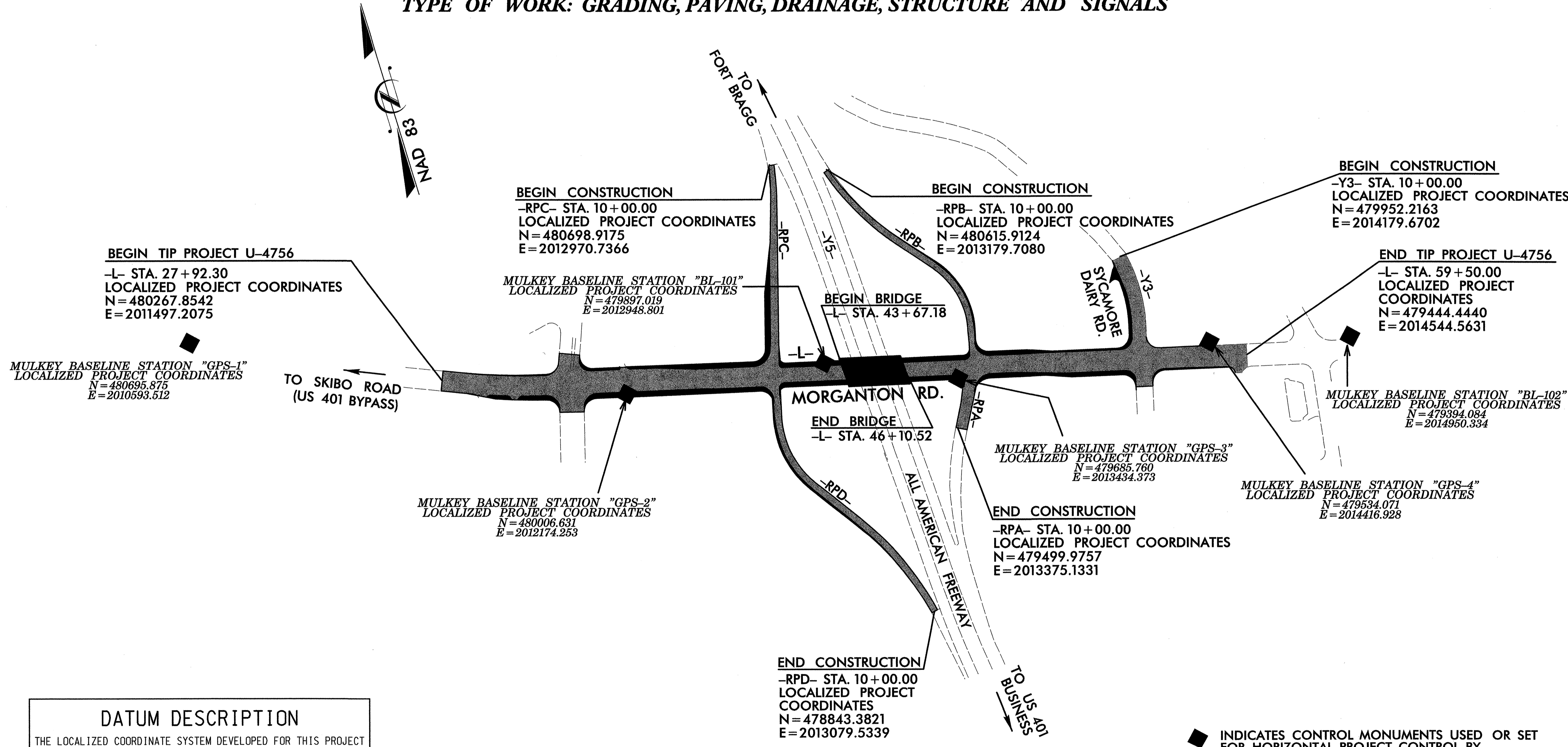
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**CUMBERLAND COUNTY**

**LOCATION: SR 1404 (MORGANTON ROAD) FROM SYCAMORE DAIRY ROAD TO GLENSFORD ROAD**

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4756	1-C	
WBS NO.	F.A. PROJ. NO.	DESCRIPTION	
39750.1.1	STP-1404(9)	P.E.	
39750.2.1	STP-1404(9)	R/W, UTL	
39750.3.1	STP-1404(9)	CONST	



**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY OTHERS FOR MONUMENT "U-4756-3"  
 WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF  
 NORTHING: 479685.760(FT) EASTING: 2013434.373(FT)  
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99987184  
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "U-4756-3" TO -L- STATION IS 27+92.30  
 N 73° 18' 37.52" W 2,021.9637 FT  
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES  
 VERTICAL DATUM USED IS NAVD 88

INDICATES CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY MULKEY, INC

PROJECT CONTROL ESTABLISHED UTILIZING CONVENTIONAL SURVEY

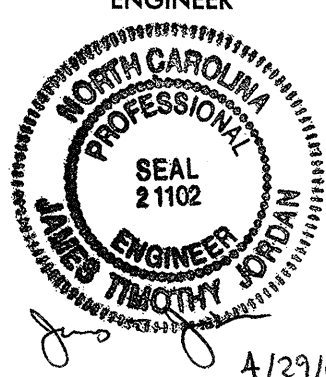
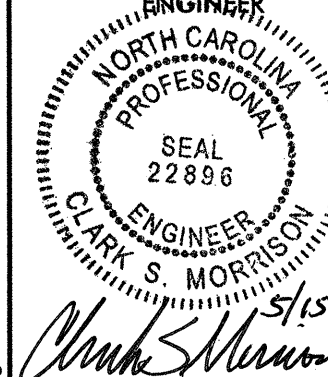
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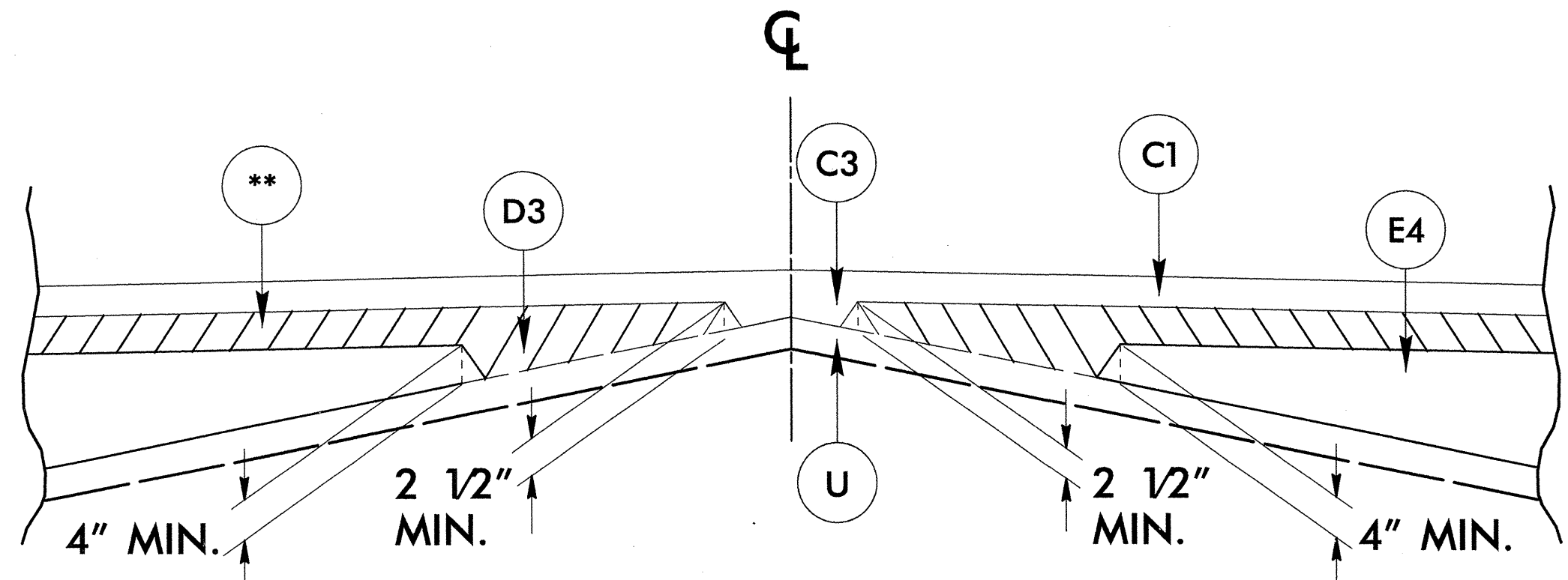
8/17/99

**PAVEMENT SCHEDULE**  
(FINAL PAVEMENT DESIGN)

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1½" IN DEPTH OR GREATER THAN 2" IN DEPTH
D1	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
D2	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D3	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. APPROX. 5½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
E3	PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
E4	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 4" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
R1	2'-6" CONCRETE CURB AND GUTTER
R2	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING (SEE WEDGING DETAIL)

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

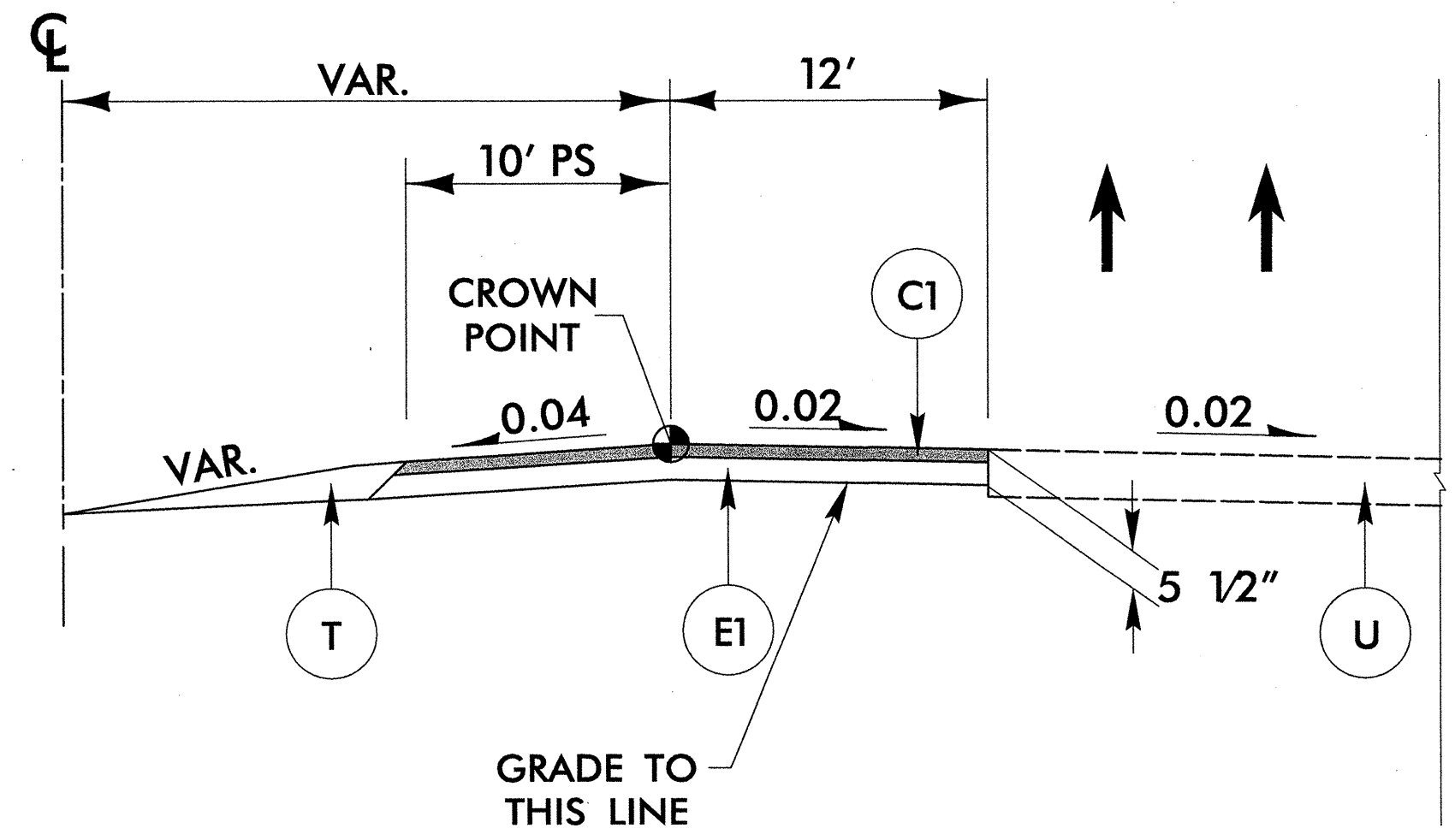
PROJECT REFERENCE NO. U-4756	SHEET NO. 2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 	PAVEMENT DESIGN ENGINEER 
4/29/08	



**DETAIL SHOWING METHOD OF WEDGING 1**

USE IN CONJUNCTION WITH TYPICAL SECTION NOS. 1 THRU 6

- \*\* D1 (-RPA- & -RPD-)
- \*\* D2 (-L- & -Y3-)
- \*\* NO INTERMEDIATE COURSE (-RPB- & -RPC-)



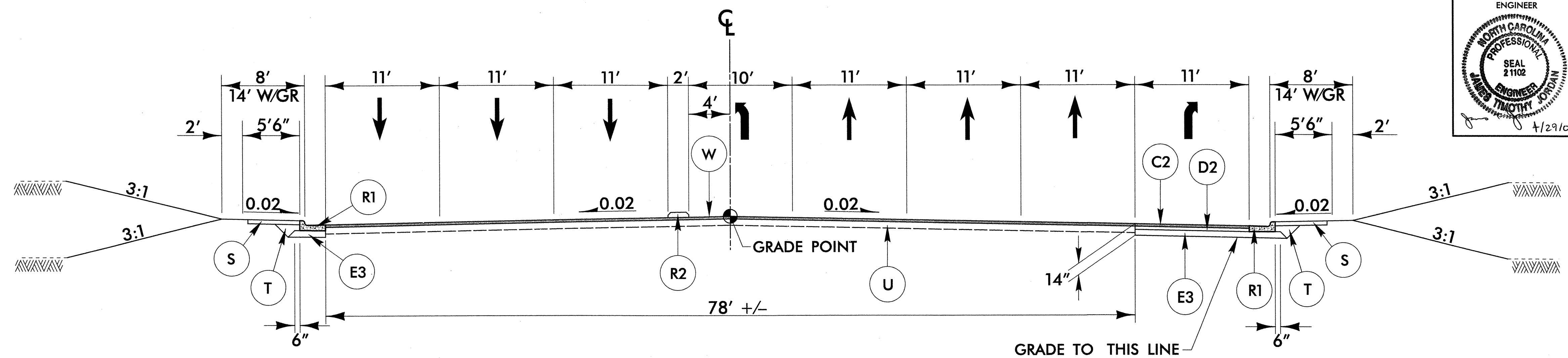
**DETAIL FOR MEDIAN BRIDGE APPROACH**

USE IN CONJUNCTION WITH STD. 862.01 (1 OF 11) AT THE FOLLOWING LOCATIONS  
-Y5- STA. 21+00.00 TO STA. 26+55.00

4/29/2008  
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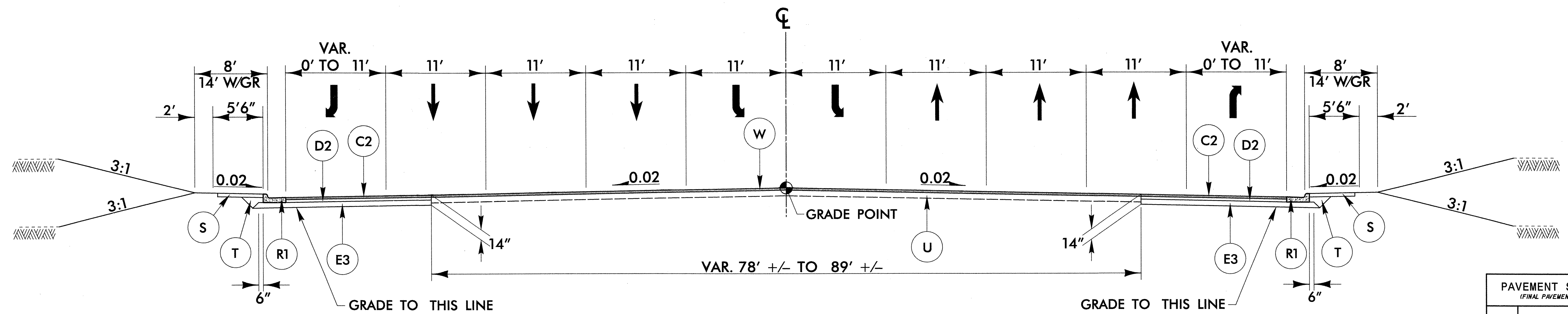
8/17/99

PROJECT REFERENCE NO. U-4756	SHEET NO. 2-A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER TIMOTHY J. JORDAN	PAVEMENT DESIGN ENGINEER CURT S. MORRISON



**TYPICAL SECTION NO. 1**

USE TYPICAL SECTION NO. 1  
AT THE FOLLOWING LOCATIONS  
-L- STA. 28+92.30 TO STA. 29+94.52  
TRANSITION FROM EXISTING TO TYPICAL NO. 1  
-L- STA. 27+92.30 TO STA. 28+92.30

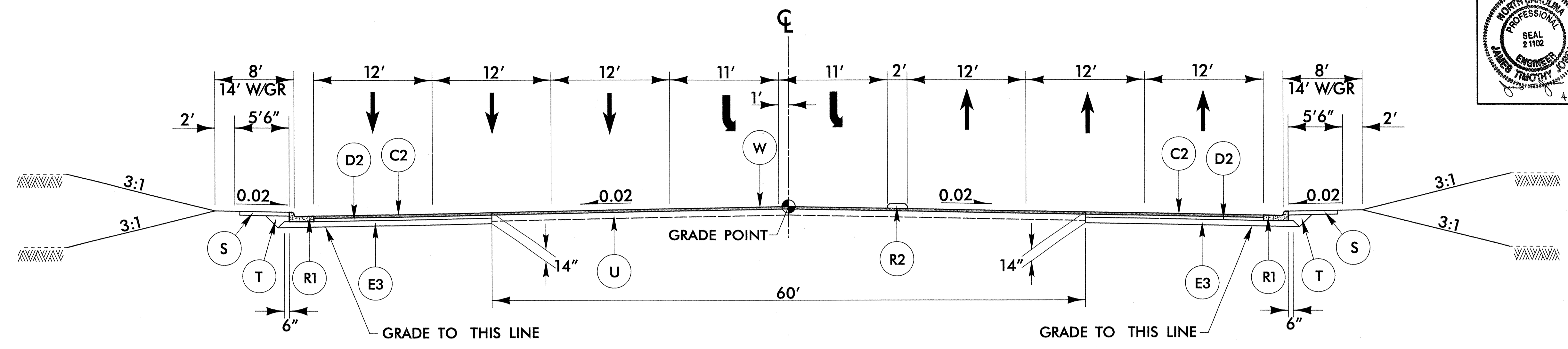


**TYPICAL SECTION NO. 2**

USE TYPICAL SECTION NO. 2  
AT THE FOLLOWING LOCATIONS  
-L- STA. 33+94.52 TO STA. 38+55.59  
-L- STA. 51+01.68 TO STA. 54+59.77  
TRANSITION FROM TYPICAL NO. 1 TO TYPICAL NO. 2  
-L- STA. 29+94.52 TO STA. 33+94.52  
TRANSITION FROM TYPICAL NO. 3 TO TYPICAL NO. 2  
-L- STA. 49+41.68 TO STA. 51+01.68

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C2	3" S9.5C
D2	4" I19.0C
E3	7" B25.0C
R1	2'-6" C & G
R2	CONCRETE ISLAND
S	SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

4/28/2008  
R:\projects\U-4756-RDY-TYP.dgn  
4:22:10 AM



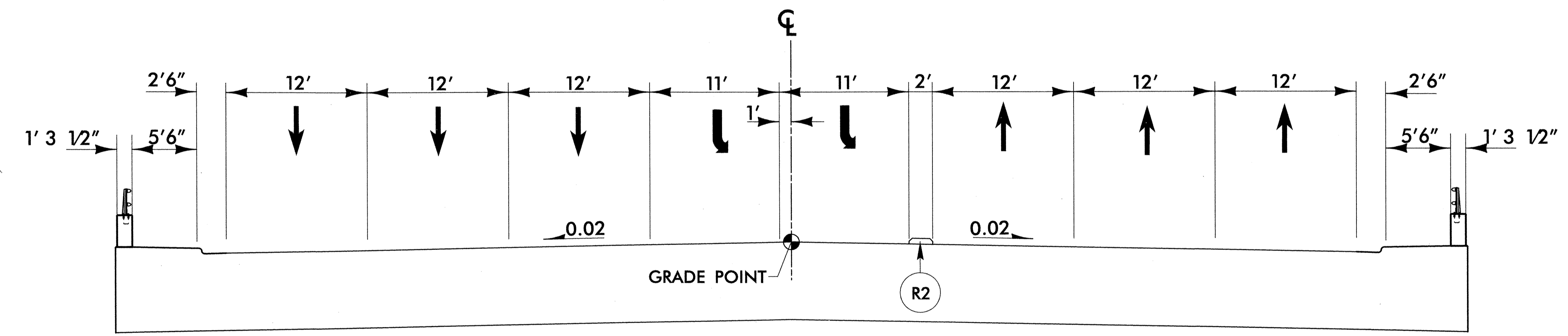
### TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3  
AT THE FOLLOWING LOCATIONS

- L- STA. 40+15.59 TO STA. 43+67.18 (BEGIN BRIDGE)
- L- STA. 46+10.52 (END BRIDGE) TO STA. 49+41.68

TRANSITION FROM TYPICAL NO. 2 TO TYPICAL NO. 3

- L- STA. 38+55.59 TO STA. 40+15.59



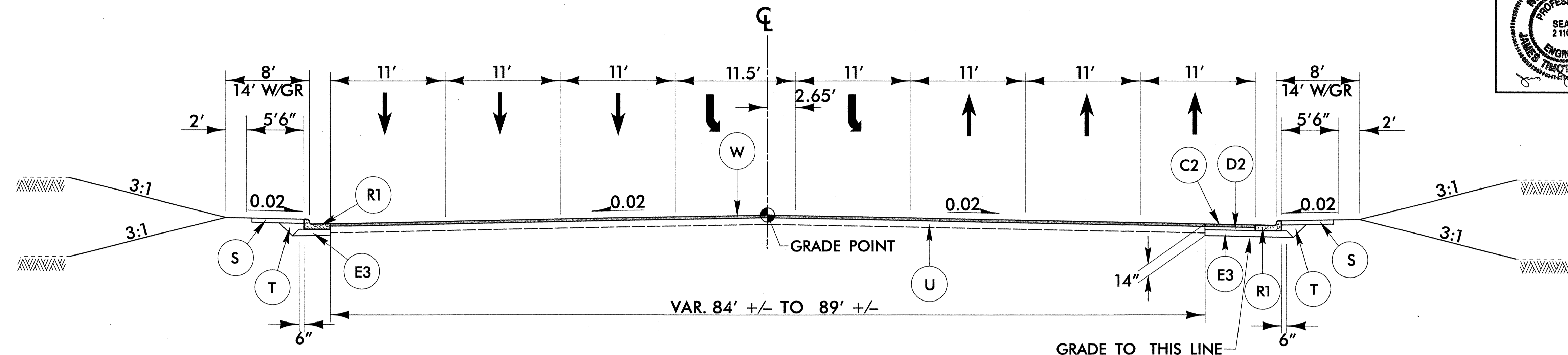
### DETAIL OF BRIDGE

-L- STA 43+67.18 TO STA 46+10.52

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C2	3" S9.5C
D2	4" I19.0C
E3	7" B25.0C
R1	2'-6" C & G
R2	CONCRETE ISLAND
S	SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

8/17/99

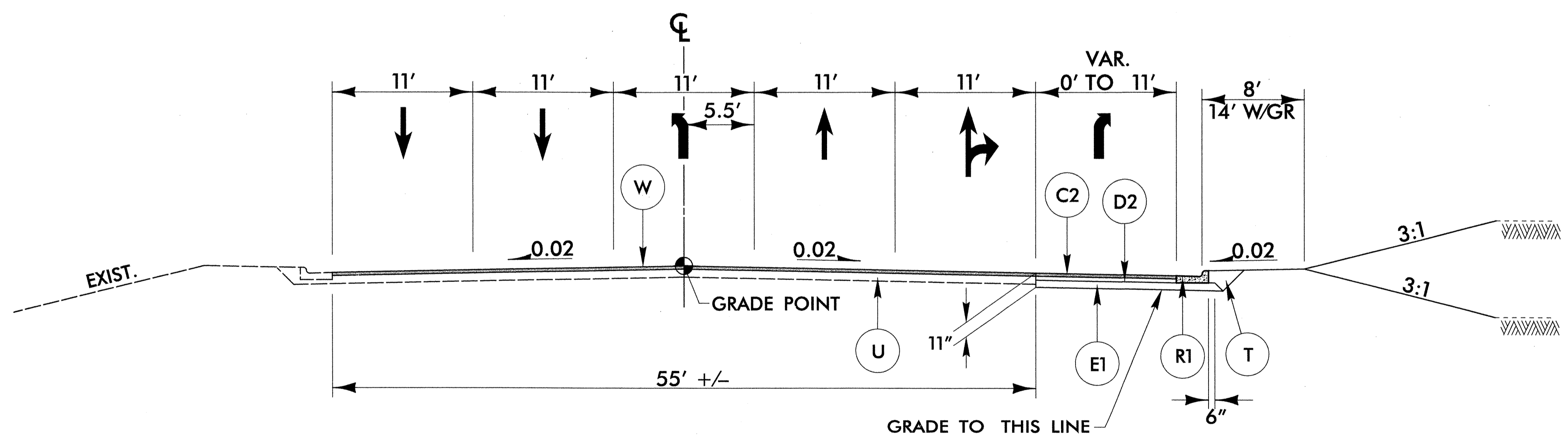
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**TYPICAL SECTION NO. 4**

USE TYPICAL SECTION NO. 4  
AT THE FOLLOWING LOCATIONS

- L- STA. 56+09.77 TO STA. 58+50.00
- TRANSITION FROM TYPICAL NO. 2 TO TYPICAL NO. 5
- L- STA. 54+59.77 TO STA. 56+09.77
- TRANSITION FROM TYPICAL NO. 5 TO EXISTING
- L- STA. 58+50.00 TO STA. 59+50.00




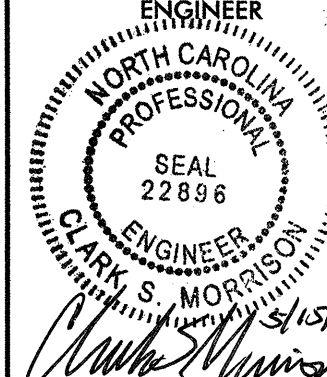
**TYPICAL SECTION NO. 5**

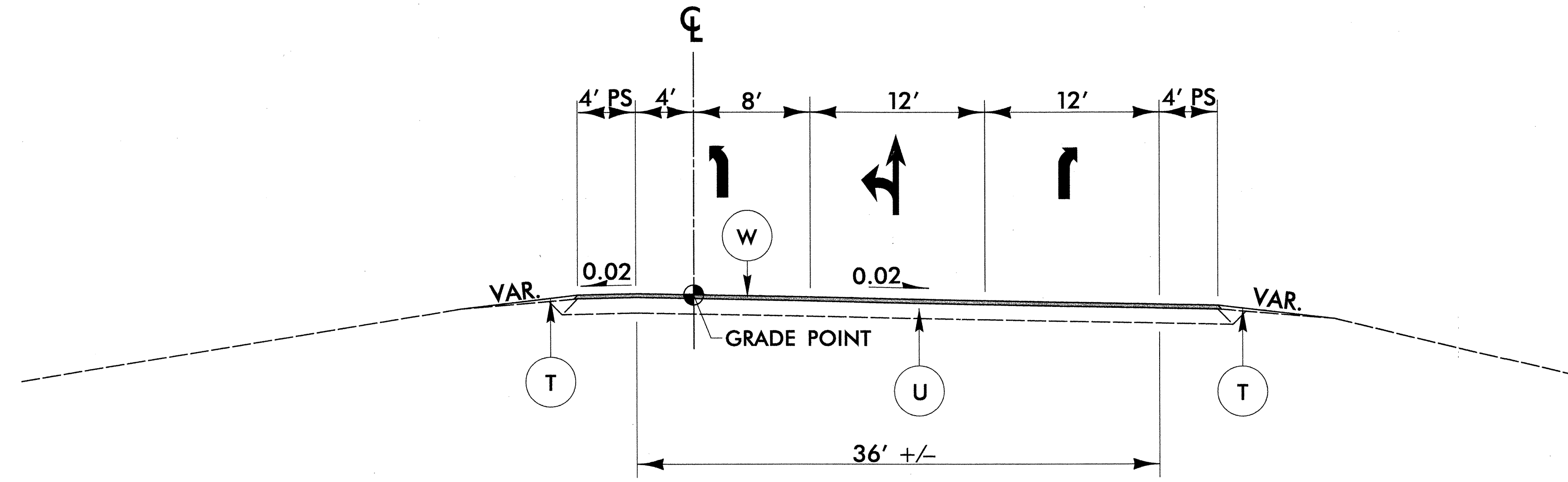
USE TYPICAL SECTION NO. 5  
AT THE FOLLOWING LOCATIONS

- Y3- STA. 13+00.00 TO STA. 13+67.41
- Y3- STA. 10+00.00 TO STA. 13+00.00 (OVERLAY WITH C1)

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	1.5" S9.5C
C2	3" S9.5C
D2	4" I19.0C
E1	4" B25.0C
E3	7" B25.0C
R1	2'-6" C & G
S	SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

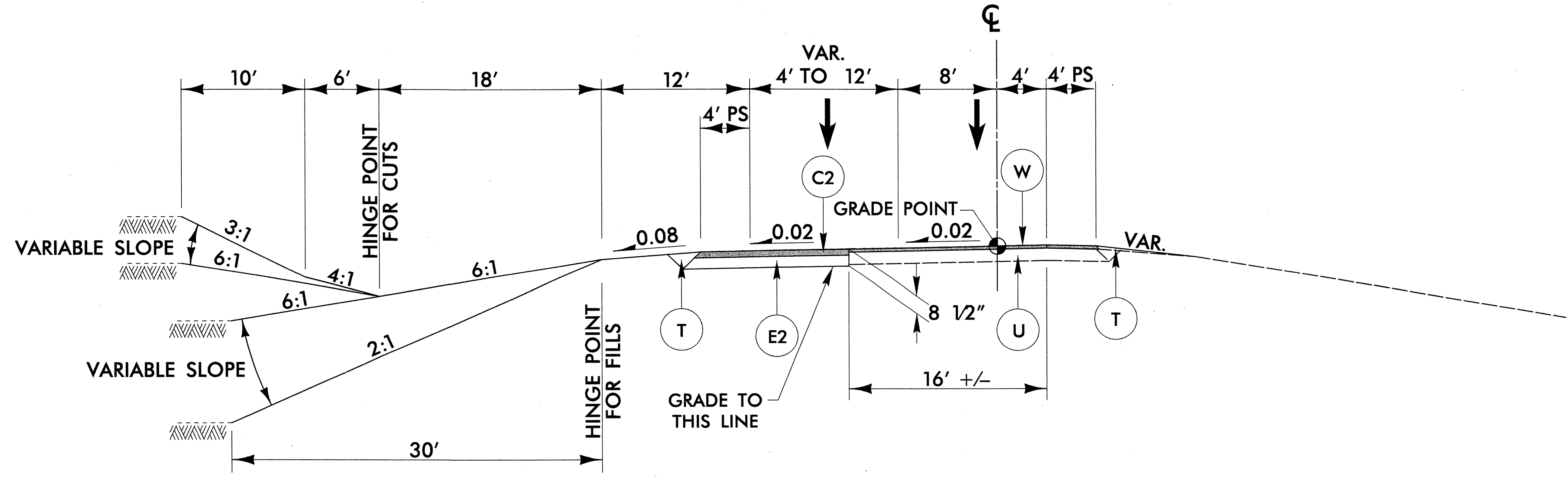


PROJECT REFERENCE NO. U-4756	SHEET NO. 2-D
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 	PAVEMENT DESIGN ENGINEER 
4/29/08	



**TYPICAL SECTION NO. 6**

USE TYPICAL SECTION NO. 6  
AT THE FOLLOWING LOCATIONS  
-RPA- STA. 10+00.00 TO STA. 11+95.94



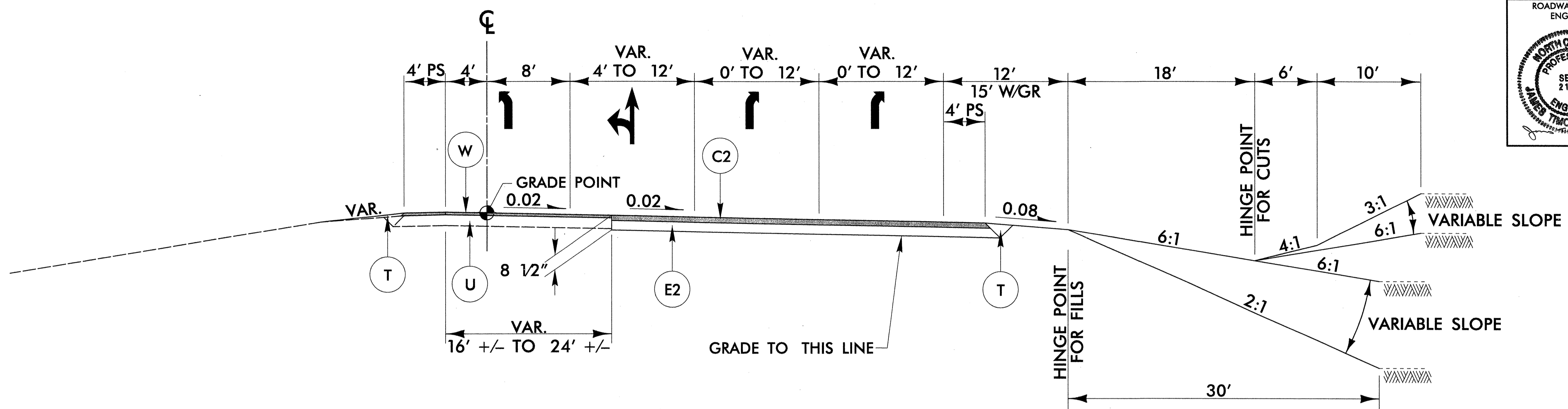
**TYPICAL SECTION NO. 7**

USE TYPICAL SECTION NO. 7  
AT THE FOLLOWING LOCATIONS  
-RPB- STA. 18+50.00 TO STA. 19+47.77  
-RPB- STA. 10+00.00 TO STA. 18+50.00 (OVERLAY WITH C1)

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	1 1/2" S9.5C
C2	3" S9.5C
E2	5 1/2" B25.0C
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

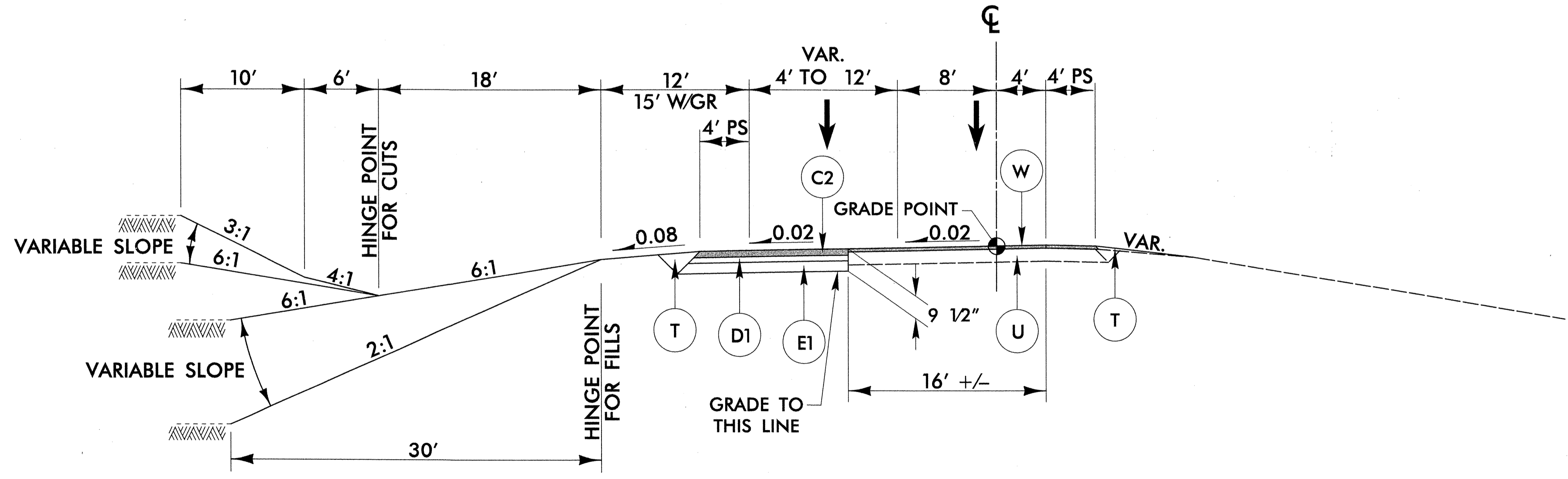
8/17/99

PROJECT REFERENCE NO. U-4756	SHEET NO. 2-E
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
4/23/08	



**TYPICAL SECTION NO. 8**

USE TYPICAL SECTION NO. 8  
AT THE FOLLOWING LOCATIONS  
-RPC- STA. 16+00.00 TO STA. 17+61.75  
-RPC- STA. 10+00.00 TO STA. 16+00.00 (OVERLAY WITH C1)



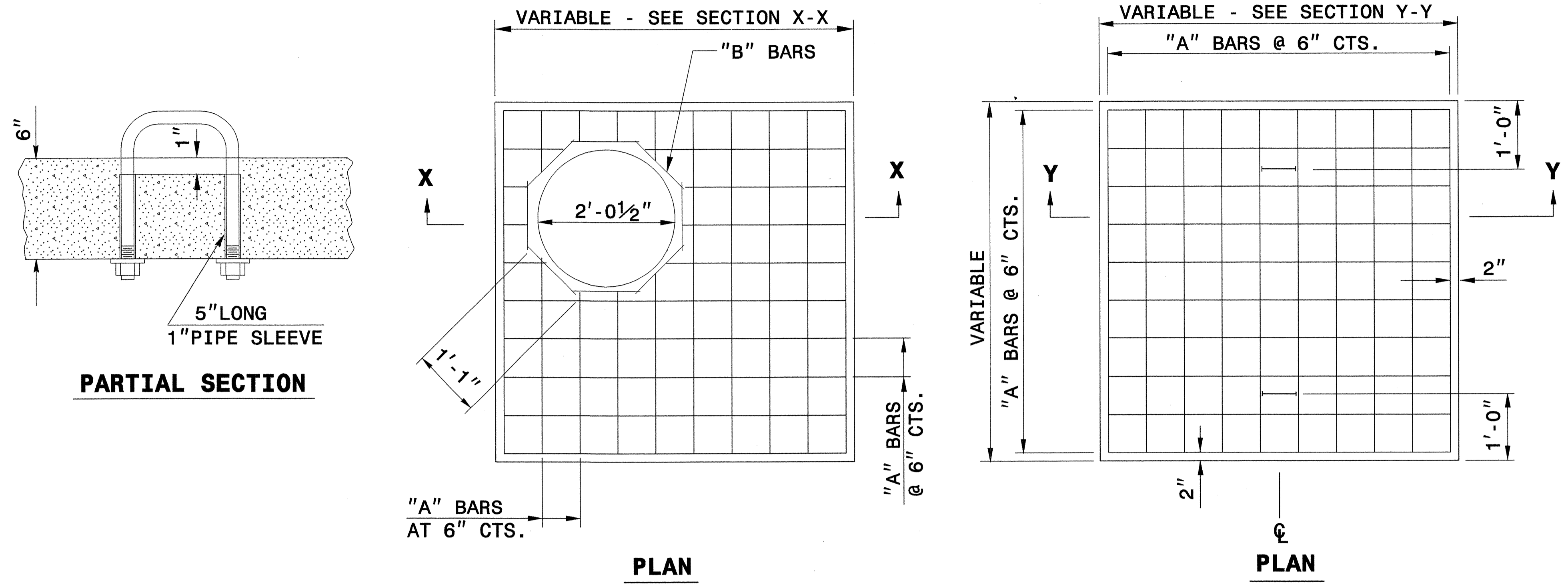
**TYPICAL SECTION NO. 9**

USE TYPICAL SECTION NO. 9  
AT THE FOLLOWING LOCATIONS  
-RPD- STA. 18+50.00 TO STA. 21+00.30  
-RPD- STA. 10+00.00 TO STA. 18+50.00 (OVERLAY WITH C1)

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	1 1/2" S9.5C
C2	3" S9.5C
D1	2 1/2" I19.0C
E1	4" B25.0C
E2	5 1/2" B25.0C
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING

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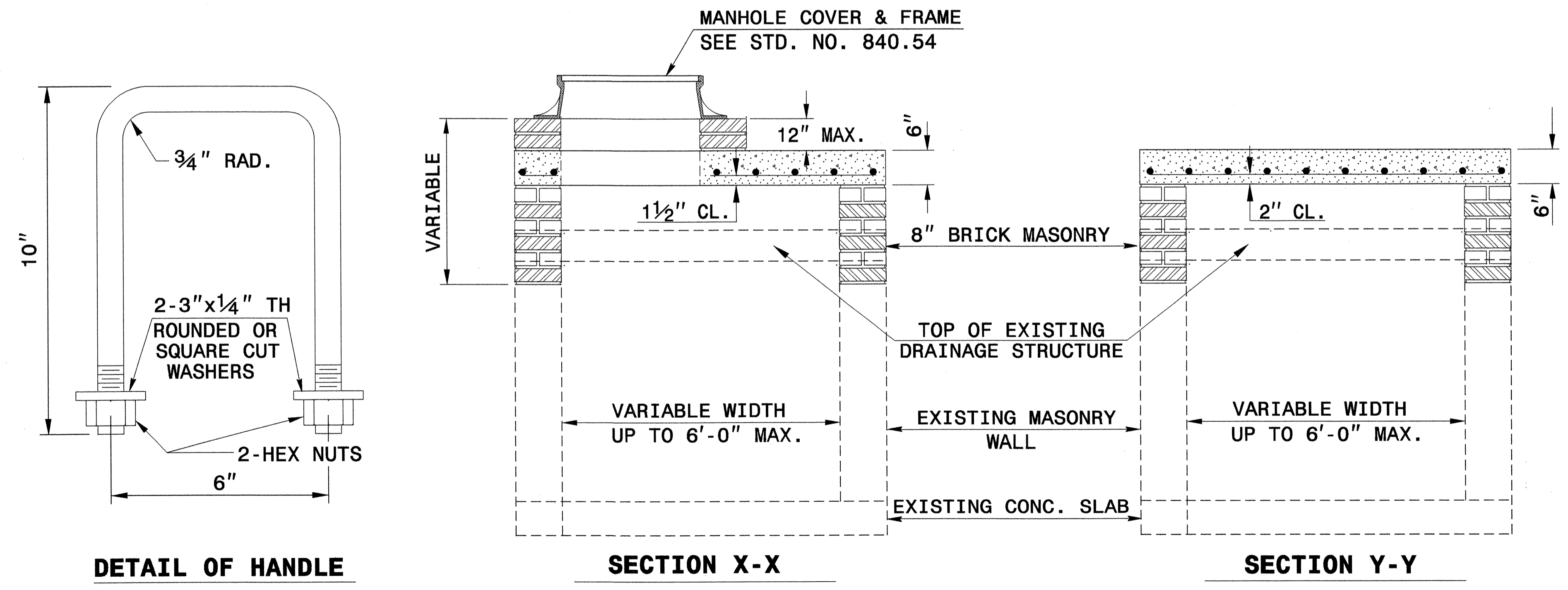


**GENERAL NOTES:**

CONSTRUCT IN ACCORDANCE WITH SECTION 859 OF THE STANDARD SPECIFICATIONS.

FIELD VERIFY THE DIMENSIONS FOR THE EXISTING BOXES

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"				.433 *
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.

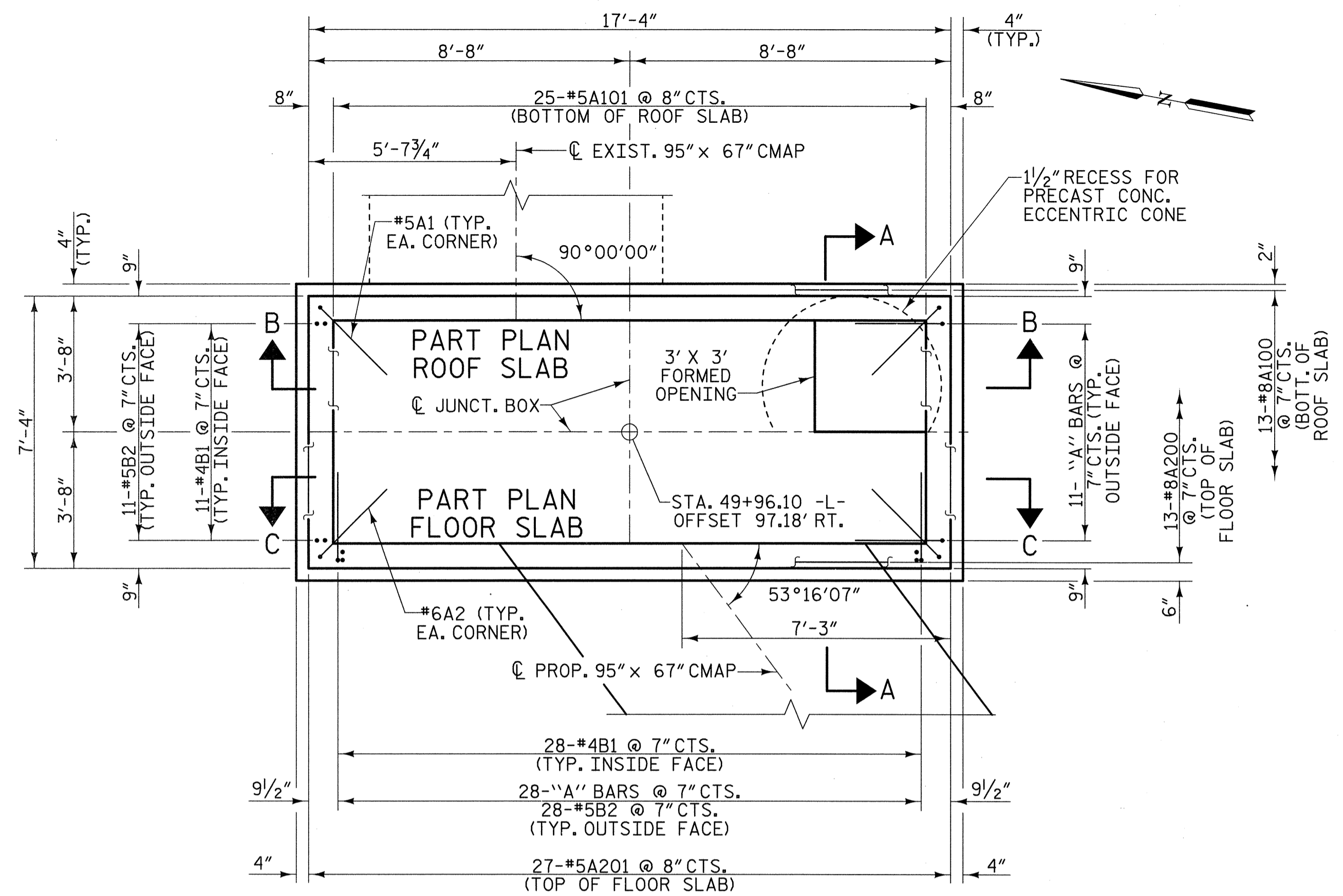


**PROJECT SERVICES UNIT  
 STANDARDS AND SPECIAL DESIGN**  
 Office 919-250-4128 FAX 919-250-4119

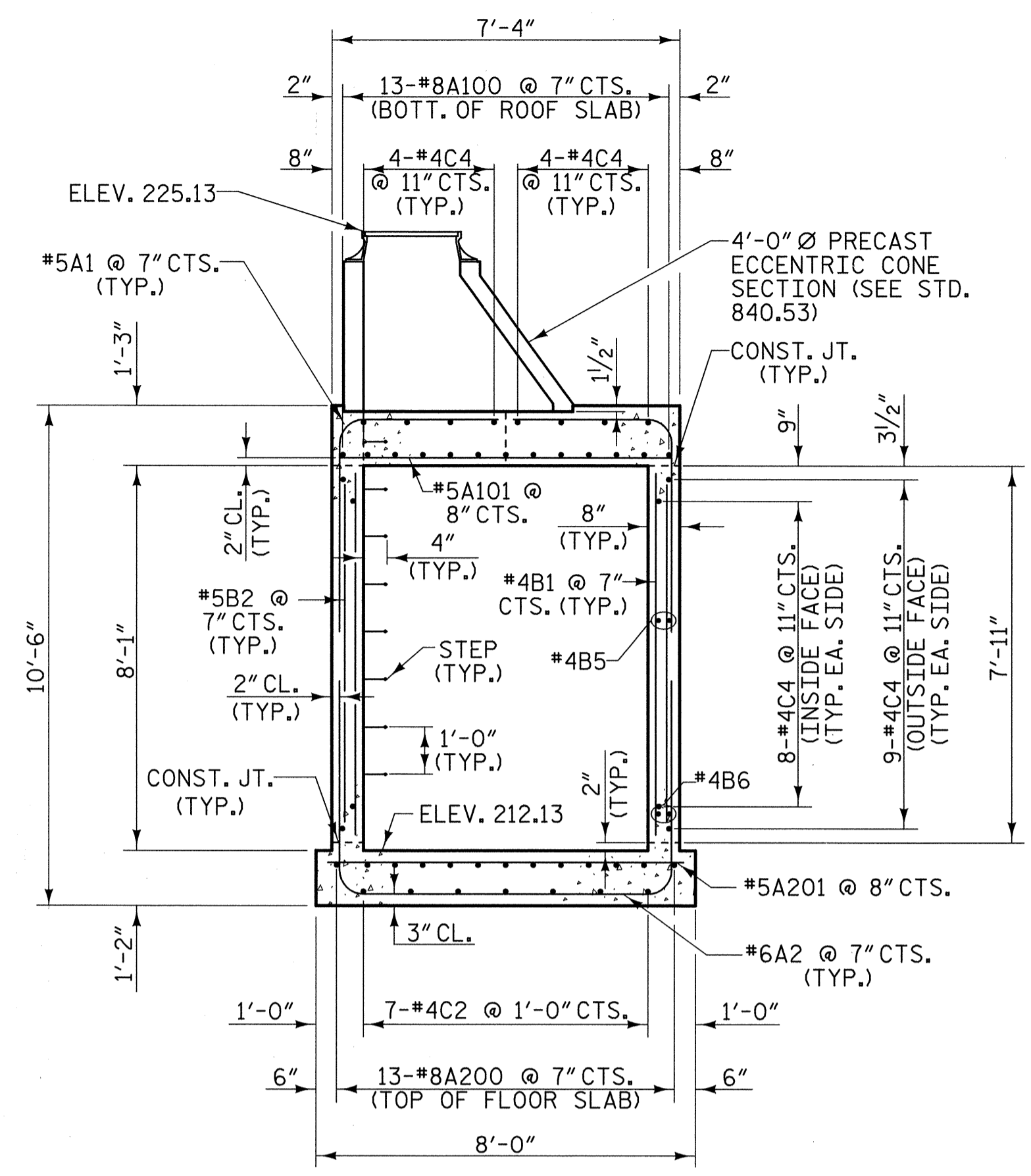
**DETAIL TO CONVERT EXISTING  
 DROP INLET OR CATCH BASIN  
 TO JUNCTION BOX  
 (MANHOLE OPTIONAL)**

ORIGINAL BY: T.S.S. DATE: NOV. 1997  
 MODIFIED BY: E.E.W. DATE: 8-28-02  
 CHECKED BY: [Signature] DATE: 4/24/08  
 FILE SPEC.: [Signature]/details/stand/boxtojb.dgn

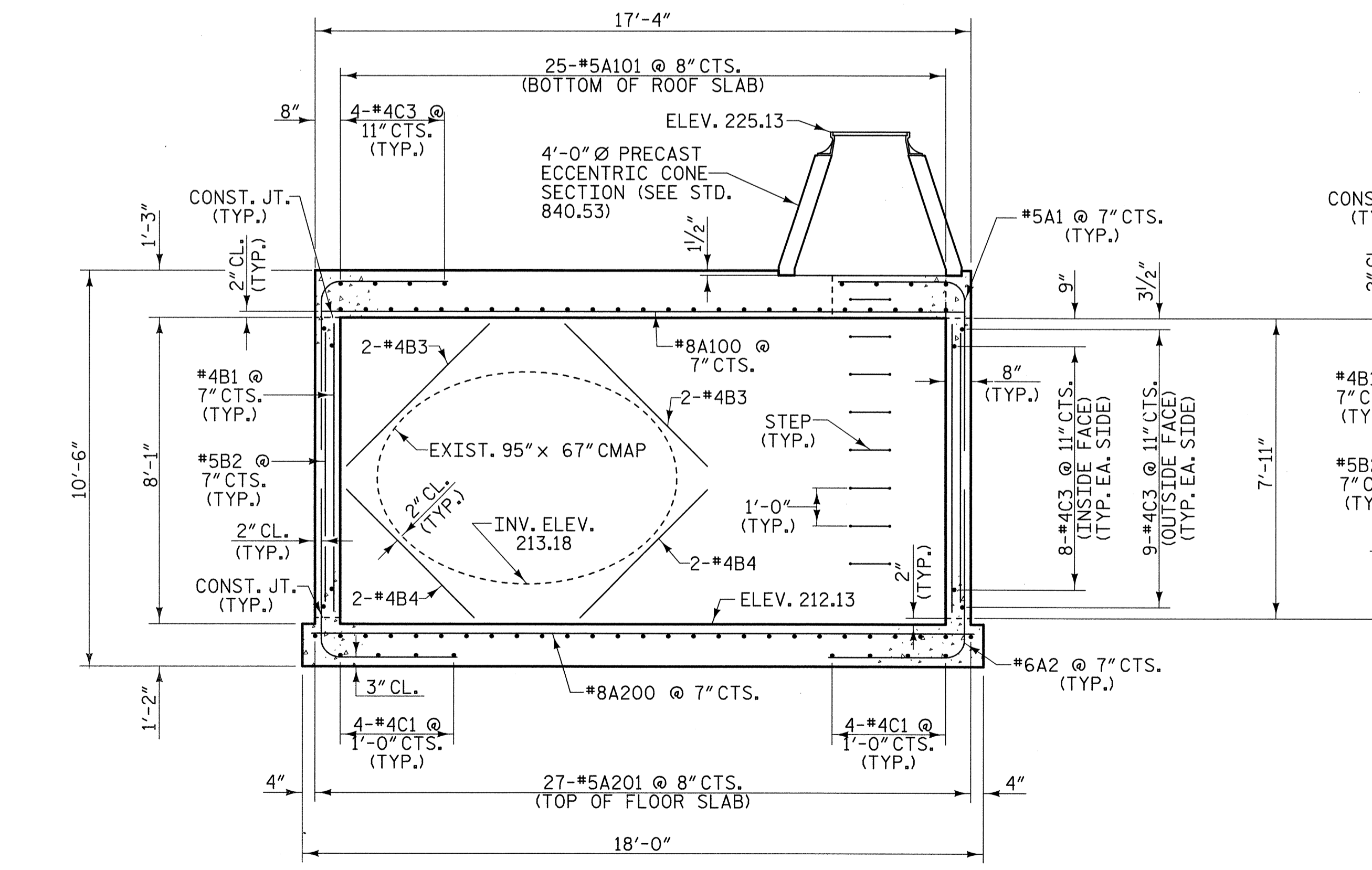
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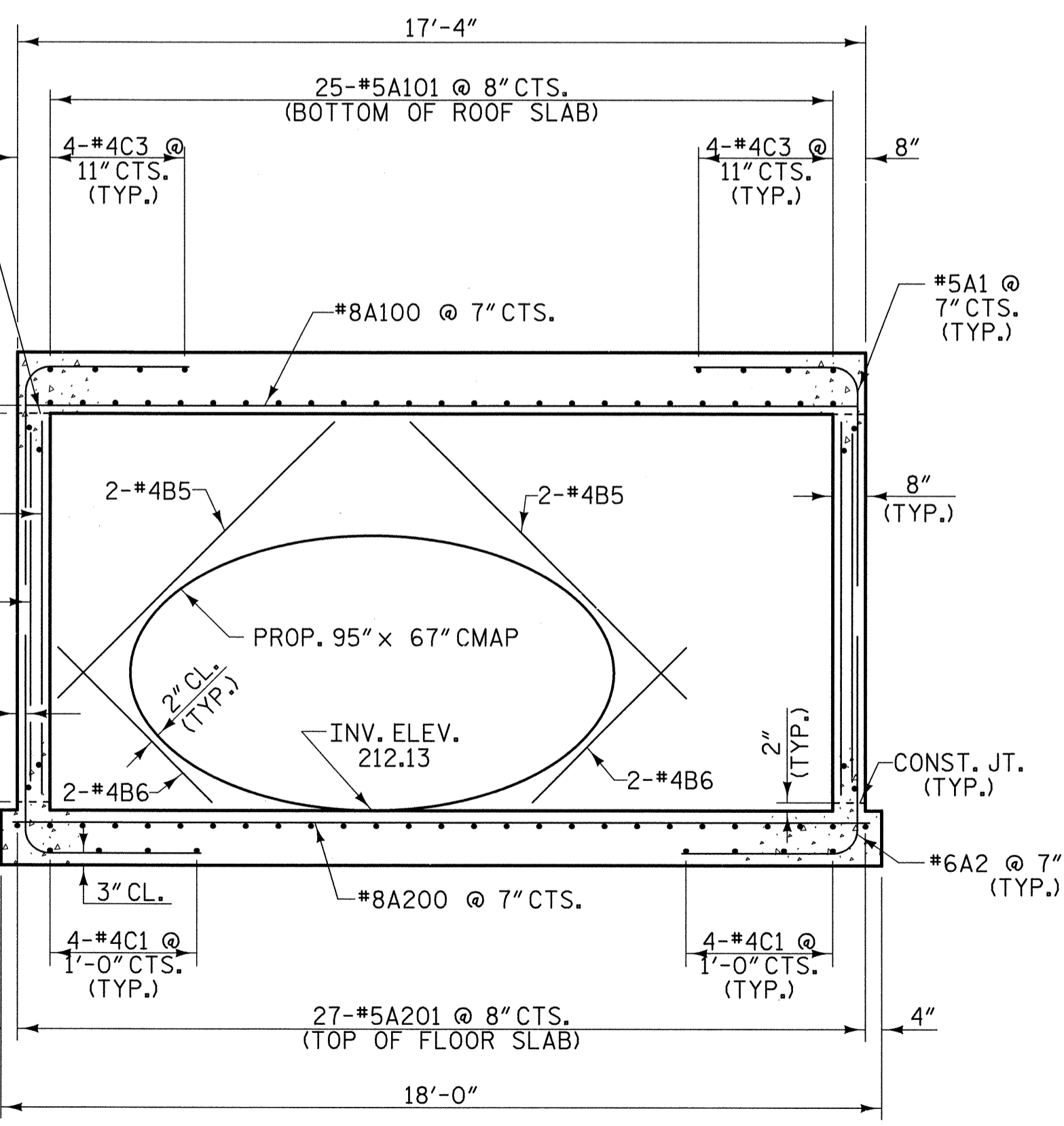
**PLAN**



**SECTION A-A**



**SECTION B-B**



**SECTION C-C**

**NOTES:**

- ALL CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH, f'c, OF 3,000 PSI AND SHALL MEET THE REQUIREMENTS OF DIVISION 6 OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
- ALL REINFORCING STEEL SHALL HAVE A MINIMUM YIELD STRENGTH, fy, OF 60 KSI AND SHALL MEET THE REQUIREMENTS OF DIVISION 6 OF THE NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
- THE JUNCTION BOX SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 420 OF THE NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
- CUT REINFORCING STEEL AS NEEDED TO PROVIDE 2" MIN. CLEAR TO PIPES AND 3' X 3' FORMED OPENING. THE STEPS IN THE JUNCTION BOX SHALL MEET THE REQUIREMENTS OF SECTION 1074-8 OF THE NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
- 4' Ø PRECAST ECCENTRIC CONE SECTION DESIGNED BY OTHERS, SEE NCDOT STD. DRAWING 840.53 FOR DETAILS.

BILL OF MATERIAL					
BAR	NO.	SIZE	TYPE	WEIGHT	
A1	82	#5	1	7'-7"	649
A2	82	#6	1	7'-10"	965
A100	13	#8	STR	17'-0"	590
A101	25	#5	STR	7'-0"	183
A200	13	#8	STR	17'-6"	607
A201	27	#5	STR	7'-6"	211
B1	78	#4	STR	7'-7"	395
B2	78	#5	STR	7'-7"	617
B3	4	#4	STR	5'-4"	14
B4	4	#4	STR	4'-9"	13
B5	4	#4	STR	7'-11"	21
B6	4	#4	STR	4'-5"	12
C1	8	#4	STR	7'-6"	40
C2	7	#4	STR	17'-6"	82
C3	42	#4	STR	7'-0"	196
C4	42	#4	STR	17'-0"	477

BAR TYPES	
	<p>ALL BAR DIMENSIONS ARE OUT TO OUT</p> <p><b>STRUCTURE QUANTITIES</b></p> <p>CLASS A CONCRETE 20.0 C.Y.</p> <p>REINFORCING STEEL 5072 LBS.</p>

PROJECT NO. **U-4756**  
CUMBERLAND COUNTY

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**SPECIAL JUNCTION BOX**  
STA. 49+96.10 -L-

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C20144-  
C20 2 1 25

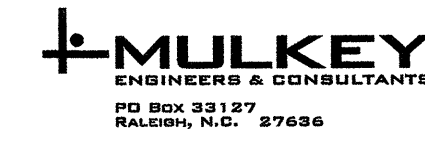


Table with 15 columns: ItemNumber, Sec #, Quantity, Unit, Description, ItemNumber, Sec #, Quantity, Unit, Description, ItemNumber, Sec #, Quantity, Unit, Description. It lists various construction materials and services such as mobilization, surveying, bridge approaches, culverts, guardrails, and pavement marking.

STATE OF NORTH CAROLINA  
SUMMARY OF QUANTITIES

ItemNumber	Sec #	Quantity	Unit	Description
6015000000-E	1615	15	ACR	TEMPORARY MULCHING
6018000000-E	1620	550	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	2.25	TON	FERTILIZER FOR TEMPORARY SEEDING
6024000000-E	1622	50	LF	TEMPORARY SLOPE DRAINS
6027000000-N	1622	2	EA	INLET PROTECTION AT TEMPORARY SLOPE DRAINS
6030000000-E	1630	40	CY	SILT EXCAVATION
6036000000-E	1631	575	SY	MATTING FOR EROSION CONTROL
6042000000-E	1632	560	LF	1/4" HARDWARE CLOTH
6084000000-E	1660	14	ACR	SEEDING & MULCHING
6087000000-E	1660	9	ACR	MOWING
6090000000-E	1661	200	LB	SEED FOR REPAIR SEEDING
6093000000-E	1661	0.5	TON	FERTILIZER FOR REPAIR SEEDING
6096000000-E	1662	350	LB	SEED FOR SUPPLEMENTAL SEEDING
6108000000-E	1665	10.5	TON	FERTILIZER TOPDRESSING
6114000000-N	SP	2	HR	SPECIALIZED HAND MOWING
6117000000-N	SP	8	EA	RESPONSE FOR EROSION CONTROL
7060000000-E	1705	4,450	LF	SIGNAL CABLE
7120000000-E	1705	48	EA	VEHICLE SIGNAL HEAD (12", 3 SECTION)
7144000000-E	1705	11	EA	VEHICLE SIGNAL HEAD (12", 5 SECTION)
7252000000-E	1710	4,090	LF	MESSENGER CABLE (1/4")
7264000000-E	1710	1,900	LF	MESSENGER CABLE (3/8")
7279000000-E	1715	350	LF	TRACER WIRE
7300000000-E	1715	1,500	LF	UNPAVED TRENCHING (***** (1, 2")
7324000000-N	1716	31	EA	JUNCTION BOX (STANDARD SIZE)
7348000000-N	1716	5	EA	JUNCTION BOX (OVER-SIZED, HEAVY DUTY)
7360000000-N	1720	1	EA	WOOD POLE

ItemNumber	Sec #	Quantity	Unit	Description
7372000000-N	1721	4	EA	GUY ASSEMBLY
7444000000-E	1725	7,550	LF	INDUCTIVE LOOP SAWCUT
7456000000-E	1726	3,650	LF	LEAD-IN CABLE (***** (2 PAIR)
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	4,500	LF	COMMUNICATIONS CABLE (**FIBER) (18)
7528000000-E	1730	500	LF	DROP CABLE
7540000000-N	1731	8	EA	SPICE ENCLOSURE
7564100000-N	1732	2	EA	FIBER-OPTIC TRANSCEIVER, SELF-HEALING RING
7566000000-N	1733	2	EA	DELINEATOR MARKER
7575160000-E	1734	4,100	LF	REMOVE EXISTING COMMUNICATIONS CABLE
7576000000-N	SP	16	EA	METAL STRAIN SIGNAL POLE
7613000000-N	SP	16	EA	SOIL TEST
7614100000-E	SP	112	CY	DRILLED PIER FOUNDATION
7630000000-N	SP	2	EA	METAL STRAIN POLE DESIGN
7636000000-N	1745	17	EA	SIGN FOR SIGNALS
7684000000-N	1750	6	EA	SIGNAL CABINET FOUNDATION
7756000000-N	1751	2	EA	CONTROLLER WITH CABINET (TYPE 2070L, BASE MOUNTED)
7780000000-N	1751	33	EA	DETECTOR CARD (TYPE 2070L)
7901000000-N	1753	2	EA	CABINET BASE EXTENDER
7948000000-N	SP	2	EA	TRAFFIC SIGNAL REMOVAL
7960000000-N	SP	1	EA	METAL POLE FOUNDATION REMOVAL
7980000000-N	SP	1	EA	GENERIC SIGNAL ITEM METAL POLE RELOCATION

ItemNumber	Sec #	Quantity	Unit	Description
7980000000-N	SP	2	EA	GENERIC SIGNAL ITEM RELOCATE EXIST CCTV CABINET ASSEMBLY
7980000000-N	SP	2	EA	GENERIC SIGNAL ITEM RELOCATE EXIST SIGNAL CABINET & CONTROLLER ASSEMBLY
8035000000-N	402	Lump Sum		REMOVAL OF EXISTING STRUCTURE AT STATION ***** (44+88.35-L-)
8105540000-E	SP	262	LF	3'-6" DIA DRILLED PIERS IN SOIL
8105640000-E	SP	30	LF	3'-6" DIA DRILLED PIERS NOT IN SOIL
8113000000-N	SP	4	EA	SID INSPECTION
8114000000-N	SP	4	EA	SPT TESTING
8115000000-N	SP	4	EA	CROSSHOLE SONIC LOGGING
8154000000-E	420	27,683	SF	REINFORCED CONCRETE DECK SLAB (SAND LIGHTWEIGHT CONC)
8161000000-E	420	27,005	SF	GROOVING BRIDGE FLOORS
8182000000-E	420	233.5	CY	CLASS A CONCRETE (BRIDGE)
8210000000-N	422	Lump Sum		BRIDGE APPROACH SLABS, STATION ***** (44+88.35-L-)
8217000000-E	425	56,246	LB	REINFORCING STEEL (BRIDGE)
8238000000-E	425	7,586	LB	SPIRAL COLUMN REINFORCING STEEL (BRIDGE)
8280000000-E	440	763,916	LS	APPROX ..... LBS STRUCTURAL STEEL
8364000000-E	450	3,300	LF	HP12X53 STEEL PILES
8482000000-E	460	567.4	LF	THREE BAR METAL RAIL
8531000000-E	462	1,086	SY	4" SLOPE PROTECTION
8692000000-N	SP	Lump Sum		EVAZOTE JOINT SEALS
8741000000-N	SP	Lump Sum		STRUCTURE DRAINAGE SYSTEM AT STA ***** (44+88.35-L-)
8802012000-E	SP	7,947	SF	PILE PANEL RETAINING WALLS

***** BEGIN SCHEDULE AA *****				
***** (3 ALTERNATES) *****				
0366000000-E	310	1,248	LF	15" RC PIPE CULVERTS, CLASS III
AA1				
*** OR ***				
0366000000-E	310	1,200	LF	15" RC PIPE CULVERTS, CLASS III
AA2				
0536000000-E	SP	48	LF	**** HDPE PIPE CULVERTS (15")
AA2				
*** OR ***				
0366000000-E	310	1,200	LF	15" RC PIPE CULVERTS, CLASS III
AA3				
0540000000-E	SP	48	LF	**** ALUMINIZED CORRUGATED STEEL PIPE CULVERTS, **** THICK (15", 0.064")
AA3				
***** END SCHEDULE AA *****				



DIVISION OF HIGHWAYS  
 STATE OF NORTH CAROLINA

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.  
 TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.  
 FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.  
 W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.  
 G = GATING IMPACT ATTENUATOR TYPE 350  
 NG = NON-GATING IMPACT ATTENUATOR TYPE 350

**GUARDRAIL SUMMARY**

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH		W		ANCHORS						IMPACT ATTENUATOR TYPE 350			SINGLE FACE CONCRETE BARRIER STD. 857.01	REMOVE EXISTING GUARDRAIL	REMARKS			
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	GRAU 350	TYPE III	CAT-1	AT-1	B-77	EA	G	NG							
-L-/-RPD-	34+55 -L-	10+00 -RPD-	RT /LT	1637.5'	62.5'		35+30 -L-	18+00 -RPD-	8' BERM /12'	14' BERM /15'																	1495'	TIE TO EXISTING GUARDRAIL	
-L-/-RPC-	35+75 -L-	11+50 -RPC-	LT /RT	1000'	62.5'		12+75 -RPC-	35+75 -L-	8' BERM /12'	14' BERM /15'																	405'		
-L-	42+10.24	43+60.24	RT	150'			43+60.24		8' BERM	14' BERM																	230'		
-Y5-	22+52.50	24+97.50	MED	250'			23+15	24+35																			200'		
-L-	46+17.45	47+67.45	LT	150'			46+17.45		8' BERM	14' BERM																	230'		
-RPA-/-L-	10+00 -RPA-	54+59.77 -L-	RT /RT	675'	75'		10+00 -RPA-	54+59.77 -L-	12' /8' BERM	15' /14' BERM																	645'	TIE TO EXISTING GUARDRAIL	
-L-/-Y3-	49+50 -L-	13+05 -Y3-	LT /RT	487.5'	62.5'		54+35 -L-	49+50 -L-	8' BERM	14' BERM																	530'		
PROJECT TOTAL				4350'	262.5'																								
LESS ANCHOR DEDUCTIONS																													
GRAU-350 4 @ 50' =				-200'																									
TYPE III 2 @ 18.75' =				-37.5'																									
CAT-1 3 @ 6.25' =				-18.75'																									
AT-1 1 @ 6.25' =				-6.25'																									
B-77 4 @ 18.75' =				-75'																									
GRAND TOTAL				4012.5'	262.5'		(5 ADDITIONAL GUARDRAIL POSTS)																						

**SUMMARY OF EARTHWORK  
 IN CUBIC YARDS**

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT + %	BORROW	WASTE
-L- 27+92.30 TO 43+67.18	1033		15355	14322	
-RPC- 10+00.00 TO 17+61.75	504		7378	6874	
-RPD- 10+00.00 TO 21+00.30	340		1228	888	
<b>SUBTOTAL</b>	<b>1877</b>		<b>23961</b>	<b>22084</b>	
-L- 46+10.52 TO 59+50.00	679		11473	10794	
-RPA- 10+00.00 TO 11+95.94			155	155	
-RPB- 10+00.00 TO 19+47.77	220		603	383	
-Y3- 10+00.00 TO 13+67.41	222		3		219
-Y5- 21+00.00 TO 26+50.00	232		250	18	
<b>SUBTOTAL</b>	<b>1353</b>		<b>12484</b>	<b>11350</b>	<b>219</b>
<b>TOTAL</b>	<b>3230</b>		<b>36445</b>	<b>33434</b>	<b>219</b>
LOSS DUE TO CLEARING AND GRUBBING					
EST. SHOULDER MATERIAL					
WASTE TO REPLACE BORROW				-219	-219
<b>PROJECT TOTAL</b>	<b>3230</b>		<b>36445</b>	<b>33215</b>	<b>0</b>
5% TO REPLACE BORROW				1661	
<b>GRAND TOTAL</b>	<b>3230</b>			<b>34876</b>	
<b>SAY</b>	<b>3400</b>			<b>35300</b>	

**SUMMARY OF PAVEMENT REMOVAL  
 IN SQUARE YARDS**

LOCATION	ASPHALT REMOVAL	ASPHALT BREAK UP	CONCRETE REMOVAL	CONCRETE BREAK UP
-L- 35+00 LT	151			
-L- 54+95 RT	61			
<b>TOTAL</b>	<b>212</b>			
<b>SAY</b>	<b>225</b>			

NOTE: Earthwork quantities are calculated by the Roadway Design Unit.

NOTE: Approximate quantities only. Unclassified excavation, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract Lump Sum price for "Grading".











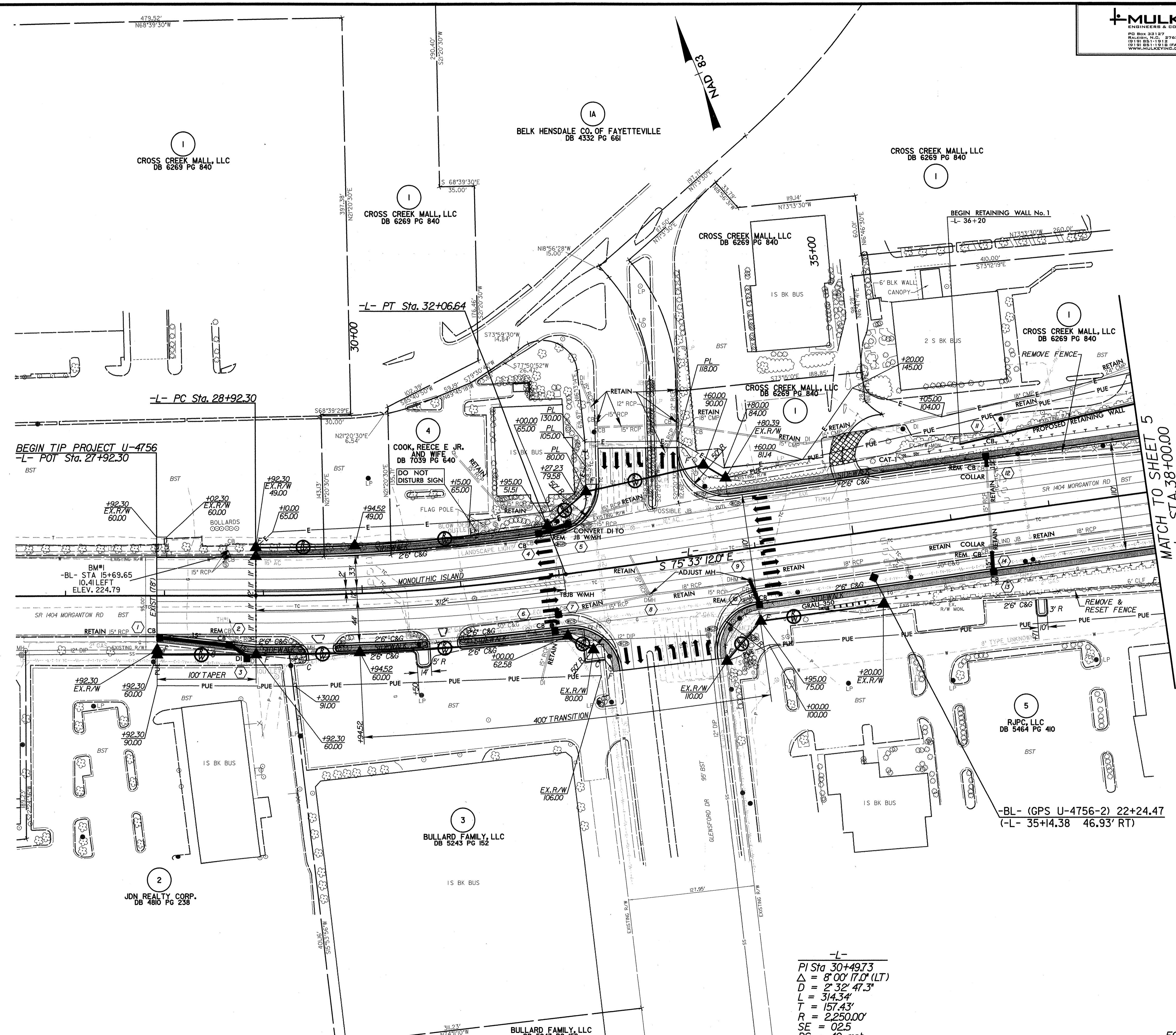
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**MULKEY**  
ENGINEERS & CONSULTANTS

PO Box 33127  
Raleigh, N.C. 27636  
(919) 881-1912  
(919) 881-1918 (FAX)  
WWW.MULKEYINC.COM

PROJECT REFERENCE NO. U-4756	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

FOR -L- PROFILE SEE SHEET 7



REVISIONS

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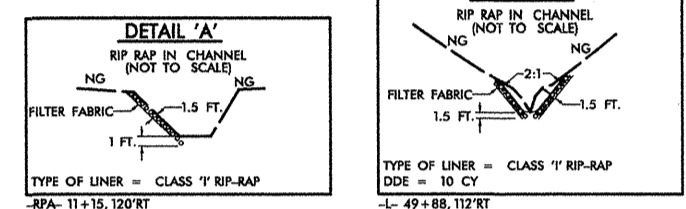
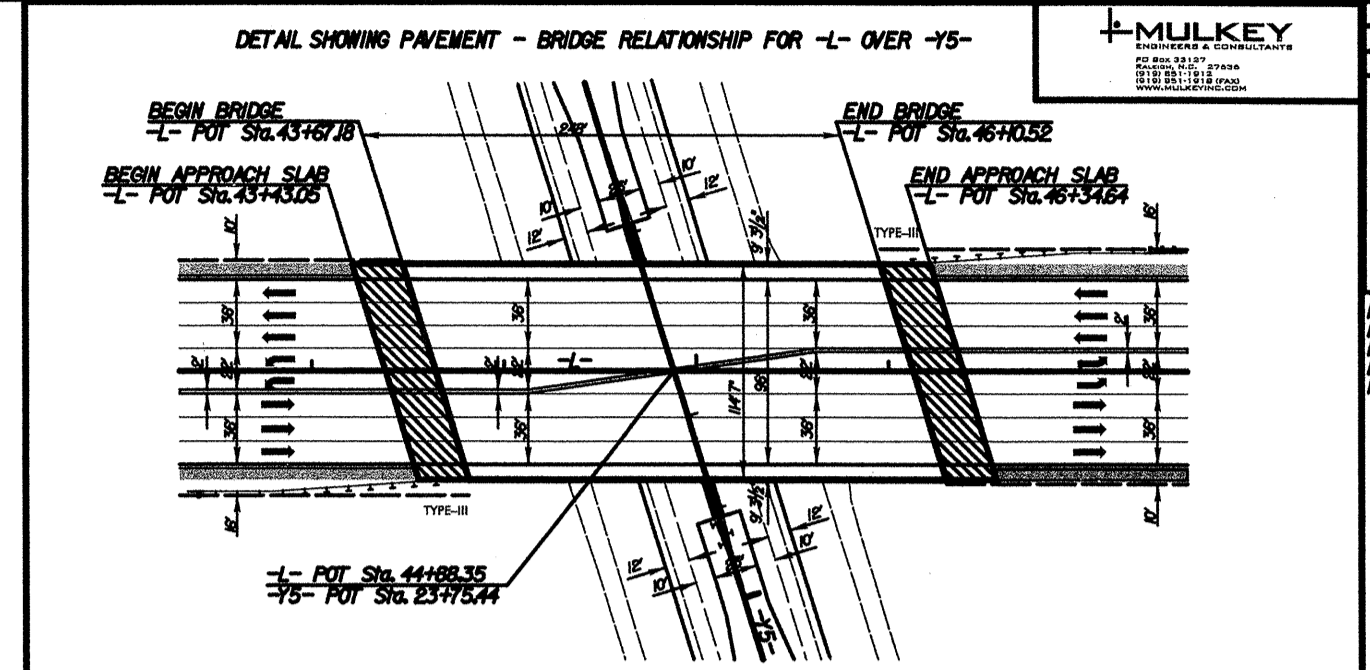
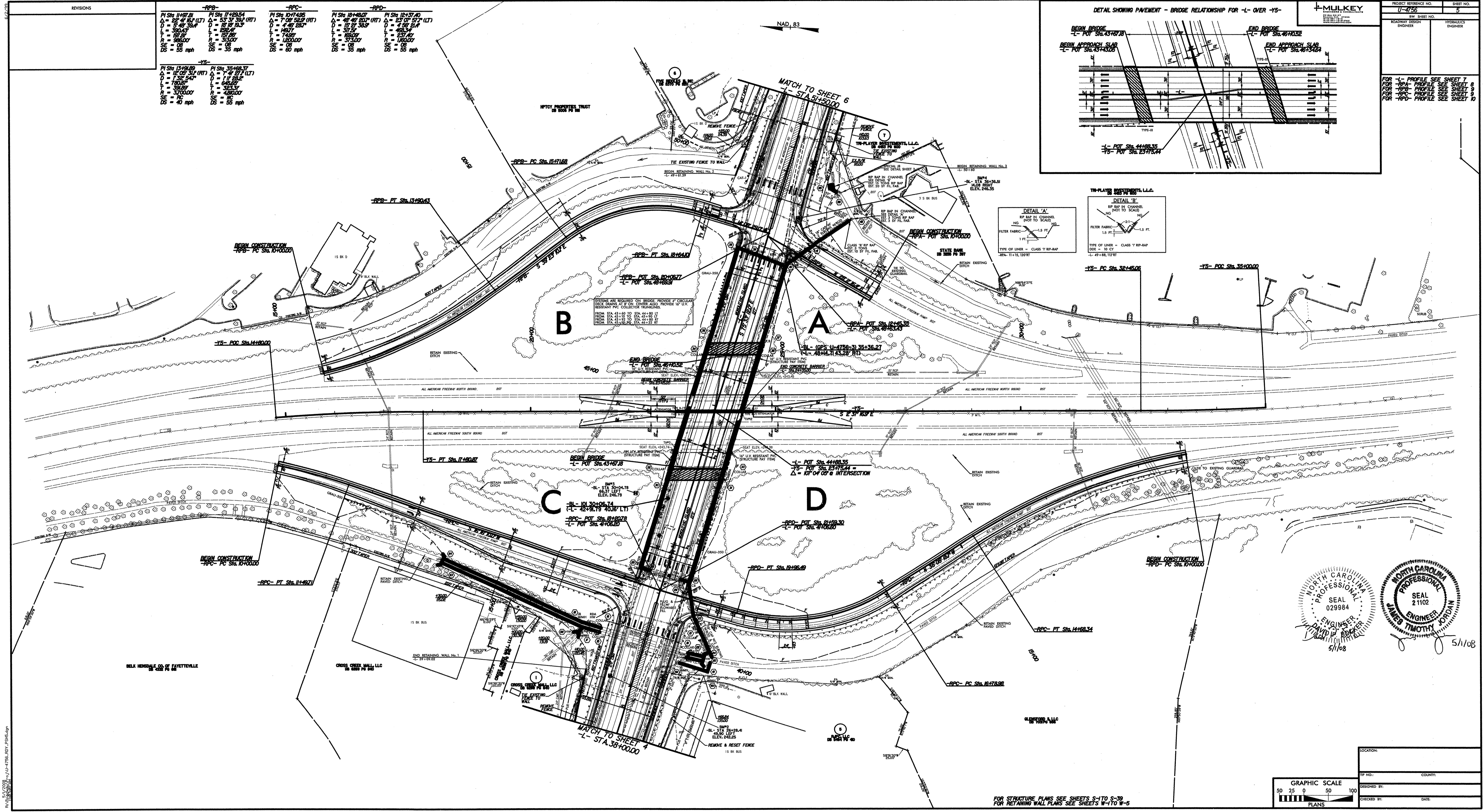
-L-  
PI Sta 30+49.73  
Δ = 8' 00" (7.0' LT)  
D = 2' 32' 47.3"  
L = 314.34'  
T = 157.43'  
R = 2,250.00'  
SE = 02.5  
DS = 40 mph

FOR RETAINING WALL PLANS SEE SHEETS W-1 TO W-5

REVISIONS	
1	AS SHOWN

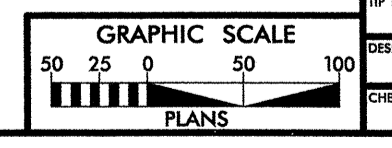
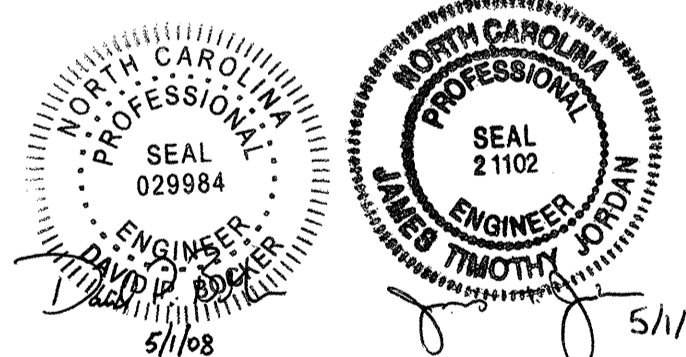
-RFB-		-RPC-		-RPD-	
PI STA 1147.81	PI STA 1149.54	PI STA 1047.85	PI STA 1049.07	PI STA 1848.07	PI STA 1849.40
$\Delta = 22' 00" (RT)$	$\Delta = 33' 31" (RT)$	$\Delta = 7' 00" (RT)$	$\Delta = 4' 46" (RT)$	$\Delta = 40' 40" (RT)$	$\Delta = 23' 07" (LT)$
$L = 8' 00" (RT)$	$L = 12' 18" (RT)$	$L = 4' 46" (RT)$	$L = 146.77'$	$L = 37.5'$	$L = 468.34'$
$R = 350.43'$	$R = 282.54'$	$R = 174.87'$	$R = 120.00'$	$R = 189.07'$	$R = 237.42'$
$h = 29.29'$	$h = 31.00'$	$h = 1.45'$	$h = 0.83'$	$h = 37.00'$	$h = 120.00'$
$DS = 35$ mph	$DS = 35$ mph	$DS = 35$ mph	$DS = 35$ mph	$DS = 35$ mph	$DS = 35$ mph

-YS-	
PI STA 1349.89	PI STA 3549.37
$\Delta = 12' 00" (RT)$	$\Delta = 7' 00" (LT)$
$L = 180.00'$	$L = 648.85'$
$R = 350.43'$	$R = 350.43'$
$h = 37.00'$	$h = 480.00'$
$DS = 40$ mph	$DS = 35$ mph



PROJECT REFERENCE NO.	1-758
SHEET NO.	5
ROADWAY DESIGN ENGINEER	
HYDRAULICS ENGINEER	

FOR -L- PROFILE SEE SHEET 7  
 FOR -RPC- PROFILE SEE SHEET 8  
 FOR -RPD- PROFILE SEE SHEET 9  
 FOR -YS- PROFILE SEE SHEET 10



FOR STRUCTURE PLANS SEE SHEETS S-1 TO S-39  
 FOR RETAINING WALL PLANS SEE SHEETS W-1 TO W-5

LOCATION:	
TP NO.:	COUNTY:
DESIGNED BY:	CHECKED BY:
DATE:	

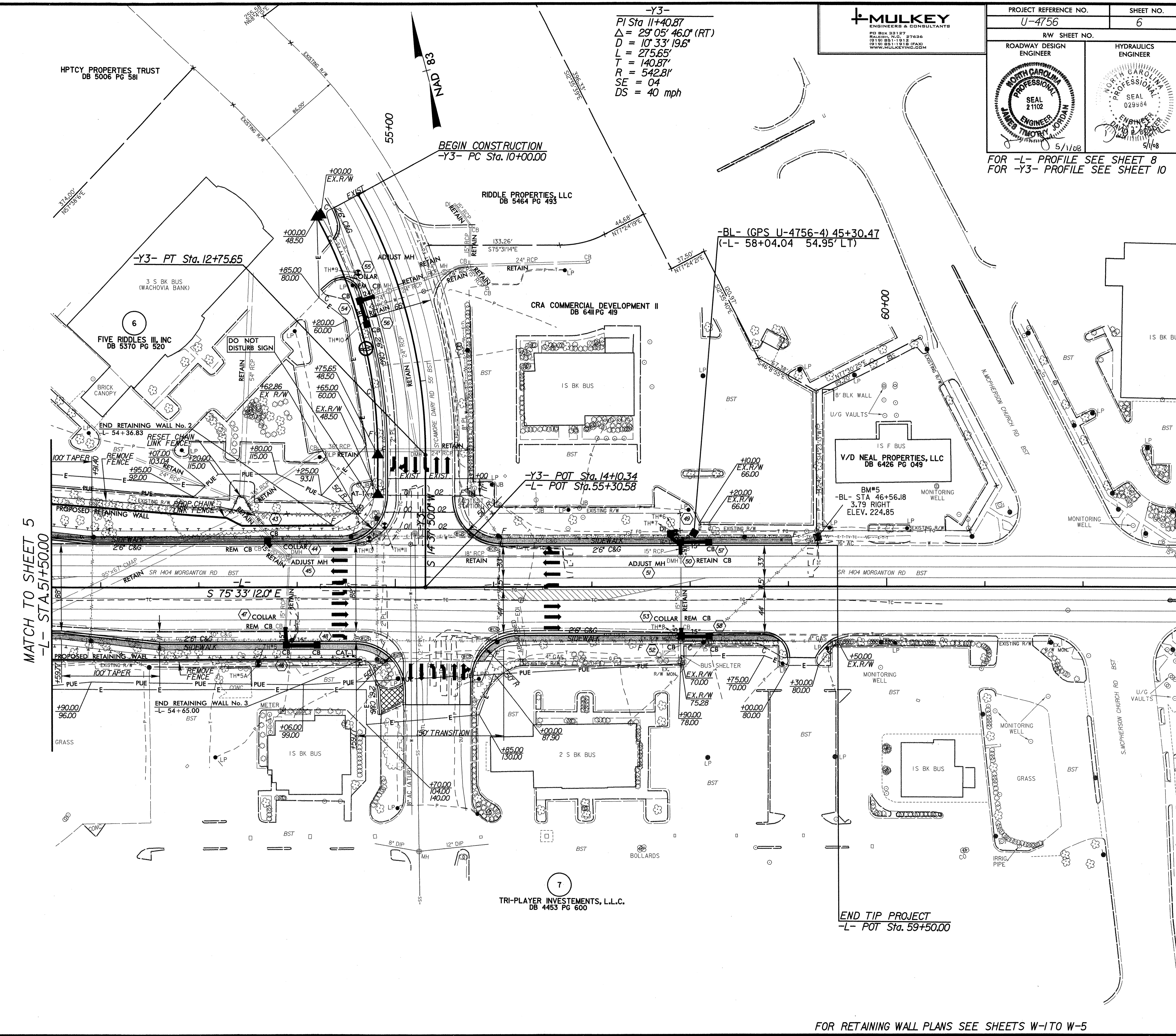
8/17/99

F:\2008\Projects\U-4756\RDY\_PSH6.dgn  
11/20/08

**MULKEY**  
ENGINEERS & CONSULTANTS  
RD BOX 33127  
RALEIGH, NC 27635  
(919) 851-1912  
(919) 851-9118 FAX  
WWW.MULKEYINC.COM

PROJECT REFERENCE NO. <b>U-4756</b>		SHEET NO. <b>6</b>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
FOR -L- PROFILE SEE SHEET 8 FOR -Y3- PROFILE SEE SHEET 10			

-Y3-  
PI Sta 11+40.87  
 $\Delta = 29' 05" 46.0' (RT)$   
 $D = 10' 33" 19.6'$   
 $L = 275.65'$   
 $T = 140.87'$   
 $R = 542.81'$   
 $SE = 04$   
 $DS = 40 \text{ mph}$



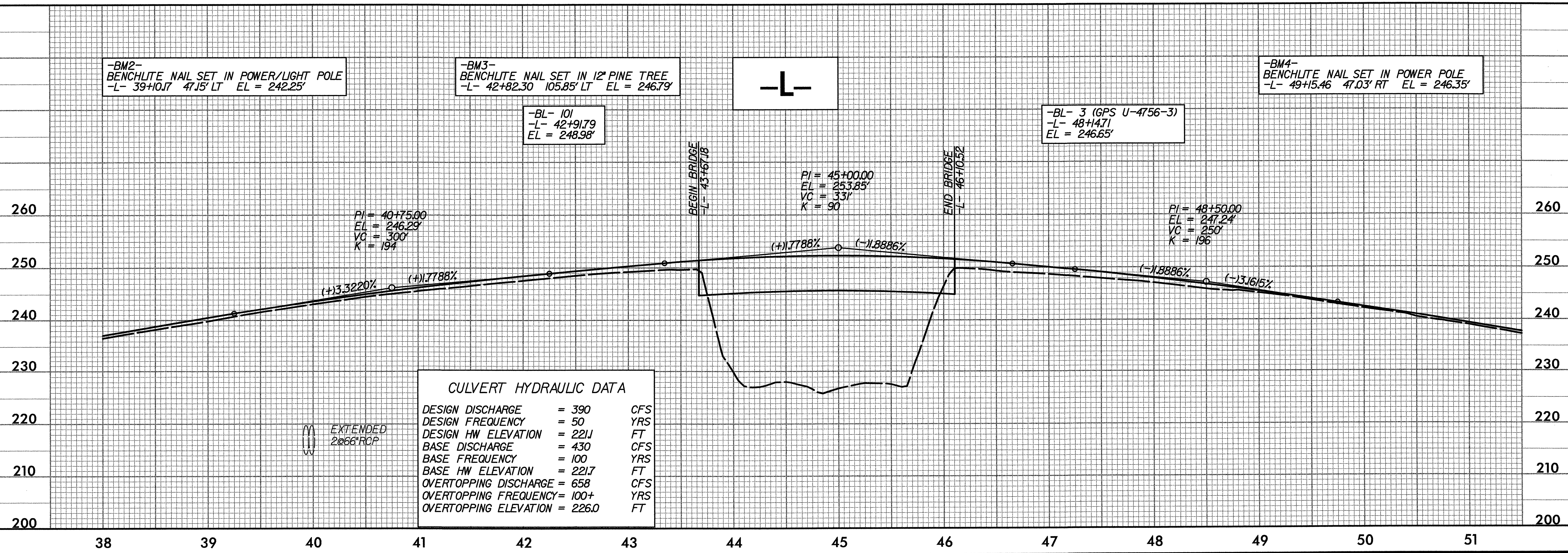
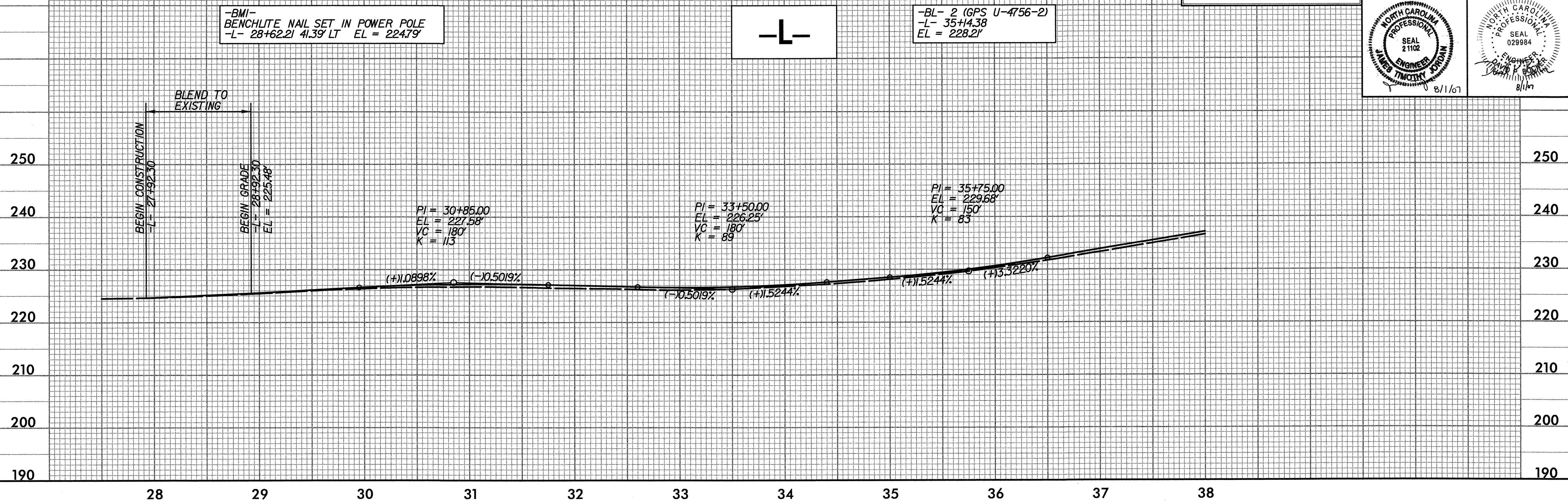
REVISIONS

MATCH TO SHEET 5  
-L- STA. 51+50.00

END TIP PROJECT  
-L- POT Sta. 59+50.00

FOR RETAINING WALL PLANS SEE SHEETS W-1 TO W-5

5/28/99



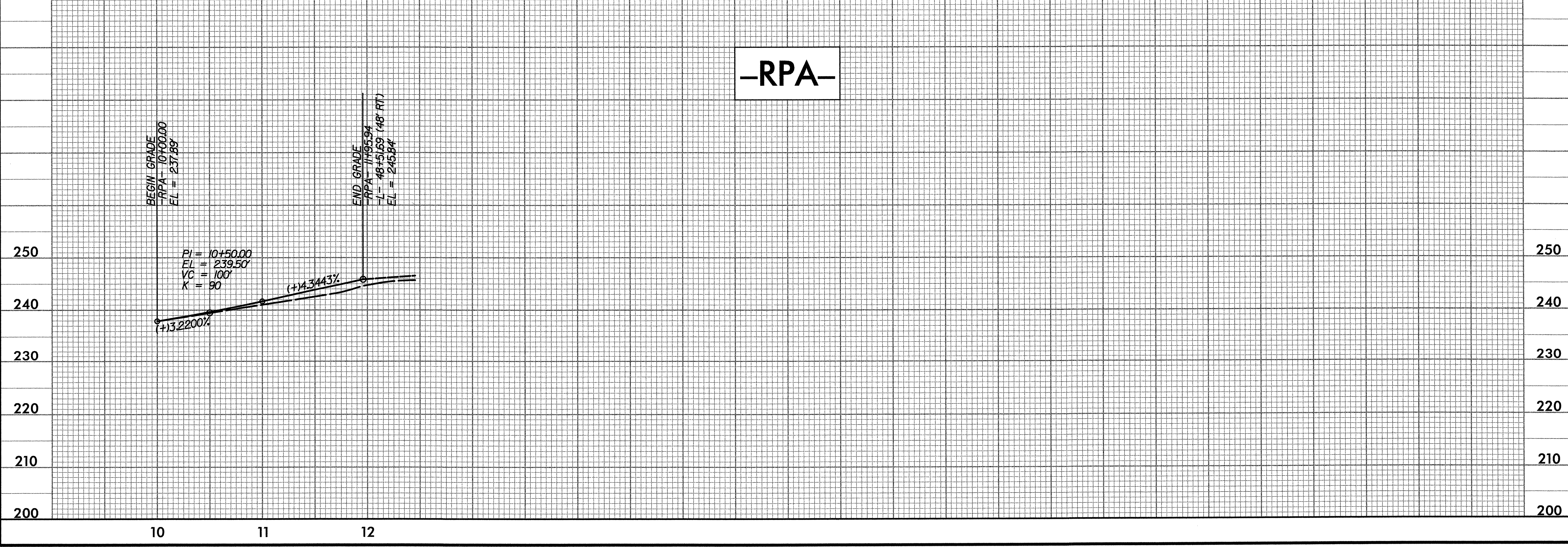
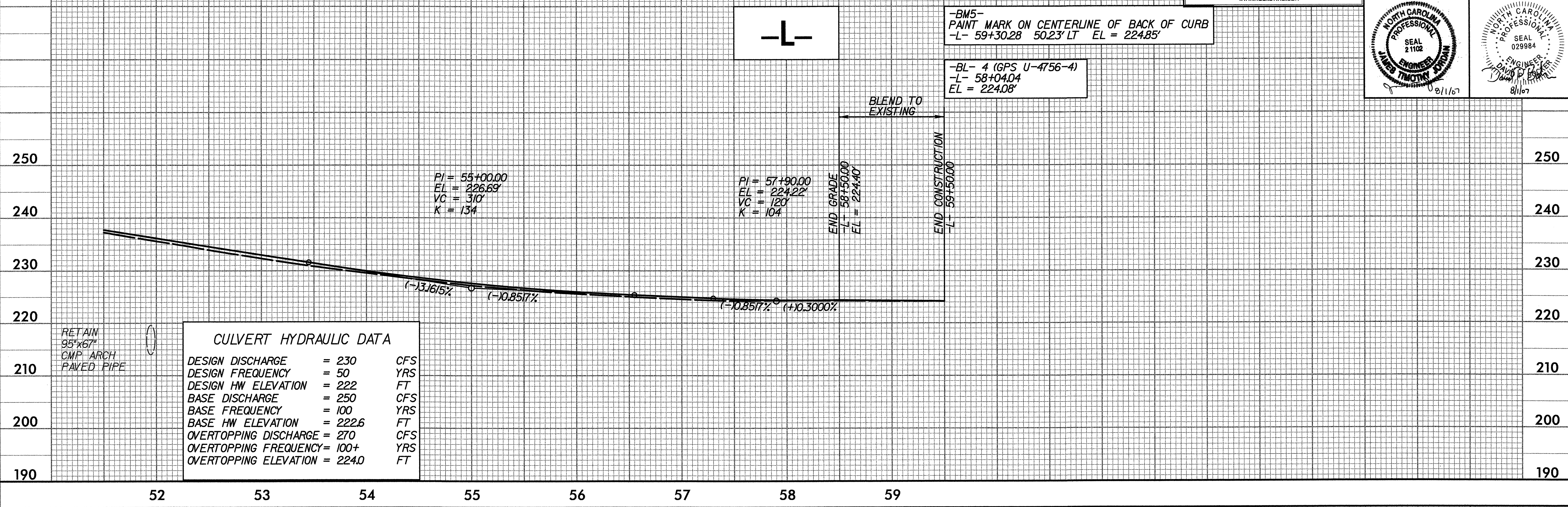
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5/28/99

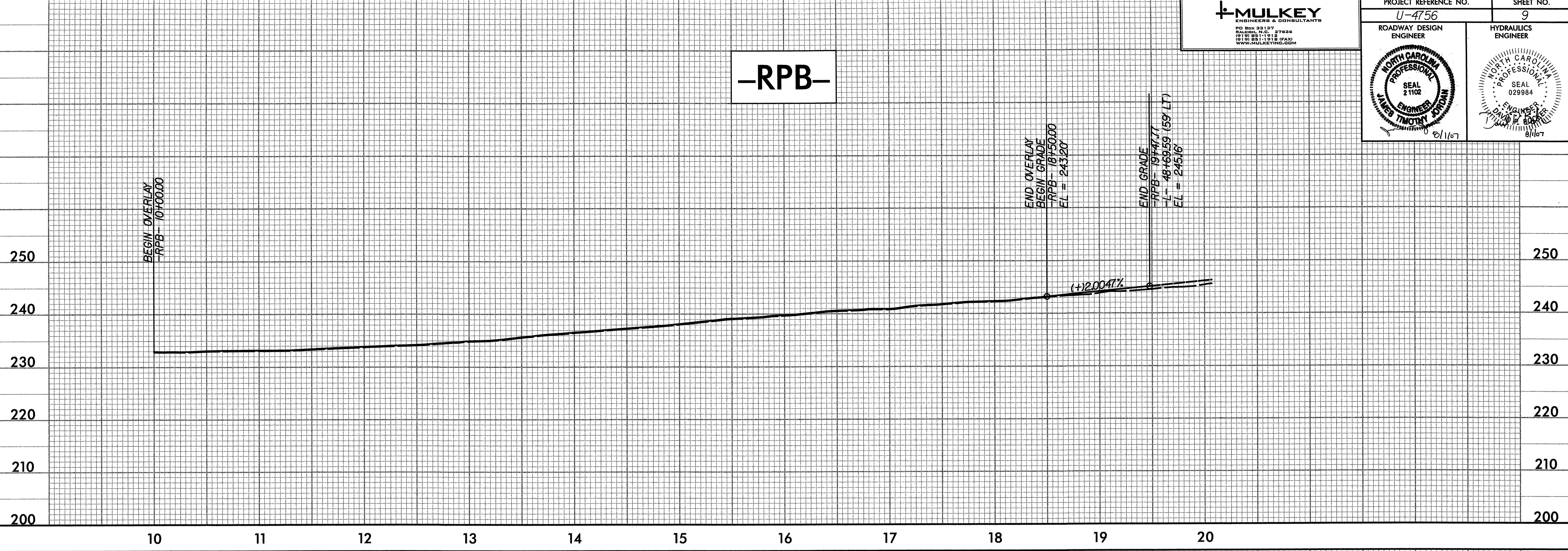


PROJECT REFERENCE NO. U-4756	SHEET NO. 8
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

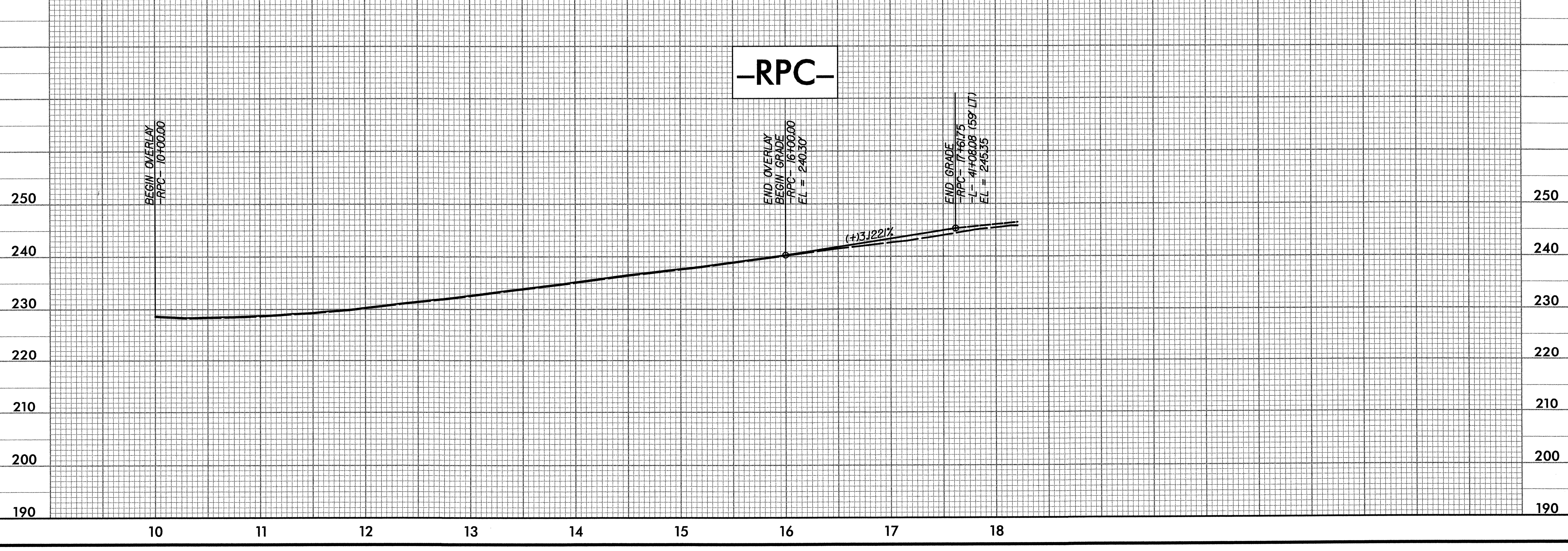


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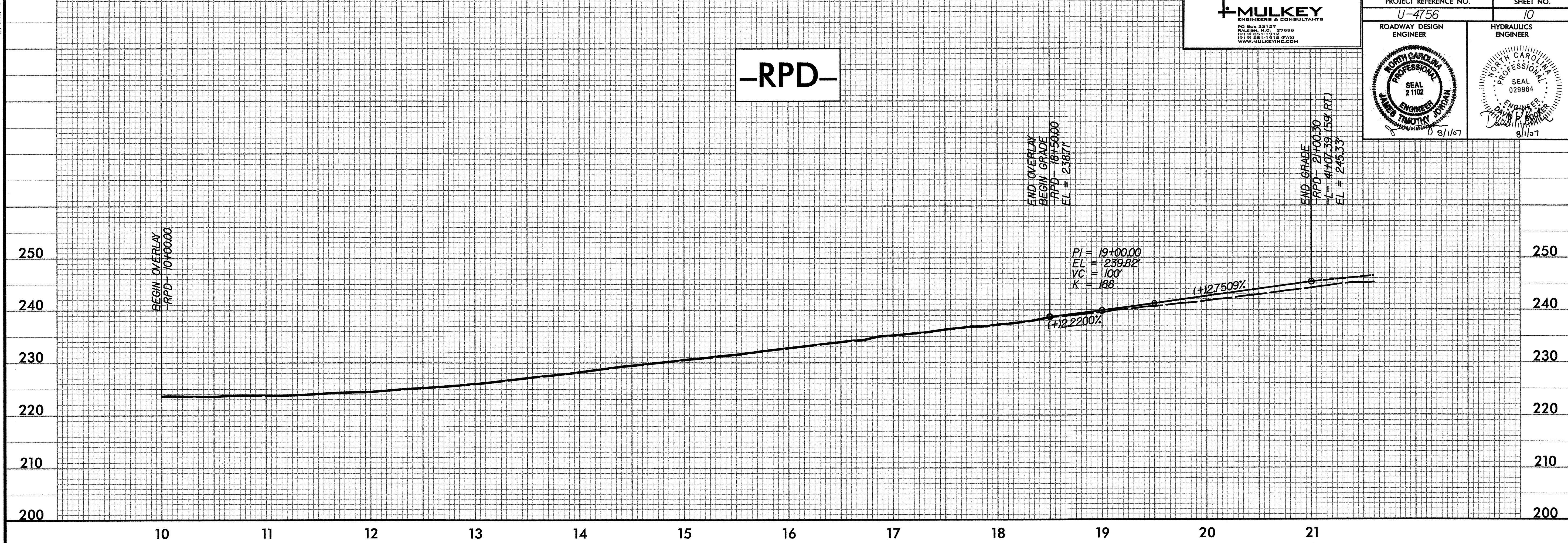
# -RPB-



# -RPC-



# -RPD-



# -Y3-

