

09/28/99

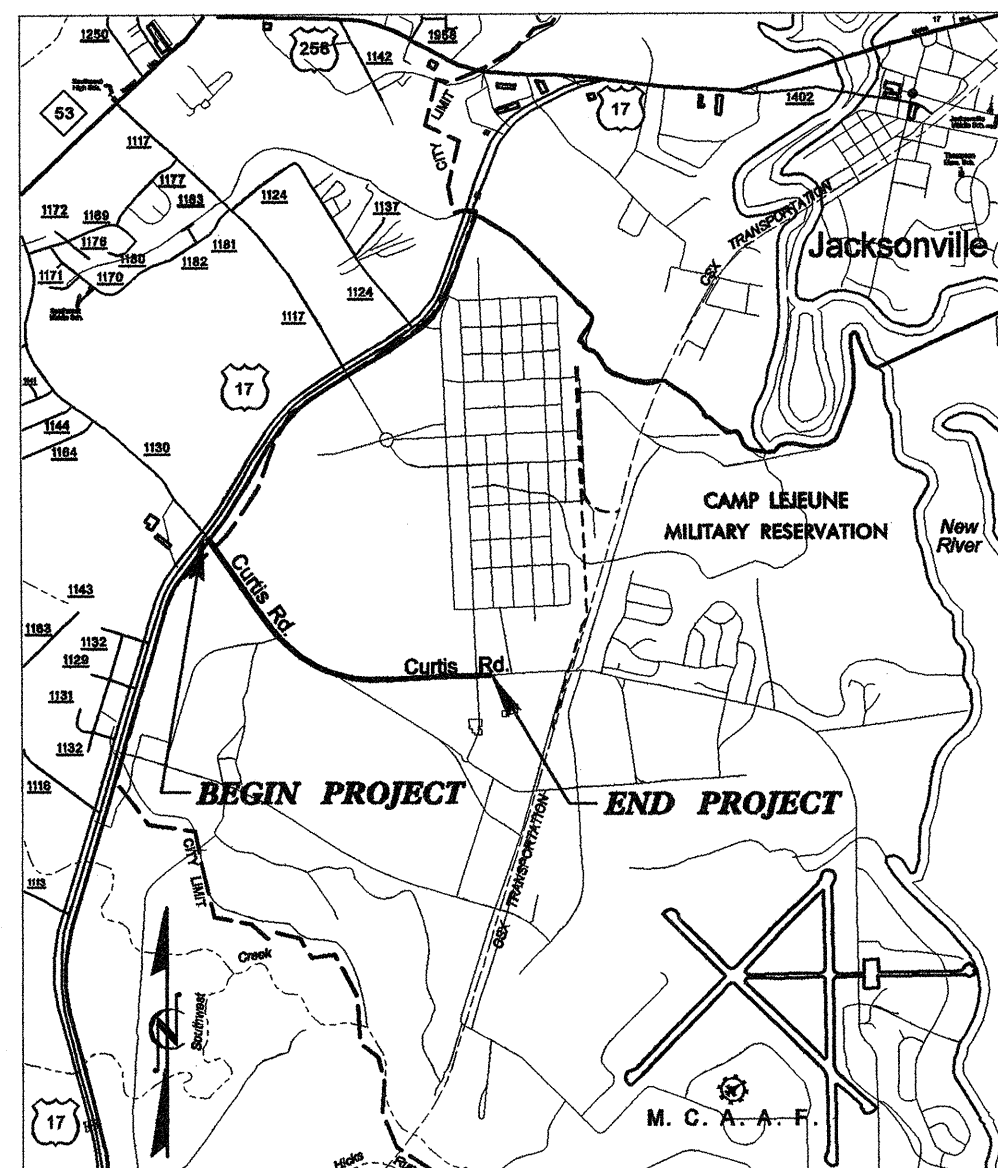
See Sheet 1-A For Index of Sheets

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ONSLOW COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4439A&B	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
35032.1.1	STPNHS-17(39)	PE	
35032.3.2	STPNHS-17(43)	CONSTRUCTION	

TIP PROJECT: U-4439A&B



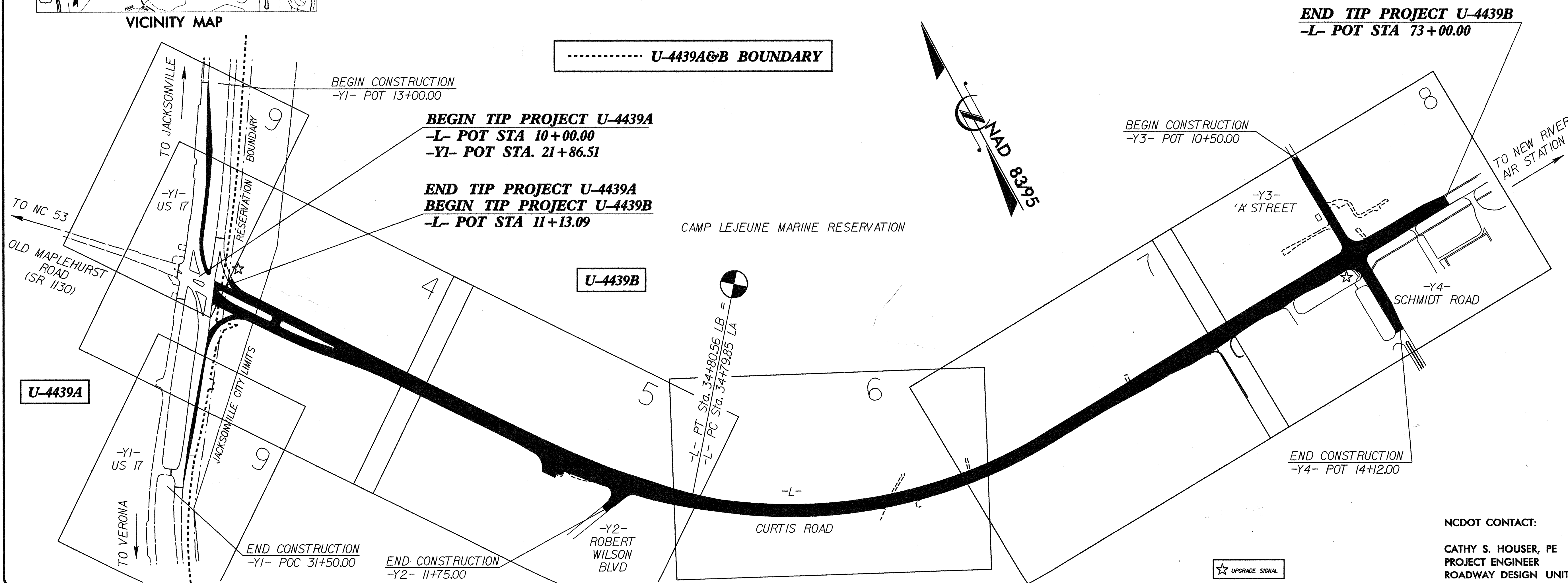
VICINITY MAP

LOCATION:

U-4439A: US 17/CURTIS ROAD INTERSECTION IMPROVEMENTS WITHIN NCDOT RIGHT OF WAY

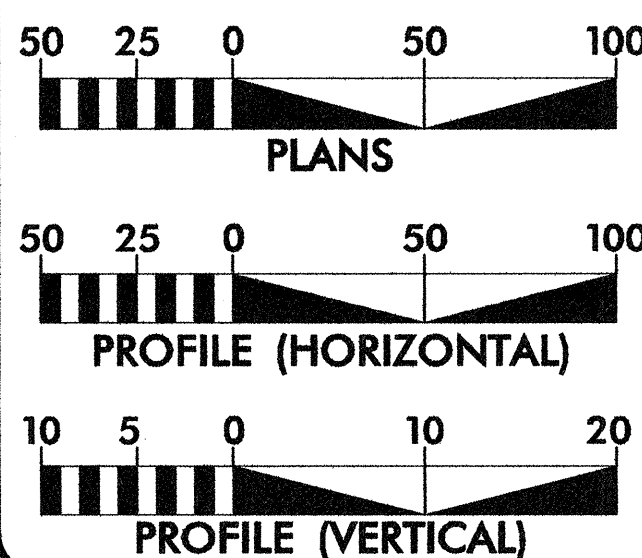
U-4439B: CURTIS ROAD FROM US 17 TO "A" STREET ON BOARD THE USMC BASE - NEW RIVER AIR STATION

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



CONTRACT: C200851

GRAPHIC SCALES



DESIGN DATA

ADT 2004 = 19,700
ADT 2024 = 28,000
DHV = 11 %
D = 70 %
T = 5 % *
V = 40 MPH
* TTST 2 % DUAL 3 %

PROJECT LENGTH

LENGTH OF TIP PROJECT U-4439A = 0.021 mi.
LENGTH OF TIP PROJECT U-4439B = 1.172 mi.
TOTAL LENGTH OF TIP PROJECT U-4439A&B = 1.193 mi.

Prepared for:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., NC, 27610

Prepared by:
MA ENGINEERING CONSULTANTS, INC.
598 E. CHATHAM STREET, SUITE 137
CARY, NORTH CAROLINA 27511
(919) 297-0220

2002 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
N/A

LETTING DATE:
MAY 16, 2006

R.W. PORTER JR., PE
PROJECT ENGINEER

D.M. WAINWRIGHT, PE
PROJECT DESIGN ENGINEER

HYDRAULICS, ENGINEER

Seal: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19710
Signature: [Signature]
Date: 2-7-05

ROADWAY DESIGN ENGINEER

Seal: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19814
Signature: [Signature]
Date: 2-7-05

**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**

Signature: [Signature] P.E.
STATE DESIGN ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED
DIVISION ADMINISTRATOR

NCDOT CONTACT:

CATHY S. HOUSER, PE
PROJECT ENGINEER
ROADWAY DESIGN UNIT

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5/28/09

PROJECT REFERENCE NO. U-4439A&B	SHEET NO. 1-A
MA Engineering CONSULTANTS, INC. 598 East Chatham Street Suite 137 Cary, NC 27511 Phone: 919.297.0220 Fax: 919.297.0221	

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 THRU 2-B	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2-C	DETAIL OF DRIVEWAY TURNOUT - DROP CURB TYPE
2-D THRU 2-E	DETAIL OF WHEELCHAIR RAMP - CURB CUT
2-F	PAVEMENT TRANSITION DETAIL
3 (2 SHEETS)	SUMMARIES OF QUANTITIES, EARTHWORK, AND PAVEMENT REMOVAL
3-A	SUMMARY OF DRAINAGE QUANTITIES
4 THRU 9	PLAN SHEET
10 THRU 13	PROFILE SHEET
TCP-1 THRU TCP-14	TRAFFIC CONTROL PLANS
PM-1 THRU PM-7	PAVEMENT MARKING PLANS
EC-1 THRU EC-14	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-9	SIGNING PLANS
SIG-1 THRU SIG-21	SIGNAL PLANS
X-1 THRU X-45	CROSS-SECTIONS

GENERAL NOTES: 2002 SPECIFICATIONS
 EFFECTIVE: 01-15-02
 REVISED: 05-14-03

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

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

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 DETAILS IN PLANS USING 3'/900 MM RADII OR RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

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:
 ONSLOW COUNTY WATER, CITY OF JACKSONVILLE, CAMP LEJEUNE PUBLIC WORKS, SPRINT, AT&T, TIME WARNER CABLE, PROGRESS ENERGY, AND NORTH CAROLINA NATURAL GAS.

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED 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.

ROADWAY ENGLISH STANDARD DRAWINGS
 EFF. 01-15-02
 REV. 04-07-04

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January 15, 2002 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 Superlevation - Two Lane Pavement

DIVISION 3 - PIPE CULVERTS
 300.01 Method of Pipe Installation - Method 'A'
 310.10 Driveway Pipe Construction

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 8 - INCIDENTALS
 815.03 Pipe Underdrain and Blind Drain
 840.00 Concrete Base Pad for Drainage Structures
 840.01 Brick Catch Basin - 12" thru 54" Pipe
 840.02 Concrete Catch Basin - 12" thru 54" Pipe
 840.03 Frame, Grates and Hood - for Use on Standard Catch Basin
 840.19 Concrete Median Drop Inlet Type 'D' - 12" thru 36" Pipe
 840.22 Frames and Wide Slot Sag Grates
 840.25 Anchorage for Frames - Brick or Concrete
 840.28 Brick Median Drop Inlet Type 'D' - 12" thru 36" Pipe
 840.31 Concrete Junction Box - 12" thru 66" Pipe
 840.32 Brick Junction Box - 12" thru 66" Pipe
 840.45 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
 852.01 Concrete Islands
 876.02 Guide for Rip Rap at Pipe Outlets

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Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EIP
Property Corner	-----
Property Monument	□ EDM
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 High Quality Wetland Boundary	----- HQ WLB
Existing Endangered Animal Boundary	----- EAB
Existing Endangered Plant Boundary	----- EPB

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or UG 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	-----
River Basin Buffer	----- RBB
Flow Arrow	←
Disappearing Stream	-----
Spring	○
Swamp Marsh	-----
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	-----
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	○ WCR
Curb Cut for Future Wheel Chair Ramp	○ CCFR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	○
Pavement Removal	-----

VEGETATION:

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

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	----- CONC
Bridge Wing Wall, Head Wall and End Wall	----- CONC WW
MINOR:	
Head and End Wall	----- CONC HW
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	□ CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	○
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	□
UG Power Cable Hand Hole	□
H-Frame Pole	●
Recorded UG Power Line	----- P
Designated UG Power Line (S.U.E.*)	----- P

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	○
Telephone Booth	□
Telephone Pedestal	□
Telephone Cell Tower	○
UG Telephone Cable Hand Hole	□
Recorded UG Telephone Cable	----- T
Designated UG Telephone Cable (S.U.E.*)	----- T
Recorded UG Telephone Conduit	----- TC
Designated UG Telephone Conduit (S.U.E.*)	----- TC
Recorded UG Fiber Optics Cable	----- T FO
Designated UG Fiber Optics Cable (S.U.E.*)	----- T FO

WATER:

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

TV:

TV Satellite Dish	⋈
TV Pedestal	□
TV Tower	⊗
UG TV Cable Hand Hole	□
Recorded UG TV Cable	----- TV
Designated UG TV Cable (S.U.E.*)	----- TV
Recorded UG Fiber Optic Cable	----- TV FO
Designated UG Fiber Optic Cable (S.U.E.*)	----- TV FO

GAS:

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

SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
UG 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 UG Line	----- 2UTL
UG Tank; Water, Gas, Oil	□
A/G Tank; Water, Gas, Oil	□
UG Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

SURVEY CONTROL SHEET U-4439A&B

LOCALIZED CONTROL COORDINATES

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
10	BL-10	361885.9890	2458932.4768	38.14	OUTSIDE PROJECT LIMITS	
11	BL-11	360624.9280	2458961.7680	37.86	10+25.05	22.92 RT
TL1		360285.7546	2459175.7159	UNKNOWN	14+25.48	44.57 RT
TL2		360133.1053	2459272.8059	UNKNOWN	16+05.69	54.31 RT
12	BL-12	360078.3950	2459311.5638	38.74	16+79.73	59.32 RT
13	BL-13	359458.0200	2459776.7540	23.30	24+54.67	37.67 RT
14	BL-14	358838.8120	2460196.0300	28.33	31+87.79	69.38 RT
15	BL-15	358370.6120	2460866.8140	31.74	39+91.67	39.76 RT
16	BL-16	358133.1390	2461631.6240	38.86	47+82.42	39.98 RT
17	BL-17	358134.4120	2462464.0820	24.30	56+09.94	34.88 RT
18	BL-18	358156.4450	2463174.7390	21.89	63+20.98	42.07 RT
4	U4439-4	358131.3290	2463642.4930	21.29	67+87.31	86.39 RT
19	BL-19	358177.5450	2464283.6860	28.33	73+49.93	63.27 RT

BY POINT	DESC.	NORTH	EAST	ELEVATION	Y1 STATION	OFFSET
100	BY-100	361798.2380	2459710.5130	28.98	OUTSIDE PROJECT LIMITS	
A11		360624.9280	2458961.7680	37.86	22+15.75	17.25 LT
101	BY-101	359797.5180	2458335.8140	33.70	32+55.35	13.31 LT

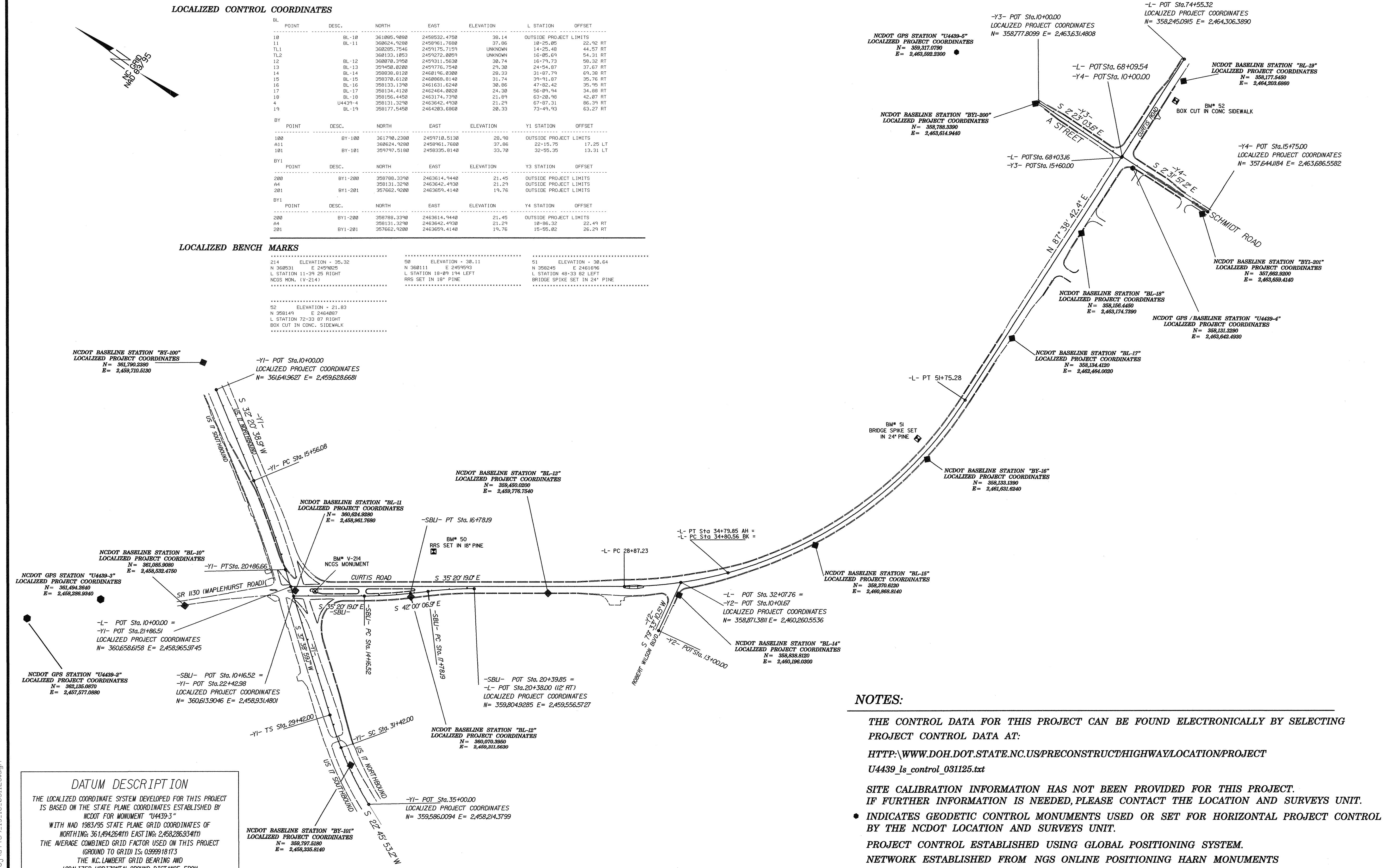
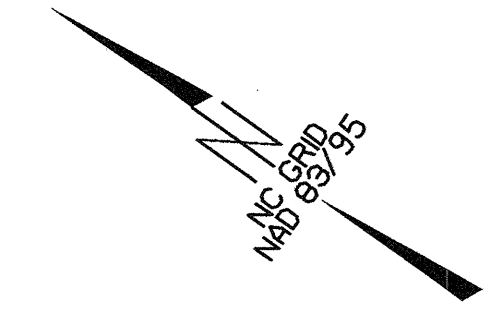
BY1 POINT	DESC.	NORTH	EAST	ELEVATION	Y3 STATION	OFFSET
200	BY1-200	358786.3390	2463614.9440	21.45	OUTSIDE PROJECT LIMITS	
A4		358131.3290	2463642.4930	21.29	OUTSIDE PROJECT LIMITS	
201	BY1-201	357662.9280	2463659.4140	19.76	OUTSIDE PROJECT LIMITS	

BY1 POINT	DESC.	NORTH	EAST	ELEVATION	Y4 STATION	OFFSET
200	BY1-200	358786.3390	2463614.9440	21.45	OUTSIDE PROJECT LIMITS	
A4		358131.3290	2463642.4930	21.29	18+86.32	22.49 RT
201	BY1-201	357662.9280	2463659.4140	19.76	19+55.02	26.29 RT

LOCALIZED BENCH MARKS

214	ELEVATION = 35.32	50	ELEVATION = 38.11	51	ELEVATION = 38.64
N 360531	E 2459025	N 360111	E 2459593	N 358245	E 2461696
L STATION 11+39 25 RIGHT		L STATION 18+09 194 LEFT		L STATION 48+33 82 LEFT	
NCOS MON. (V-214)		RRS SET IN 18" PINE		BRIDGE SPIKE SET IN 24" PINE	

52	ELEVATION = 21.83
N 358149	E 2464087
L STATION 72+33 87 RIGHT	
BOX CUT IN CONC. SIDEWALK	



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/U4439_ls_control_031125.txt](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project/U4439_ls_control_031125.txt)
- SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
- INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
- PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
- NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING HARN MONUMENTS

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "U4439-3"

WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 361,494,264 (ft) EASTING: 2,458,286,934 (ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999918173

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "U4439-3" TO L- STATION 10+00.00 IS S 39° 05' 49.2" W 1,076.756 FEET

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES

VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

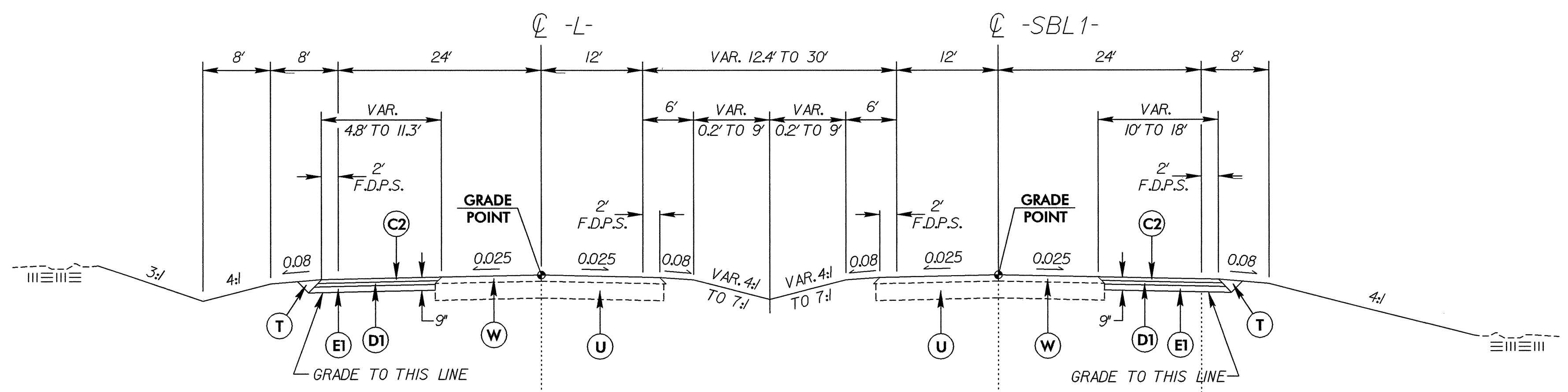
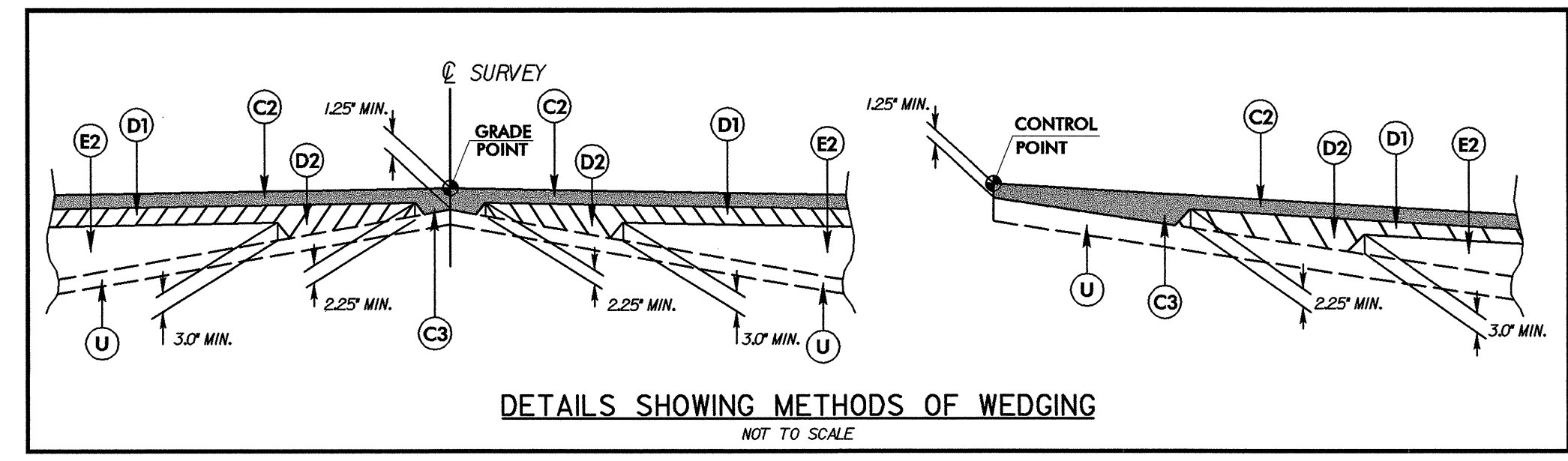
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PAVEMENT SCHEDULE

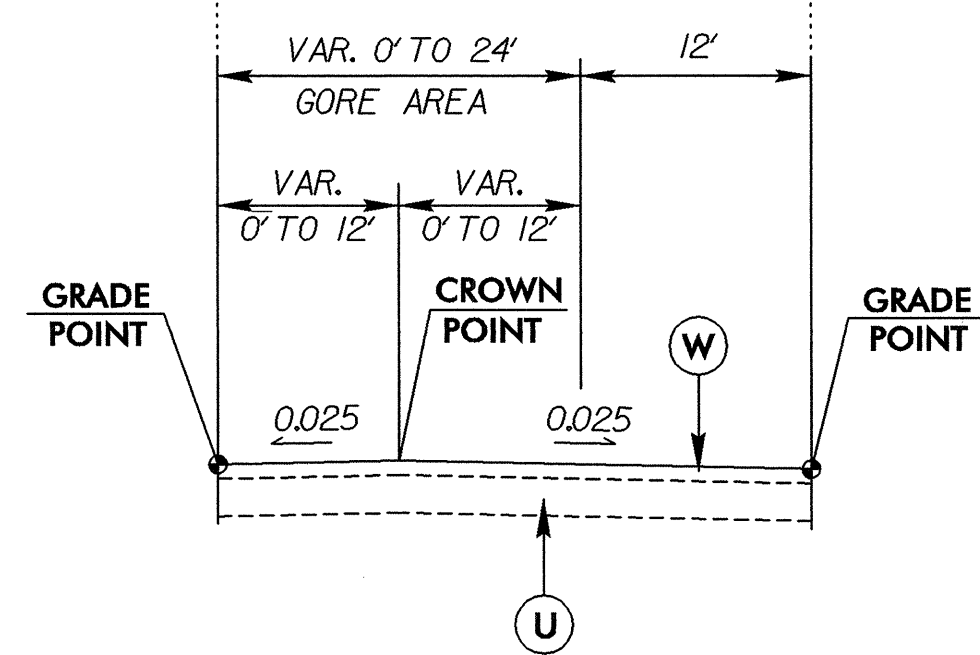
C1	PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 140 LBS PER SQUARE YARD.	R1	2'-6" CONCRETE CURB AND GUTTER
C2	PROP. APPROX. 2.50" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 140 LBS PER SQUARE YARD IN EACH OF TWO LAYERS.	R2	8" x 18" CONCRETE CURB
C3	PROP. VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS PER SQUARE YARD PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 1.25" OR GREATER THAN 1.5" IN DEPTH.	R3	5" MONOLITHIC CONCRETE ISLAND
D1	PROP. APPROX. 2.50" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS PER SQUARE YARD.	T	EARTH MATERIAL
D2	PROP. VARIABLE DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS PER SQUARE YARD PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2.25" OR GREATER THAN 4.0" IN DEPTH.	U	EXISTING PAVEMENT
E1	PROP. APPROX. 4.0" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS PER SQUARE YARD.	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAILS THIS SHEET)
E2	PROP. VARIABLE DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS PER SQUARE YARD PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 3.0" OR GREATER THAN 5.5" IN DEPTH.		

PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



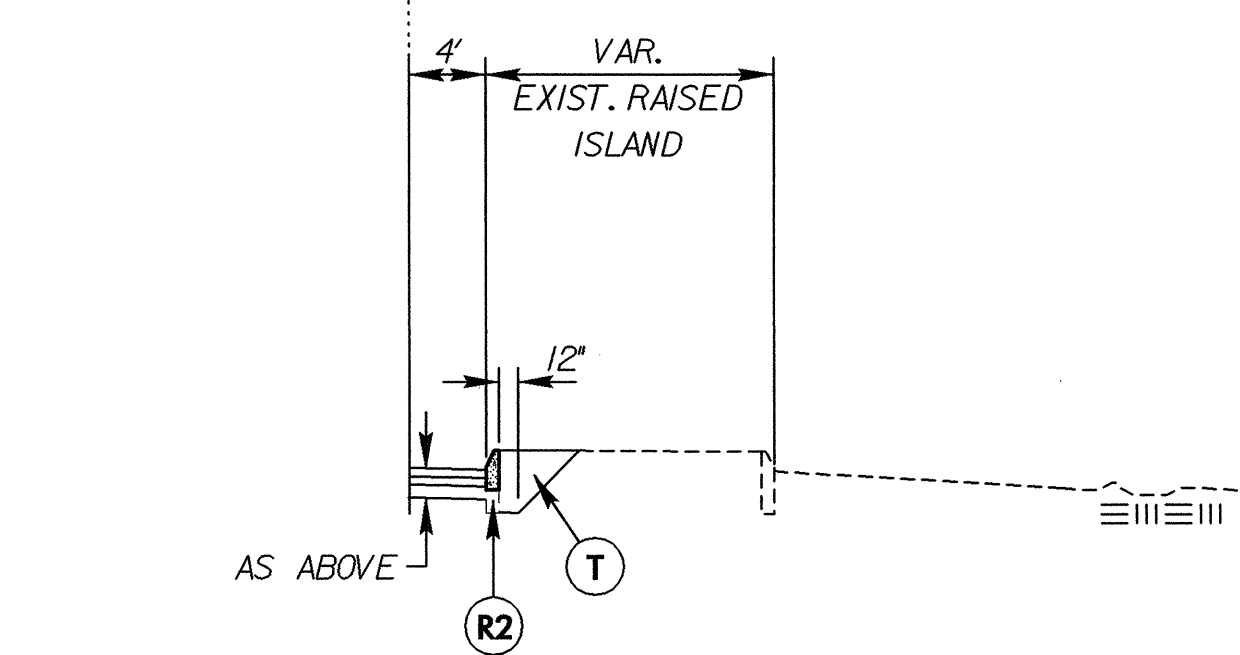
TYPICAL SECTION #1

USE TYPICAL SECTION NO. 1
FROM -L- STA. 10+76.00 TO STA. 17+03.30



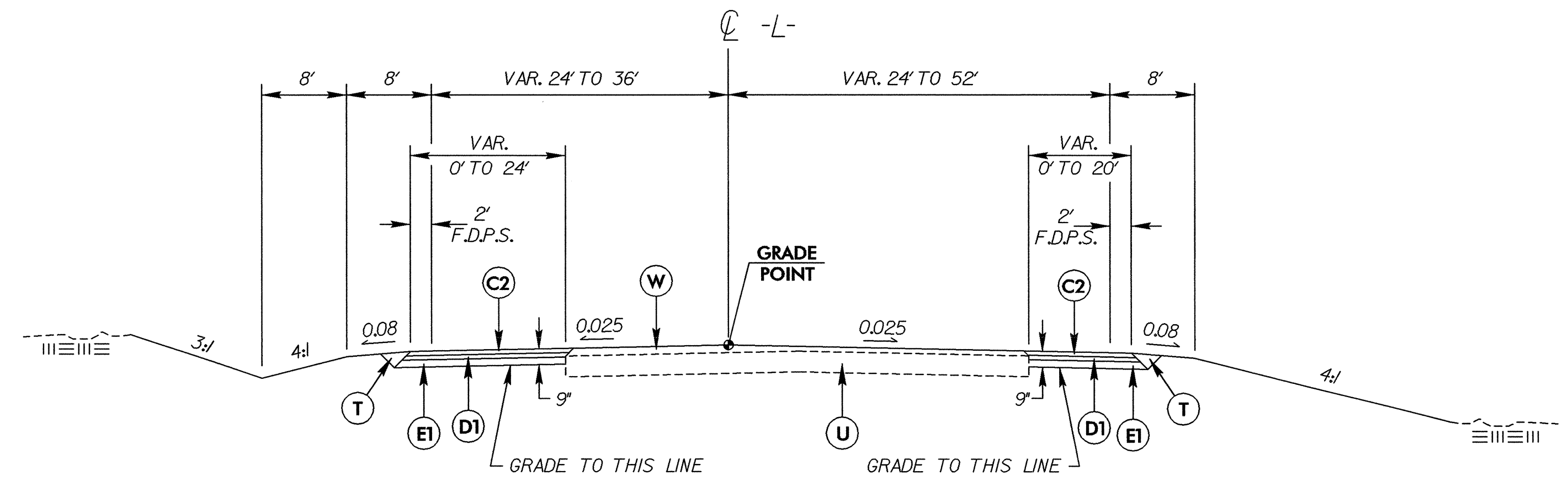
TYPICAL SECTION #1A

USE TYPICAL SECTION NO. 1A IN CONJUNCTION WITH
TYPICAL SECTION NO. 1:
FROM -L- STA. 17+03.30 TO STA. 20+38.00



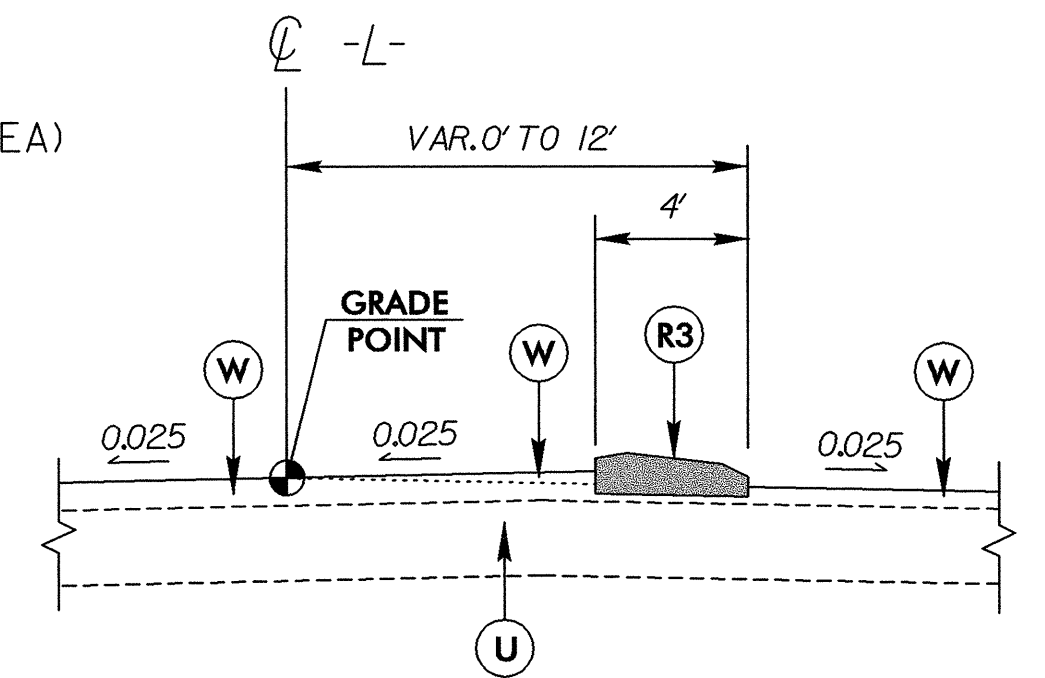
TYPICAL SECTION #1B

USE TYPICAL SECTION NO. 1B IN CONJUNCTION WITH
TYPICAL SECTION NO. 1:
FROM -SBLI- STA. 11+10.00 TO STA. 12+22.50



TYPICAL SECTION #2

USE TYPICAL SECTION NO. 2
FROM -L- STA. 20+38.00 TO STA. 34+80.56 LB
FROM -L- STA. 34+79.85 LA TO STA. 73+00.00
FROM -L- STA. 21+31.24 TO 28+66.37 RT. (GUARDHOUSE PARKING AREA)



TYPICAL SECTION #2A

USE TYPICAL SECTION NO. 2A IN CONJUNCTION WITH
TYPICAL SECTION NO. 2:
FROM -L- STA. 61+10.00 TO STA. 63+60.00

SCALE EXAGGERATED FOR CLARITY

PROJECT REFERENCE NO. U-4439A&B	SHEET NO. 2
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 19814 ROBERT W. PORTER	PAVEMENT DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 22896 CLARK S. MORRISON
MA Engineering CONSULTANTS, INC. 598 East Chatham Street Suite 137 Cary, NC 27511 Phone: 919.297.0220 Fax: 919.297.0221	

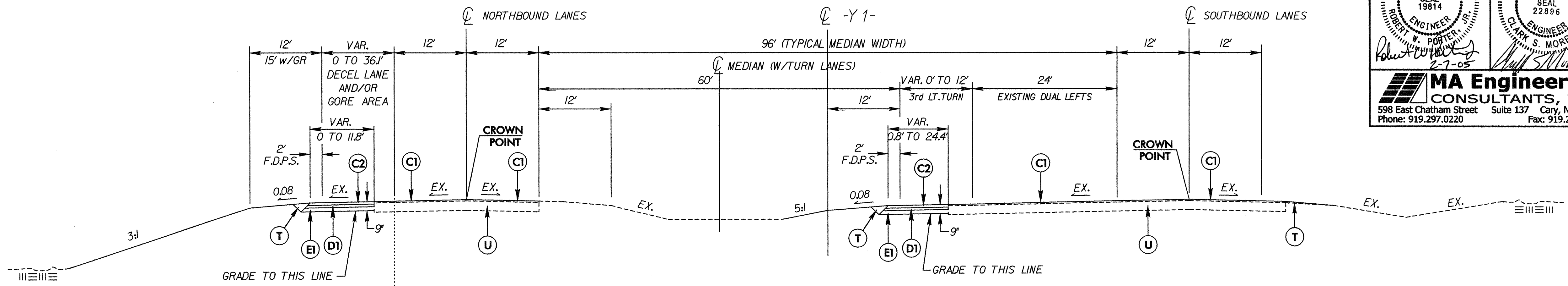
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PAVEMENT SCHEDULE	
C1	1.25" S9.5B
C2	2.50" S9.5B
C3	VAR. S9.5B
D1	2.50" I19.0B
D2	VAR. I19.0B
E1	4.0" B25.0B
E2	VAR. B25.0B
R1	2'-6" CONCRETE CURB & GUTTER
R2	8" x 18" CONCRETE CURB
R3	MONOLITHIC CONCRETE ISLAND
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

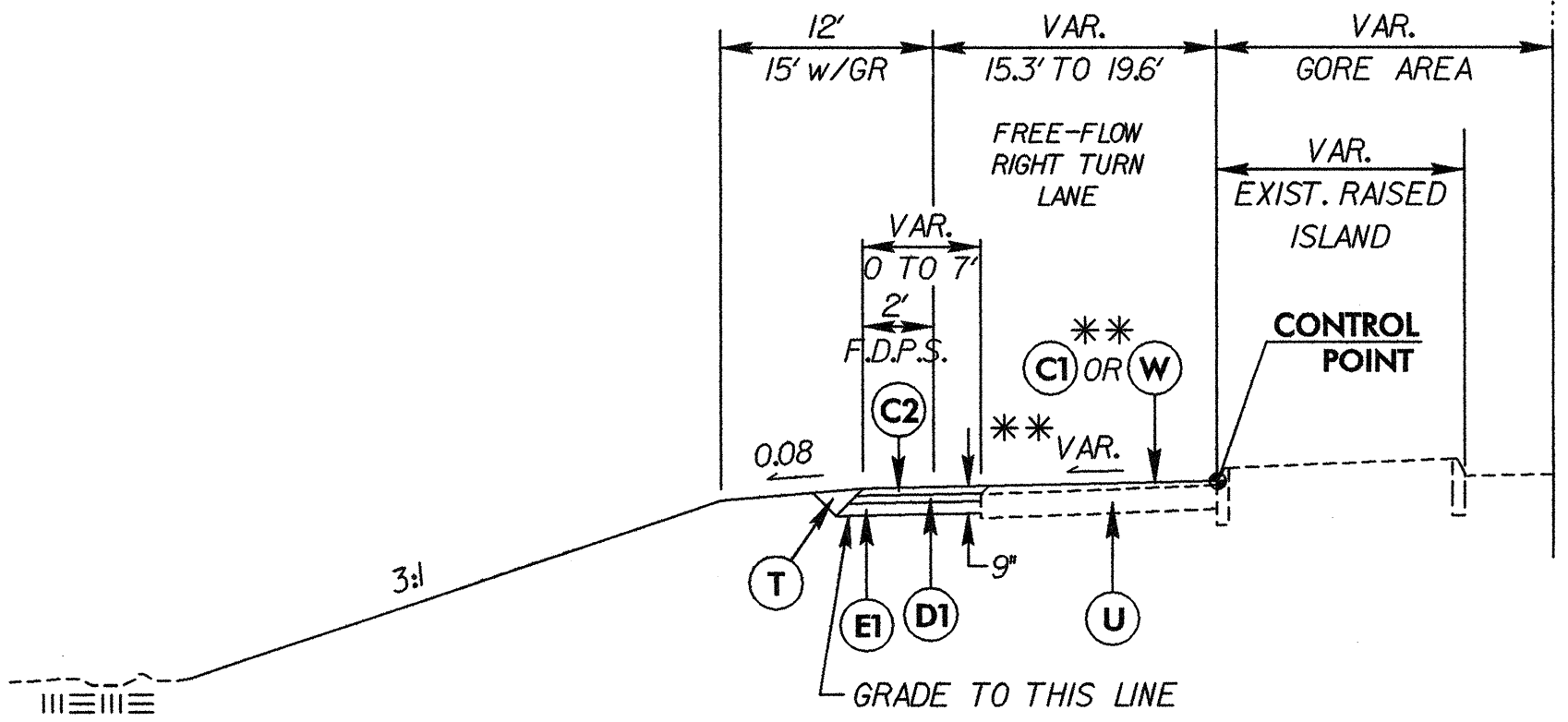
PROJECT REFERENCE NO. U-4439a&b	SHEET NO. 2-A
ROADWAY DESIGN ENGINEER ROBERT W. PORTER SEAL 19814 2-7-05	PAVEMENT DESIGN ENGINEER CLARK S. MORRISON SEAL 22896 2/1/05
MA Engineering CONSULTANTS, INC. 598 East Chatham Street Suite 137 Cary, NC 27511 Phone: 919.297.0220 Fax: 919.297.0221	



TYPICAL SECTION #3

USE TYPICAL SECTION NO. 3
 FROM -Y1- STA. 13+00.00 RT. TO STA. 21+71.30 LT.
 FROM -Y1- STA. 24+25.84 LT. TO STA. 31+50.00 LT.

NOTE: RESURFACE EXISTING US 17 PAVEMENT USING (C1):
 FROM -Y1- STA. 13+00.00 RT. TO 23+00.00 RT.
 FROM -Y1- STA. 20+00.00 LT. TO 31+50.00 LT.

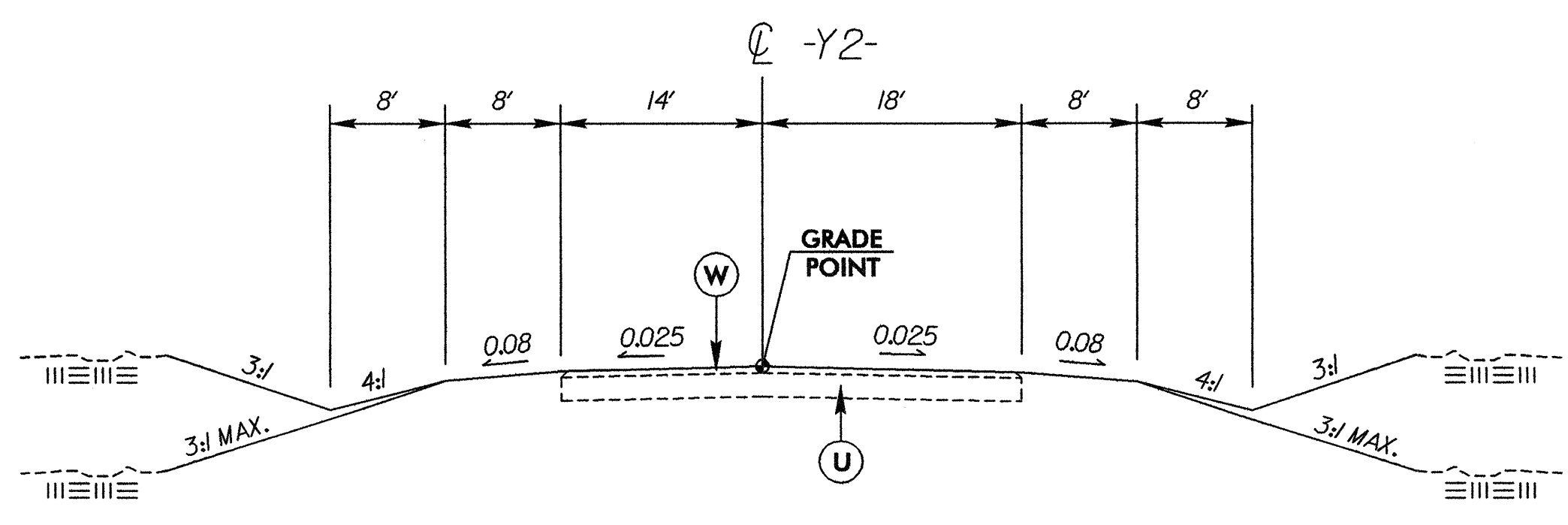


TYPICAL SECTION #3A

USE TYPICAL SECTION NO. 3A FOR FREE-FLOW RIGHT TURN LANE CONSTRUCTION

** RESURFACE WITH (C1) & MATCH EXISTING SUPERELEVATION:
 FROM -Y1- STA. STA. 20+59.49 (77.35' LT) TO 21+85.08 (133.37' LT)
 FROM -Y1- STA. STA. 23+55.70 (143.45' LT.) TO 24+25.84 (85.80' LT.)

** WEDGE USING MINIMUM 1.25" OVERLAY AND SUPERELEVATION SHOWN ON PLANS:
 FROM -Y1- STA. STA. 21+85.08 (133.37' LT) TO 22+20.06 (160.72' LT.)
 FROM -Y1- STA. STA. 23+33.57 (188.07' LT) TO 23+55.70 (143.45' LT.)



TYPICAL SECTION #4

USE TYPICAL SECTION NO. 4
 FROM -Y2- STA. 11+38.27 TO STA. 11+75.00

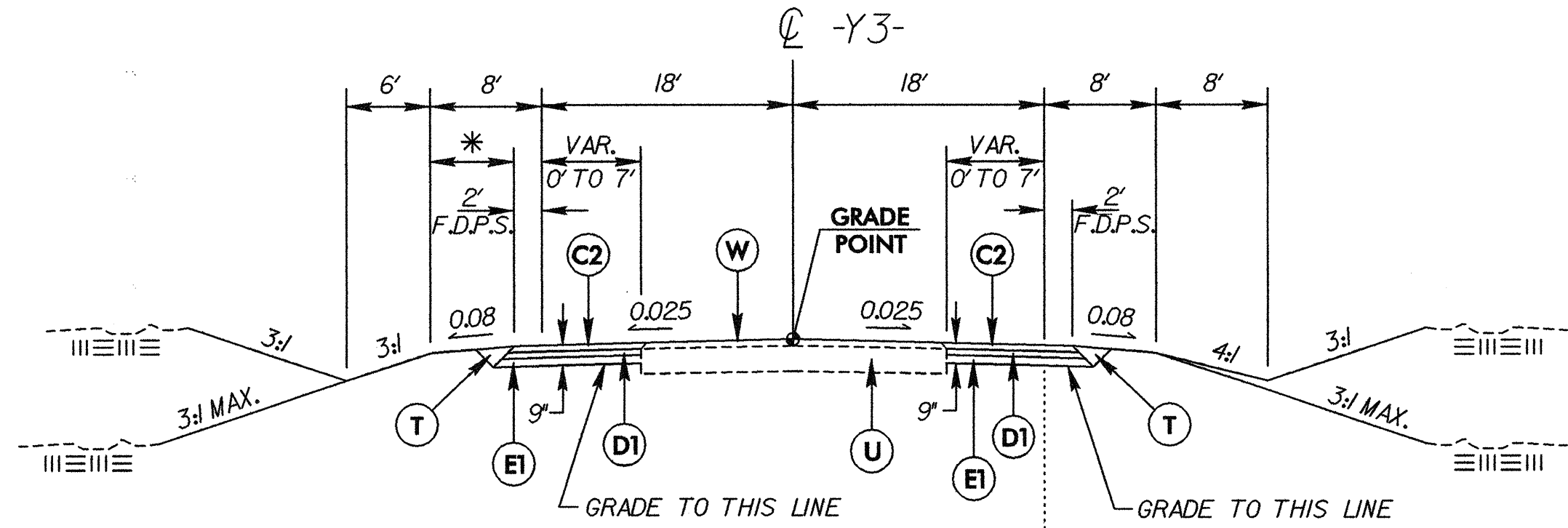
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6/2/99

PAVEMENT SCHEDULE	
C1	1.25" S9.5B
C2	2.50" S9.5B
C3	VAR. S9.5B
D1	2.50" I19.0B
D2	VAR. I19.0B
E1	4.0" B25.0B
E2	VAR. B25.0B
R1	2'-6" CONCRETE CURB & GUTTER
R2	8" x 18" CONCRETE CURB
R3	MONOLITHIC CONCRETE ISLAND
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

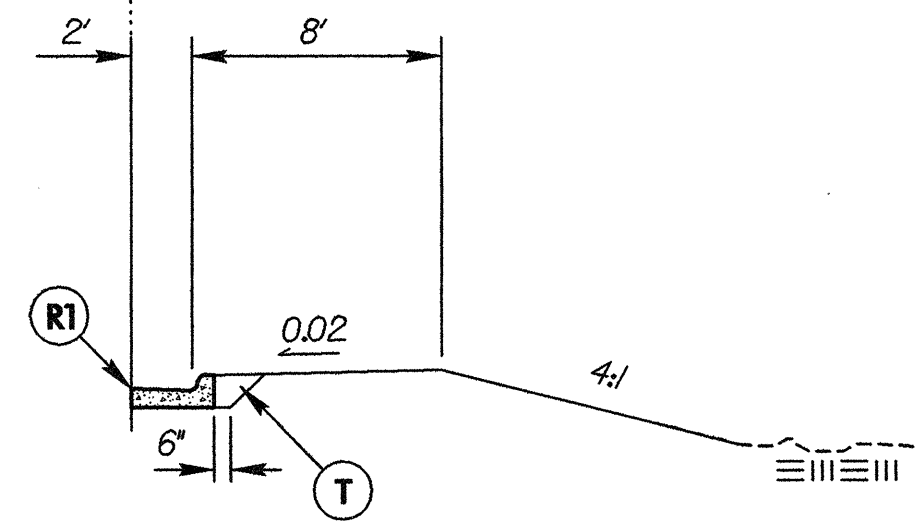
PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

*REPLACE GRAVEL PATH ON -Y3- LEFT SHOULDER USING 3" INCIDENTAL STONE



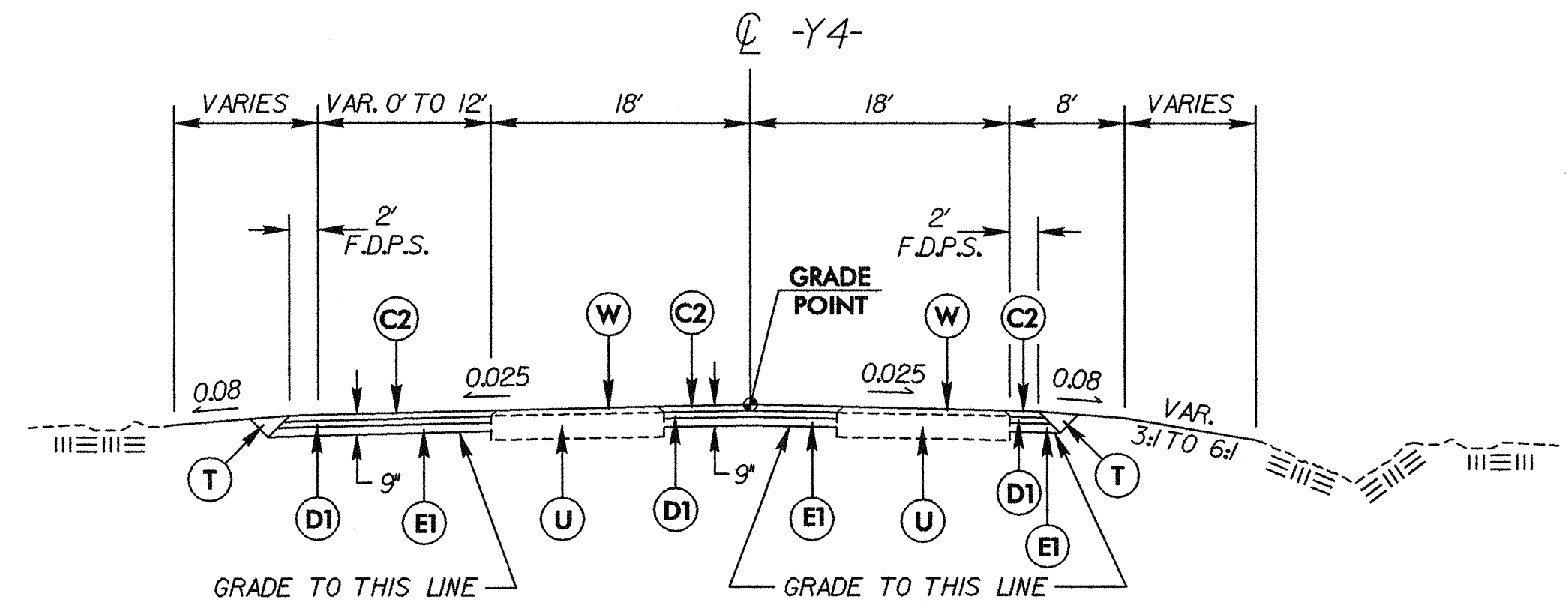
TYPICAL SECTION #5

USE TYPICAL SECTION NO. 5 FROM -Y3- STA.10+50.00 TO STA.14+72.04



TYPICAL SECTION #5A

USE TYPICAL SECTION NO. 5A IN CONJUNCTION WITH TYPICAL SECTION NO. 5 FROM -Y3- STA.12+85.00 RT TO STA.14+91.97 RT



TYPICAL SECTION #6

USE TYPICAL SECTION NO. 6 FROM -Y4- STA.11+07.76 TO STA.14+12.00

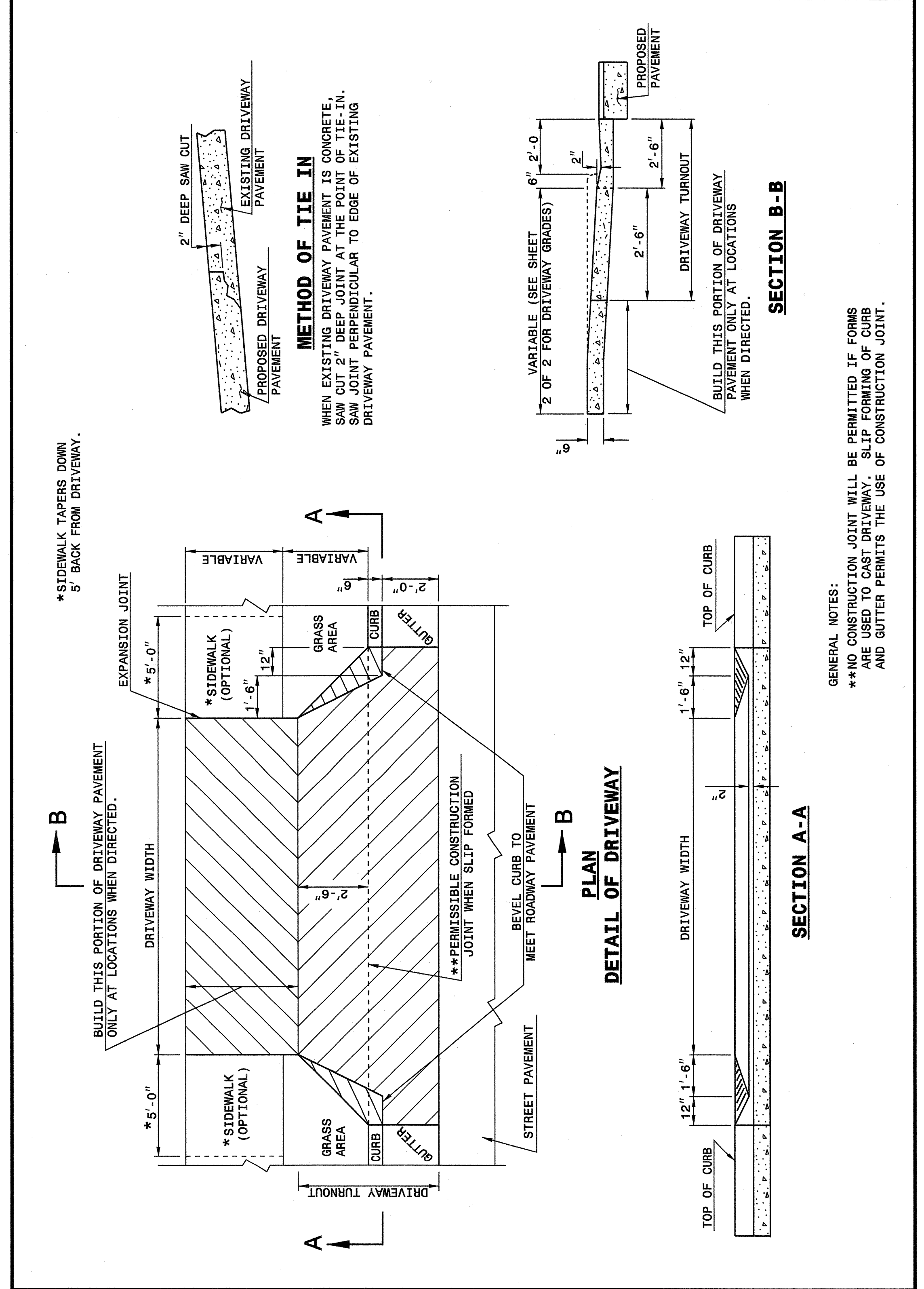
PROJECT REFERENCE NO. U-4439A&B	SHEET NO. 2-B
ROADWAY DESIGN ENGINEER ROBERT W. PORTER NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19814 2-7-05	PAVEMENT DESIGN ENGINEER CLARK S. MORRISON NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22886 2/1/05
MA Engineering CONSULTANTS, INC. 598 East Chatham Street Suite 137 Cary, NC 27511 Phone: 919.297.0220 Fax: 919.297.0221	

02/02/2005
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STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR DROP CURB TYPE DRIVEWAY TURNOUT

SHEET 1 OF 2 848D03



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

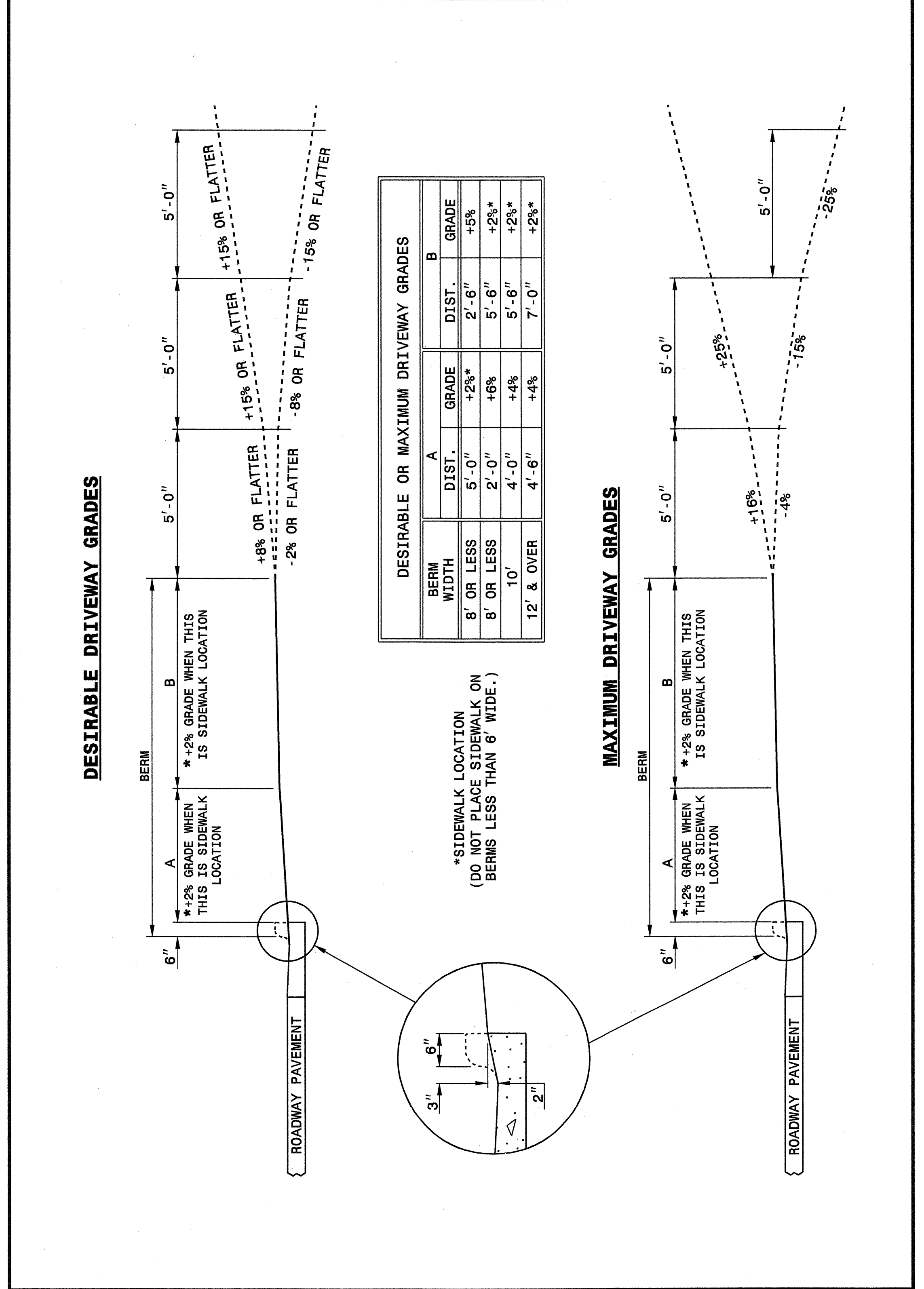
ENGLISH DETAIL DRAWING FOR DROP CURB TYPE DRIVEWAY TURNOUT

SHEET 1 OF 2 848D03

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

ENGLISH DETAIL DRAWING FOR DRIVEWAY GRADES

SHEET 2 OF 2 848D03



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

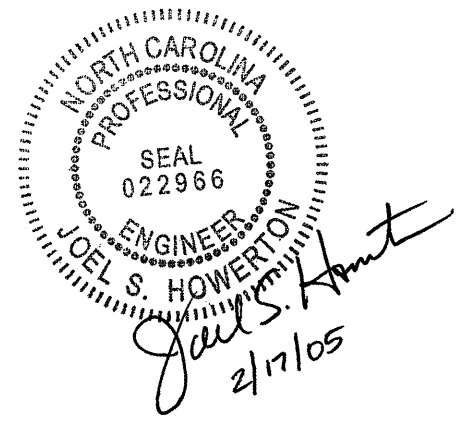
ENGLISH DETAIL DRAWING FOR DRIVEWAY GRADES

SHEET 2 OF 2 848D03

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

SEE PLATE FOR TITLE

ORIGINAL BY: 2002 STD.848.03 DATE: 03-27-03
MODIFIED BY: E.F. WARD DATE: 4-4-03
CHECKED BY: [Signature] DATE: 4-4-03
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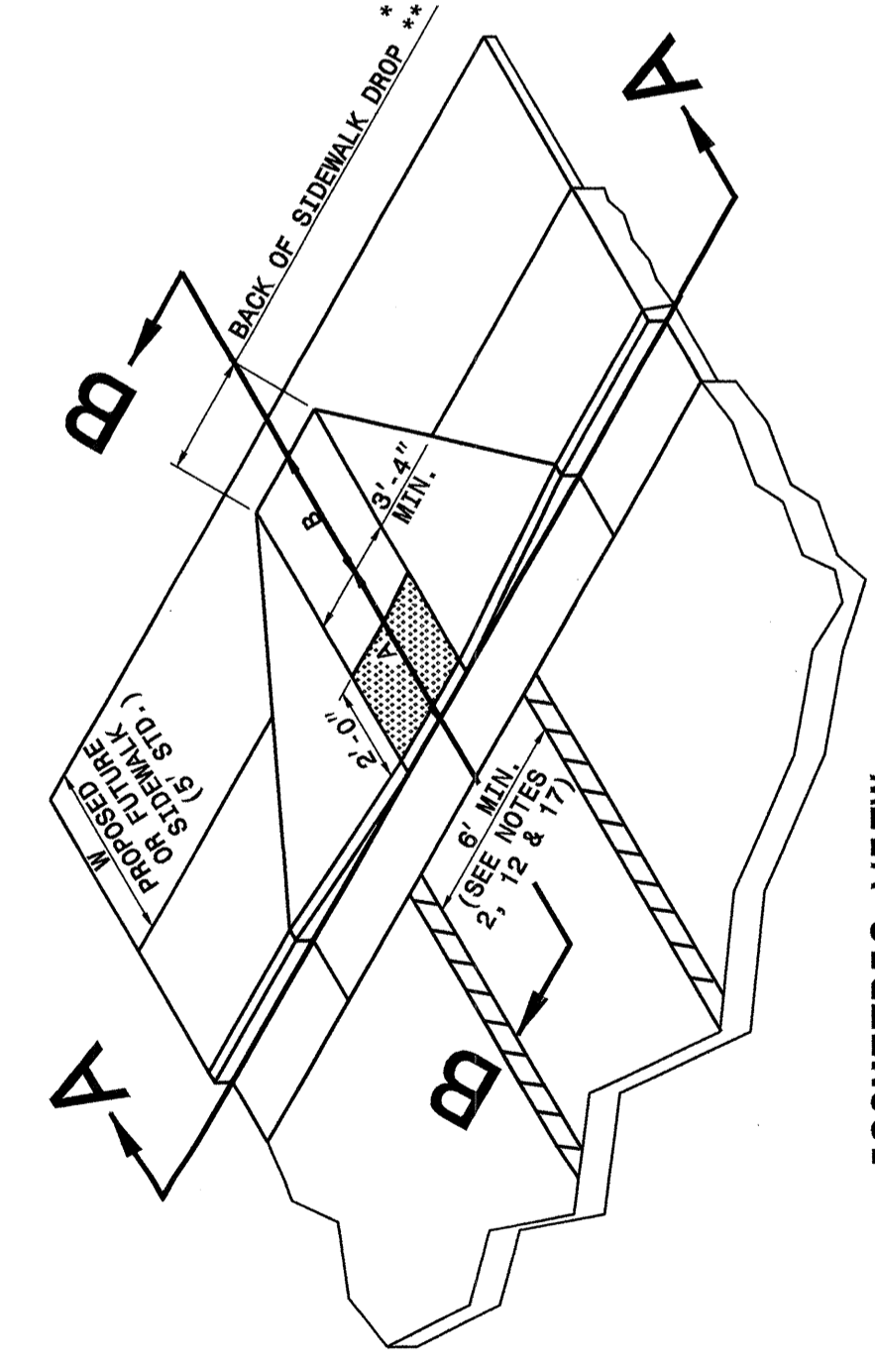
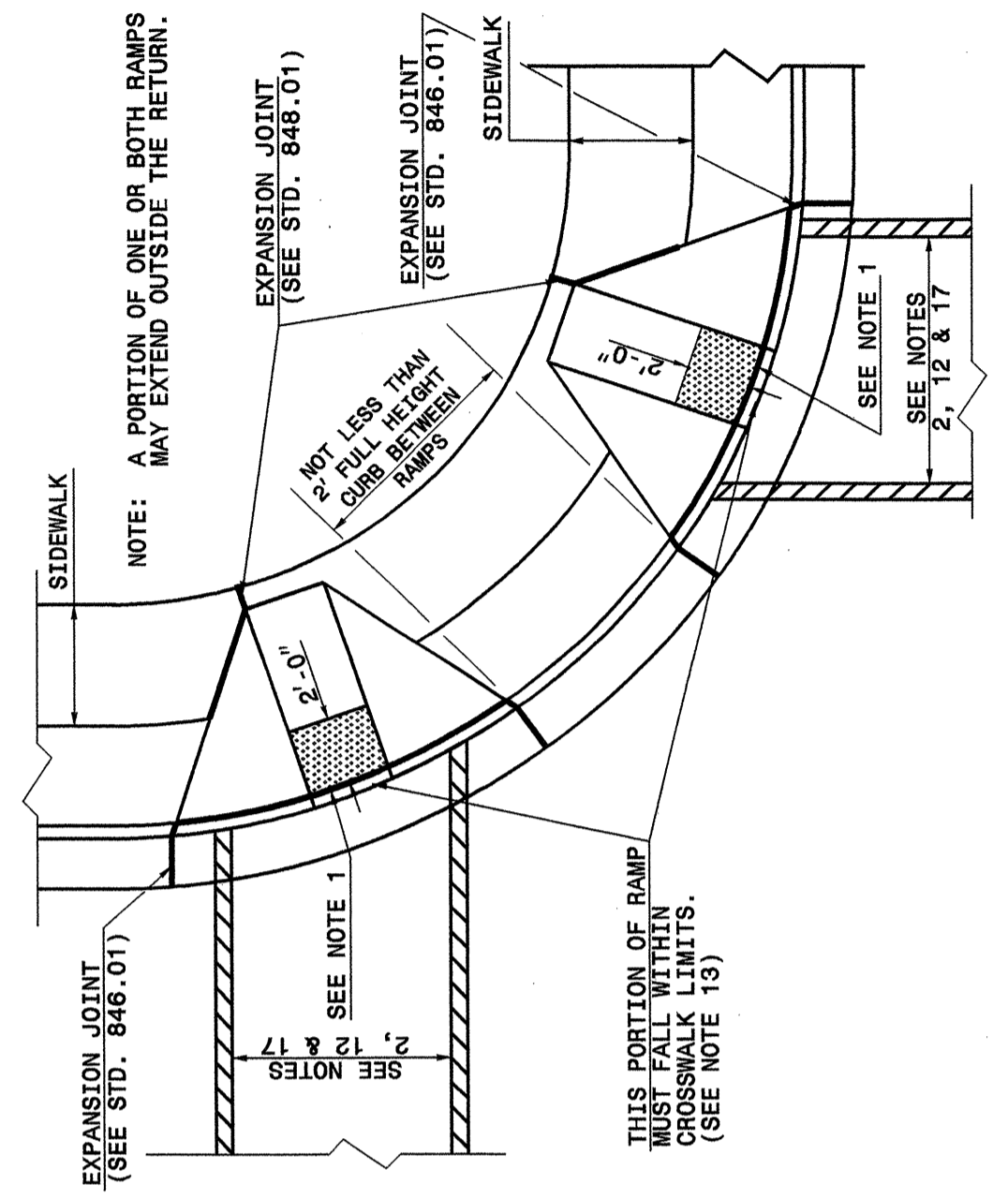
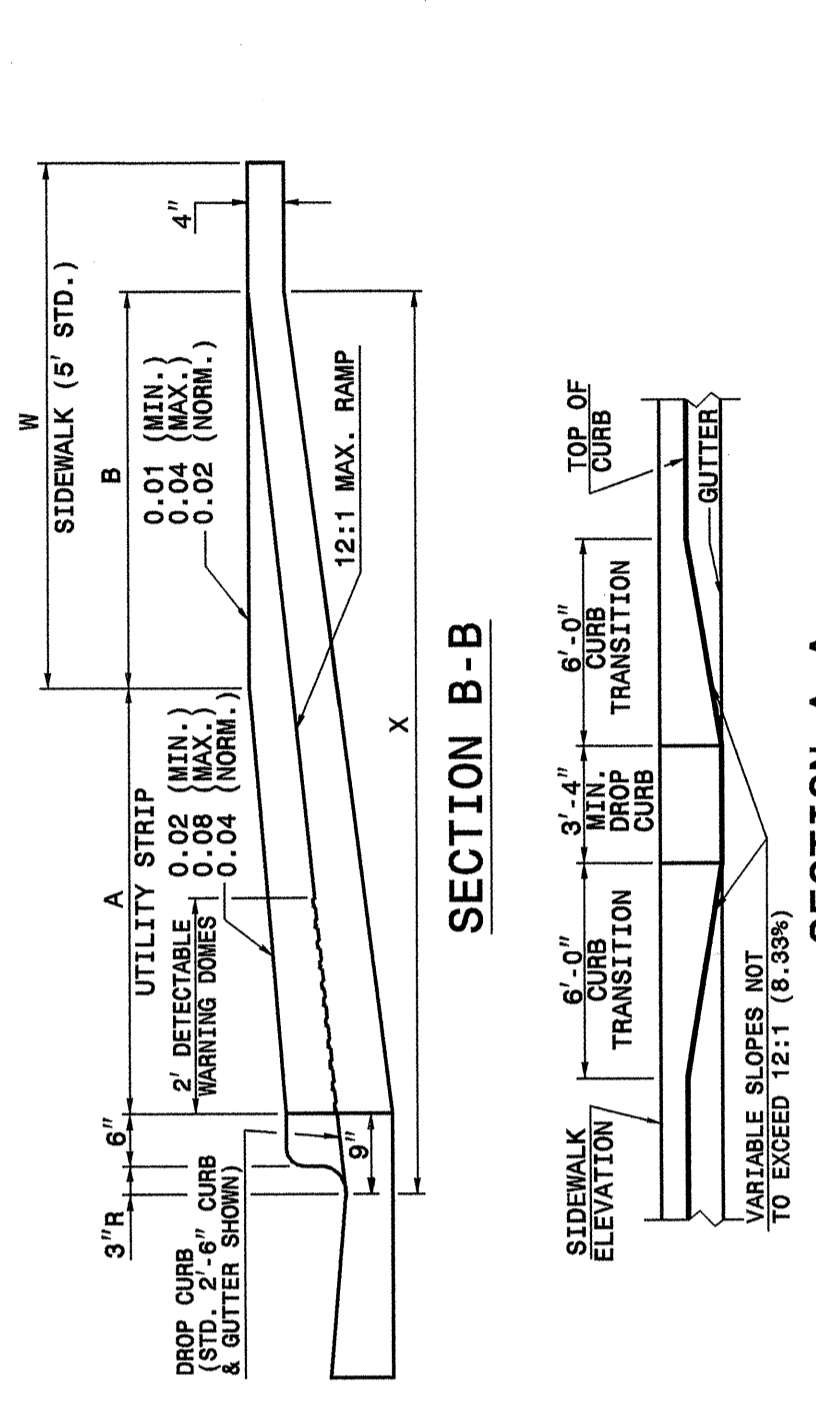


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STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
WHEELCHAIR RAMP
CURB CUT

SHEET 1 OF 4
848D05

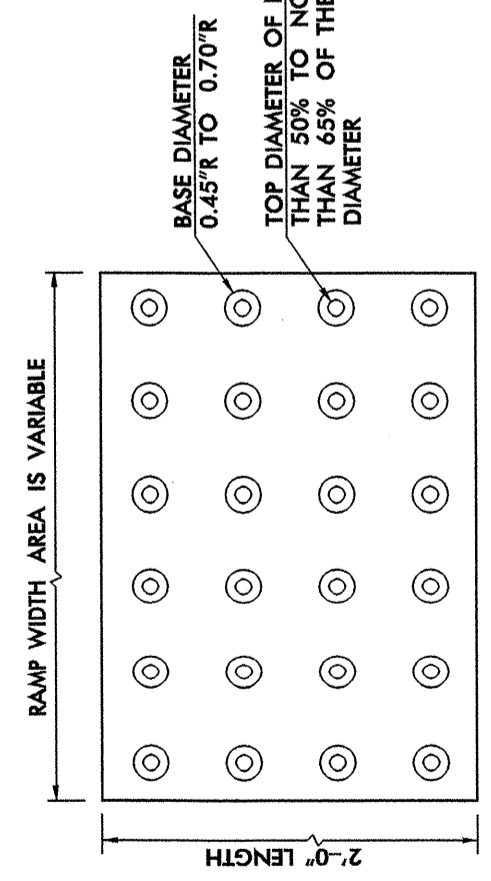


ISOMETRIC VIEW

- NOTES:
1. DETECTABLE WARNING DOMES SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
2. OBTAIN FOR CONTRAST VESSELITY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.

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'
5'	2.0'	7.8'	7.8'	5.0'
5'	2.5'	8.3'	8.1'	4.8'
5'	3.0'	8.8'	8.3'	4.4'
5'	3.5'	9.3'	8.4'	4.1'
5'	4.0'	9.8'	8.6'	3.8'
5'	4.5'	10.3'	8.7'	3.4'
5'	5.0'	10.8'	8.9'	3.1'

B = X - (A+9")
B = DISTANCE FROM FRONT EDGE OF SIDEWALK TO BACK POINT OF 12:1 (8.33%) SLOPE.
* BACK OF SIDEWALK DROP REQUIRED FOR ALL SIDEWALK SLOPES.
** BACK OF SIDEWALK DROP REQUIRED FOR SIDEWALK SLOPES 0.04.



DETECTABLE WARNING DOMES

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

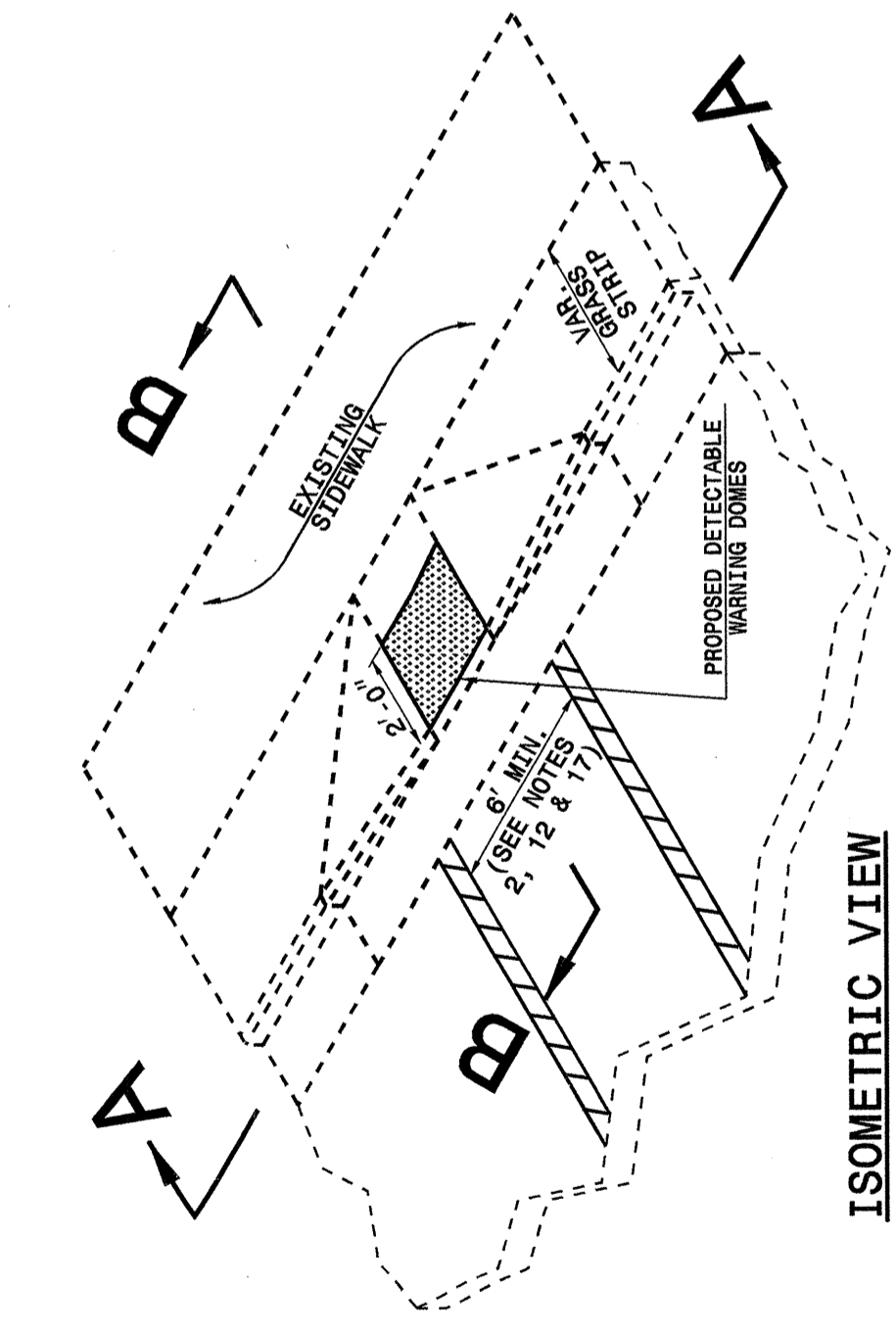
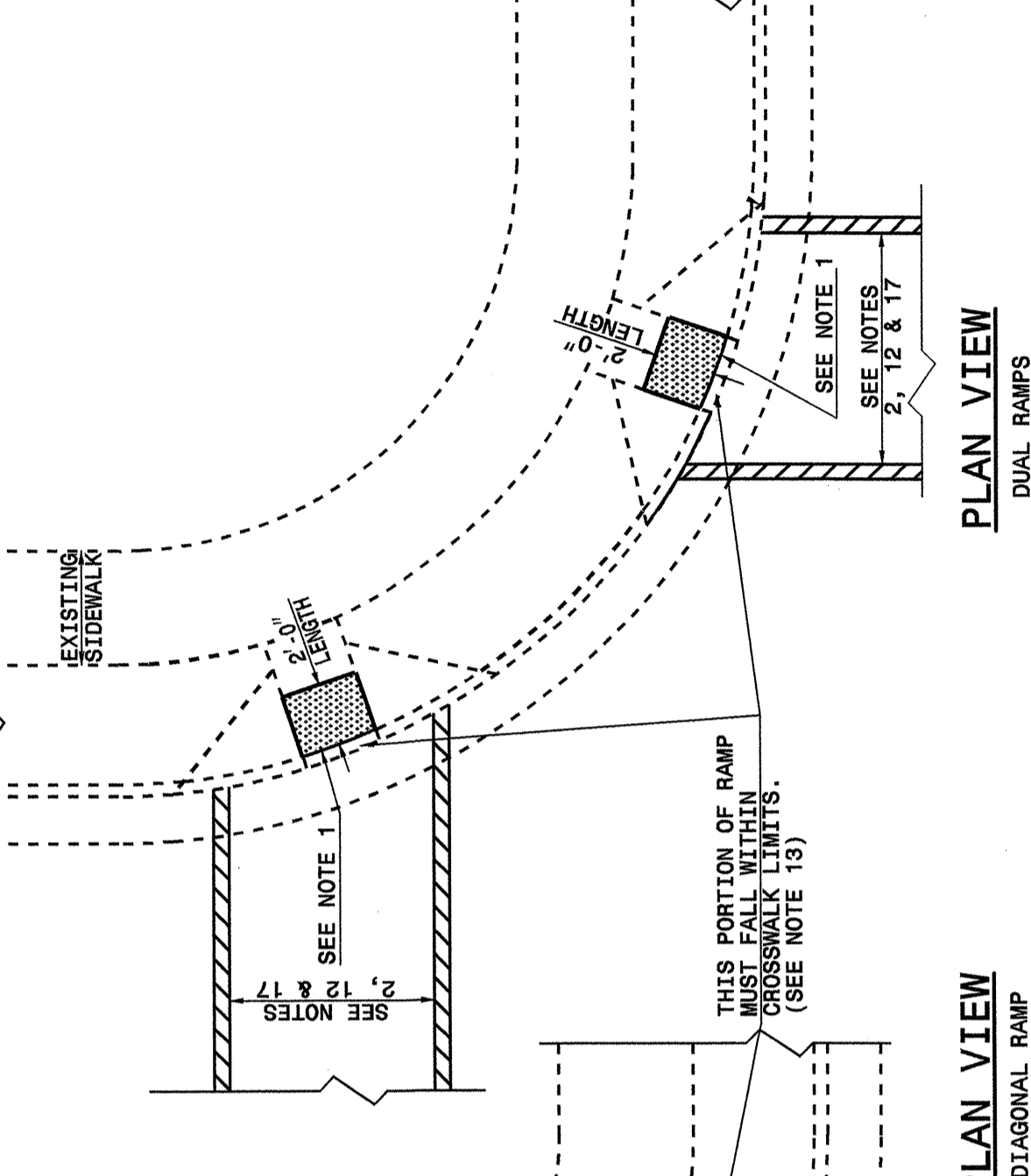
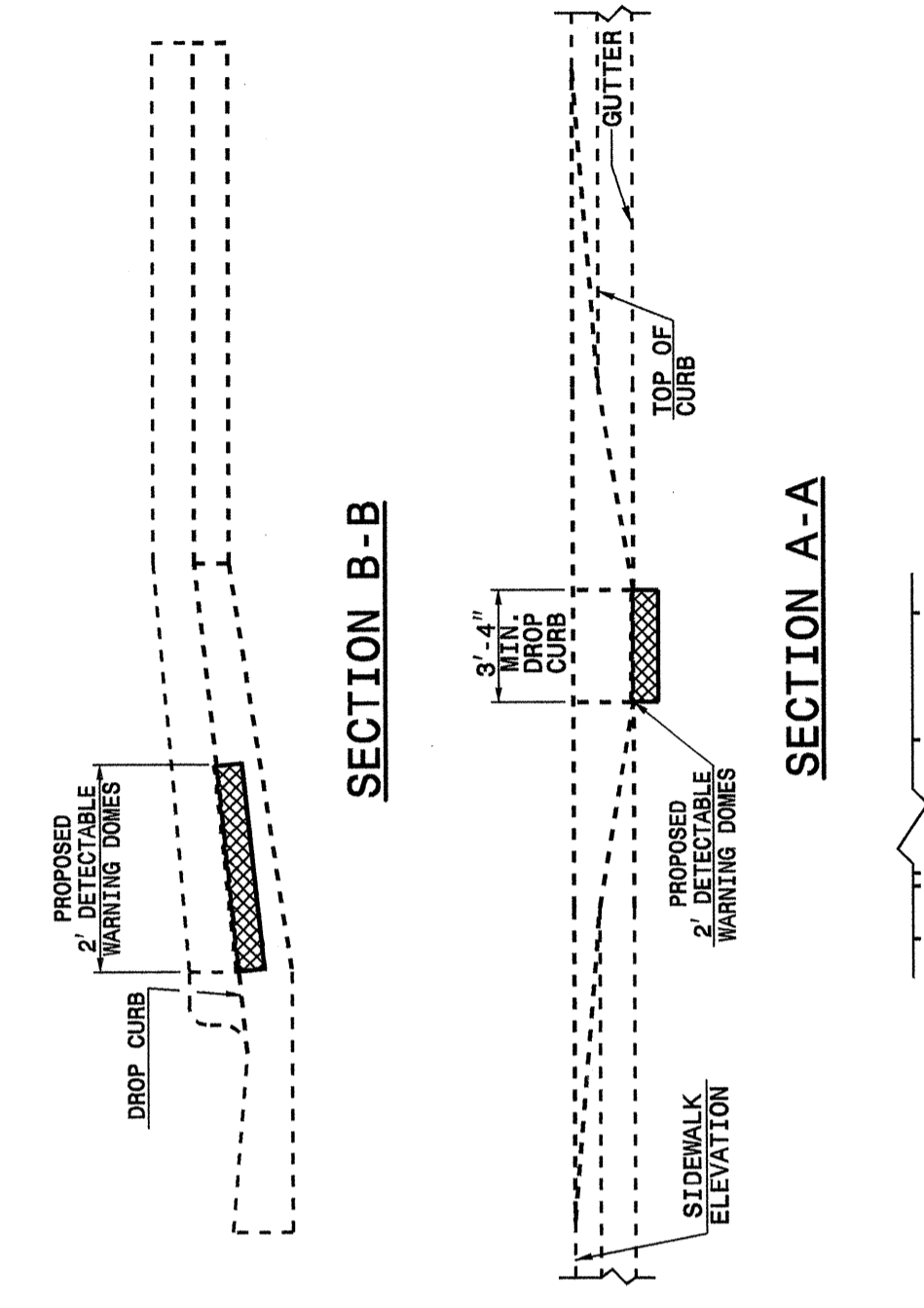
ENGLISH DETAIL DRAWING FOR
WHEELCHAIR RAMP
CURB CUT

SHEET 1 OF 4
848D05

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

ENGLISH DETAIL DRAWING FOR
RETROFITTING DETECTABLE WARNING DOMES
ONTO EXISTING WHEELCHAIR RAMP
CURB CUT

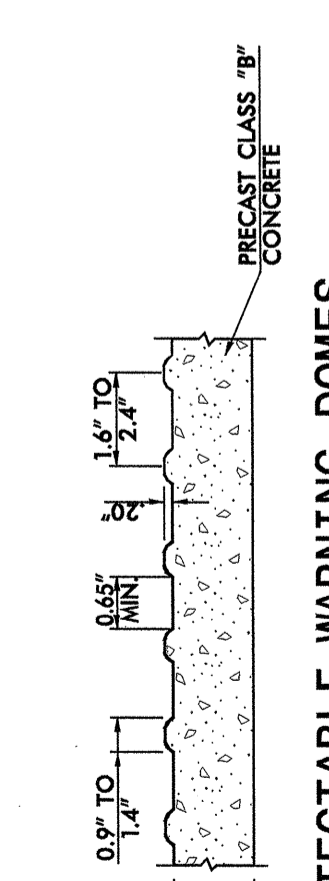
SHEET 2 OF 4
848D05



ISOMETRIC VIEW

- NOTES:
1. DETECTABLE WARNING DOMES SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
2. OBTAIN FOR CONTRAST VESSELITY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.

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'
5'	2.0'	7.8'	7.8'	5.0'
5'	2.5'	8.3'	8.1'	4.8'
5'	3.0'	8.8'	8.3'	4.4'
5'	3.5'	9.3'	8.4'	4.1'
5'	4.0'	9.8'	8.6'	3.8'
5'	4.5'	10.3'	8.7'	3.4'
5'	5.0'	10.8'	8.9'	3.1'

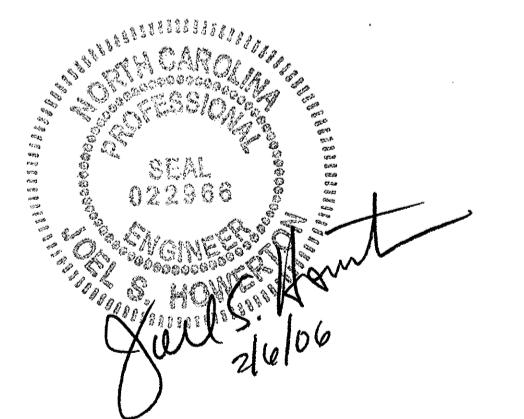


DETECTABLE WARNING DOMES

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

ENGLISH DETAIL DRAWING FOR
RETROFITTING DETECTABLE WARNING DOMES
ONTO EXISTING WHEELCHAIR RAMP
CURB CUT

SHEET 2 OF 4
848D05



PROJECT SERVICES UNIT
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Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

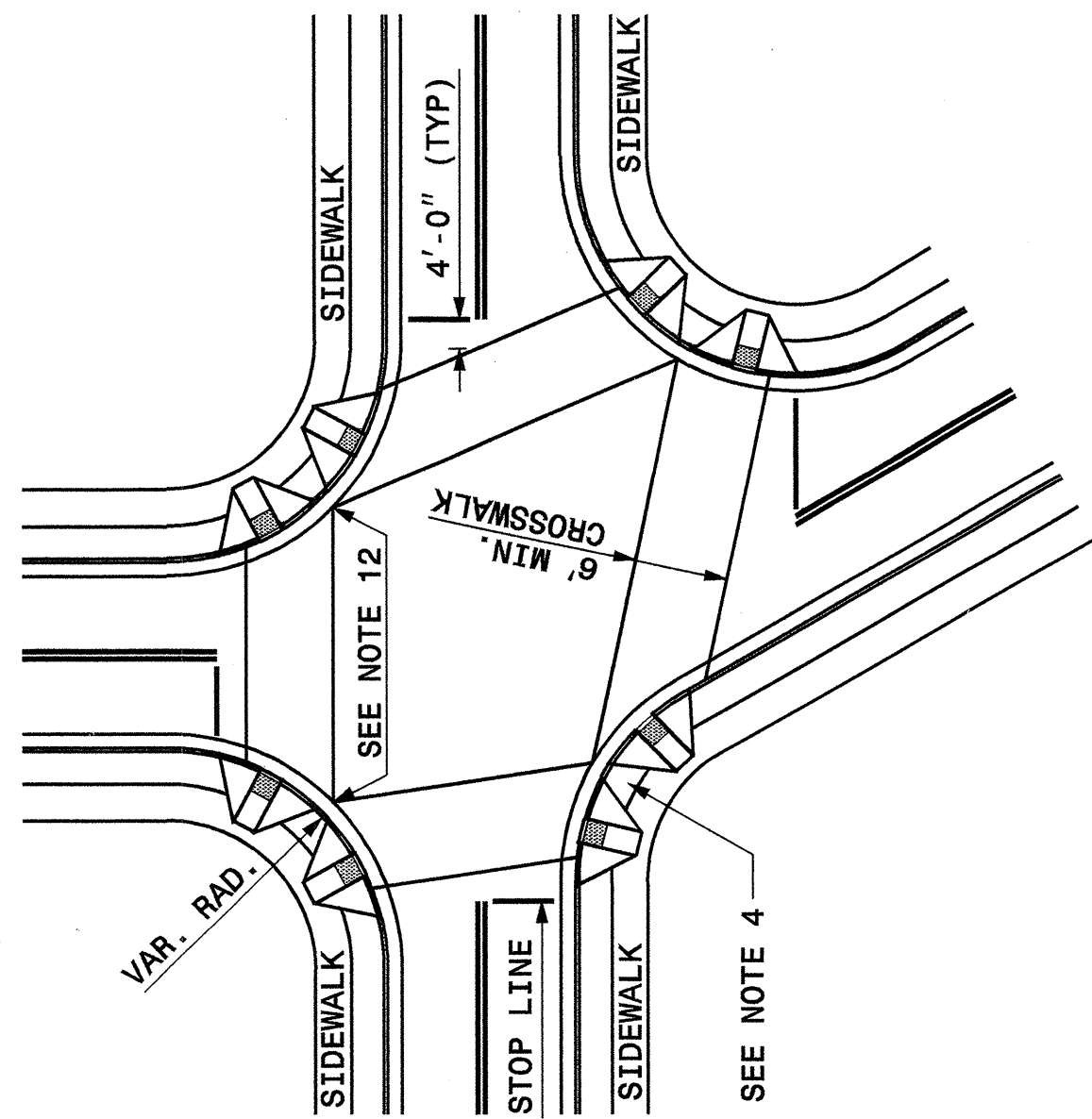
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MODIFIED BY: E.E. WARD DATE: 09-06-05
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STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

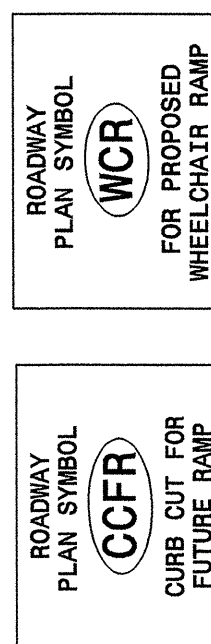
ENGLISH DETAIL DRAWING FOR
WHEELCHAIR RAMP
CURB CUT

SHEET 3 OF 4
848D05



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

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



PROPOSED WHEELCHAIR RAMP
PROPOSED OR FUTURE SIDEWALK

ALLOWABLE LOCATIONS
DUAL RAMP RADII.....ANY

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

ENGLISH DETAIL DRAWING FOR
WHEELCHAIR RAMP
CURB CUT

SHEET 3 OF 4
848D05

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

ENGLISH DETAIL DRAWING FOR
WHEELCHAIR RAMP
CURB CUT

SHEET 4 OF 4
848D05

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

ENGLISH DETAIL DRAWING FOR
WHEELCHAIR RAMP
CURB CUT

SHEET 4 OF 4
848D05

NOTES:

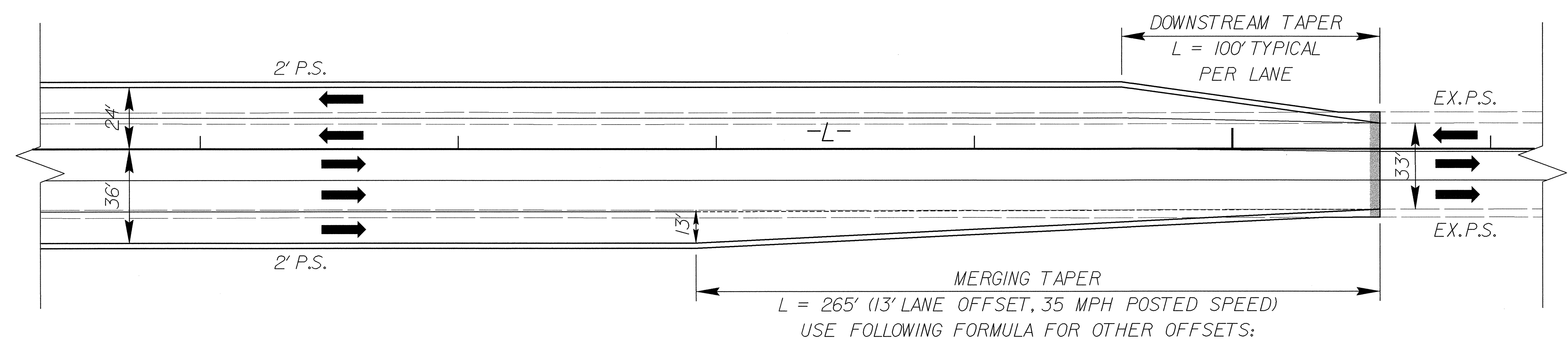
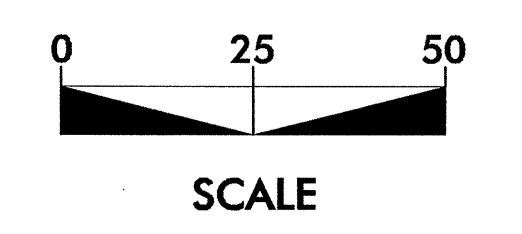
- CONSTRUCT THE WALKING SURFACE WITH SLIP RESISTANCE AND A 70% CONTRASTING COLOR TO THE SIDEWALK.
- CROSSWALK WIDTHS AND CONFIGURATION VARY BUT MUST CONFORM TO TRAFFIC DESIGN STANDARDS.
- NORTH CAROLINA GENERAL STATUTE 136-44.14 REQUIRES THAT ALL STREET CURBS BEING CONSTRUCTED OR RECONSTRUCTED FOR MAINTENANCE PROCEDURES, TRAFFIC OPERATIONS, REPAIRS, CORRECTION OF UTILITIES OR ALTERED FOR ANY REASON AFTER SEPTEMBER 1, 1973 SHALL PROVIDE WHEELCHAIR RAMPS FOR THE PHYSICALLY DISABLED AT ALL INTERSECTIONS WHERE BOTH CURB AND GUTTER AND SIDEWALKS ARE PROVIDED AND AT OTHER POINTS OF PEDESTRIAN FLOW.
IN ADDITION, SECTION 228 OF THE 1973 FEDERAL AID HIGHWAY SAFETY ACT REQUIRES PROVISION OF CURB RAMPS ON ANY CURB CONSTRUCTION AFTER JULY 1, 1976 WHETHER A SIDEWALK IS PROPOSED INITIALLY OR IS PLANNED FOR A FUTURE DATE.
THE AMERICANS WITH DISABILITIES ACT (ADA) OF 1990 EXTENDS TO INDIVIDUALS WITH DISABILITIES. COMPREHENSIVE CIVIL RIGHTS PROTECTIONS SIMILAR TO THOSE PROVIDED TO PERSONS ON THE BASIS OF RACE, SEX, NATIONAL ORIGIN AND RELIGION UNDER THE CIVIL RIGHTS ACT OF 1964. THESE CURB RAMPS HAVE BEEN DESIGNED TO COMPLY WITH THE CURRENT ADA STANDARDS.
- PROVIDE WHEELCHAIR RAMPS AT LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. LOCATE WHEELCHAIR RAMPS AS DIRECTED BY THE ENGINEER WHERE EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. AFFECT PLACEMENT. WHERE TWO RAMPS ARE INSTALLED PLACE NOT LESS THAN 2 FEET OF FULL HEIGHT CURB BETWEEN THE RAMPS. PLACE DUAL RAMPS AS NEAR PERPENDICULAR TO THE TRAVEL LANE BEING CROSSED AS POSSIBLE.
- PAY FOR ALL VARIABLE DEPTH CONCRETE USED FOR CONSTRUCTION OF WHEELCHAIR RAMPS AS CONCRETE WHEELCHAIR RAMPS. (SQ. YDS.)
- PAY FOR ALL DEPRESSED CURBS AT WHEELCHAIR RAMPS AS THE TYPE CURB AND GUTTER USED ADJACENT TO DEPRESSED CURB. (LN. FT.)
- SUCH PRICES AND PAYMENTS IS CONSIDERED FULL COMPENSATION FOR ALL MATERIALS, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO SATISFACTORILY COMPLETE THE WORK.
- DO NOT EXCEED 0.08 (12:1) SLOPE ON THE WHEELCHAIR RAMP IN RELATIONSHIP TO THE GRADE OF THE STREET.
- CONSTRUCT WHEELCHAIR RAMPS 40" (3'-4") OR GREATER FOR DUAL RAMPS.
- USE CLASS "B" CONCRETE WITH A SIDEWALK FINISH IN ORDER TO OBTAIN A ROUGH NON-SKID TYPE SURFACE.
- PLACE A 1/2" EXPANSION JOINT WHERE THE CONCRETE WHEELCHAIR RAMP JOINS THE CURB AND AS SHOWN ON STD. DWG. 848.01.
- PLACE THE INSIDE PEDESTRIAN CROSSWALK LINES NO CLOSER IN THE INTERSECTION BY BISECTING THE INTERSECTION RADIUS, WITH ALLOWANCE OF A 4' CLEAR ZONE IN THE VEHICULAR TRAVELWAY WHEN ONE RAMP IS INSTALLED. (SEE NOTE 17)
- COORDINATE THE CURB CUT AND THE PEDESTRIAN CROSSWALK LINES SO THE FLOOR OF THE WHEELCHAIR RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES. PLACE DIAGONAL RAMPS WITH FLARED SIDES SO 24" OF FULL HEIGHT CURB FALLS WITHIN THE CROSSWALK MARKINGS ON EACH SIDE OF THE FLARES.
- CONSTRUCT THE PEDESTRIAN CROSSWALK A MINIMUM OF 6 FEET. A CROSSWALK WIDTH OF 10 FEET OR GREATER IS DESIRABLE.
- USE STOP LINES, NORMALLY PERPENDICULAR TO THE LANE LINES, WHERE IT IS IMPORTANT TO INDICATE THE POINT BEHIND WHICH VEHICLES ARE REQUIRED TO STOP IN COMPLIANCE WITH A TRAFFIC SIGNAL, STOP SIGN OR OTHER LEGAL REQUIREMENT. AN UNUSUAL APPROACH SKEW MAY REQUIRE THE PLACEMENT OF THE STOP LINE TO BE PARALLEL TO THE INTERSECTING ROADWAY.
- TERMINATE PARKING A MINIMUM OF 20 FEET BACK OF PEDESTRIAN CROSSWALK.
- PLACE ALL PAVEMENT MARKINGS IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION AND THE NORTH CAROLINA SUPPLEMENT TO THE MUTCD.



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

SEE PLATE FOR TITLE

ORIGINAL BY: 2002 STD.848.05 DATE:
 MODIFIED BY: E.E. WARD DATE: 09-06-05
 CHECKED BY: *Eric Ward* DATE: 9/9/05
 FILE SPEC.: \\usr\stds\02\todetail\english\84805\848d05.dgn



MERGING TAPER
 $L = 265'$ (13' LANE OFFSET, 35 MPH POSTED SPEED)
 USE FOLLOWING FORMULA FOR OTHER OFFSETS:

$$L = \frac{W \times S^2}{60}; \text{ WHERE}$$

W = LATERAL OFFSET BETWEEN MERGING LANES (FT)
 S = POSTED SPEED LIMIT (MPH)

NOTES

THIS DETAIL TO BE USED AS A GUIDE IF ENDING PROJECT AT A LOCATION OTHER THAN SHOWN IN PLANS.

EXAMPLE SHOWN OCCURS NEAR -L- STA. 25+00.00. THE ACTUAL LOCATION MAY VARY.

CONTRACTOR SHALL COORDINATE WITH THE ENGINEER TO DETERMINE ACTUAL LOCATION AND DESIGN PARAMETERS BEFORE STARTING ANY CONSTRUCTION ON END OF PROJECT TRANSITIONS.

**PAVEMENT TRANSITION
 DETAIL**

SUMMARY OF QUANTITIES

See Sheet 2 of 2
(Next Sheet)

SUMMARY OF PAVEMENT REMOVAL
 IN SQUARE YARDS

LOCATION	ASPHALT REMOVAL	ASPHALT BREAK-UP	CONCRETE REMOVAL	CONCRETE BREAK-UP
-L- STA. 27+56 TO 30+76 RT. (GUARDHOUSE AREA PARKING AREA - SEE DETAIL ON PLAN SHEET 5)	486			
-Y4- STA. 11+18 TO 11+69 RT.	77			
-Y4- STA. 11+03 TO 11+66 (20' TO 67' RT)			191	
GRAND TOTAL	563		191	
SAY	570		200	

SUMMARY OF EARTHWORK
 IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT+ %	BORROW	WASTE
LEFT SIDE					
-L- 11+50 TO 40+00	650		3796	3341	195
-L- 40+00 TO 68+00	661		4690	4227	198
-L- 68+00 TO 73+00	877		914	300	263
-Y1- 13+00 TO 21+71	239		985	818	72
-Y3- 10+50 TO 15+00	509		495	139	153
TOTAL (LEFT SIDE)	2936		10880	8825	881
RIGHT SIDE					
-L- 11+10 TO 73+00	913		3033	2394	274
-L- 40+00 TO 68+00	153		446	339	46
-L- 68+00 TO 73+00	139		161	64	42
-Y1- 24+26 TO 31+50	89		1065	1003	27
-Y2- 10+50 TO 11+75	4		33	30	1
-Y4- 10+50 TO 14+12	231		43		188
TOTAL (RIGHT SIDE)	1529		4781	3830	578
MEDIAN					
-L- 11+08 TO 17+45	91		203	139	27
TOTAL (MEDIAN)	91		203	139	27
TOTAL	4556		15864	12794	1486
WASTE TO REPLACE BORROW				-119	-119
SELECT MATERIAL TO REPLACE BORROW				-200	
PROJECT TOTAL	4556		15864	12475	1367
ESTIMATE 5% TO REPLACE TOPSOIL ON BORROW PIT				624	
GRAND TOTAL (CUBIC YARDS)	4,556			13,099	
SAY (CUBIC YARDS)	4,600			13,100	
ESTIMATED UNDERCUT * 200 CY					
ESTIMATED SELECT MATERIAL * 200 CY					

* AS PER "GEOTECHNICAL REPORT - DESIGN AND CONSTRUCTION RECOMMENDATIONS" LETTER DATED MARCH 3, 2004

APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, BORROW EXCAVATION, SHOULDER BORROW, 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".

STATE OF NORTH CAROLINA
SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C200851

ItemNumber	Sec #	Quantity	Unit	Description
000100000-N	800	Lump Sum		MOBILIZATION
000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING
004300000-N	226	Lump Sum		GRADING
005000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING
005700000-E	226	200	CY	UNDERCUT EXCAVATION
008000000-E	SP	300	TON	CLASS IV SUBGRADE STABILIZATION
019500000-E	265	200	CY	SELECT GRANULAR MATERIAL
019600000-E	270	200	SY	FABRIC FOR SOIL STABILIZATION
031800000-E	300	100	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRS
034300000-E	310	112	LF	15" SIDE DRAIN PIPE
034500000-E	310	164	LF	24" SIDE DRAIN PIPE
036600000-E	310	176	LF	15" RC PIPE CULVERTS, CLASS III
037200000-E	310	364	LF	18" RC PIPE CULVERTS, CLASS III
037800000-E	310	116	LF	24" RC PIPE CULVERTS, CLASS III
099500000-E	340	532	LF	PIPE REMOVAL
099600000-N	350	4	EA	PIPE CLEAN-OUT
122000000-E	545	300	TON	INCIDENTAL STONE BASE
133000000-E	607	250	SY	INCIDENTAL MILLING
148900000-E	610	6,440	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
149800000-E	610	6,355	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0B
151900000-E	610	9,025	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
156000000-E	620	1,118	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
202200000-E	815	45	CY	SUBDRAIN EXCAVATION
203300000-E	815	34	CY	SUBDRAIN FINE AGGREGATE
204400000-E	815	200	LF	6" PERFORATED SUBDRAIN PIPE
205500000-E	815	6	EA	6" SUBDRAIN PIPE WYES, TEES, & ELBOWS
206600000-N	815	1	EA	CONCRETE PAD FOR SUBDRAIN PIPE OUTLET
207700000-E	815	6	LF	6" OUTLET PIPE (SUBDRAINS)
225300000-E	840	3.5	CY	PIPE COLLARS
226400000-E	840	0.5	CY	PIPE PLUGS
227500000-E	SP	6	CY	FLOWABLE FILL
228600000-N	840	5	EA	MASONRY DRAINAGE STRUCTURES
236500000-N	840	1	EA	FRAME WITH TWO GRATES, STD 840.22
237400000-N	840	2	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (E)
237400000-N	840	1	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F)
239600000-N	840	1	EA	FRAME WITH COVER, STD 840.54
253500000-E	846	150	LF	***X*** CONCRETE CURB (8" X 18")
254900000-E	846	305	LF	2'-6" CONCRETE CURB & GUTTER
259100000-E	848	55	SY	4" CONCRETE SIDEWALK
259800000-E	848	14	SY	CONCRETE WHEELCHAIR RAMPS
265500000-E	852	325	SY	5" MONOLITHIC CONCRETE ISLANDS (KEYED IN)
283000000-N	858	7	EA	ADJUSTMENT OF MANHOLES
284500000-N	858	7	EA	ADJUSTMENT OF METER BOXES OR VALVE BOXES
364900000-E	876	25	TON	PLAIN RIP RAP, CLASS B
365600000-E	876	745	SY	FILTER FABRIC FOR DRAINAGE
407200000-E	903	795	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
409600000-N	904	5	EA	SIGN ERECTION, TYPE D
410200000-N	904	42	EA	SIGN ERECTION, TYPE E
410800000-N	904	3	EA	SIGN ERECTION, TYPE F

ItemNumber	Sec #	Quantity	Unit	Description
415500000-N	907	13	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
415800000-N	907	16	EA	DISPOSAL OF SIGN SYSTEM, WOOD
441200000-E	SP	148	SF	WORK ZONE SIGNS (STATIONARY)
441210000-E	SP	768	SF	WORK ZONE SIGNS (PORTABLE)
441500000-N	1115	4	EA	FLASHING ARROW PANELS, TYPE C
443000000-N	1130	446	EA	DRUMS
443500000-N	1135	56	EA	CONES
444610000-E	SP	162	LF	BARRICADES (TYPE III)
445000000-N	1150	168	HR	FLAGGER
447500000-N	1165	4	EA	TRUCK MOUNTED IMPACT ATTENUATOR (45 MPH)
468500000-E	1205	20,526	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)
468600000-E	1205	22,937	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)
469000000-E	1205	18	LF	THERMOPLASTIC PAVEMENT MARKING LINES (6", 120 MILS)
469500000-E	1205	1,534	LF	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS)
471000000-E	1205	402	LF	THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS)
472100000-E	1205	8	EA	THERMOPLASTIC PAVEMENT MARKING CHARACTER (120MIL)
472500000-E	1205	70	EA	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)
481000000-E	1205	61,857	LF	PAINT PAVEMENT MARKING LINES (4")
482000000-E	1205	1,296	LF	PAINT PAVEMENT MARKING LINES (8")
483500000-E	1205	311	LF	PAINT PAVEMENT MARKING LINES (24")
484500000-N	1205	38	EA	PAINT PAVEMENT MARKING SYMBOL
485000000-E	1205	500	LF	REMOVAL OF PAVEMENT MARKING LINES (4")
490000000-N	1252	929	EA	PERMANENT RAISED PAVEMENT MARKERS
600000000-E	1605	3,820	LF	TEMPORARY SILT FENCE
600600000-E	1610	225	TON	STONE FOR EROSION CONTROL, CLASS A
600900000-E	1610	640	TON	STONE FOR EROSION CONTROL, CLASS B
601200000-E	1610	200	TON	SEDIMENT CONTROL STONE
601500000-E	1615	9.5	ACR	TEMPORARY MULCHING
601800000-E	1620	350	LB	SEED FOR TEMPORARY SEEDING
602100000-E	1620	1.5	TON	FERTILIZER FOR TEMPORARY SEEDING
602400000-E	1622	50	LF	TEMPORARY SLOPE DRAINS
602700000-N	1622	2	EA	INLET PROTECTION AT TEMPORARY SLOPE DRAINS
602900000-E	SP	1,375	LF	SAFETY FENCE
603000000-E	1630	2,150	CY	SILT EXCAVATION
603600000-E	1631	1,195	SY	MATTING FOR EROSION CONTROL
604200000-E	1632	60	LF	1/4" HARDWARE CLOTH
608400000-E	1660	10	ACR	SEEDING & MULCHING
608700000-E	1660	6	ACR	MOWING
609000000-E	1661	100	LB	SEED FOR REPAIR SEEDING
609300000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
609600000-E	1662	225	LB	SEED FOR SUPPLEMENTAL SEEDING
610800000-E	1665	7.5	TON	FERTILIZER TOPDRESSING
6114	SP	3	HR	SPECIALIZED HAND MOWING
613200000-N	SP	8	EA	GENERIC EROSION CONTROL ITEM RESPONSE FOR EROSION CONTROL
700000000-E	1705	8	EA	PEDESTRIAN SIGNAL HEAD (**, ** SECTION)
706000000-E	1705	4,580	LF	SIGNAL CABLE
712000000-E	1705	19	EA	VEHICLE SIGNAL HEAD (12", 3 SECTION)
713200000-E	1705	2	EA	VEHICLE SIGNAL HEAD (12", 4 SECTION)
714400000-E	1705	9	EA	VEHICLE SIGNAL HEAD (12", 5 SECTION)
726400000-E	1710	430	LF	MESSENGER CABLE (3/8")

ItemNumber	Sec #	Quantity	Unit	Description
727900000-E	1715	10	LF	TRACER WIRE
730000000-E	1715	1,650	LF	TRENCHING (UNPAVED)
730100000-E	SP	620	LF	DIRECTIONAL DRILL POLYETHYLENE CONDUIT, ***** (** CONDUIT) (2", 2)
732400000-N	1716	38	EA	JUNCTION BOX (STANDARD SIZE)
736000000-N	1720	4	EA	WOOD POLE
737200000-N	1721	8	EA	GUY ASSEMBLY
740800000-E	1722	1	EA	1" RISER WITH WEATHERHEAD
742000000-E	1722	4	EA	2" RISER WITH WEATHERHEAD
743200000-E	1722	1	EA	2" RISER WITH HEAT SHRINK TUBING
744400000-E	1725	4,160	LF	INDUCTIVE LOOP SAWCUT
745600000-E	1726	3,890	LF	LEAD-IN CABLE
751600000-E	1730	35	LF	COMMUNICATIONS CABLE (**FIBER) (12)
755200000-N	1731	1	EA	INTERCONNECT CENTER
756400000-N	1732	1	EA	FIBER-OPTIC TRANSCEIVER
761300000-N	SP	6	EA	SOIL TEST
763600000-N	1745	4	EA	SIGN FOR SIGNALS
768400000-N	1750	2	EA	SIGNAL CABINET FOUNDATION
775600000-N	1751	2	EA	CONTROLLER WITH CABINET (TYPE 2070L, BASE MOUNTED)
778000000-N	SP	15	EA	DETECTOR CARD (TYPE 2070L)
798000000-N	SP	2	EA	GENERIC SIGNAL ITEM CABINET BASE EXTENDER
798000000-N	SP	6	EA	GENERIC SIGNAL ITEM MAST ARM WITH METAL POLE DESIGN
798000000-N	SP	6	EA	GENERIC SIGNAL ITEM METAL POLE WITH SINGLE MAST ARM
799200000-E	SP	46	CY	GENERIC SIGNAL ITEM DRILLED PIER FOUNDATION

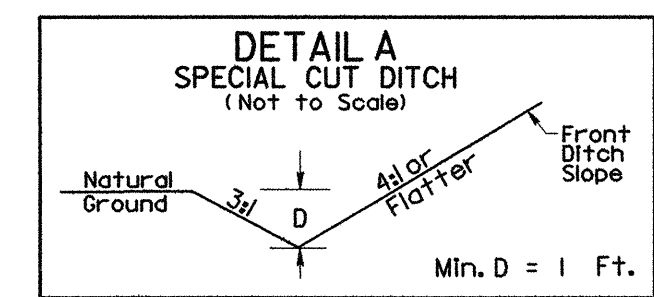
8/17/99

U-4439 A/B BOUNDARY

-YI-

PI Sta 18+21.56
 $\Delta = 5' 18" 20.8" (RT)$
 $D = 1' 00" 00.0"$
 $L = 530.58'$
 $T = 265.48'$
 $R = 5729.58'$

2004 ADT	33,200		
2024 ADT	56,400		
SR 1130 OLD MAPLE HURST	2,800	12,800	-1- CURTIS ROAD
	5,000	18,200	
	10,000	2,600	19,600
	16,200	4,600	3,200
		22,400	28,000
		41,000	



NCGRID - NAD 83/95

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "U4439-3" WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 361,494.264(11) EASTING: 2,458,286.934(11) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999918173 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "U4439-3" TO -L- STATION 10+00.00 IS S 39° 05' 49.2" W 1,076,756 FEET ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

PROJECT REFERENCE NO. U-4439A&B SHEET NO. 4

R/W SHEET NO.

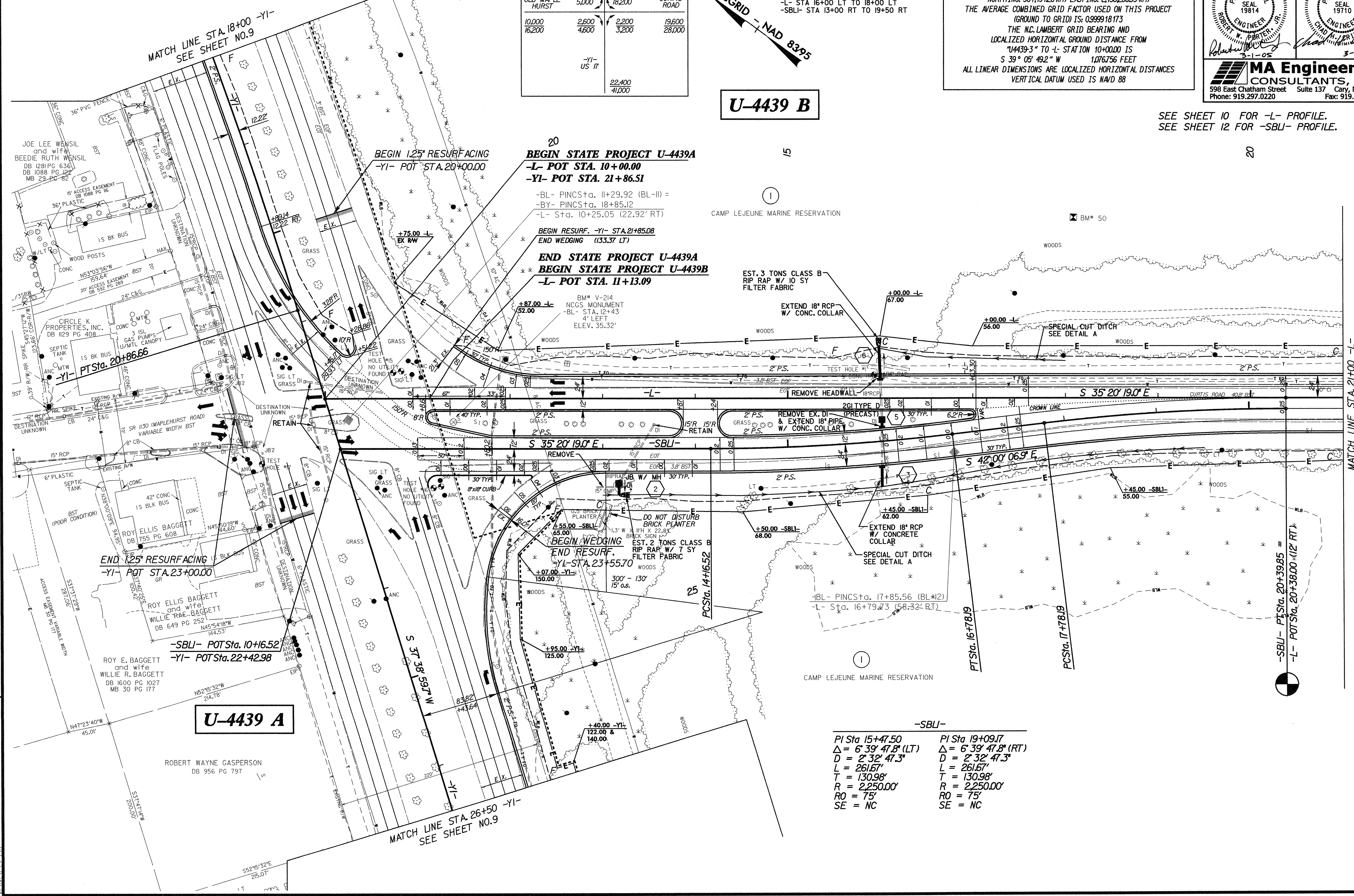
ROADWAY DESIGN ENGINEER: ROBERT W. GASPERSON, SEAL 19814

HYDRAULICS ENGINEER: CHAD H. JEROME, SEAL 19710

MA Engineering CONSULTANTS, INC. 598 East Chatham Street Suite 137 Cary, NC 27511 Phone: 919.297.0220 Fax: 919.297.0221

U-4439 B

SEE SHEET 10 FOR -L- PROFILE.
 SEE SHEET 12 FOR -SBLI- PROFILE.



REVISIONS

U-4439 A

ROBERT WAYNE GASPERSON
 DB 956 PG 797

-SBLI-

PI Sta 15+47.50	PI Sta 19+09.17
$\Delta = 6' 39" 47.8" (LT)$	$\Delta = 6' 39" 47.8" (RT)$
$D = 2' 32" 47.3"$	$D = 2' 32" 47.3"$
$L = 261.67'$	$L = 261.67'$
$T = 130.98'$	$T = 130.98'$
$R = 2,250.00'$	$R = 2,250.00'$
$RO = 75'$	$RO = 75'$
$SE = NC$	$SE = NC$

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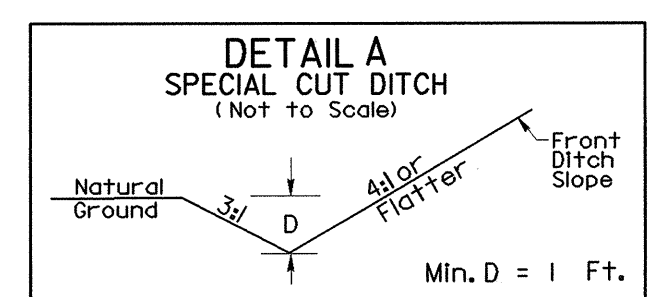
PROJECT REFERENCE NO. U-4439A&B SHEET NO. 5

R/W SHEET NO.

ROADWAY DESIGN ENGINEER
 NORTH CAROLINA PROFESSIONAL SEAL 19814
 ROBERT W. PASTER

HYDRAULICS ENGINEER
 NORTH CAROLINA PROFESSIONAL SEAL 19710
 CHAD H. BRITTON

MA Engineering CONSULTANTS, INC.
 598 East Chatham Street Suite 137 Cary, NC 27511
 Phone: 919.297.0220 Fax: 919.297.0221



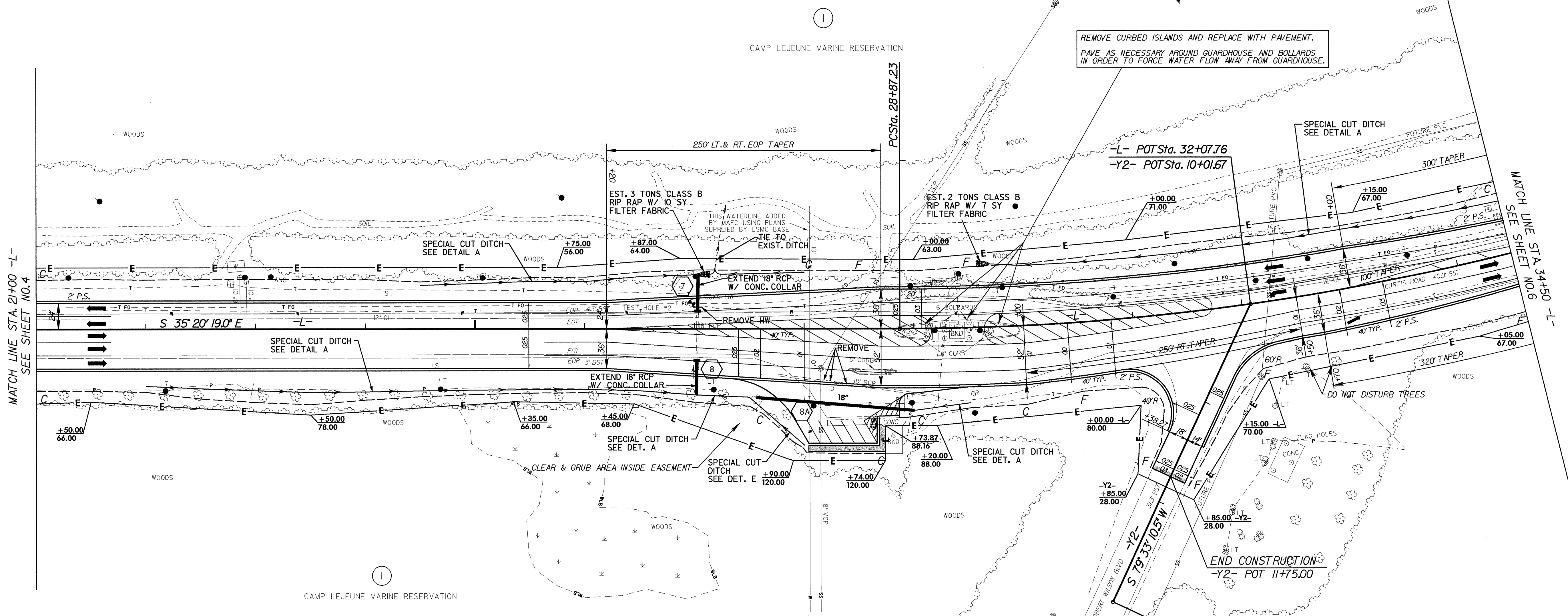
-L- STA 22+00 RT TO 27+50 RT
 -L- STA 24+50 LT TO 28+00 LT
 -L- STA 29+00 RT TO 29+50 RT
 -L- STA 29+70 LT TO 50+00 LT

-L-
 PI Sta 31+85.55
 $\Delta = 14' 46" 51.8" (LT)$
 $D = 2' 29" 28.3"$
 $L = 593.33'$
 $T = 298.32'$
 $R = 2,299.93'$
 $RO = 120'$
 $SE = 0.03 \text{ ft/ft}$

SEE SHEET 10 FOR -L- PROFILE.
 SEE SHEET 13 FOR -Y2- PROFILE.

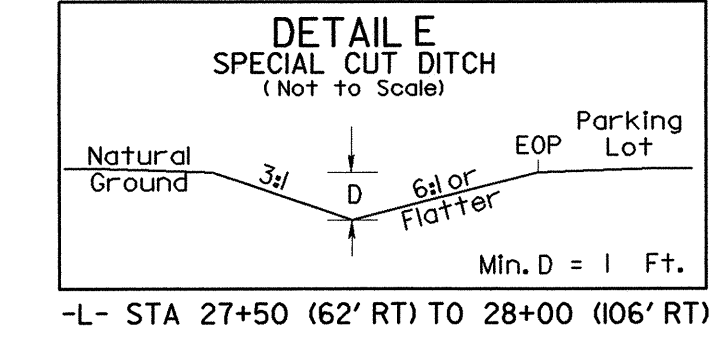
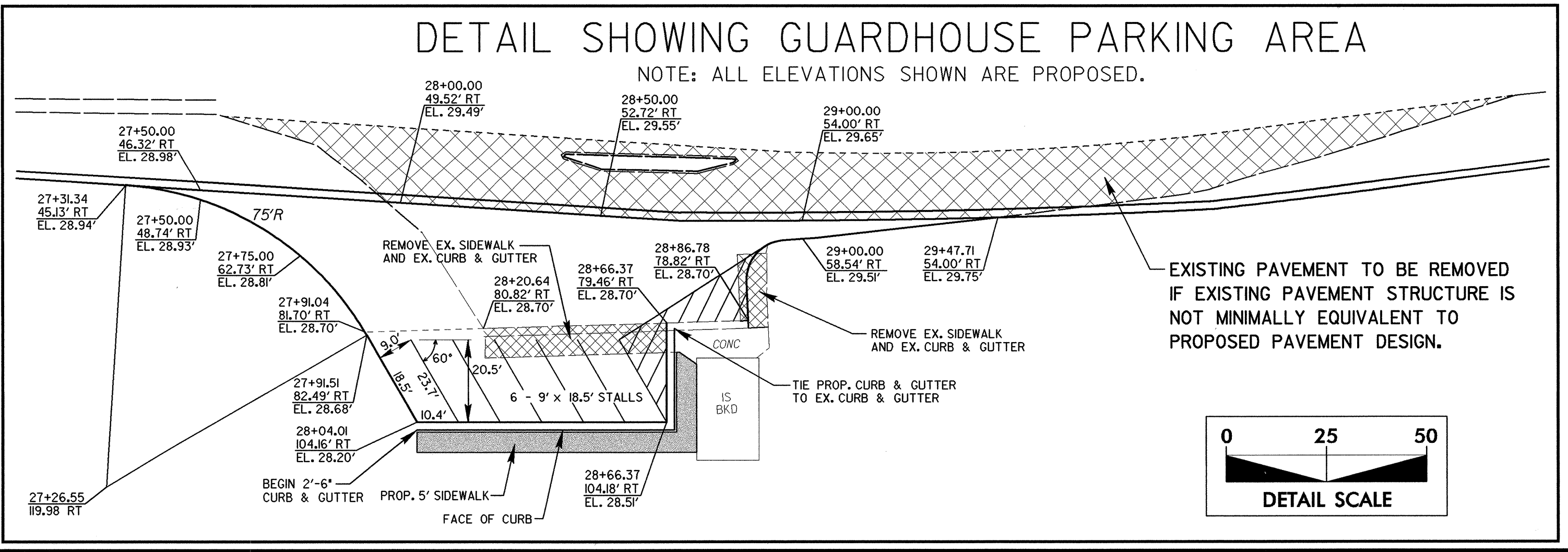
NOTE: FUTURE PVC SANITARY SEWER MAIN LINES ARE SHOWN FROM NAVFAC DRAWING NO.4442875.

NCGRID - NAD 8395



MATCH LINE STA. 21+00 -L-
 SEE SHEET NO.4

MATCH LINE STA. 34+50 -L-
 SEE SHEET NO.6



-L- STA 27+50 (62' RT) TO 28+00 (106' RT)

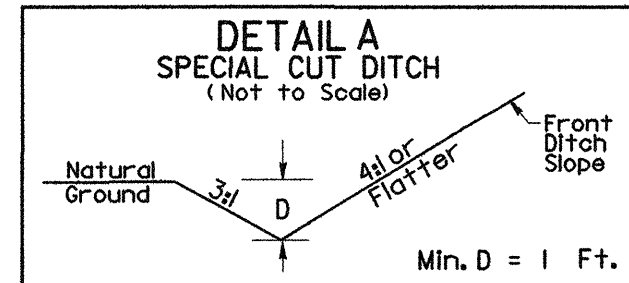
2004 ADT	2024 ADT	-L- CURTIS ROAD	-L- ROBERT WILSON BLVD
19,600	800	400	1,200
28,000	1,300	700	2,000

8/17/09

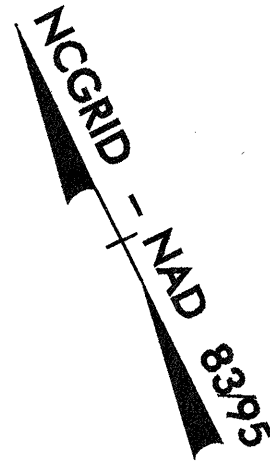
REVISIONS

02/08/2005
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8/17/99



-L- STA 29+70 LT TO 50+00 LT



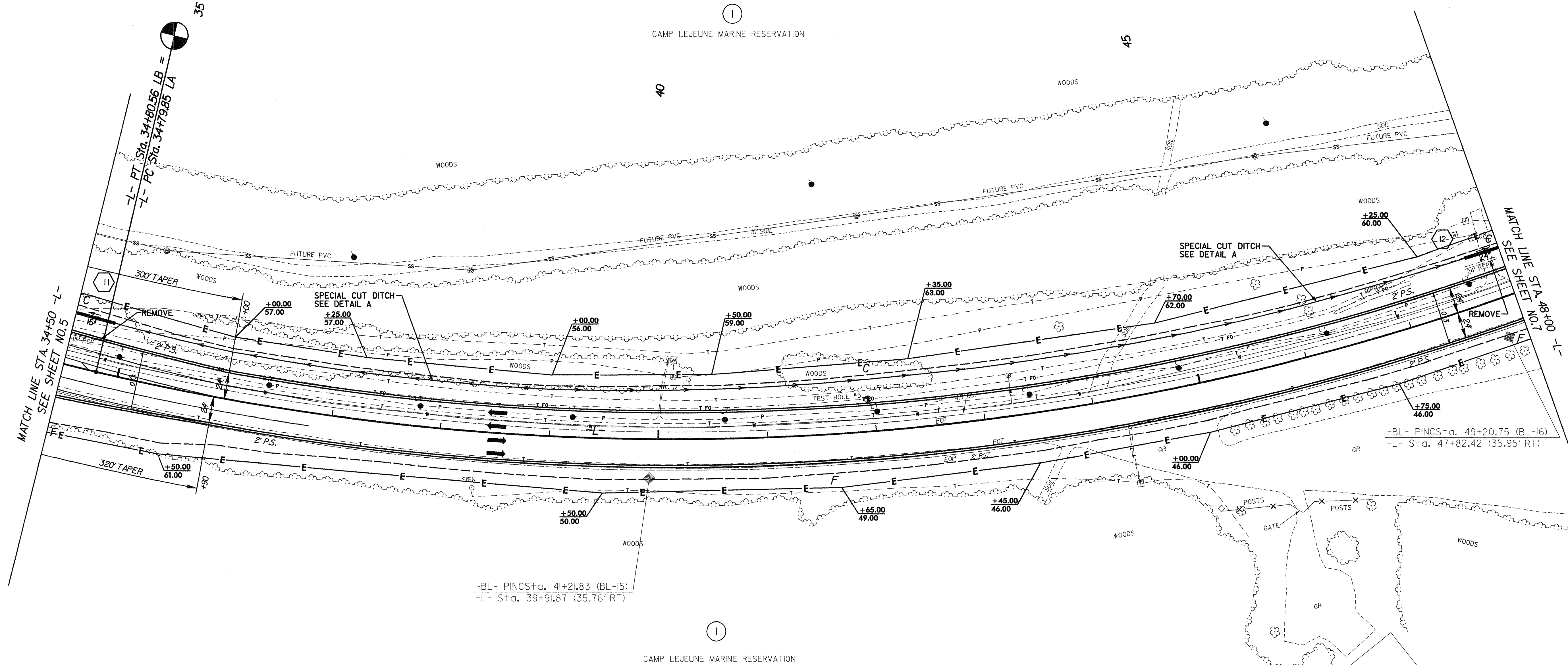
-L-	
PI Sta 31+85.55	PI Sta 43+68.16
$\Delta = 14' 46" 51.8" (LT)$	$\Delta = 42' 14" 06.8" (LT)$
$D = 2' 29" 28.3"$	$D = 2' 29" 28.0"$
$L = 593.33'$	$L = 1695.43'$
$T = 298.32'$	$T = 888.31'$
$R = 2,299.93'$	$R = 2,300.00'$
$RO = 120'$	$RO = 90'$
$SE = 0.03 \text{ ft/ft}$	$SE = 0.03 \text{ ft/ft}$

SEE SHEET 10 & 11 FOR -L- PROFILE.

NOTE: FUTURE PVC SANITARY SEWER MAIN LINES ARE SHOWN FROM NAVFAC DRAWING NO.4442875.

PROJECT REFERENCE NO. U-4439A&B		SHEET NO. 6	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 19814 ROBERT W. POWERS JR. 2-7-05		HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 19710 CHAD H. CRITCHER 2-7-05	
MA Engineering CONSULTANTS, INC. 598 East Chatham Street Suite 137 Cary, NC 27511 Phone: 919.297.0220 Fax: 919.297.0221			

REVISIONS



-BL- PINCS+α. 41+21.83 (BL-15)
 -L- S+α. 39+91.87 (35.76' RT)

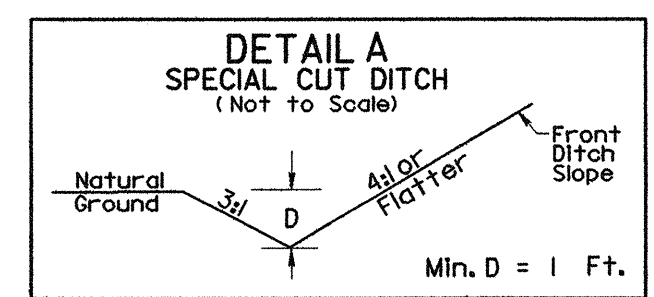
-BL- PINCS+α. 49+20.75 (BL-16)
 -L- S+α. 47+82.42 (35.95' RT)

8/17/99

PROJECT REFERENCE NO. U-4439A&B		SHEET NO. 7	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER RUBEN W. PORTER PROFESSIONAL SEAL 19814 2-7-05		HYDRAULICS ENGINEER CHAD H. CRITCHER PROFESSIONAL SEAL 19710 2-7-05	
MA Engineering CONSULTANTS, INC. 598 East Chatham Street Suite 137 Cary, NC 27511 Phone: 919.297.0220 Fax: 919.297.0221			

SEE SHEET II FOR -L- PROFILE.

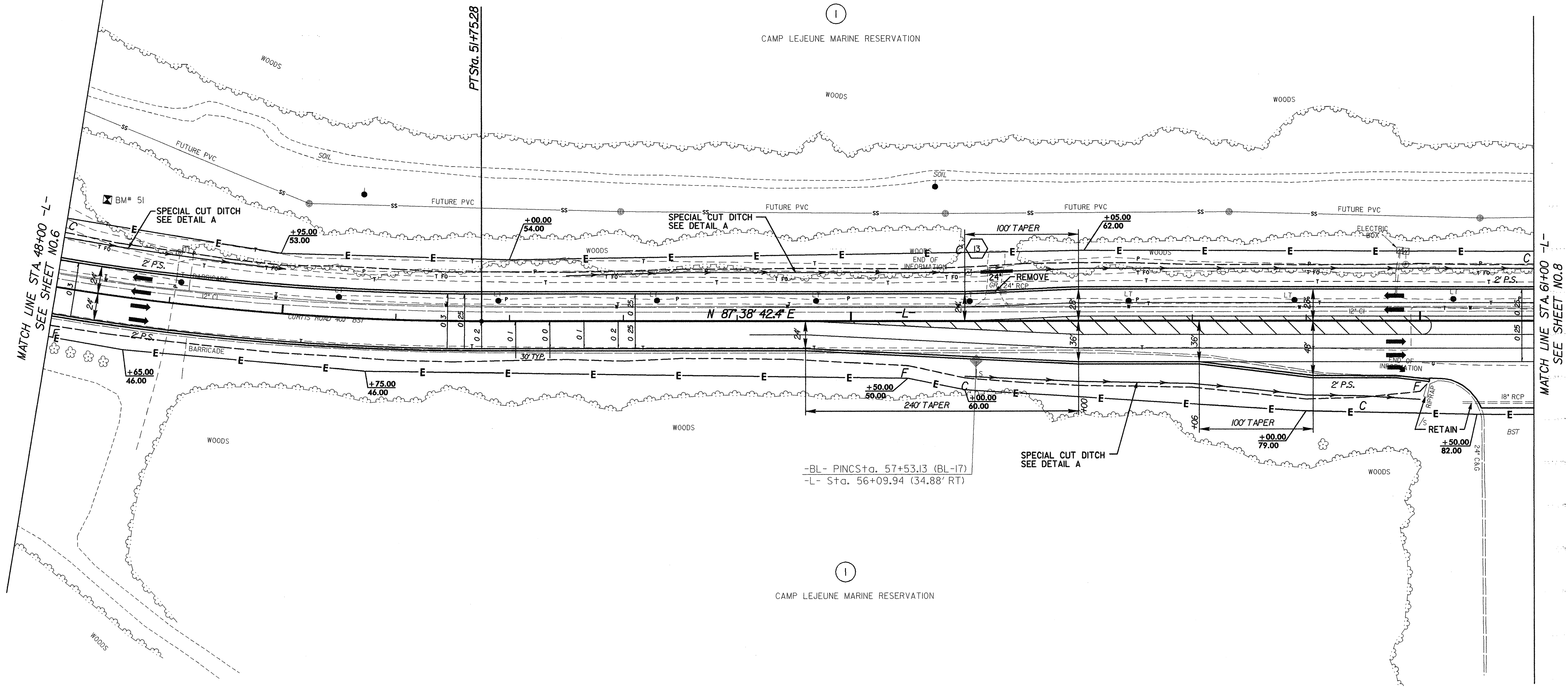
NOTE: FUTURE PVC SANITARY SEWER MAIN LINES ARE SHOWN FROM NAVFAC DRAWING NO.4442875.



-L-
 PI Sta 43+68.16
 $\Delta = 42^{\circ}14'06.8''$ (LT)
 $D = 2^{\circ}29'28.0''$
 $L = 1,695.43'$
 $T = 888.31'$
 $R = 2,300.00'$
 $RO = 90'$
 $SE = 0.03$ ft/ft

-L- STA 29+70 LT TO 50+00 LT
 -L- STA 52+50 LT TO 67+50 LT
 -L- STA 56+00 RT TO 60+00 RT

NCGRID - NAD 8395



REVISIONS

MATCH LINE STA 48+00 -L-
 SEE SHEET NO.6

MATCH LINE STA 61+00 -L-
 SEE SHEET NO.8

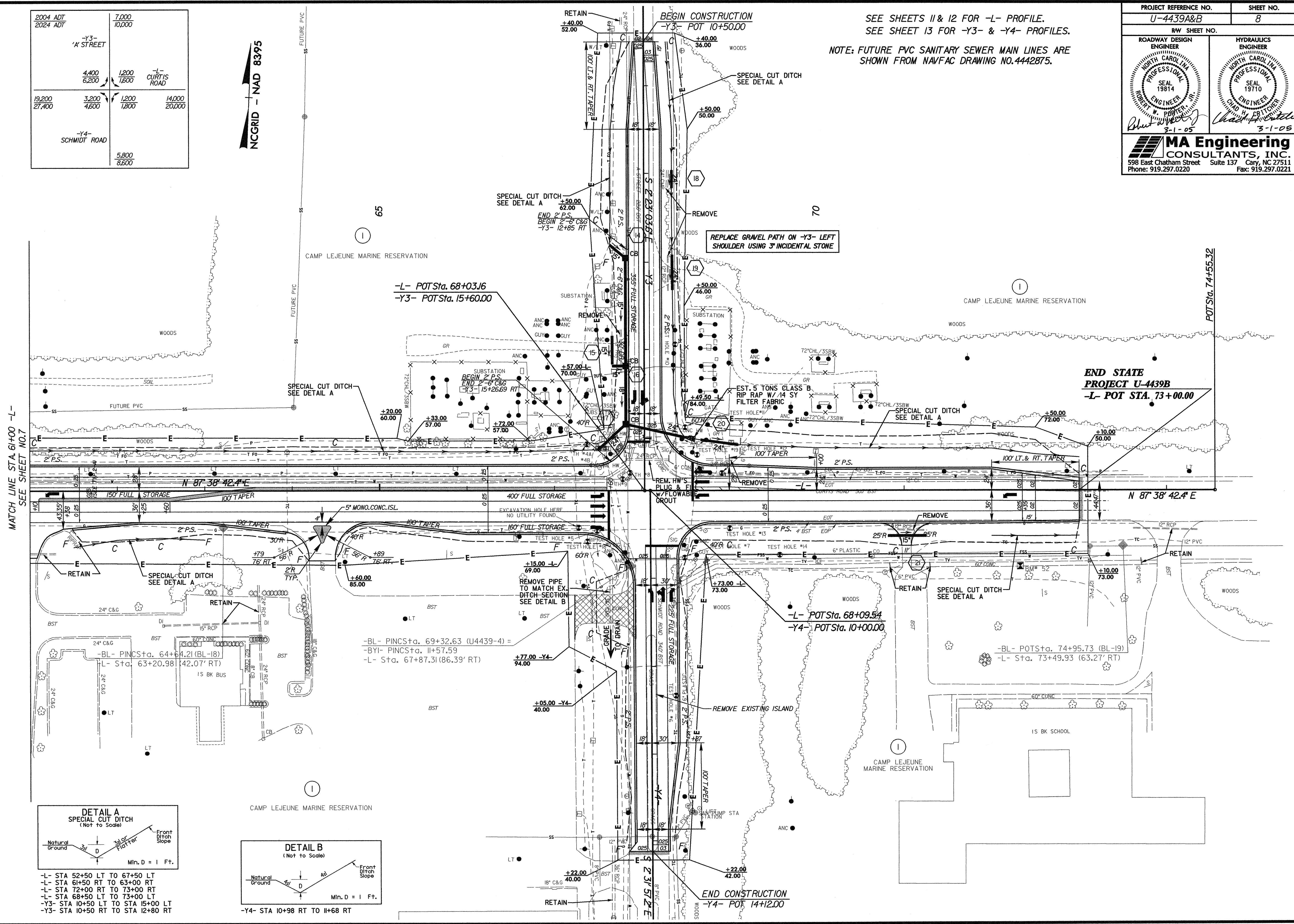
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PROJECT REFERENCE NO. U-4439A&B		SHEET NO. 8	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 19814 ROBERT W. POTTER, JR.		HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 19710 CHAD H. BRITTON	
3-1-05		3-1-05	
598 East Chatham Street Suite 137 Cary, NC 27511 Phone: 919.297.0220 Fax: 919.297.0221			

SEE SHEETS 11 & 12 FOR -L- PROFILE.
SEE SHEET 13 FOR -Y3- & -Y4- PROFILES.
NOTE: FUTURE PVC SANITARY SEWER MAIN LINES ARE SHOWN FROM NAVFAC DRAWING NO.4442875.

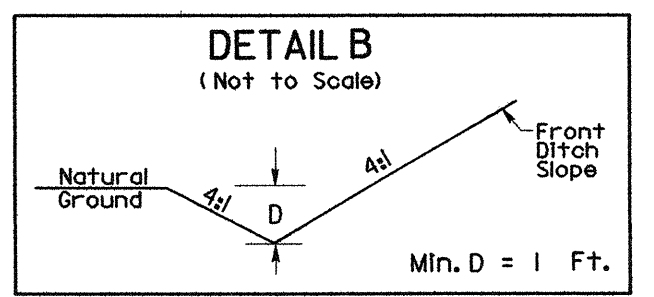
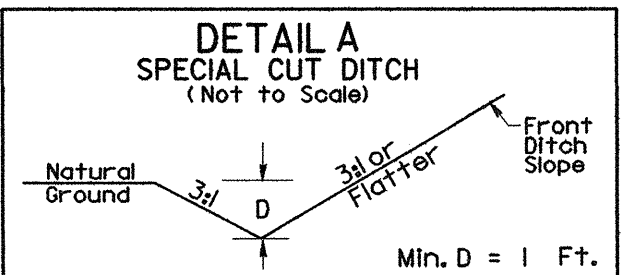
2004 ADT 2024 ADT	7,000 10,000
-Y3- 'K' STREET	
4,400 6,200	1,200 1,600
19,200 27,400	3,200 4,800
	1,200 1,800
	14,000 20,000
-Y4- SCHMIDT ROAD	
	5,800 8,600

NCGRID - NAD 8395



MATCH LINE STA. 61+00 -L-
SEE SHEET NO. 7

POT Sta. 74+55.32



- L- STA 52+50 LT TO 67+50 LT
- L- STA 61+50 RT TO 63+00 RT
- L- STA 72+00 RT TO 73+00 RT
- L- STA 68+50 LT TO 73+00 LT
- Y3- STA 10+50 LT TO STA 15+00 LT
- Y3- STA 10+50 RT TO STA 12+80 RT

- Y4- STA 10+98 RT TO 11+68 RT

REVISIONS

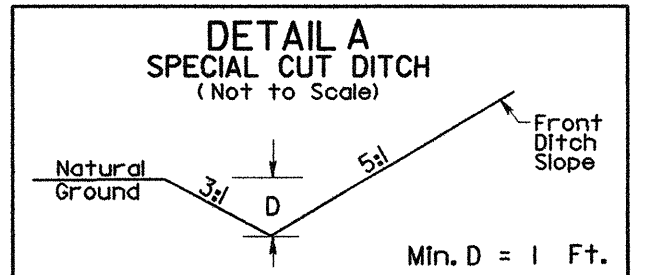
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8/17/99

----- U-4439 A/B BOUNDARY

PROJECT REFERENCE NO. U-4439A&B		SHEET NO. 9	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER ROBERT W. ROYER SEAL 19814 3-1-05		HYDRAULICS ENGINEER CHARLES M. CRITCHER SEAL 19710 3-1-05	
MA Engineering CONSULTANTS, INC. 598 East Chatham Street Suite 137 Cary, NC 27511 Phone: 919.297.0220 Fax: 919.297.0221			



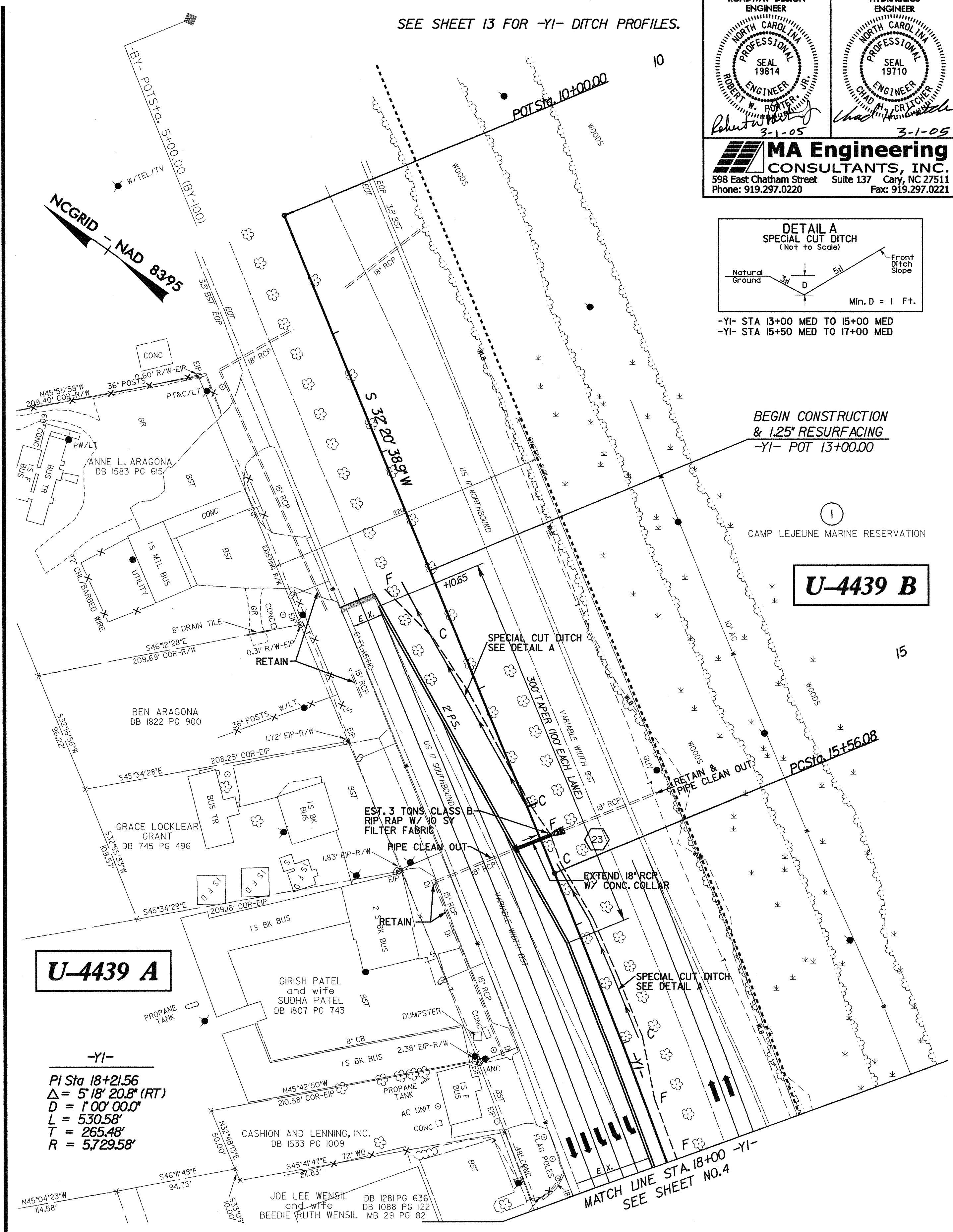
-YI- STA 13+00 MED TO 15+00 MED
-YI- STA 15+50 MED TO 17+00 MED

BEGIN CONSTRUCTION & 1.25" RESURFACING
-YI- POT 13+00.00

CAMP LEJEUNE MARINE RESERVATION

U-4439 B

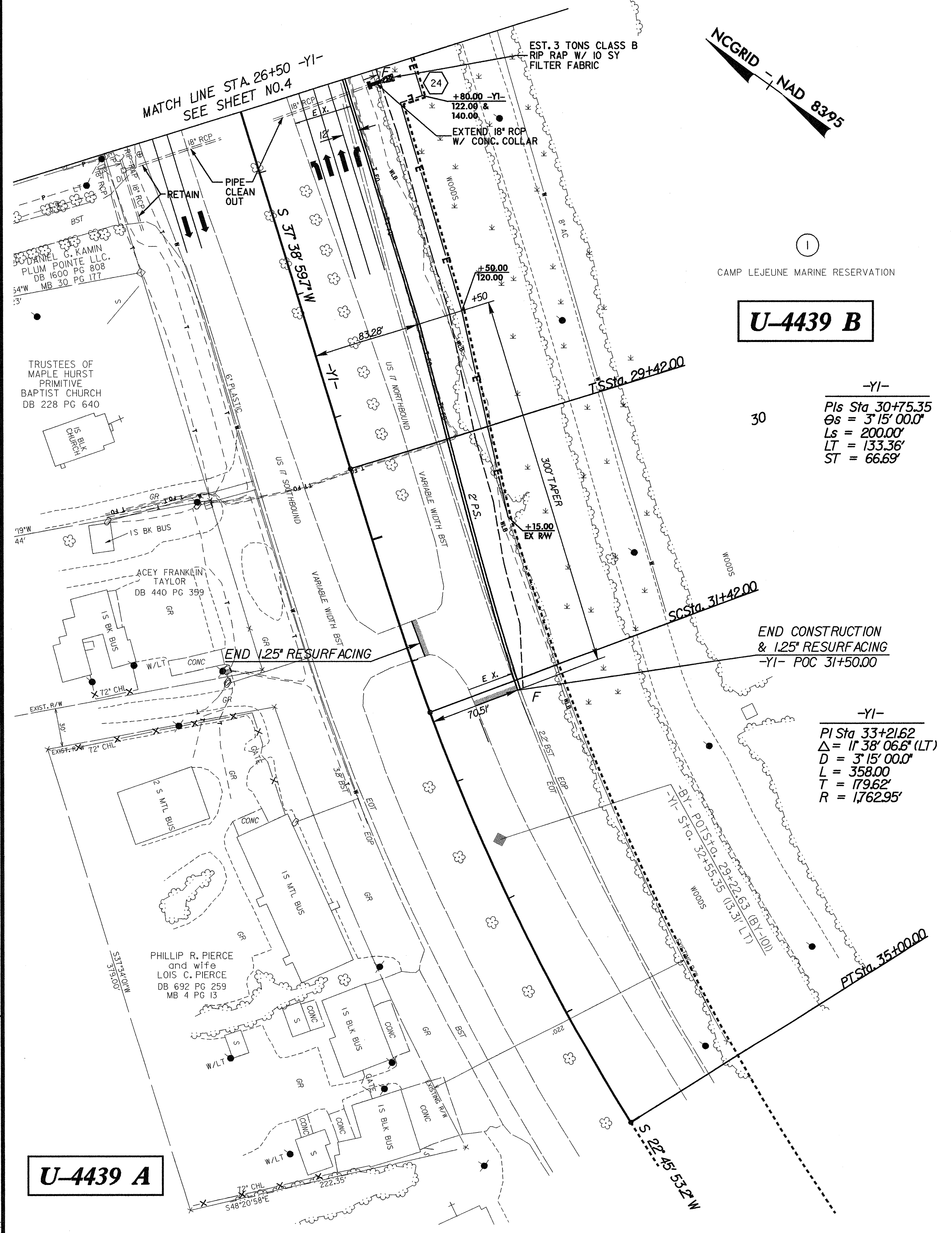
15



U-4439 A

-YI-
 PI Sta 18+21.56
 $\Delta = 5' 18" 20.8" (RT)$
 $D = 1' 00" 00.0"$
 $L = 530.58'$
 $T = 265.48'$
 $R = 5,729.58'$

MATCH LINE STA. 18+00 -YI-
SEE SHEET NO. 4



U-4439 A

U-4439 B

-YI-
 PI Sta 30+75.35
 $\Delta s = 3' 15" 00.0"$
 $Ls = 200.00'$
 $LT = 133.36'$
 $ST = 66.69'$

END CONSTRUCTION & 1.25" RESURFACING
-YI- POC 31+50.00

-YI-
 PI Sta 33+21.62
 $\Delta = 11' 38" 06.6" (LT)$
 $D = 3' 15" 00.0"$
 $L = 358.00'$
 $T = 179.62'$
 $R = 1,762.95'$

NCGRID - NAD 8395

NCGRID - NAD 8395

SEE SHEET 13 FOR -YI- DITCH PROFILES.

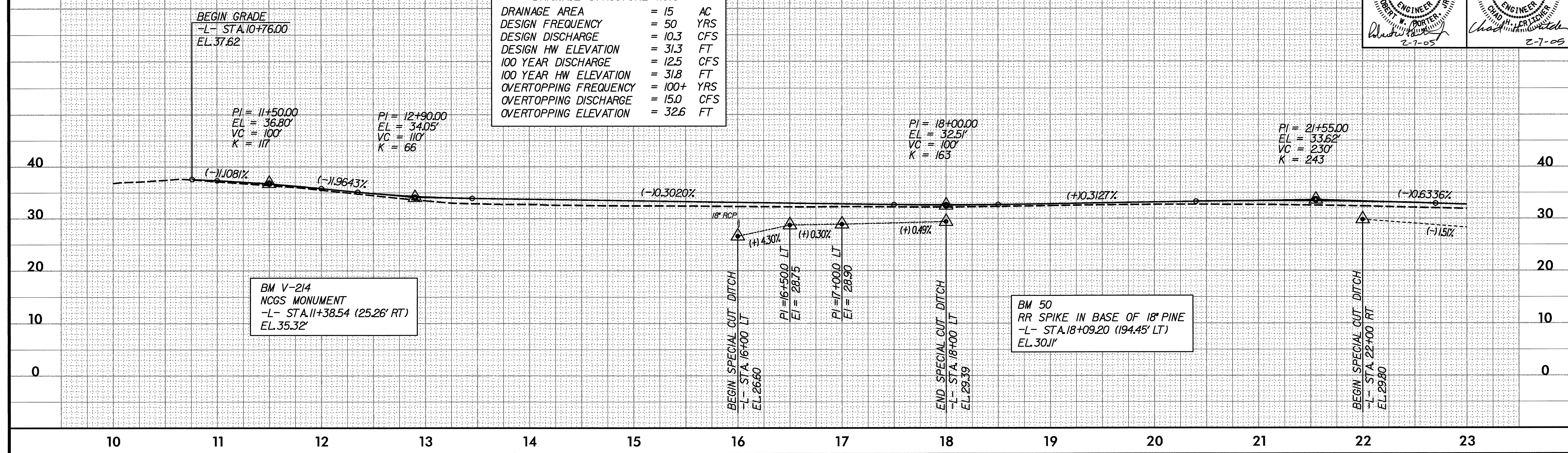
REVISIONS

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5/28/99

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO.6

DRAINAGE AREA	= 15	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 10.3	CFS
DESIGN HW ELEVATION	= 31.3	FT
100 YEAR DISCHARGE	= 12.5	CFS
100 YEAR HW ELEVATION	= 31.8	FT
OVERTOPPING FREQUENCY	= 100+	YRS
OVERTOPPING DISCHARGE	= 15.0	CFS
OVERTOPPING ELEVATION	= 32.6	FT



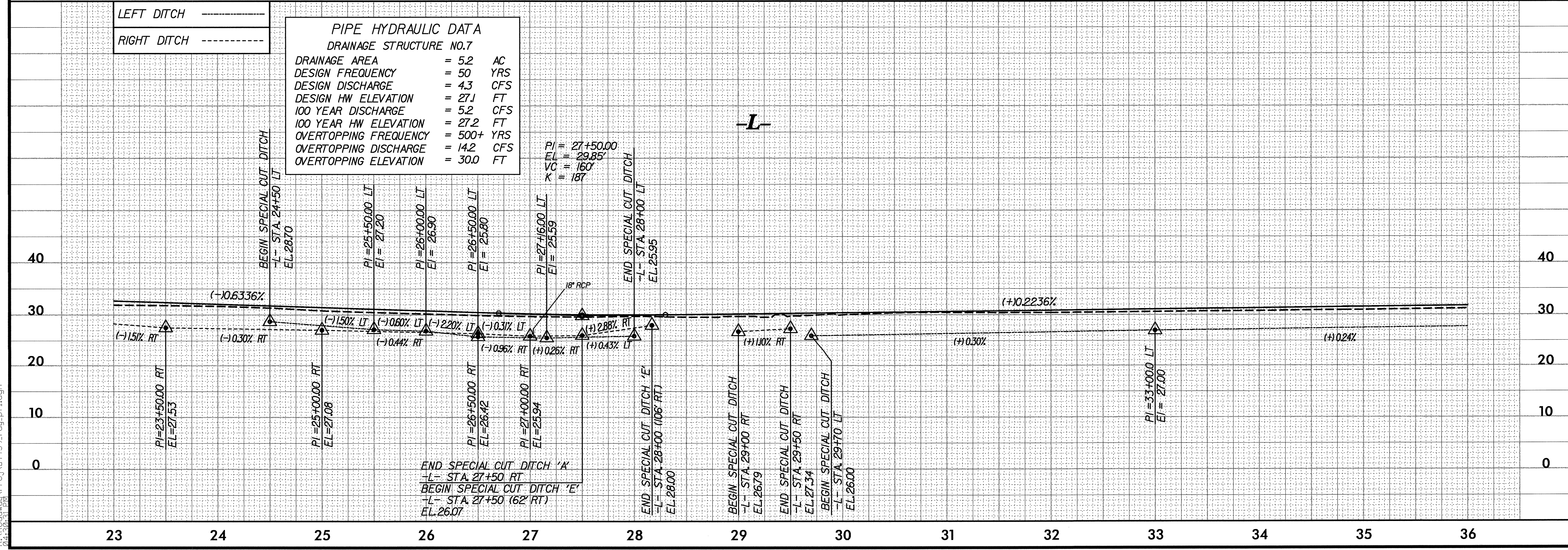
BM V-214
 NCGS MONUMENT
 -L- STA.11+38.54 (25.26' RT)
 EL.35.32'

BM 50
 RR SPIKE IN BASE OF 18" PINE
 -L- STA.18+09.20 (194.45' LT)
 EL.30.11'

LEFT DITCH -----
 RIGHT DITCH -----

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO.7

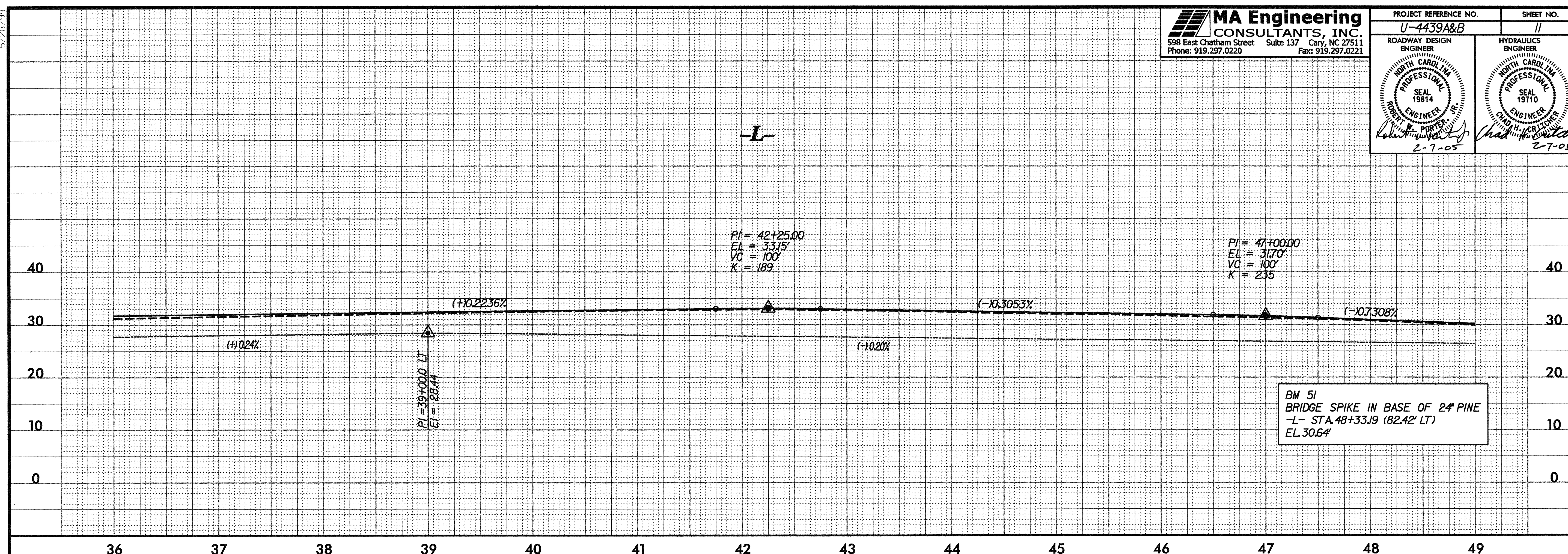
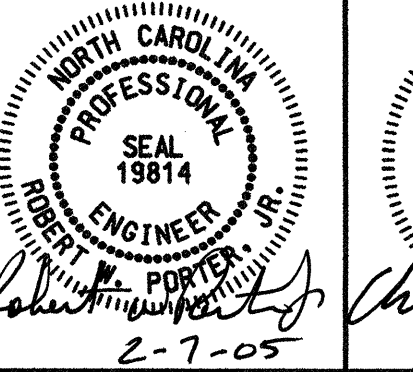
DRAINAGE AREA	= 5.2	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 4.3	CFS
DESIGN HW ELEVATION	= 27.1	FT
100 YEAR DISCHARGE	= 5.2	CFS
100 YEAR HW ELEVATION	= 27.2	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 14.2	CFS
OVERTOPPING ELEVATION	= 30.0	FT



END SPECIAL CUT DITCH 'A'
 -L- STA. 27+50 RT
 BEGIN SPECIAL CUT DITCH 'E'
 -L- STA. 27+50 (62' RT)
 EL.26.07

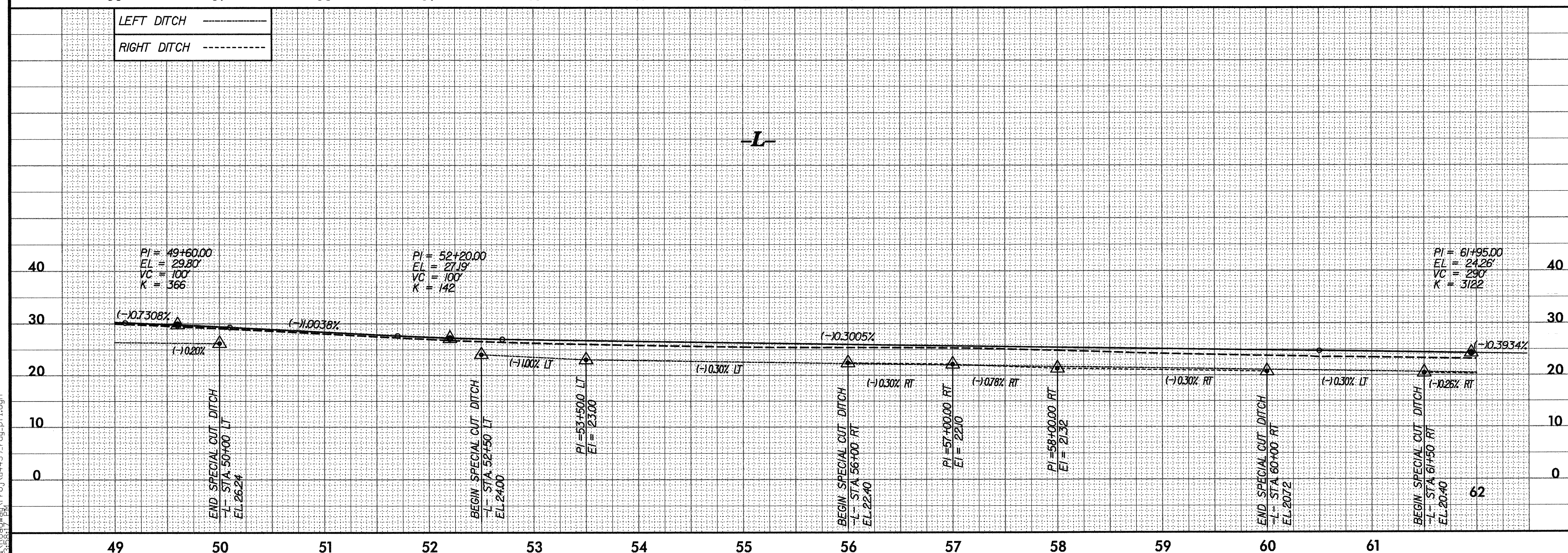
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5/28/99



BM 51
 BRIDGE SPIKE IN BASE OF 24" PINE
 -L- STA. 48+33.19 (82.42' LT)
 EL. 30.64'

LEFT DITCH -----
 RIGHT DITCH -----



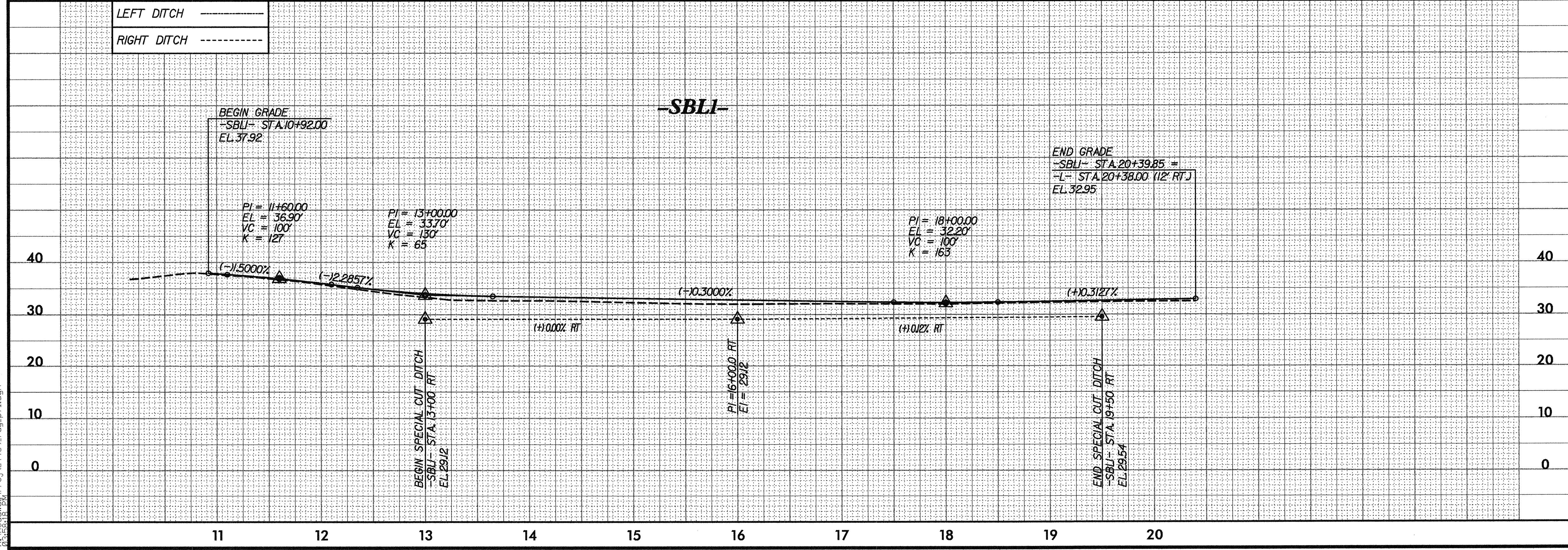
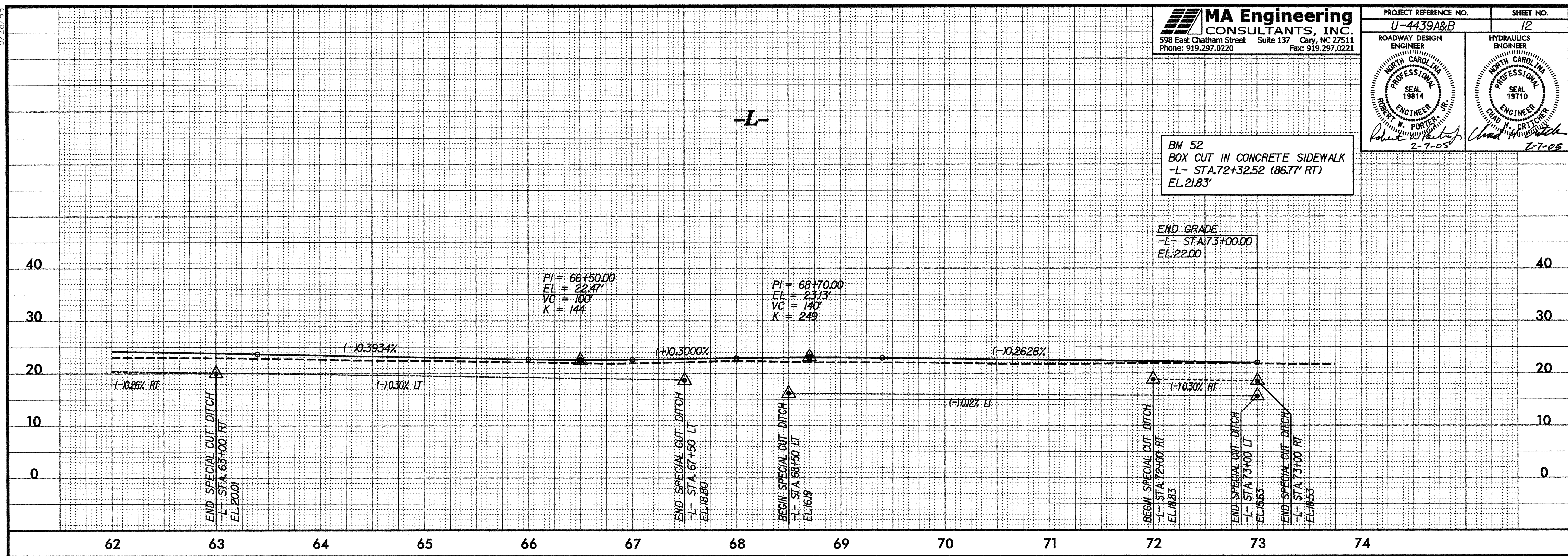
02/03/2005
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5/28/99

ROADWAY DESIGN ENGINEER
 NORTH CAROLINA PROFESSIONAL SEAL 19814
 ROBERT W. PORTER
 2-7-05

HYDRAULICS ENGINEER
 NORTH CAROLINA PROFESSIONAL SEAL 19710
 CHAD H. CRITCHER
 7-7-05

BM 52
 BOX CUT IN CONCRETE SIDEWALK
 -L- STA. 72+32.52 (86.77' RT)
 EL. 21.83'



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LEFT DITCH	-----
MEDIAN DITCH	-----
RIGHT DITCH	-----

MA Engineering
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PROJECT REFERENCE NO.

U-4439A&B

SHEET NO.

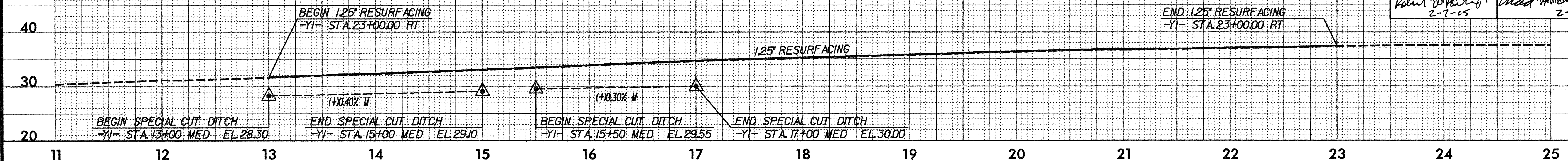
13

ROADWAY DESIGN ENGINEER

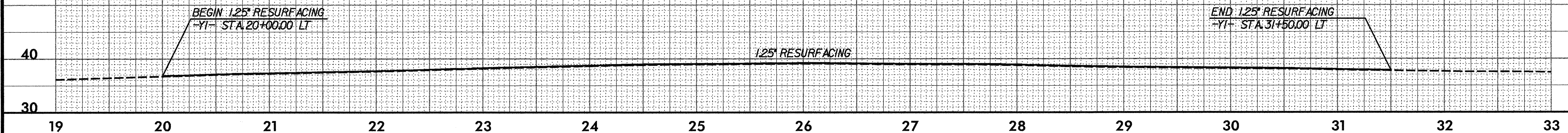
HYDRAULICS ENGINEER



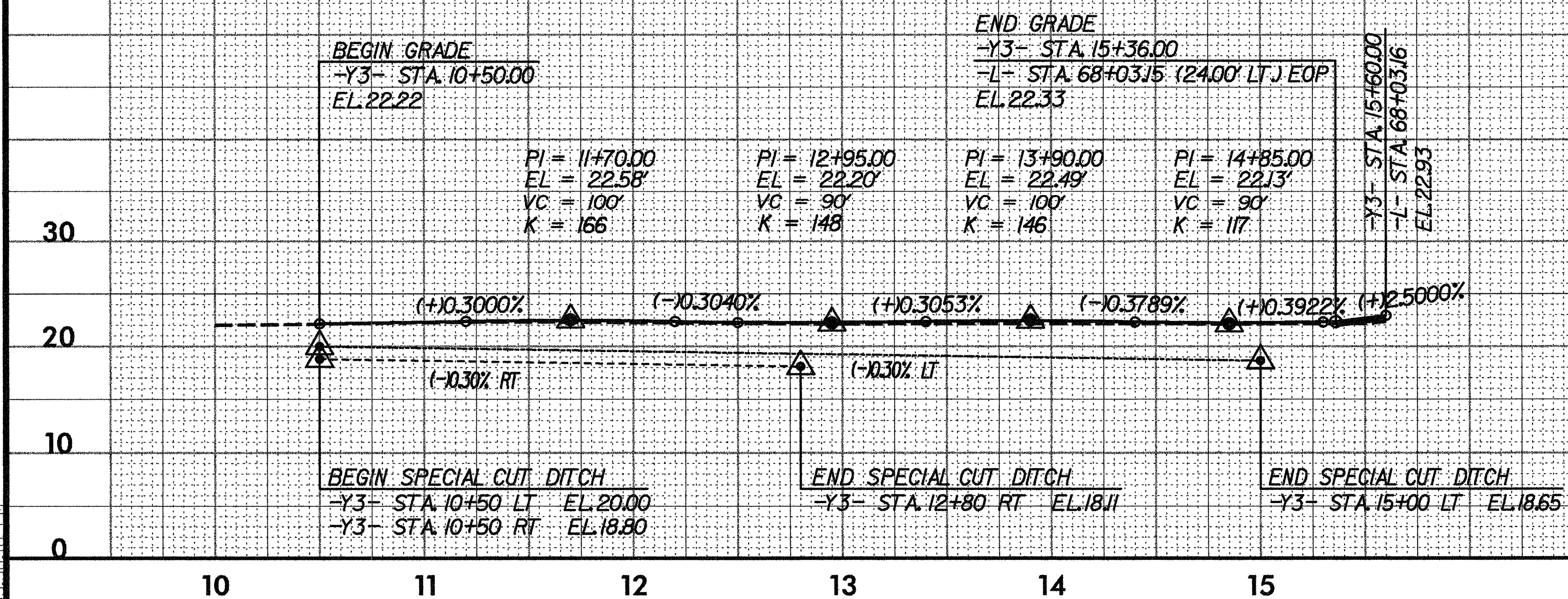
-Y1- (60' RT)
SOUTHBOUND LANES



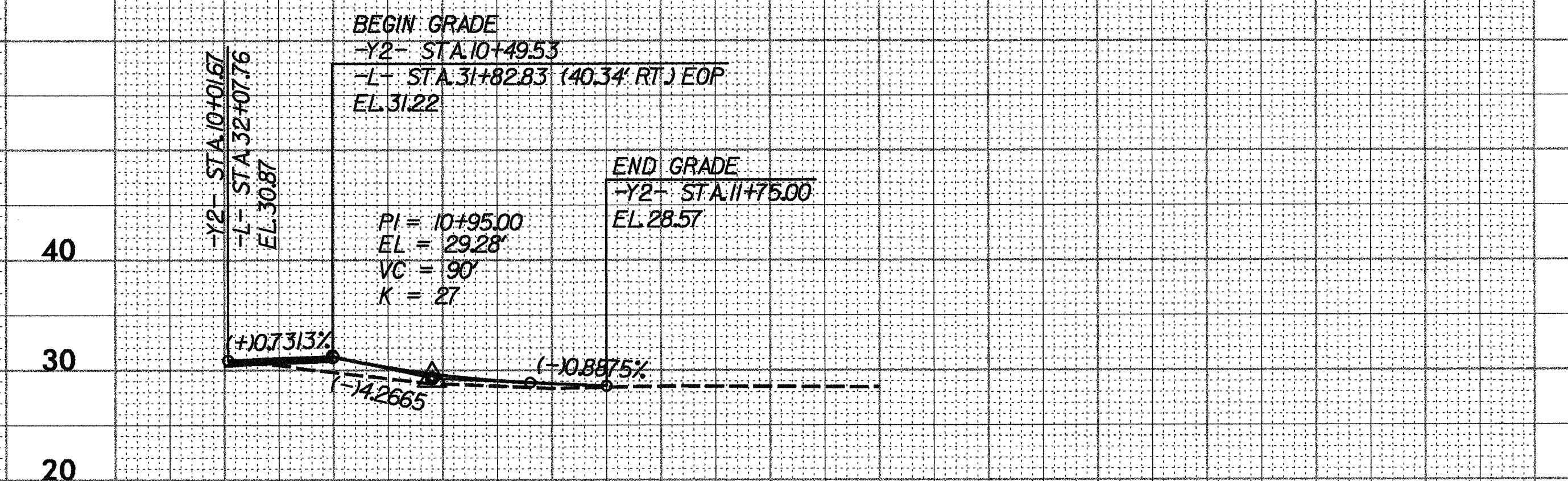
-Y1- (60' LT)
NORTHBOUND LANES



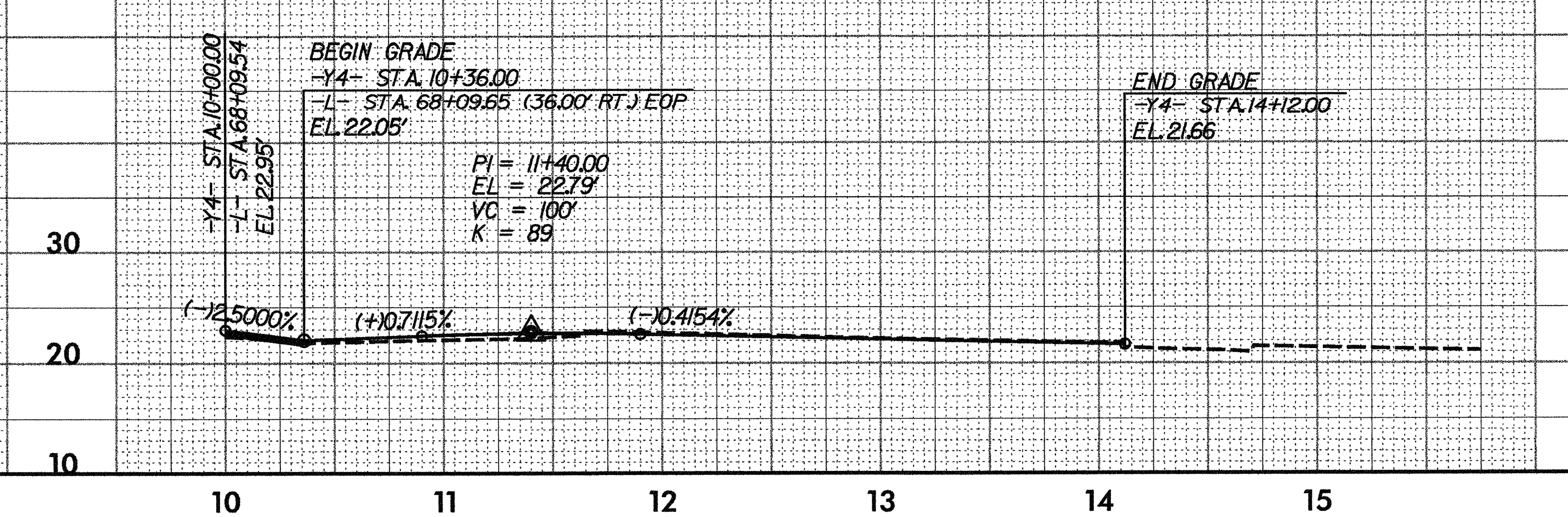
-Y3-



-Y2-



-Y4-



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