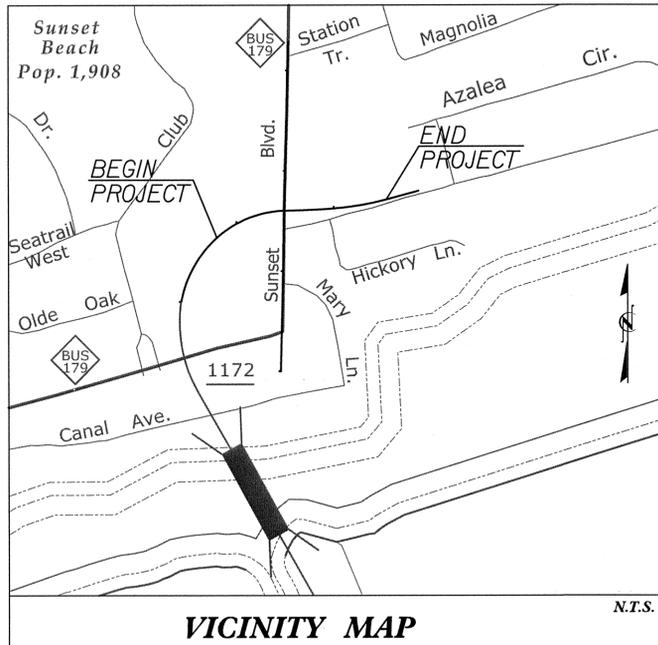


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See Sheet 1-A For Index of Sheets



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BRUNSWICK COUNTY

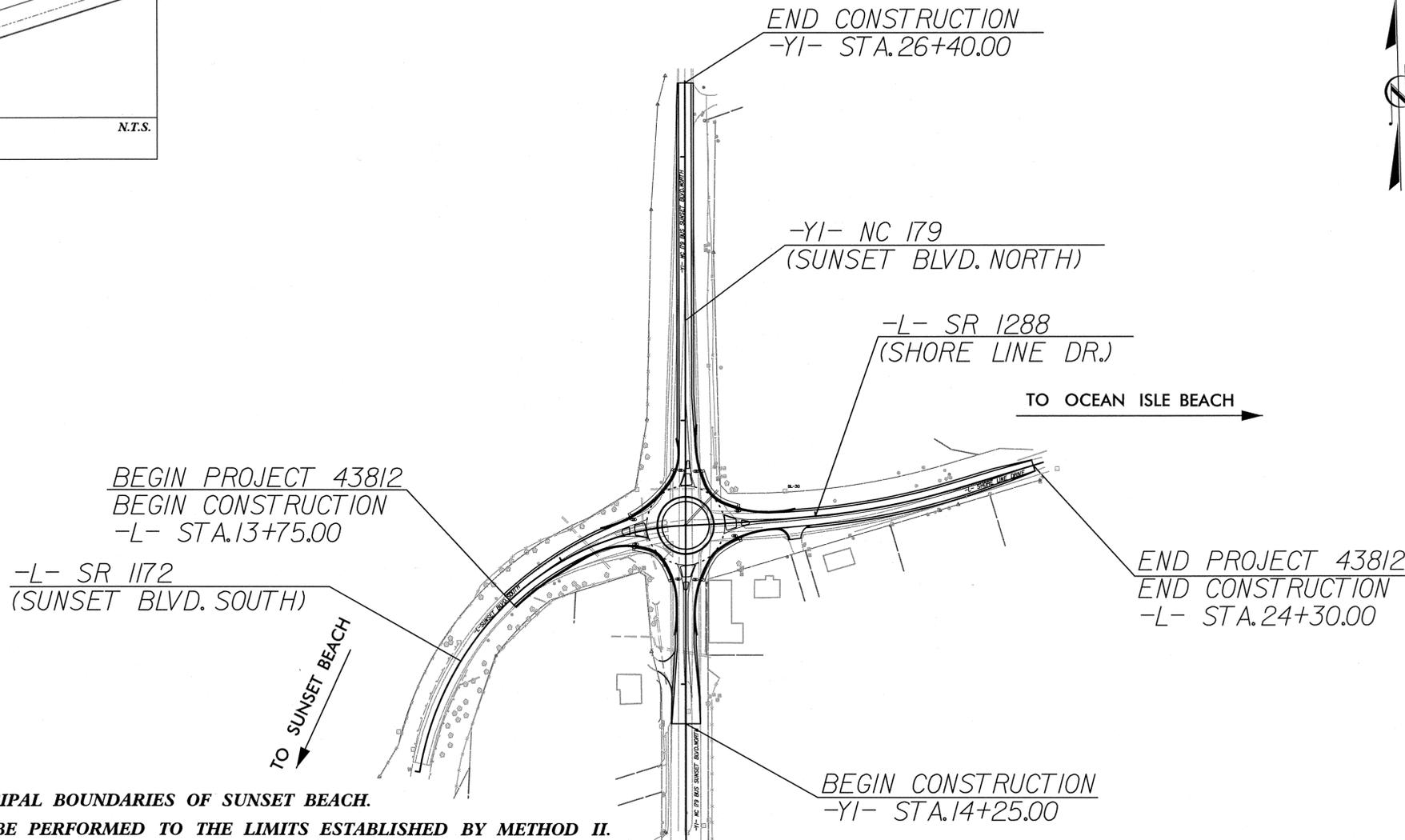
**LOCATION: INTERSECTION OF NC 179 BUSINESS
AND SR 1172 (SUNSET BLVD.) IN SUNSET BEACH, N.C.**

TYPE OF WORK: GRADING, DRAINAGE & PAVING

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	43812	1	59
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

TIP PROJECT: 43812

CONTRACT: DC00057



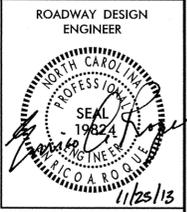
**THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF SUNSET BEACH.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.**

<p>GRAPHIC SCALES</p> <p>50 25 0 50 100 PLANS</p> <p>50 25 0 50 100 PROFILE (HORIZONTAL)</p> <p>10 5 0 10 20 PROFILE (VERTICAL)</p>	<p>DESIGN DATA</p> <p>ADT 2012 = 5600 ADT 2035 = 11200 DHV = 10 % D = 60 % T = 6 % * V = 25 MPH * TTST = DUAL FUNC CLASS = URBAN MINOR ARTERIAL TIER</p>	<p>PROJECT LENGTH</p> <p>LENGTH OF ROADWAY TIP PROJECT 43812 = 0.200 MI.</p> <p>TOTAL LENGTH OF TIP PROJECT 43812 = 0.200 MI.</p>	<p>Prepared in the Office of: HNTB HNTB NORTH CAROLINA, P.C. 343 E. Six Forks Road, Suite 200 Raleigh, North Carolina 27609 NC License No: C-1554</p> <p>2012 STANDARD SPECIFICATIONS</p> <p>RIGHT OF WAY DATE: OCTOBER 9, 2013</p> <p>LETTING DATE: DECEMBER 12, 2013</p> <p>ENRICO A. ROQUE, P.E. PROJECT ENGINEER</p> <p>ANTHONY THOMPSON, P.E. PROJECT DESIGN ENGINEER</p>	<p>HYDRAULICS ENGINEER</p> <p><i>James A. Byrd</i> SIGNATURE: 11/26/13</p> <p>ROADWAY DESIGN ENGINEER</p> <p><i>Enrico A. Roque</i> SIGNATURE: 11/26/13</p>	<p>DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA</p> <p>STATE HIGHWAY DESIGN ENGINEER</p>
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GENERAL NOTES AND INDEX OF SHEETS



INDEX OF SHEETS

SHEET NUMBER	SHEET
I	TITLE SHEET
I-A	INDEX OF SHEETS, GENERAL NOTES & LIST OF STANDARD DRAWINGS
I-B	CONVENTIONAL PLAN SHEET SYMBOLS
I-C	SURVEY CONTROL SHEET & CENTERLINE COORDINATE LIST
2-2A	TYPICAL SECTION SHEET
2B	PRECAST TRAFFIC BEARING TOP SLAB DETAIL
3	SUMMARY OF QUANTITIES: EARTHWORK, PAVEMENT REMOVAL
3A	DRAINAGE SUMMARY
3B	INTERSECTION DETAIL
4 - 5	PLAN SHEETS
6 - 7	PROFILE SHEETS
TMP-1 THRU TMP-9	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-2	FINAL PAVEMENT MARKING PLANS
EC-1 THRU EC-7	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-5	FINAL SIGNING PLANS
X-0	CROSS SECTION SUMMARY
X-1 THRU X-8	-L- CROSS SECTION SHEETS
X-9 THRU X-17	-YI- CROSS SECTION SHEETS
UO-1 THRU UO-2	UTILITIES BY OTHERS

GENERAL NOTES: 2012 SPECIFICATIONS
 EFFECTIVE: 01-17-2012
 REVISED: 07-30-2012

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

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

SUPERELEVATION:
 ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04
 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. 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.

DRIVEWAYS:
 DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3' RADII OR RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

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

UTILITIES:
 UTILITY OWNERS ON THIS PROJECT ARE
 Power - Brunswick EMC - Contact Josh Winslow at (910) 540-3760.
 Phone - ATMC - Contact Brock Holmes at (910) 755-4391.
 Water & Sewer - Brunswick County - Contact Robert Horn at (910) 253-2700.

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

EFF. 01-17-2012
 REV. 10-30-2012

2012 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
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	
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
840.71	Concrete and Brick Pipe Plug
846.01	Concrete Curb, Gutter and Curb & Gutter
848.01	Concrete Sidewalk
848.02	Driveway Turnout - Radius Type
848.03	Driveway Turnout - Drop Curb Type
848.05	Curb Ramp - Proposed Curb & Gutter
852.01	Concrete Islands
876.02	Guide for Rip Rap at Pipe Outlets

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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	_____ 
Property Corner	_____ 
Property Monument	_____ 
Parcel/Sequence Number	_____ 
Existing Fence Line	_____ 
Proposed Woven Wire Fence	_____ 
Proposed Chain Link Fence	_____ 
Proposed Barbed Wire Fence	_____ 
Existing Wetland Boundary	_____ 
Proposed Wetland Boundary	_____ 
Existing Endangered Animal Boundary	_____ 
Existing Endangered Plant Boundary	_____ 
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	_____ 
Well	_____ 
Small Mine	_____ 
Foundation	_____ 
Area Outline	_____ 
Cemetery	_____ 
Building	_____ 
School	_____ 
Church	_____ 
Dam	_____ 

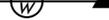
HYDROLOGY:

Stream or Body of Water	_____
Hydro, Pool or Reservoir	_____ 
Jurisdictional Stream	_____ 
Buffer Zone 1	_____ 
Buffer Zone 2	_____ 
Flow Arrow	_____ 
Disappearing Stream	_____ 
Spring	_____ 
Wetland	_____ 
Proposed Lateral, Tail, Head Ditch	_____ 
False Sump	_____ 

RAILROADS:

Standard Gauge	_____ 
RR Signal Milepost	_____ 
Switch	_____ 
RR Abandoned	_____ 
RR Dismantled	_____ 

RIGHT OF WAY:

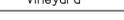
Baseline Control Point	_____ 
Existing Right of Way Marker	_____ 
Existing Right of Way Line	_____ 
Proposed Right of Way Line	_____ 
Proposed Right of Way Line with Iron Pin and Cap Marker	_____ 
Proposed Right of Way Line with Concrete or Granite RW Marker	_____ 
Proposed Control of Access Line with Concrete CA Marker	_____ 
Existing Control of Access	_____ 
Proposed Control of Access	_____ 
Existing Easement Line	_____ 
Proposed Temporary Construction Easement	_____ 
Proposed Temporary Drainage Easement	_____ 
Proposed Permanent Drainage Easement	_____ 
Proposed Permanent Drainage / Utility Easement	_____ 
Proposed Permanent Utility Easement	_____ 
Proposed Temporary Utility Easement	_____ 
Proposed Aerial Utility Easement	_____ 
Proposed Permanent Easement with Iron Pin and Cap Marker	_____ 

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	_____ 
Existing Curb	_____ 
Proposed Slope Stakes Cut	_____ 
Proposed Slope Stakes Fill	_____ 
Proposed Curb Ramp	_____ 
Existing Metal Guardrail	_____ 
Proposed Guardrail	_____ 
Existing Cable Guiderail	_____ 
Proposed Cable Guiderail	_____ 
Equality Symbol	_____ 
Pavement Removal	_____ 

VEGETATION:

Single Tree	_____ 
Single Shrub	_____ 
Hedge	_____ 
Woods Line	_____ 

Orchard	_____ 
Vineyard	_____ 

EXISTING STRUCTURES:

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

UTILITIES:

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

TELEPHONE:

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

WATER:

Water Manhole	_____ 
Water Meter	_____ 
Water Valve	_____ 
Water Hydrant	_____ 
Recorded U/G Water Line	_____ 
Designated U/G Water Line (S.U.E.*)	_____ 
Above Ground Water Line	_____ 

TV:

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

GAS:

Gas Valve	_____ 
Gas Meter	_____ 
Recorded U/G Gas Line	_____ 
Designated U/G Gas Line (S.U.E.*)	_____ 
Above Ground Gas Line	_____ 

SANITARY SEWER:

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

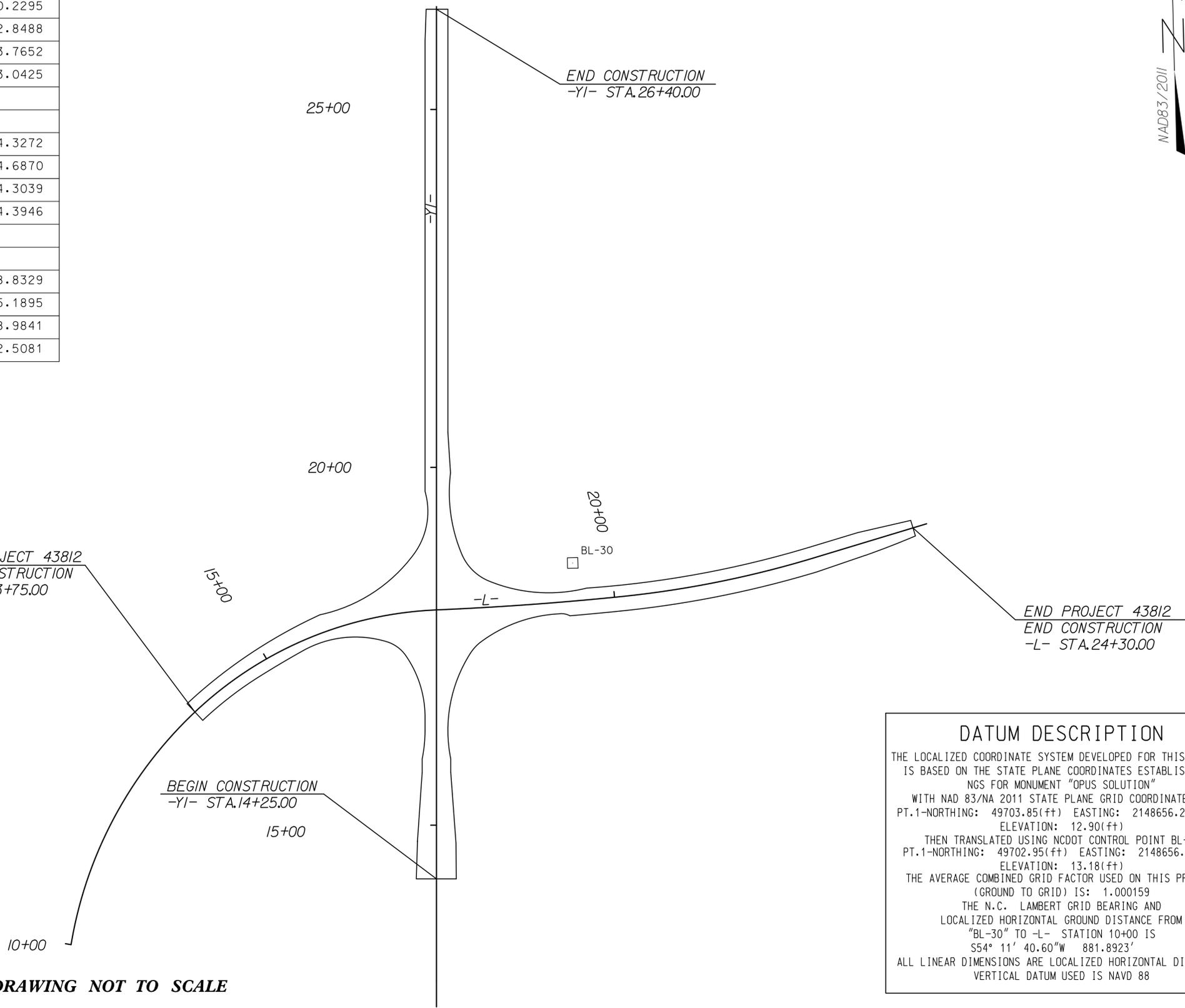
MISCELLANEOUS:

Utility Pole	_____ 
Utility Pole with Base	_____ 
Utility Located Object	_____ 
Utility Traffic Signal Box	_____ 
Utility Unknown U/G Line	_____ 
U/G Tank; Water, Gas, Oil	_____ 
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	_____ 
End of Information	_____ 

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SURVEY CONTROL SHEET

CENTERLINE COORDINATE LIST

POINT	STATION	NORTHING	EASTING
-L-			
PC	10+00.00	49187.0168	2147940.9436
BEGIN	13+75.00	49507.6974	2148122.2575
PCC	13+86.58	49515.3344	2148130.9640
PRC	17+50.00	49642.1033	2148463.8488
PCC	20+06.70	49654.1415	2148720.2295
PT	22+83.84	49701.5903	2148992.8488
END	24+30.00	49740.3706	2149133.7652
POT	24+49.99	49745.6757	2149153.0425
-Y1-			
POT	10+00.00	48841.4897	2148444.3272
BEG	14+25.00	49266.3634	2148454.6870
END	26+40.00	50481.0024	2148484.3039
POT	26+43.72	50484.7233	2148484.3946
-C1-			
A	10+00.00	49643.4240	2148518.8329
B	10+83.73	49697.0869	2148465.1895
C	11+75.32	49638.2479	2148408.9841
D	12+56.52	49587.1196	2148462.5081



GENERAL NOTES:
 1. ALL CONTROL POINTS SET WITH GPS WITH ELEVATIONS SET BY LEVEL.
 2. CONCRETE AND ASPHALT LOCATED WITH ROBOTIC TRANSIT, ALL OTHERS TAKEN WITH GPS.
 3. ALL SHOTS TAKEN FROM OPUS SOLUTION THEN TRANSLATED TO NCDOT PROJECT B-0682 CONTROL POINT BL-30.
 4. CENTERLINES AND RIGHT OF WAY DRAWN FROM NCDOT PROJECT B-0682.
 5. U/G UTILITIES SHOWN ARE APPROXIMATE. THEY WERE LOCATED FROM PAINT FOUND ON GROUND.
 6. ROAD NAMES AND PROPERTY OWNERS TAKEN FROM CURRENT BRUNSWICK COUNTY GIS.
 7. PROPERTY LINES TAKEN FROM CURRENT BRUNSWICK COUNTY GIS AND NOT ACTUALLY SURVEYED AND ARE APPROXIMATE.

DATUM DESCRIPTION
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NGS FOR MONUMENT "OPUS SOLUTION"
 WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF
 PT. 1-NORTHING: 49703.85(ft) EASTING: 2148656.2703(ft)
 ELEVATION: 12.90(ft)
 THEN TRANSLATED USING NCDOT CONTROL POINT BL-30
 PT. 1-NORTHING: 49702.95(ft) EASTING: 2148656.17(ft)
 ELEVATION: 13.18(ft)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.000159
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL DISTANCE FROM
 "BL-30" TO -L- STATION 10+00 IS
 S54° 11' 40.60"W 881.8923'
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

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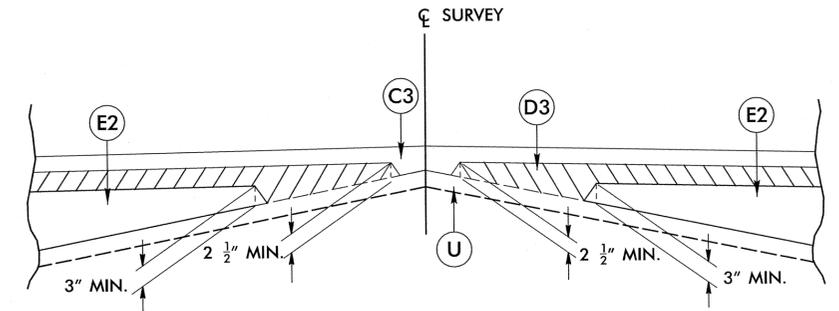
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PROJECT REFERENCE NO. 43812	SHEET NO. 2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

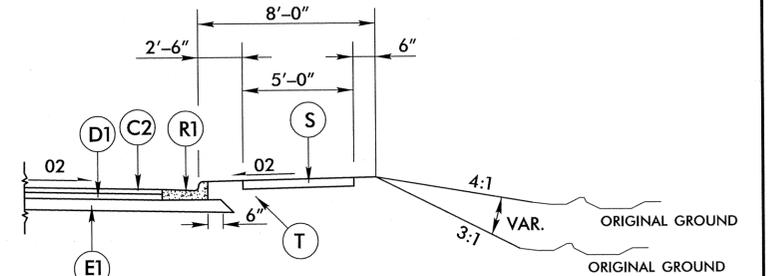
PAVEMENT SCHEDULE

C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	R2	PROPOSED 1'-6" CONCRETE CURB & 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.	R3	10" CONCRETE PAD
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.	R4	9" X 18" CONCRETE CURB
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R5	5" MONOLITHIC ISLAND
D2	PROP. APPROX. 2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 228 LBS. PER SQ. YD.	S	4" CONCRETE SIDEWALK
D3	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 1/4" IN DEPTH OR GREATER THAN 4" IN DEPTH.	T	EARTH MATERIAL.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	U	EXISTING PAVEMENT.
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 1/2" IN DEPTH.	V	1 1/2" MILLING
R1	PROPOSED 2'-6" CONCRETE CURB & GUTTER	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET No. 2)

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



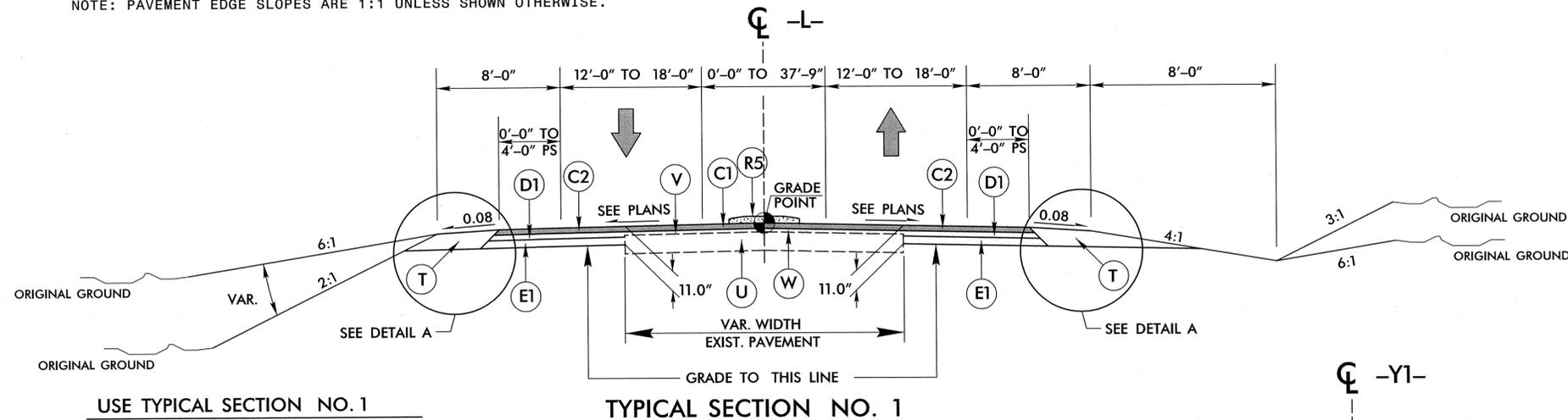
Detail Showing Method of Wedging



DETAIL A

USE DETAIL A IN CONJUNCTION WITH TYPICAL SECTION NO. 1, 2 & 3

- L- Sta. 16+02.00 LT to -Y1- Sta. 19+66.00 LT.
- L- Sta. 13+75.00 RT to -Y1- Sta. 15+93.00 LT.
- Y1- Sta. 15+93.00 RT to -L- Sta. 19+45.00 RT.
- Y1- Sta. 19+92.00 RT to -L- Sta. 19+62.00 LT.



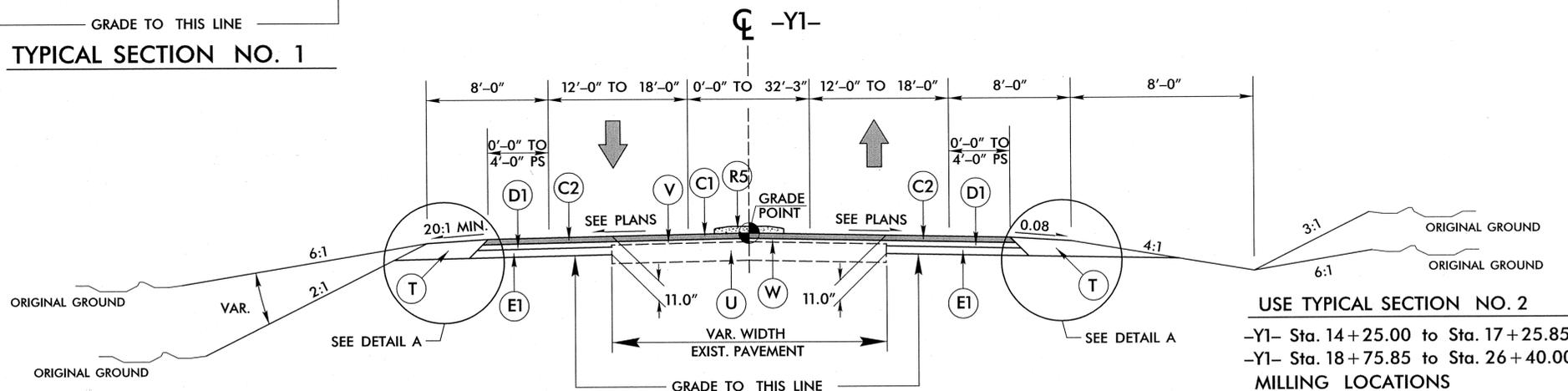
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

- L- Sta. 13+75.00 to Sta. 16+74.94
- L- Sta. 18+25.00 to Sta. 24+30.00

MILLING LOCATIONS

- L- Sta. 13+75 +/- to Sta. 14+25 +/-
- L- Sta. 18+15 +/- to Sta. 22+30 +/-



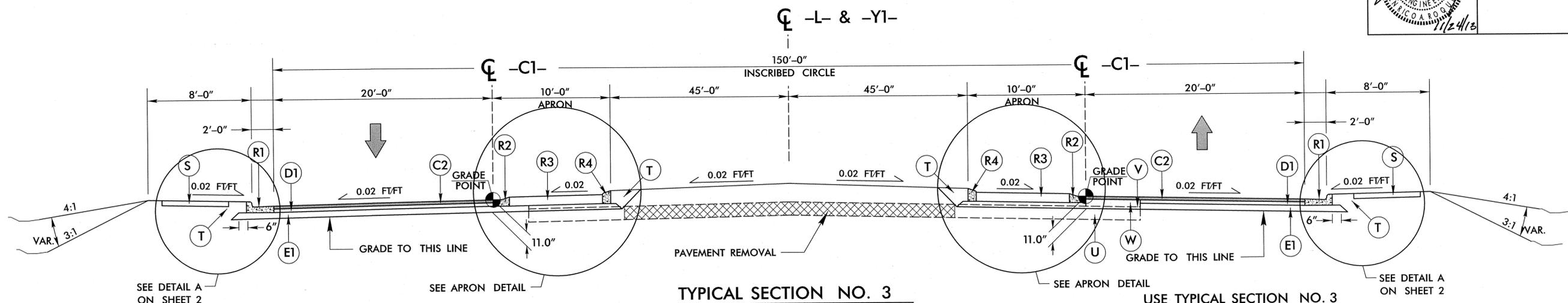
TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2

- Y1- Sta. 14+25.00 to Sta. 17+25.85
 - Y1- Sta. 18+75.85 to Sta. 26+40.00
- MILLING LOCATIONS
- Y1- Sta. 14+25 +/- to Sta. 15+28 +/-
 - Y1- Sta. 18+64 +/- to Sta. 20+78 +/-
 - Y1- Sta. 22+78 +/- to Sta. 26+40 +/-

REVISIONS

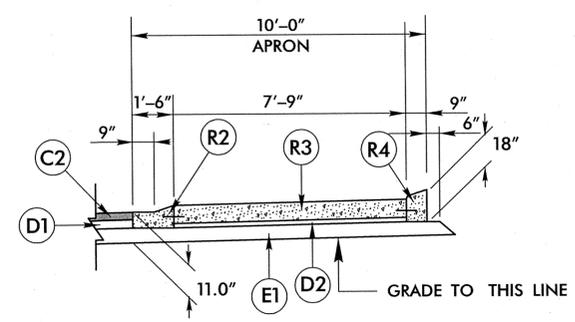
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TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3
 -L- Sta. 16+74.94 to Sta. 18+25.00
 -Y1- Sta. 17+25.85 to Sta. 18+75.85

PAVEMENT SCHEDULE	
C2	3" S9.5B
D1	4" I19.0B
D2	2" I19.0B
E1	4" TYPE B25.0B
R1	2'-6" C&G
R2	1'-6" C&G
R3	10" CONCRETE PAD
R4	9"x18" CONC. CURB
R5	5" MONO. ISLAND
S	4" SIDEWALK
T	EARTH MATERIAL
V	1 1/2" MILLING

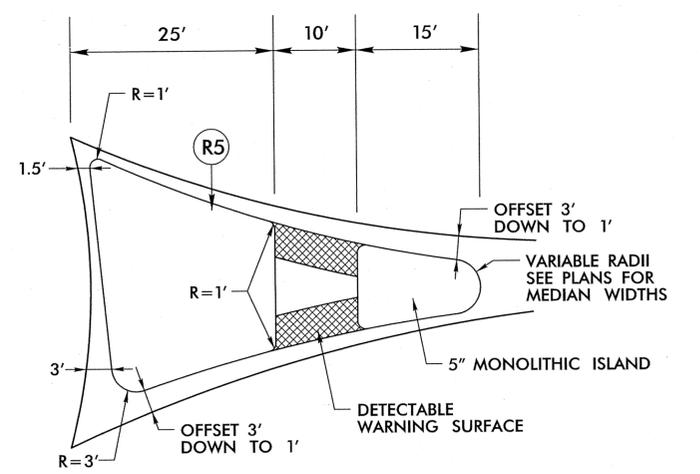


APRON DETAIL

USE APRON DETAIL IN CONJUNCTION WITH TYPICAL SECTION NO. 3

-C1- Sta. 10+00.00 to Sta. 13+45.57

NOTE: 1. PLACE 18" LONG #8 BARS AT 12" CENTERS BEGINNING 6" FROM LONGITUDINAL JOINT.
 2. PLACE 14" LONG #4 "J" BARS AT 36" CENTERS AT ALL LONGITUDINAL SLAB/CURB JOINTS.



SPLITTER ISLAND DETAIL

USE CONCRETE SPLITTER ISLAND DETAIL IN CONJUNCTION WITH TYPICAL SECTION NO. 1 & 2

-L- Sta. 16+27.80 to Sta. 16+73.70
 -L- Sta. 18+25.20 to Sta. 18+72.40
 -Y1- Sta. 16+78.10 to Sta. 17+26.20
 -Y1- Sta. 18+76.80 to Sta. 19+24.20

REVISIONS

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

ENGLISH DETAIL DRAWING FOR
**PRECAST TRAFFIC BEARING TOP
SLAB FOR EXISTING BOXES**

SHEET 1 OF 1
trfriebearslab

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

ENGLISH DETAIL DRAWING FOR
**PRECAST TRAFFIC BEARING TOP
SLAB FOR EXISTING BOXES**

SHEET 1 OF 1
trfriebearslab

BILL OF MATERIAL				
TRAFFIC BEARING TOP SLAB				
BAR	NO.	SIZE	LENGTH	WEIGHT
H1	8	#5	6'-6"	54.2
H2	7	#5	7'-4"	53.5
TOTAL REINF. STEEL (lbs.)				107.7
CLASS "AA" CONC. (cu.yds.)				1.2

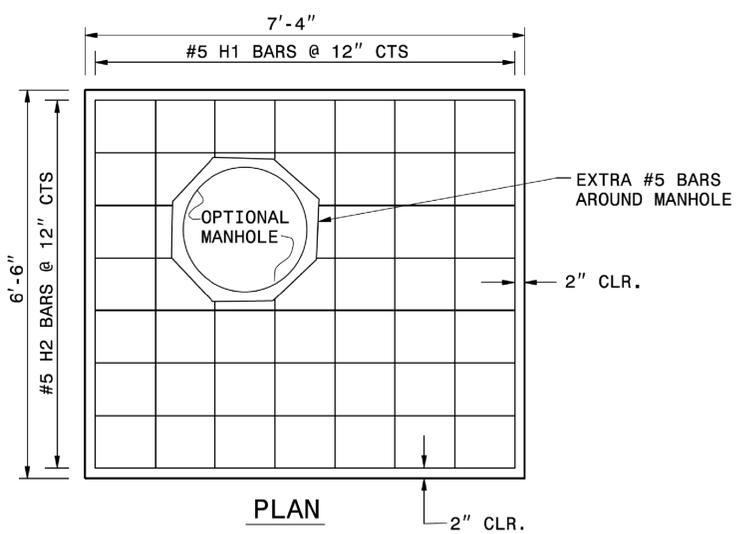
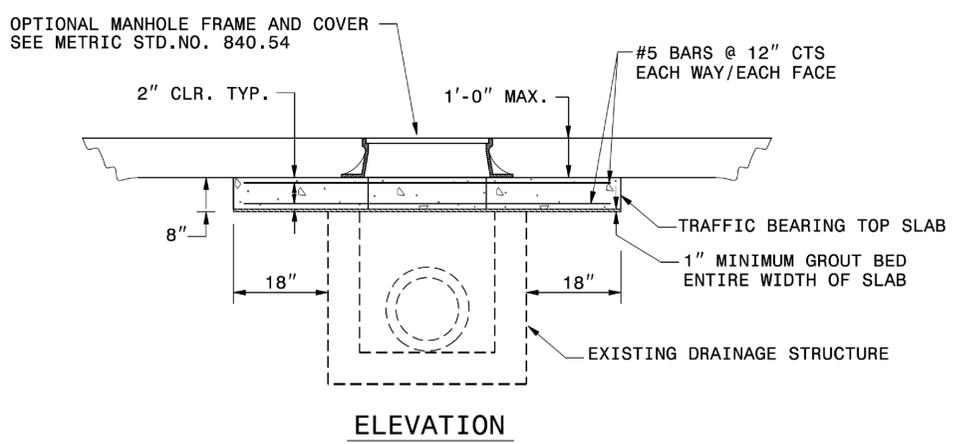
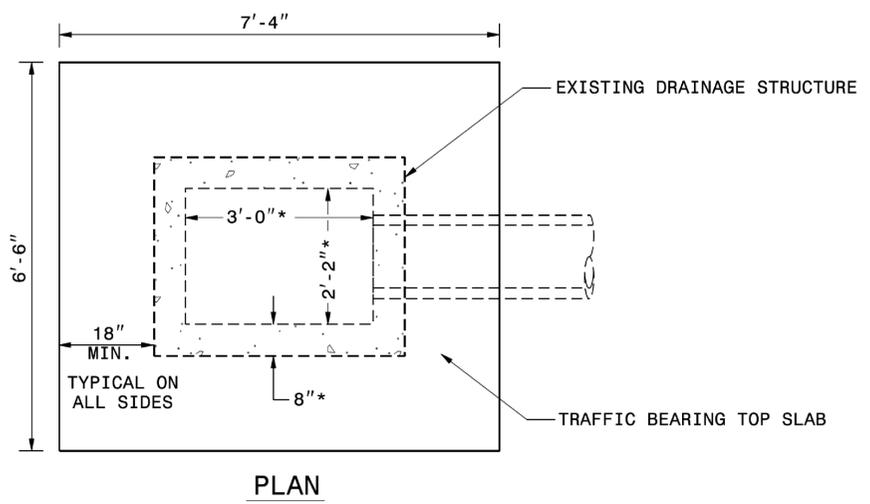
GENERAL NOTES:

QUANTITIES FOR TRAFFIC BEARING TOP SLAB ARE CALCULATED FOR A TYPICAL SIZE CATCH BASIN HOUSING 12" THROUGH 36" PIPES

USE 4000 PSI COMPRESSIVE STRENGTH CONCRETE.

ADJUST QUANTITIES FOR MANHOLE CONSTRUCTION

* DIMENSIONS MAY VARY AND SHOULD BE FIELD CONFIRMED



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CONTRACT STANDARDS & DEVELOPMENT UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-707-6950 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: E.E. WARD DATE: 11-98
MODIFIED BY: rnbritt DATE: 10-24-05
CHECKED BY: DATE:
FILE SPEC.: detail\rnbritt/english\hydro\trfriebearslab.dgn

8/17/99

SUMMARY OF QUANTITIES

PROJECT REFERENCE NO. 43812	SHEET NO. 3
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	
	

SUMMARY OF EARTHWORK IN CUBIC YARDS

STATION	STATION	UNCLASSIFIED EXCAVATION	EMBANK. +%	BORROW	WASTE
-L- STA. 13+75.00	-L- STA. 17+50.00	67	358	291	
-L- STA. 17+50.00	-L- STA. 24+30.00	319	222		97
-YI- STA. 14+25.00	-YI- STA. 18+00.85	39	283	244	
-YI- STA. 18+00.85	-YI- STA. 26+40.00	364	189		175
PROJECT SUBTOTAL		789	1052	535	272
WASTE TO REPLACE BORROW				-272	-272
PROJECT TOTAL		789	1052	263	
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT				14	
GRAND TOTALS:		789		277	
SAY:		790		280	

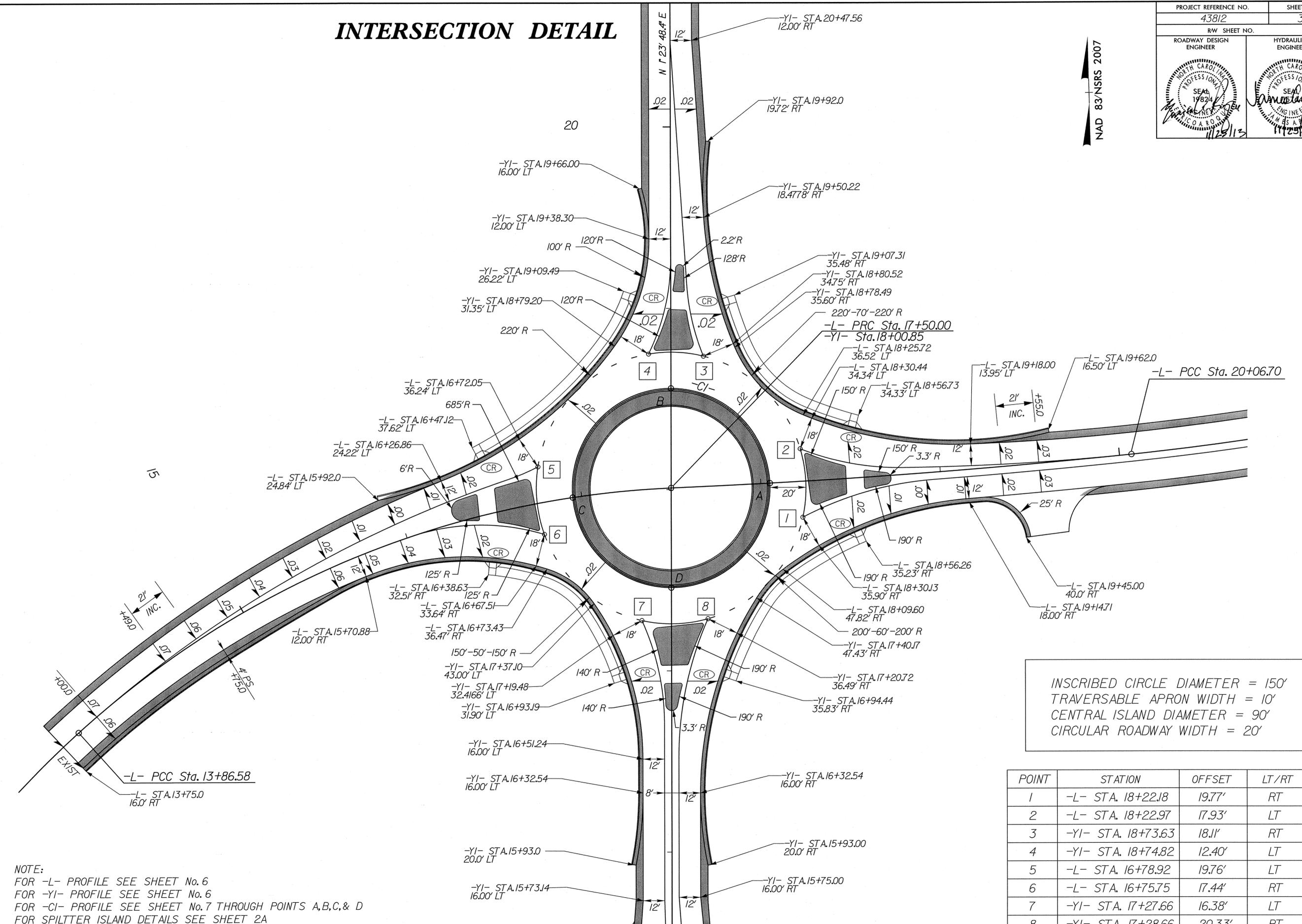
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INTERSECTION DETAIL

PROJECT REFERENCE NO. 43812	SHEET NO. 3B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83/NSRS 2007



INSCRIBED CIRCLE DIAMETER = 150'
 TRAVERSABLE APRON WIDTH = 10'
 CENTRAL ISLAND DIAMETER = 90'
 CIRCULAR ROADWAY WIDTH = 20'

POINT	STATION	OFFSET	LT/RT
1	-L- STA. 18+22.18	19.77'	RT
2	-L- STA. 18+22.97	17.93'	LT
3	-YI- STA. 18+73.63	18.11'	RT
4	-YI- STA. 18+74.82	12.40'	LT
5	-L- STA. 16+78.92	19.76'	LT
6	-L- STA. 16+75.75	17.44'	RT
7	-YI- STA. 17+27.66	16.38'	LT
8	-YI- STA. 17+28.66	20.33'	RT

NOTE:
 FOR -L- PROFILE SEE SHEET No. 6
 FOR -YI- PROFILE SEE SHEET No. 6
 FOR -CI- PROFILE SEE SHEET No. 7 THROUGH POINTS A, B, C, & D
 FOR SPILTTER ISLAND DETAILS SEE SHEET 2A
 FOR APRON DETAILS SEE SHEET 2A

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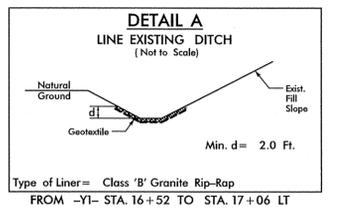
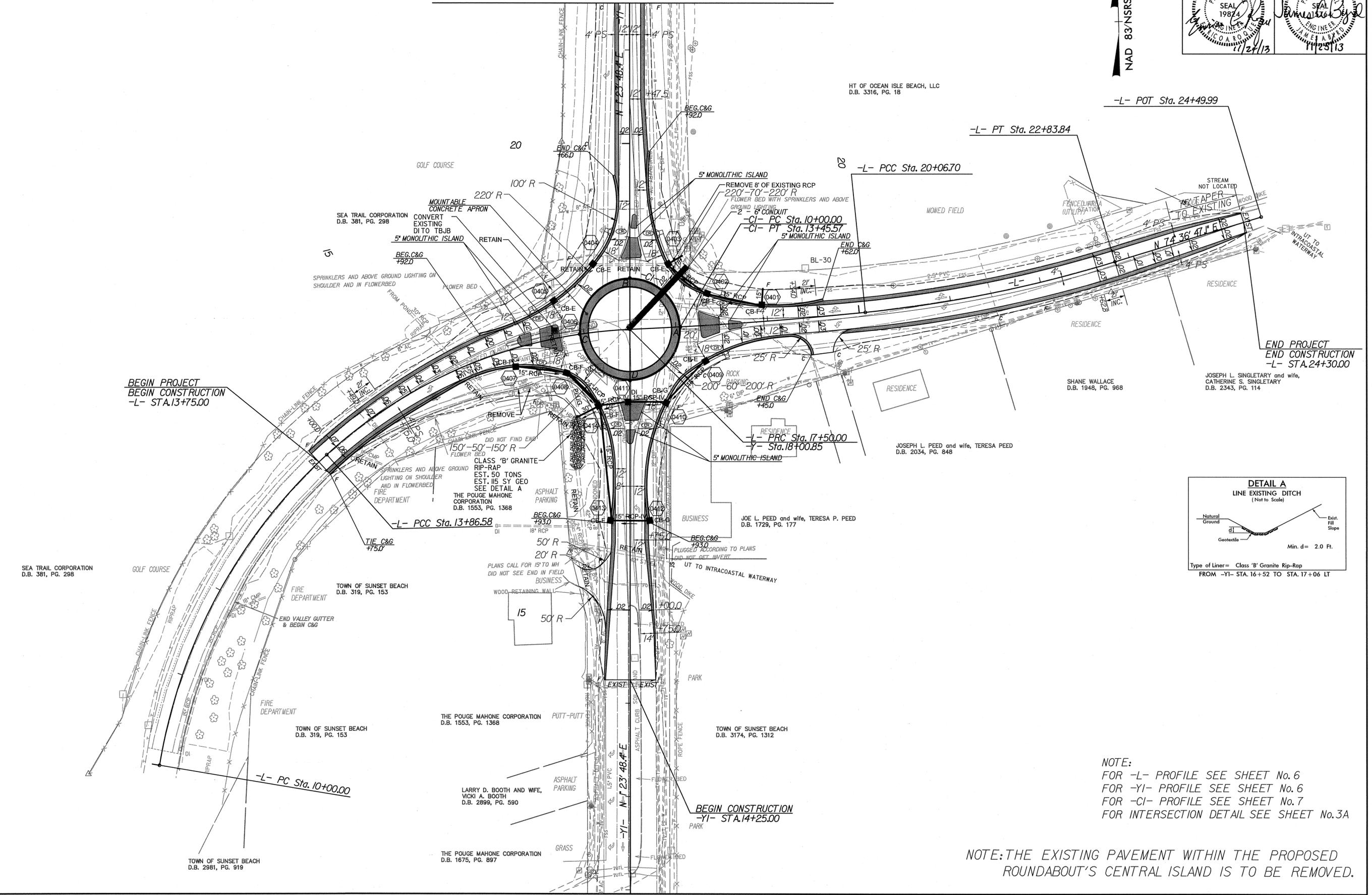
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-L-			
PI Sta 12+00.92	PI Sta 15+75.91	PI Sta 18+78.39	PI Sta 21+45.70
$\Delta = 38^{\circ} 31' 15.1''$ (RT)	$\Delta = 39^{\circ} 39' 41.8''$ (RT)	$\Delta = 3^{\circ} 20' 33.7''$ (LT)	$\Delta = 1^{\circ} 01' 38.1''$ (LT)
D = 9' 57' 52.1"	D = 10' 54' 48.5"	D = 1' 18' 07.8"	D = 3' 58' 43.9"
L = 386.58'	L = 363.42'	L = 256.70'	L = 277.15'
T = 200.92'	T = 189.33'	T = 128.39'	T = 139.00'
R = 575.00'	R = 525.00'	R = 4,400.00'	R = 1,440.00'

MATCHLINE -YI- STA. 21+50.00
SEE SHEET 5

PROJECT REFERENCE NO. 43812	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83/NSRS 2007



NOTE:
FOR -L- PROFILE SEE SHEET No. 6
FOR -YI- PROFILE SEE SHEET No. 6
FOR -CI- PROFILE SEE SHEET No. 7
FOR INTERSECTION DETAIL SEE SHEET No. 3A

NOTE: THE EXISTING PAVEMENT WITHIN THE PROPOSED ROUNDABOUT'S CENTRAL ISLAND IS TO BE REMOVED.

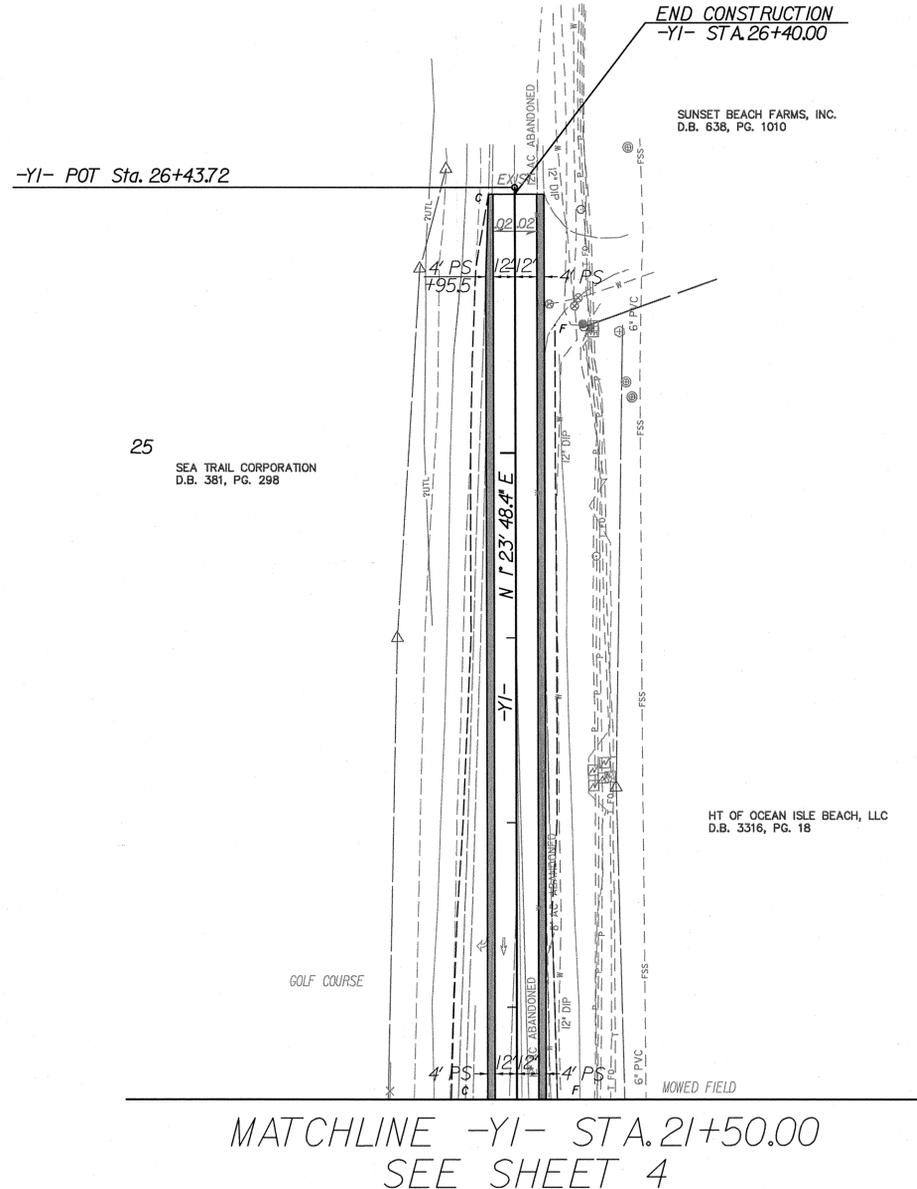
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PROJECT REFERENCE NO. 43812	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

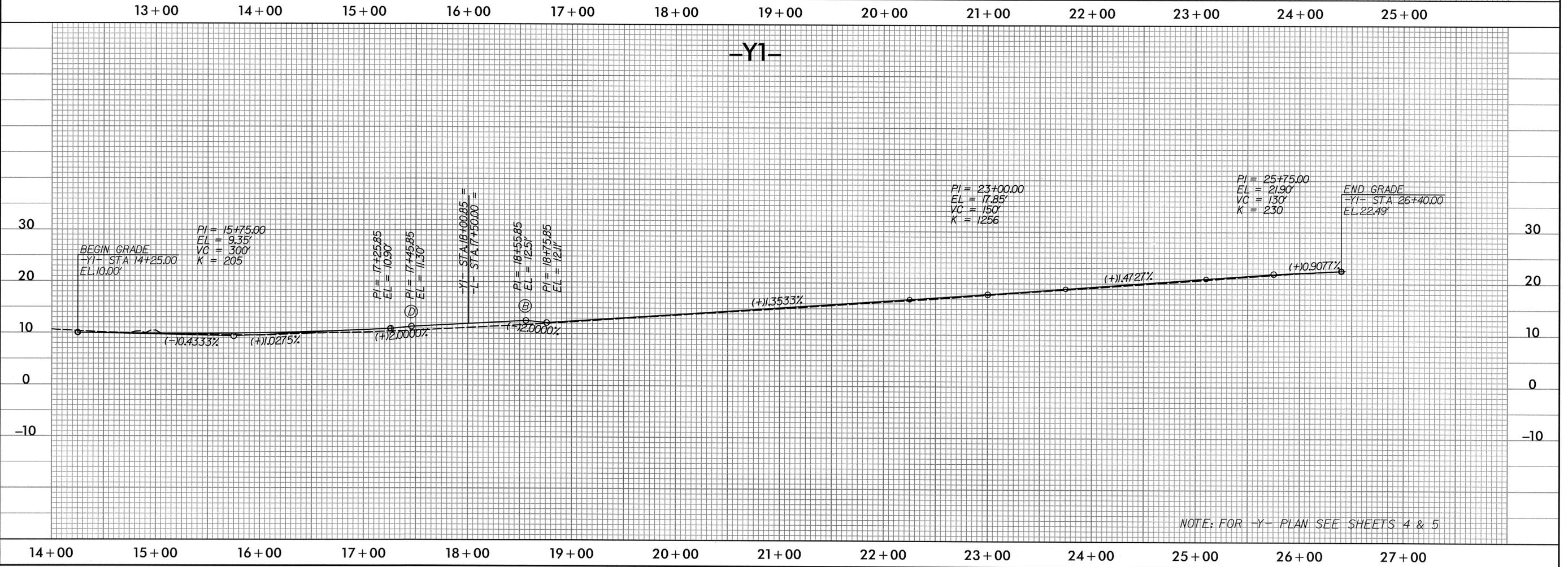
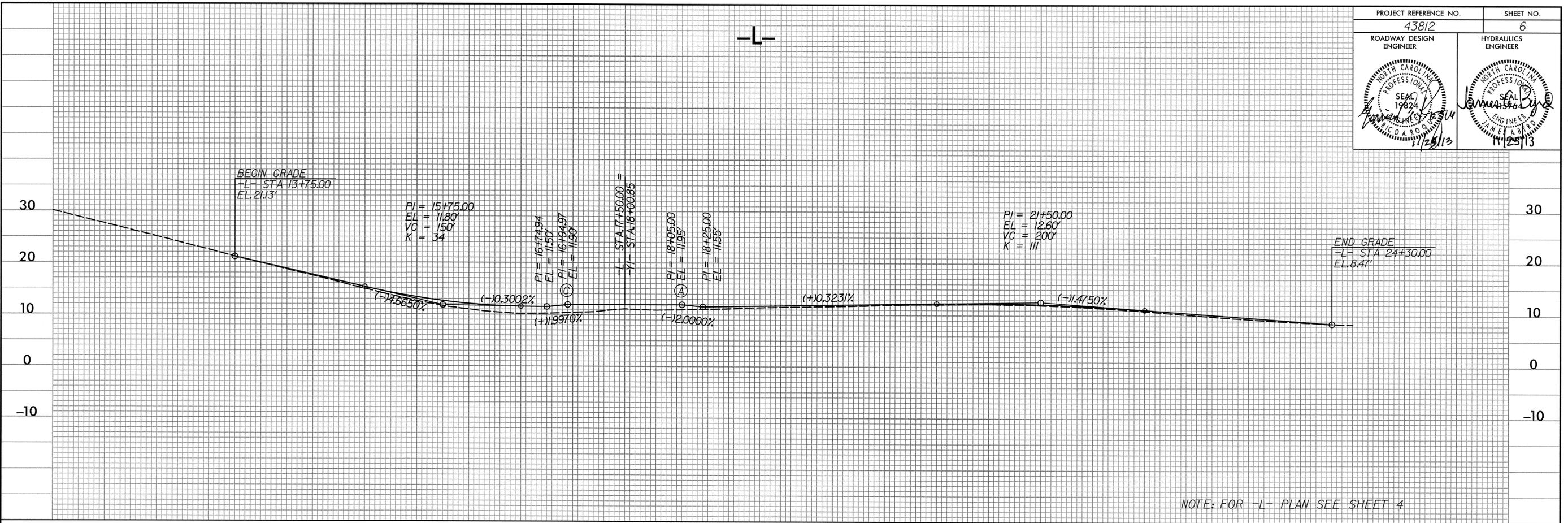
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MATCHLINE -YI- STA. 21+50.00
SEE SHEET 4

5/28/99

PROJECT REFERENCE NO. 43812	SHEET NO. 6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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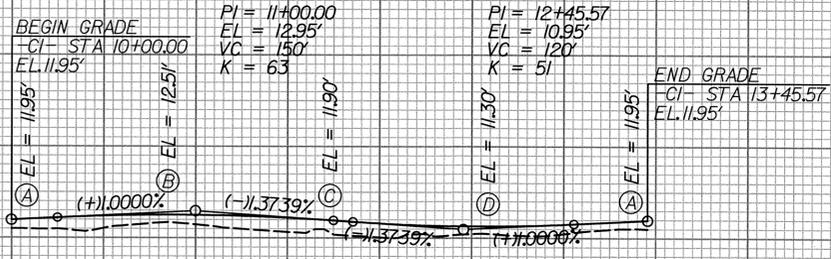
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-C1-

PROJECT REFERENCE NO. 43812	SHEET NO. 7
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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NOTE: FOR -C1- PLAN SEE SHEET 4

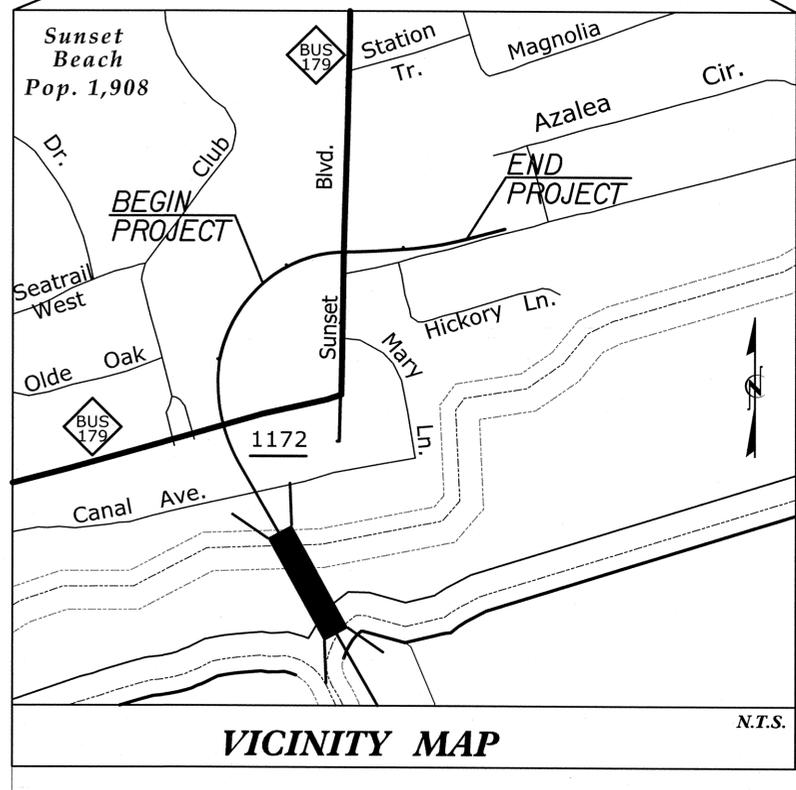
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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

BRUNSWICK COUNTY



INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, TEMPORARY PAVEMENT MARKING SCHEDULE AND MANAGEMENT STRATEGIES
TMP-2	GENERAL NOTES
TMP-3	PHASING & LOCAL NOTES
TMP-4	PHASE I OVERVIEW
TMP-5	PHASE I DETAIL
TMP-6	PHASE II OVERVIEW
TMP-7	PHASE II DETAIL
TMP-8	PHASE III OVERVIEW
TMP-9	PHASE III DETAIL

SHEET NO.
TMP-1

43812

HNTB HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

R. B. EARLY, PE _____ **TRAFFIC CONTROL PROJECT ENGINEER**
R. B. EARLY, PE _____ **TRAFFIC CONTROL PROJECT DESIGN ENGINEER**
J. A. PHILLIPS _____ **TRAFFIC CONTROL DESIGN ENGINEER**

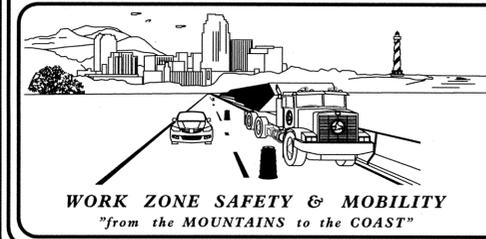
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Plans Prepared for: **DIVISION DESIGN CONSTRUCT (DDC)**
5501 BARBADOS BLVD.
CASTLE HAYNE, NC 28429
PHONE: (910) 341-2000 FAX: (910) 675-0147

KATHERINE HITE, PE DIVISION TRAFFIC ENGINEER



ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION
1180.01	SKINNY - DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - (PERMANENT AND TEMPORARY)

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- WORK AREA
- REMOVAL
- TEMPORARY PAVEMENT / GRADE

TEMPORARY PAVEMENT MARKING

SYMBOL	PAVEMENT MARKING LINES
PAINT (12")	
PV	YELLOW DIAGONAL
PAINT (24")	
P2	WHITE STOP BAR
P3	WHITE CROSSWALK LINE
PAINT (4")	
P12	WHITE MINISKIP (2'/6' SP)
PA	WHITE EDGELINE
PB	YELLOW EDGELINE
PI	YELLOW DOUBLE CENTER

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM SKINNY DRUM TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW PANEL (TYPE C)
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
- CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

SIGNALS

- EXISTING
- PROPOSED
- TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

PAVEMENT MARKERS

- CRYSTAL/CRYSTAL
- CRYSTAL/RED
- YELLOW/YELLOW

PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

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APPROVED: DATE: 1/25/13

SEAL

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

TRANSPORTATION
MANAGEMENT PLAN

ROADWAY STANDARD
DRAWINGS & LEGENDS

HNTB HNTB NORTH CAROLINA, P.C.
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Raleigh, North Carolina 27609
NC License No: C-1554

GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS, OR RESULT IN DUPLICATE, OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES, AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES DURING SPECIAL EVENTS AS FOLLOWS:

ROAD NAME

-L- SR 1172 (SUNSET BLVD SOUTH) / SR 1288 (SHORE LINE DR)
 -Y1- NC 179 BUS (SUNSET BLVD NORTH)

1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 7 AM DECEMBER 31st TO 6 PM. JANUARY 2nd. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN UNTIL 6 PM THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 7 AM THURSDAY AND 6 PM MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 7 AM FRIDAY TO 6 PM TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 7 AM THE DAY BEFORE INDEPENDENCE DAY AND 6 PM THE DAY AFTER INDEPENDENCE DAY.

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 7 AM THE THURSDAY BEFORE INDEPENDENCE DAY AND 6 PM THE TUESDAY AFTER INDEPENDENCE DAY.
6. FOR LABOR DAY, BETWEEN THE HOURS OF 7 AM FRIDAY AND 6 PM TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 7 AM TUESDAY TO 6 PM MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 7 AM THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 6 PM THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

LANE CLOSURE REQUIREMENTS

- B) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
- C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAINS WITHIN THE CLOSED TRAVEL LANE.
- F) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY RAMP OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.
- G) DO NOT INSTALL MORE THAN ONE LANE CLOSURE AT A TIME.

PAVEMENT EDGE DROP OFF REQUIREMENTS

H) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

I) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 500' IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

J) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

K) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

L) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

M) WHEN LANE CLOSURES ARE NOT IN EFFECT, SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH), EXCEPT 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPENED TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

PAVEMENT MARKINGS AND MARKERS

N) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER

O) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

P) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

Q) TRACE THE PROPOSED MONOLITHIC ISLAND LOCATIONS WITH PROPER COLOR PAVEMENT MARKINGS PRIOR TO INSTALLATION. PLACE DRUMS TO DELINEATE ANY PROPOSED MONOLITHIC ISLANDS BEFORE INSTALLATION.

MISCELLANEOUS

R) POLICE MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS, AS DIRECTED BY THE ENGINEER.

S) BACKFILL AROUND EXPOSED DRAINAGE STRUCTURES SO THAT IT IS NOT A HAZARD TO THE MOTORIST.

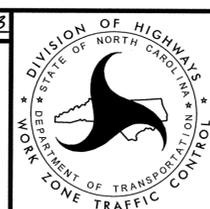
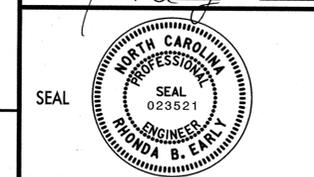
T) ALL WHEELCHAIR RAMP LOCATIONS SHALL BE DERIVED FROM STATIONING SHOWN ON PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER IN COORDINATION WITH THE SIGNING AND DELINEATION UNIT.

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TRANSPORTATION
MANAGEMENT PLAN

TRANSPORTATION
OPERATIONS
PLAN

HNTB HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

PROJECT PHASING

NOTES:

REPLACE MARKINGS AND RETURN TRAFFIC TO THE CURRENT TRAFFIC PATTERN AT THE END OF EACH WORK PERIOD UNLESS OTHERWISE NOTED IN THE PHASING OR DIRECTED BY THE ENGINEER.

MAINTAIN VEHICULAR ACCESS TO ALL RESIDENCES AND BUSINESSES DURING THE LIFE OF THE CONTRACT UNLESS OTHERWISE NOTED IN THE PHASING OR DIRECTED BY THE ENGINEER.

COMPLETE ANY PROPOSED MILLING / WIDENING IN SUCH A MANNER THAT PONDING OF WATER WILL NOT OCCUR IN THE TRAVEL LANE. COMPLETE WEDGING AND WIDENING SIMULTANEOUSLY SO THAT CURRENT TRAFFIC PATTERNS, DROP-OFF REQUIREMENTS AND POSITIVE DRAINAGE ARE MAINTAINED.

PAVE PROPOSED CONSTRUCTION UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE, IN ALL PHASES UNTIL STATED TO INSTALL FINAL LAYER IN THE PHASING.

THE TERM "RSD" DENOTES ROADWAY STANDARD DRAWING.

PHASE I

*** REFER TO SHEETS TMP-4 & TMP-5 ***

STEP 1: INSTALL ADVANCED WORK ZONE WARNING SIGNS ON -L- (SR 1172 / SR 1288) AND -Y1- (NC 179 BUS) ACCORDING TO RSD 1101.01.

STEP 2: USING RSD 1101.02 (SHEET 1 OF 15), MILL EXISTING PAVEMENT AS NEEDED IN THE FOLLOWING LOCATIONS (APPROXIMATE LIMITS SHOWN):

- * -L- FROM STA 13+75+/- TO STA 14+25+/-
- * -L- FROM STA 18+14+/- TO STA 22+30+/-
- * -Y1- FROM STA 14+25+/- TO STA 15+30+/-
- * -Y1- FROM STA 18+65+/- TO STA 20+80+/-
- * -Y1- FROM STA 22+80+/- TO STA 26+40+/-

USING RSD 1101.02 (SHEET 1 OF 15), REMOVE EXISTING MONOLITHIC ISLANDS ON -L- AT INTERSECTION WITH -Y1- AND REPAIR PAVEMENT TO HANDLE TRAFFIC.

RSD 1101.02 (SHEET 1 OF 15), REMOVE EXISTING SHOULDER AND CONSTRUCT TEMPORARY WIDENING FROM -L- STA 18+45+/- TO STA 20+52+/- (LEFT) MATCHING EXISTING EDGE, ELEVATION AND SLOPE.

RSD 1101.02 (SHEET 1 OF 15), REMOVE EXISTING SHOULDER AND CONSTRUCT PROPOSED WIDENING IN THE FOLLOWING LOCATIONS UP TO EXISTING EDGE, ELEVATION AND SLOPE:

- * -L- FROM STA 13+75+/- TO -Y1- (LEFT)
- * -L- FROM STA 20+52+/- TO STA 24+30+/- (LEFT)
- * -Y1- FROM -L- TO STA 18+65+/- (LEFT)

STEP 3: PLACE TEMPORARY PAVEMENT MARKING AS SHOWN IN PHASE II (TMP-7) AND SHIFT TRAFFIC TO NEW PATTERN.

PHASE II

*** REFER TO SHEETS TMP-6 & TMP-7 ***

STEP 1: USING RSD 1101.02 (SHEET 1 OF 15) AS NEEDED, COMPLETE THE FOLLOWING:

- * REMOVE ABANDONED PAVEMENT ALONG -L- AND -Y1-
- * WEDGE AND WIDEN -L- FROM STA 15+00+/- TO STA 24+30+/-
- * WEDGE AND WIDEN -Y1- FROM STA 15+50+/- TO STA 19+00+/-
- * WIDEN -L- (RIGHT) FROM -Y1- TO STA 19+23+/-
- * WIDEN -Y1- (RIGHT) FROM STA 16+92+/- TO -L-
- * REMOVE AND REPLACE EXISTING SHOULDER ON -L- (RIGHT) FROM STA 19+23+/- TO STA 24+30+/-
- * REMOVE AND REPLACE EXISTING SHOULDER ON -Y1- (RIGHT) FROM STA 19+60+/- TO STA 26+40+/-

USING RSD 1101.02 (SHEET 1 OF 15) AS NEEDED, BEGIN CONSTRUCTING AS MUCH AS POSSIBLE OF THE PROPOSED CURB & GUTTER:

- * -L- (RIGHT) FROM STA 13+75+/- TO -Y1-
- * -L- (LEFT) FROM STA 15+92+/- TO -Y1-
- * -L- (LEFT) FROM -Y1- TO STA 18+57+/-
- * -L- (RIGHT) FROM -Y1- TO STA 19+50+/-
- * -Y1- (RIGHT) FROM STA 16+92+/- TO -L-
- * -Y1- (LEFT) FROM STA 17+13+/- TO -L-
- * -Y1- (LEFT) FROM -L- TO STA 18+50+/-
- * -Y1- (RIGHT) FROM -L- TO STA 19+92+/-

STEP 2: PLACE TEMPORARY PAVEMENT MARKING AS SHOWN IN PHASE III (TMP-9) AND SHIFT TRAFFIC TO NEW PATTERN.

PHASE III

*** REFER TO SHEETS TMP-8 & TMP-9 ***

STEP 1: USING RSD 1101.02 (SHEET 1 OF 15) AS NEEDED, COMPLETE THE FOLLOWING:

- * INSTALL CONDUIT LINES ACCESSING CENTER OF ROUNDABOUT
- * REMOVE ABANDONED PAVEMENT ALONG -L- (LEFT) FROM STA 18+45+/- TO STA 20+52+/-
- * REMOVE ABANDONED PAVEMENT ALONG -Y1- (LEFT) FROM -L- TO STA 26+40+/-
- * REMOVE AND REPLACE EXISTING SHOULDERS ON -Y1- (LEFT) FROM STA 19+65+/- TO 26+40+/-
- * REMOVE AND REPLACE EXISTING SHOULDERS ON -Y1- (LEFT & RIGHT) FROM STA 14+25+/- TO 16+20+/-

USING RSD 1101.02 (SHEET 1 OF 15) AS NEEDED, COMPLETE ALL PROPOSED CURB & GUTTER AND SIDEWALKS INCLUDING WHAT WAS BEGUN IN PHASE II, STEP 1.

STEP 2: USING RSD 1101.02 (SHEET 1 OF 15) AS NEEDED, CONSTRUCT PROPOSED CENTER ISLAND IN ROUNDABOUT.

STEP 3: USING RSD 1101.02 (SHEET 1 OF 15), CONSTRUCT PROPOSED MONILITHIC ISLANDS, PLACE FINAL LAYER OF SURFACE COURSE AND INSTALL FINAL PAVEMENT MARKING AND MARKERS AS SHOWN IN FINAL PAVEMENT MARKING PLANS.

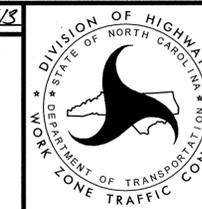
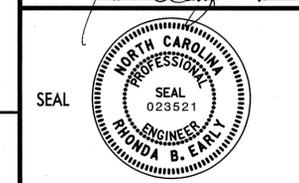
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REVISIONS

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CONCUR: _____
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TRANSPORTATION
MANAGEMENT PLAN
**PHASING &
LOCAL NOTES**

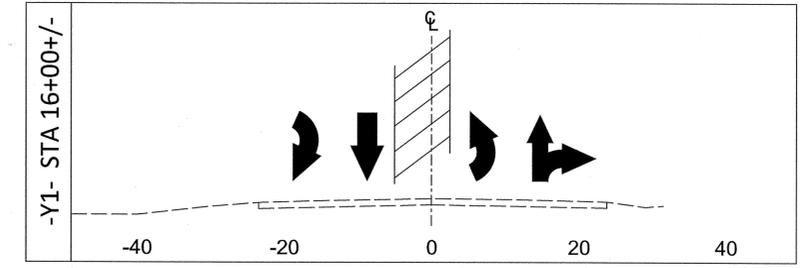
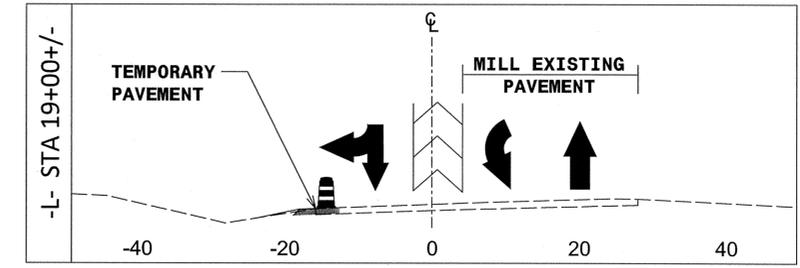
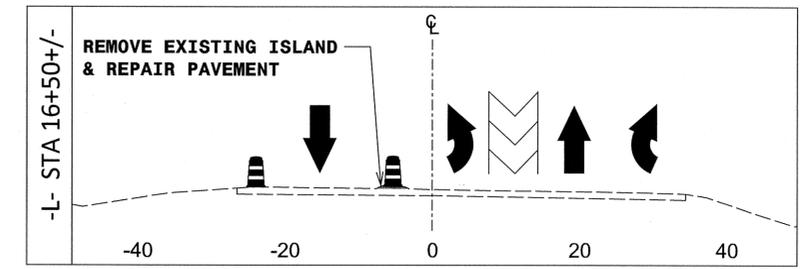
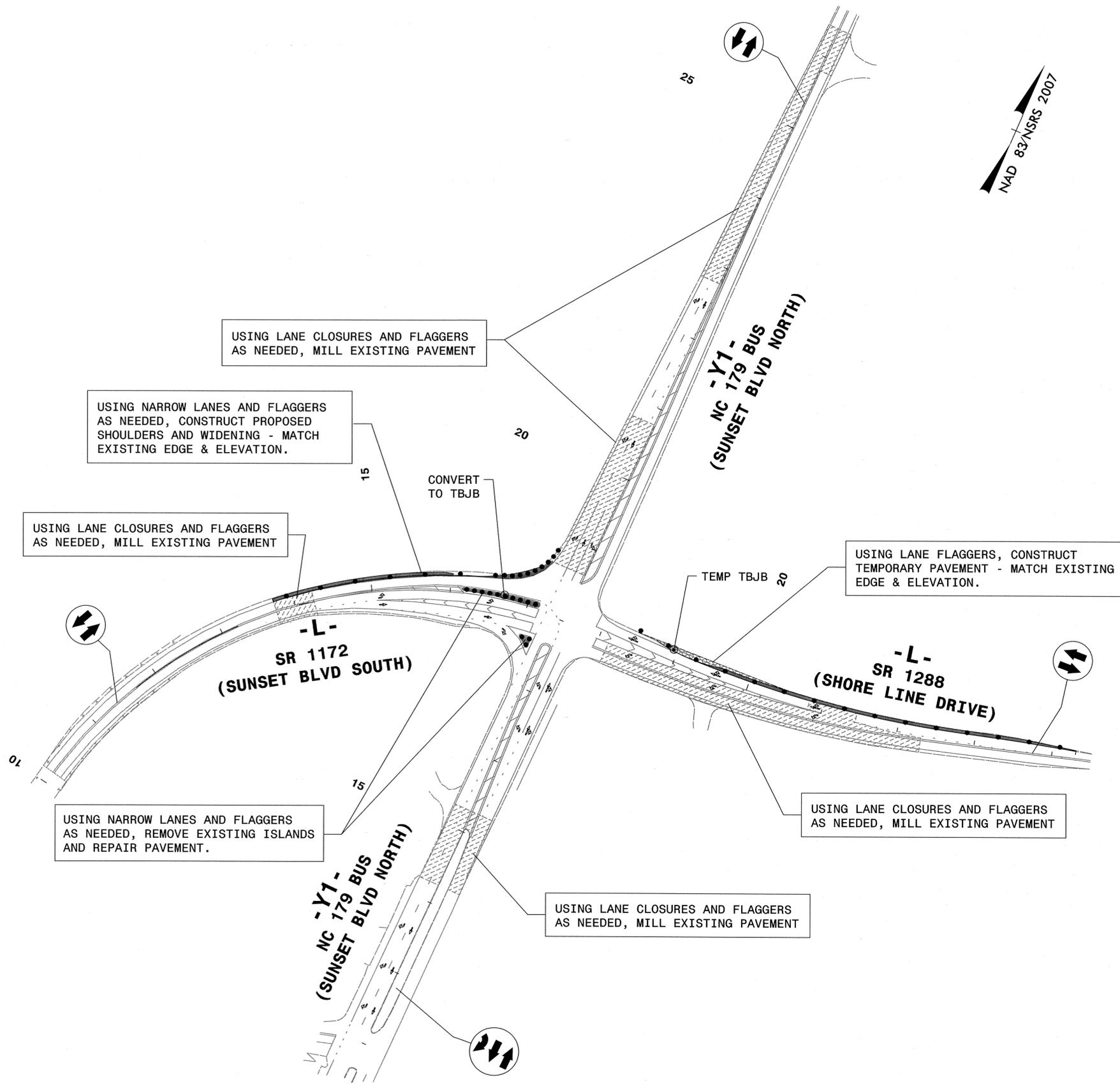
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343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

8/17/99

REVISIONS

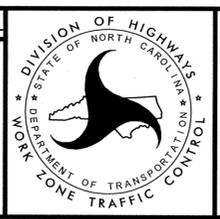
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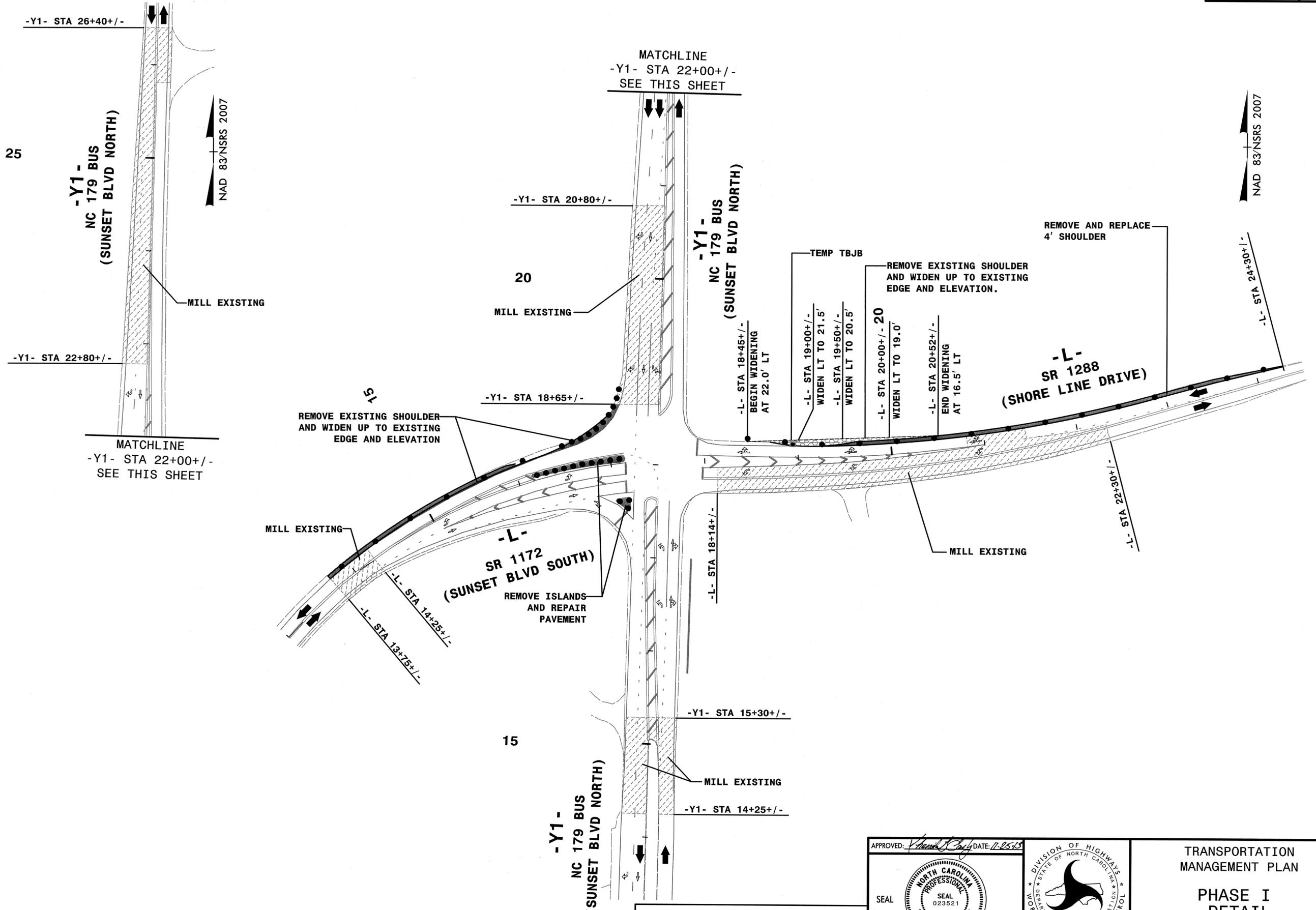


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 Raleigh, North Carolina 27609
 NC License No: C-1554

APPROVED: *[Signature]* DATE: 11/25/13
 SEAL
 NORTH CAROLINA
 PROFESSIONAL
 ENGINEER
 PHONDA B. EARL
 023521



TRANSPORTATION
 MANAGEMENT PLAN
 PHASE I
 OVERVIEW



25

20

15

-Y1-
NC 179 BUS
(SUNSET BLVD NORTH)

-Y1-
NC 179 BUS
(SUNSET BLVD NORTH)

-L-
SR 1172
(SUNSET BLVD SOUTH)

-L-
SR 1288
(SHORE LINE DRIVE)

-Y1-
NC 179 BUS
(SUNSET BLVD NORTH)

-Y1- STA 26+40+/-

MATCHLINE
-Y1- STA 22+00+/-
SEE THIS SHEET

-Y1- STA 20+80+/-

-Y1- STA 22+80+/-

-Y1- STA 18+65+/-

MATCHLINE
-Y1- STA 22+00+/-
SEE THIS SHEET

-L- STA 18+45+/-
BEGIN WIDENING
AT 22.0' LT

-L- STA 19+00+/-
WIDEN LT TO 21.5'

-L- STA 19+50+/-
WIDEN LT TO 20.5'

-L- STA 20+00+/- - 20
WIDEN LT TO 19.0'

-L- STA 20+52+/-
END WIDENING
AT 16.5' LT

-L- STA 24+30+/-

-L- STA 22+30+/-

-L- STA 18+14+/-

-Y1- STA 15+30+/-

-Y1- STA 14+25+/-

NAD 83/NSRS 2007

NAD 83/NSRS 2007

MILL EXISTING

MILL EXISTING

MILL EXISTING

MILL EXISTING

MILL EXISTING

REMOVE EXISTING SHOULDER
AND WIDEN UP TO EXISTING
EDGE AND ELEVATION

REMOVE EXISTING SHOULDER
AND WIDEN UP TO EXISTING
EDGE AND ELEVATION.

REMOVE AND REPLACE
4' SHOULDER

REMOVE ISLANDS
AND REPAIR
PAVEMENT

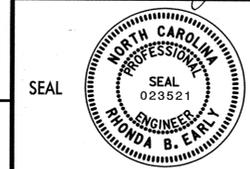
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TRANSPORTATION
MANAGEMENT PLAN

PHASE I
DETAIL

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343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NORTH CAROLINA 27609
NC LICENSE NO: C-1554

8/17/99

PLACE TEMPORARY MARKING AS SHOWN AND SHIFT TRAFFIC TO NEW PATTERN

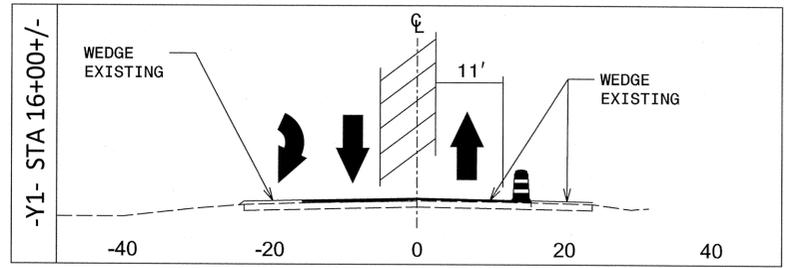
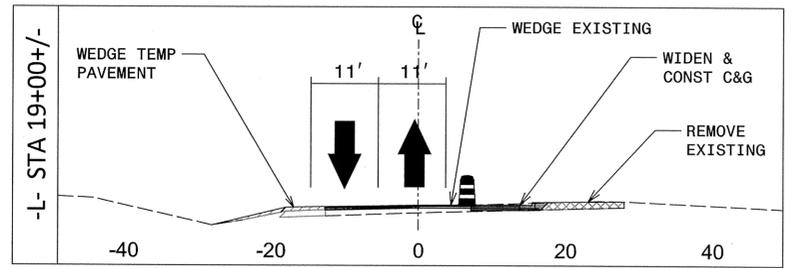
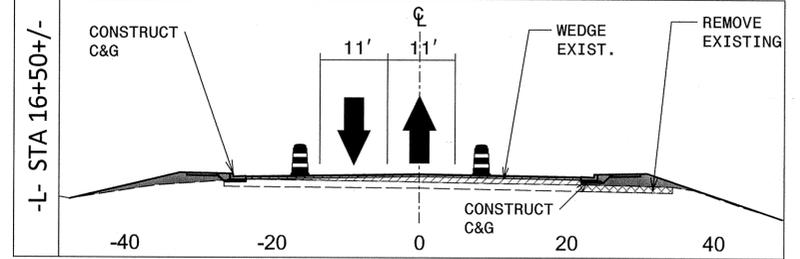
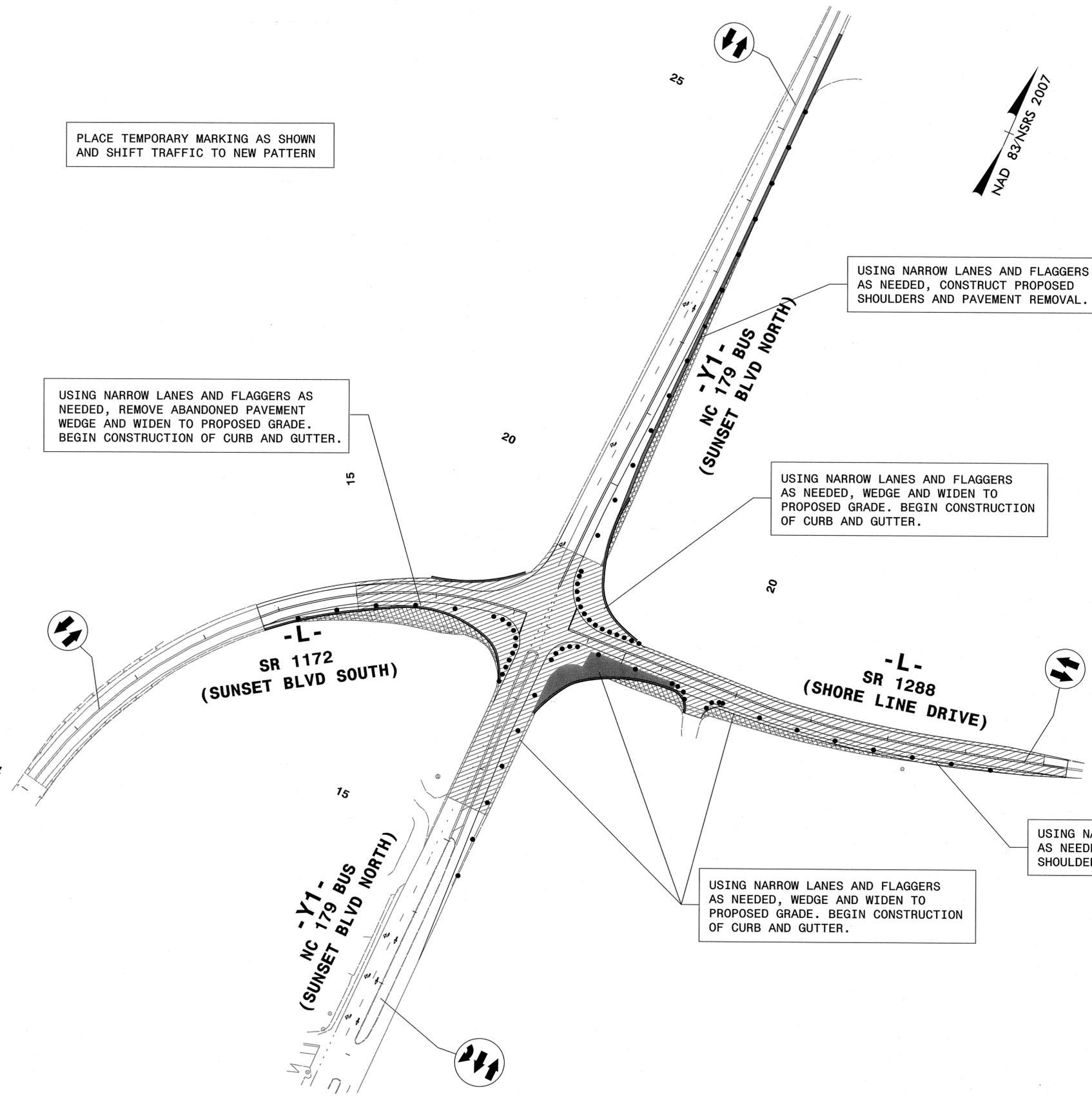
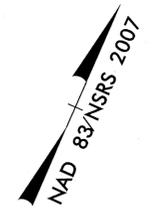
USING NARROW LANES AND FLAGGERS AS NEEDED, REMOVE ABANDONED PAVEMENT WEDGE AND WIDEN TO PROPOSED GRADE. BEGIN CONSTRUCTION OF CURB AND GUTTER.

USING NARROW LANES AND FLAGGERS AS NEEDED, CONSTRUCT PROPOSED SHOULDERS AND PAVEMENT REMOVAL.

USING NARROW LANES AND FLAGGERS AS NEEDED, WEDGE AND WIDEN TO PROPOSED GRADE. BEGIN CONSTRUCTION OF CURB AND GUTTER.

USING NARROW LANES AND FLAGGERS AS NEEDED, WEDGE AND WIDEN TO PROPOSED GRADE. BEGIN CONSTRUCTION OF CURB AND GUTTER.

USING NARROW LANES AND FLAGGERS AS NEEDED, CONSTRUCT PROPOSED SHOULDERS AND PAVEMENT REMOVAL.



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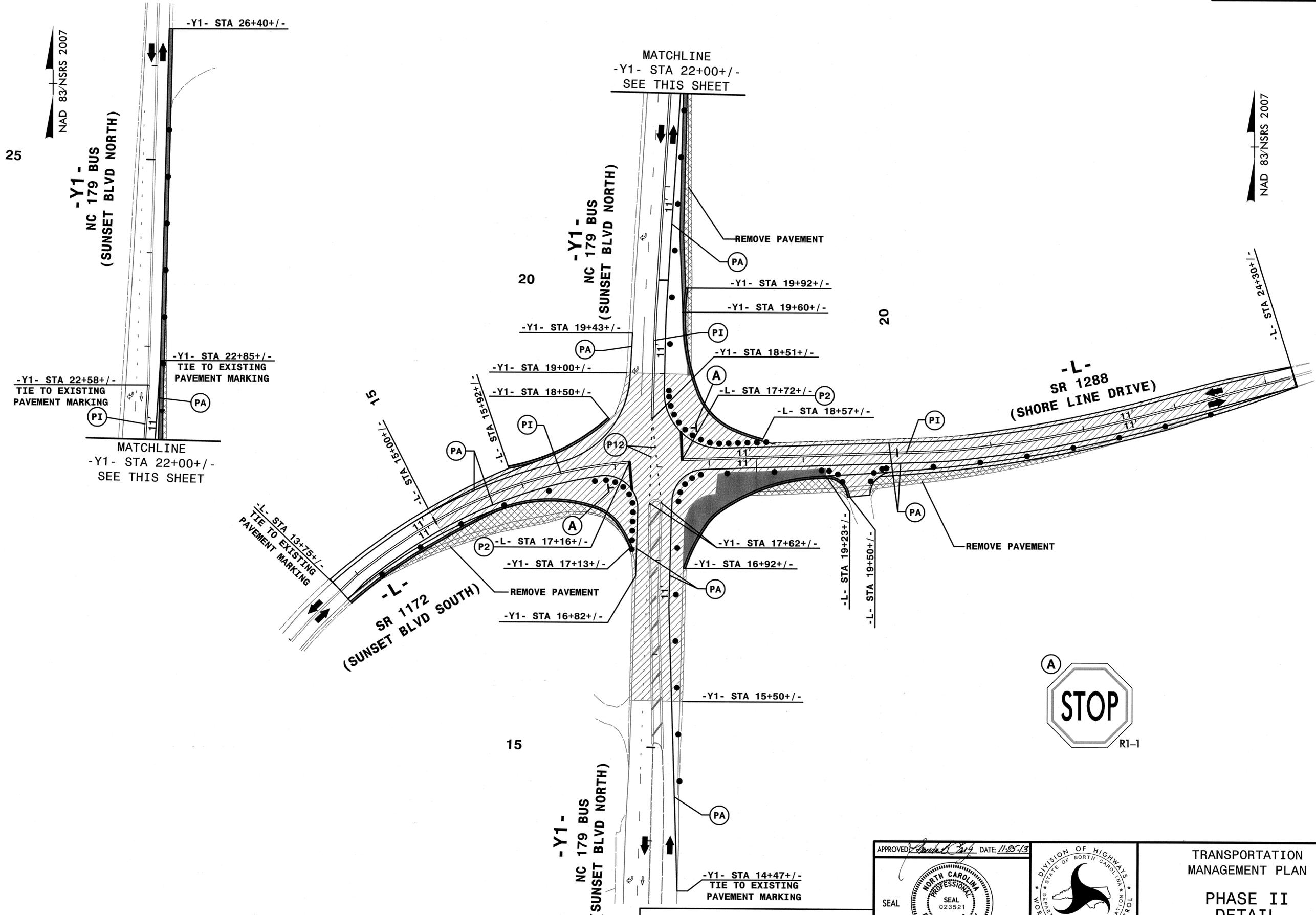
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TRANSPORTATION MANAGEMENT PLAN

PHASE II OVERVIEW

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 343 E. Six Forks Road, Suite 200
 Raleigh, North Carolina 27609
 NC License No: C-1554



25

20

20

15

NAD 83/NSRS 2007

NAD 83/NSRS 2007

-Y1-
NC 179 BUS
(SUNSET BLVD NORTH)

-Y1-
NC 179 BUS
(SUNSET BLVD NORTH)

-L-
SR 1288
(SHORE LINE DRIVE)

-L-
SR 1172
(SUNSET BLVD SOUTH)

-Y1-
NC 179 BUS
(SUNSET BLVD NORTH)

-Y1- STA 22+58+/-
TIE TO EXISTING
PAVEMENT MARKING

MATCHLINE
-Y1- STA 22+00+/-
SEE THIS SHEET

MATCHLINE
-Y1- STA 22+00+/-
SEE THIS SHEET

-L- STA 13+75+/-
TIE TO EXISTING
PAVEMENT MARKING

-Y1- STA 19+00+/-

REMOVE PAVEMENT
PA

-Y1- STA 19+92+/-

-Y1- STA 19+60+/-

-Y1- STA 18+51+/-

-L- STA 17+72+/-

-L- STA 18+57+/-

REMOVE PAVEMENT
PA

-Y1- STA 17+13+/-

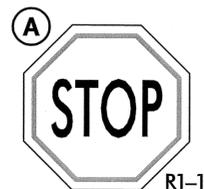
-Y1- STA 17+62+/-

-Y1- STA 16+92+/-

-Y1- STA 16+82+/-

-L- STA 19+23+/-
-L- STA 19+50+/-

-Y1- STA 15+50+/-



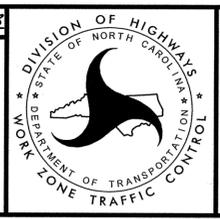
-Y1- STA 14+47+/-
TIE TO EXISTING
PAVEMENT MARKING

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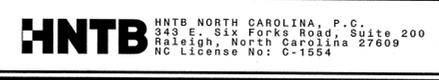
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VERIFY:

APPROVED: *[Signature]* DATE: 11-25-13



TRANSPORTATION
MANAGEMENT PLAN

PHASE II
DETAIL



8/17/95

PLACE TEMPORARY MARKING AND SHIFT TRAFFIC TO FINAL PATTERN

USING NARROW LANES AND FLAGGERS AS NEEDED, CONSTRUCT PROPOSED SHOULDERS & CURB & GUTTER. REMOVE ABANDONED PAVEMENT.

USING NARROW LANES AND FLAGGERS AS NEEDED, CONSTRUCT PROPOSED SHOULDERS AND PAVEMENT REMOVAL.

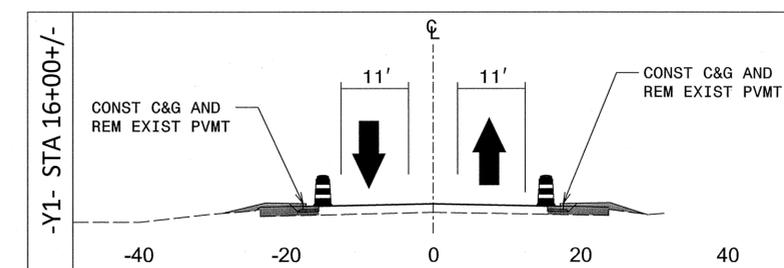
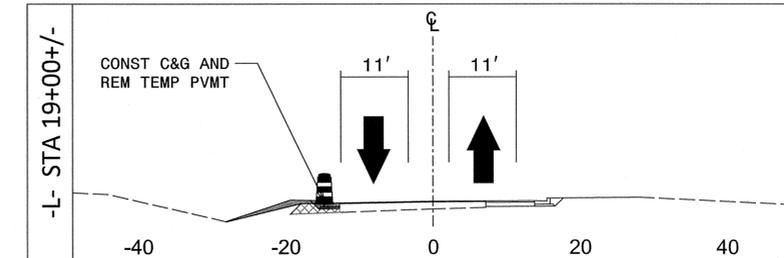
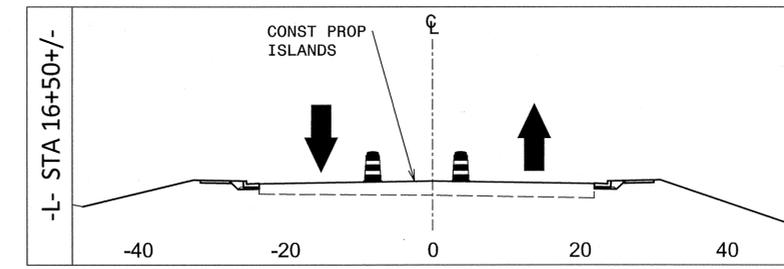
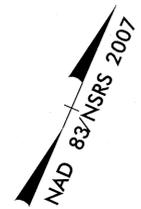
USING NARROW LANES AND FLAGGERS AS NEEDED, CONSTRUCT PROPOSED ISLANDS, ACCESS RAMPS & SIDEWALKS.

USING NARROW LANES AND FLAGGERS AS NEEDED, REMOVE ABANDONED PAVEMENT & COMPLETE CURB & GUTTER.

CONVERT TEMP TBJB TO CB

USING DRUMS TO CHANNELIZE TRAFFIC, INSTALL PROPOSED CONDUIT.

USING NARROW LANES AND FLAGGERS AS NEEDED, CONSTRUCT PROPOSED SHOULDERS & REMOVE ABANDONED PAVEMENT. COMPLETE CURB & GUTTER.



REVISIONS

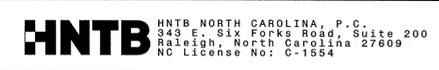
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APPROVED: *[Signature]* DATE: 11-25-13

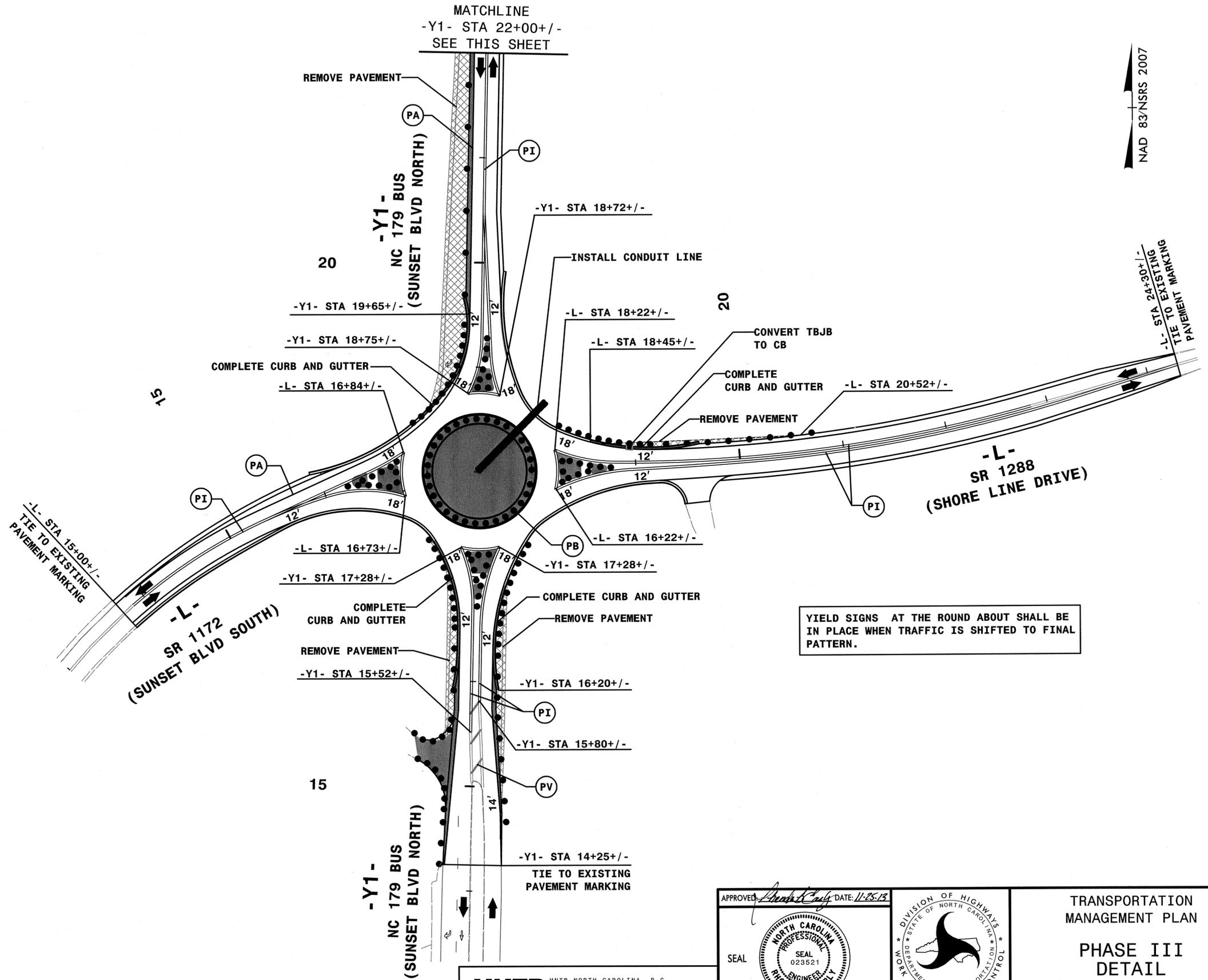
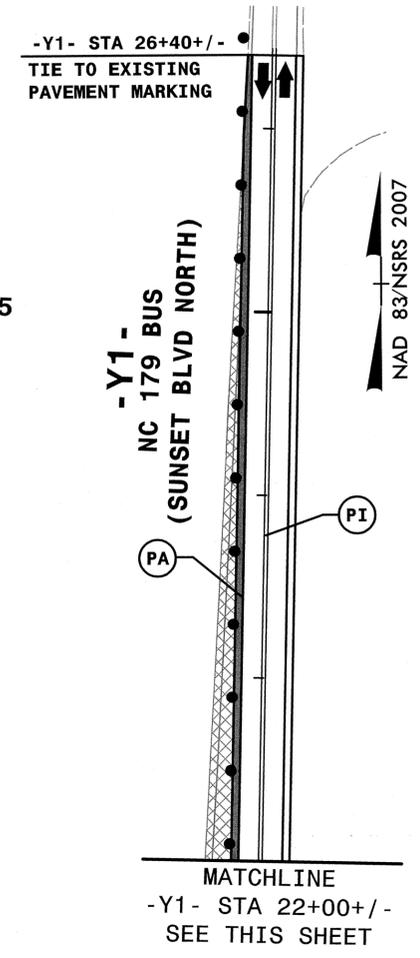


TRANSPORTATION
 MANAGEMENT PLAN
 PHASE III
 OVERVIEW



8/17/99

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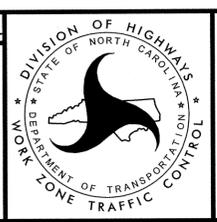
YIELD SIGNS AT THE ROUND ABOUT SHALL BE IN PLACE WHEN TRAFFIC IS SHIFTED TO FINAL PATTERN.

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 HNTB NORTH CAROLINA, P.C.
 343 E. SIX FORKS ROAD, SUITE 200
 RALEIGH, NORTH CAROLINA 27609
 NC LICENSE NO: C-1554

APPROVED: *[Signature]* DATE: 11-25-13
 SEAL
 NORTH CAROLINA PROFESSIONAL ENGINEER
 FLORIDA B. EARLY



TRANSPORTATION MANAGEMENT PLAN
 PHASE III
 DETAIL

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

TIP NO.	SHEET NO.
43812	PMP - 1
APPROVED: <i>Rhonda B. Early</i>	
DATE: 11.25.13	
SEAL	

PAVEMENT MARKING PLAN
BRUNSWICK COUNTY

LOCATION: ROUNDABOUT AT THE INTERSECTION OF NC 179 BUSINESS
AND SR 1172 (SUNSET BLVD.) IN SUNSET BEACH, N.C.

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE AND MULTI LANE ROADWAYS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOL AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT & TEMPORARY

GENERAL NOTES

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

- A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
ALL ROADS	THERMOPLASTIC	RAISED

- B) ON ASPHALT SURFACES USE HEATED-IN-PLACE THERMOPLASTIC OR EXTRUDED THERMOPLASTIC MARKINGS FOR STOP BARS, SYMBOLS, CHARACTERS AND DIAGONALS.
C) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
D) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS THAT HAVE BEEN DAMAGED BY THE END OF EACH DAY'S OPERATION.
E) MARKERS SHALL BE INSTALLED ACCORDING TO THE NCDOT ROADWAY STANDARD DRAWING 1250.01.

INDEX

SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING PLAN COVER SHEET
PMP-1A	PAVEMENT MARKING LEGEND & SCHEDULE
PMP-2	PAVEMENT MARKING DETAIL

HNTB HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
C-1554

PLAN REVIEWED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT

K. Hite, P.E. DIVISION TRAFFIC ENGINEER
G. Eckhart ASST. DIVISION TRAFFIC ENGINEER

PLAN PREPARED BY: HNTB NORTH CAROLINA

R. B. Early, PE PROJECT ENGINEER
J. Phillips PROJECT DESIGNER

T.I.P.: 43812

CONTRACT:

FINAL PAVEMENT MARKING SCHEDULE

MATERIAL	SYMBOL	DESCRIPTION
PAVEMENT MARKING		
THERMOPLASTIC (4", 90MIL)		
	TA	WHITE EDGELINE
	TB	YELLOW EDGELINE
THERMOPLASTIC (4", 120MIL)		
	TD	3 FT - 9 FT/ SP WHITE MINISKIP
	TI	YELLOW DOUBLE CENTER
THERMOPLASTIC (8", 90MIL)		
	TP	YELLOW DIAGONAL
THERMOPLASTIC (8", 120MIL)		
	TQ	WHITE CROSSWALK LINE
THERMOPLASTIC (12", 120MIL)		
	T10	2 FT - 6 FT/ SP WHITE MINISKIP
THERMOPLASTIC (24", 120MIL)		
	T3	WHITE CROSSWALK LINE
THERMOPLASTIC SYMBOL		
	UN	24" YIELD LINE TRIANGLE

LEGEND

GENERAL

← DIRECTION OF TRAFFIC FLOW

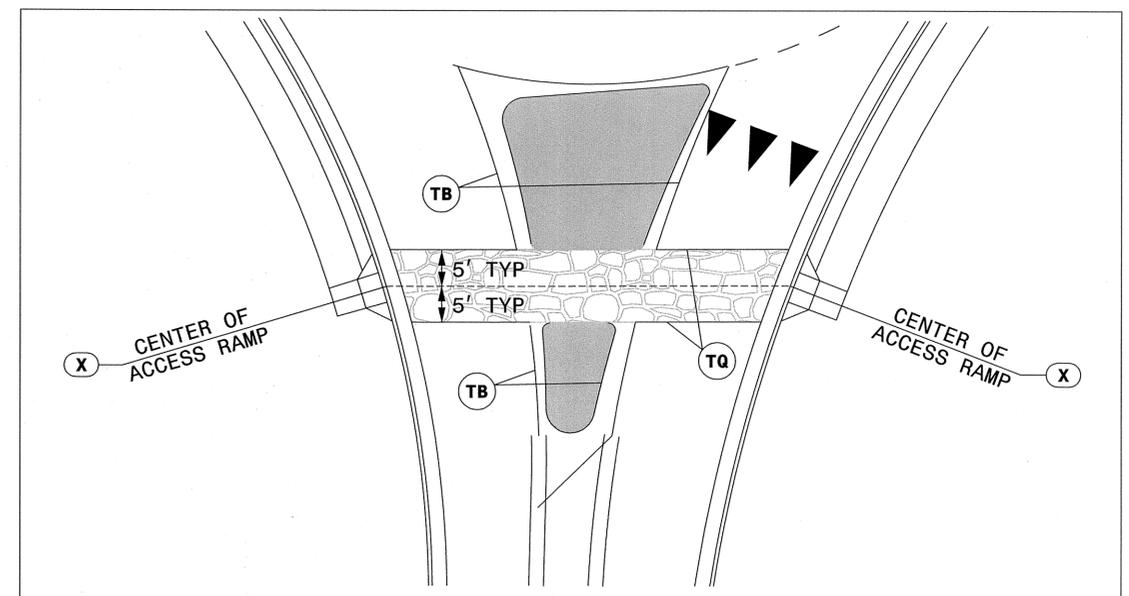
↑ NORTH ARROW

— PROPOSED PVMT. - - - - - EXIST. PVMT.

PAVEMENT MARKINGS

↑ ↑ ↑ ↑ ↑ PAVEMENT MARKING SYMBOLS

↑ ↑ ↑ ↑ ↑ SCHOOL BUS ONLY PAVEMENT MARKING CHARACTERS



TYPICAL PROPOSED CONCRETE STAMPED CROSSWALK IS 10' WIDE AND IS SYMMETRICAL ABOUT THE LINE CONNECTING CENTER OF ACCESS RAMPS.

CROSSWALK DETAIL

8/17/99

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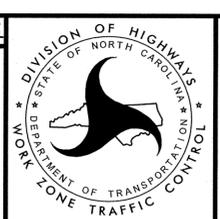
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HNTB HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
RALEIGH, NORTH CAROLINA 27609
NC LICENSE NO: C-1554

APPROVED: *Rhonda B. Early* DATE: 11-15-13

SEAL

NORTH CAROLINA
PROFESSIONAL
ENGINEER
RHONDA B. EARLY
SEAL
023521



TRANSPORTATION
MANAGEMENT PLAN

FINAL PAVEMENT
MARKING PLAN

NAD 83/NSRS 2007

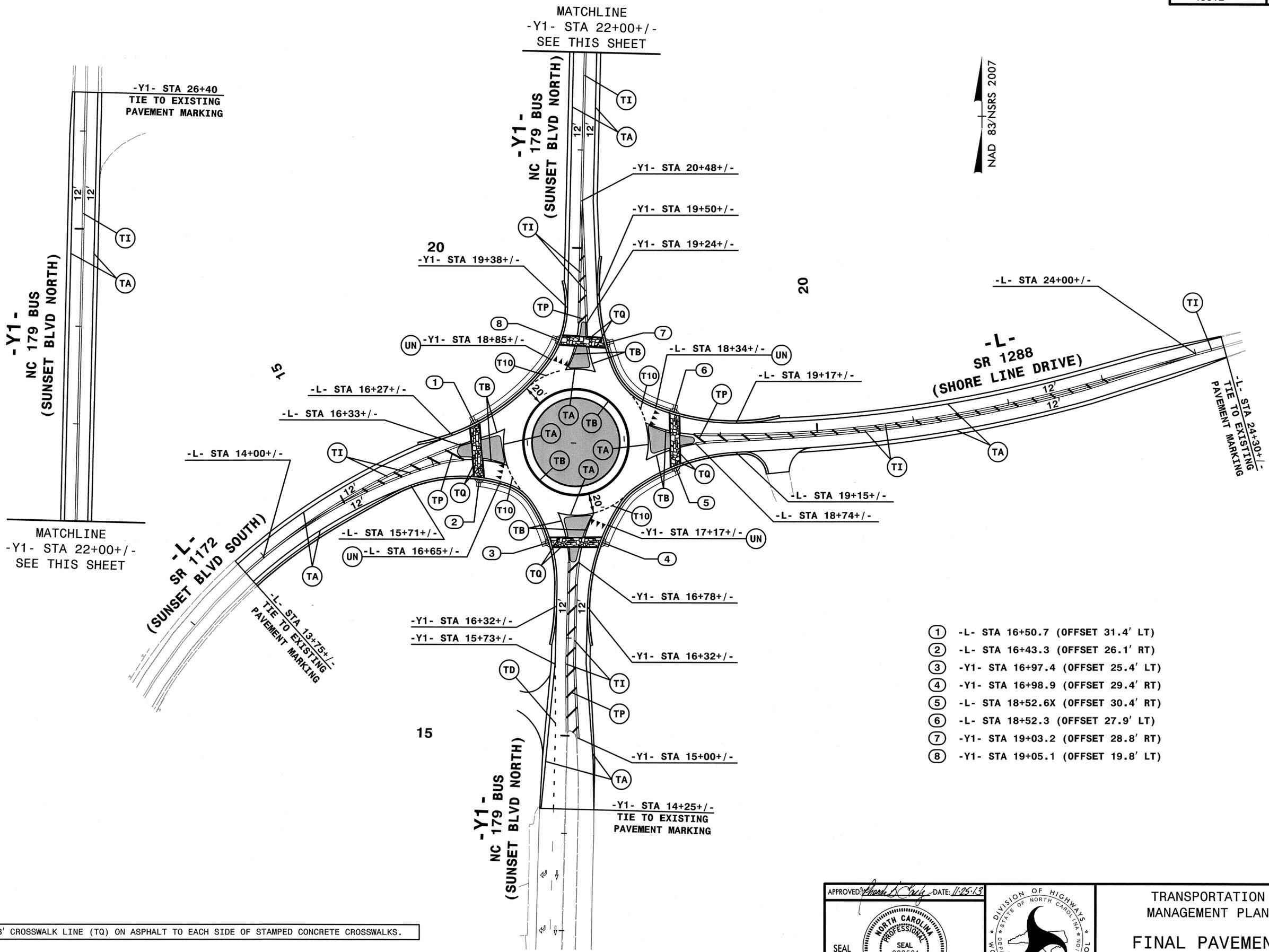
NAD 83/NSRS 2007

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15



- ① -L- STA 16+50.7 (OFFSET 31.4' LT)
- ② -L- STA 16+43.3 (OFFSET 26.1' RT)
- ③ -Y1- STA 16+97.4 (OFFSET 25.4' LT)
- ④ -Y1- STA 16+98.9 (OFFSET 29.4' RT)
- ⑤ -L- STA 18+52.6X (OFFSET 30.4' RT)
- ⑥ -L- STA 18+52.3 (OFFSET 27.9' LT)
- ⑦ -Y1- STA 19+03.2 (OFFSET 28.8' RT)
- ⑧ -Y1- STA 19+05.1 (OFFSET 19.8' LT)

PLACE 8' CROSSWALK LINE (TQ) ON ASPHALT TO EACH SIDE OF STAMPED CONCRETE CROSSWALKS.

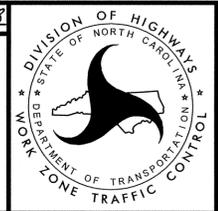
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SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL 023521
 RYONDA B. EARLY



TRANSPORTATION MANAGEMENT PLAN

FINAL PAVEMENT MARKING PLAN

HNTB

HNTB NORTH CAROLINA, P.C.
 343 E. Six Forks Road, Suite 200
 Raleigh, North Carolina 27609
 NC License No: C-1554

PROJECT: 43812

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

BRUNSWICK COUNTY
LOCATION: **ROUNDAABOUT AT THE INTERSECTION OF NC 179 BUSINESS
AND SR 1172 (SUNSET BLVD.) IN SUNSET BEACH, N.C.**
TYPE OF WORK: **GRADING, DRAINAGE, AND PAVING**



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	43812	EC-1	7
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	III III III
1606.01	Special Sediment Control Fence	△△△△△
1622.01	Temporary Berms and Slope Drains	TD
	Silt Basin Type B	▨
1633.01	Temporary Rock Silt Check Type-A	▨
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	▨
	Temporary Rock Silt Check Type-B	▨
	Wattle / Coir Fiber Wattle	→
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	→
1634.01	Temporary Rock Sediment Dam Type-A	▨
1634.02	Temporary Rock Sediment Dam Type-B	▨
1635.01	Rock Pipe Inlet Sediment Trap Type-A	U
1635.02	Rock Pipe Inlet Sediment Trap Type-B	U
1630.04	Stilling Basin	▭
1630.06	Special Stilling Basin	▭
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	▭
	Tiered Skimmer Basin	▭
	Infiltration Basin	▭

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT

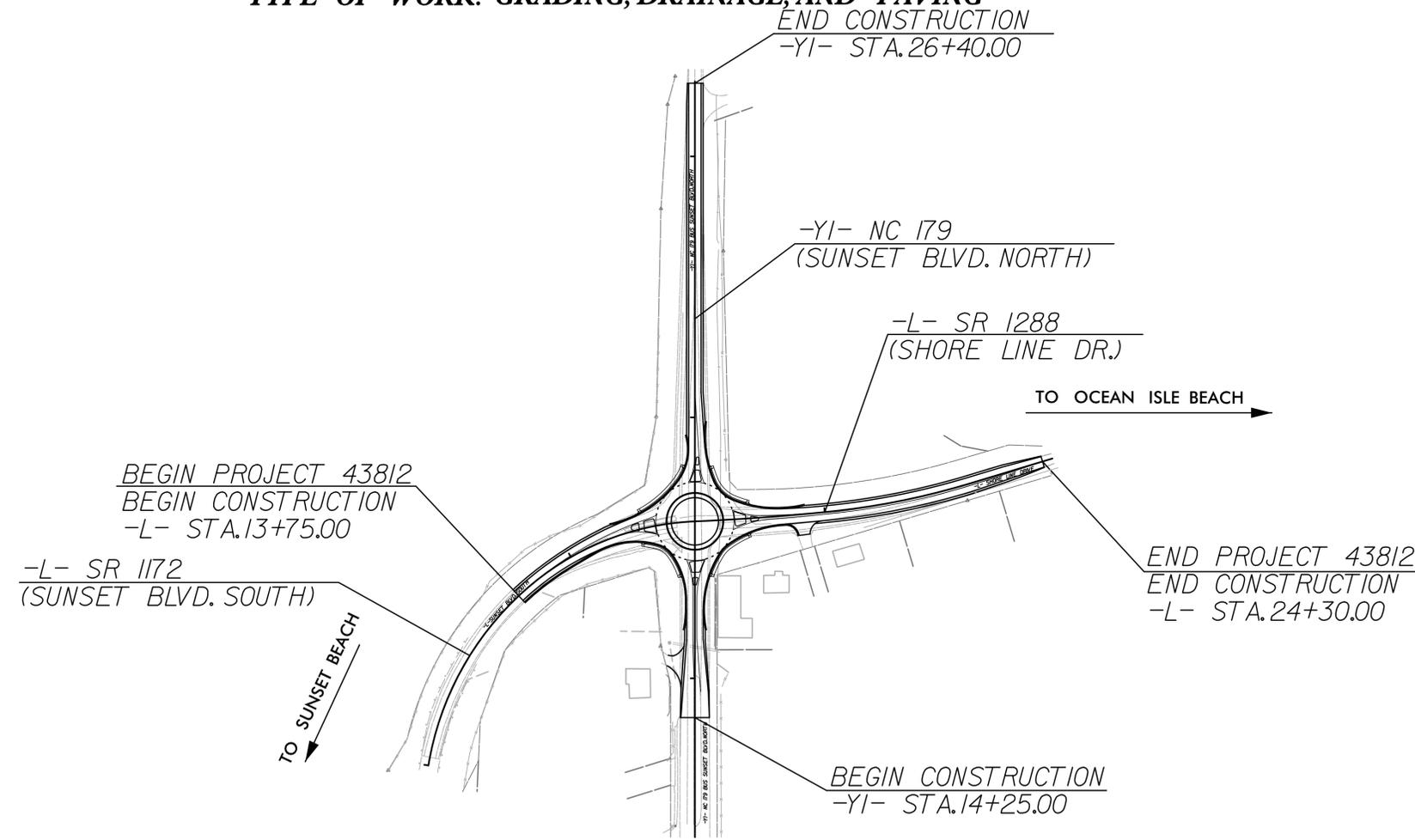
Refer To E. C. Special Provisions for Special Considerations.

HIGH QUALITY WATER(S) EXIST ON THIS PROJECT

High Quality Water Zone(s) Exist
From Sta. 22+31 (-L-) to Sta. 24+30 (-L-)
Refer To E. C. Special Provisions for Special Considerations.

HIGH QUALITY WATER(S) EXIST ON THIS PROJECT

High Quality Water Zone(s) Exist
From Sta. 14+54 (-YI-) to Sta. 16+35 (-YI-)
Refer To E. C. Special Provisions for Special Considerations.



GRAPHIC SCALE

0
PLANS

0
PROFILE (HORIZONTAL)

0
PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared in the Office of:

HNTB HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

2012 STANDARD SPECIFICATIONS

PHILLIP E. ROGERS, P.E.
EROSION CONTROL
LEVEL III-A
CERTIFICATION #330

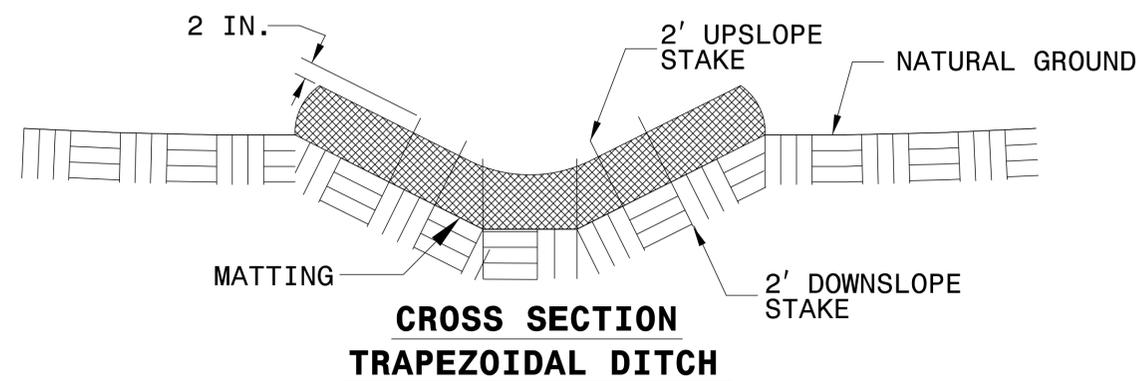
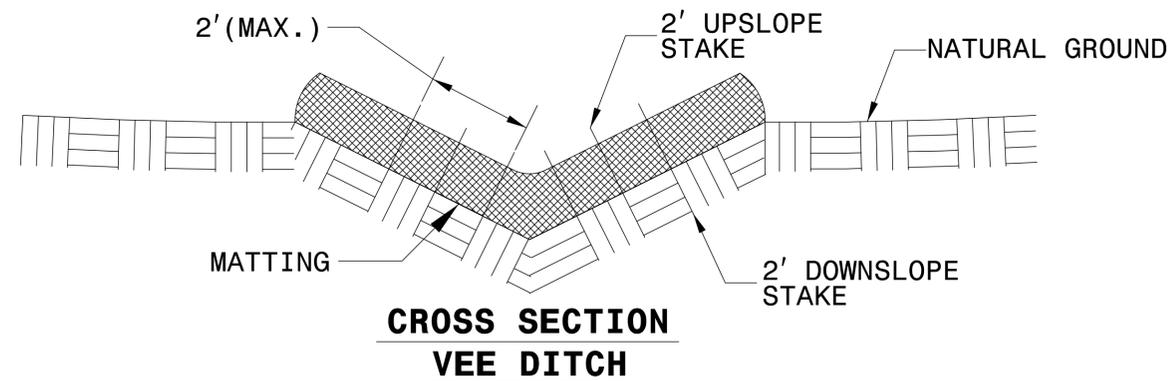
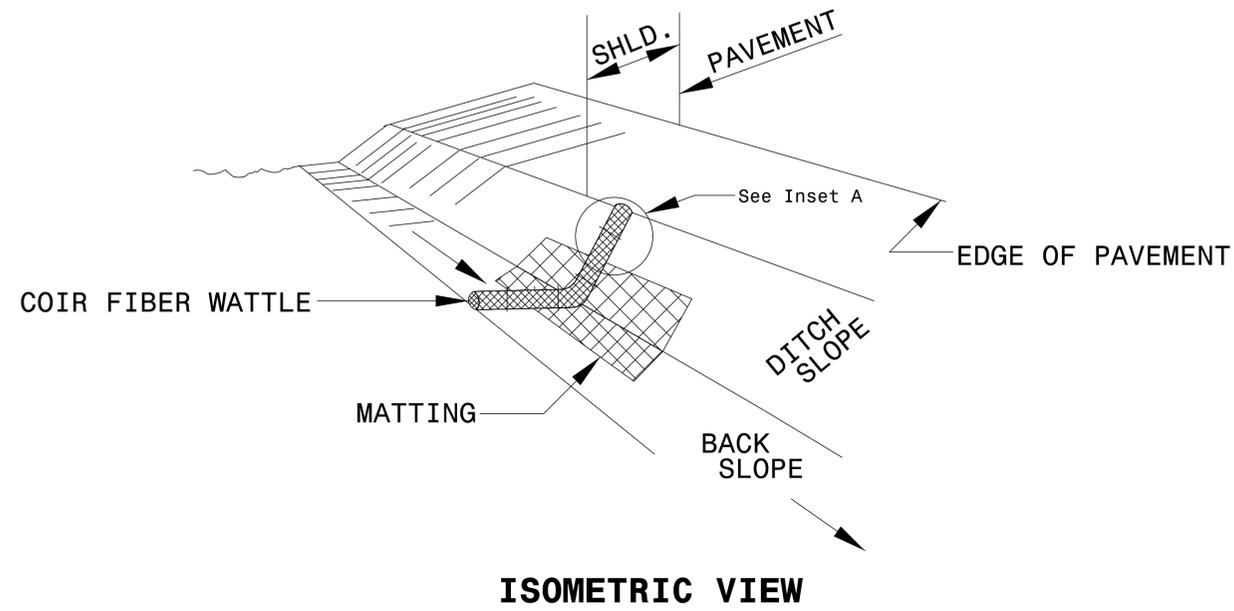
Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type A
1622.01 Temporary Berms and Slope Drains	1633.02 Temporary Rock Silt Check Type B
1630.01 Riser Basin	1634.01 Temporary Rock Sediment Dam Type A
1630.02 Silt Basin Type B	1634.02 Temporary Rock Sediment Dam Type B
1630.03 Temporary Silt Ditch	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.04 Stilling Basin	1635.02 Rock Pipe Inlet Sediment Trap Type B
1630.05 Temporary Diversion	1640.01 Coir Fiber Baffle
1630.06 Special Stilling Basin	1645.01 Temporary Stream Crossing
1631.01 Matting Installation	

4/26/15 P:\43812.ec.tshv.dgn
###USERNAME###

COIR FIBER WATTLE DETAIL



NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

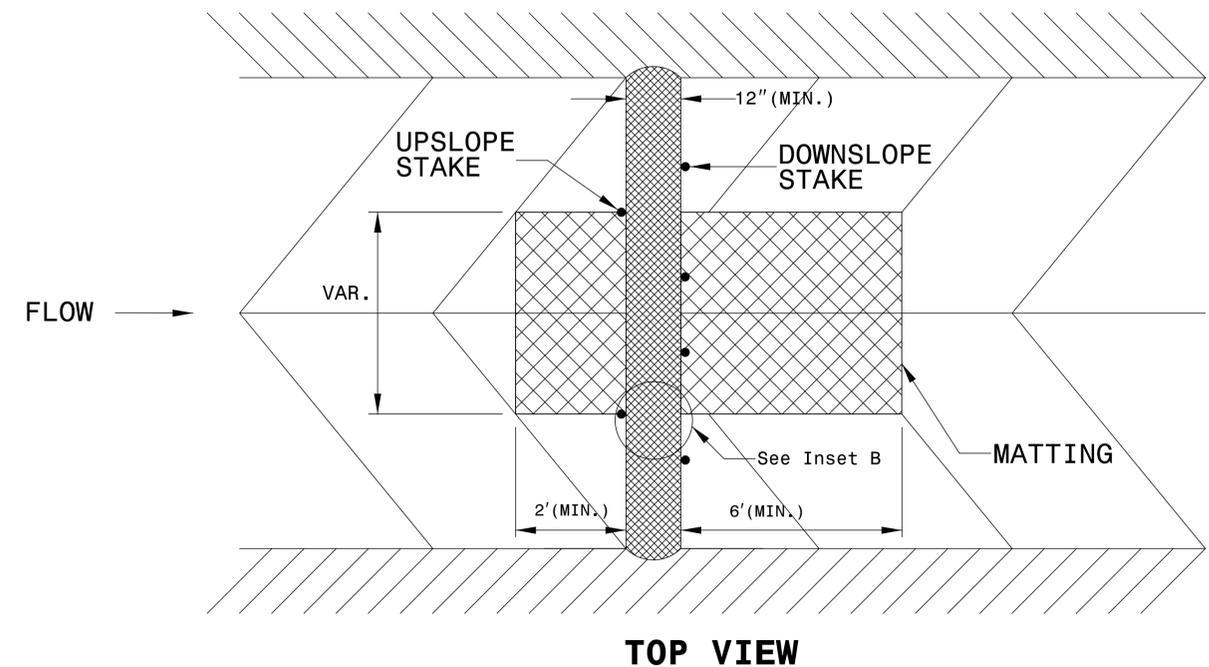
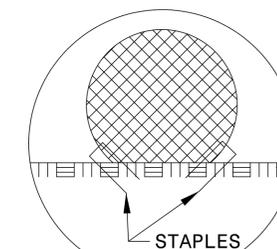
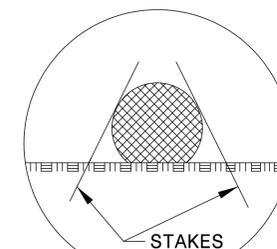
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

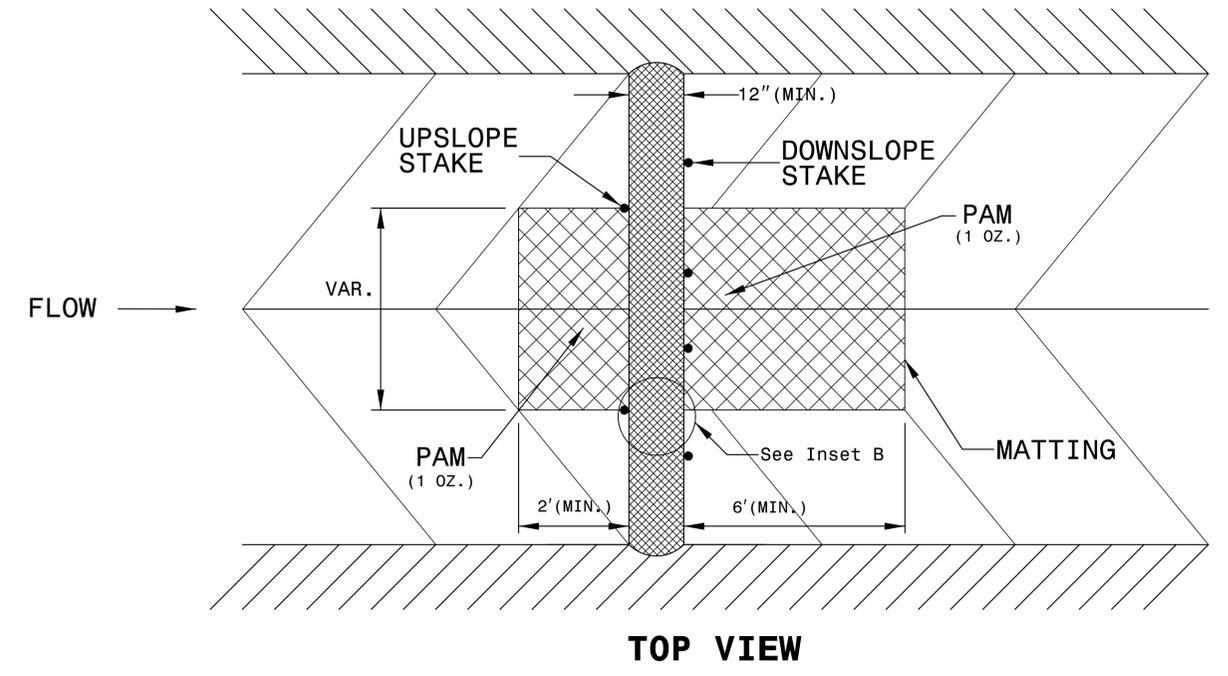
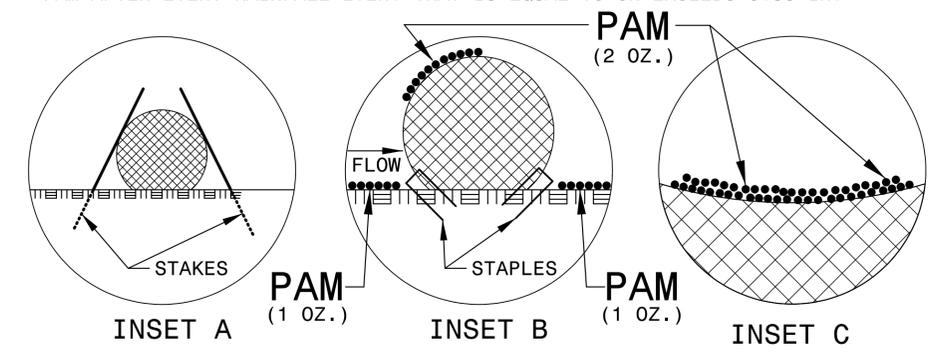
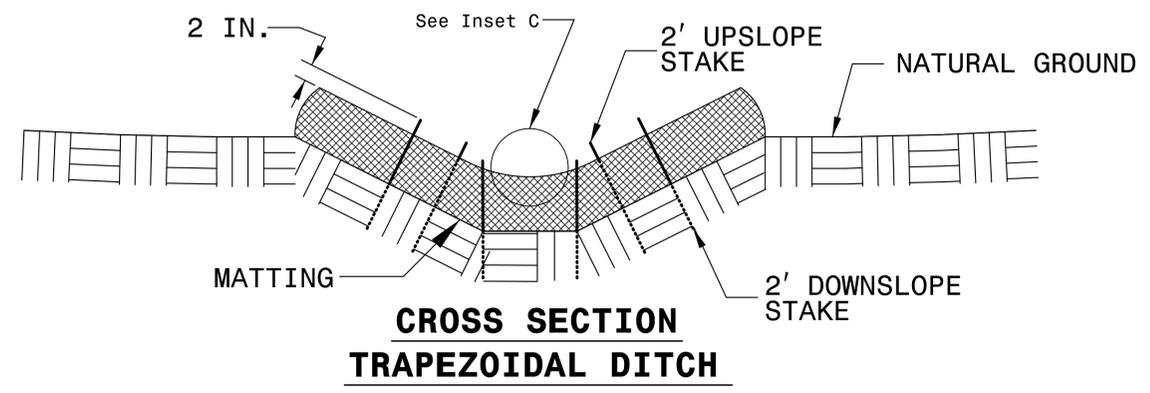
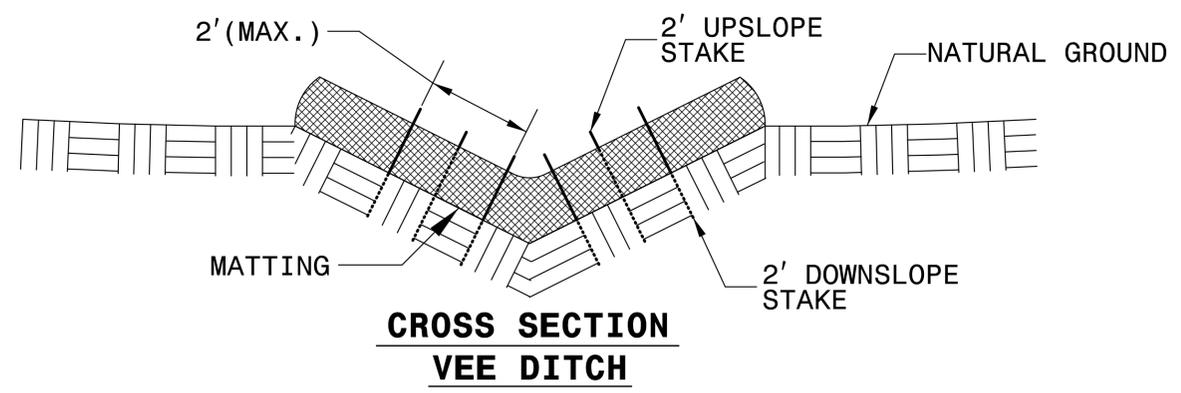
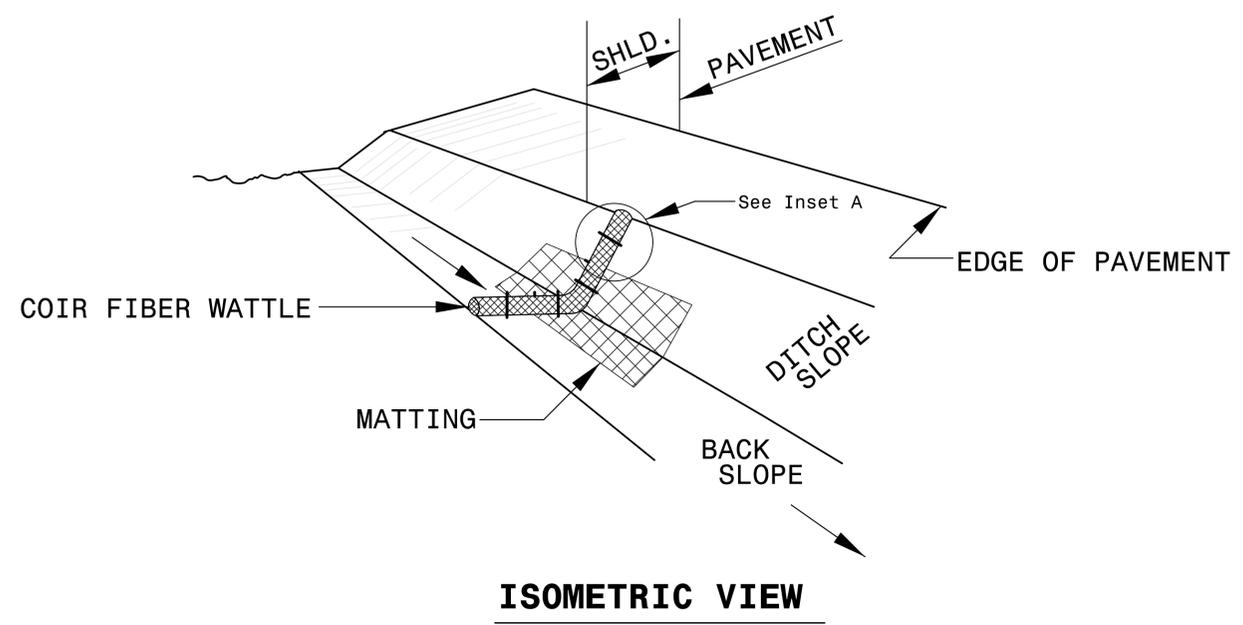
INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.



COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

NOTES:

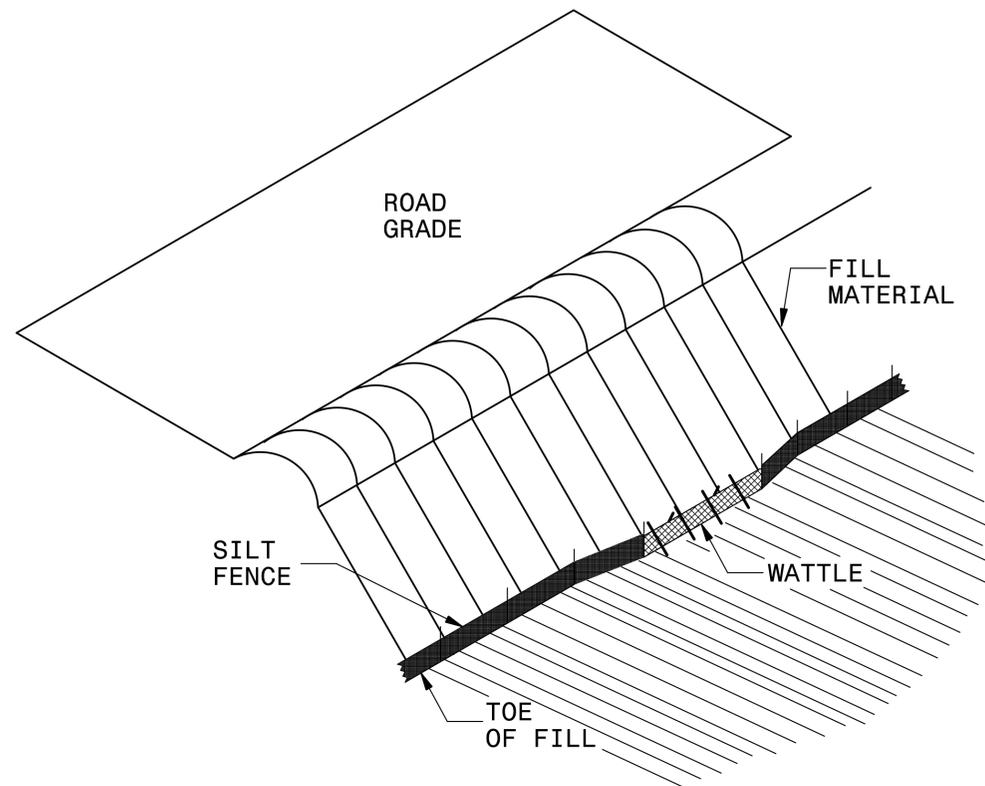
- USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
- PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
- INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
- INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.
- PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.
- INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



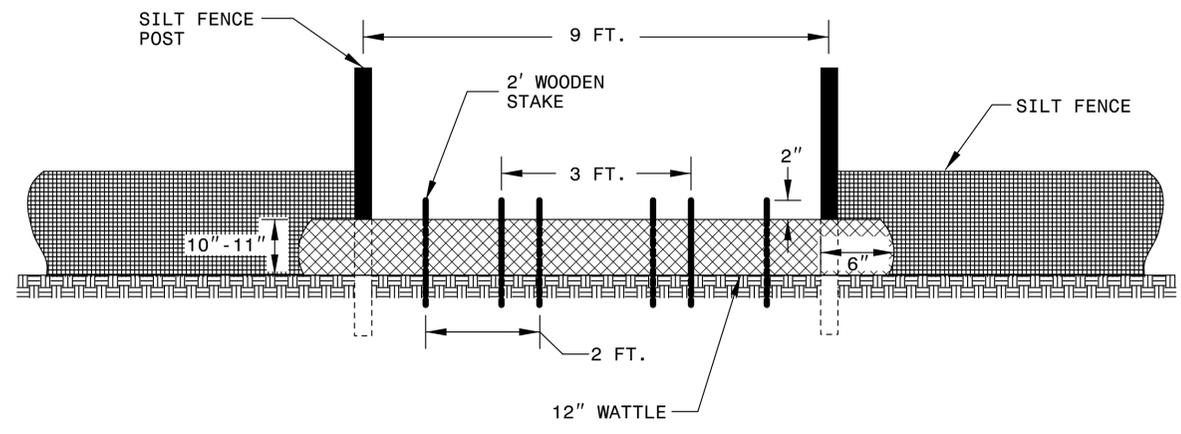
6/2/99

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4/14/01
C:\cfdetail.dgn
USER:NAME

SILT FENCE COIR FIBER WATTLE BREAK DETAIL



ISOMETRIC VIEW

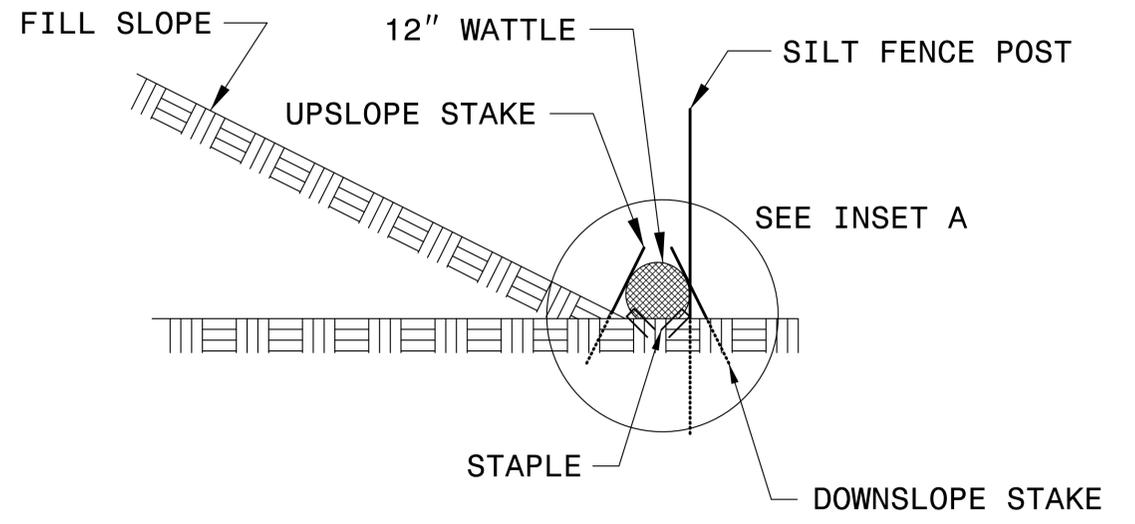
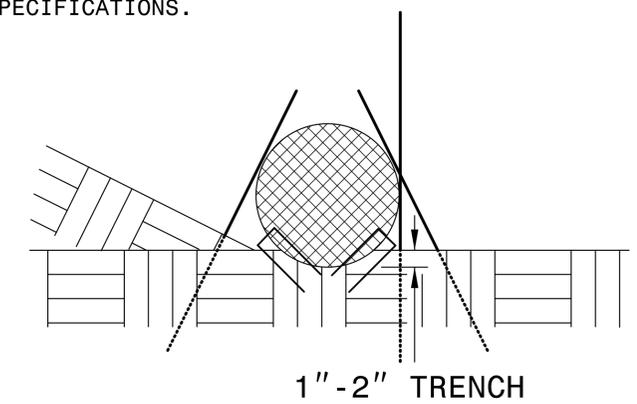


VIEW FROM SLOPE

NOTES:

- USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE AND LENGTH OF 10 FT.
- EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.
- DO NOT PLACE WATTLE ON TOE OF SLOPE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.
- PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
- INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
- WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.
- INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

INSET A



SIDE VIEW

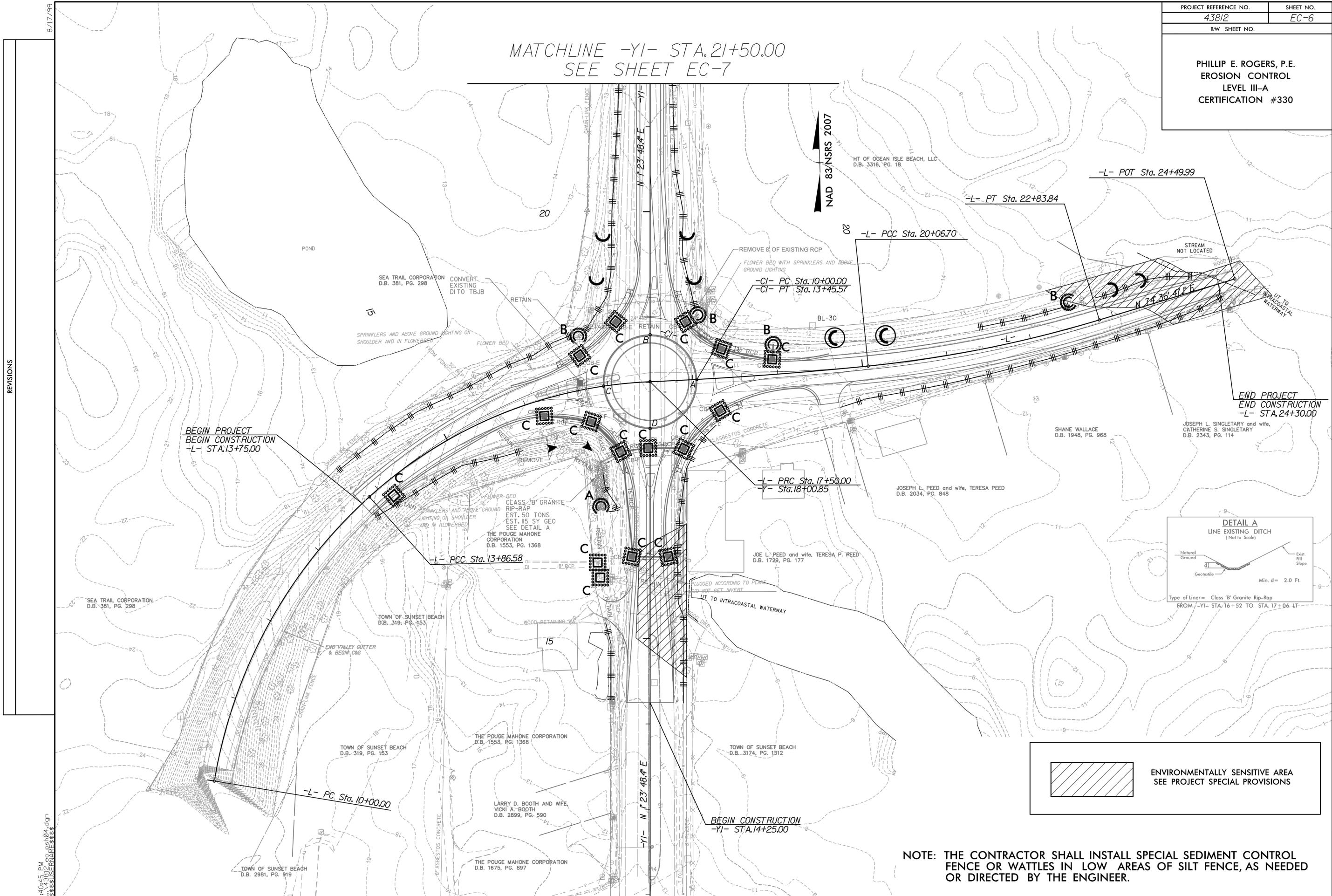
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

PHILLIP E. ROGERS, P.E.
 EROSION CONTROL
 LEVEL III-A
 CERTIFICATION #330

MATCHLINE -YI- STA. 21+50.00
 SEE SHEET EC-7



REVISIONS

1:40:45 PM
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 PHILLIP E. ROGERS, P.E.

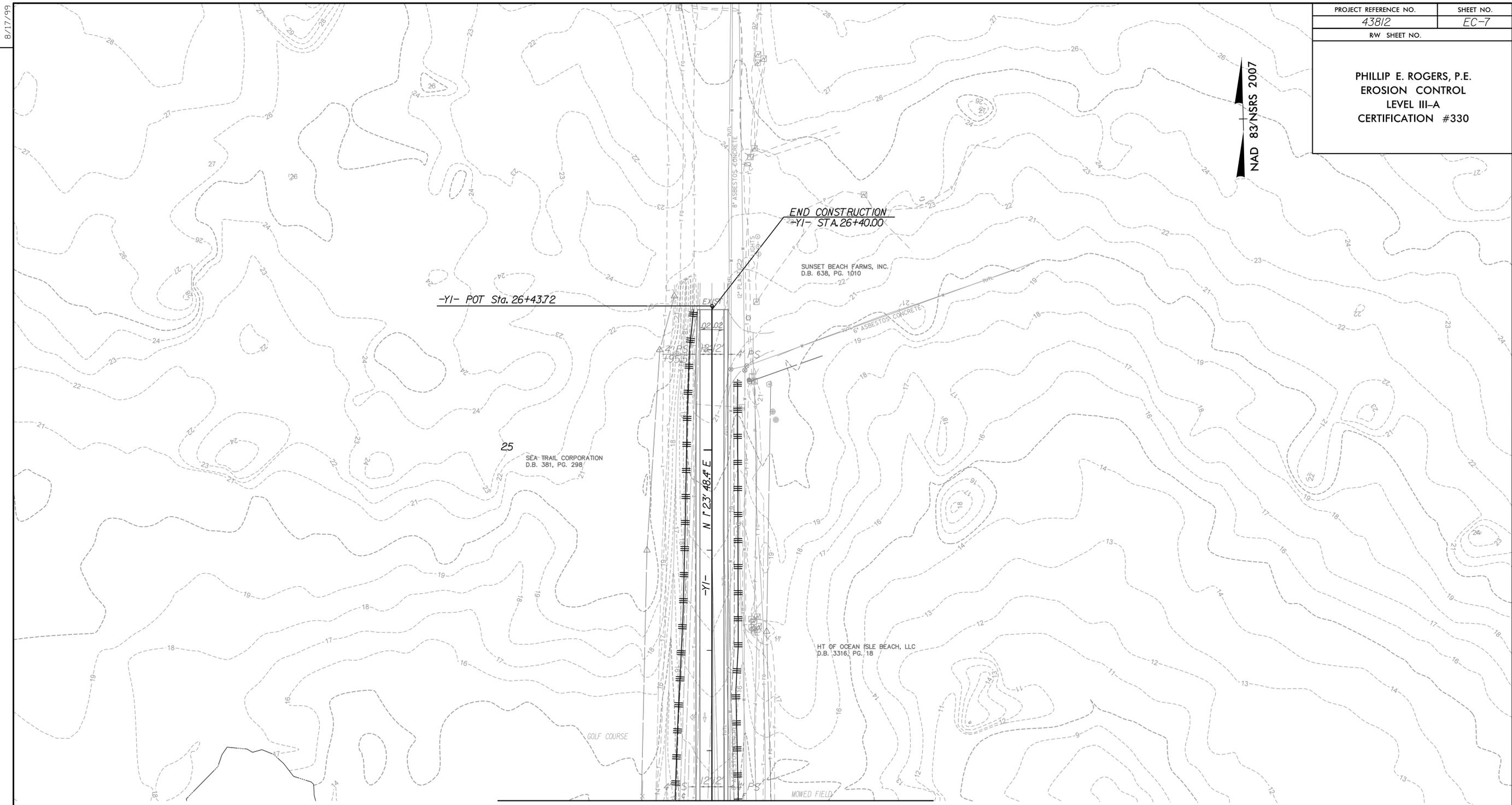
 ENVIRONMENTALLY SENSITIVE AREA
 SEE PROJECT SPECIAL PROVISIONS

NOTE: THE CONTRACTOR SHALL INSTALL SPECIAL SEDIMENT CONTROL FENCE OR WATTLES IN LOW AREAS OF SILT FENCE, AS NEEDED OR DIRECTED BY THE ENGINEER.

PROJECT REFERENCE NO.	SHEET NO.
43812	EC-7
RW SHEET NO.	

PHILLIP E. ROGERS, P.E.
 EROSION CONTROL
 LEVEL III-A
 CERTIFICATION #330

NAD 83/NSRS 2007



MATCHLINE -YI- STA. 21+50.00
 SEE SHEET EC-6

NOTE: THE CONTRACTOR SHALL INSTALL SPECIAL SEDIMENT CONTROL FENCE OR WATTLES IN LOW AREAS OF SILT FENCE, AS NEEDED OR DIRECTED BY THE ENGINEER.

REVISIONS

8/17/99

4:28:42 PM
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 43812.ec_pch05.dgn
 USER:PHILLIP.E.ROGERS

**STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION**

TIP NO. 438J2	SHEET NO. SIGN-1
APPROVED:	
DATE: 11-26-2013	
SEAL 	

T.I.P.: 43812

SIGNING PLAN BRUNSWICK COUNTY

**LOCATION: ROUNDABOUT AT THE INTERSECTION OF NC-179
BUSINESS AND SR 1172 (SUNSET BLVD) IN SUNSET BEACH, NC**

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
901.50	ARROWS AND SHIELDS
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

SUMMARY OF QUANTITIES

ITEM NO.		ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.			
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL	590	L.F.
4096000000	904	SIGN ERECTION, TYPE D	3	EA.
4102000000	904	SIGN ERECTION, TYPE E	22	EA.
4108000000	904	SIGN ERECTION, TYPE F	9	EA.
4116100000	904	SIGN ERECTION, RELOCATE, TYPE D	4	EA.
4116100000	904	SIGN ERECTION, RELOCATE, TYPE E	8	EA.
4155000000	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	11	EA.
4192000000	907	DISPOSAL OF SUPPORT, U-CHANNEL	14	EA.
4238000000	907	DISPOSAL OF SIGN, D, E OR F	8	EA.

GENERAL NOTES

- . SIGNS FURNISHED BY STATE
- . ALL TYPE 'D' SIGNS SHALL BE MOUNTED ON TWO U-CHANNEL POSTS UNLESS OTHERWISE INDICATED ON THE PLANS.
- . IF REMOVAL OR RELOCATION OF SIGNS ON PRIVATE STREET (NON-STATE MAINTAINED) IS REQUIRED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL INFORM THE ENGINEER. THE WORK WILL BE COMPLETED BY OTHERS.
- . SIGNING PLANS DO NOT INCLUDE TEMPORARY CONSTRUCTION SIGNING, SEE TRAFFIC CONTROL PLANS. SEE PAVEMENT MARKING PLAN FOR PAVEMENT MARKING DESIGN.
- . WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER.
- . WHEN EXISTING SIGNS ARE REMOVED AND INSTALLED ON NEW SUPPORTS, THE RE-ERECTION SHALL IMMEDIATELY FOLLOW THE REMOVAL.
- . THE BACKGROUND FOR TYPE 'E' PEDESTRIAN CROSSING SIGNS SHALL BE GRADE B REFLECTIVE SHEETING. ALL OTHER TYPE 'E' AND 'F' SIGNS SHALL BE GRADE C REFLECTIVE SHEETING.

PAY ITEM NOTES

- 1 SIGN ERECTION, TYPE D, E, AND F
- 2 SIGN ERECTION, RELOCATE, TYPE D
- 3 SIGN ERECTION, RELOCATE, TYPE E
- 4 DISPOSAL OF SIGN SYSTEM, U-CHANNEL
- 5 DISPOSAL OF SUPPORT, U-CHANNEL
- 6 DISPOSAL OF SIGN D,E, OR F

CONTRACT: DC00057

PLAN PREPARED BY :

HNTB HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

C.A. JOHNSON, III, PE SIGNING PROJECT ENGINEER
A.D. KLINGSIEK, PE, PTOE SIGNING DESIGN ENGINEER
T.R. TERRELL SIGNING DESIGN TECHNICIAN

INDEX

SHEET NO.	DESCRIPTION
SIGN-1	TITLE SHEET
SIGN-2	SIGN DESIGNS
SIGN-3	TYPE E AND F SIGNS
SIGN-4-5	SIGN DETAIL SHEET

APPROVED: *[Signature]*
 DATE: 11-26-2013



SIGN NUMBER: 301 **BACKG COLOR:** Green
TYPE: D **COPY COLOR:** White
QUANTITY: 1

SYMBOL	X	Y	WID	HT
AR_FISHHOOK	7.4	6.6	9.9	10.8

SIGN WIDTH: 8'-0"
HEIGHT: 2'-0"
TOTAL AREA: 16.0 Sq.Ft.

BORDER TYPE: FLUSH
RECESS: 0"
WIDTH: 1"
RADII: 3"
MAT'L: 0.125" ALUMINUM

DESIGN BY: TRT **CHECKED BY:** ADK/CAJ
PROJECT ID: 43812 **DIV:** 03 **DATE:** November 2013

NOTES:
 1. Legend and border shall be direct applied Grade C reflective sheeting.
 2. Background shall be Grade C reflective sheeting.
 3. Center arrow(s) vertically on sign.

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter													Series/Size	
													Text Length	
	S	u	n	s	e	t	B	e	a	c	h			EM 2000
23.3	6.7	6.4	5.7	5.3	5.2	3.1	6	6	5.3	5.8	5.8	4	7.4	65.3

SIGN NUMBER: 302 **BACKG COLOR:** Green / Green
TYPE: D **COPY COLOR:** White
QUANTITY: 1

SYMBOL	X	Y	WID	HT
Arrow Right	6.8	23.8	6	9
Arrow Up	79.1	5.5	6	9

SIGN WIDTH: 8'-0"
HEIGHT: 3'-6"
TOTAL AREA: 28.0 Sq.Ft.

BORDER TYPE: FLUSH
RECESS: 0"
WIDTH: 1"
RADII: 3"
MAT'L: 0.125" ALUMINUM

DESIGN BY: TRT **CHECKED BY:** ADK/CAJ
PROJECT ID: 43812 **DIV:** 03 **DATE:** November 2013

NOTES:
 1. Legend and border shall be direct applied Grade C reflective sheeting.
 2. Background shall be Grade C reflective sheeting.

Spacing Factor is 1 unless specified otherwise
 Spacing Factor for "Carolina Shores" is 0.7

LETTER POSITIONS

Letter spacings are to start of next letter													Series/Size				
													Text Length				
	C	a	l	a	b	a	s	h						EM 2000			
32.7	6	6.4	3.1	6.4	5.3	5.7	5.8	4	20.7					42.5			
	C	a	r	o	l	i	n	a	S	h	o	r	e	s	EM 2000		
18.8	5.7	5.6	3.6	5.4	2.9	2.9	5.3	4	6	6.2	5.3	5.4	3.6	4.8	4	6.8	70.5
	S	u	n	s	e	t	B	e	a	c	h						EM 2000
7.9	6.7	6.4	5.7	5.3	5.2	3.1	6	6	5.3	5.8	5.8	4	22.9	65.3			

SIGN NUMBER: 303 **BACKG COLOR:** Green
TYPE: D **COPY COLOR:** White
QUANTITY: 1

SYMBOL	X	Y	WID	HT
Arrow Right	81.7	12	6	9

SIGN WIDTH: 8'-0"
HEIGHT: 2'-6"
TOTAL AREA: 20.0 Sq.Ft.

BORDER TYPE: FLUSH
RECESS: 0"
WIDTH: 1"
RADII: 3"
MAT'L: 0.125" ALUMINUM

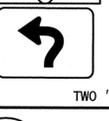
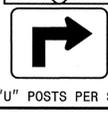
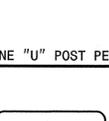
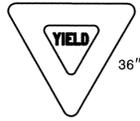
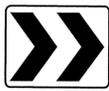
DESIGN BY: TRT **CHECKED BY:** ADK/CAJ
PROJECT ID: 43812 **DIV:** 03 **DATE:** November 2013

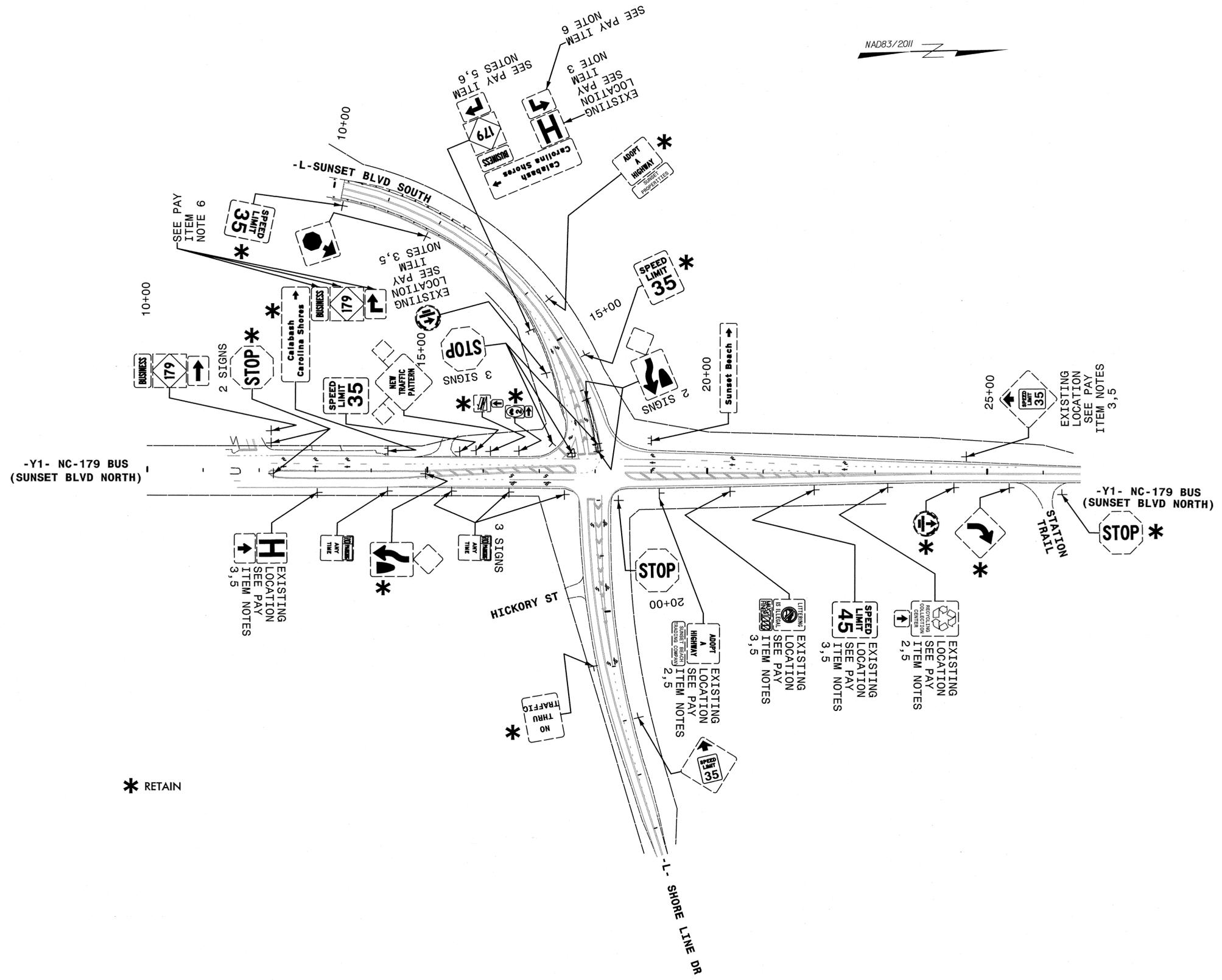
NOTES:
 1. Legend and border shall be direct applied Grade C reflective sheeting.
 2. Background shall be Grade C reflective sheeting.
 3. Center arrow(s) vertically on sign.

Spacing Factor is 1 unless specified otherwise
 Spacing Factor for "Carolina Shores" is 0.7

LETTER POSITIONS

Letter spacings are to start of next letter													Series/Size				
													Text Length				
	C	a	l	a	b	a	s	h						EM 2000			
19.2	6	6.4	3.1	6.4	5.3	5.7	5.8	4	34.2					42.5			
	C	a	r	o	l	i	n	a	S	h	o	r	e	s	EM 2000		
5.3	5.7	5.6	3.6	5.4	2.9	2.9	5.3	4	6	6.2	5.3	5.4	3.6	4.8	4	20.3	70.5

<p>401 QUANTITY REQ'D 4</p>  <p>30" X 30" W2-6</p> <p>ONE "U" POST PER SIGN</p>	<p>406 QUANTITY REQ'D 1</p>  <p>36" X 36" R1-1</p> <p>ONE "U" POST PER SIGN</p>		<p>501</p>  <p>1 - 24" X 12"</p>  <p>1 - 24" X 12"</p>  <p>1 - 24" X 24"</p>  <p>1 - 21" X 15"</p> <p>ONE "U" POST PER SIGN</p>	<p>505</p>  <p>2 - 24" X 12"</p>  <p>2 - 24" X 12"</p>  <p>2 - 24" X 24"</p>  <p>2 - 24" X 24"</p>  <p>2 - 21" X 15"</p>  <p>2 - 21" X 15"</p> <p>TWO "U" POSTS PER SIGN</p>	<p>509</p>  <p>1 - 24" X 12"</p>  <p>1 - 24" X 12"</p>  <p>1 - 24" X 24"</p>  <p>1 - 21" X 15"</p> <p>ONE "U" POST PER SIGN</p>	<p>TIP NO. 43872 SHEET NO. SIGN-3</p> <p>APPROVED: </p> <p>DATE: 11-26-2013</p> <p>SEAL</p> 
<p>402 QUANTITY REQ'D 4</p>  <p>30" X 30" W11-2</p> <p>ONE "U" POST PER SIGN</p>	<p>407 QUANTITY REQ'D 1</p>  <p>24" X 30" R2-1</p> <p>ONE "U" POST PER SIGN</p>		<p>502</p>  <p>1 - 24" X 12"</p>  <p>1 - 24" X 12"</p>  <p>1 - 24" X 24"</p>  <p>1 - 21" X 15"</p> <p>ONE "U" POST PER SIGN</p>	<p>506</p>  <p>1 - 24" X 12"</p>  <p>1 - 24" X 12"</p>  <p>1 - 24" X 24"</p>  <p>1 - 21" X 15"</p> <p>ONE "U" POST PER SIGN</p>		
<p>403 QUANTITY REQ'D 8</p>  <p>24" X 12" W16-7</p> <p>MOUNT BELOW SIGN 402 IN 4 INSTALLATIONS</p>			<p>503</p>  <p>1 - 24" X 12"</p>  <p>1 - 24" X 12"</p>  <p>1 - 24" X 24"</p> <p>ONE "U" POST PER SIGN</p>	<p>507</p>  <p>1 - 24" X 12"</p>  <p>1 - 24" X 12"</p>  <p>1 - 24" X 24"</p>  <p>1 - 21" X 15"</p> <p>ONE "U" POST PER SIGN</p>		
<p>404 QUANTITY REQ'D 4</p>  <p>36" X 36" X 36" R1-2</p> <p>ONE "U" POST PER SIGN</p>			<p>504</p>  <p>1 - 24" X 12"</p>  <p>1 - 24" X 12"</p>  <p>1 - 24" X 24"</p>  <p>1 - 21" X 15"</p> <p>ONE "U" POST PER SIGN</p>	<p>508</p>  <p>1 - 21" X 15"</p> <p>MOUNT WITH 304 SIGN ASSEMBLY</p>		
<p>405 QUANTITY REQ'D 4</p>  <p>30" X 24" R6-4</p> <p>ONE "U" POST PER SIGN</p>						

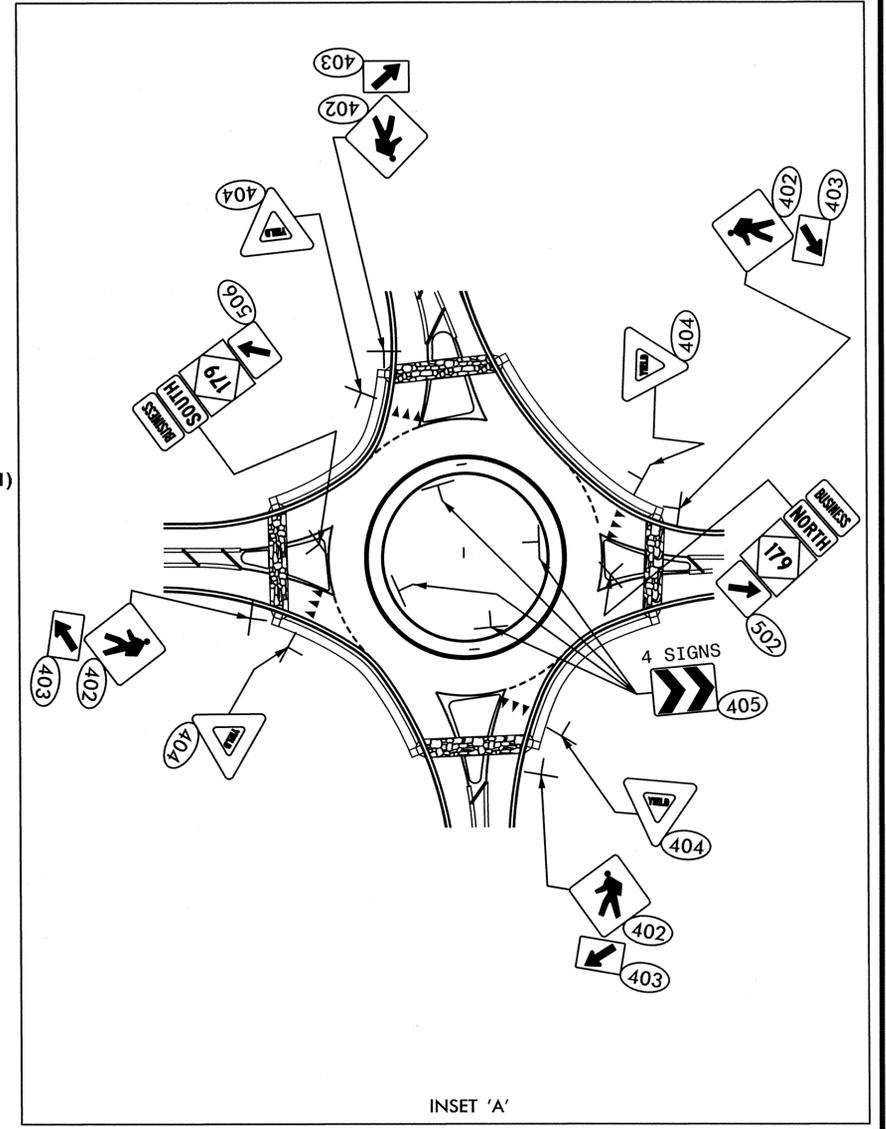
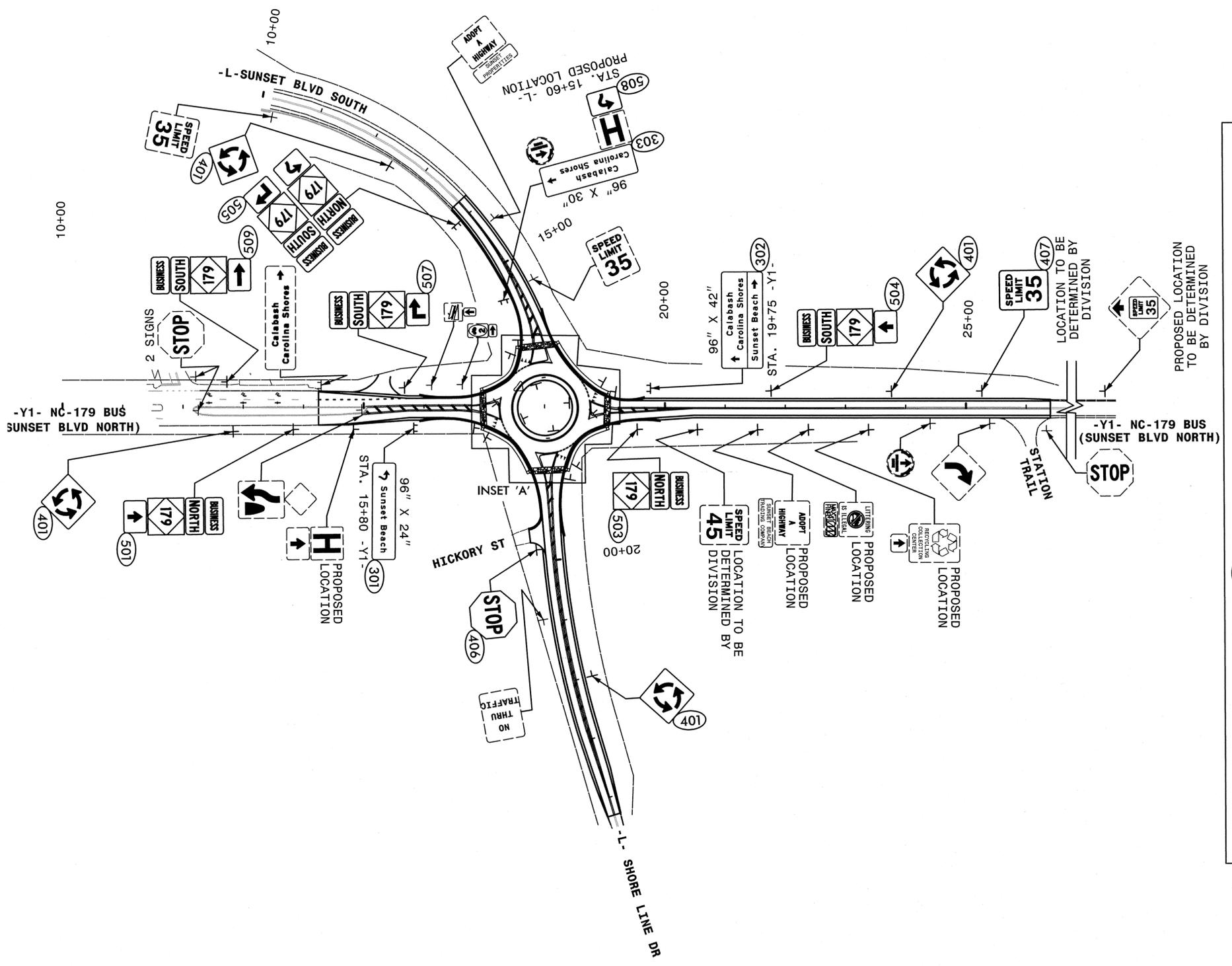
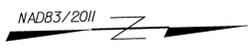


* RETAIN

NOTES:
ALL EXISTING SIGNS SEE PAY ITEM NOTE 4 UNLESS OTHERWISE NOTED.

HNTB HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

**EXISTING SIGNS
NC-179 BUS ROUNDABOUT
SUNSET BEACH**



NOTES:
ALL PROPOSED SIGNS SEE PAY ITEM NOTE 1 UNLESS OTHERWISE NOTED.

**EXISTING AND PROPOSED SIGNS
NC-179 BUS ROUNDABOUT
SUNSET BEACH**

**STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS**

PROJ. REFERENCE NO.	SHEET NO.
43812	X-0

NOTE: EMBANKMENT COLUMN INCLUDES BACKFILL FOR UNDERCUT

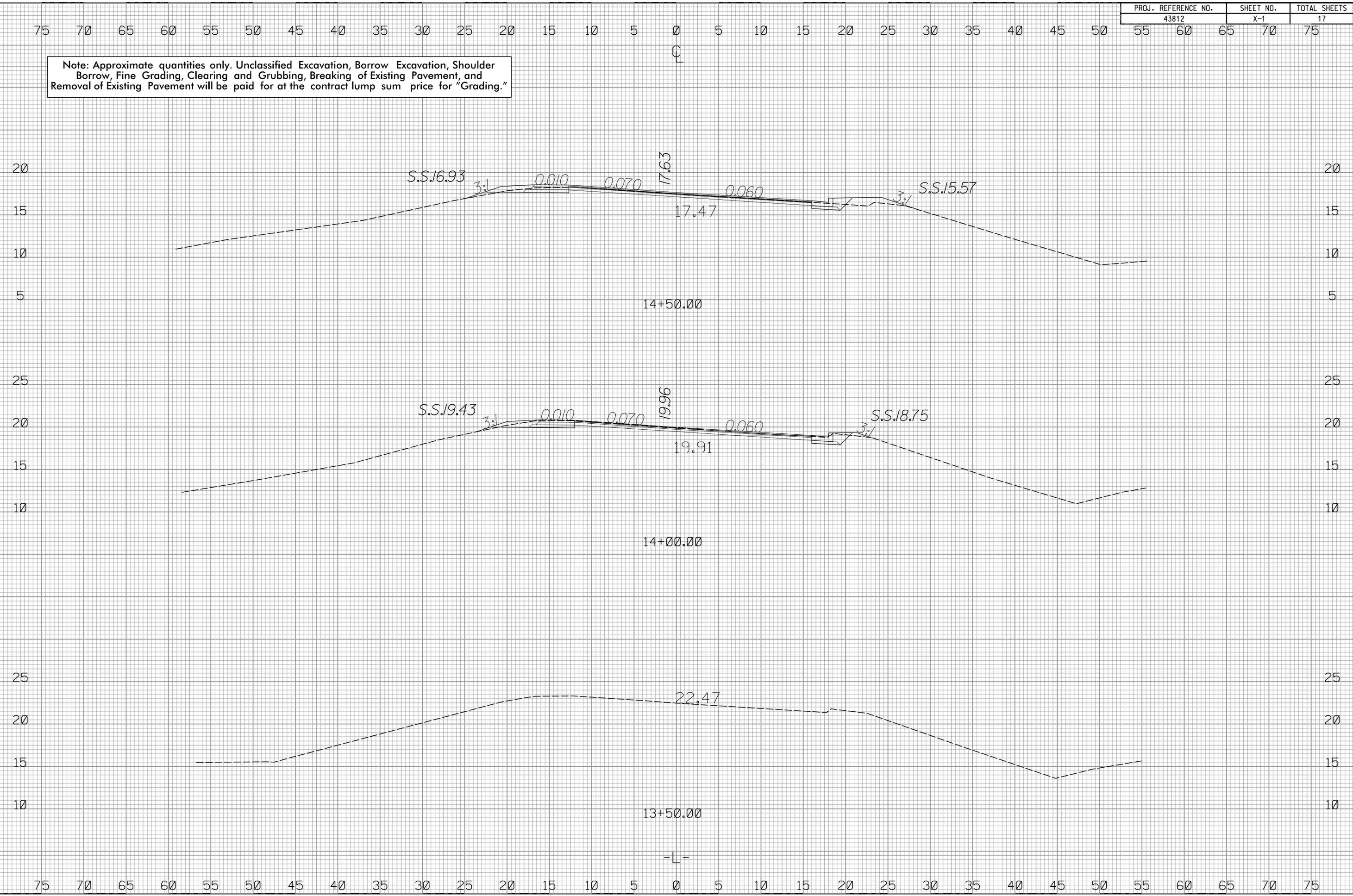
CROSS-SECTION SUMMARY

Station	Uncl. Exc.	Embt
-L-	(cu. yd.)	(cu. yd.)
14+00.00	0	0
14+50.00	16	7
15+00.00	13	19
15+50.00	16	33
16+00.00	15	56
16+50.00	7	81
17+00.00	0	30
17+50.00	0	60
18+00.00	41	43
18+50.00	20	21
19+00.00	44	49
19+50.00	35	32
20+00.00	31	18
20+50.00	23	4
21+00.00	24	1
21+50.00	23	1
22+00.00	21	2
22+50.00	17	4
23+00.00	14	2
23+50.00	13	0
24+00.00	13	0
Station	Uncl. Exc.	Embt
-Y1-	(cu. yd.)	(cu. yd.)
14+50.00	0	0
15+00.00	1	0
15+50.00	7	9
16+00.00	10	30
16+50.00	8	43
17+00.00	7	63
17+50.00	4	54
18+00.00	2	27
18+50.00	8	19
19+00.00	17	37
19+50.00	24	46
20+00.00	30	24
20+50.00	36	7
21+00.00	32	1
21+50.00	29	2
22+00.00	27	1
22+50.00	23	2
23+00.00	22	2
23+50.00	21	2
24+00.00	19	2
24+50.00	20	2
25+00.00	17	1
25+50.00	18	1
26+00.00	21	2

02/03/98

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
43812	X-1	17

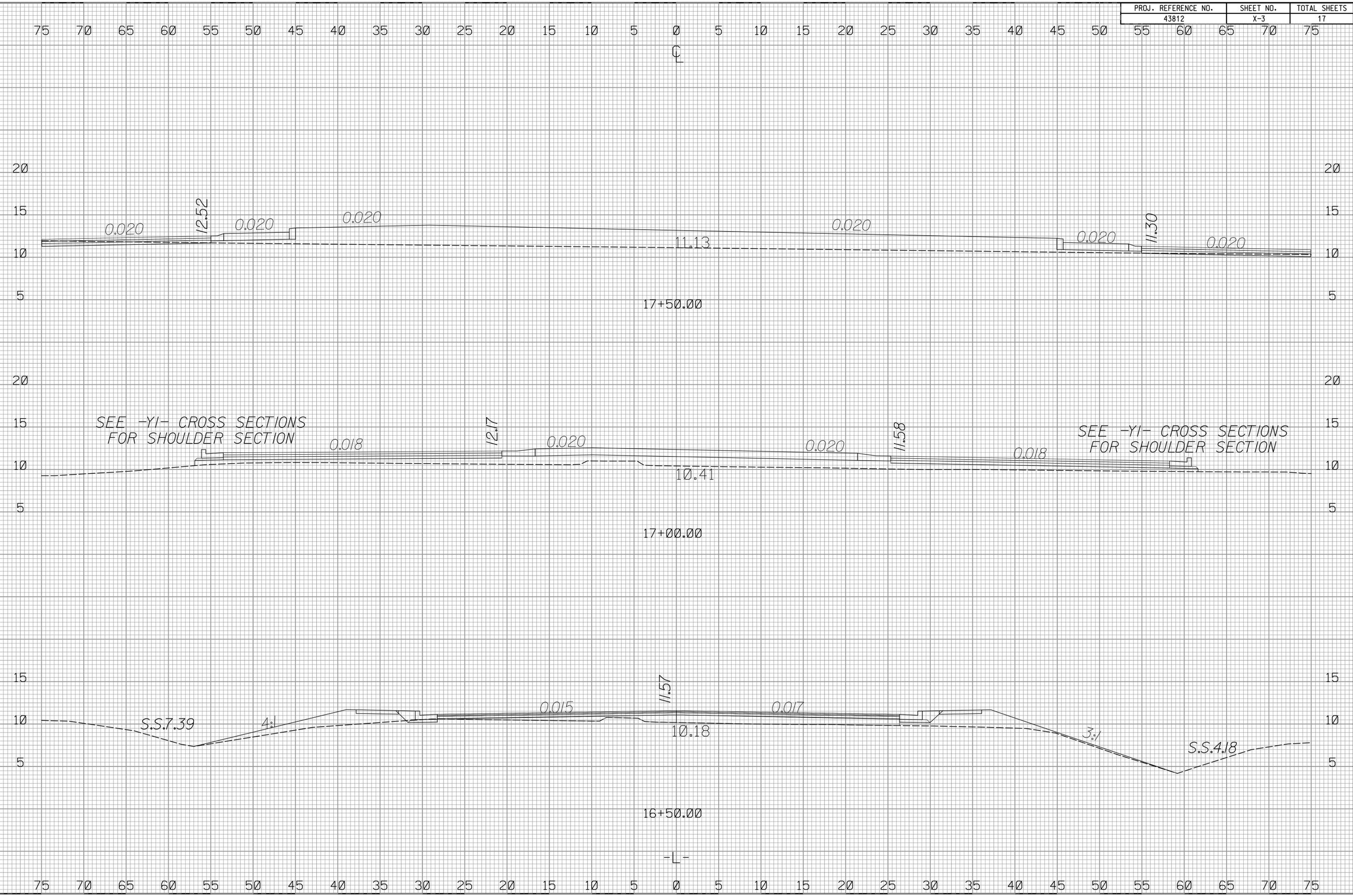
Note: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Shoulder Borrow, Fine Grading, Clearing and Grubbing, Breaking of Existing Pavement, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."



4:03:32 PM 02/03/98 12_r.dwg - xpl.L.dgn

02/03/98

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
43812	X-3	17



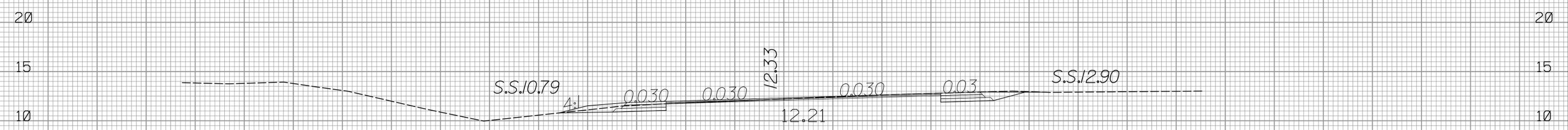
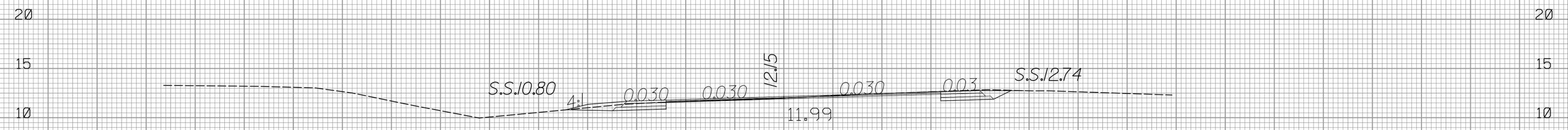
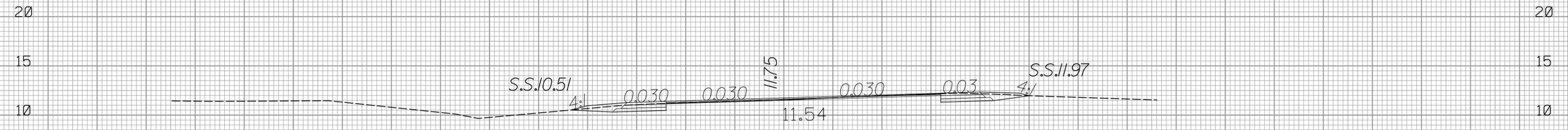
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02/03/98

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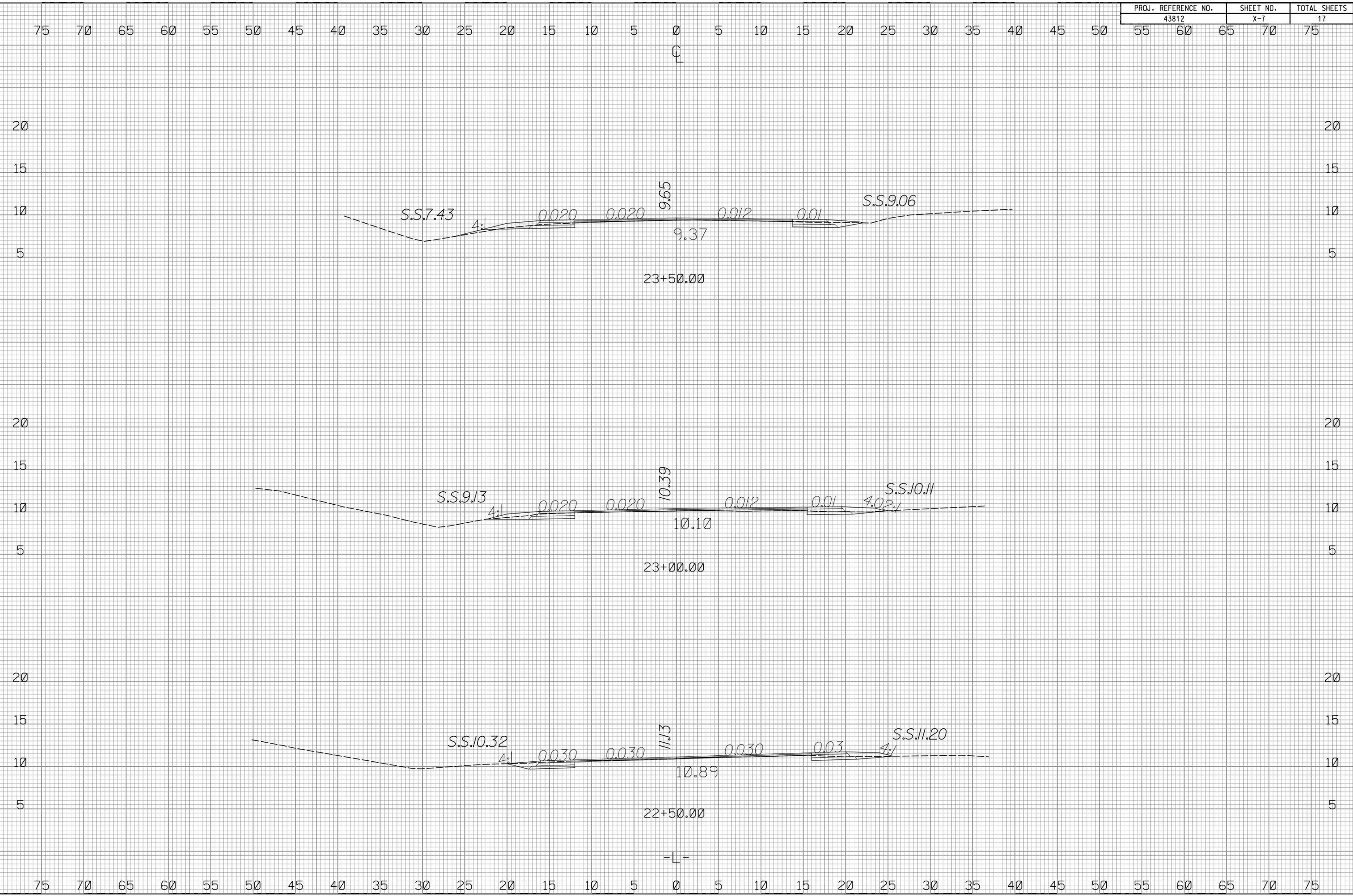
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02/03/98



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02/03/98

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
43812	X-8	17

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55 60 65 70 75

—
L

20

20

15

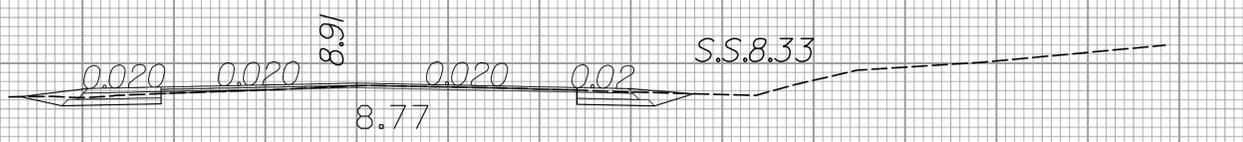
15

10

10

5

5



24+00.00

—
L

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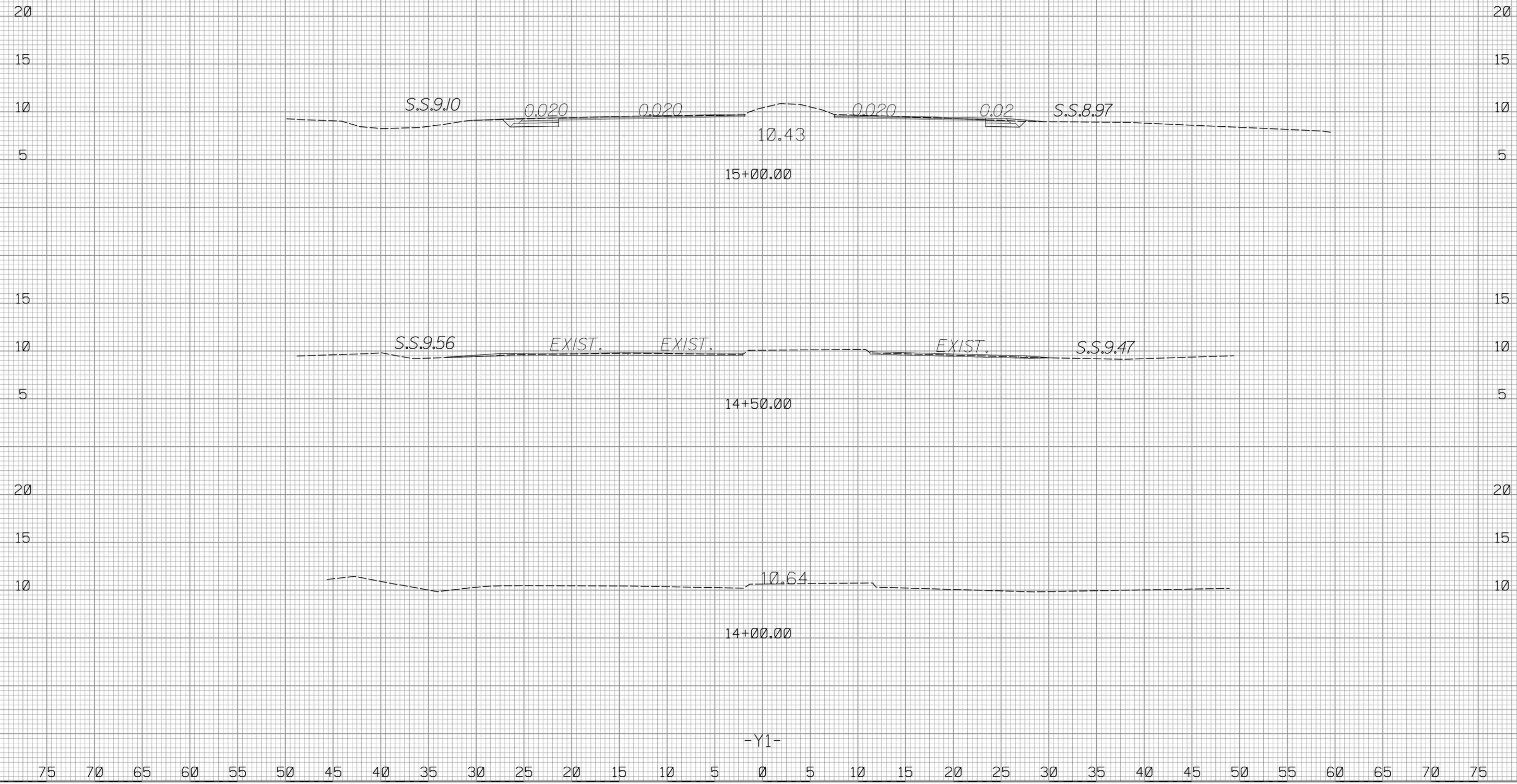
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02/03/98

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
43812	X-9	17

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C

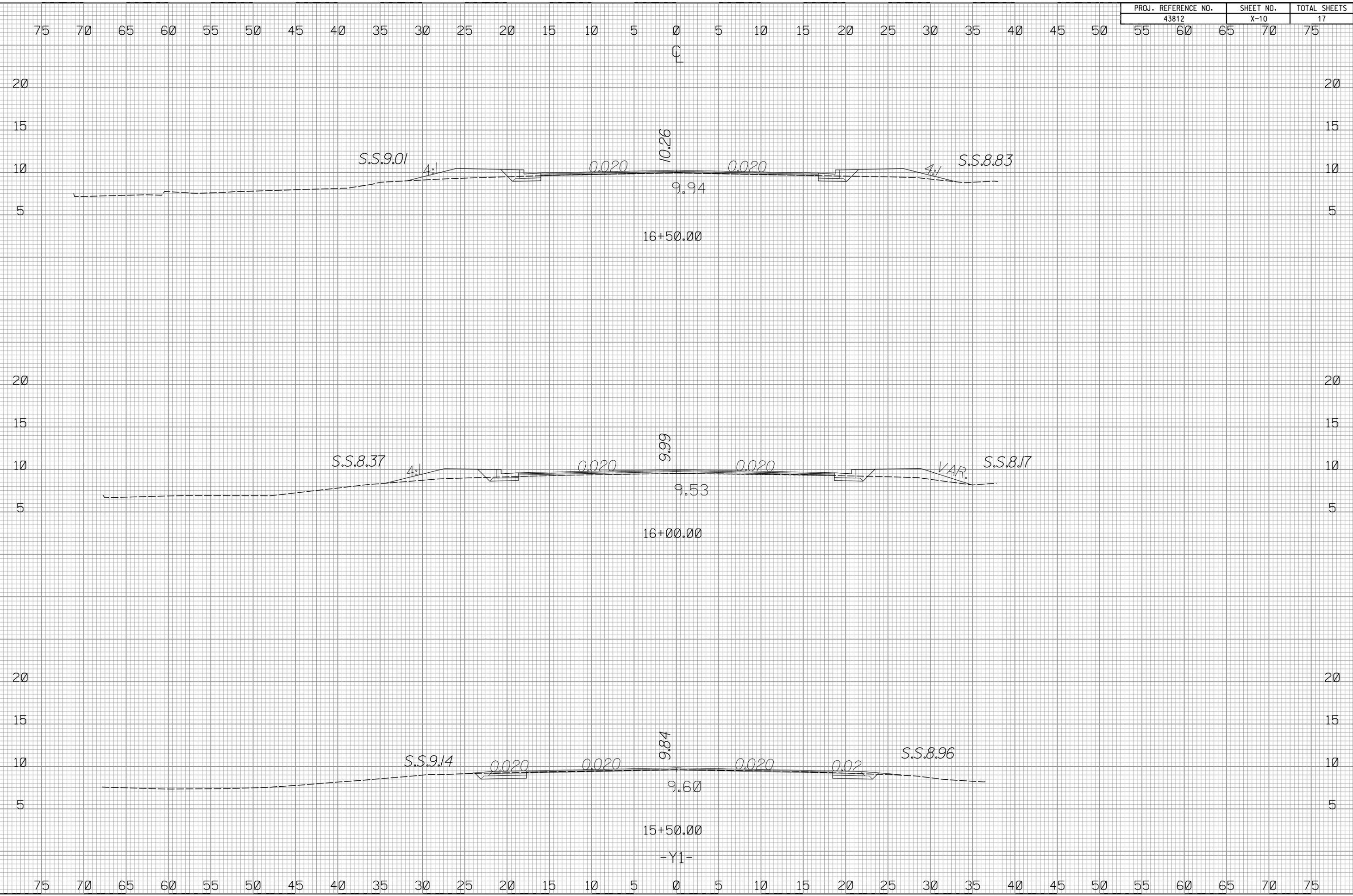


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02/03/98

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
43812	X-10	17



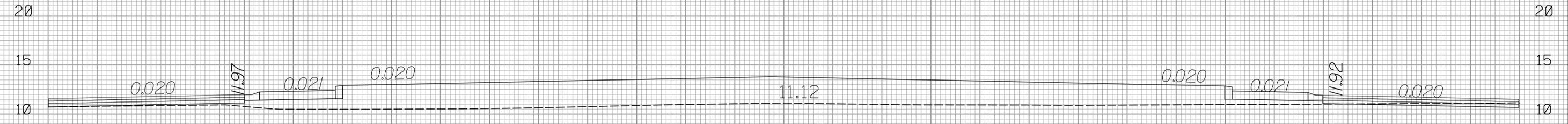
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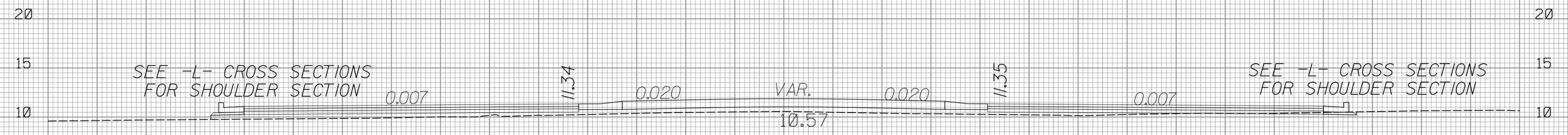
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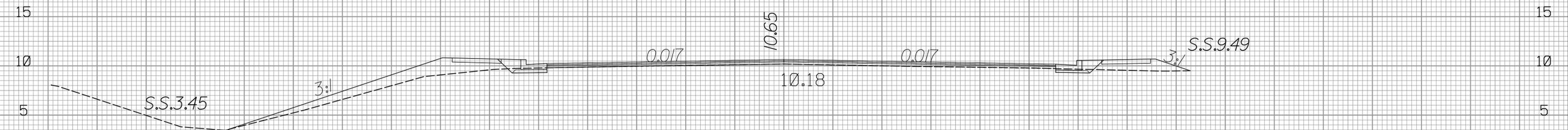
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18+00.00



17+50.00



17+00.00

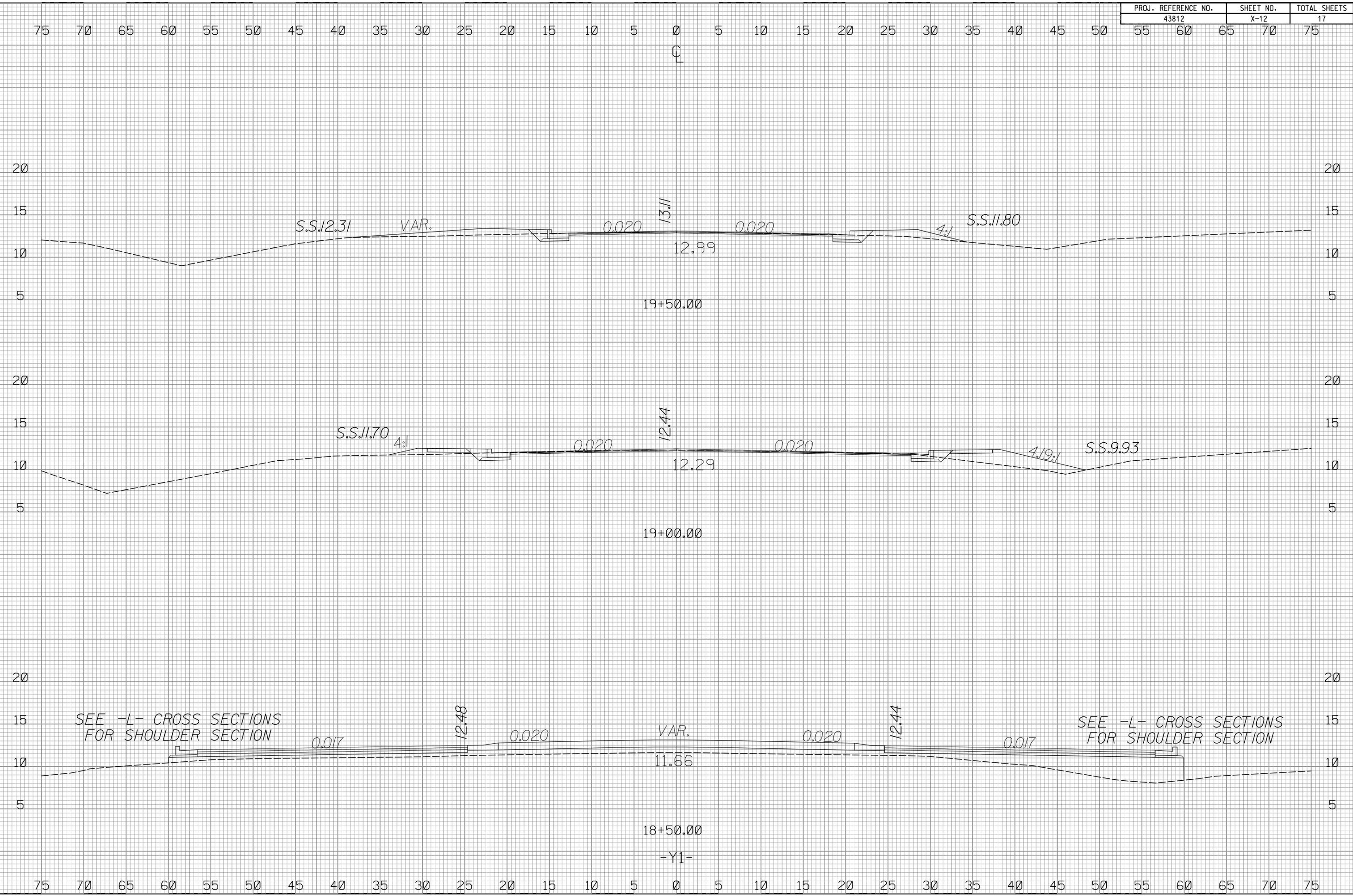
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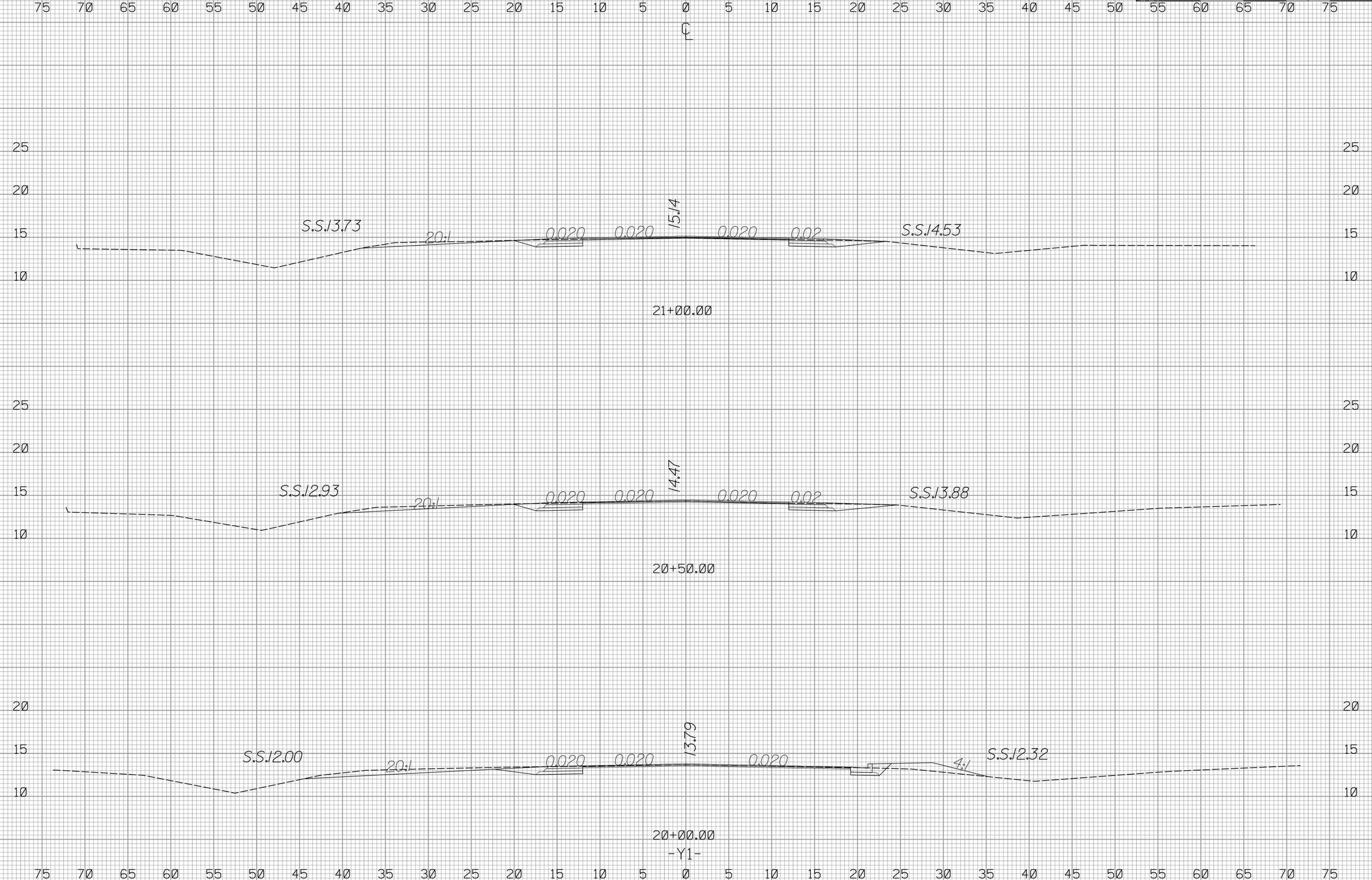


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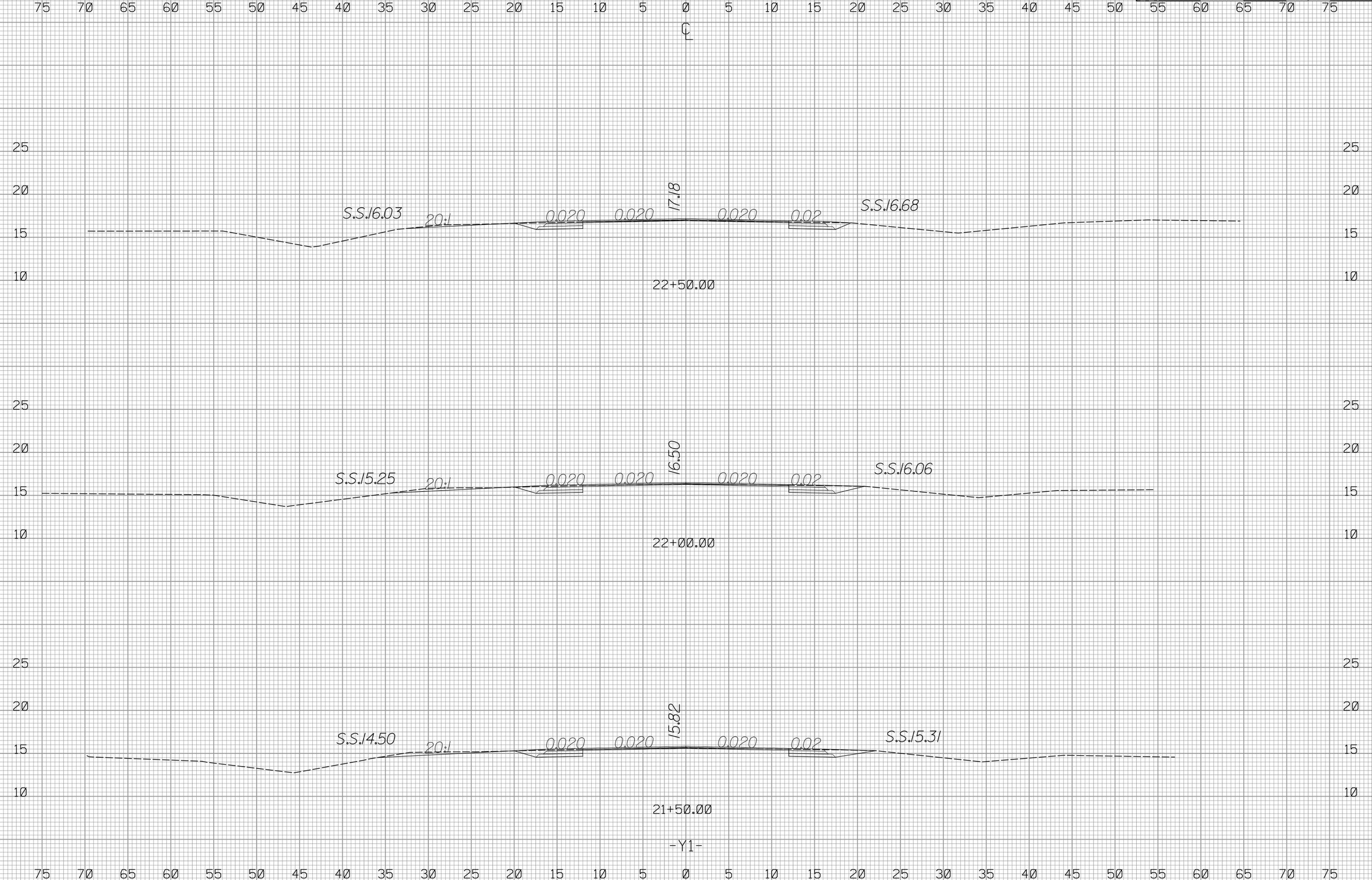


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02/03/98

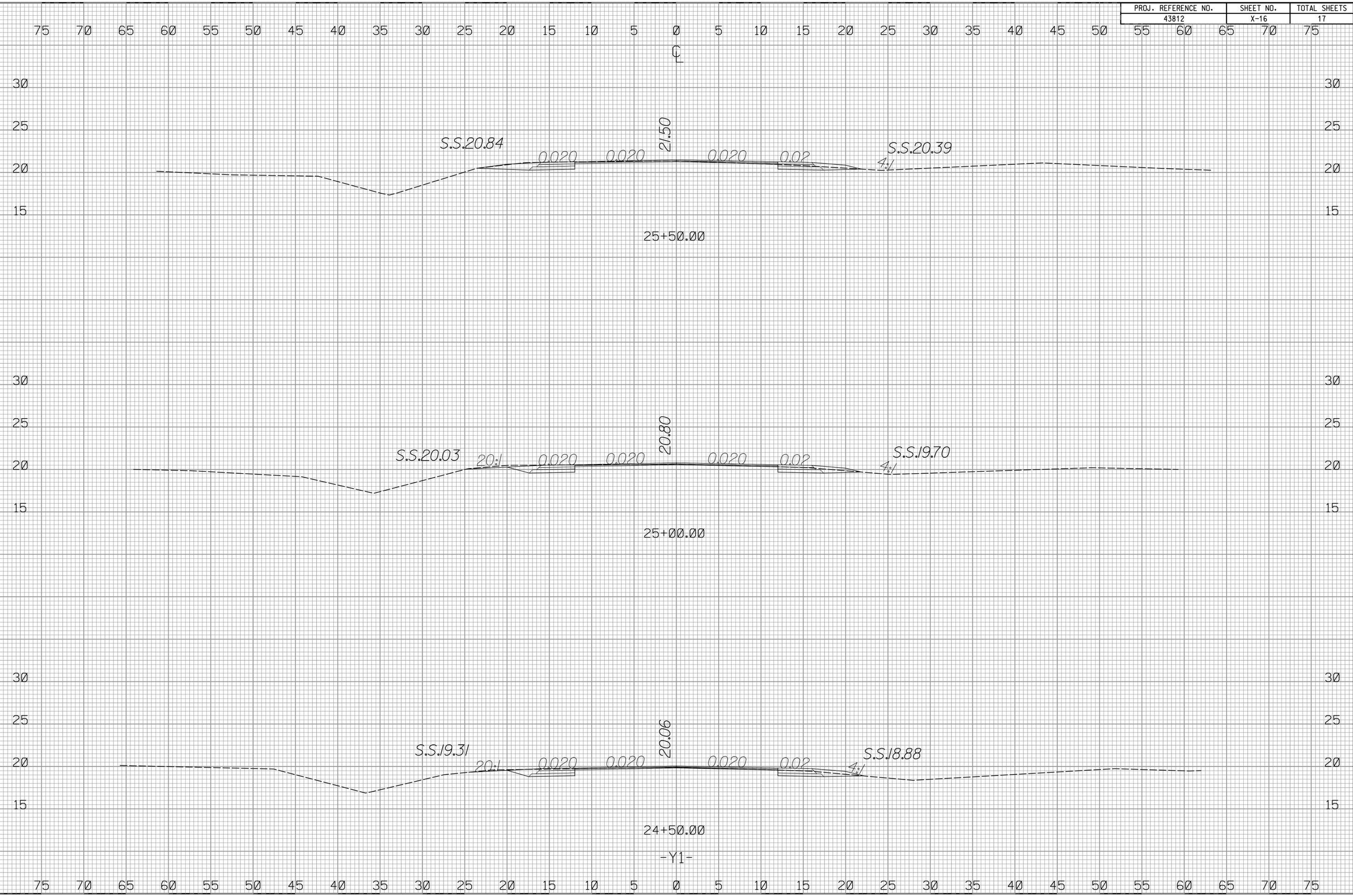
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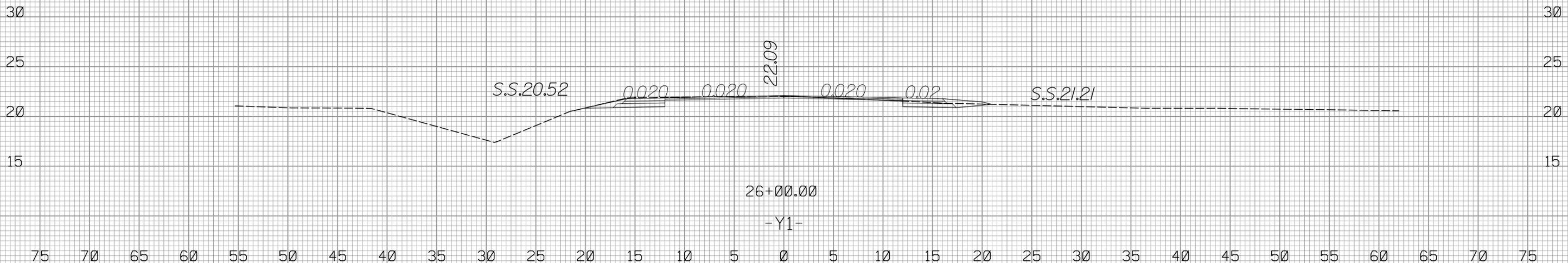
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PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
43812	X-17	17

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C



26+00.00

-Y1-

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

T.I.P. NO.	SHEET NO.
43812	UO-1

HNTB HNTB NORTH CAROLINA, P.C.
 343 E. Six Forks Road, Suite 200
 Raleigh, North Carolina 27609
 NC License No: C-1554

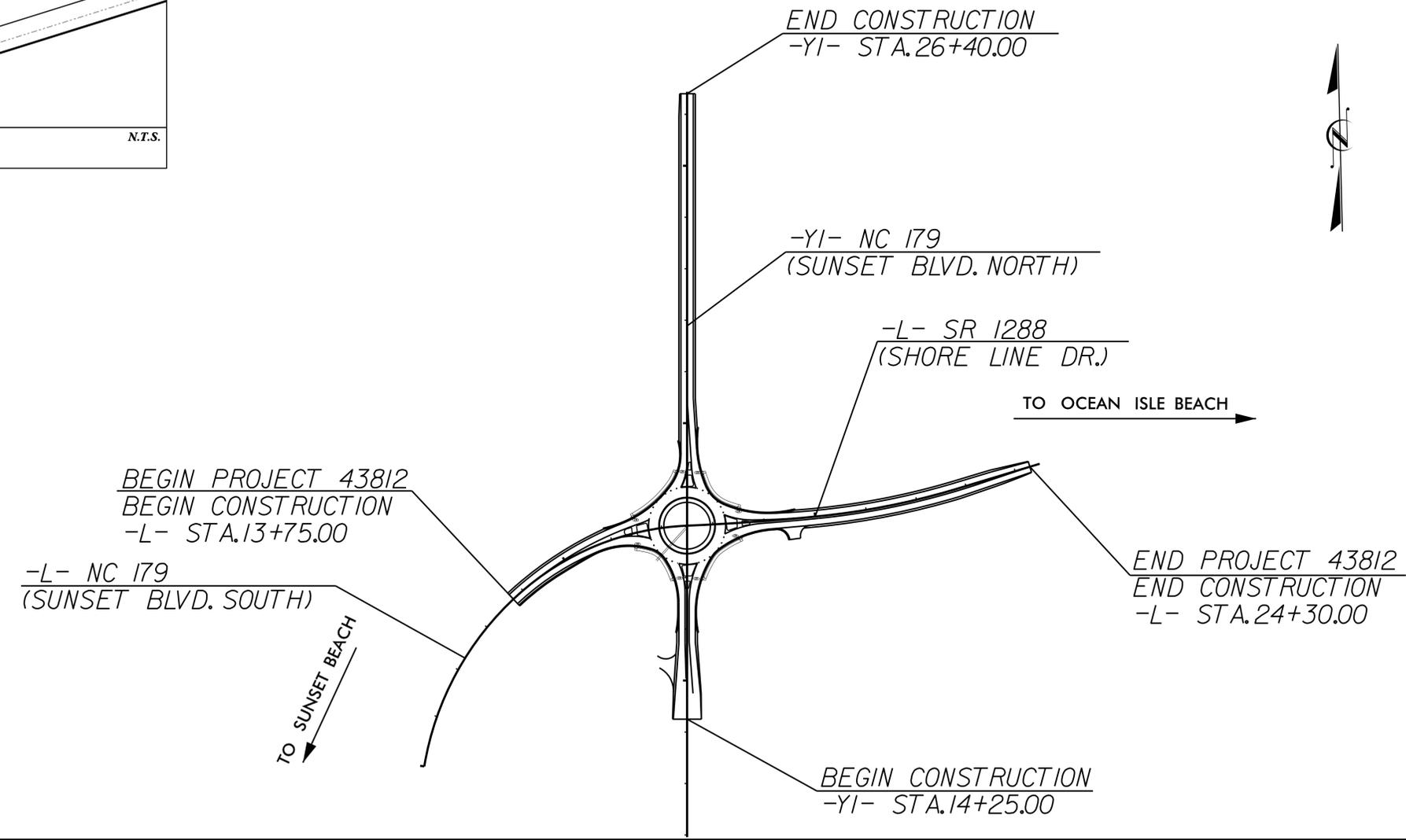
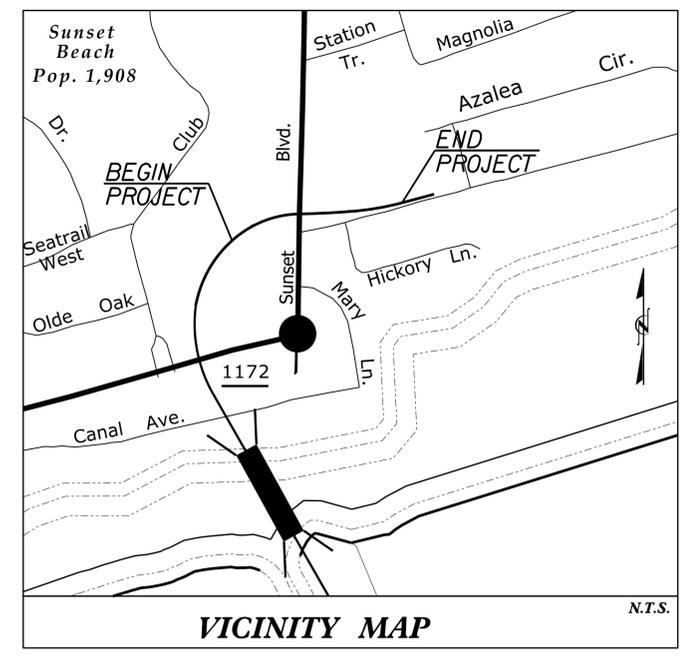
DATE: NOVEMBER 7, 2013

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

**UTILITIES BY OTHERS PLANS
 BRUNSWICK COUNTY**

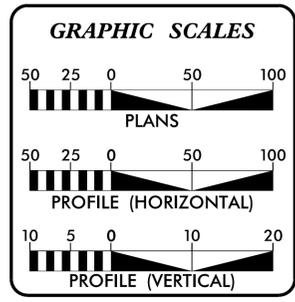
**LOCATION: ROUNDABOUT AT THE INTERSECTION OF NC 179
 BUSINESS AND SR 1172 (SUNSET BLVD.) ON SUNSET BEACH, N.C.**

TYPE OF WORK: UTILITY BY OTHERS RELOCATION



TIP PROJECT: 43812

CONTRACT: DC00057



INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2	PLAN SHEET

UTILITY OWNERS ON PROJECT

- POWER - DUKE PROGRESS ENERGY
- TELEPHONE - ATMC
- WATER & SEWER - BRUNSWICK COUNTY PUBLIC UTILITIES

UTILITY DESIGN BY:

MA Engineering
 CONSULTANTS, INC.
 598 East Chatham Street Suite 137 Cary, NC 27511
 Phone: 919 297 0220 Fax: 919 297 0221

NCDOT PROJECT ENGINEER:
 SCOTT COOK, P.E.

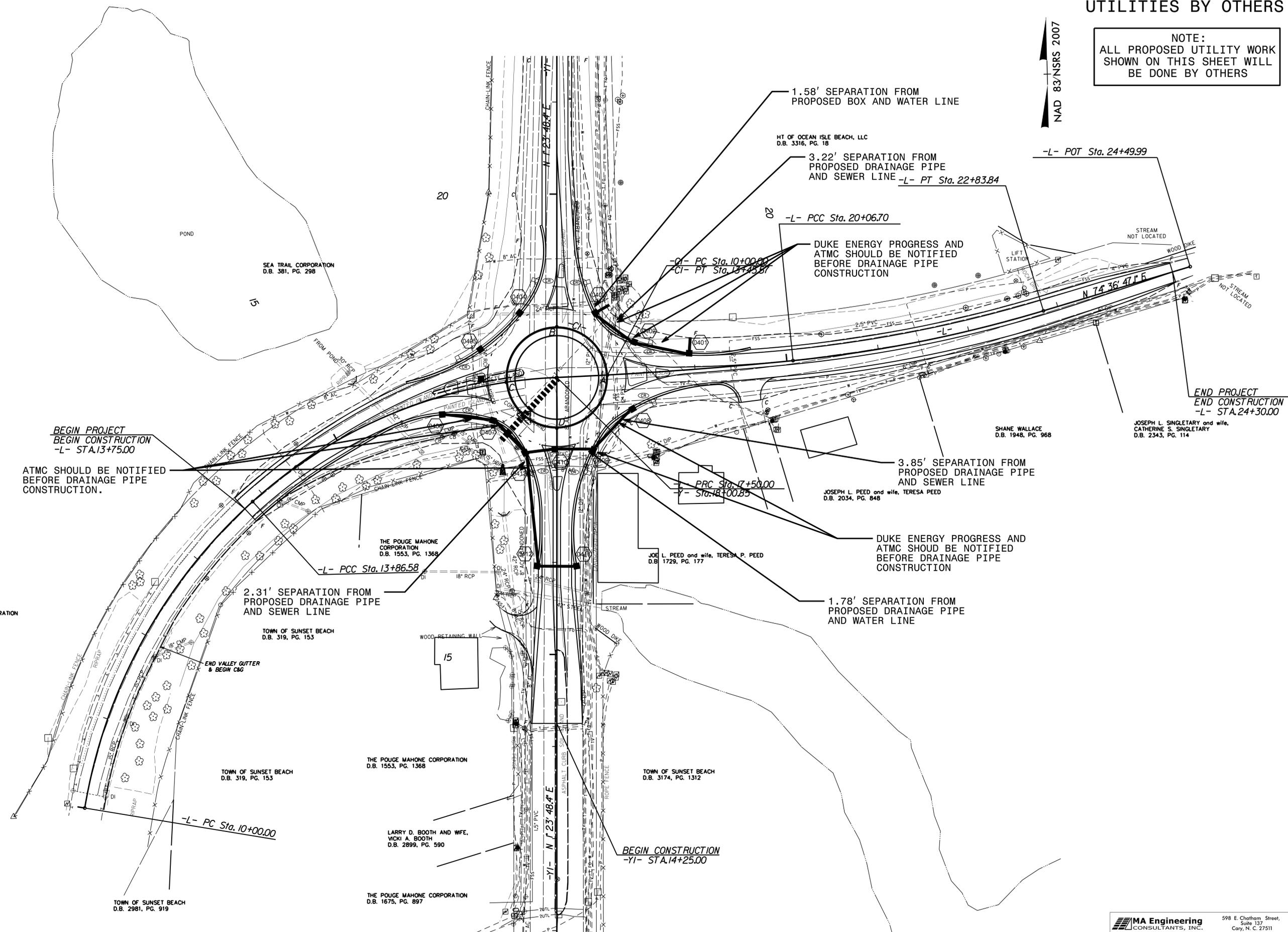
PREPARED FOR:
 NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 DIVISION BRIDGE PROGRAM

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

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK
SHOWN ON THIS SHEET WILL
BE DONE BY OTHERS

NAD 83/NSRS 2007



5/14/99
C:\PROJECTS\43812\UO-2\DWG\UO-2.DWG
PLOT DATE: 5/14/99
PLOT TIME: 10:00 AM
PLOT USER: JLM
PLOT DEVICE: HPGL
PLOT SCALE: 1/8"=1'-0"
PLOT SHEET: 1 OF 2
PLOT STATUS: OK