

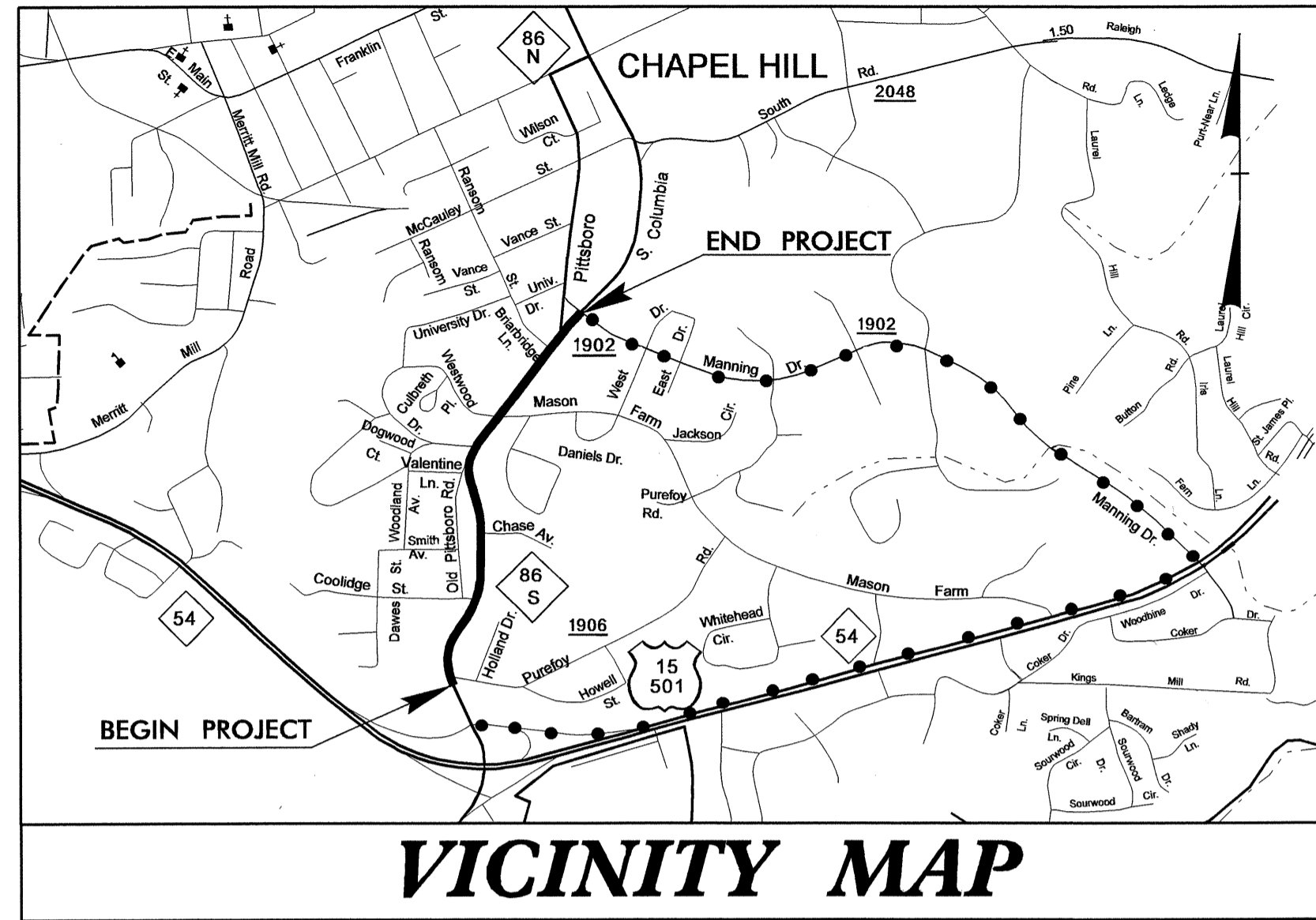
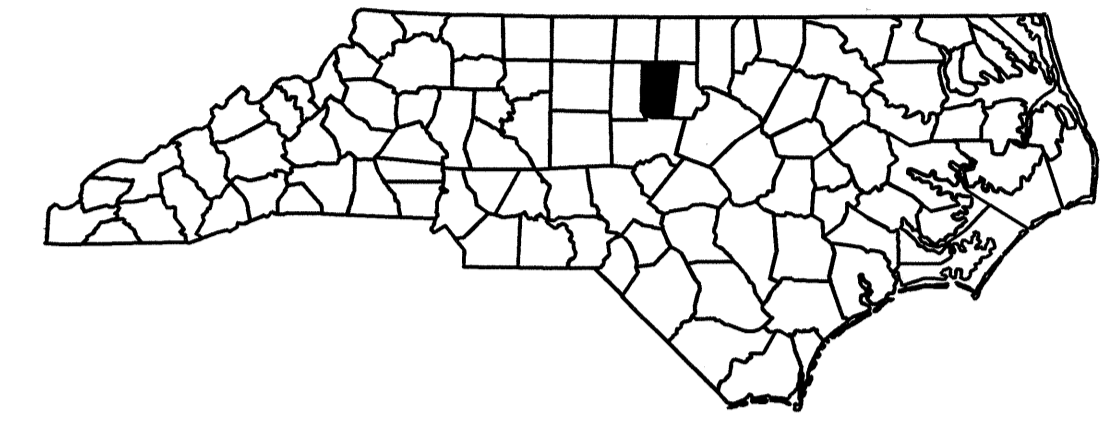
See Sheet 1-A For Index of Sheets
 See Sheet 1-B For Conventional Symbols
 See Sheet 1-C For Survey Control Data

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-0624	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34762.1.1	STP-86(2)	PE	
34762.2.2	STP-0086(2)	RW & UTIL	
34762.3.4	STP-0086(5)	CONST	

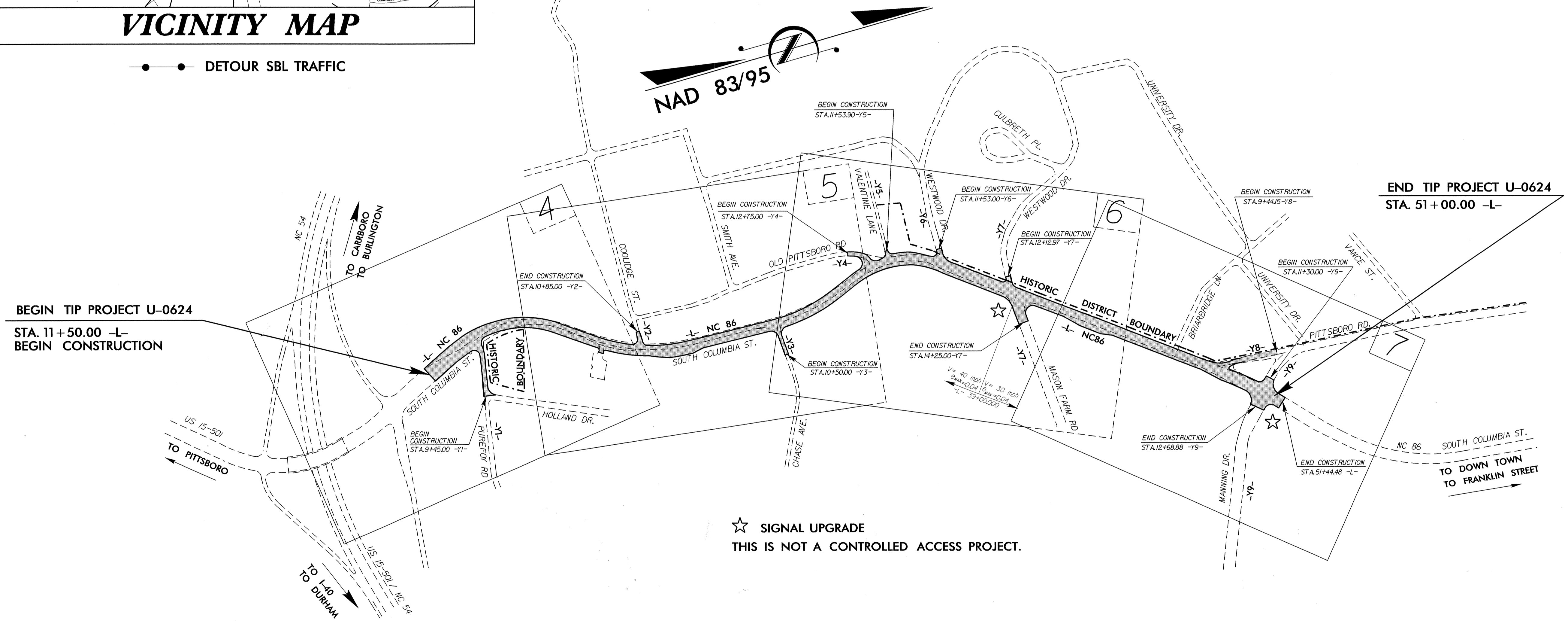
ORANGE COUNTY

**LOCATION: NC 86 (SOUTH COLUMBIA STREET) FROM
 SR 1906 (PUREFOY ROAD) TO SR 1902 (MANNING
 DRIVE) IN CHAPEL HILL**
**TYPE OF WORK: GRADING, DRAINAGE, PAVING, WIDENING,
 AND SIGNALS**



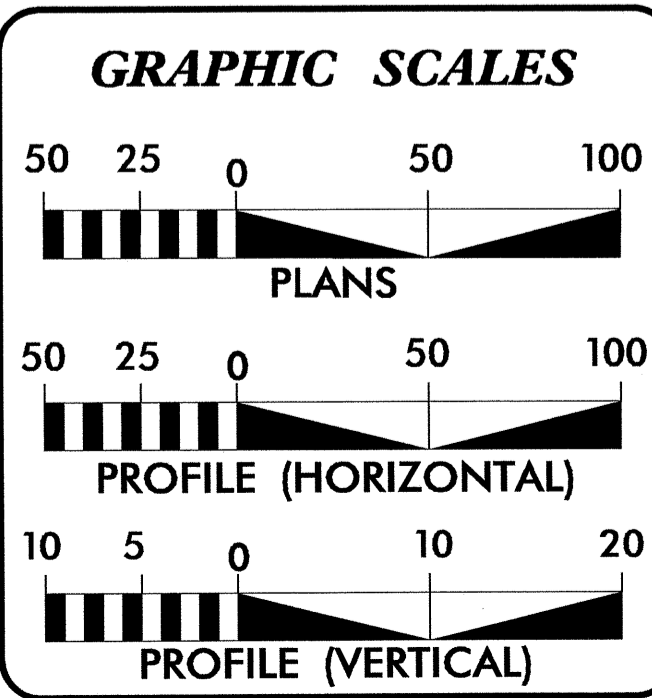
VICINITY MAP

● — ● DETOUR SBL TRAFFIC



TIP PROJECT: U-0624

CONTRACT: C202156



DESIGN DATA

ADT 2009 =	21,100
ADT 2030 =	31,000
DHV =	10 %
D =	75 %
T =	5 % *
V =	40 / 30 MPH
* TTST 1%	DUAL 4%
FUNC. CLASS = URBAN COLL.	
REGIONAL TIER	

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-0624 =	0.748 MI
TOTAL LENGTH TIP PROJECT U-0624 =	0.748 MI

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: AUGUST 20, 2007	JASON MOORE, PE PROJECT ENGINEER
LETTING DATE: NOVEMBER 15, 2011	KEVIN E. MOORE, PE PROJECT DESIGN ENGINEER

PROFESSIONAL ENGINEER
 SEAL 19721
 WILLIAM E. MOORE

SIGNATURE: *William E. Moore*

ROADWAY DESIGN ENGINEER
 SEAL 24912
 KEVIN E. MOORE

SIGNATURE: *Kevin E. Moore*

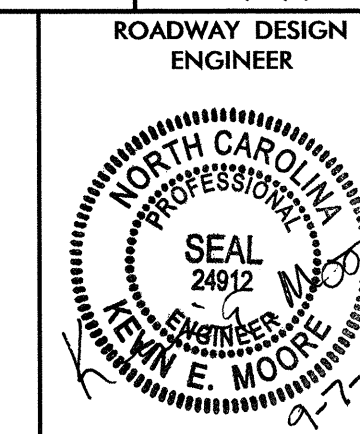
DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA

Art McMiller
 STATE HIGHWAY DESIGN ENGINEER

23-AUG-2011 09:44 r:\p0624\proj\11-u-0624_rdy_tsh.dgn \$\$\$USERNAME\$\$\$

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

PROJECT REFERENCE NO. <i>U-0624</i>	SHEET NO. <i>1-A</i>
--	-------------------------



8/17/09
01-SEP-2011 14:38 N:\u-624_r.dwg tsh.dgn

SHEET NUMBER	INDEX OF SHEETS 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 THRU 2-F	DETAILS OF INTERSECTIONS
2-G	DRAINAGE DETAILS D AND F
2-H	DETAIL OF ANCHORAGE FOR FRAMES
2-I	DETAIL OF CROSSWALK THRU MONOLITHIC ISLAND
2-J THRU 2-K	DETAIL OF PIPE INSTALLATION
2-L THRU 2-M	DETAIL OF CURB RAMPS
2-N THRU 2-P	DETAIL OF CURB RAMPS AND EXSITING CURB AND GUTTER
2-Q	DETAIL OF SPECIAL CURB RAMPS
3 (2 SHEETS)	SUMMARY OF QUANTITIES
3-A THRU 3-D	SUMMARY OF DRAINAGE QUANTITIES
3-E	EARTHWORK SUMMARY, SUMMARY OF ASPHALT MILLING, AND ASPHALT PAVEMENT REMOVAL SUMMARY
3-F	PARCEL INDEX SHEET
4 THRU 7	PLAN SHEET
8 THRU 11	PROFILE SHEET
TMP-1 THRU TMP-19	TRAFFIC MANAGEMENT PLANS
SD-1	SPECIAL SIGN DESIGN PLANS
PM-1 THRU PM-4	PAVEMENT MARKING PLANS
EC-1 THRU EC-11	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-8	SIGNING PLANS
SIG-1 THRU SIG-28	SIGNAL PLANS
UC-1 THRU UC-6	UTILITIES CONSTRUCTION PLANS
UO-1 THRU UO-5	UTILITIES BY OTHERS PLANS
X-1 THRU X-37	CROSS-SECTIONS

GENERAL NOTES:

2006 SPECIFICATIONS
EFFECTIVE: 07-18-06
REVISED: 07-19-11

GRADING AND SURFACING OR RESURFACING AND WIDENING:
THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

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

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

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

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

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

DRIVEWAYS:
DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.03 AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

STREET TURNOUT:
STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS.

TEMPORARY SHORING:
SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

UTILITIES:
UTILITY OWNERS ON THIS PROJECT ARE OWASA (Water and Sanitary Sewer), Duke (Power), AT&T (Telephone), TWC (Cable TV), and PSNC (Gas). ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

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

CURB RAMPS:
CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS AND SHALL BE INSTALLED AT CROSSWALKS SHOWN IN THE PAVEMENT MARKING PLANS AND AT TEE INTERSECTIONS AS SHOWN ON DETAIL SHEETS 2-L THRU 2-Q. THE CONSTRUCTION OF ALL CURB RAMPS SHALL BE IN ACCORDANCE WITH THE DETAILS IN THE PLANS.

2006 ROADWAY ENGLISH STANDARD DRAWINGS

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

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 the project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
225.06	Method of Grading Sight Distance at Intersections
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
815.03	Pipe Underdrain and Blind Drain
838.01	Concrete Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.11	Brick Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
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
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.24	Frames and Narrow Slot Sag Grates
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.34	Traffic Bearing Junction Box - for Use with Pipes 42" and Under
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
840.71	Concrete and Brick Pipe Plug
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
846.02	Drop Inlet Installation in Expressway Gutter
848.01	Concrete Sidewalk
848.03	Driveway Turnout - Drop Curb Type
848.04	Street Turnout
852.01	Concrete Islands
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale

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

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EP
Property Corner	-----
Property Monument	□ ECM
Parcel/Sequence Number	②③
Existing Fence Line	-x-x-x-
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 ---
Known Soil Contamination: Area or Site	☠ ☠
Potential Soil Contamination: Area or Site	☠ ☠

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	--- WLB ---
Proposed Lateral, Tail, Head Ditch	-----
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	○ 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 Drainage / Utility Easement	--- DUE ---
Proposed Permanent Utility Easement	--- PUE ---
Proposed Temporary Utility Easement	--- TUE ---
Proposed Aerial Utility Easement	--- AUE ---
Proposed Permanent Easement with Iron Pin and Cap Marker	◆

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	--- C ---
Proposed Slope Stakes Fill	--- F ---
Proposed Curb Ramp	○ CR
Curb Cut Future Ramp	○ CCFR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	⊗

VEGETATION:

Single Tree	○
Single Shrub	○
Hedge	-----
Woods Line	-----

Orchard	○ ○ ○ ○
Vineyard	□ Vineyard

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	□ CONC
Bridge Wing Wall, Head Wall and End Wall	} CONC WW {
MINOR:	
Head and End Wall	--- CONC HW ---
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	□ CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	○ S
Storm Sewer	--- S ---

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
Power Line Tower	⊗
Power Transformer	⊗
U/G Power Cable Hand Hole	□
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	⊕
Telephone Booth	□
Telephone Pedestal	⊕
Telephone Cell Tower	⊕
U/G Telephone Cable Hand Hole	□
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	⊕
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	□
TV Tower	⊗
U/G TV Cable Hand Hole	□
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 ---

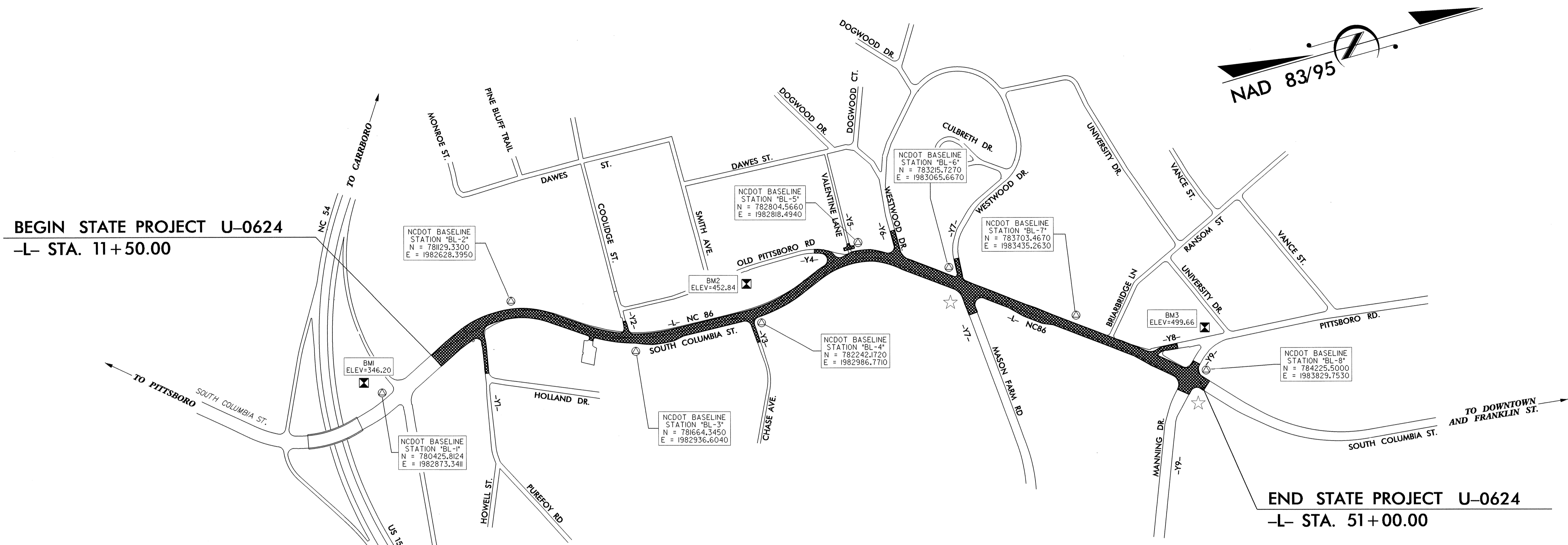
MISCELLANEOUS:

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

12/01/2005

U-0624 SURVEY CONTROL SHEET

PROJECT REFERENCE NO.	SHEET NO.
U-0624	1-C
Location and Surveys	



BEGIN STATE PROJECT U-0624
-L- STA. 11+50.00

END STATE PROJECT U-0624
-L- STA. 51+00.00

BENCHMARK DATA	
BM1	ELEVATION - 346.20 N 780364 E 1982773 L STATION 9+92 S 18° 11' 04.0" W DIST 214.45 RR SPIKE IN 21 IN. WILLOW OAK
BM2	ELEVATION - 452.84 N 782240 E 1982830 L STATION 27+85 144 LEFT RR SPIKE IN 24 IN. WILLOW OAK
BM3	ELEVATION - 499.66 N 784308 E 1983668 L STATION 50+35 223 LEFT RR SPIKE IN 30 IN. RED OAK

DATUM DESCRIPTION
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE NAD 83/95 STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "BL-3"
 WITH STATE PLANE GRID COORDINATES OF
 NORTHING: 781664.345(ft) EASTING: 1982936.603(ft)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 99992132
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BL-3" TO L- STATION 11+50.00 IS
 S 9° 52' 32.7" W, 968.83'
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NGVD 88

BASELINE DATA							
BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	BL-1		780425.8124	1982873.3411	349.22	OUTSIDE PROJECT LIMITS	
2	BL-2		781129.3300	1982628.3950	379.48	15+89.40	28.44 LT
3	BL-3		781664.3450	1982936.6040	409.17	22+02.37	2.36 RT
4	BL-4		782242.1720	1982986.7710	435.25	27+81.72	13.26 RT
5	BL-5		782804.5660	1982818.4940	464.34	33+57.97	37.40 LT
6	BL-6		783215.7270	1983065.6670	487.52	38+26.11	28.06 LT
7	BL-7		783703.4670	1983435.2630	514.82	44+38.06	26.70 LT
8	BL-8		784225.5000	1983829.7530	497.19	50+86.47	49.68 LT

NOTES

- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/U0624.LS.CONTROL_070110.TXT](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project/u0624.ls.control_070110.txt)
 THE FILES TO BE FOUND ARE AS FOLLOWS:
 U0624.LS.CONTROL_070110.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 FROM EXISTING NCGS MONUMENTATION.

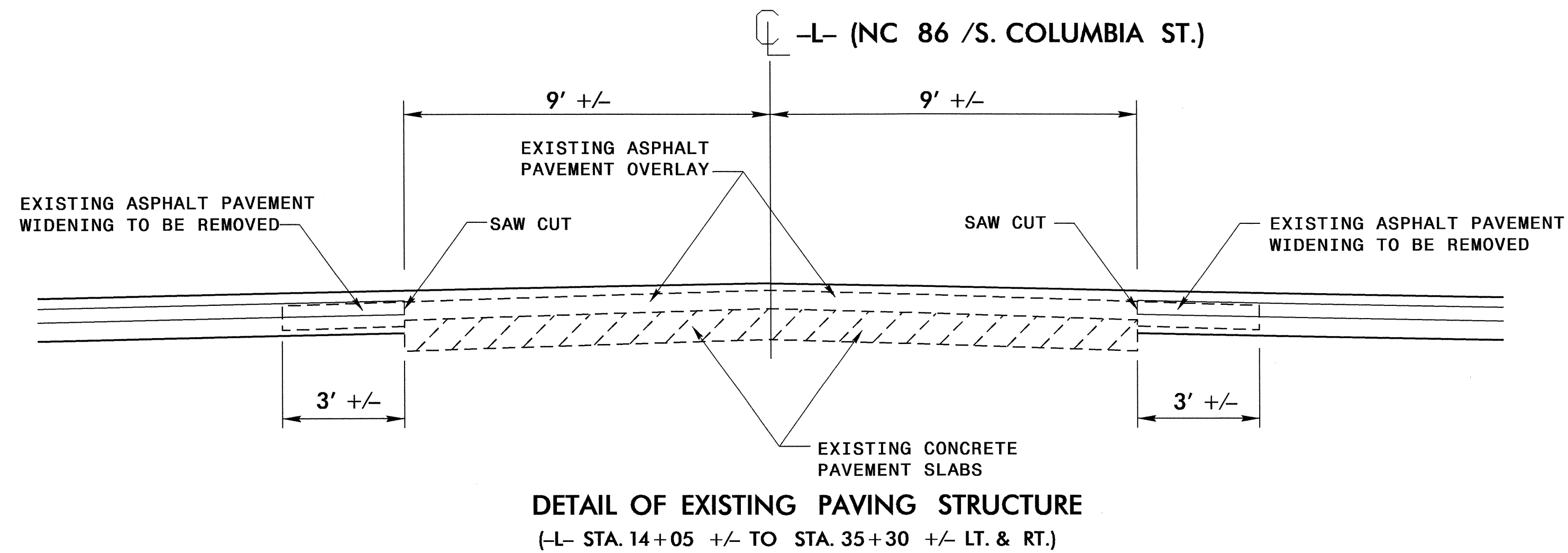
NOTE: DRAWING NOT TO SCALE

24-AUG-2011 11:41
 T:\WOODROW\PROJECTS\U0624_1s_1c.dgn

PAVEMENT SCHEDULE

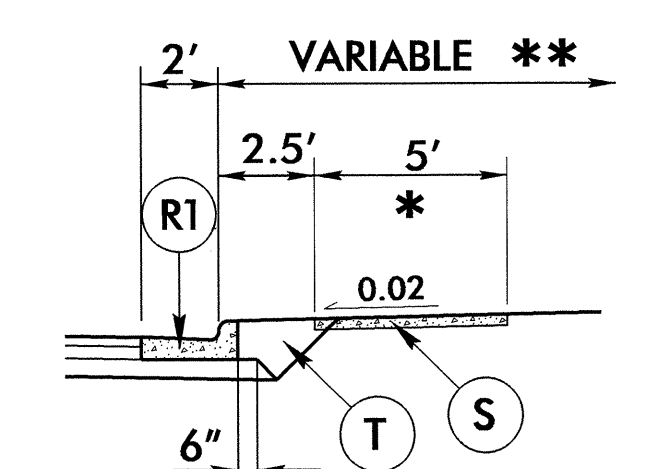
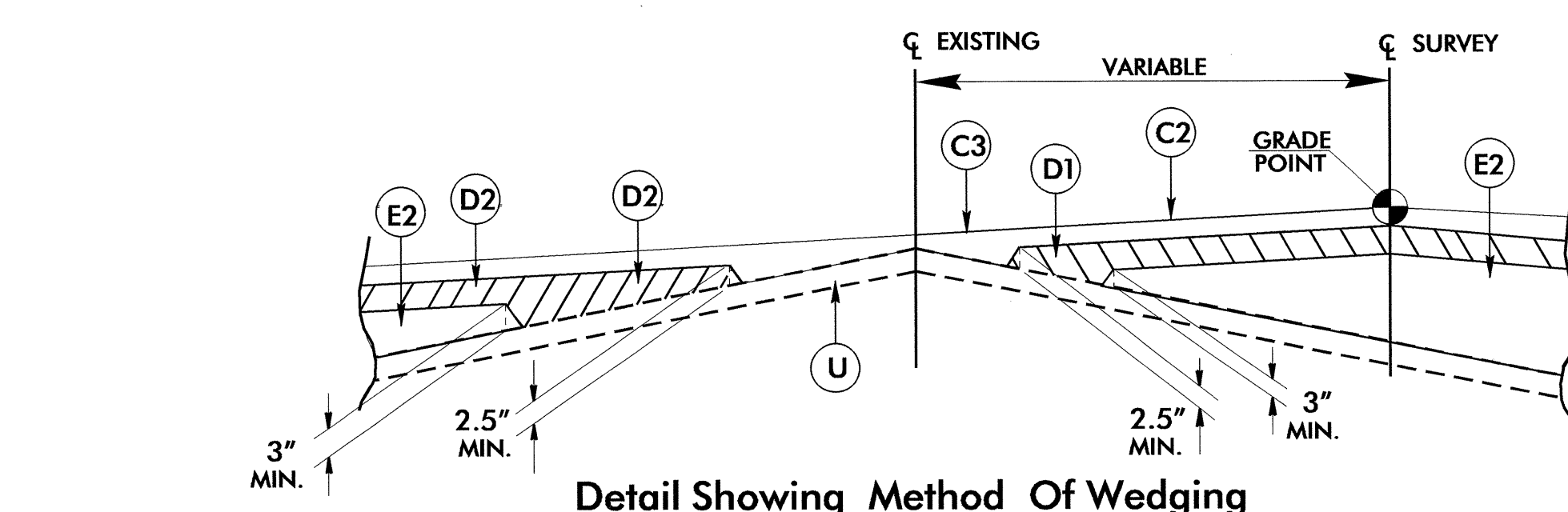
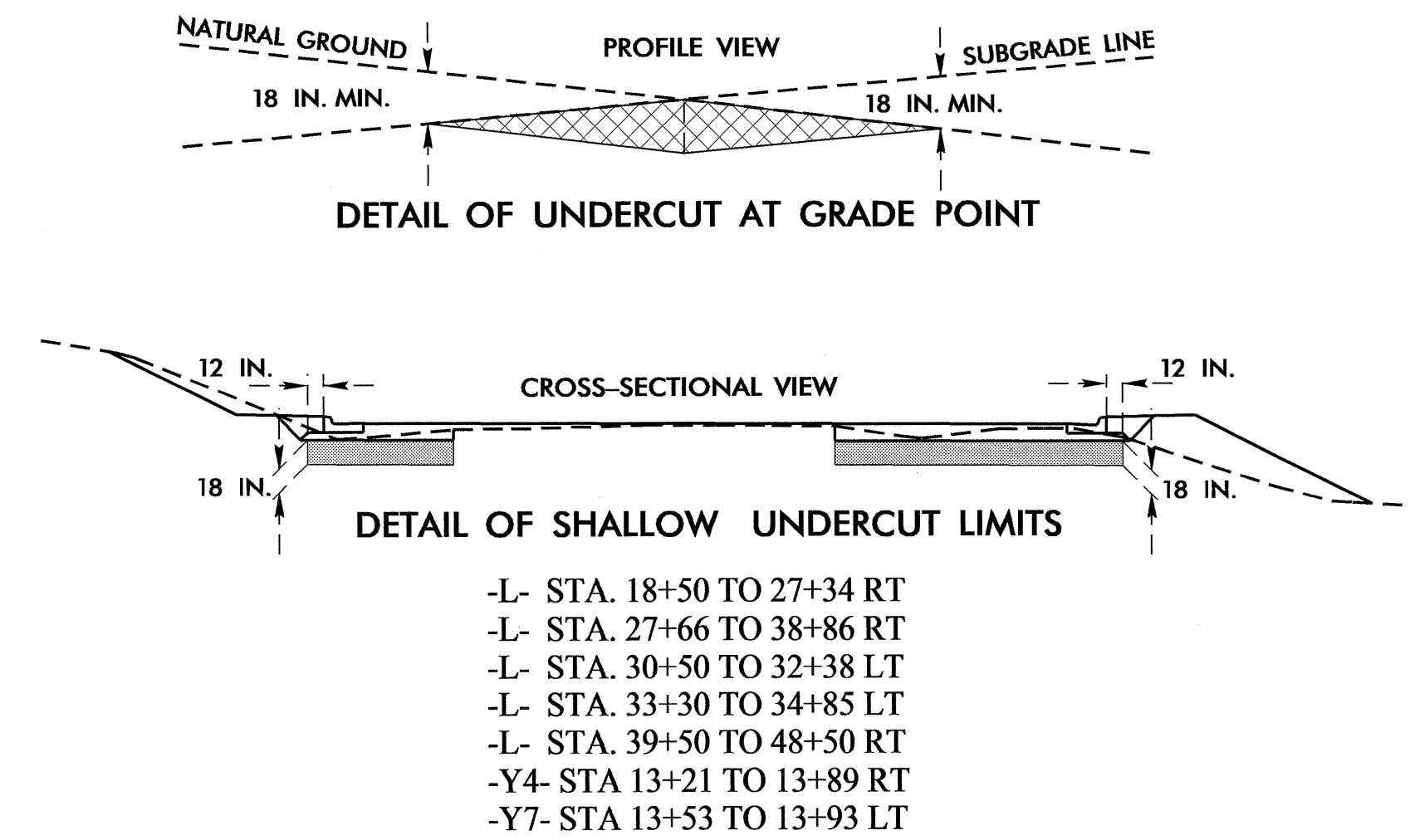
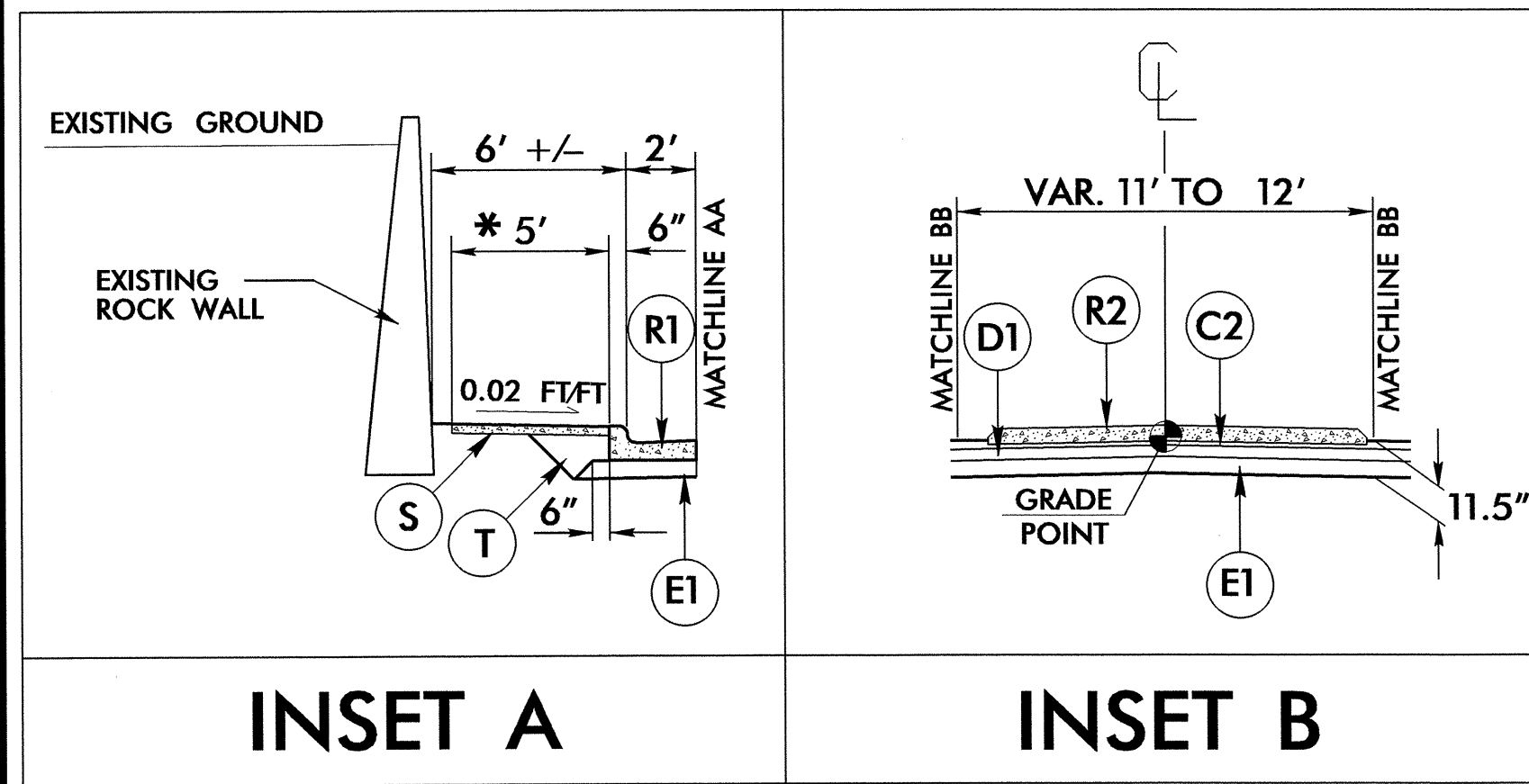
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	R1	2' - 6" CONCRETE CURB AND GUTTER
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R2	5" MONOLITHIC CONCRETE ISLAND
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1.50" IN DEPTH.	S	4" CONCRETE / BRICK SIDEWALK
D1	PROP. APPROX. 4" DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	T	EARTH MATERIAL
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2.5" IN DEPTH OR GREATER THAN 4" IN DEPTH.	U	EXISTING ASPHALT PAVEMENT AND EXISTING ASPHALT PAVEMENT OVER CONCRETE PAVEMENT
E1	PROP. APPROX. 4.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.	V	MILLING BITUMINOUS PAVEMENT. VAR. DEPTH 0 - 2.50"
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5.5" IN DEPTH.	W	SEE WEDGING DETAIL

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



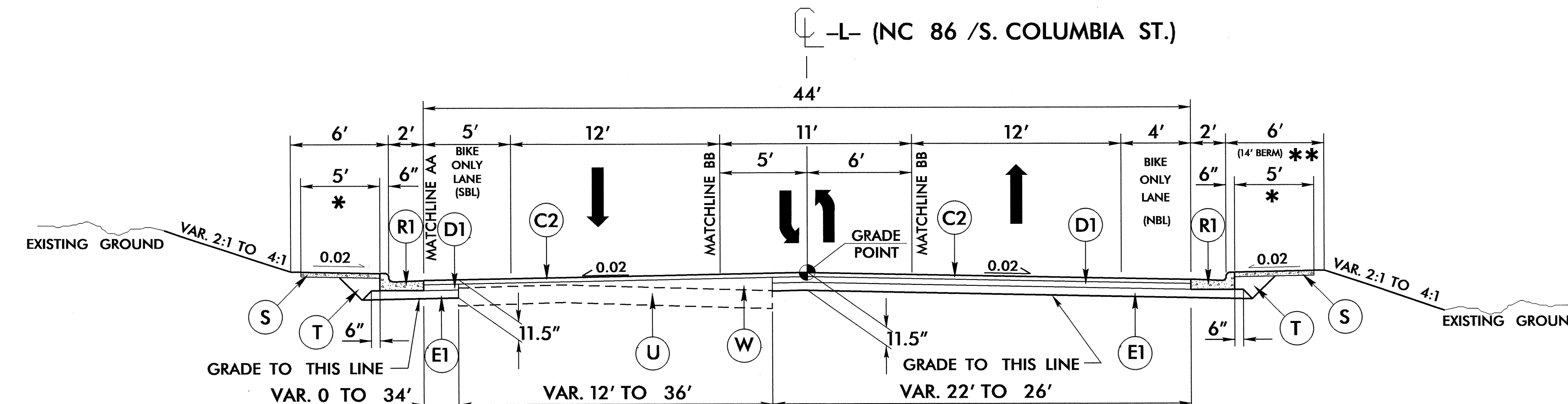
USE INSET A FOR -L- STA. 17+81.12 TO 18+44.58
 18+77.76 TO 21+22.26
 23+69.62 TO 25+00.56
 25+06.59 TO 25+74.15
 26+89.67 TO 27+51.43
 35+38.64 TO 38+06.01
 38+41.28 TO 42+14.11
 42+59.69 TO 46+11.56

USE INSET B FOR -L- STA. 13+25.64 TO 13+81.83



TYPICAL SECTION NO. 1A
 USE TYPICAL SECTION NO. 1
 USE TS NO. 1A IN CONJUNCTION WITH TS NO. 1
 -L- STA. 22+00.00 TO STA. 49+00.00 RT.

USE TYPICAL SECTION NO. 1
 -L- STA. 12+50.00 TO STA. 50+00.00
 NOTE: REMOVE AND RESET BRICK FOR SIDEWALK
 -L- STA. 39+64.45 TO 50+25.47 RT.
 -L- STA. 48+75.33 TO 50+26.97 LT.
 NOTE: USE DITCH DETAIL B IN CONJUNCTION WITH
 TS NO. 1 -L- STA. 29+00 TO 29+50 LT.
 ** NOTE: 14' BERM WIDTH
 -L- STA. 22+00.00 TO 27+38.00 RT.
 -L- STA. 27+78.00 TO 30+50.00 RT.
 NOTE: 8' BERM WIDTH
 -L- STA. 30+50.00 TO 43+00.00 RT.
 NOTE: TIE BERM INTO EXISTING SLOPE
 -L- STA. 43+00.00 TO 49+00.00 RT.

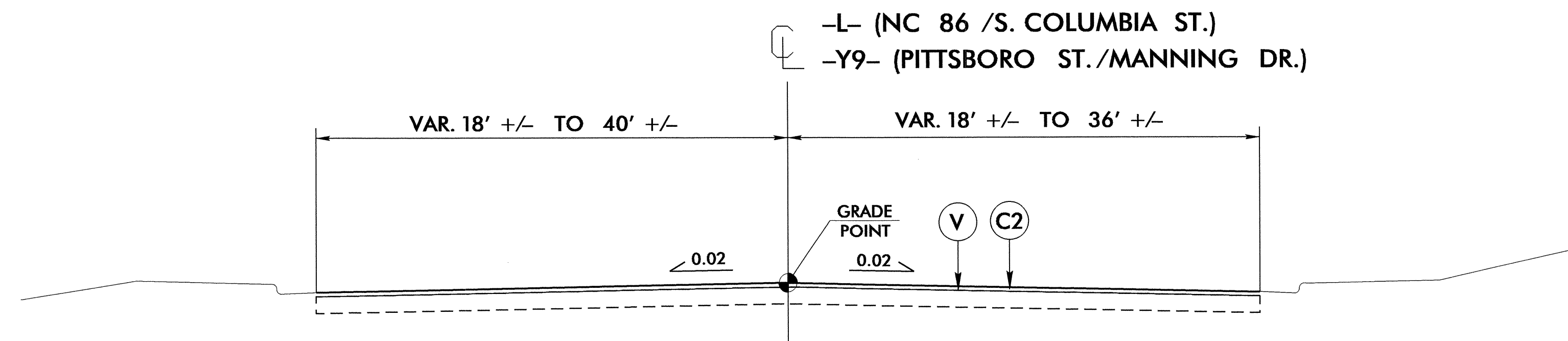


* SEE PLAN SHEETS FOR SIDEWALK LOCATION & TYPE

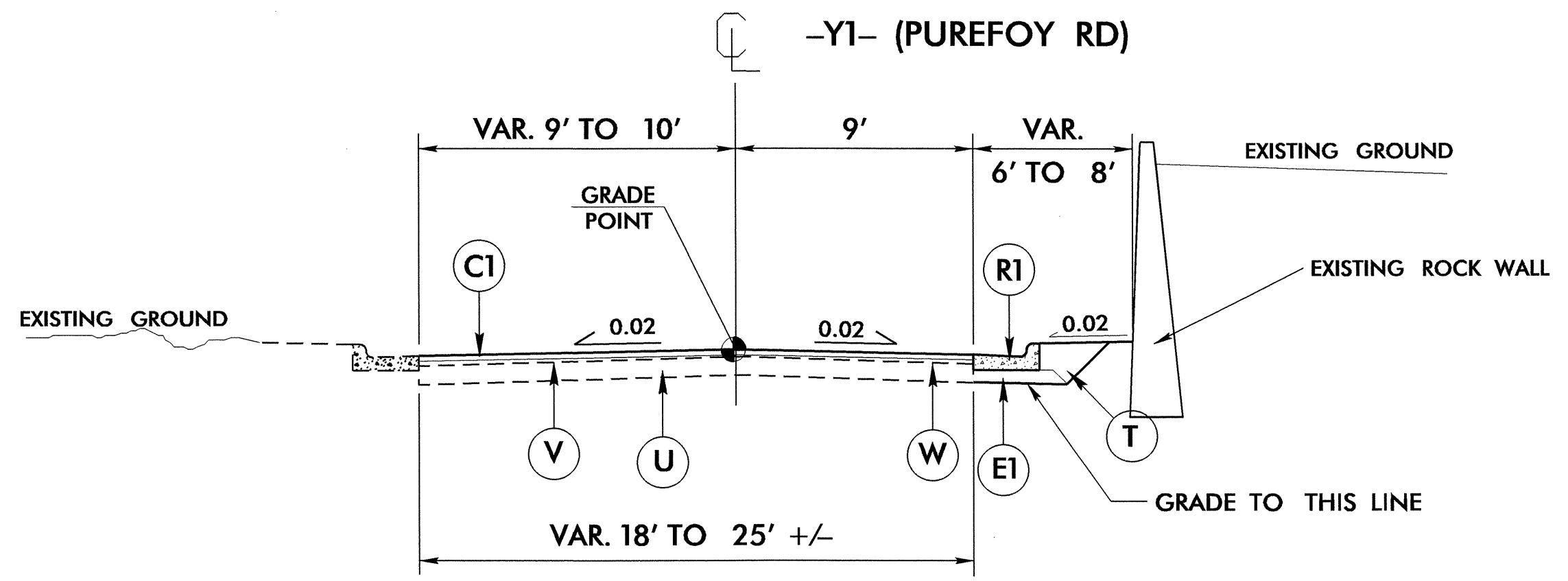
PROJECT REFERENCE NO. U-0624	SHEET NO. 2
ROADWAY DESIGN ENGINEER <i>KEVIN E. MOORE</i>	PAVEMENT DESIGN ENGINEER <i>CLARK S. MORRISON</i>

23-AUG-2011 09:09 P:\Roadway\0624_rdy_ttp.dgn

USE TYPICAL SECTION NO. 2
 -L- STA. 11+50.00 TO STA. 12+50.00
 -L- STA. 50+00.00 TO STA. 51+44.48
 -Y9- STA. 11+30.00 TO 11+68.60
 -Y9- STA. 12+24.62 TO 12+68.88

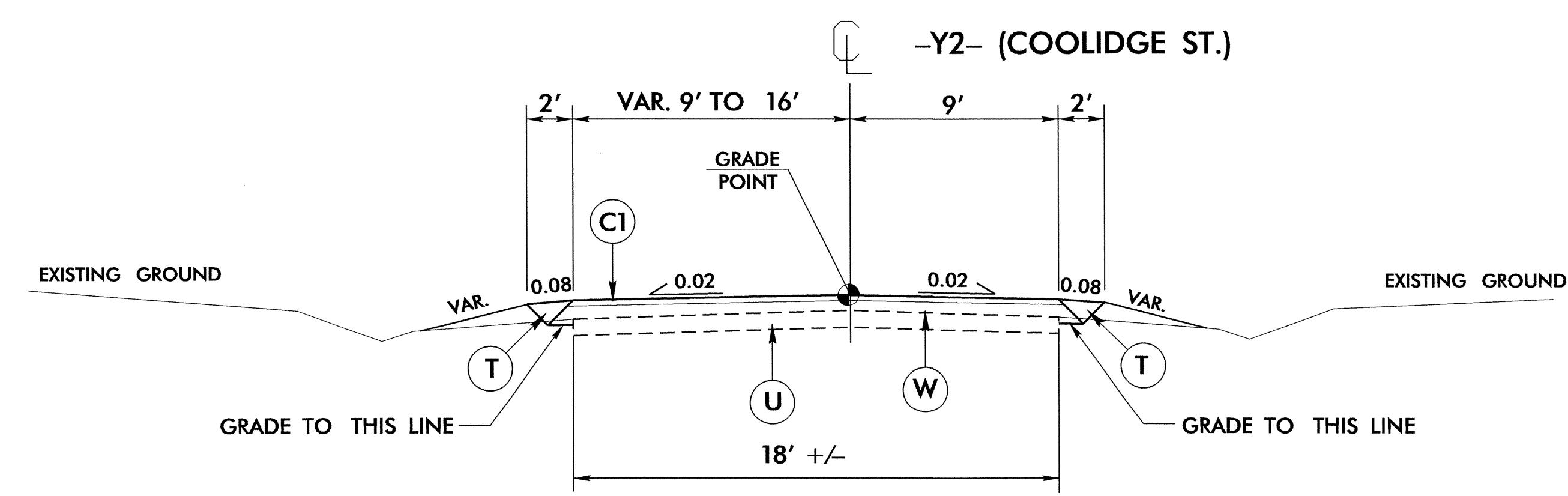


TYPICAL SECTION NO. 2



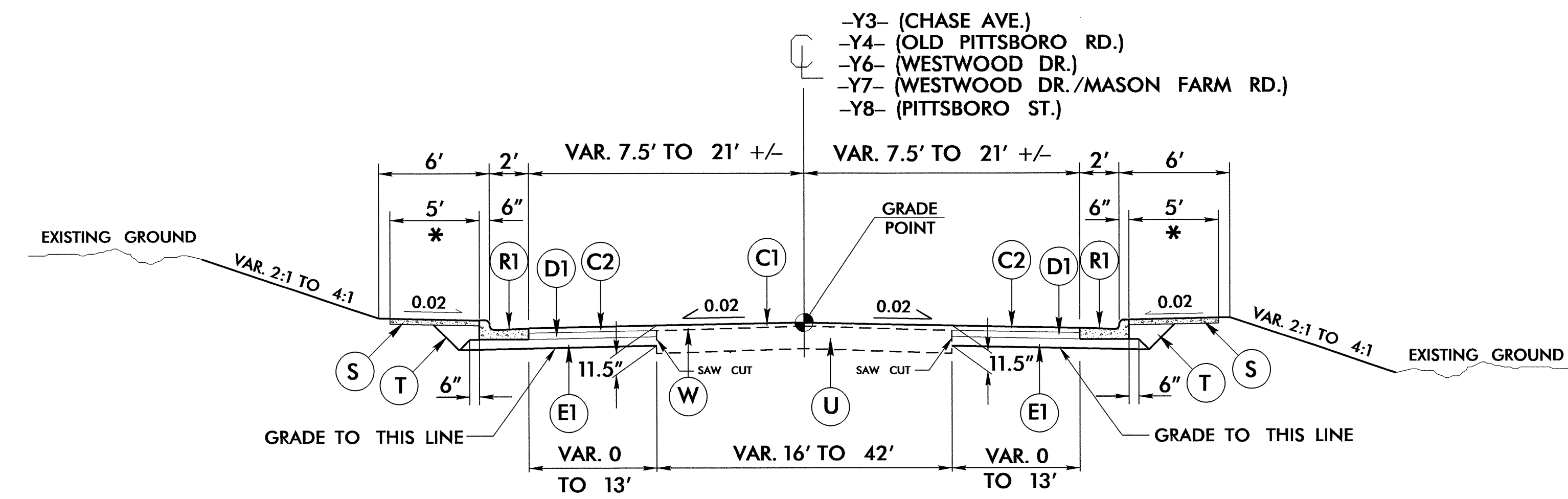
TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3
 -Y1- STA. 9+45.00 TO STA. 11+82.08
 NOTE: TRANSITION FROM EXPRESSWAY GUTTER TO 2' 6" C&G -Y1- STA. 9+61.25. SEE STD. 846.01
 -Y8- STA. 9+44.15 TO STA. 11+00.00 (RIGHT SIDE)
 NOTE: WITH 5' SIDEWALK AT BACK OF CURB



TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4
 -Y2- STA. 10+23.12 TO STA. 10+85.00

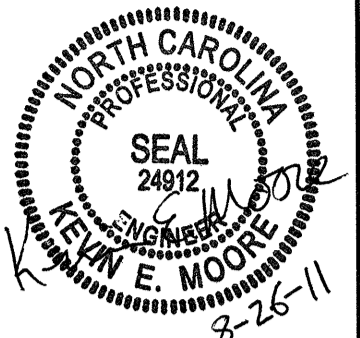


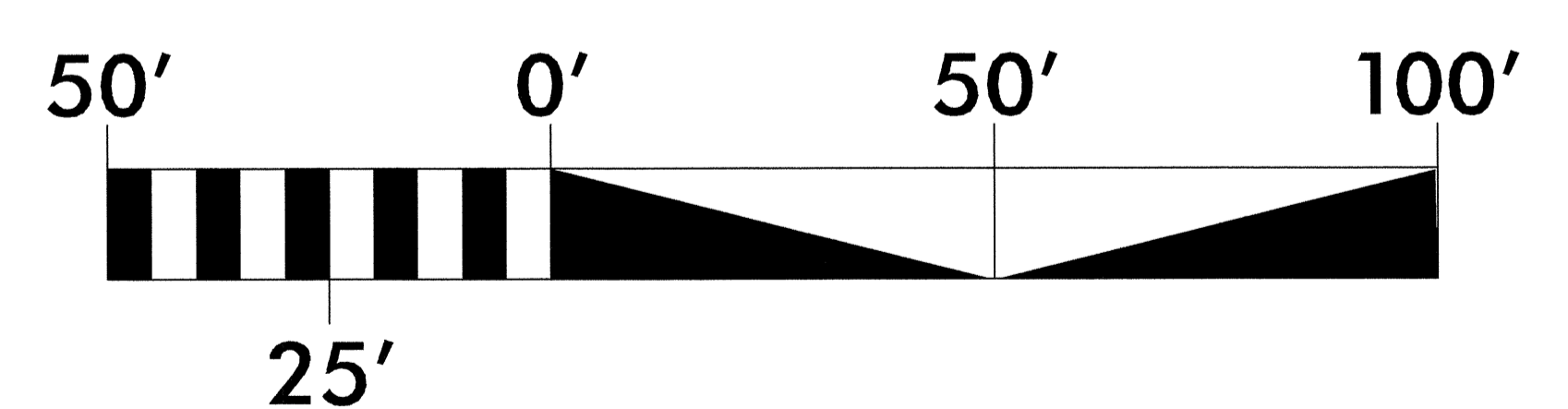
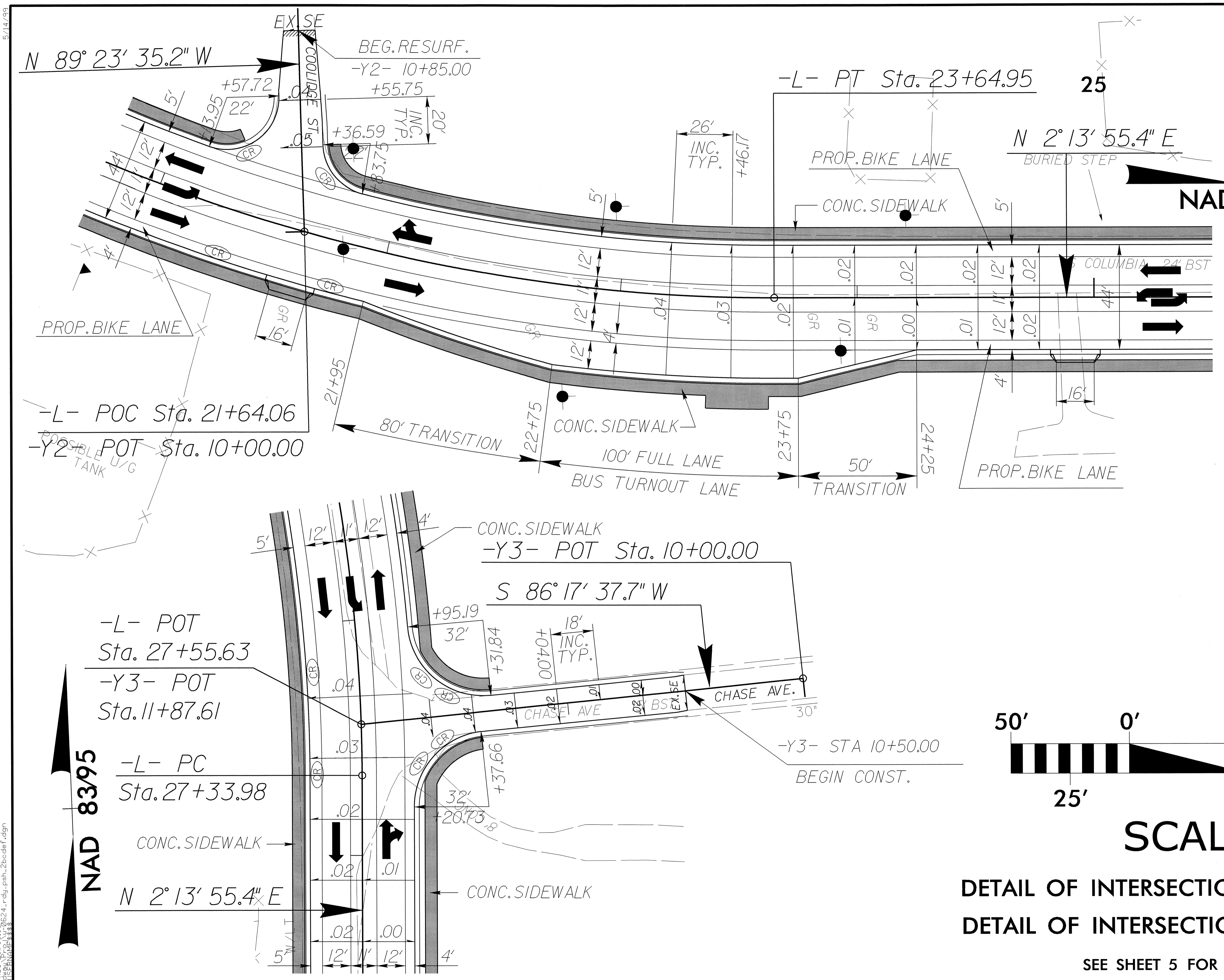
TYPICAL SECTION NO. 5

* SEE PLAN SHEETS FOR SIDEWALK LOCATION & TYPE

USE TYPICAL SECTION NO. 5
 -Y3- STA. 10+50.00 TO STA. 11+65.11
 -Y4- STA. 12+75.00 TO STA. 13+84.18
 -Y6- STA. 10+53.00 TO STA. 11+94.36
 -Y7- STA. 12+12.97 TO STA. 12+52.46
 -Y7- STA. 13+08.87 TO STA. 14+25.00
 -Y8- STA. 11+00.00 TO STA. 11+82.08

PROJECT REFERENCE NO. U-0624	SHEET NO. 2-A
ROADWAY DESIGN ENGINEER SEAL 24912 KEVIN E. MOORE 8-26-11	PAVEMENT DESIGN ENGINEER SEAL 22896 CLARK S. MORRISON 8/26/11
PAVEMENT SCHEDULE	
C1	1.5" S9.5B,
C2	3" S9.5B
C3	VAR. S9.5B,
D1	4" I19.0B
D2	VAR. I19.0B
E1	4.5" B25.0B,
E2	VAR B25.0B,
R1	2' - 6" CONC. C&G
R2	5" MONO. CONC. ISLAND
S	4" CONC./BRICK SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	VAR. MILLING
W	WEDGING

PROJECT REFERENCE NO. U-0624	SHEET NO. 2-C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	



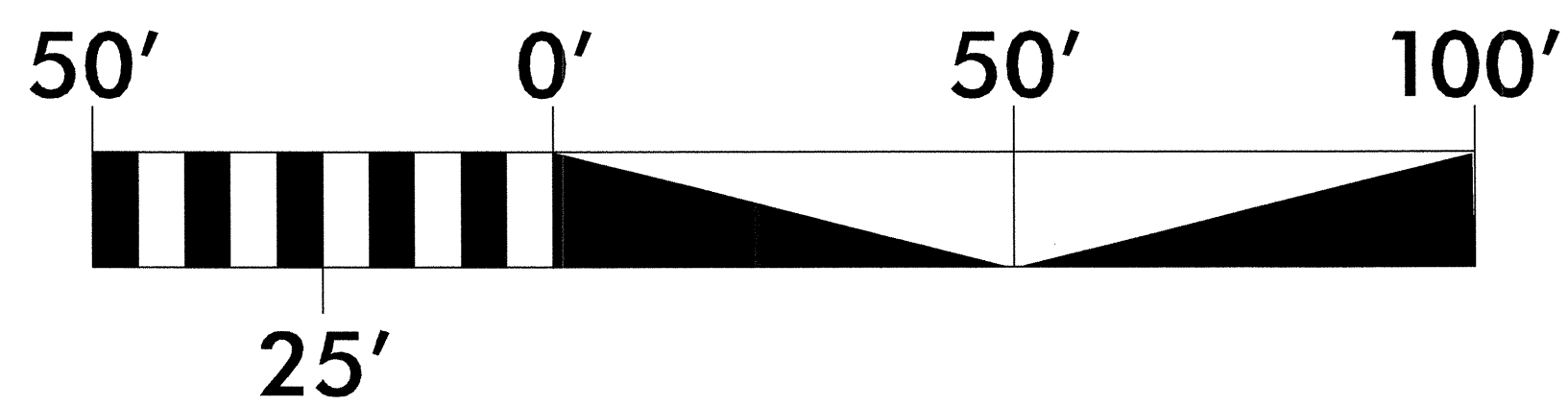
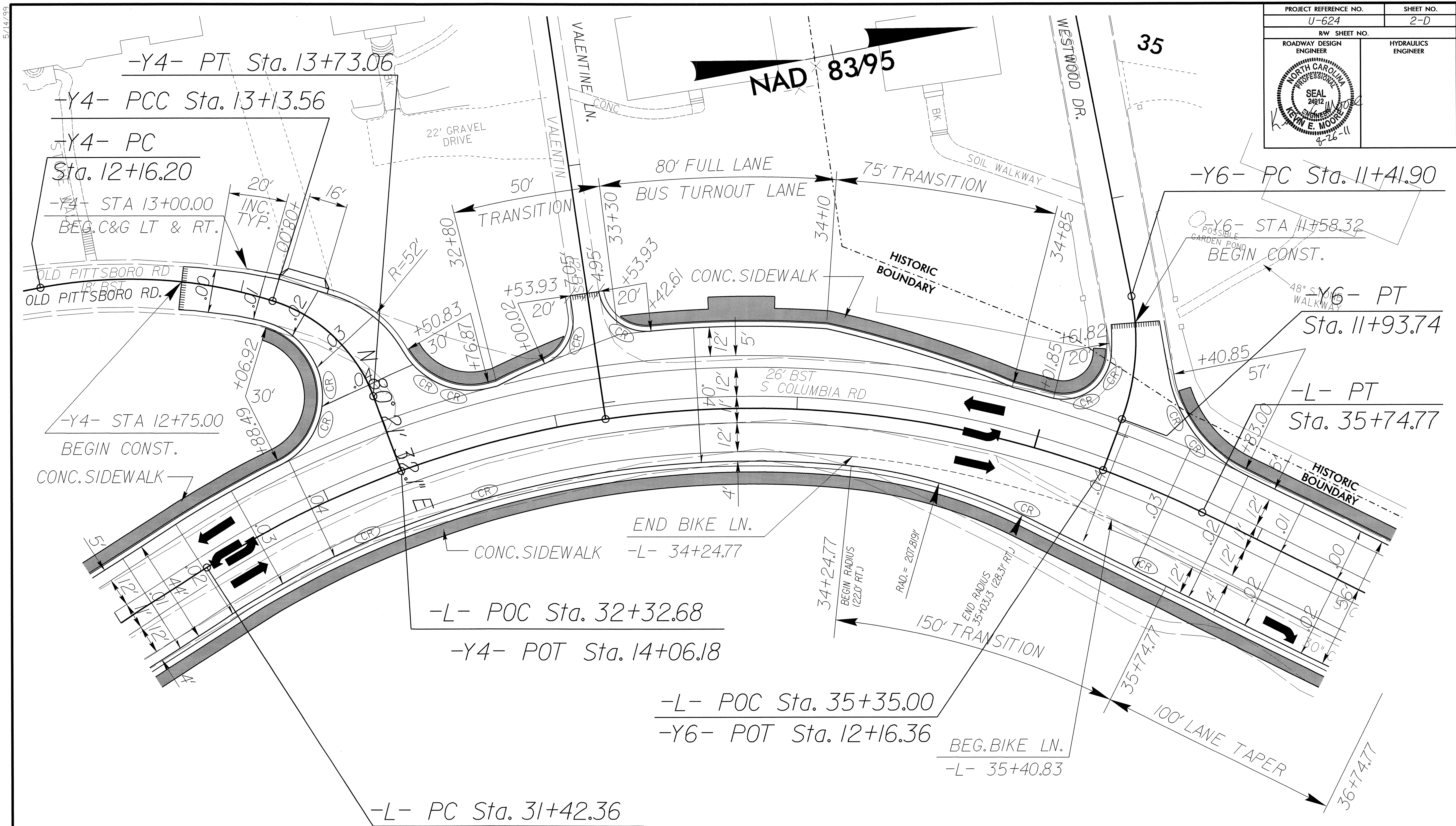
SCALE

DETAIL OF INTERSECTION -L- & -Y2-
 DETAIL OF INTERSECTION -L- & -Y3-

SEE SHEET 5 FOR PLANS

5/14/99
 23-AUG-2010 09:09
 P:\RCS\Drawings\0624_r.dwg_psh_2bodef.dgn

PROJECT REFERENCE NO.		SHEET NO.	
U-624		2-D	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	



SCALE

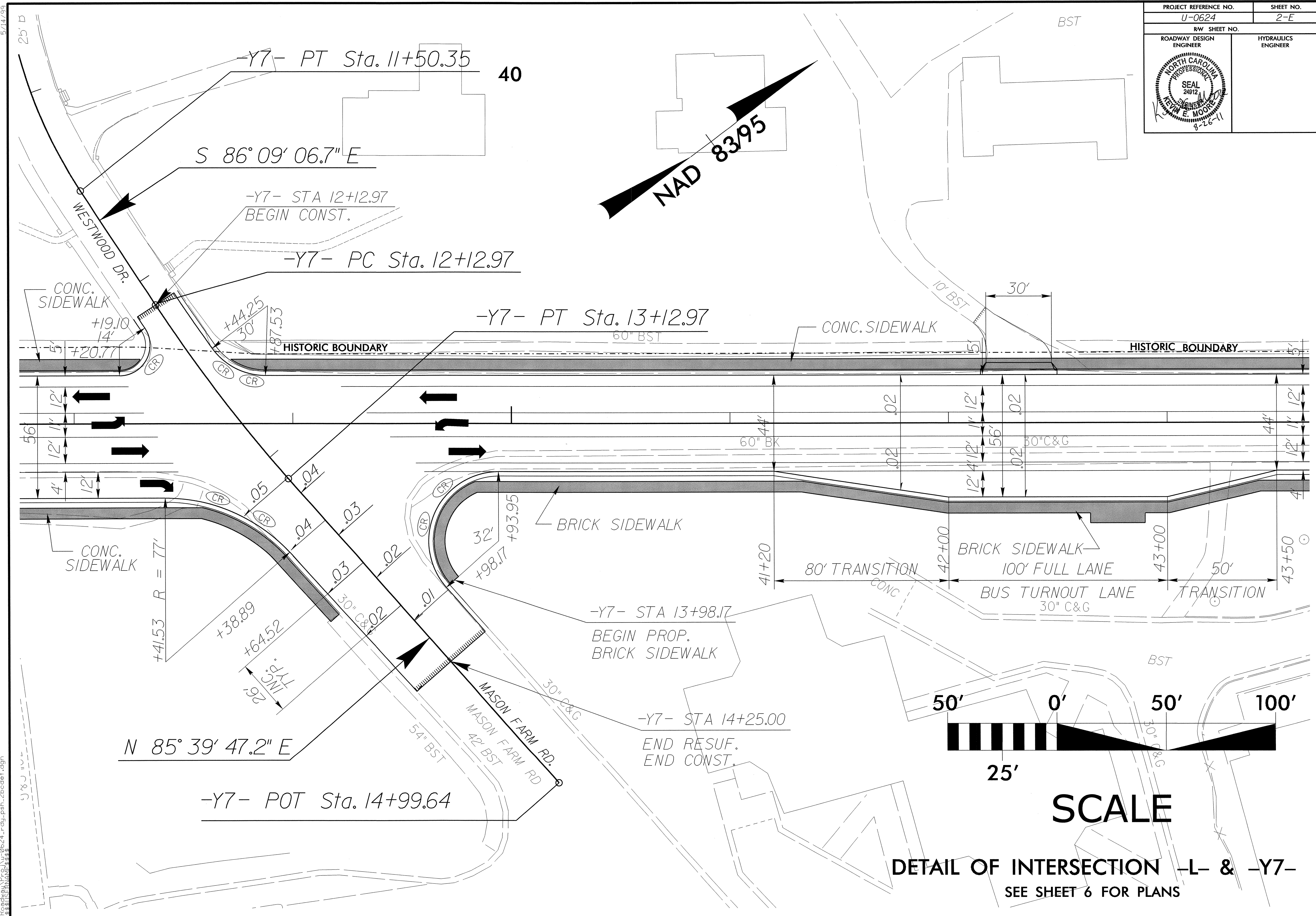
DETAIL OF INTERSECTION -L- & -Y4-
 DETAIL OF INTERSECTION -L- & -Y5-
 DETAIL OF INTERSECTION -L- & -Y6-

SEE SHEET 6 FOR PLANS

5/14/99

23-AUG-2011 09:09
 R:\23-AUG-2011\09:09\U-624_r.dwg...2bdef.dgn

PROJECT REFERENCE NO. U-0624	SHEET NO. 2-E
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

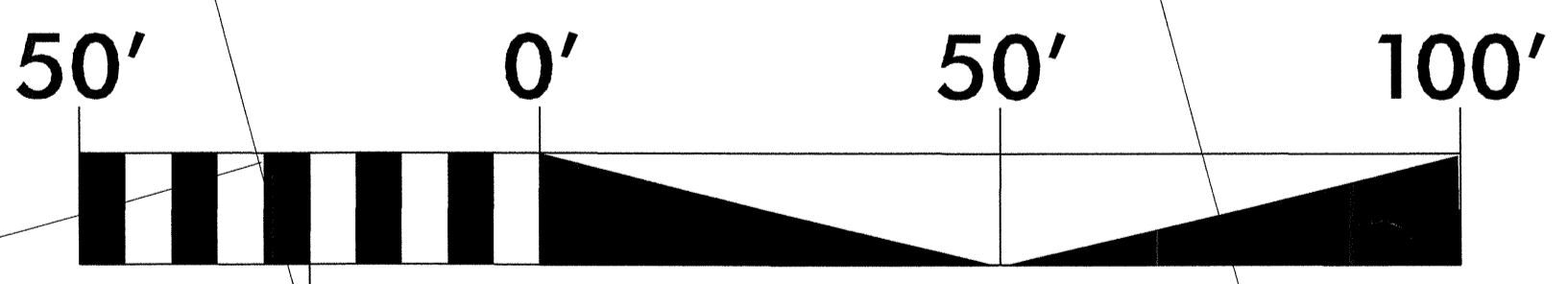
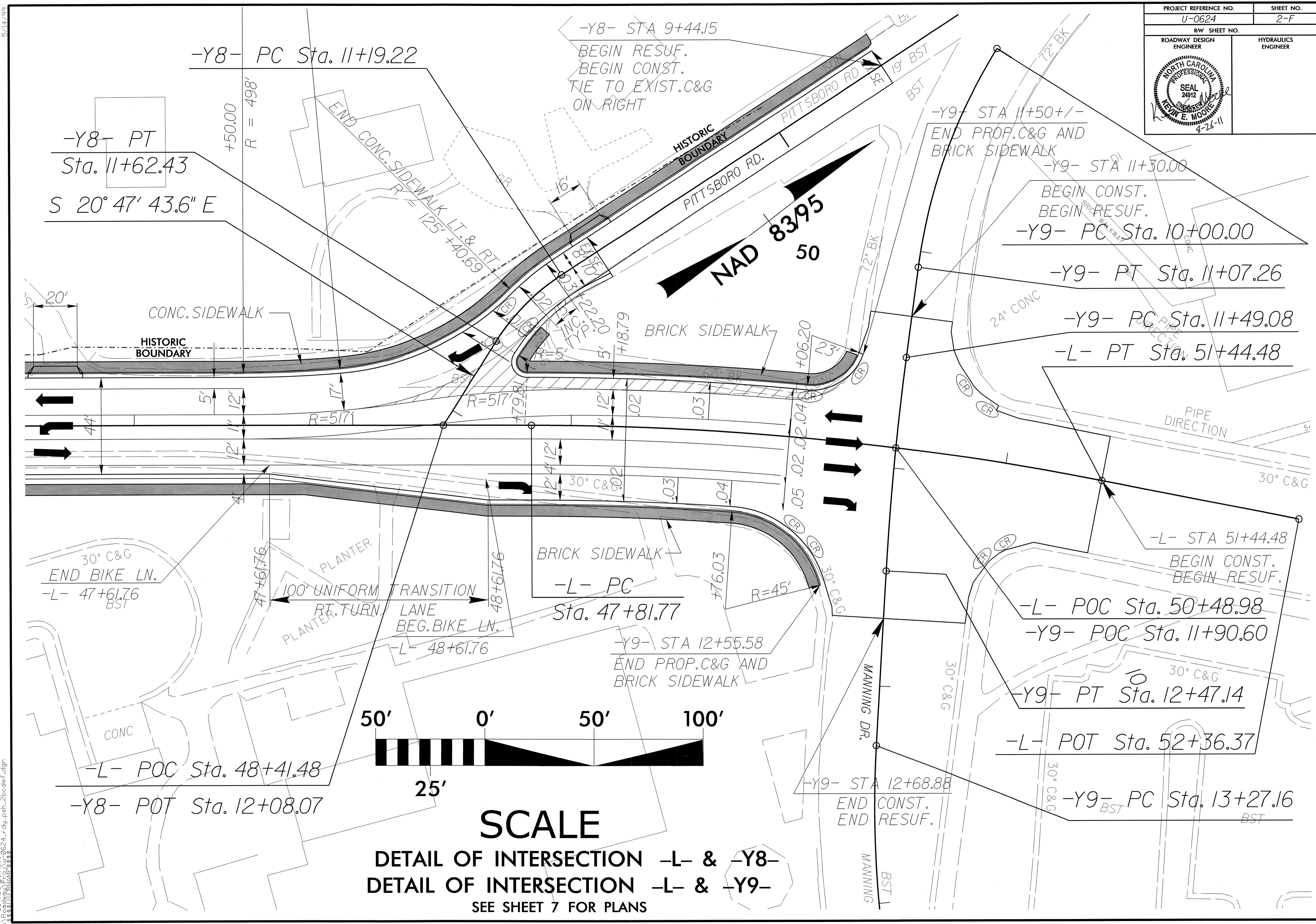


5/14/99
 23-AUG-2010 09:09
 R:\Roadwork\Projects\U-0624_rdy_psh_2bodef.dgn
 \$\$\$\$USERSHARE\$\$\$

SCALE
 25' 50' 0' 50' 100'

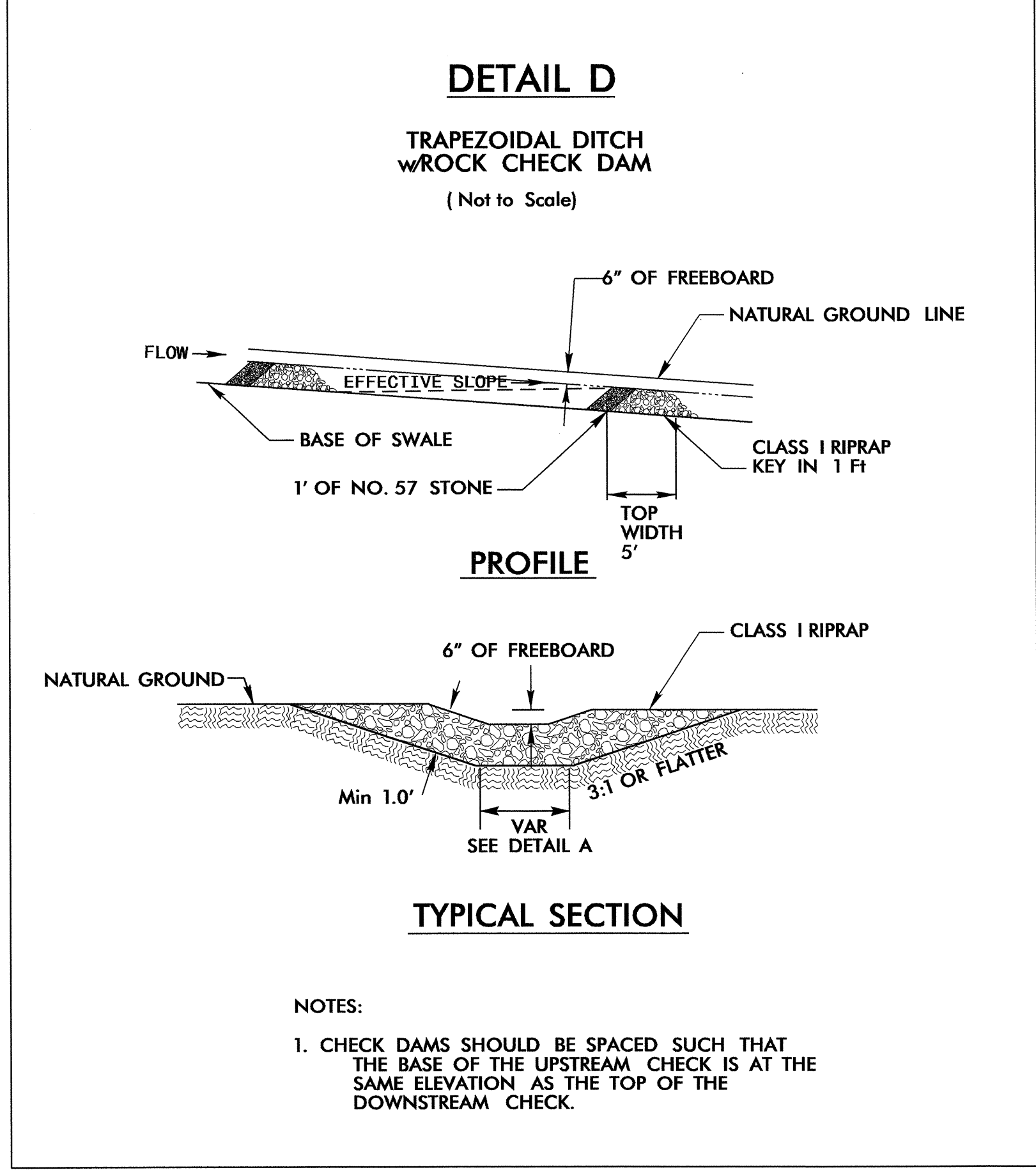
DETAIL OF INTERSECTION -L- & -Y7-
 SEE SHEET 6 FOR PLANS

PROJECT REFERENCE NO. U-0624	SHEET NO. 2-F
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



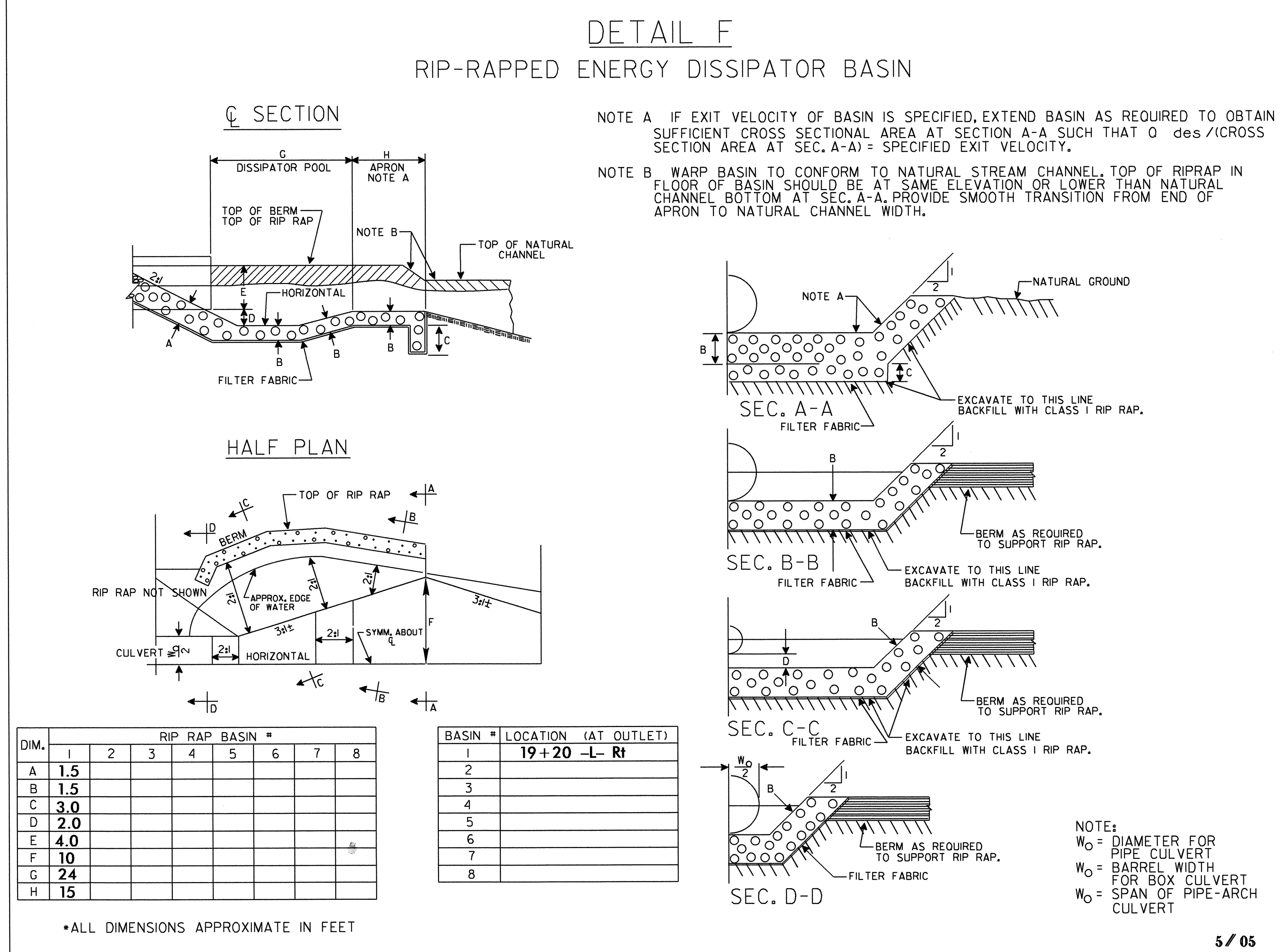
SCALE
DETAIL OF INTERSECTION -L- & -Y8-
DETAIL OF INTERSECTION -L- & -Y9-
 SEE SHEET 7 FOR PLANS

5/14/99
 23-AUG-2011 10:03
 R:\R_2011\1003_0624_r.dwg_psh_2bodef.dgn



FROM STA. 28+05 TO STA. 30+50 -L- Rt

Estimated Quantities per Check Dam:
 Cl. I Rip Rap = 25 Tons
 57 Stone = 5 Tons



DIM.	RIP RAP BASIN #							
	1	2	3	4	5	6	7	8
A	1.5							
B	1.5							
C	3.0							
D	2.0							
E	4.0							
F	10							
G	24							
H	15							

BASIN #	LOCATION (AT OUTLET)
1	19+20 -L- Rt
2	
3	
4	
5	
6	
7	
8	

*ALL DIMENSIONS APPROXIMATE IN FEET

Estimated Quantities:
 175 cu yds excavation
 110 Tons of Cl. I Rip Rap
 150 sq yds Filter Fabric

8/2/09

26-AUG-2011 5:23
 4880756910624_rdy_tsp.dgn

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

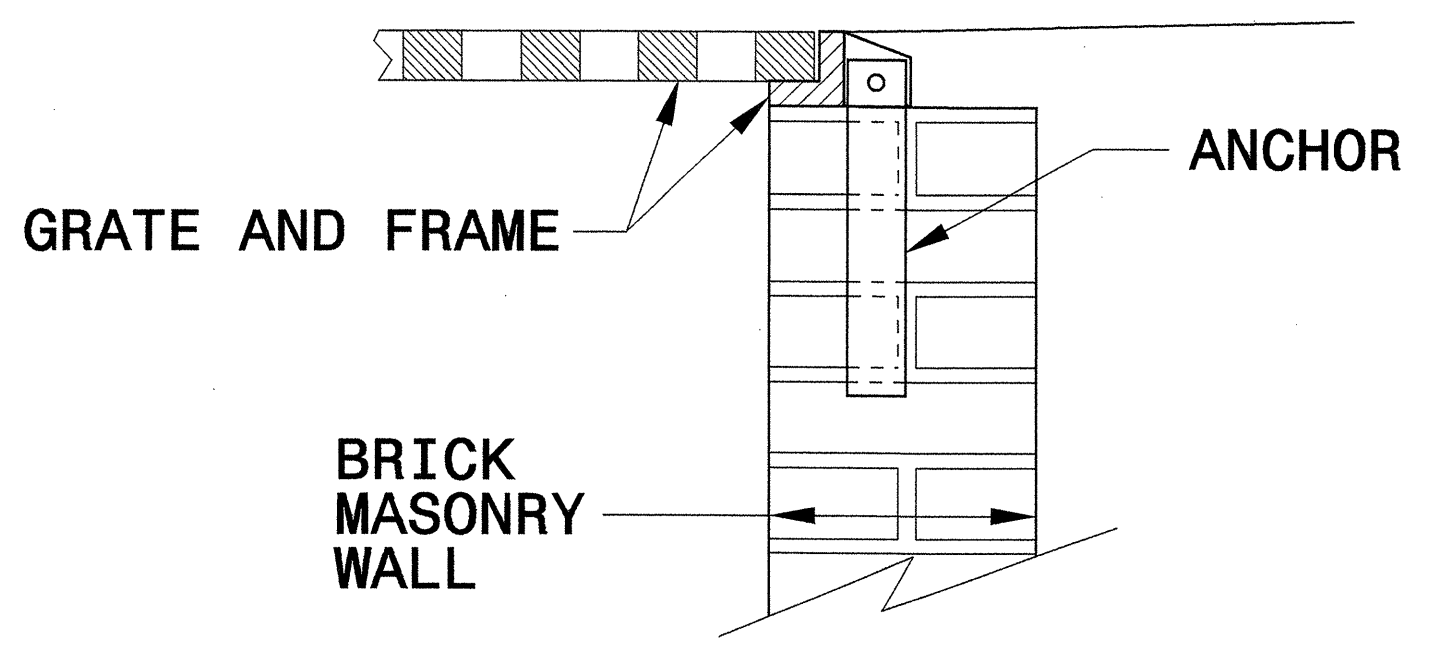
ENGLISH DETAIL DRAWING FOR
ANCHORAGE FOR FRAMES
BRICK/CONCRETE/PRECAST CONCRETE

SHEET 1 OF 1
840D25

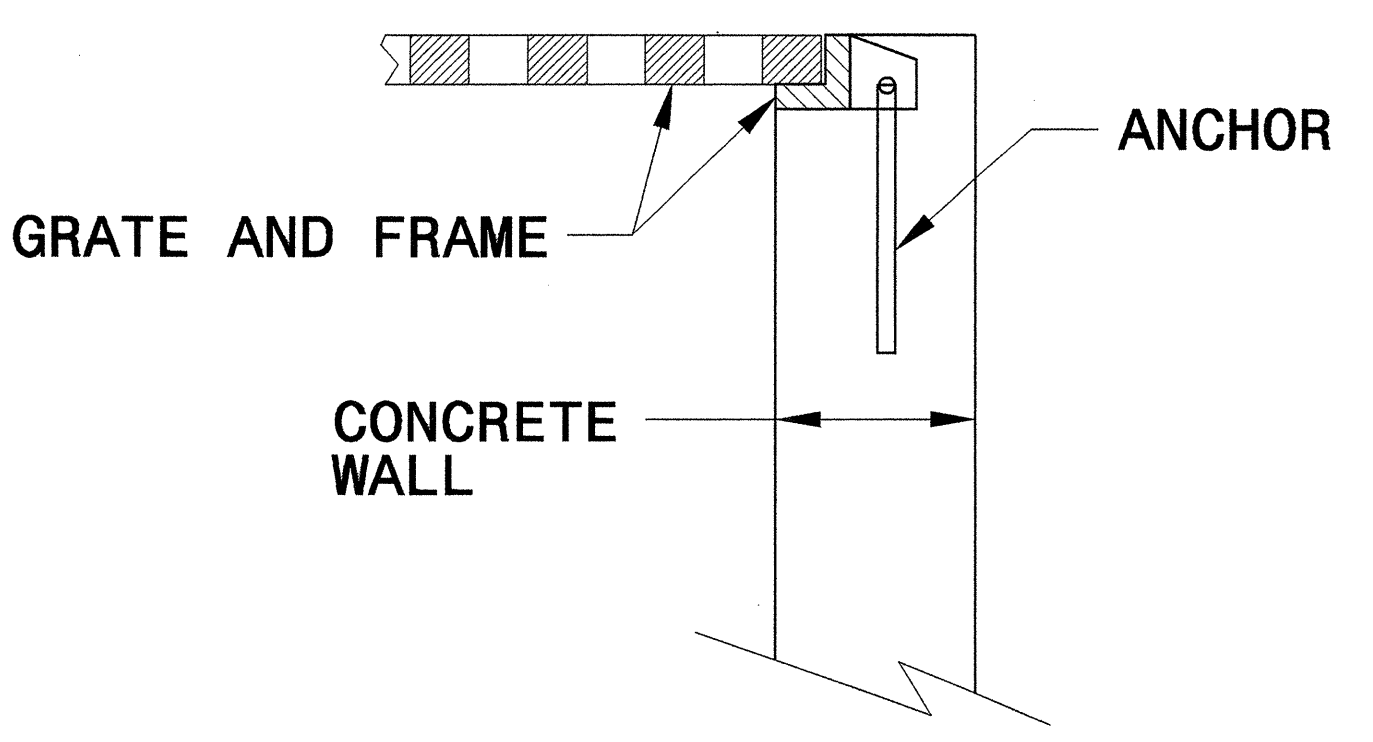
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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

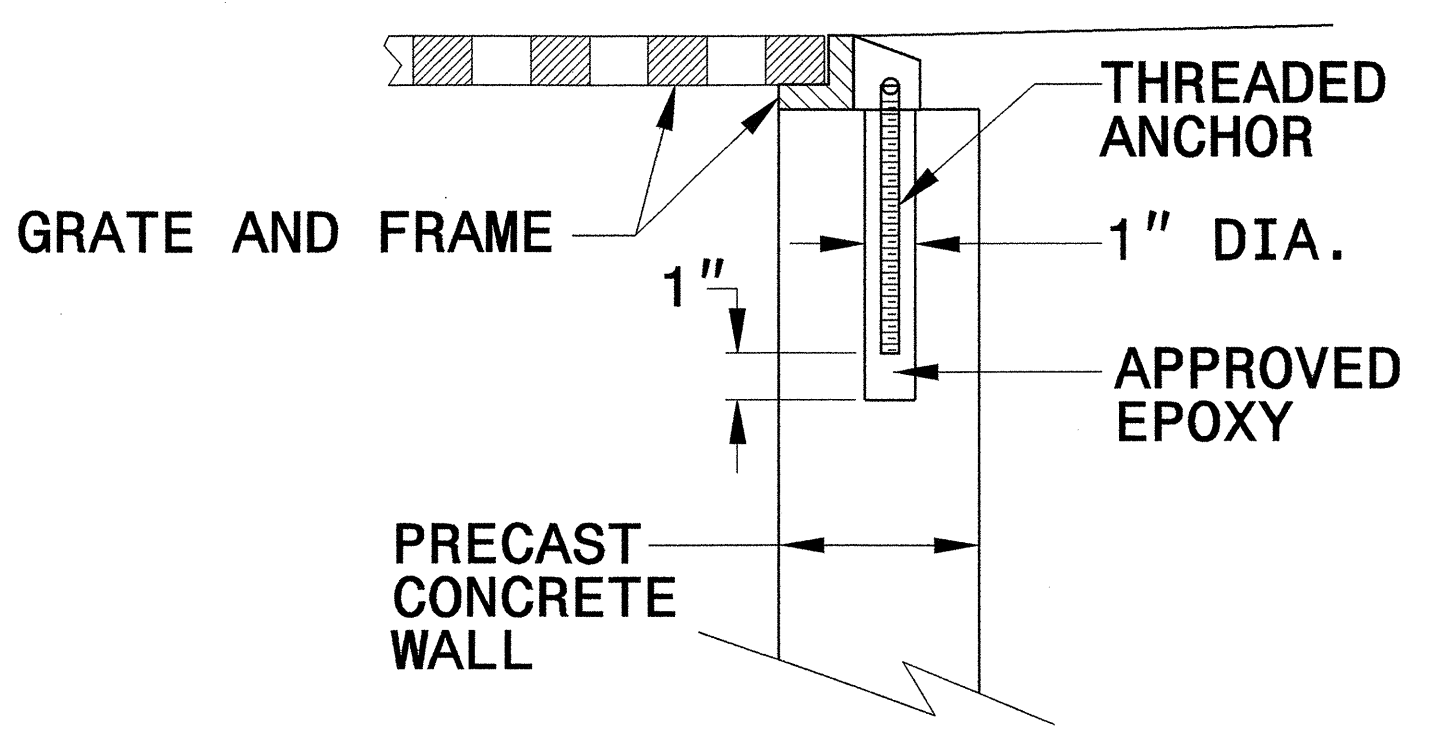
SHEET 1 OF 1
840D25



BRICK MASONRY CONSTRUCTION



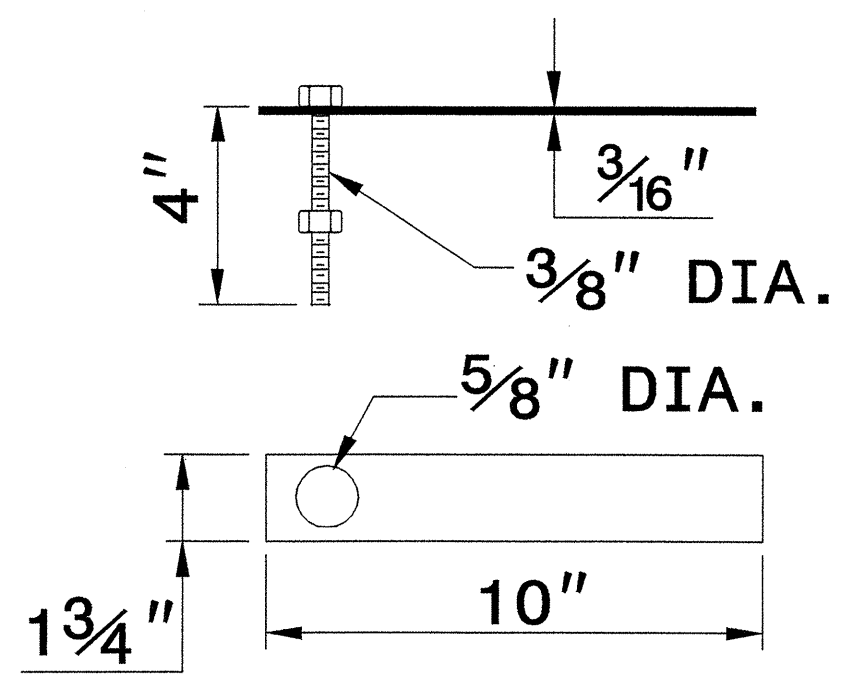
CONCRETE CONSTRUCTION



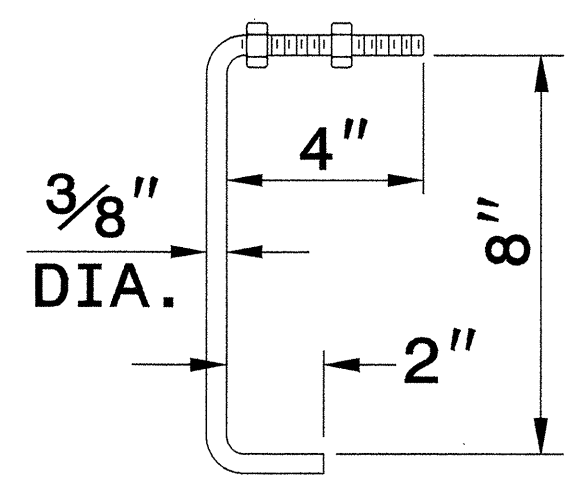
PRECAST CONCRETE CONSTRUCTION

DETAIL SHOWING ANCHORAGE OF FRAME FOR GRATED DROP INLET

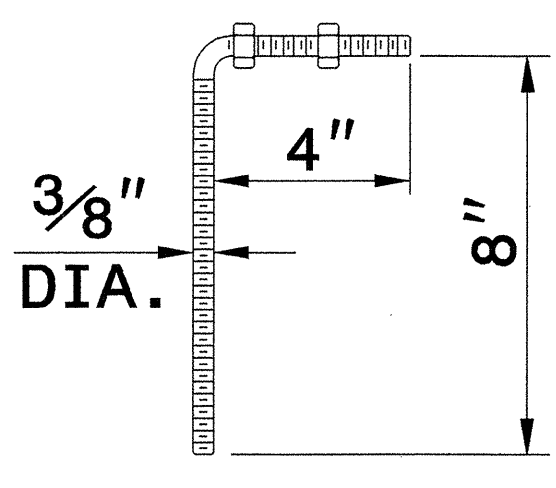
NOTE:
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



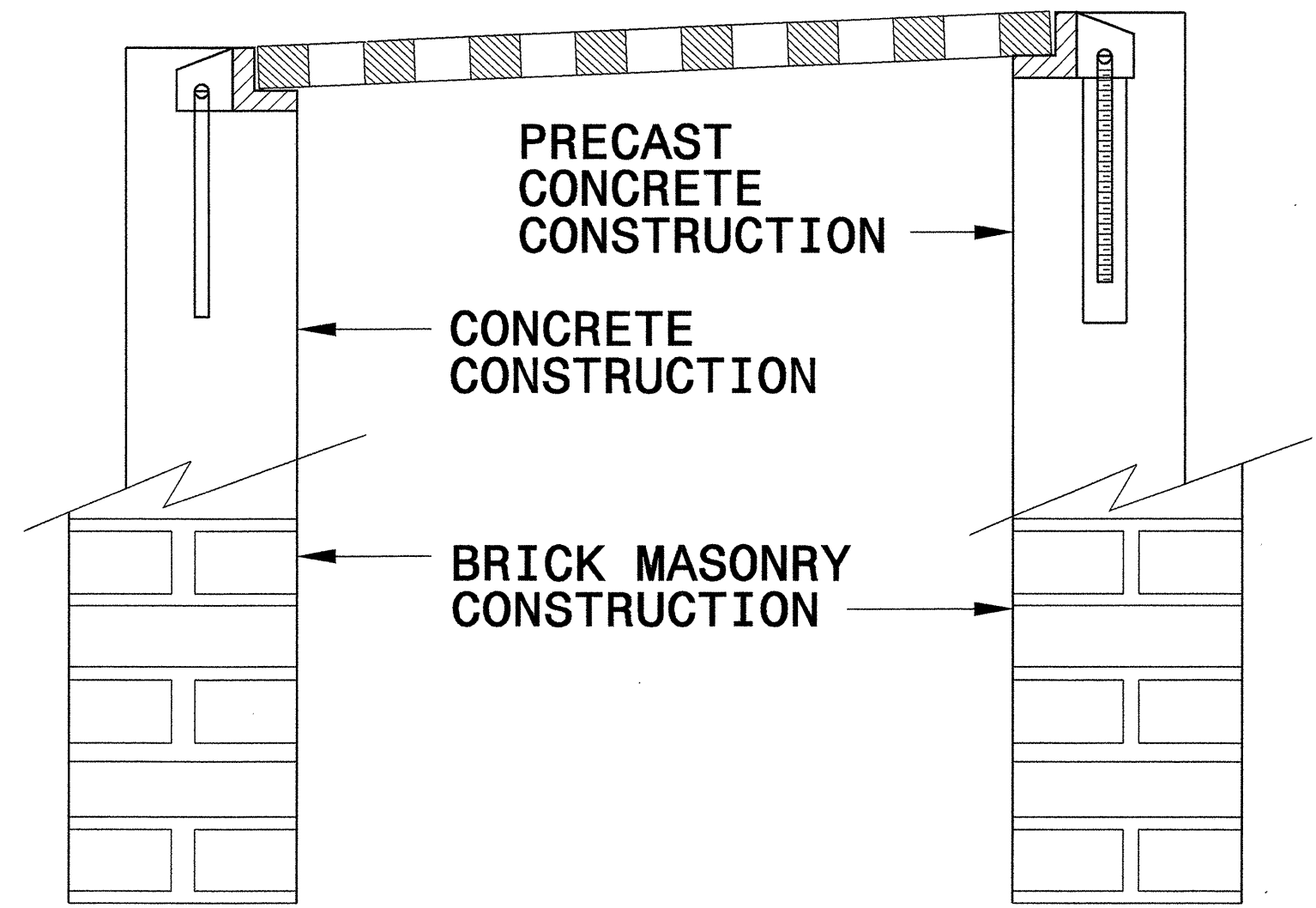
MASONRY ANCHOR
3/8" DIA. BOLT WITH PLATE



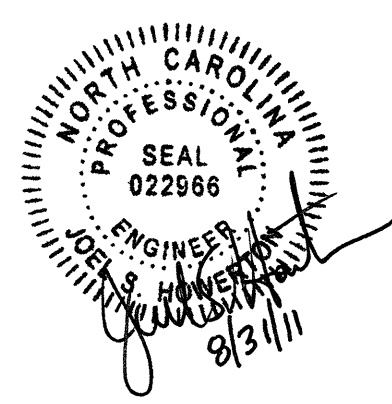
CONCRETE ANCHOR
3/8" DIA. BENT BAR



PRECAST CONCRETE ANCHOR
3/8" DIA. BENT BAR



FRAME AND GRATE INSTALLATION FOR NORMAL CROWN AND SUPERELEVATED SECTIONS

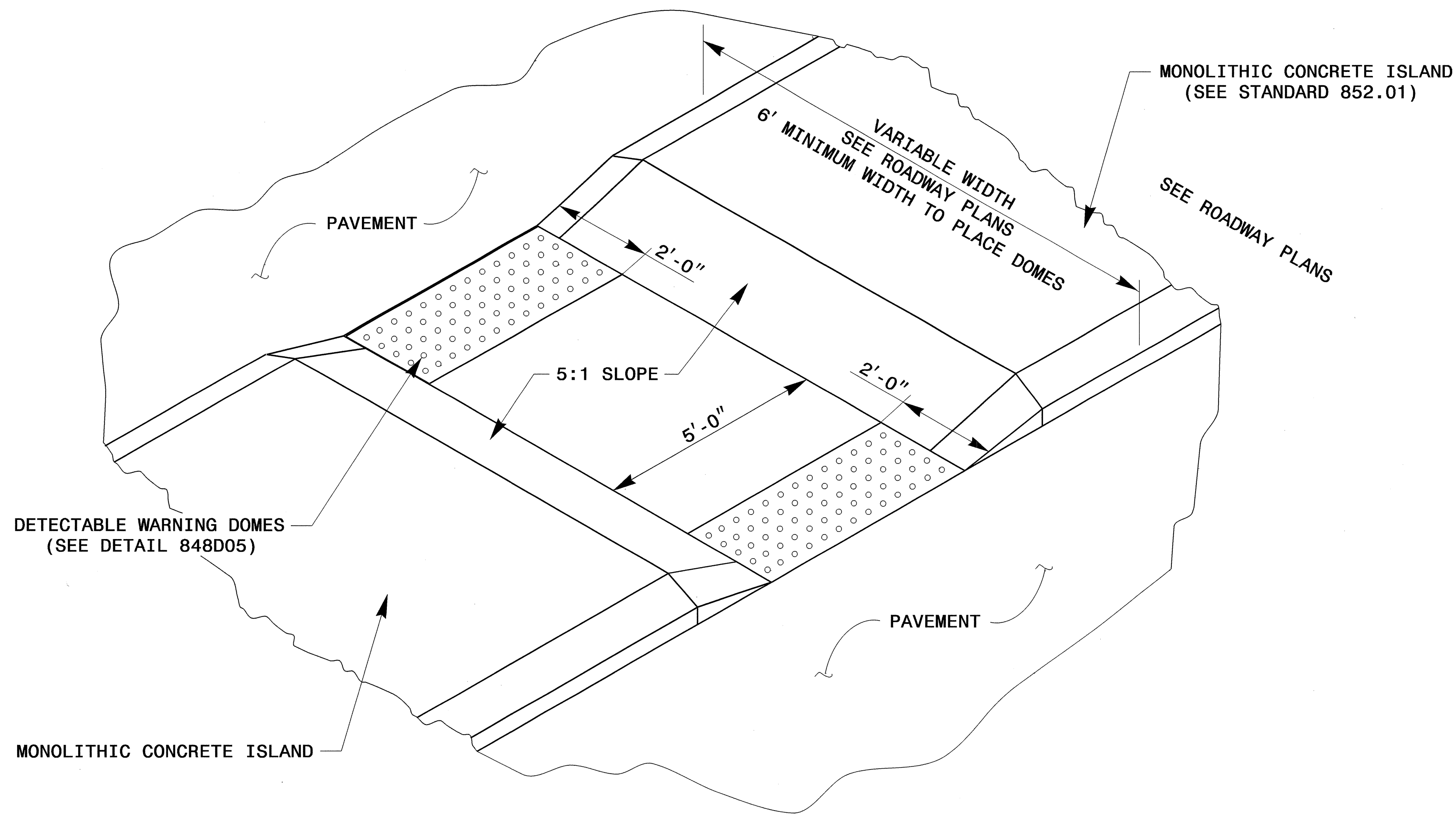


PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: 2006 STD 840.25 DATE: 07/18/06
MODIFIED BY: E. F. WARD DATE: 9/25/06
CHECKED BY: J. S. H. DATE: 11/13/06
FILE SPEC.:

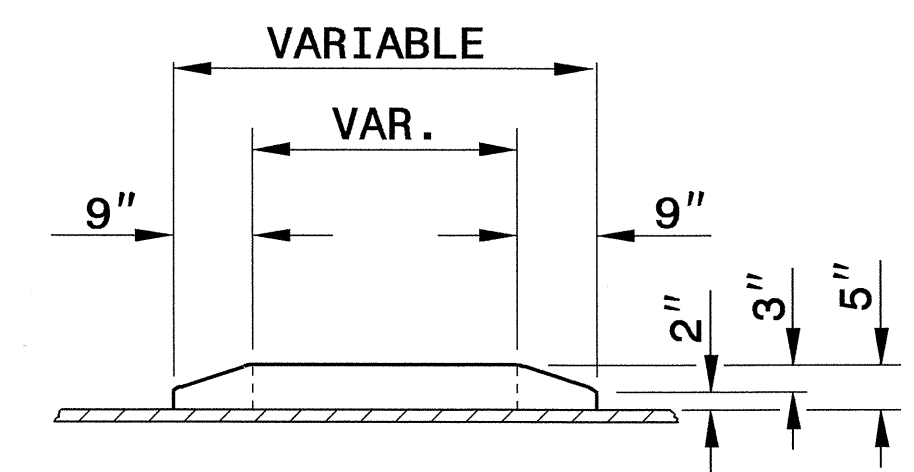
SYSTEMS ADMINISTRATION
USER: J. S. H.



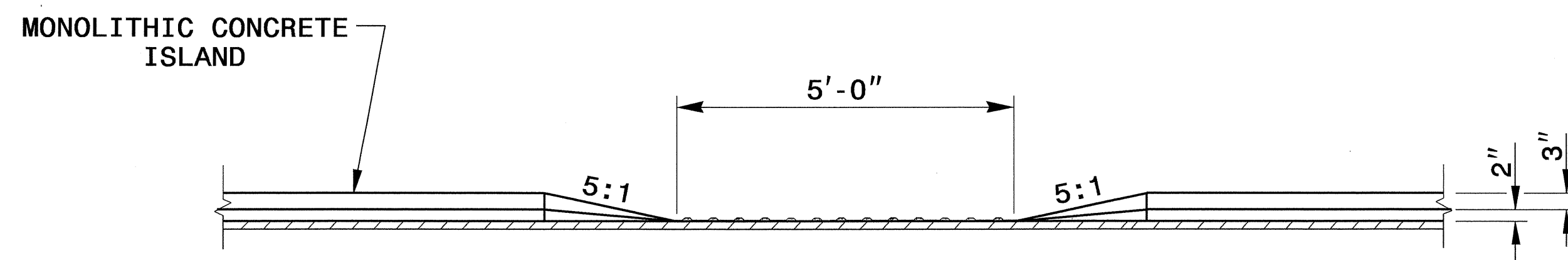
ISOMETRIC VIEW

GENERAL NOTES:

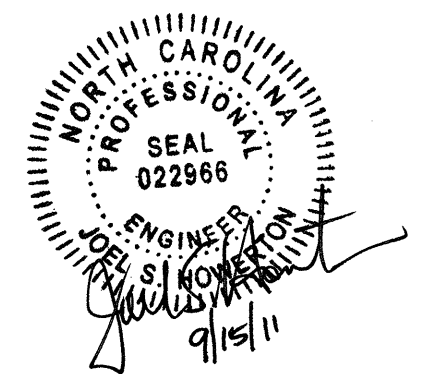
REFER TO DETAIL 848D05 AND THE SPECIAL PROVISION "DETECTABLE WARNINGS FOR PROPOSED CURB RAMPS". TRUNCATED DOMES WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE CONSIDERED INCIDENTAL TO THE MONOLITHIC ISLANDS.



**MONOLITHIC CONCRETE ISLAND
REFER TO STD.852.01**



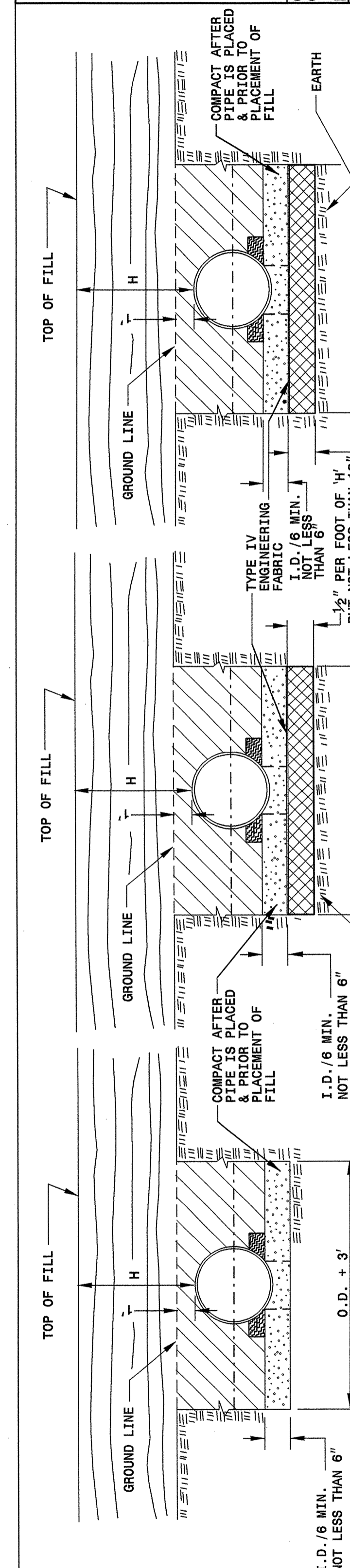
ELEVATION



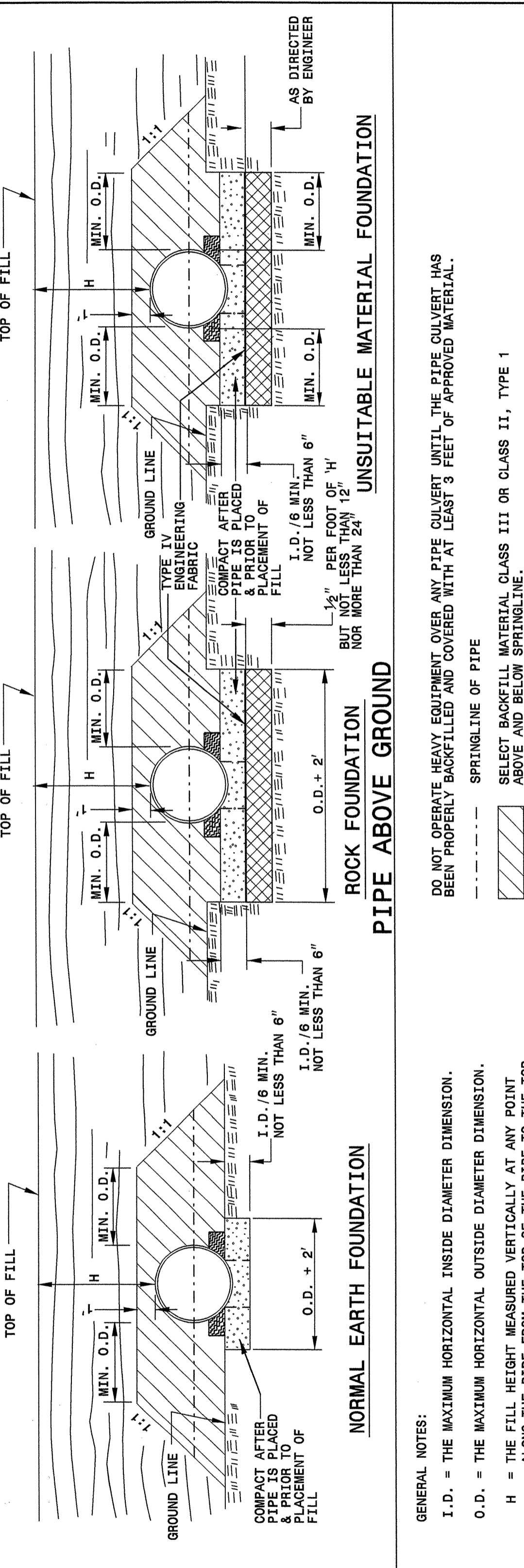
CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950 FAX 919-250-4119	
CROSSWALK THRU MONOLITHIC ISLAND	
ORIGINAL BY: _____	DATE: 2-5-02
MODIFIED BY: _____	DATE: _____
CHECKED BY: <i>[Signature]</i>	DATE: 9/15/11
FILE SPEC.: 6/details/stand/island_eng.dgn	

30-JUL-2009 08:48 s:\contracts\cont09\stds\special details\erowar\d\stds\06\stds to special details\30001\0300d01.dgn
 J:\work\erowar\stds\special details\erowar\d\stds\06\stds to special details\30001\0300d01.dgn
 5/14/99

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



ENGLISH DETAIL DRAWING FOR METHOD OF PIPE INSTALLATION FLEXIBLE PIPE



SHEET 1 OF 3 300D01

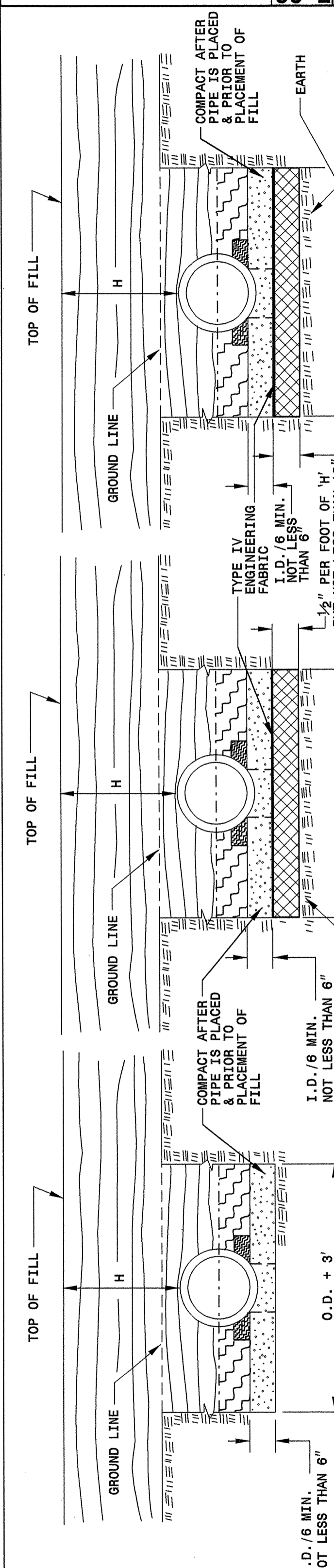
GENERAL NOTES:
 I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.
 O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.
 H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.
 TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.
 LOOSELY PLACED, SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.
 DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.
 SPRINGLINE OF PIPE
 SELECT BACKFILL MATERIAL CLASS III OR CLASS II, TYPE 1 ABOVE AND BELOW SPRINGLINE.
 APPROVED SUITABLE LOCAL MATERIAL.
 UNDISTURBED EARTH MATERIAL
 SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH ENGINEERING FABRIC AS DIRECTED BY THE ENGINEER.

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

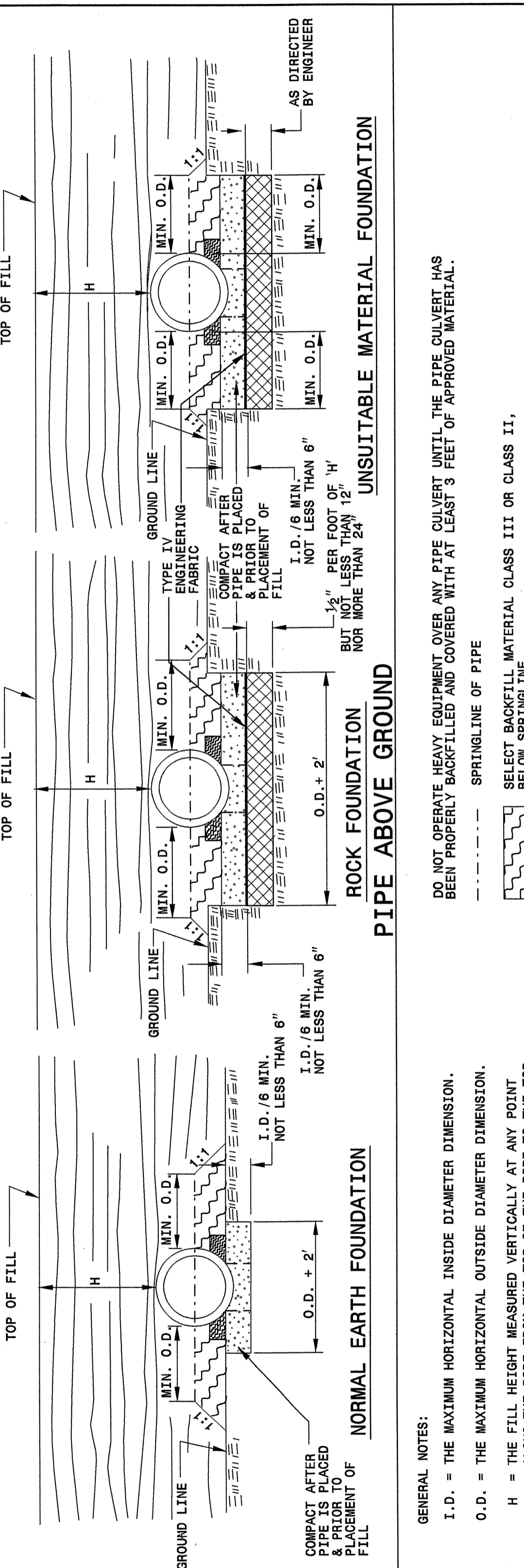
ENGLISH DETAIL DRAWING FOR METHOD OF PIPE INSTALLATION FLEXIBLE PIPE

SHEET 1 OF 3 300D01

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



ENGLISH DETAIL DRAWING FOR METHOD OF PIPE INSTALLATION RIGID PIPE



SHEET 2 OF 3 300D01

GENERAL NOTES:
 I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.
 O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.
 H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.
 TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.
 LOOSELY PLACED, SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.
 DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.
 SPRINGLINE OF PIPE
 SELECT BACKFILL MATERIAL CLASS III OR CLASS II, BELOW SPRINGLINE.
 APPROVED SUITABLE LOCAL MATERIAL ABOVE SPRINGLINE.
 UNDISTURBED EARTH MATERIAL
 SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH ENGINEERING FABRIC AS DIRECTED BY THE ENGINEER.

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

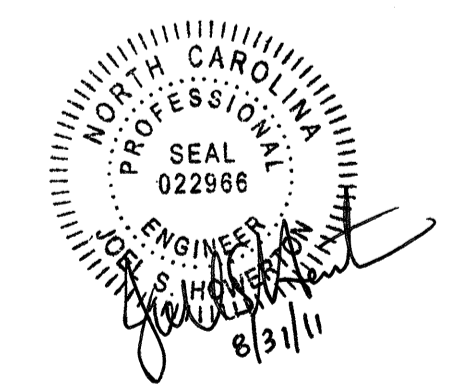
ENGLISH DETAIL DRAWING FOR METHOD OF PIPE INSTALLATION RIGID PIPE

SHEET 2 OF 3 300D01

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

SEE PLATE FOR TITLE

ORIGINAL BY: kKempf DATE: 5-15-09
 MODIFIED BY: DATE:
 CHECKED BY: DATE: 7/29/09
 FILE SPEC:\erowar\stds\stdstodetails\30001\0300d01.dgn



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

7-06

ENGLISH DETAIL DRAWING FOR
 METHOD OF PIPE INSTALLATION

FILL HEIGHT TABLES

SHEET 3 OF 3
300D01

FLEXIBLE PIPE

Round Corrugated Steel Pipe
 2 2/3 x 1/2 corrugation **

Diameter (inches)	Minimum cover (inches)	Maximum Height of Cover (feet)		
		(Ga) 16	14	10
12	12	204	256	8
15	12	162	204	8
18	12	135	169	239
21	12	115	145	204
24	12	100	126	178
30	12	79	100	142
36	12	65	83	117
42	12	55	70	100
48	12	48	61	87
54	12	42	54	77
60	12	36	48	69
66	12	30	42	61
72	12	24	36	54
78	12	18	30	48
84	12	12	24	42

Round Corrugated Aluminum Pipe
 2 2/3 x 1/2 corrugation **

Diameter (inches)	Minimum cover (inches)	Maximum Height of Cover (feet)		
		(Ga) 16	14	10
12	12	123	155	218
15	12	98	123	174
18	12	81	102	144
21	12	69	87	123
24	12	60	76	108
27	12	54	67	95
30	12	48	60	85
36	12	42	50	71
42	12	36	42	60
48	12	30	36	52
54	12	24	30	46
60	12	18	24	40
66	12	12	18	34
72	12	6	12	28

** FOR DIFFERENT CORRUGATIONS AND ARCH PIPES REFER TO ROADWAY DESIGN MANUAL OR MANUFACTURERS SPECIFICATION.

REFER TO THE FOLLOWING FOR PIPE SPECIFICATIONS

- CSP - AASHTO M36
- CAAP - AASHTO M196
- HDPE - AASHTO M294
- PVC - ASTM F949 or AASHTO M304

NOTES: FILL HEIGHTS SHOWN WERE CALCULATED USING AASHTO LFRD BRIDGE DESIGN SPECIFICATIONS

1' MINIMUM COVER FOR ALL SIDE DRAIN PIPE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS

RIGID PIPE

- RCP - * (Minimum fill) 1' for Class IV & Class V
 2' for Class III & Class II
- * (Maximum fill) 10' - Class II pipe
 20' - Class III pipe
 30' - Class IV pipe
 40' - Class V pipe

(For fills > 40' & < 80' use LFRD Direct Design Method)

* FILL HEIGHT IS MEASURED FROM THE TOP OF THE PIPE TO THE BOTTOM OF THE PAVEMENT STRUCTURE

REFER TO THE FOLLOWING FOR PIPE SPECIFICATIONS

- RCP - AASHTO M170

NOTES: FILL HEIGHTS SHOWN WERE CALCULATED USING AASHTO LFRD BRIDGE DESIGN SPECIFICATIONS

1' MINIMUM COVER FOR ALL SIDE DRAIN PIPE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS

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

7-06

ENGLISH DETAIL DRAWING FOR
 METHOD OF PIPE INSTALLATION

FILL HEIGHT TABLES

SHEET 3 OF 3
300D01

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

SEE PLATE FOR TITLE

ORIGINAL BY: K Kempf DATE: 5-15-09
 MODIFIED BY: *[Signature]* DATE: *[Blank]*
 CHECKED BY: *[Signature]* DATE: 7/30/09
 FILE SPE: ericward/stds/stdstodetails/30001/0300d01.dgn



\$\$\$\$\$SYTIME\$\$\$\$\$
 \$\$\$USERNAME\$\$\$

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

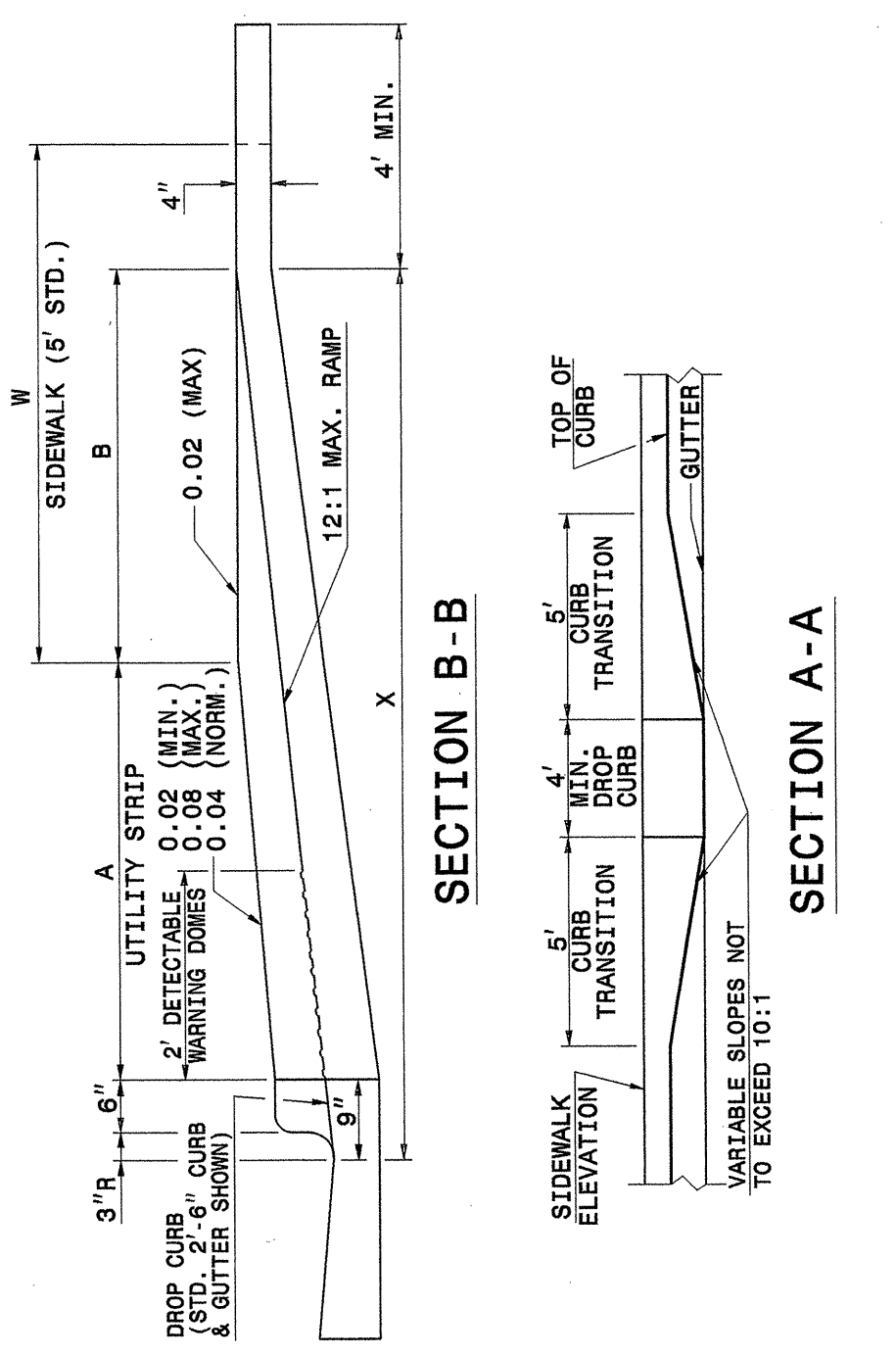
ENGLISH DETAIL DRAWING FOR
CURB RAMP
 PROPOSED CURB AND GUTTER

SHEET 1 OF 3
848D05

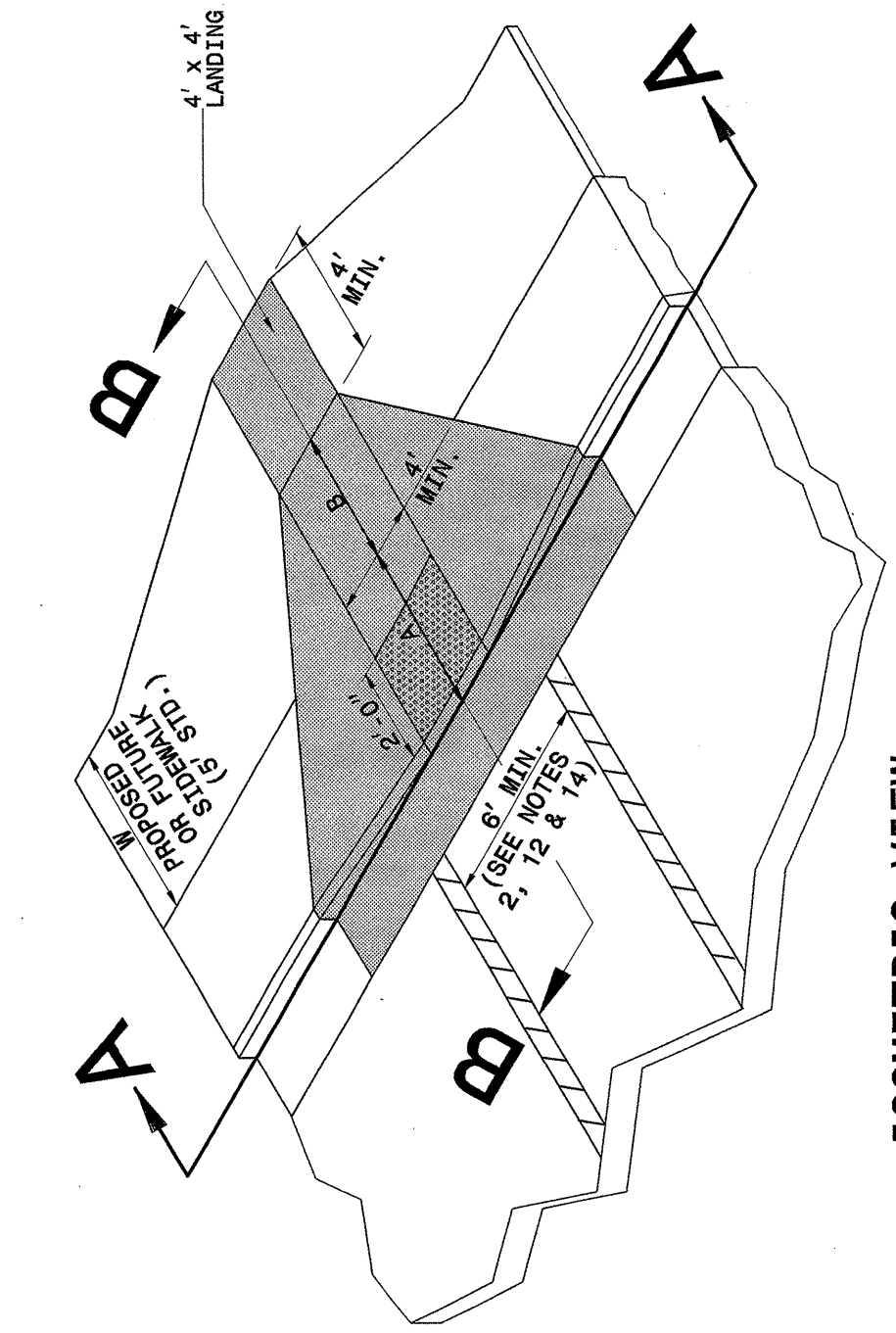
STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
CURB RAMP
 PROPOSED CURB AND GUTTER

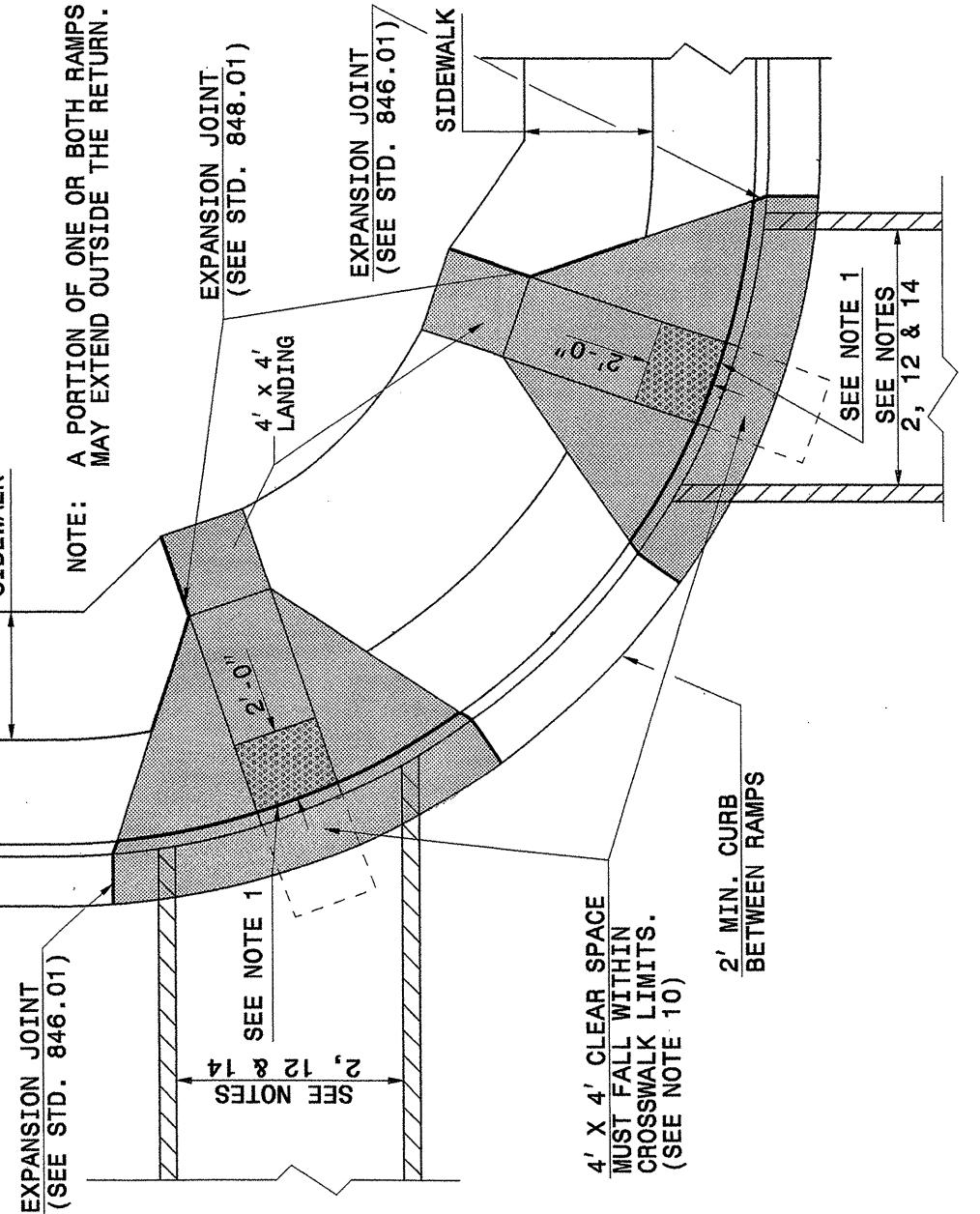
SHEET 1 OF 3
848D05



SECTION B-B

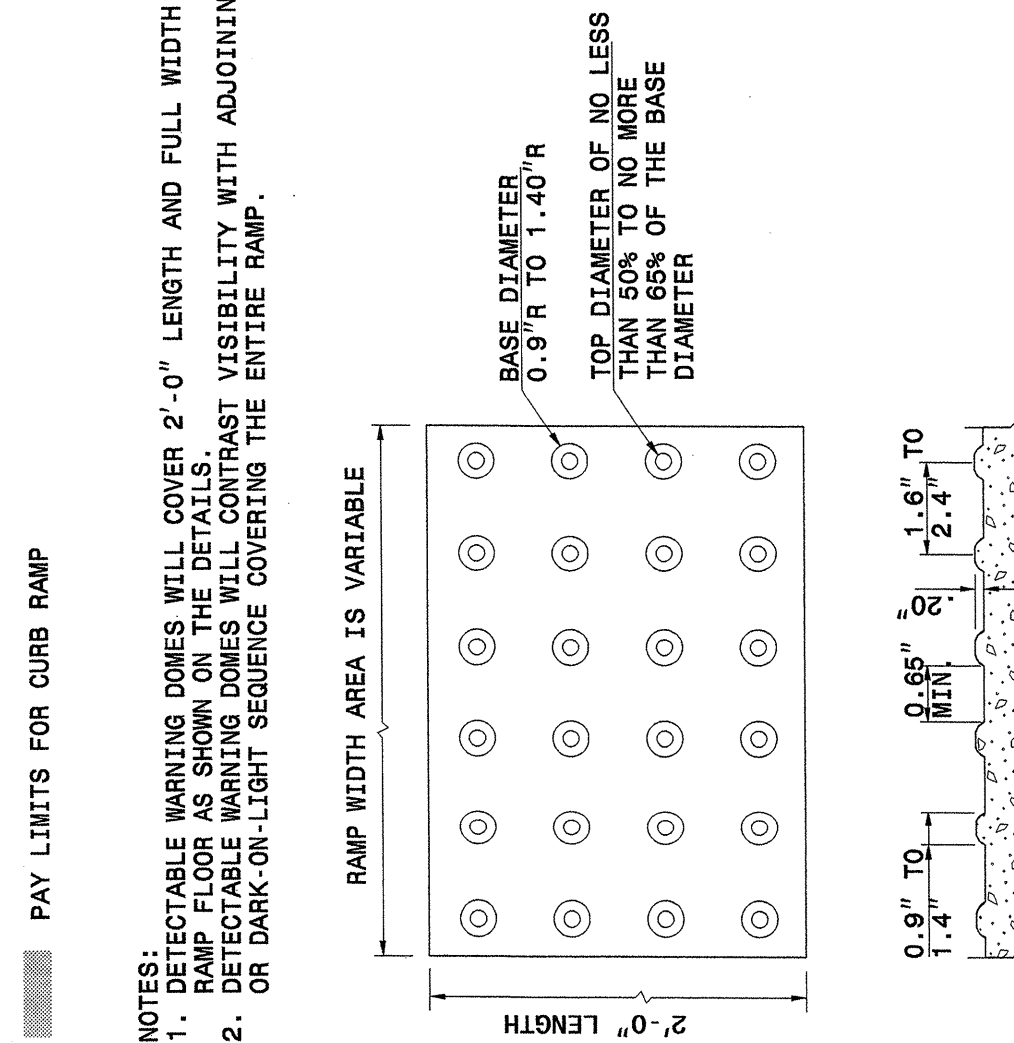


ISOMETRIC VIEW



SECTION A-A

W	A	W+A+9'	X	B
5'	0.0'	5.8'	5.8'	5.0'
6'	0.0'	6.8'	6.8'	6.0'
7'	0.0'	7.8'	7.3'	6.5'
8'	0.0'	8.8'	7.3'	6.5'
9'	2.0'	7.8'	8.1'	5.0'
10'	2.5'	8.3'	8.1'	4.8'
11'	3.0'	8.8'	8.3'	4.4'
12'	3.5'	9.3'	8.4'	4.1'
13'	4.0'	9.8'	8.6'	3.8'
14'	4.5'	10.3'	8.7'	3.4'
15'	5.0'	10.8'	8.9'	3.1'



DETECTABLE WARNING DOMES

NOTES:
 1. DETECTABLE WARNING DOMES WILL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
 2. DETECTABLE WARNING DOMES SHALL BE PLACED AT REGULAR INTERVALS ALONG THE ENTIRE RAMP.
 3. ON DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.

B = X - (A+9')
 B = DISTANCE FROM FRONT EDGE OF SIDEWALK TO BACK POINT OF 12:1 (6.33%) SLOPE.
 * BACK OF SIDEWALK DROP REQUIRED FOR ALL SIDEWALK SLOPES.
 ** BACK OF SIDEWALK DROP REQUIRED FOR SIDEWALK SLOPES 0.04.

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

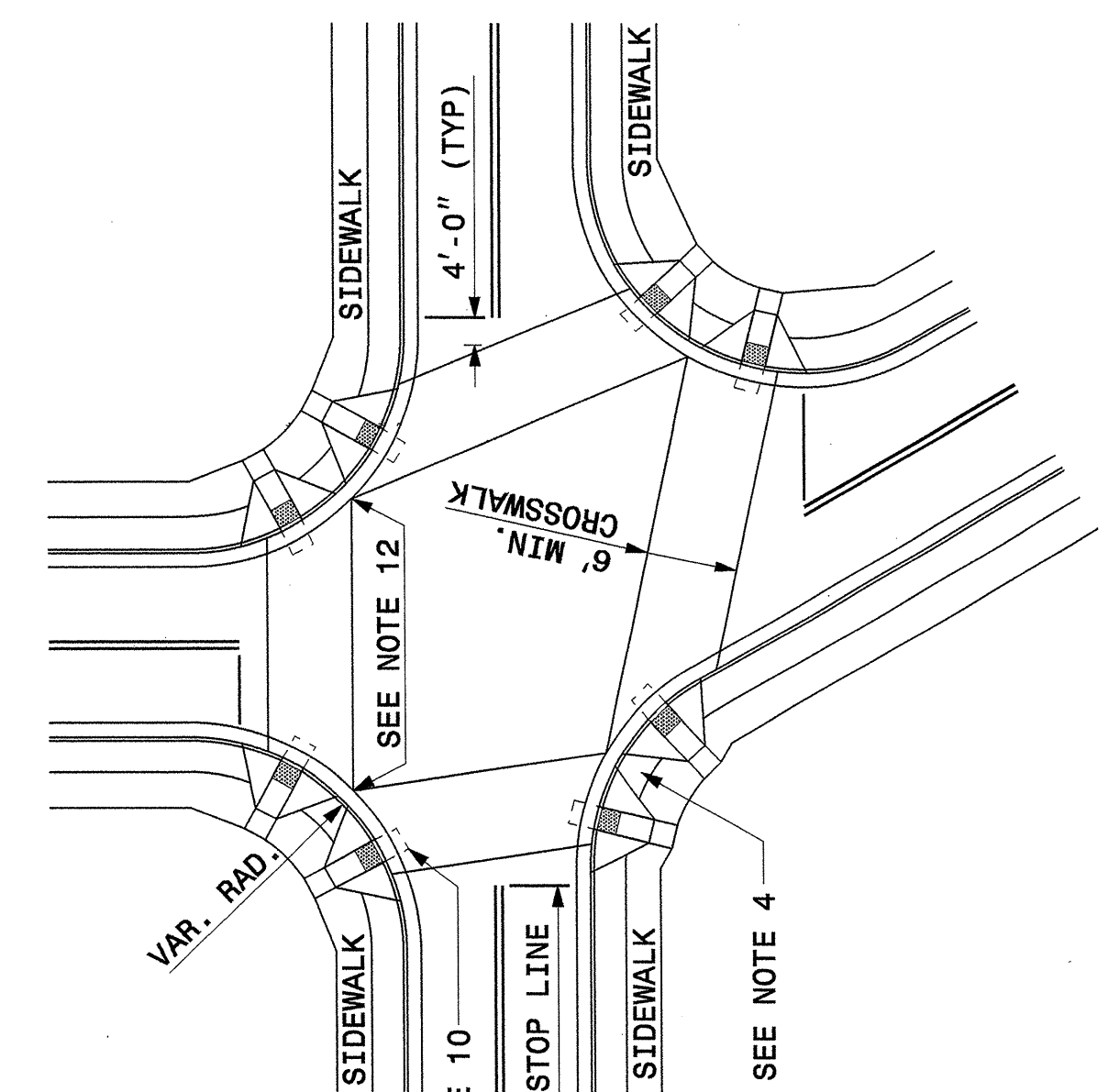
ENGLISH DETAIL DRAWING FOR
CURB RAMP
 PROPOSED CURB AND GUTTER

SHEET 2 OF 3
848D05

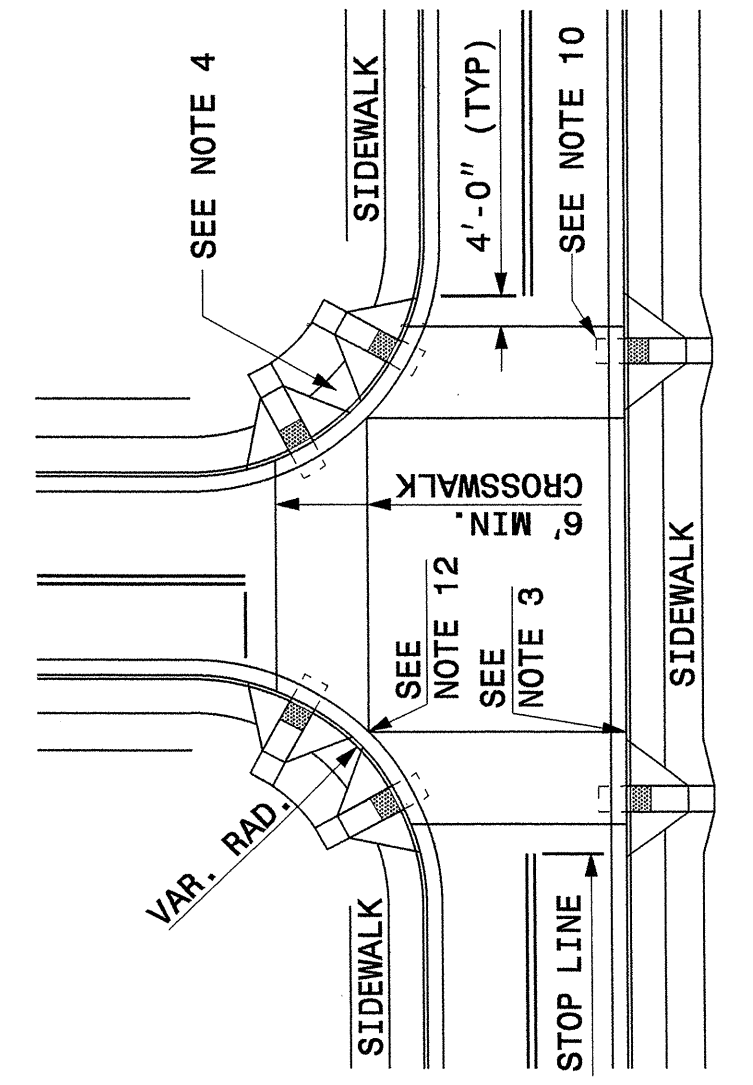
STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
CURB RAMP
 PROPOSED CURB AND GUTTER

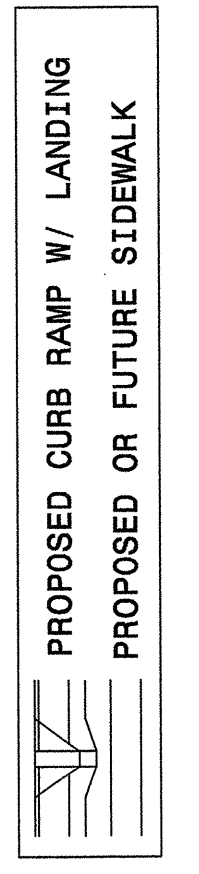
SHEET 2 OF 3
848D05



PLAN VIEW
 DUAL RAMPS
 ANY FLOOR WIDTH
 (4' MIN. FLOOR WIDTH)



DETAIL SHOWING TYPICAL LOCATION OF CURB RAMPS, PEDESTRIAN CROSSWALKS AND STOP LINES FOR TEE INTERSECTIONS

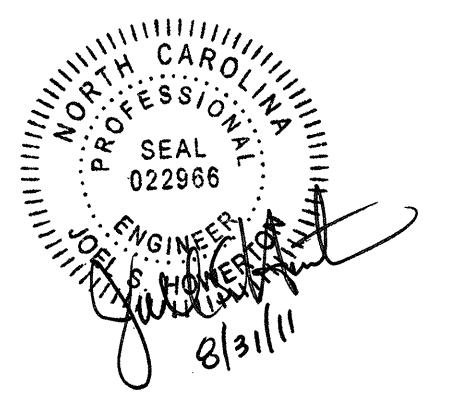


ALLOWABLE LOCATIONS
 DUAL RAMP RADII.....ANY

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

SEE PLATE FOR TITLE

ORIGINAL BY: STD.NO.848.05 DATE: 4-22-10
 MODIFIED BY: DATE:
 CHECKED BY: DATE: 4/12/10
 FILE SPEC.: SpecialDetails/EricWard/STDs/848d05.dgn



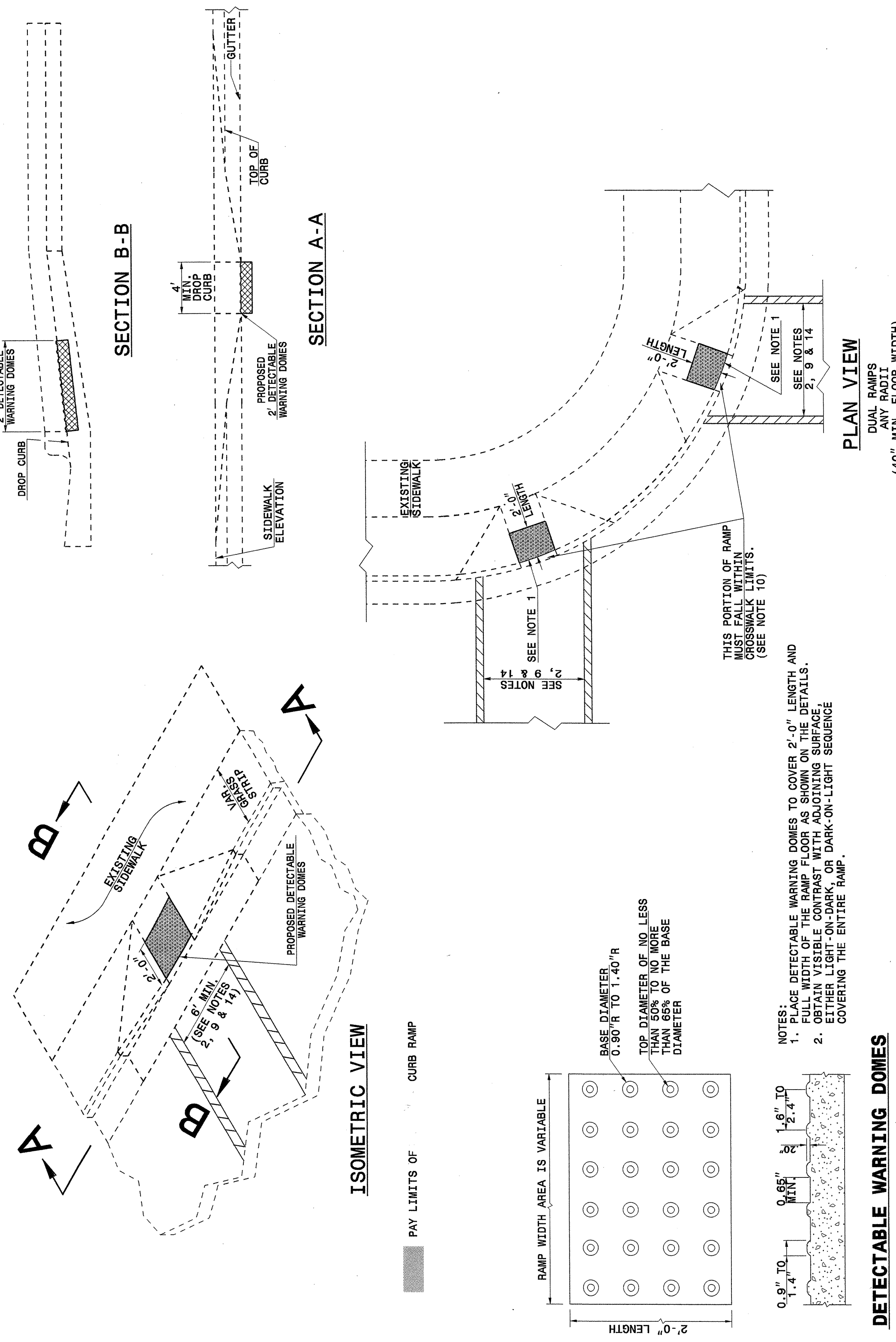
*****SYTIME*****
 *****DDON*****
 *****SUBNAME*****

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

ENGLISH DETAIL DRAWING FOR
CURB RAMP
 EXISTING CURB AND GUTTER

SHEET 3 OF 5
848D06

RETROFITTING DETECTABLE WARNING DOMES ONTO EXISTING CURB RAMP



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

ENGLISH DETAIL DRAWING FOR
CURB RAMP
 EXISTING CURB AND GUTTER

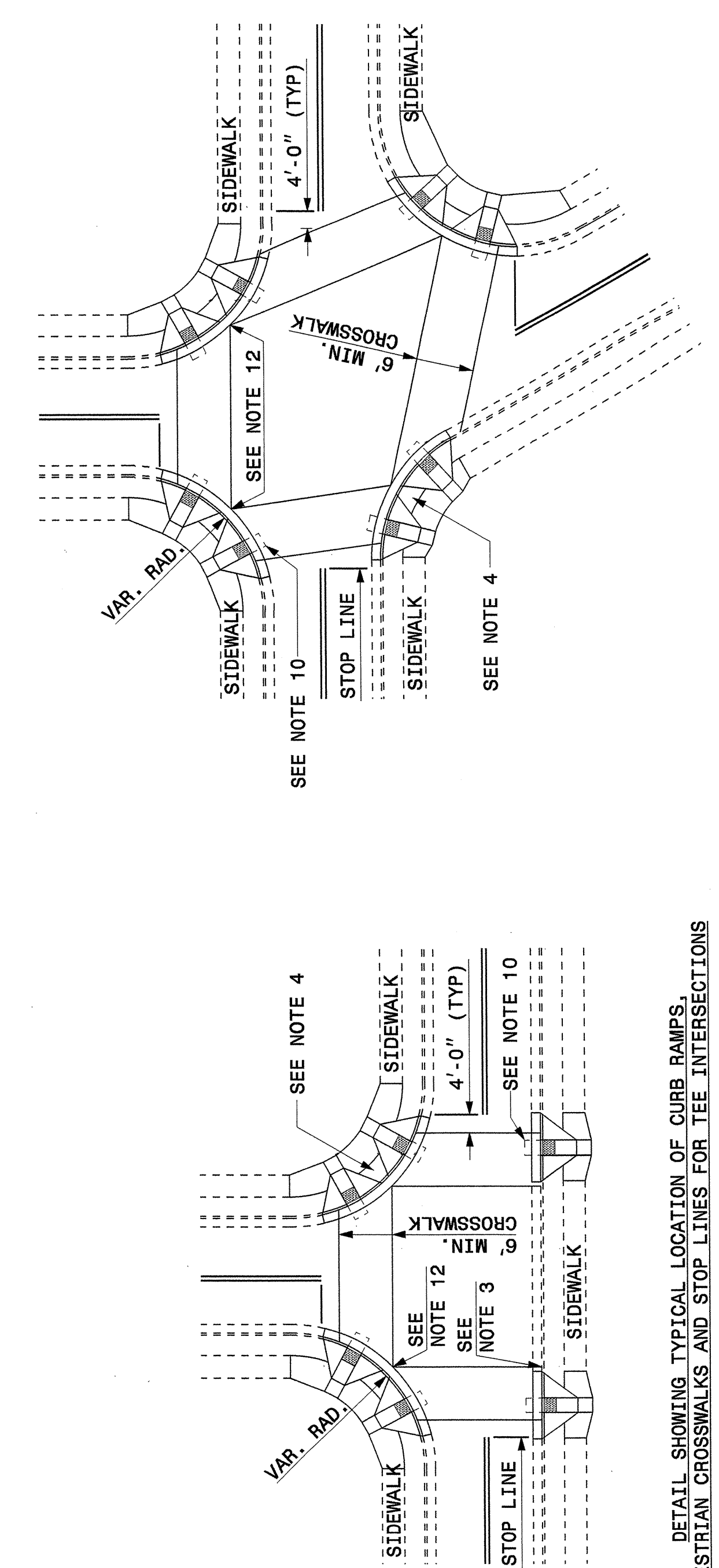
SHEET 3 OF 5
848D06

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

ENGLISH DETAIL DRAWING FOR
CURB RAMP
 EXISTING CURB AND GUTTER

SHEET 4 OF 5
848D06

CURB RAMPS AND EXISTING SIDEWALK

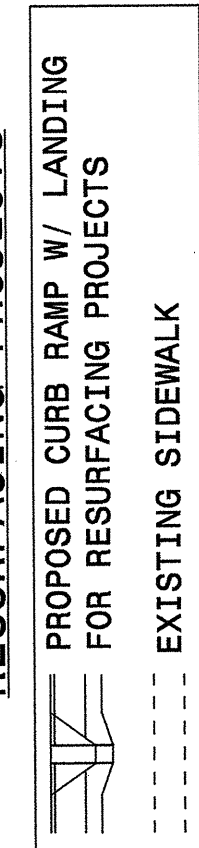


STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
CURB RAMP
 EXISTING CURB AND GUTTER

SHEET 4 OF 5
848D06

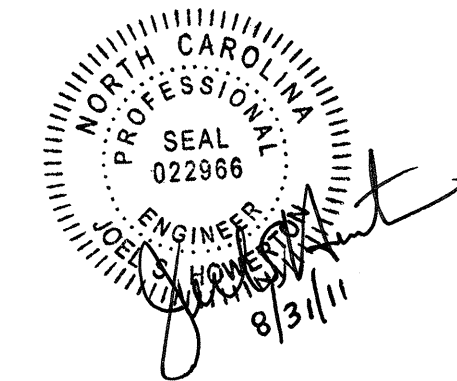
RESURFACING PROJECTS



ALLOWABLE LOCATIONS
 DUAL RAMP RADII.....ANY

DETAIL SHOWING TYPICAL LOCATION OF CURB RAMPS, PEDESTRIAN CROSSWALKS AND STOP LINES

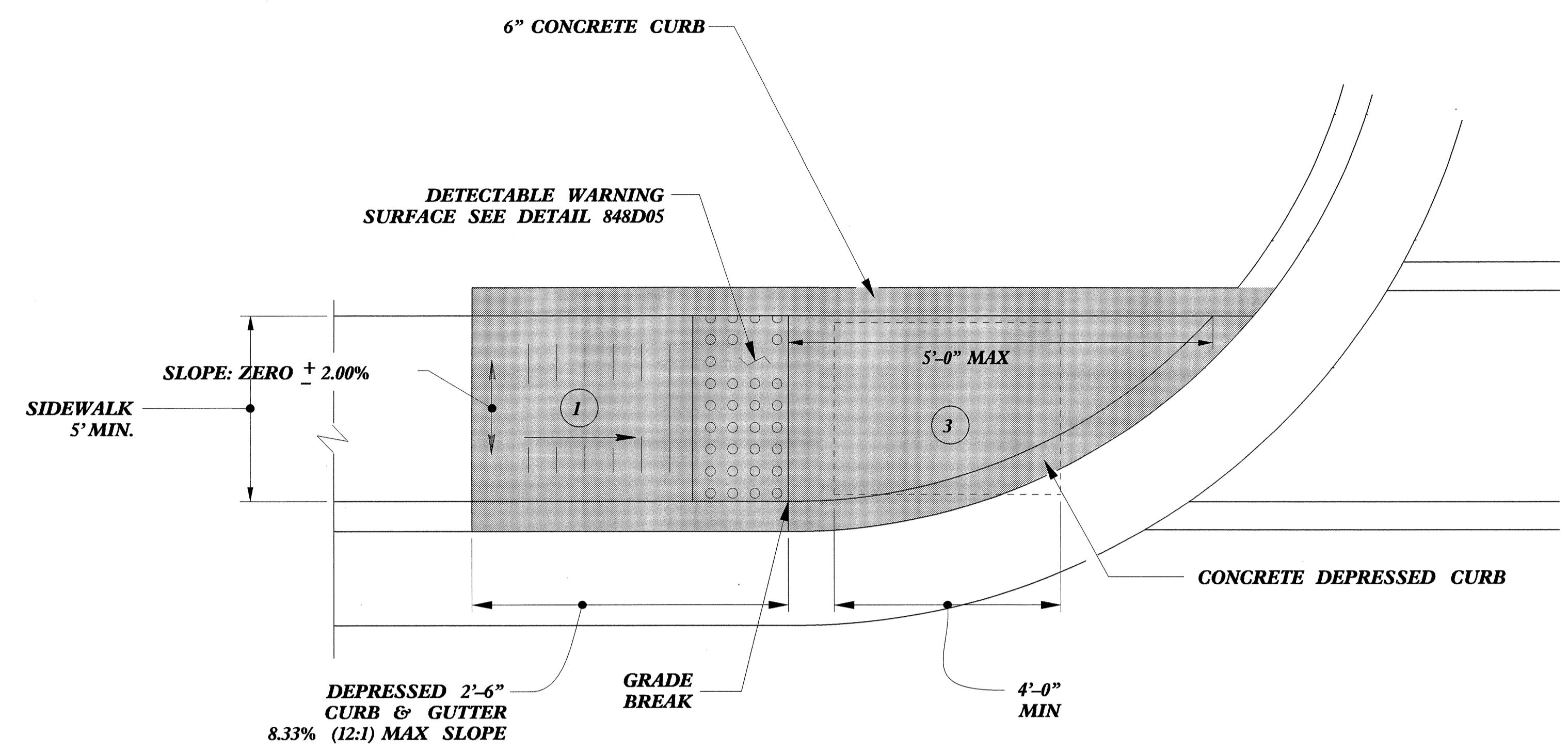
DETAIL SHOWING TYPICAL LOCATION OF CURB RAMPS, PEDESTRIAN CROSSWALKS AND STOP LINES FOR TEE INTERSECTIONS



CONTRACT STANDARDS AND DEVELOPMENT UNIT
 Office 919-250-4128 FAX 919-250-4119

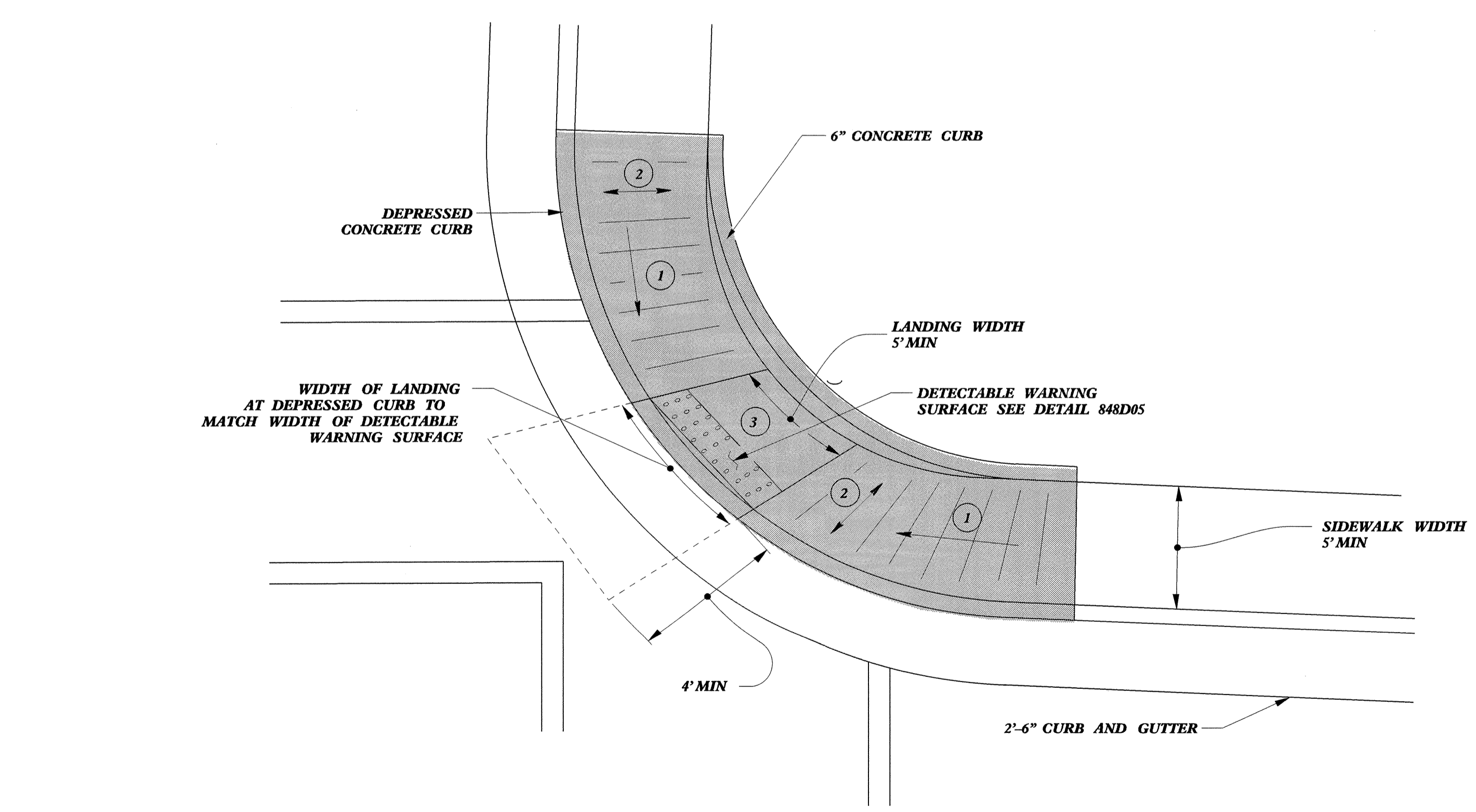
SEE PLATE FOR TITLE

ORIGINAL BY: STD.NO.848.06 DATE: 4-22-10
 MODIFIED BY: DATE:
 CHECKED BY: DATE: 4/2/10
 FILE SPEC.: SpecialDetails/EricWard/STDS/848d06.dgn



TYPE I

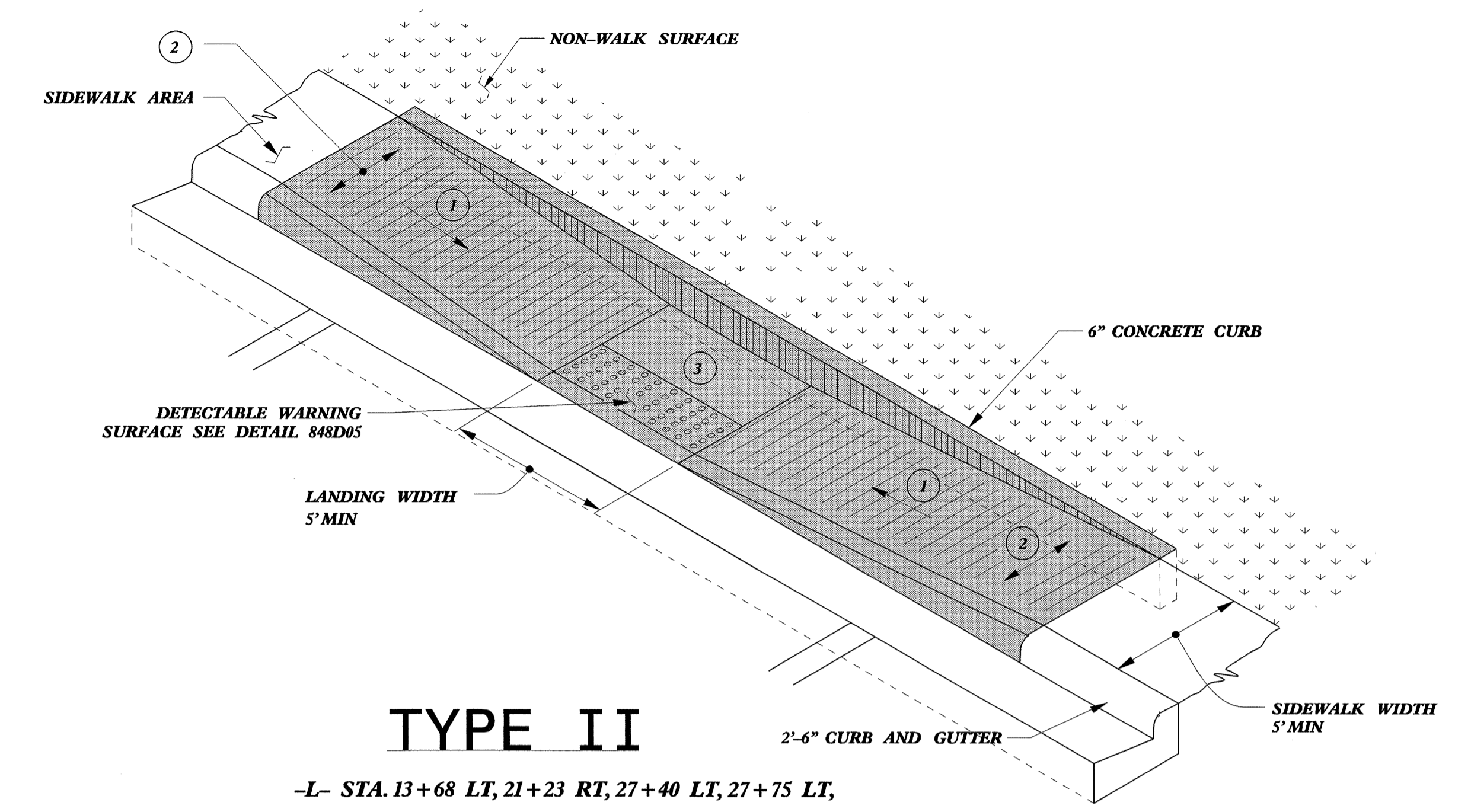
-L- STA. 14+57 RT, 15+04 RT, 15+64 RT, 16+16 RT,
19+74 RT, 20+04 RT, 21+23 LT, 21+76 LT,
33+04 LT, 33+36 LT, 38+26 LT, 38+78 LT



TYPE III

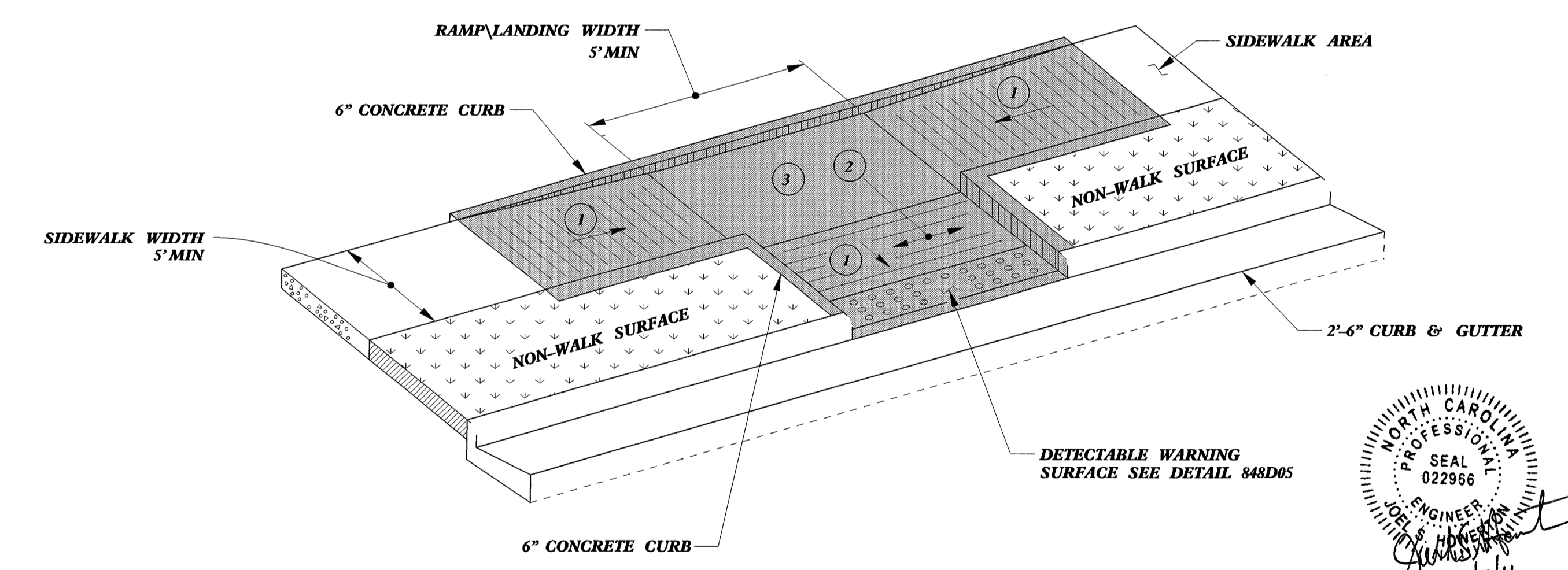
-L- STA. 14+16 RT, 27+40 RT, 27+75 RT, 32+06 LT,
32+57 LT, 35+13 LT, 35+57 LT, 50+17 LT,
50+05 RT, 50+89 LT, 51+03 RT

PAY LIMITS FOR CURB RAMP



TYPE II

-L- STA. 13+68 LT, 21+23 RT, 27+40 LT, 27+75 LT,
31+80 LT, 38+98 LT,
-Y8- STA. 11+47 RT



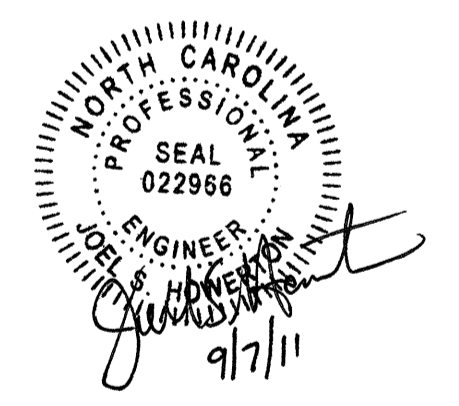
TYPE IV

-L- STA. 31+80 RT, 32+57 RT, 35+06 RT, 35+51 RT

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

- USE AT STATIONS INDICATED UNLESS OTHERWISE DIRECTED BY THE ENGINEER

- RAMP WIDTHS AND LENGTHS MAY BE ADJUSTED UPWARD AS DIRECTED BY THE ENGINEER



CONTRACT STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950	FAX 919-250-4119
SPECIAL CURB RAMPS	
ORIGINAL BY: J.S. HOWERTON	DATE: 7/7/11
MODIFIED BY: <i>[Signature]</i>	DATE: 9/7/11
CHECKED BY: <i>[Signature]</i>	DATE: 9/7/11
FILE SPEC. s:\stds\2012CurbRamp\CurbRampDetails.dgn	

5/14/09
07-SEP-2011 08:36
S:\Contracts\2012\Standard Drawings\2012 Curb Ramp Special Details\Curb Ramp Details.dgn
Jhowerton AH CS0237501

STATE OF NORTH CAROLINA
SUMMARY OF QUANTITIES

PROJECT REFERENCE No.	SHEET No.
4-624	3
	(2 of 2)

ItemNumber	Sec #	Quantity	Unit	Description
712000000-E	1705	9	EA	VEHICLE SIGNAL HEAD (12", 3 SECTION)
713200000-E	1705	2	EA	VEHICLE SIGNAL HEAD (12", 4 SECTION)
714400000-E	1705	3	EA	VEHICLE SIGNAL HEAD (12", 5 SECTION)
725200000-E	1710	250	LF	MESSENGER CABLE (1/4")
726400000-E	1710	420	LF	MESSENGER CABLE (3/8")
730000000-E	1715	375	LF	UNPAVED TRENCHING (*****) (1, 2")
730000000-E	1715	30	LF	UNPAVED TRENCHING (*****) (3, 2")
732400000-N	1716	7	EA	JUNCTION BOX (STANDARD SIZE)
736000000-N	1720	4	EA	WOOD POLE
737200000-N	1721	9	EA	GUY ASSEMBLY
740800000-E	1722	2	EA	1" RISER WITH WEATHERHEAD
742000000-E	1722	16	EA	2" RISER WITH WEATHERHEAD
743200000-E	1722	1	EA	2" RISER WITH HEAT SHRINK TUBING
744400000-E	1725	3,835	LF	INDUCTIVE LOOP SAWCUT
745600000-E	1726	7,905	LF	LEAD-IN CABLE (*****) (14-2)
755200000-N	1731	1	EA	INTERCONNECT CENTER
757518000-N	1735	2	EA	CABLE TRANSFER
763600000-N	1745	3	EA	SIGN FOR SIGNALS
776800000-N	1751	1	EA	CONTROLLER WITH CABINET (TYPE 2070L, POLE MOUNTED)
778000000-N	1751	7	EA	DETECTOR CARD (TYPE 2070L)
798000000-N	SP	16	EA	GENERIC SIGNAL ITEM APS DETECTOR STATIONS
798000000-N	SP	2	EA	GENERIC SIGNAL ITEM CENTRAL CONTROL UNITS FOR APS DETECTOR STATIONS
798000000-N	SP	16	EA	GENERIC SIGNAL ITEM PUSH BUTTON POSTS

COMPUTED BY: HLE DATE: 8/23/2011
 CHECKED BY: KEM DATE: 8/26/2011

PROJECT NO. SHEET NO.
 U-0624 3-E

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

SUMMARY OF MILLING EXISTING ASPHALT PAVEMENT

LINE	STATION	STATION	LOC LT/RT/CL	DEPTH INCIDENTAL SY	DEPTH 1.5" SY	VAR. DEPTH 0" TO 3" SY
-L-	11+50.00	14+00.00	CL			955.0
-Y-	9+45.69	11+70.67	CL		543.7	
-L-	18+80.00	19+55.00	RT			50.8
-L-	20+75.00	21+55.00	RT			23.7
-Y2-	10+75.00	10+85.00	CL	15.7		
-L-	25+95.00	27+75.00	RT			56.6
-Y3-	10+50.00	10+65.00	LC	24.9		
-L-	30+95.00	31+55.00	LC			83.8
-Y4-	12+75.00	13+00.00	CL	50.1		
-L-	33+00.00	34+50.00	RT			70.1
-Y6-	11+53.00	11+90.00	CL			95.4
-L-	35+80.00	37+54.73	RT			107.5
-Y7-	12+97.97	12+40.00	CL			50.7
-Y7-	13+46.64	14+25.00	CL	171.3		
-L-	41+90.00	42+10.00	RT	4.1		
-L-	42+75.00	45+75.00	RT			322.0
-L-	47+45.00	51+44.48	LC			2390.2
-Y8-	9+44.15	11+10.00	LC		326.8	
-Y8-	11+50.00	11+70.57	CL	8.6		
TOTAL:				274.7	870.5	4205.8
SAY:				280.0	880.0	4210.0

SUMMARY OF EXISTING ASPHALT PAVEMENT REMOVAL & BREAK-UP

LINE	Station	Station	LOC LT/RT/CL	ASPHALT REMOVAL SY	CONCRETE REMOVAL SY
-L-	14+05.00	21+38.74	LT	240.6	
-L-	14+14.75	14+63.98	LT/RT		104.2
-L-	14+63.98	15+45.89	RT		88.8
-L-	17+75.00	29+55.00	LT		1162.6
-Y2-	10+22.21	10+57.61	LT/RT	11.7	
-L-	21+69.99	32+23.72	LT	348.6	
-Y4-	13+00.00	13+93.50	LT/RT	378.6	
-Y5-	11+53.96	11+90.75	LT/RT	86.8	
-L-	33+51.38	35+16.62	LT	57.7	
-Y6-	11+68.13	11+98.73	LT	13.5	
-L-	35+83.00	38+34.10	LT	71.9	
-Y7-	12+36.50	12+70.22	LT	9.3	
-L-	38+87.53	48+14.82	LT	219.3	
-Y8-	11+19.56	12+03.65	RT	57.1	
-Y8-	11+19.22	11+69.10	LT	83.4	
-L-	14+05.00	27+47.55	RT	446.8	
-L-	27+61.37	35+30.00	RT	259.3	
TOTAL:				2284.5	1355.6
SAY				2290.0	1360.0

SUMMARY OF EARTHWORK

(IN CUBIC YARDS)

LINE	Station	Station	Uncl. Excav.	Embank. +%	Borrow	Waste
-L - LT	12+00.00	38+50.00	852	476	0	376
-L - RT	12+00.00	38+50.00	1640	10733	9093	0
-Y1-	9+50.00	12+00.00	28	29	1	0
-Y2-	10+00.00	11+00.00	6	18	12	0
-Y3-	10+25.00	11+75.00	6	822	816	0
-Y4-	12+75.00	14+00.00	268	10	0	258
-Y6-	10+75.00	11+94.00	13	2	0	11
-L- RT	19+45.00		0	294	294	0
SUBTOTALS: NO 1			2813	12384	10216	645
-L - LT	38+50.00	50+50.00	238	78	0	160
-L - RT	38+50.00	50+50.00	515	337	0	178
-Y7-	11+50.00	12+50.00	8	0	0	8
-Y7-	13+25.00	14+25.00	24	6	0	18
-Y8-	9+50.00	12+00.00	69	17	0	52
SUBTOTALS: NO 2			854	438	0	416
PROJECT SUBTOTALS:			3667	12822	10216	1061
LOSS DUE TO CLEAR. GRUB.			-200		200	
WASTE IN LIEU OF BORROW					-1061	-1061
PROJECT TOTALS:			3467	12822	9355	0
REPLACE TOP SOIL BORROW PITS					449	
GRAND TOTALS:			3467		9804	
SAY:			3500		9900	

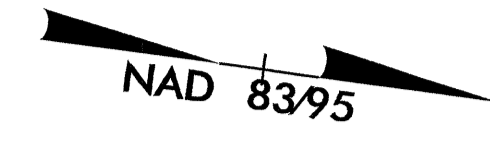
PAVEMENT STRUCTURE VOLUME = N/A CUBIC YARDS
 DRAINAGE DITCH EXCAVATION = 1720 CUBIC YARDS
 UNDERCUT EXCAVATION = 350 CUBIC YARDS
 SHALLOW UNDERCUT EXCAVATION = 3500 CUBIC YARDS
 CL. IV SUBGRADE STABILIZATION = 8500 TONS
 (BACKFILL MATERIAL TO REPLACE SHALLOW UNDERCUT EXCAVATION)
 SELECT GRANULAR MATERIAL = 375 CUBIC YARDS

NOTE: EARTHWORK QUANTITIES ARE CALCULATED BY THE ROADWAY DESIGN UNIT. THESE EARTHWORK QUANTITIES ARE BASED IN PART ON SUBSURFACE DATA PROVIDED BY THE GEOTECHNICAL ENGINEERING UNIT.

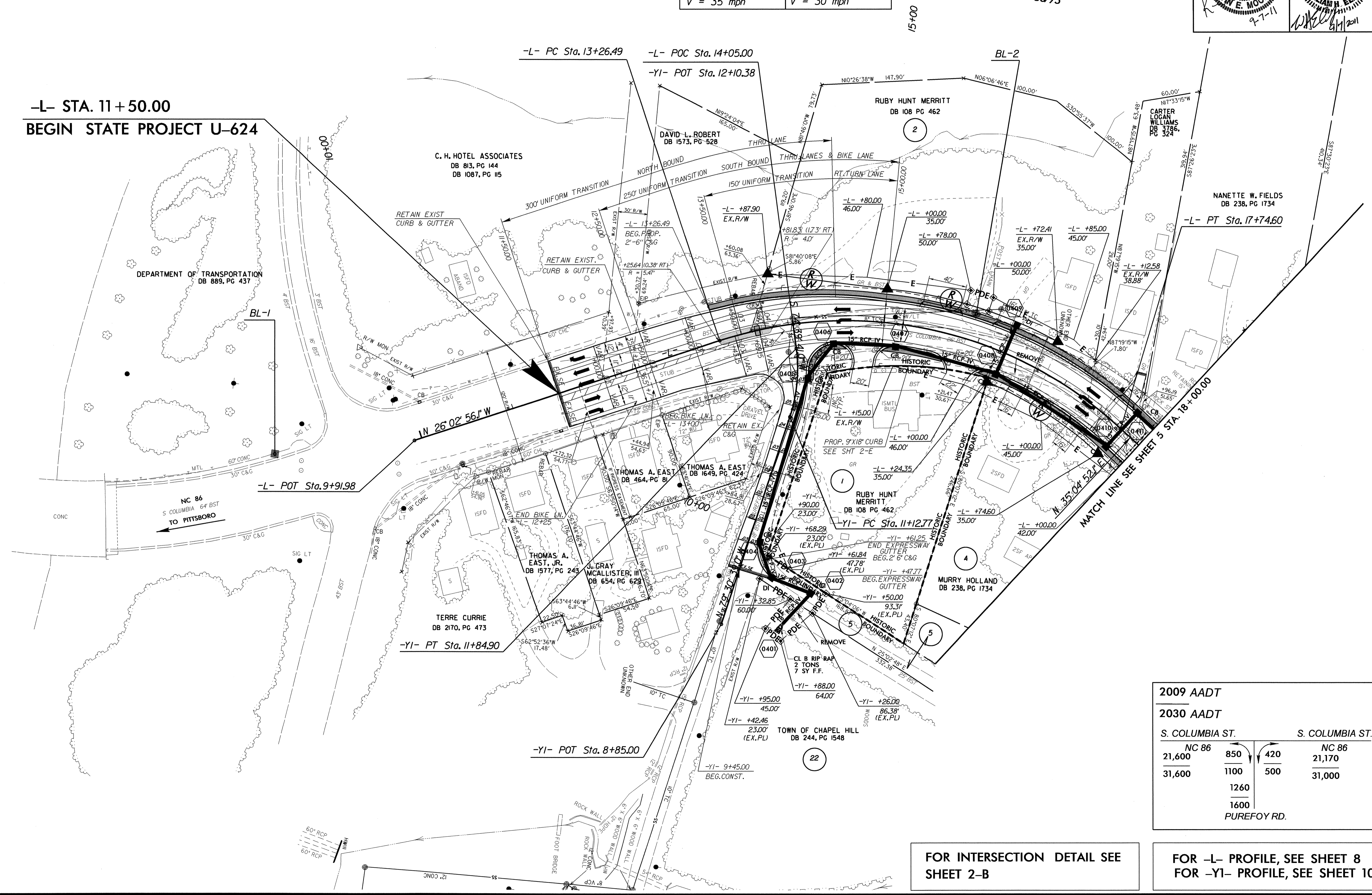
NOTE: APPROXIMATE QUANTITIES ONLY. UNCLADSSIFIED EXCAVATION, BORROW EXCAVATION, FINE GRADING, CLEARING AND GRUBBING, BREAKING OF EXISTING PAVEMENT, AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING"

RD238346

-L-	-YI-
PI Sta 15+74.53 Δ = 61°07'48.2" (RT) D = 13'38'30.7" L = 448.11' T = 248.04' R = 420.00' SE = .04 V = 35 mph	PI Sta 11+49.46 Δ = 25°49'40.0" (LT) D = 35'48'35.5" L = 72.12' T = 36.69' R = 160.00' SE = N/A V = 30 mph



**-L- STA. 11+50.00
BEGIN STATE PROJECT U-624**



REVISIONS

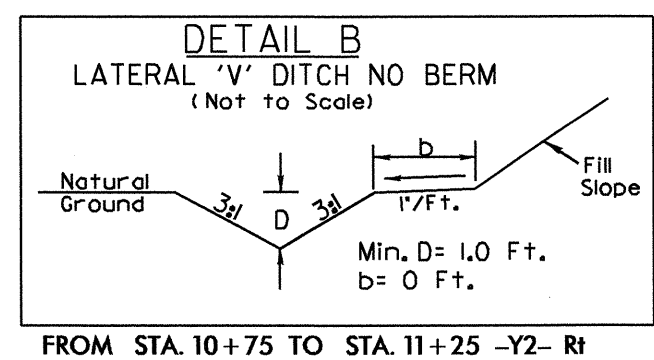
06-SEP-2011 16:02 R:\Roadway\Info\U0624_rdy_psh_04.dgn

2009 AADT			
2030 AADT			
S. COLUMBIA ST.	NC 86	NC 86	S. COLUMBIA ST.
21,600	850	420	21,170
31,600	1100	500	31,000
	1260		
	1600		
	PUREFOY RD.		

FOR INTERSECTION DETAIL SEE SHEET 2-B

FOR -L- PROFILE, SEE SHEET 8
FOR -YI- PROFILE, SEE SHEET 10

NAD 8395

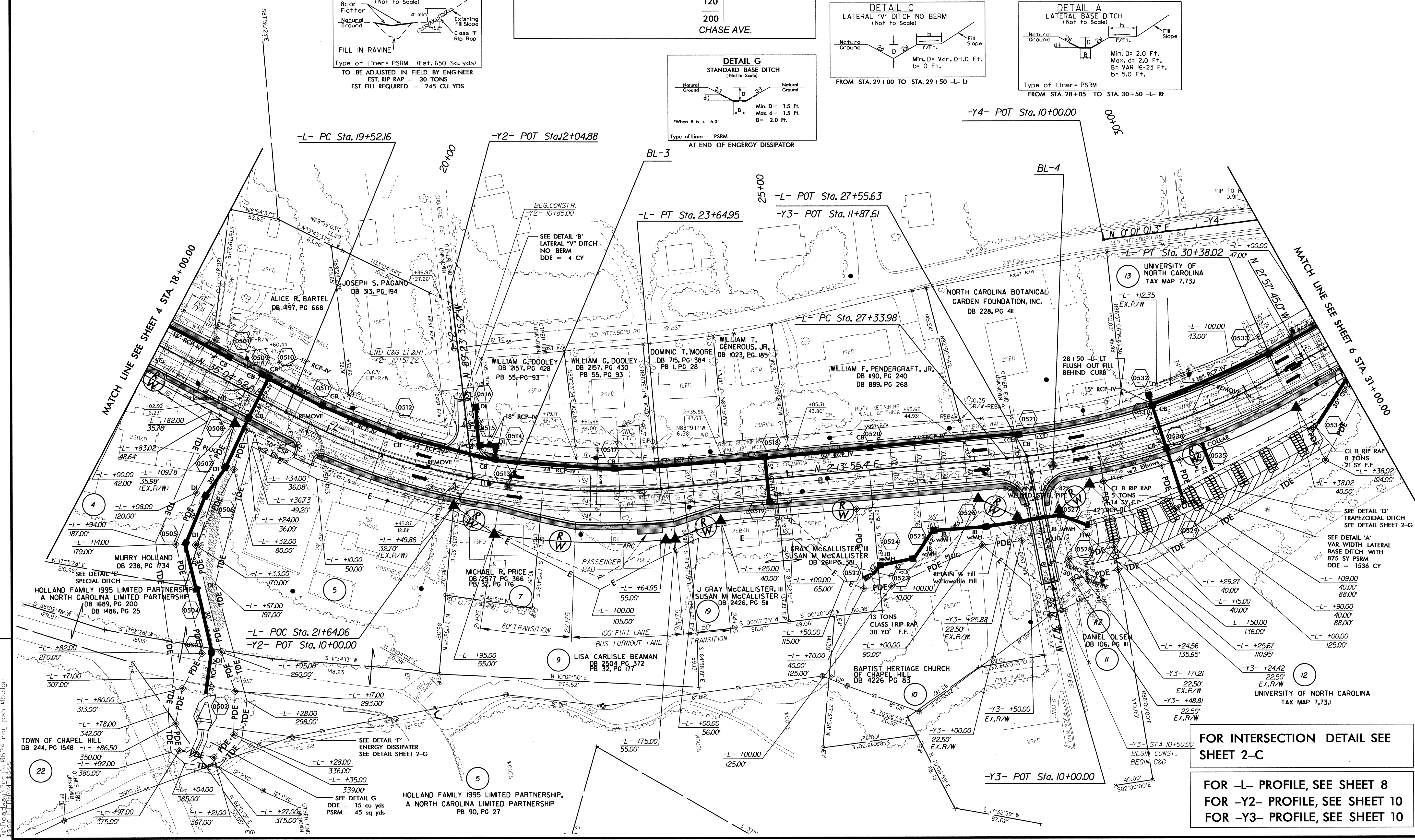
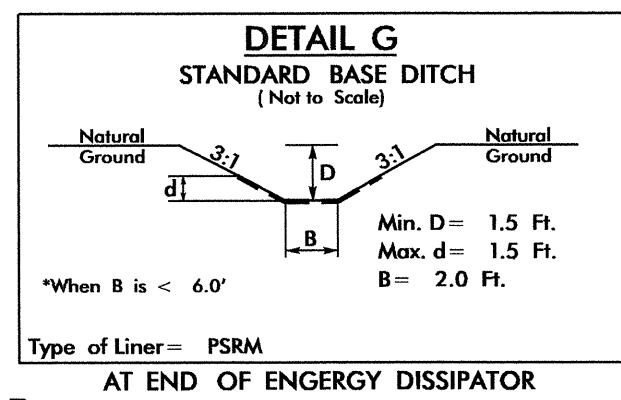
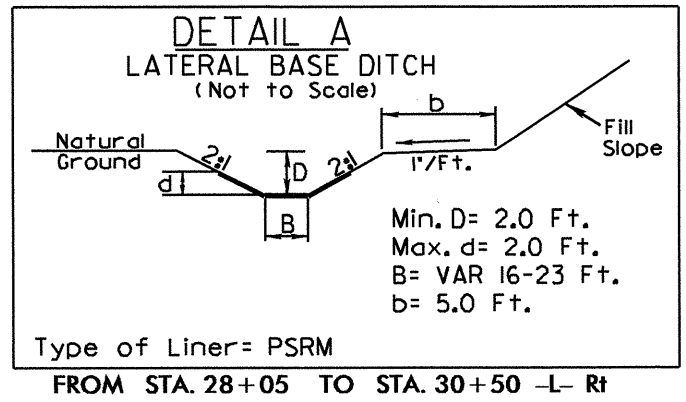
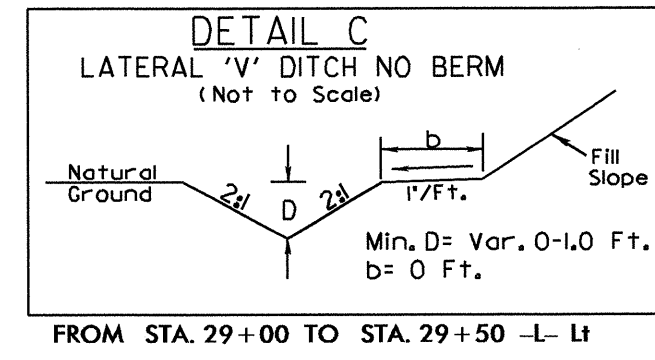
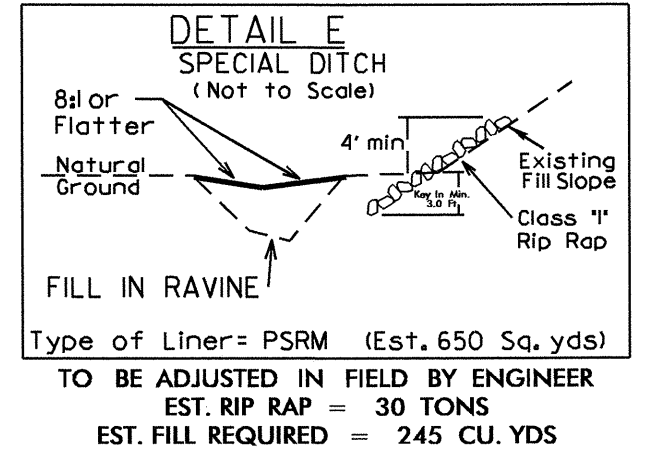


2009 AADT COOLIDGE ST.
 2030 AADT

NC 86	19,100	100	100	NC 86
21,170	30,900	100	100	20,090
31,000				30,900

S. COLUMBIA ST. CHASE AVE.

-L-	-L-
PI Sta 21+64.40	PI Sta 28+88.30
$\Delta = 32' 50'' 56.8'' (LT)$	$\Delta = 24' 11'' 40.4'' (LT)$
D = 7' 57" 27.9"	D = 7' 57" 27.9"
L = 412.79'	L = 304.04'
T = 212.24'	T = 154.32'
R = 720.00'	R = 720.00'
SE = .04	SE = .04
V = 40 mph	V = 40 mph



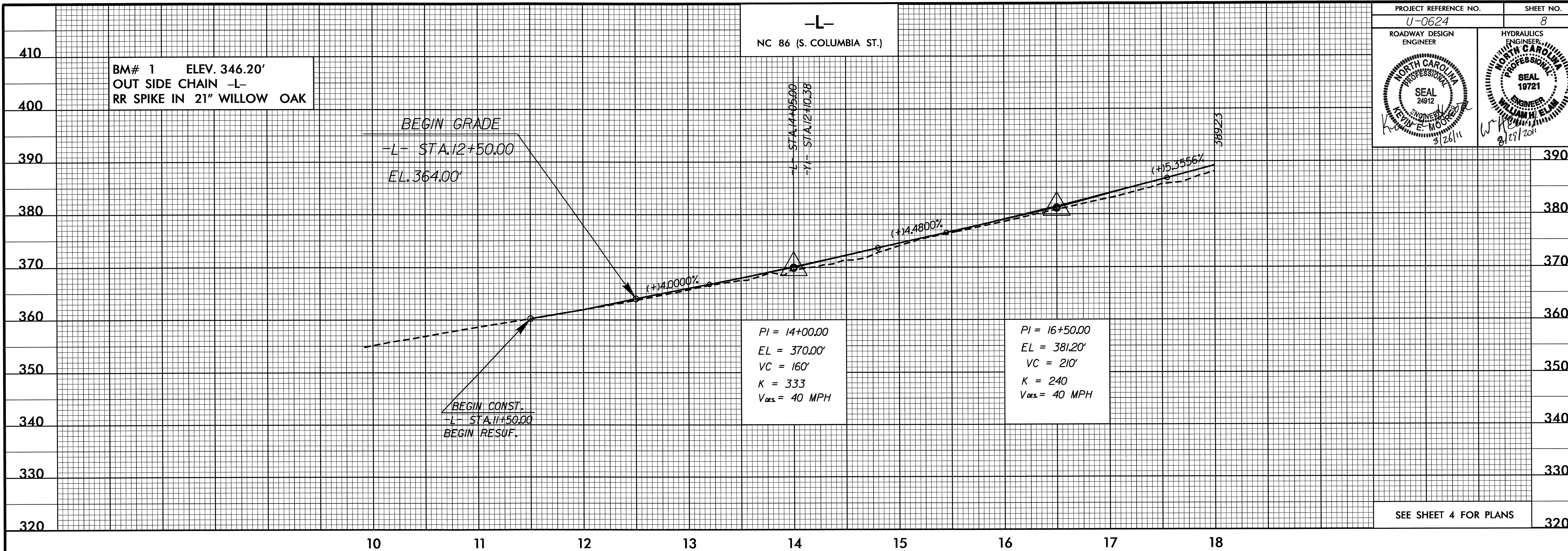
REVISIONS

FOR INTERSECTION DETAIL SEE SHEET 2-C
 FOR -L- PROFILE, SEE SHEET 8
 FOR -Y2- PROFILE, SEE SHEET 10
 FOR -Y3- PROFILE, SEE SHEET 10

06-SEP-2011 16:11
 P:\Projects\U-0624_rdy_psh_015.dgn

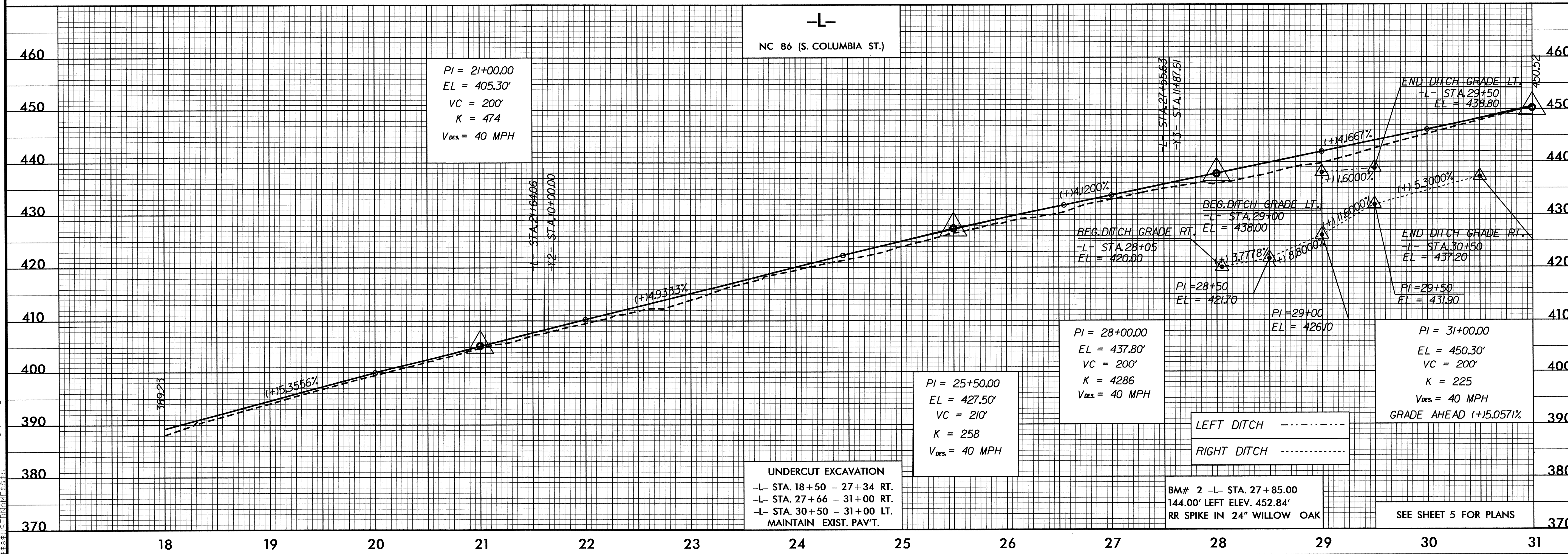
5/28/99

PROJECT REFERENCE NO. U-0624	SHEET NO. 8
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 24912 KEVIN E. MOORE 3/26/11	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 19721 WILLIAM W. ELM 8/19/2011



SEE SHEET 4 FOR PLANS

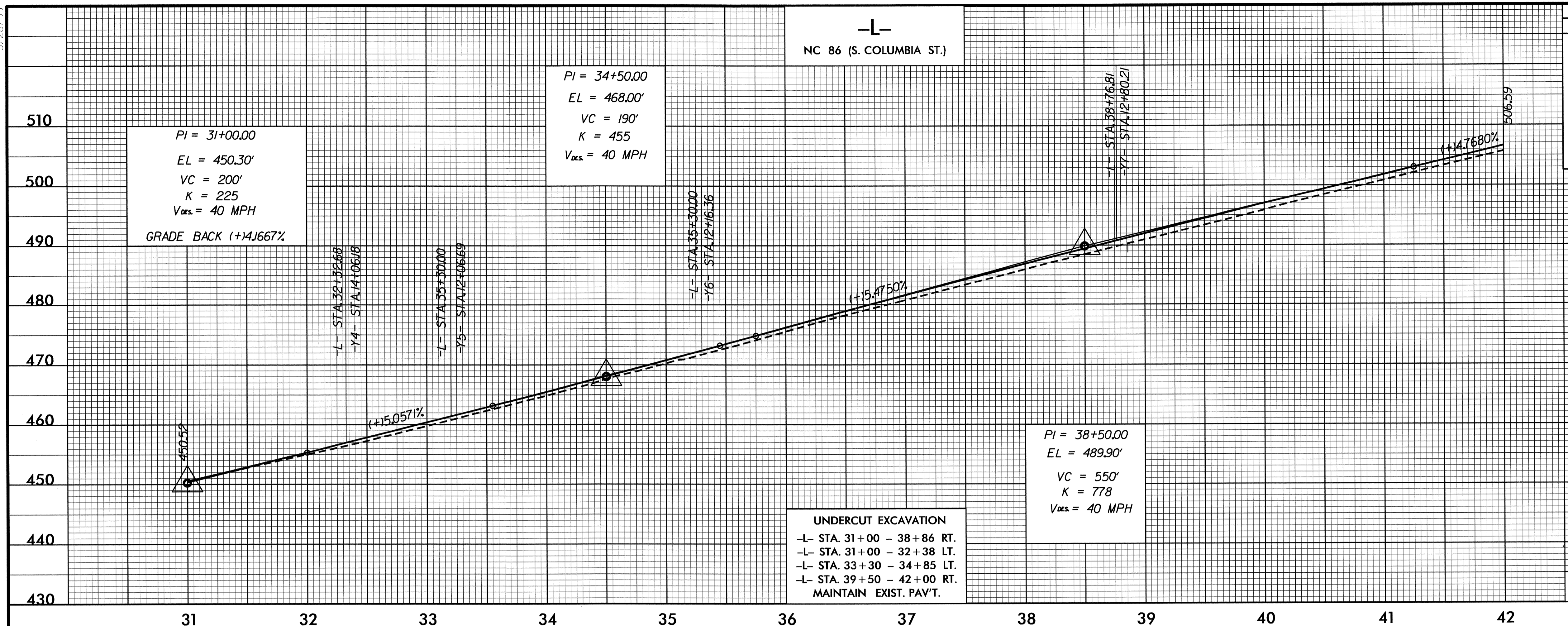
08-AUG-2011 13:37
C:\Roadwork\proj\624_rdy_pfl.dgn
K:\STANDARD\KME



SEE SHEET 5 FOR PLANS

5/28/99

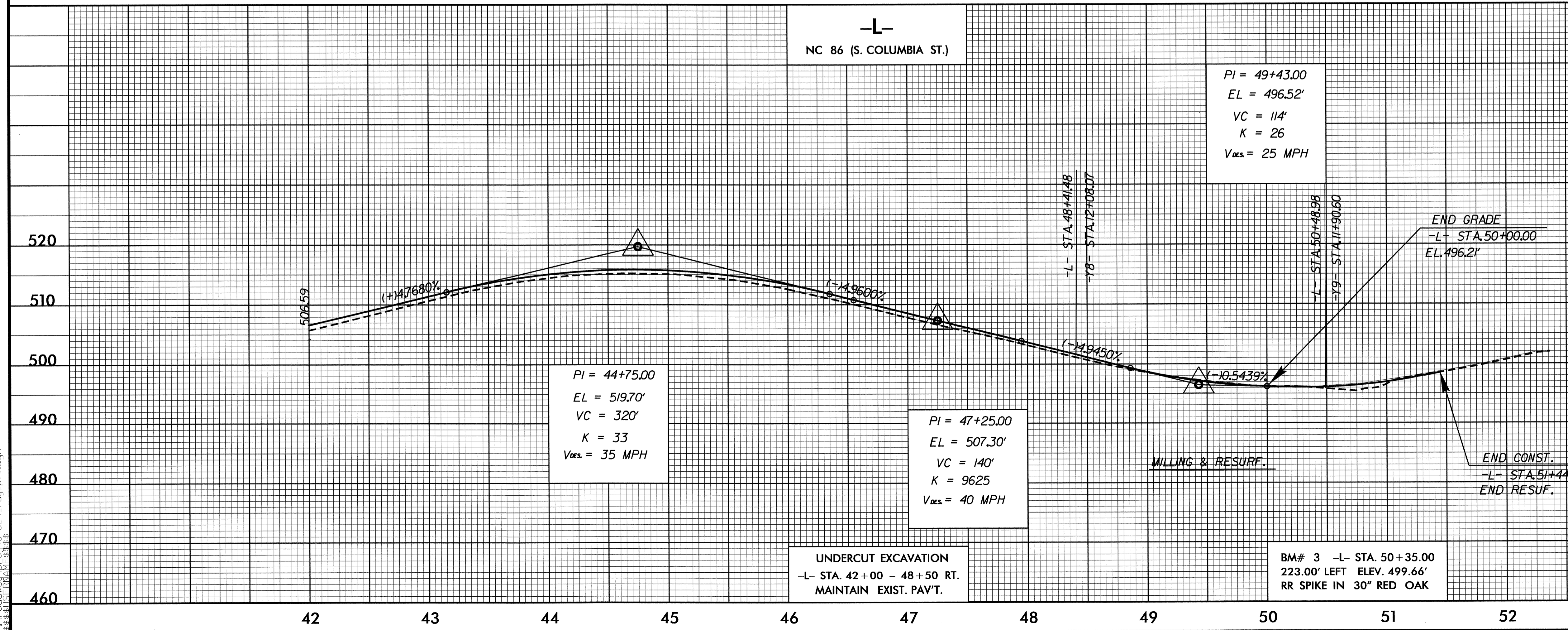
PROJECT REFERENCE NO. U-0624	SHEET NO. 9
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



UNDERCUT EXCAVATION
 -L- STA. 31+00 - 38+86 RT.
 -L- STA. 31+00 - 32+38 LT.
 -L- STA. 33+30 - 34+85 LT.
 -L- STA. 39+50 - 42+00 RT.
 MAINTAIN EXIST. PAV'T.

SEE SHEET 6 FOR PLANS

28-JUN-2011 15:48 \\s-624_rdy.pfl.dgn



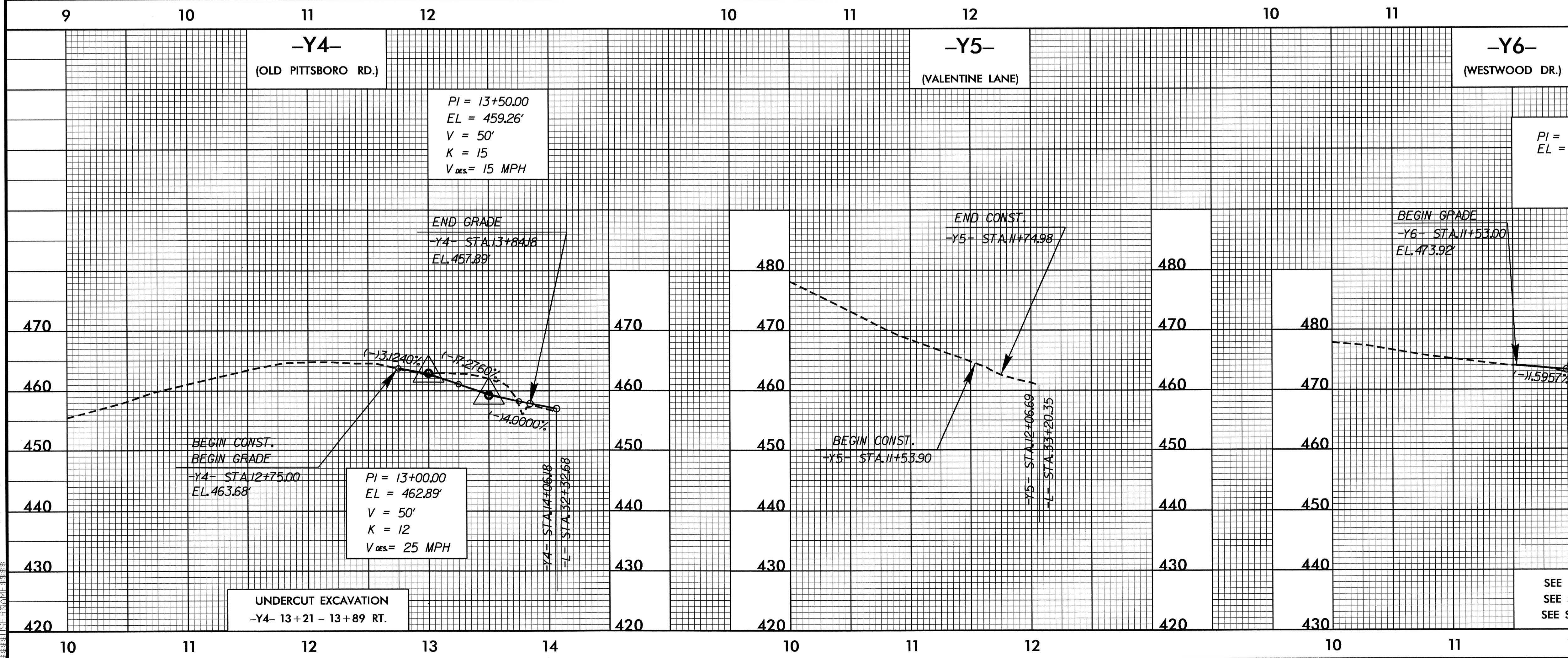
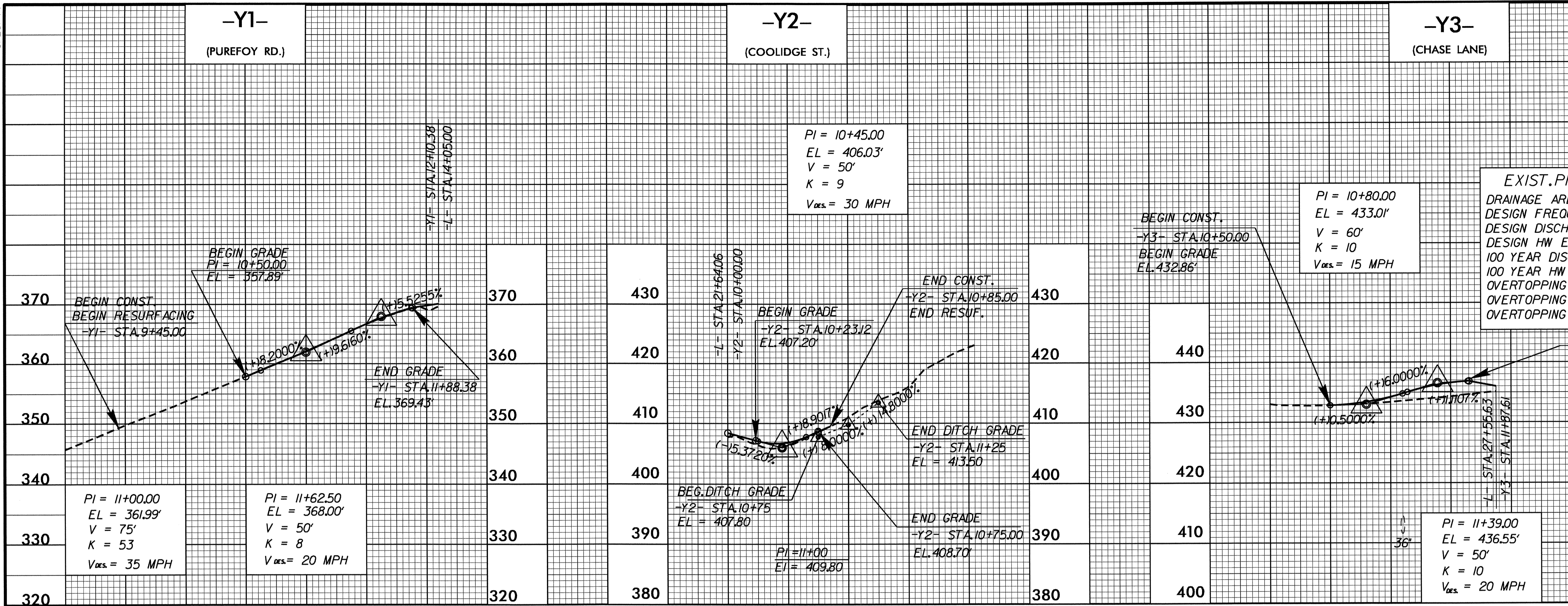
UNDERCUT EXCAVATION
 -L- STA. 42+00 - 48+50 RT.
 MAINTAIN EXIST. PAV'T.

BM# 3 -L- STA. 50+35.00
 223.00' LEFT ELEV. 499.66'
 RR SPIKE IN 30" RED OAK

SEE SHEET 7 FOR PLANS

5/28/99

PROJECT REFERENCE NO. U-0624	SHEET NO. 10
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



SEE SHEET 4 FOR -Y1- PLANS
SEE SHEET 5 FOR -Y2- PLANS
SEE SHEET 5 FOR -Y3- PLANS

SEE SHEET 5 & 6 FOR -Y4- PLANS
SEE SHEET 6 FOR -Y5- PLANS
SEE SHEET 6 FOR -Y6- PLANS

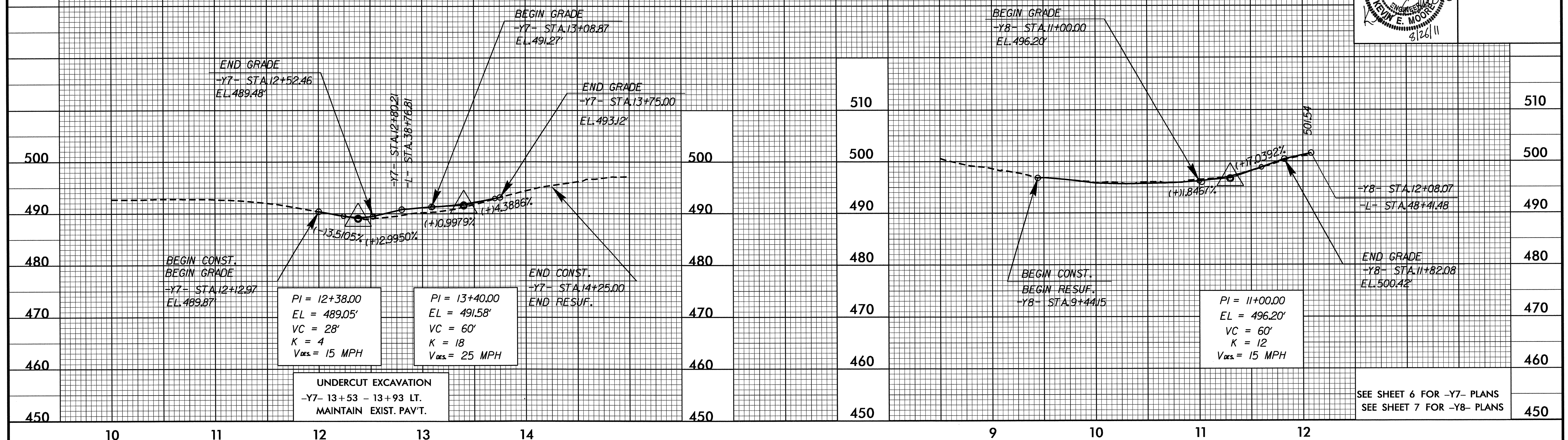
28-JUN-2011 15:48
F:\roadway\proj\U-0624-rdy.p1.dgn

5/28/99

-Y7-
(WESTWOOD DR.)/
(MASON FARM RD.)

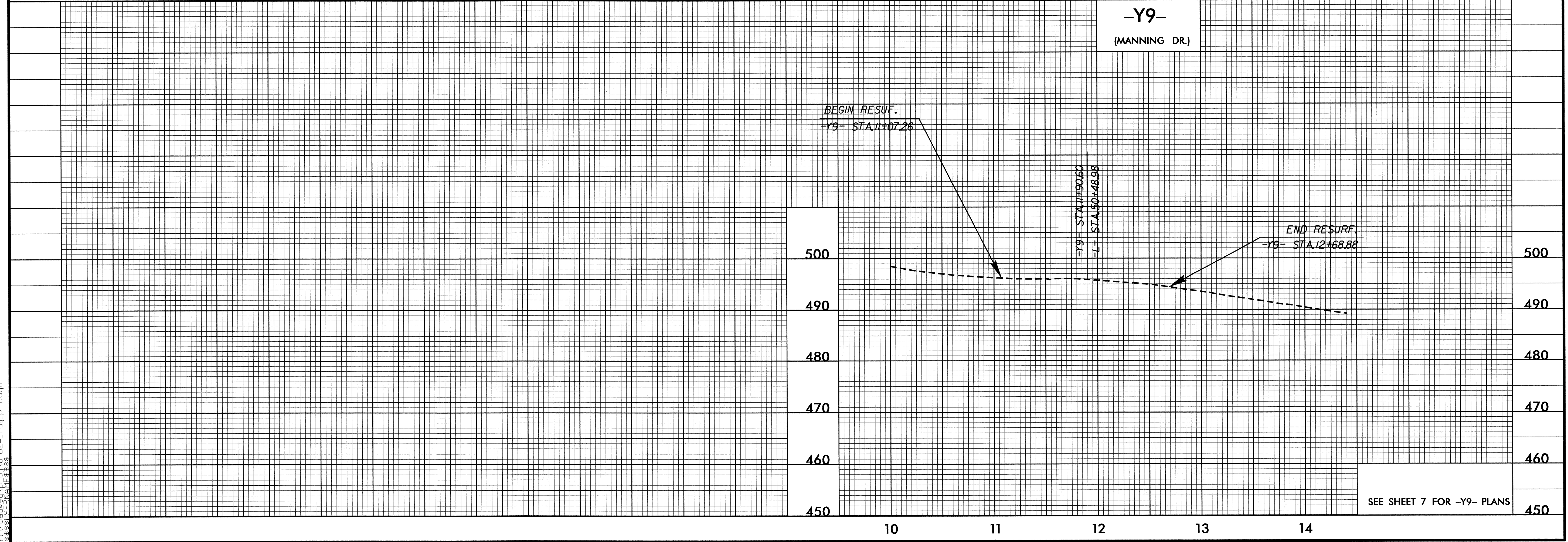
-Y8-
(PITTSBORO RD.)

PROJECT REFERENCE NO. U-0624	SHEET NO. 11
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



SEE SHEET 6 FOR -Y7- PLANS
SEE SHEET 7 FOR -Y8- PLANS

-Y9-
(MANNING DR.)



SEE SHEET 7 FOR -Y9- PLANS

26-AUG-2011 10:01 AM
C:\projects\p11\p11.dgn