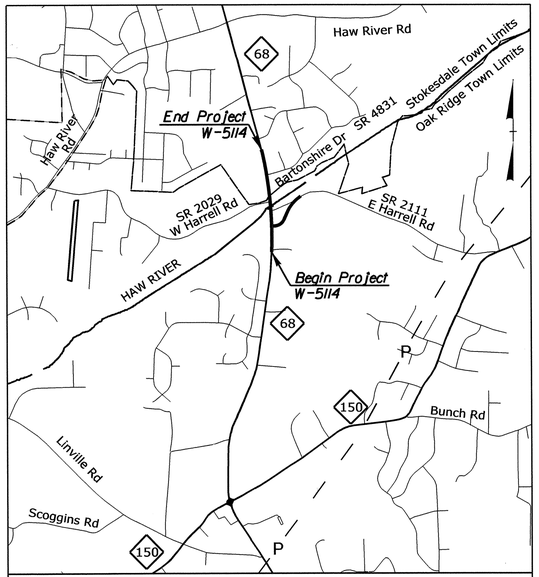
See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



VICINITY MAP SHOWING LOCATION OF W-5114

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

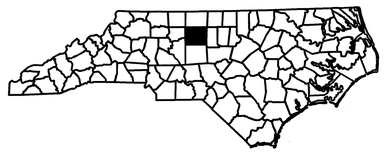
GUILFORD COUNTY

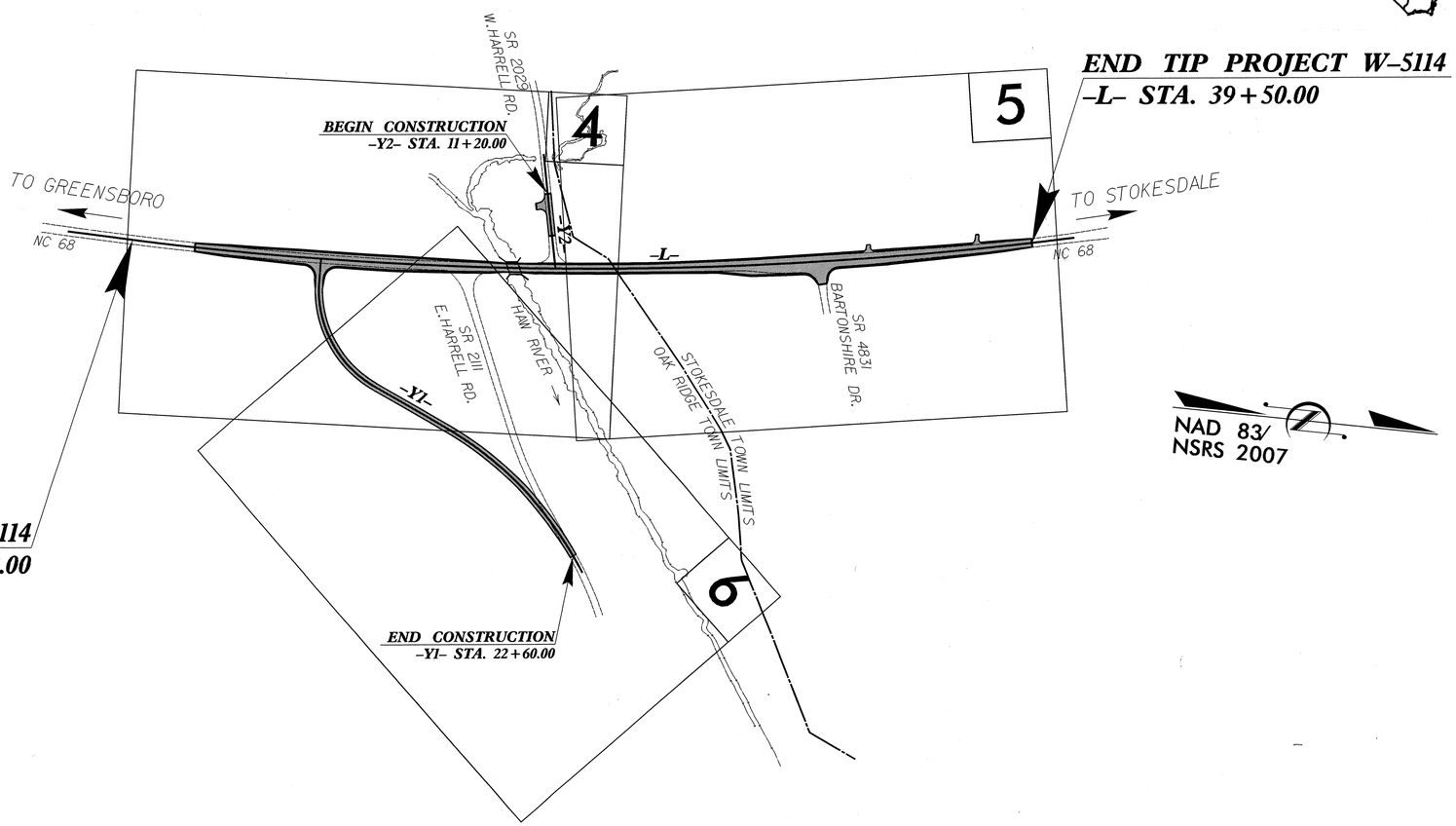
LOCATION: NC 68 FROM SOUTH OF SR 2111 (EAST HARRELL ROAD) TO SR 4831 (BARTONSHIRE DRIVE) IN OAK RIDGE AND STOKESDALE

TYPE OF WORK: GRADING, PAVING, AND DRAINAGE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5114	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
41877.1.1	STP-0068(10)	PE
41877.2.1	STP-0068(10)	R/W
41877.2.U1	STP-0068(10)	UTL.
41877.3.FR1	STP-0068(10)	CONST.





TIP PROJECT: W-5114

CONTRACT: C203415

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2014 = 16,600 VPD
ADT 2034 = 17,600 VPD
DHV = 11 %
D = 65 %
*T = 12 %
V = 55 MPH
*(TTST 7%+ DUAL 5%)
FUNC. CLASS. =
RURAL MINOR ARTERIAL
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT W-5114 = 0.521 MILE
TOTAL LENGTH TIP PROJECT W-5114 = 0.521 MILE

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MAY 24, 2013

LETTING DATE:
JUNE 17, 2014

TONY HOUSER, PE
PROJECT ENGINEER

JEFFREY L. TEAGUE, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 19660 ENGINEER PAUL ATKINSON
3/21/14
SIGNATURE:

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 033298 ENGINEER JEFFREY L. TEAGUE
3/21/14
SIGNATURE:

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

09/08/99

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
W-5114	1-A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 033298 ENGINEER JEFFREY C. TEAFORD

3/21/14

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL SHEET
2	PAVEMENT SCHEDULE, TYPICAL SECTIONS AND DETAIL SHOWING METHOD OF WEDGING
3-A	GUARDRAIL SUMMARY, SUMMARY OF EARTHWORK AND ASPHALT PAVEMENT REMOVAL SUMMARY
3-B	DRAINAGE SUMMARY
3-C	PARCEL INDEX SHEET
4 THRU 6	PLAN SHEETS
7 THRU 8	PROFILE SHEETS
TMP-1 THRU TMP-8	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THRU PMP-3	PAVEMENT MARKING PLANS
EC-1 THRU EC-9	EROSION CONTROL PLANS
RF-1	REFORESTATION DETAIL SHEET
SIGN-1 THRU SIGN-3	SIGNING PLANS
UO-1 THRU UO-4	UTILITIES BY OTHERS PLANS
X-1A	CROSS-SECTION SUMMARY SHEET
X-1 THRU X-20	CROSS-SECTIONS

GENERAL NOTES

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

GRADING AND SURFACING OR RESURFACING AND WIDENING:

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

CLEARING:

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

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

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

SIDE ROADS:

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

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

TEMPORARY SHORING:

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

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE DUKE ENERGY PROGRESS,

AT&T, AND PIEDMONT NATURAL GAS

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:

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

ROCK

ROCK IS ANTICIPATED AT -Y1- 11+50, 17+50 RT, 19+42 LT AND 19+50 RT. ALSO, THERE ARE INDICATIONS THAT ROCK MAY BE ENCOUNTERED AT -L- 17+00 LT, 17+05 LT, 17+77 RT, 35+00 RT AND 35+07 RT. BLASTING MAY BE REQUIRED FOR EXCAVATION ON THE PROJECT. SEE SECTION 220 OF THE STANDARD SPECIFICATIONS AND IF APPLICABLE, ROCK BLASTING PROVISION.

2012 ROADWAY ENGLISH STANDARD DRAWINGS

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

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
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
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 8 - INCIDENTALS	
840.00	Concrete Base Pad for Drainage Structures
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
840.25	Anchorage for Frames - Brick or Concrete or Precast
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
840.72	Pipe Collar
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
876.02	Guide for Rip Rap at Pipe Outlets

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PROJECT REFERENCE NO.	SHEET NO.
W-5114	1-B

Note: Not to Scale

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

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

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line — RW
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite Marker — RW
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

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

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

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

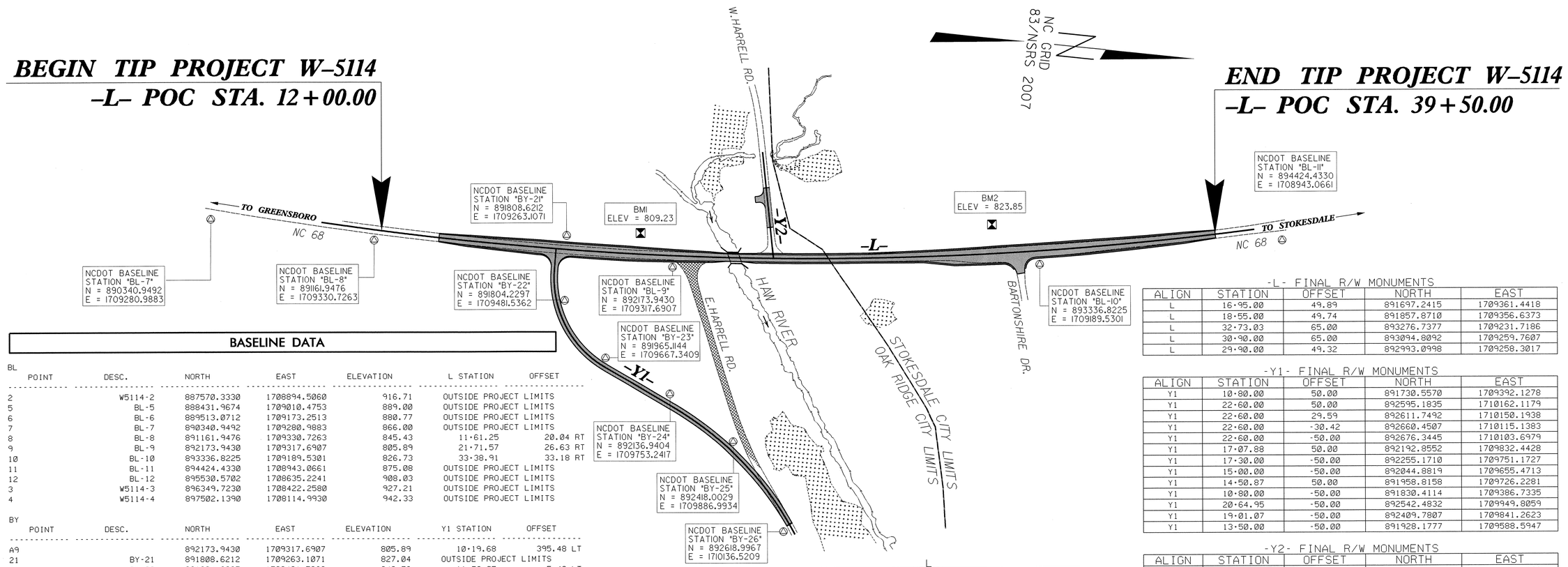
MISCELLANEOUS:

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

12/01/2005

PROJECT REFERENCE NO.	SHEET NO.
W-5114	1-C
Location and Surveys	

W-5114 SURVEY CONTROL SHEET



BASELINE DATA

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
2	W5114-2	887570.3330	1708894.5060	916.71	OUTSIDE PROJECT LIMITS	
5	BL-5	888431.9674	1709010.4753	889.00	OUTSIDE PROJECT LIMITS	
6	BL-6	889513.0712	1709173.2513	880.77	OUTSIDE PROJECT LIMITS	
7	BL-7	890340.9492	1709280.9883	866.00	OUTSIDE PROJECT LIMITS	
8	BL-8	891161.9476	1709330.7263	845.43	11+61.25	20.04 RT
9	BL-9	892173.9430	1709317.6907	805.89	21+71.57	26.63 RT
10	BL-10	893336.8225	1709189.5301	826.73	33+38.91	33.18 RT
11	BL-11	894424.4330	1708943.0661	875.08	OUTSIDE PROJECT LIMITS	
12	BL-12	895530.5702	1708635.2241	908.03	OUTSIDE PROJECT LIMITS	
3	W5114-3	896349.7230	1708422.2580	927.21	OUTSIDE PROJECT LIMITS	
4	W5114-4	897502.1390	1708114.9930	942.33	OUTSIDE PROJECT LIMITS	

BY

POINT	DESC.	NORTH	EAST	ELEVATION	Y1 STATION	OFFSET
A9		892173.9430	1709317.6907	805.89	10+19.68	395.48 LT
21	BY-21	891808.6212	1709263.1071	827.04	OUTSIDE PROJECT LIMITS	
22	BY-22	891804.2297	1709481.5362	843.73	11+76.05	5.48 LT
23	BY-23	891965.1144	1709667.3409	815.44	14+31.94	5.71 LT
24	BY-24	892136.9404	1709753.2417	814.49	16+24.23	0.99 RT
25	BY-25	892418.0029	1709886.9934	808.94	19+33.41	17.67 LT
26	BY-26	892618.9967	1710136.5209	800.01	22+53.03	15.70 RT

BENCHMARK DATA

BM1 ELEVATION = 809.23
N 892049 E 1709230
L STATION 20+52.00 68 LEFT
R/R SPIKE IN BASE OF 18" HICKORY

BM2 ELEVATION = 823.85
N 893196 E 1709077
L STATION 32+18.00 100 LEFT
R/R SPIKE IN BASE OF 24" RED OAK

NOTES

1. *THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT: HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/PAGES/DEFAULT.ASPX*

   THE FILES TO BE FOUND ARE AS FOLLOWS: W5114_LS_CONTROL.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 SERVICE (OPUS)

L

TYPE	STATION	NORTH	EAST
POT	10+00.00	891001.2788	1709305.6311
PC	10+55.22	891056.4636	1709307.5350
PT	40+23.14	894002.2106	1709022.9317
POT	40+80.04	894057.6488	1709010.1196

Y1

TYPE	STATION	NORTH	EAST
POT	10+00.00	891778.0616	1709309.4681
PC	10+71.50	891780.1317	1709380.9342
PT	14+50.87	891979.4791	1709680.6975
PC	17+07.88	892213.5184	1709786.9122
PT	22+96.51	892656.5812	1710162.9050
POT	23+18.58	892668.8470	1710181.2463

Y2

TYPE	STATION	NORTH	EAST
POT	10+00.00	892421.2956	1708922.7484
POT	13+50.64	892492.6755	1709266.0471

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "W5114-2"
WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
NORTHING: 887570.3330(ft) EASTING: 1708894.5060(ft)
ELEVATION: 916.7100(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9999698557
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "W5114-2" TO -L- STATION 13+90.00 IS N06°16'03.20"E 3,843.81'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

-L- FINAL R/W MONUMENTS

ALIGN	STATION	OFFSET	NORTH	EAST
L	16+95.00	49.89	891697.2415	1709361.4418
L	18+55.00	49.74	891857.8710	1709356.6373
L	32+73.03	65.00	893276.7377	1709231.7186
L	30+90.00	65.00	893094.8092	1709259.7607
L	29+90.00	49.32	892993.0998	1709258.3017

-Y1- FINAL R/W MONUMENTS

ALIGN	STATION	OFFSET	NORTH	EAST
Y1	10+80.00	50.00	891730.5570	1709392.1278
Y1	22+60.00	50.00	892595.1835	1710162.1179
Y1	22+60.00	29.59	892611.7492	1710150.1938
Y1	22+60.00	-30.42	892660.4507	1710115.1383
Y1	22+60.00	-50.00	892676.3445	1710103.6979
Y1	17+07.88	50.00	892192.8552	1709832.4428
Y1	17+30.00	-50.00	892255.1710	1709751.1727
Y1	15+00.00	-50.00	892044.8819	1709655.4713
Y1	14+50.87	50.00	891958.8158	1709726.2281
Y1	10+80.00	-50.00	891830.4114	1709386.7335
Y1	20+64.95	-50.00	892542.4832	1709949.8059
Y1	19+01.07	-50.00	892409.7807	1709841.2623
Y1	13+50.00	-50.00	891928.1777	1709588.5947

-Y2- FINAL R/W MONUMENTS

ALIGN	STATION	OFFSET	NORTH	EAST
Y2	11+15.00	70.00	892376.1719	1709049.5902
Y2	11+15.00	30.00	892415.3343	1709041.4475
Y2	11+90.00	70.00	892391.4396	1709123.0198
Y2	11+90.00	30.00	892430.6021	1709114.8770

-L- FINAL PERMANENT DRAINAGE EASEMENT

ALIGN	STATION	OFFSET	NORTH	EAST
L	34+55.00	79.00	893459.6058	1709214.7142
L	34+55.00	49.47	893454.4049	1709185.6451
L	14+20.00	-49.79	891421.2846	1709264.4581
L	14+20.00	-60.00	891421.3084	1709254.2502
L	14+60.00	-60.00	891461.0969	1709254.2729
L	14+60.00	-49.84	891461.1090	1709264.4311
L	36+10.00	-50.44	893588.5181	1709059.0866
L	36+10.00	-60.00	893586.7055	1709049.6972
L	36+60.00	-60.00	893635.5185	1709040.1623
L	36+60.00	-50.40	893637.3792	1709049.5776
L	35+45.00	55.00	893544.3375	1709174.8090
L	35+45.00	49.52	893543.3298	1709169.4235

-Y1- FINAL PERMANENT DRAINAGE EASEMENTS

ALIGN	STATION	OFFSET	NORTH	EAST
Y1	16+89.00	-60.00	892221.1200	1709724.4722
Y1	16+89.00	-49.80	892216.9057	1709733.7583
Y1	17+17.00	-60.00	892247.0698	1709736.2946
Y1	17+17.00	-49.81	892242.7806	1709745.5339
Y1	14+00.00	-55.48	891965.1031	1709609.7546
Y1	14+30.00	-68.00	891992.5998	1709611.4145
Y1	14+71.00	-68.00	892025.9130	1709627.0956
Y1	14+71.00	-52.74	892019.6080	1709640.9882
Y1	20+15.00	-64.06	892513.0675	1709903.9543
Y1	20+20.00	-82.94	892529.5128	1709893.2590
Y1	20+70.00	-68.00	892558.7988	1709940.5191
Y1	21+95.00	-50.00	892634.9120	1710049.7082
Y1	21+95.00	-65.00	892646.5262	1710040.2156
Y1	22+25.00	-65.00	892666.3241	1710065.1504
Y1	22+25.00	-50.00	892654.4458	1710074.3105

NOTE: DRAWING NOT TO SCALE

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PROJECT REFERENCE NO.	SHEET NO.
W-5114	2

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 033298 ENGINEER JEFFREY L. TEAGUE

3/21/14

PAVEMENT DESIGN ENGINEER

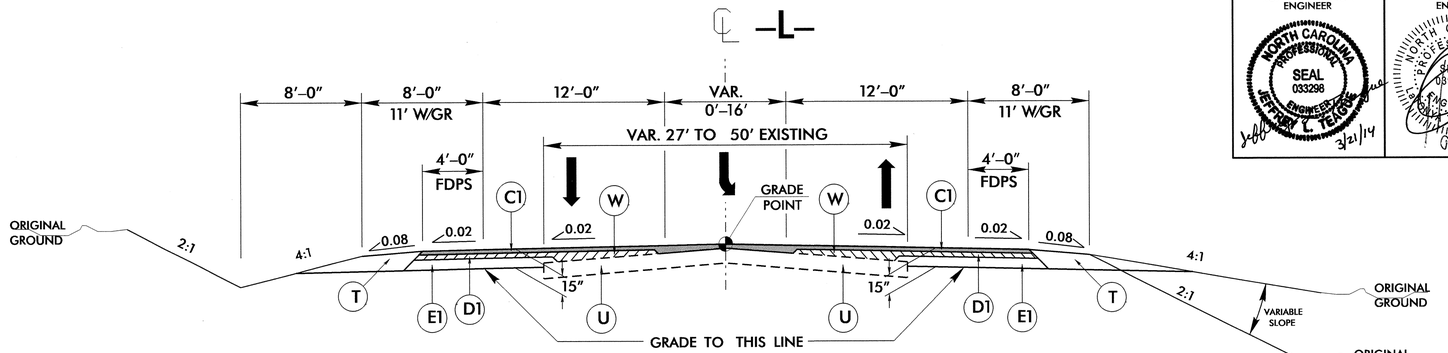
NORTH CAROLINA PROFESSIONAL SEAL 033981 ENGINEER LINDSAY C. HEWARD

March 21, 2014

PAVEMENT SCHEDULE
(FINAL PAVEMENT DESIGN)

C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1½" OR GREATER THAN 2" IN DEPTH.
C4	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 8" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
E2	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E3	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE DETAIL SHOWING METHOD OF WEDGING).

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



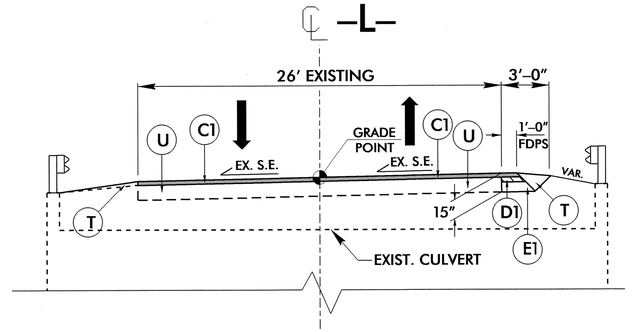
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1 FOR:

–L– STA. 13+90.00 TO –L– STA. 23+47.15

–L– STA. 23+83.21 TO –L– STA. 39+50.00

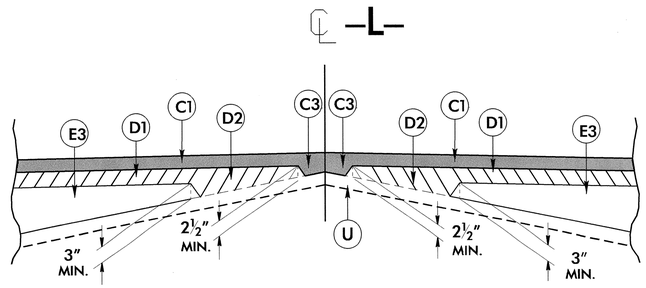
NOTE:
INCIDENTAL MILLING AS DIRECTED BY THE ENGINEER TO TIE PROPOSED FINAL SURFACE TO EXISTING PAVEMENT.



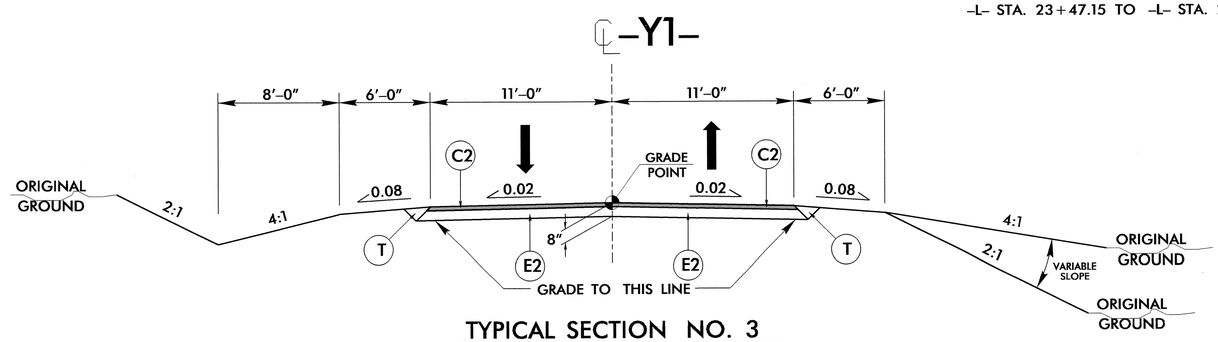
TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2 FOR:

–L– STA. 23+47.15 TO –L– STA. 23+83.21



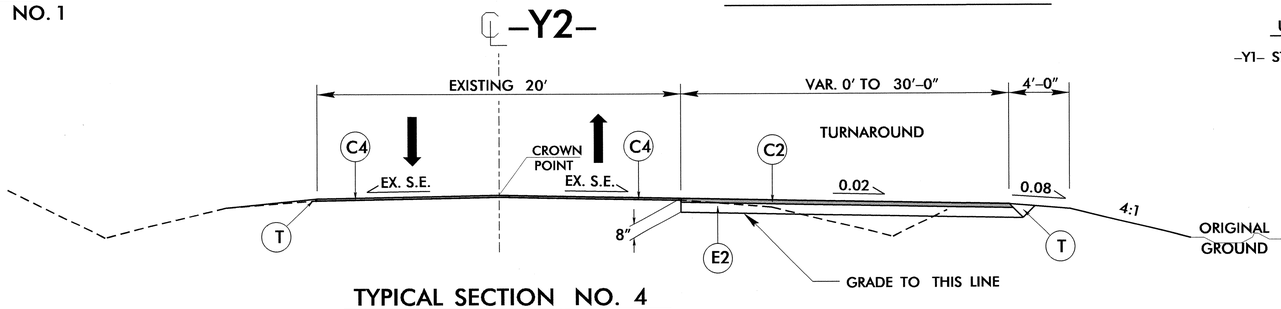
DETAIL SHOWING METHOD OF WEDGING
USE IN CONJUNCTION WITH TYPICAL SECTION NO. 1



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3 FOR:

–Y1– STA. 10+20.00 TO –Y1– STA. 22+60.00



TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4 FOR:

–Y2– STA. 11+20.00 TO –Y2– STA. 12+50.00

NOTES:
OVERLAY THE EXISTING PAVEMENT WITH 1½" OF SF9.5A (C4).

NO PROFILE PROVIDED FOR TURNAROUND WIDEN OFF THE EXISTING.

INCIDENTAL MILLING AS DIRECTED BY THE ENGINEER TO TIE PROPOSED FINAL SURFACE TO EXISTING PAVEMENT.

19-MAR-2014 15:40
R:\Roadway\Proj\w5114_rdy_typ.dgn
$$$$USERNAME$$$$

COMPUTED BY: D. Puryear DATE: 3/2013
CHECKED BY: C. Harris DATE: 3/2013

PROJECT NO.	SHEET NO.
W-5114	3-A

RD2616491

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

★ SUMMARY OF EARTHWORK
IN CUBIC YARDS

Station	Station	Uncl. Excav.	Embank. +%	Borrow	Waste
-L- STA. 12+00.00 RT	-L-STA. 23+47.15 RT (CUL)	4,670	480	0	4,190
-L- STA. 13+90.00 LT	-L- STA. 23+47.15 LT (CUL)	1,959	448	0	1,511
SUBTOTAL		6,629	928	0	5,701
-L- STA. 23+83.21 RT (CUL)	-L- STA. 39+50.00 RT	128	4,018	3,890	0
-L- STA. 23+83.21 LT (CUL)	-L- STA. 39+50.00 LT	749	640	0	109
SUBTOTAL		877	4,658	3,890	109
-Y1- STA. 10+20.00	-Y1- STA. 22+60.00	33,198	2,510	0	30,688
SUBTOTAL		33,198	2,510	0	30,688
TOTAL		40,704	8,096	3,890	36,498
LOSS DUE TO CLEARING AND GRUBBING		-2,200			-2,200
WASTE IN LIEU OF BORROW				-3,890	-3,890
GRAND TOTALS		38,504	8,096	0	30,408
SAY		39,000			

ESTIMATED DDE = 410 C.Y.
ESTIMATED SHOULDER BORROW = 1,160 C.Y.
ESTIMATED UNDERCUT EXCAVATION = 1,300 C.Y.
ESTIMATED SELECT GRANULAR MATERIAL = 1,000 C.Y.
PAVEMENT STRUCTURE VOLUME = 500 C. Y.

Note: Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

★ ASPHALT PAVEMENT REMOVAL SUMMARY
IN SQUARE YARDS

SURVEY LINE	Station	Station	LOCATION LT/RT/CL	ASPHALT REMOVAL
-Y1- (E HARRELL RD)	10+13.00	22+60.00	LT/CL (EXIST. ROAD)	2,039
-Y2- (W HARRELL RD)	12+50.00	13+35.00	CL (EXIST. ROAD)	285
		TOTAL:		2,324
		SAY:		2,350

★ Approximate quantities only. Fine Grading, Clearing and Grubbing, Removal of Existing Asphalt Pavement and Shoulder Borrow will be paid for at the contract lump sum price for "Grading."

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL

GUARDRAIL SUMMARY

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

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL WIDTH	FLARE LENGTH		W		ANCHORS								IMPACT ATTENUATOR TYPE 350		SINGLE FACED CONCRETE BARRIER	REMOVE EXISTING GUARDRAIL	8' POSTS (EA)	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	XI MOD	XI	GRAU 350	TES	XIII	CAT-1	VI MOD	BIC		G	NG				
-L-	20+66.11	23+41.11 (CUL)	LT	275'			23+41.11 (CUL)	21+50.00	4.5'	11'		275'		4.5'			1										233.75'	5	8' GUARDRAIL POSTS AT CORNER OF CULVERT
-L-	21+40.99	23+53.49 (CUL)	RT	212.5'			22+75.00	23+53.49 (CUL)	5.4'	11'	212.5'		3.6'				1										164.72'	5	8' GUARDRAIL POSTS AT CORNER OF CULVERT
-L-	23+78.61 (CUL)	29+28.61	LT	550'			28+00.00	23+78.61 (CUL)	4.5'	11'	50'	150'	1'	3.5'			1										447.60'	5	8' GUARDRAIL POSTS AT CORNER OF CULVERT
-L-	23+90.99 (CUL)	29+90.99	RT	600'			23+90.99 (CUL)	29+50.00	5'	11'	150'	50'	3'	1'			1		ANCHOR DEDUCTIONS GRAU 350 TL-3: 6 @ 50' = 300' ADDITIONAL GUARDRAIL POSTS : 10								615.53'	5	8' GUARDRAIL POSTS AT CORNER OF CULVERT
-L-	23+41.11 (CUL)	23+78.61 (CUL)	LT	37.5'			23+41.11 (CUL)	23+78.61 (CUL)	4.5'	4.5'																	37.5'		ATTACH GUARDRAIL TO CULVERT WALL
-L-	23+53.49 (CUL)	23+90.99 (CUL)	RT	37.5'			23+53.49 (CUL)	23+90.99 (CUL)	5.4'	5.4'																	37.5'		ATTACH GUARDRAIL TO CULVERT WALL
-L-	24+69.40	24+94.40	LT	25'			N/A	N/A										2											GUARDRAIL BARRIER
-L-	33+50.00	36+50.00	RT	300'			34+50.00	35+50.00	8'	11'	50'	50'	1'	1'			2												
			SUBTOTAL:	2,037.5'																									
			ANCHOR DEDUCTION:	-300'																									
			TOTAL:	1,737.5'													6	2								1,536.60'	20	
			SAY:	1,750'																						1,540'		

COMPUTED BY:	S. Sykes	DATE:	1/6/2014
CHECKED BY:	C. Harris	DATE:	1/7/2014

PROJECT NO.	SHEET NO.
W-5114	3-B

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout.
See "Standard Specifications For Roads and Structures, Section 300-5".

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

LINE & STATION / SIZE / THICKNESS OR GAUGE	OFFSET		STRUCTURE NUMBER FROM	TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	REMARKS
L 14+14	22	RT	0401						COLLAR AND EXTEND 24" RCP
			0402	0401		832.1	831.7		REMOVE 4' OF EXIST. 24" RCP
L 14+32	27	LT	0403						COLLAR AND EXTEND 24" RCP
			0403	0404		829.7	829.1	0.6	
			0405	0406		819.2	815.8		
			0407	0601		812.7	808.3	0.3	
L 34+51	36	LT	0501						REMOVE EXIST. 15" RCP
L 36+12	27	LT	0502						COLLAR AND EXTEND 18" RCP
			0503	0502		836.2	834.9		
L 35+56	41	RT	0504		831.8				
			0504	0505		822.5	821.9		
L 37+84	34	LT	0506						REMOVE EXIST. 15" RCP
			0507	0504		847.1	829.3	0.4	TIE 18" RCP TO EXIST. DITCH
L 35+65	27	RT	0508		838.1				
			0508	0504		830.8	829.3		REMOVE 4' OF EXIST. 18" RCP
			0602	0603		807.1	804.1		
			0604	0605		797.6	794.4		REMOVE EXIST. 18" RCP

Drainage Pipe (RCP, CSP, CAAP, HDPE, or PVC): sizes 12, 15, 18, 24, 30, 36, 42, 48; DO NOT USE RCP; DO NOT USE CSP; DO NOT USE CAAP; DO NOT USE HDPE; DO NOT USE PVC — no entries.

C. S. PIPE (SE: SHOP ELONGATED): sizes 12 (.064), 15 (.064), 18 (.064), 24 (.064), 30 (.079), 36 (.079), 42 (.109), 48 (.109) — no entries.

R. C. PIPE CLASS IV: sizes 12, 15, 18, 24, 30, 36, 42, 48 — no entries.

FROM	TO	R.C. PIPE CLASS III 12	15	18	24	30	36	42	48	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE
0401												
0402	0401				12							
0403												
0403	0404				16							
0405	0406			72								
0407	0601					140						
0501										24		
0502												
0503	0502			24								
0504												
0504	0505				92							
0506										24		
0507	0504			248								
0508												
0508	0504			20								
0602	0603				72							
0604	0605				76							
SHEET TOTALS				364	268	140				48		
PROJECT TOTALS				364	268	140				48		

ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY; REINFORCED ENDWALLS CY; DRAINAGE STRUCTURE MASONRY CY; C.B. STD. 840.01 OR STD. 840.02; FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E, F, G; CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06, C.B. STD. 852.05 — no entries.

QUANTITIES FOR DRAINAGE STRUCTURES — NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)

FROM	TO	0' THRU 5' EACH	A: 5' THRU 10' LIN. FT.	B: 10' AND ABOVE LIN. FT.
0504		1	4.3	
0508		1	2.3	
SHEET TOTALS		2	6.6	
PROJECT TOTALS		2	6.6	

Columns with no entries: OPEN THROAT C.B. STD. 840.04 OR STD. 840.05; CONCRETE BRIDGE APPROACH D.I. STD. 840.13; G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26; G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27; G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28; G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29; G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29; DRIVEWAY D.I. STD. 840.30; FRAME W/ GRATE FOR DRIVEWAY STD. 840.30; ANGLED VANE GRATES AND FRAMES STD. 840.33; T.B.J.B. STD. 840.34; T.B.D.I. STD. 840.35; M.H. STD. 840.51, STD. 840.52, OR STD. 840.53; FLOWABLE FILL CY; CONCRETE AND BRICK PIPE PLUG STD. 840.71 CY.

FROM	TO	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATES STD. 840.16	J.B. STD. 840.31 OR STD. 840.32	M.H. FRAME AND COVER STD. 840.54	PIPE CLEAN OUT EACH	CONCRETE COLLARS CL. "B" STD. 840.72 CY	PIPE REMOVAL LIN. FT.
0401							0.5526	
0402	0401					1		
0403							0.5526	
0501								24
0502							0.4465	
0504		1	1					
0506								23
0508				1	1			
SHEET TOTALS		1	1	1	1	1	1.5517	47
PROJECT TOTALS		1	1	1	1	1	1.5517	47

ABBREVIATIONS

C.A.A.	CORRUGATED ALUMINIUM ALLOY
C.B.	CATCH BASIN
C.S.	CORRUGATED STEEL
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
H.D.P.E.	HIGH DENSITY POLYETHYLENE
J.B.	JUNCTION BOX
M.H.	MANHOLE
N.S.	NARROW SLOT
P.V.C.	POLYVINYL CHLORIDE
R.C.	REINFORCED CONCRETE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX
W.S.	WIDE SLOT

RD253045

RD266178,3/8/2013,R:\Roadway\Proj\ROWParcels.xls

PROJ. REFERENCE NO.	SHEET NO.
W-5114	3-C

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
1	4,6	COLLIN M. JR & NANCY ABBITT
2	4	NANCY B. ABBITT
3	4,5,6	FRANKLIN D. BLAYLOCK
4	4	BILLY RAY MOORE
6	5	LARRY W. MADDOX AND JEAN A. MADDOX (ESTATE OF JIMMY GARY MADDOX, SR.)
7	5	BRIAN P. MITCHELL, SR.
8	5	THOMAS E. THOMPSON, JR.
13	6	NANCY B. ABBITT

PARCEL No.	SHEET No.	PROPERTY OWNER NAME

PROJECT REFERENCE NO.	SHEET NO.
W-5114	4
RW SHEET NO.	

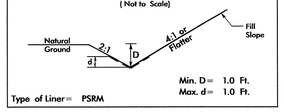
ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 033298 ENGINEER JEFFREY L. TEAGUE — 3/21/14

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 19880 ENGINEER PAUL ATKINSON — 3/21/14

8/17/99

REVISIONS

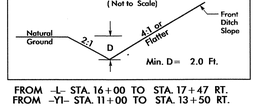
DETAIL A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
Type of Liner = PSRM

FROM –L– STA. 12+00 TO STA. 14+10 RT.

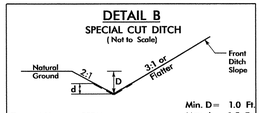
DETAIL C
SPECIAL CUT DITCH
(Not to Scale)



Min. D = 2.0 Ft.

FROM –L– STA. 16+00 TO STA. 17+47 RT.
FROM –Y1– STA. 11+00 TO STA. 13+50 RT.

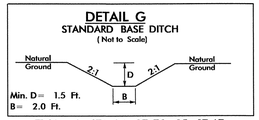
DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



Min. D = 1.0 Ft.
Max d = 1.5 Ft.
Type of Liner = PSRM

FROM –L– STA. 18+24 TO STA. 21+88 RT.

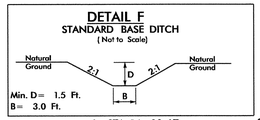
DETAIL G
STANDARD BASE DITCH
(Not to Scale)



Min. D = 1.5 Ft.
B = 2.0 Ft.

FROM –L– STA. 24+37 TO 25+17 LT.

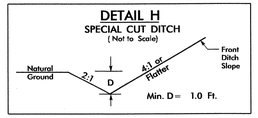
DETAIL F
STANDARD BASE DITCH
(Not to Scale)



Min. D = 1.5 Ft.
B = 3.0 Ft.

–L– STA. 14+22 LT.

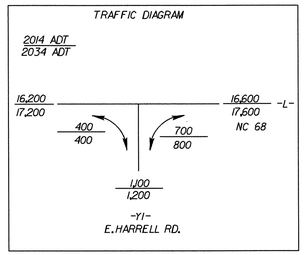
DETAIL H
SPECIAL CUT DITCH
(Not to Scale)



Min. D = 1.0 Ft.

FROM –Y1– STA. 11+50 TO STA. 14+50 LT.

TRAFFIC DIAGRAM



NAD 83/NSRS 2007

BEGIN TIP PROJECT W-5114
–L– POC STA. 12+00.00

BEGIN CONSTRUCTION
–Y2– POT STA. 11+20.00

–L– POC STA. 17+76.94 =
–Y1– POT STA. 10+00.00
N 88°20'27.0" E (–Y1–)

–L– POC STA. 24+92.99 =
–Y2– POT STA. 13+50.64

PC Sta. 10+71.50

–Y2– POT Sta. 10+05.00

MATCH LINE –L– STA. 26+50.00 SHEET 5

MATCH LINE SHEET 6

MATCH LINE –Y1– STA. 14+00.00 SHEET 6

BILLY RAY MOORE
DB 7210 PG 1776
4

COLLIN M. JR & NANCY ABBITT
DB 1749 PG 292
1

NANCY B. ABBITT
DB 2940 PG 895
2

FRANKLIN D. BLAYLOCK
DB 5949 PG 2071
3

SESSOMS DEVELOPMENT, INC.
DB 4402 PG 190

RETAIN

WOODS

HAW RIVER

STOKESDALE TOWN LIMITS

OAK RIDGE TOWN LIMITS

GUARDRAIL BARRIER

STANDARD BASE DITCH
SEE DETAIL G
EST. DDE 220 CY

OUTLET DITCH
SEE DETAIL F
EST. DDE 139 CY

CL B RIP RAP
EST. 5 TONS
EST. 14 SY GEOTEXTILE

CL B RIP RAP PAD
EST. 1 TON
EST. 4 SY GEOTEXTILE

CLASS B RIP RAP PAD
EST. 3 TONS
EST. 10 SY GEOTEXTILE

SPECIAL LATERAL 'V' DITCH W/PSRM
SEE DETAIL A
EST. 146 SY PSRM

SPECIAL CUT DITCH
SEE DETAIL C

SPECIAL CUT DITCH
SEE DETAIL H

SPECIAL CUT DITCH
W/PSRM
SEE DETAIL B
EST. 385 SY PSRM

TIE TO EXISTING DITCH

RETAIN EXISTING DITCH

REMOVE 4' OF EXIST. PIPE
COLLAR AND EXTEND 24" PIPE

COLLAR AND EXTEND 24" PIPE

CLEAN OUT PIPE

REMOVE 118" RCP

BEGIN EXIST. CULVERT
–L– POC STA. 23+47.15

END EXIST. CULVERT
–L– POC STA. 23+83.21

330' LANE TAPER LT & RT

150' LEFT TURN TAPER

50' P.S. TAPER LT & RT

100' P.S. TAPER LT & RT

GRAU 350 TL-3

BM#1

NOTE:
EXTRA LENGTH GUARDRAIL POSTS (8' POST) ON STANDARD POST SPACING REQUIRED AT ALL FOUR CORNERS OF THE EXISTING CULVERT OR AS DIRECTED BY THE ENGINEER. SEE GUARDRAIL SUMMARY FOR NUMBER OF POSTS.

–L–	–Y1–
N 1°58'33.4" E (BACK)	PI Sta 12+83.67
N 13°00'46.7" W (AHEAD)	Δ = 63°55'50.6" (LT)
PI Sta 25+47.70	D = 16°51'06.1"
Δ = 14°59'20.1" (LT)	L = 379.37'
D = 0°30'18.1"	T = 212.17'
L = 2,967.92'	R = 340.00'
T = 1,492.48'	SE = 0.06
R = 11,345.00'	RO = SEE PLANS
SE = SEE PLANS	DS = 35 mph
RO = SEE PLANS	

PROP. PAVED SHOULDER
PROP. PAINT STRIPING
PAVEMENT REMOVAL
FOR –L– PROFILE, SEE SHEET NO. 7
FOR –Y1– PROFILE, SEE SHEET NO. 8

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PROJECT REFERENCE NO.	SHEET NO.
W-5114	5
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 033298 ENGINEER JEFFREY C. TENCH

3/21/14

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 19980 ENGINEER PAUL ATKINSON

3/21/14

REVISIONS

8/17/99

TRAFFIC DIAGRAM

2014 ADT
2034 ADT

16,600
17,600

900
900

1,000
1,100

-Y1-
BARTONSHIRE DR.

15,800
16,800
NC 68

100
200

-L-

NAD 83/NSRS 2007

MATCH LINE -L- STA 26+50.00 SHEET 4

SESSOMS DEVELOPMENT, INC.
DB 4402 PG 190

VICTOR J. BIERMAN, JR.
ANNE E. HERSHEY
DB 7222 PG 158
PB 73 PG 114

JOHN EDWARD ACREE
DB 3361 PG 234
PB 73 PG 251

THOMAS E. THOMPSON, JR.
DB 3361 PG 234
PB 73 PG 251

FLOYD R. & LISA W. BAGBY
DB 7204 PG 2138
PB 134 PG 103

FRANKLIN D. BLAYLOCK
DB 5949 PG 2071

LARRY W. MADDOX
JEAN A. MADDOX
(ESTATE OF JIMMY GARY MADDOX, SR.)
DB 4709 PG 830
PB 126 PG 85

BRIAN P. MITCHELL, SR.
DB 5109 PG 2061
PB 126 PG 85

JEREMY C. VENSON & MARIA E. RIPPON
DB 6521 PG 2655

ARTHUR V. DENNING, JR.
CATHY CARTER CLINE
DB 662 PG 82
DB 126 PG 85

MATTHEW E. JANOWSKY
DB 6852 PG 290

MICHAEL W. & CHERIE A. COBLE
DB 4920 PG 342
PB 126 PG 85

SESSOMS DEVELOPMENT, INC.
DB 4365 PG 1833
PB 126 PG 85

WOODS

SPECIAL LATERAL 'V' DITCH W/PSRM SEE DETAIL D EST. 265 SY PSRM

SPECIAL CUT DITCH W/PSRM SEE DETAIL E EST. 318 SY PSRM

SPECIAL CUT DITCH W/PSRM SEE DETAIL E EST. 341 SY PSRM

TIE TO EXISTING

440' LANE TAPER LT & RT

150' LEFT TURN TAPER

450' LANE TAPER LT & RT

100' P.S. TAPER LT & RT

100' RIGHT TURN TAPER

4.5:1 P.S. TAPER

3.5:1 P.S. TAPER

-L- +00.00
68.00' RT

-L- +90.00
49.32' RT

-L- +90.00
65.00' RT

-L- +73.03
65.00' RT

-L- +55.00
49.47' RT
79.00' RT

-L- +50.00
50.48' LT

-L- +10.00
50.44' LT
60.00' LT

-L- +60.00
50.40' LT
60.00' LT

-L- +75.00
50.31' LT

-L- +33.63
69.45' RT

-L- +45.00
49.52' RT
55.00' RT

RETAIN

REMOVE

REMOVE 4' OF EXIST PIPE

COLLAR AND EXTEND 18" RCP

CL B RIP RAP EST. 3 TONS
EST. 11 SY GEOTEXTILE

GRAU 350 TL-3

4' P.S.

15" RCP

18" RCP-III

24" RCP-III

25.50' INC.

20' R

15' R

40' R

4' SHOULDER BERM GUTTER

2' CONC. GUTTER

9' CONC. DR

20' UTIL. EASEMENT

30' DRAINAGE EASEMENT

30' BST

SEPTIC FIELD AREA

ISFD

GATE

8' GRAVEL DR

TIE PIPE TO EXISTING DITCH ELEV. = 847.10

10' PRIVATE SEWER LINE ACCESS & MAINT. EASEMENT

MATCH LINE -L- STA 39+50.00 SHEET 6

STONESDALE TOWN LIMITS
OAK RIDGE TOWN LIMITS

BM#2

BL-10

399.73'
S 15°29'40" E

580.06'
S 03°31'39" E

N 03°34'10" W
260.63'

S 85°56'23" W
623.39'

N 77°38'20" E
248.31'

S 15°22'28" E
108.65'

104.66'
S 23°27'26" E

80.73'
S 23°27'18" E

52.68'
S 23°27'36" E

22.86'
S 12°41'39" E

44.52'
S 12°41'44" E

290.41'
S 12°41'40" E

END TIP PROJECT W-5114
-L- POC STA. 39+50.00

DETAIL D
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground | 2:1 | D | 4:1 | Front Ditch Slope | d

Min. D = 1.1 Ft.
Max d = 1.5 Ft.

Type of Liner = PSRM

FROM -L- STA. 29+50 TO STA. 31+50 LT

DETAIL E
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground | 2:1 | D | 4:1 or Flatter | Front Ditch Slope | d

Min. D = 1.5 Ft.
Max d = 1.5 Ft.

Type of Liner = PSRM

FROM -L- STA. 31+50 TO STA. 34+50 LT
FROM -L- STA. 36+28 TO STA. 39+50 LT.

-L-
N 1° 58' 33.4" E (BACK)
N 13° 00' 46.7" W (AHEAD)
PI Sta 25+47.70
△ = 14° 59' 20.1" (LT)
D = 0° 30' 18.1"
L = 2,967.92'
T = 1,492.48'
R = 11,345.00'
SE = SEE PLANS
RO = SEE PLANS

PROP. PAVED SHOULDER

PROP. PAINT STRIPING

FOR -L- PROFILE, SEE SHEET NO. 7

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ssmith2 PWWF=8.5"

PROJECT REFERENCE NO.	SHEET NO.
W-5114	6
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 033298 ENGINEER JEFFREY L. TEAGUE

3/21/14

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 19080 ENGINEER PAUL A. TATKINSON

3/21/14

REVISIONS

8/17/99

MATCH LINE SHEET 4

MATCH LINE -Y1- STA 14+00.00 SHEET 4

COLLIN M. JR & NANCY ABBITT
DB 1749 PG 292
1

FRANKLIN D. BLAYLOCK
DB 5949 PG 2071
3

NANCY B. ABBITT
DB 6764 PG 462
13

COLLIN M. JR & NANCY ABBITT
DB 3781 PG 158
1

WOODS

EXISTING R/W

REMOVE 15" RCP

STANDARD BASE DITCH
SEE DETAIL G
EST. DDE 43 CY

RETAIN EXISTING DITCH

CLASS 'B' RIP-RAP PAD
EST. 1 TON
EST. 4 SY GEOTEXTILE

-Y1- +01.07
50.00' LT

-Y1 +20.00
82.94' LT

-Y1- +15.00
64.06' LT

-Y1- +70.00
68.00' LT

-Y1- +64.95
50.00' LT

-Y1- +80.00
50.00' LT
95.00' LT

-Y1- +95.00
50.00' LT
65.00' LT

CL B RIP RAP PAD
EST. 3 TONS
EST. 11 SY GEOTEXTILE

-Y1- +95.00
112.00' LT

CL B RIP RAP PAD
EST. 3 TONS
EST. 11 SY GEOTEXTILE

-Y1- +89.00
60.00' LT
49.80' LT

-Y1- +65.00
60.00' LT

-Y1- +00.00
113.00' LT

-Y1- +17.00
60.00' LT
49.81' LT

-Y1- +40.00
95.00' LT

-Y1- +30.00
50.00' LT

SPECIAL CUT DITCH
SEE DETAIL H

-Y1- +00.00
55.48' LT

-Y1- +71.00
68.00' LT
52.74' LT

-Y1- +30.00
68.00' LT

CL I RIP RAP PAD
EST. 7 TONS
EST. 17 SY GEOTEXTILE

-Y1- +40.00
65.00' LT

-Y1- +00.00
50.00' LT

CHORD

PDE

PDE CHORD

N 24° 24' 36.4" E

-Y1-

30" RCP III

24" RCP III

18" RCP

0601

0602

0603

0604

0605

25.5" INC.

+80.38

+33.39

FALSE SUMP
SEE DETAIL J

-Y1- +07.88
50.00' RT

-Y1- +07.00
65.00' RT

-Y1- +50.87
50.00' RT

PC Sta. 11+07.88

PT Sta. 14+50.87

-BY-23

-BY-24

-BY-25

-BY-26

100' TAPER LT & RT

REMOVE 18" RCP

SPECIAL CUT DITCH
SEE DETAIL H

-Y1- +20.00
50.00' RT

FALSE SUMP
SEE DETAIL K

-Y1- +35.00
93.00' LT

-Y1- +25.00
50.00' LT
65.00' LT

-Y1- +60.00
30.42' LT
50.00' LT

POT Sta. 23+18.58

MATCH LINE -Y1-

N 56° 44' 38.0" E

PT Sta. 22+96.51

END CONSTRUCTION
-Y1- POC STA. 22+60.00

-Y1- +60.00
29.59' RT
50.00' RT

NAD 83/NSRS 2007

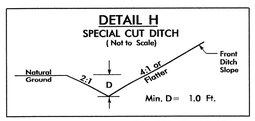
20+00

15+00

10+00

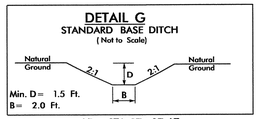
S 05°35'38" E
1400.03'

DETAIL H
SPECIAL CUT DITCH
(Not to Scale)



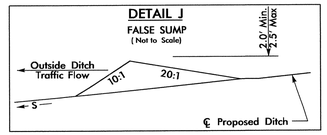
FROM -Y1- STA. 15+00 TO STA. 17+00 LT.
FROM -Y1- STA. 18+00 TO STA. 20+40 LT.
FROM -Y1- STA. 20+50 TO STA. 22+11 RT.

DETAIL G
STANDARD BASE DITCH
(Not to Scale)

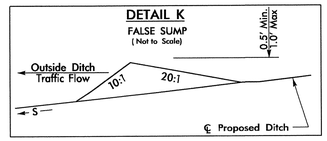


-Y1- STA. 17+87 LT.

DETAIL J
FALSE SUMP
(Not to Scale)



DETAIL K
FALSE SUMP
(Not to Scale)



-Y1-

PI Sta 12+83.67	PI Sta 20+10.00
Δ = 6° 55' 50.6" (LT)	Δ = 31° 49' 01.6" (RT)
D = 16° 51' 06.1"	D = 5° 24' 18.9"
L = 379.37'	L = 588.63'
T = 212.17'	T = 302.12'
R = 340.00'	R = 1,060.00'
SE = 0.06	SE = 0.06
RO = SEE PLANS	RO = SEE PLANS
DS = 35 mph	DS = 55 mph

PAVEMENT REMOVAL

FOR -Y1- PROFILE, SEE SHEET NO. 8

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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
W-5114	7

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 033298 ENGINEER JEFFREY L. TEAGUE

3/21/14

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 19660 ENGINEER PAUL ATKINSON

3/21/14

DITCH LEGEND

LEFT DITCH ----·----·----

RIGHT DITCH ----------

BM#1
-L- STA. 20+52.00 68' LT.
RR SPIKE IN BASE OF 18" HICKORY
EL = 809.23'

BEGIN DITCH GRADE RT
-L- STA 12+00.00
EL 842.70'

(-) 5.0238%

24" RCP

BEGIN DITCH GRADE RT
-L- STA 13+90.00
EL = 837.18'

END DITCH GRADE RT
-L- STA 14+10.00
EL 832.15'

(-)14.147.2%

(-) 5.4626%

BEGIN DITCH GRADE RT
-L- STA 16+00.00
EL 827.23'

END DITCH GRADE RT
-L- STA 17+47.00
EL 819.20'

(-) 0.7059%

BEGIN DITCH GRADE RT
-L- STA 18+15.00
EL 815.80'

PI = 19+00.00
EL = 815.20'

(-)14.147.2%

(-) 4.67.00%

PI = 20+00.00
EL = 810.53'

(-) 3.5266%

PI = 21+33.00
EL = 806.37'
VC = 440'
K = 115

BEGIN EXISTING CULVERT
-L- STA. 23+47.15

END EXISTING CULVERT
-L- STA. 23+83.21

(-)10.3086%

(-)10.3086%

(+)10.3060%

PI = 25+00.00
EL = 805.23'
VC = 220'
K = 358

END DITCH GRADE RT
-L- STA 21+88.00
EL 803.90'

PIPE HYDRAULIC DATA
-L- Sta.14+22

DRAINAGE AREA	= 2.5	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 6.3	CFS
DESIGN HW ELEVATION	= 833.4	FT
100 YEAR DISCHARGE	= 6.6	CFS
100 YEAR HW ELEVATION	= 833.4	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 25.0	CFS
OVERTOPPING ELEVATION	= 837.3	FT

FOR -L- PLAN VIEW, SEE SHEET NOS. 4 & 5

PIPE HYDRAULIC DATA
-L- Sta.35+88

DRAINAGE AREA	= 2.75	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 6.9	CFS
DESIGN HW ELEVATION	= 837.7	FT
100 YEAR DISCHARGE	= 7.2	CFS
100 YEAR HW ELEVATION	= 837.8	FT
OVERTOPPING FREQUENCY	= 10+/-	YRS
OVERTOPPING DISCHARGE	= 5.7	CFS
OVERTOPPING ELEVATION	= 837.6	FT

DITCH LEGEND

LEFT DITCH ----·----·----

RIGHT DITCH ----------

PI = 36+50.00
EL = 842.68'
VC = 300'
K = 1144

(+) 3.6800%

(+)4.6411%

(+) 5.9189%

(+)4.9092%

18" RCP

END DITCH GRADE LT
-L- STA 34+50.00
EL 830.06'

(+) 6.00%

PI = 38+50.00
EL = 849.35'

END DITCH GRADE LT
-L- STA 39+50.00
EL 853.03'

END GRADE
-L- STA 39+50.00
EL = 856.62'

(+) 3.82%

(+)4.90%

PI = 33+00.00
EL = 822.70'

PI = 33+50.00
EL = 825.15'

PI = 34+00.00
EL = 827.06'

BEGIN DITCH GRADE LT
-L- STA 36+28.00
EL 836.21'

PI = 29+13.00
EL = 806.50'
VC = 530'
K = 115

(+)4.9092%

(+) 5.60%

(+) 3.80%

(+) 2.70%

(+)0.3060%

PI = 31+00.00
EL = 811.50'

PI = 30+00.00
EL = 807.70'

BEGIN DITCH GRADE LT
-L- STA 29+50.00
EL 806.35'

BM#2
-L- STA. 32+18.00 100' LT.
RR SPIKE IN BASE OF 24" RED OAK
EL = 823.85'

FOR -L- PLAN VIEW, SEE SHEET NOS. 4 & 5

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PROJECT REFERENCE NO.	SHEET NO.
W-5114	8

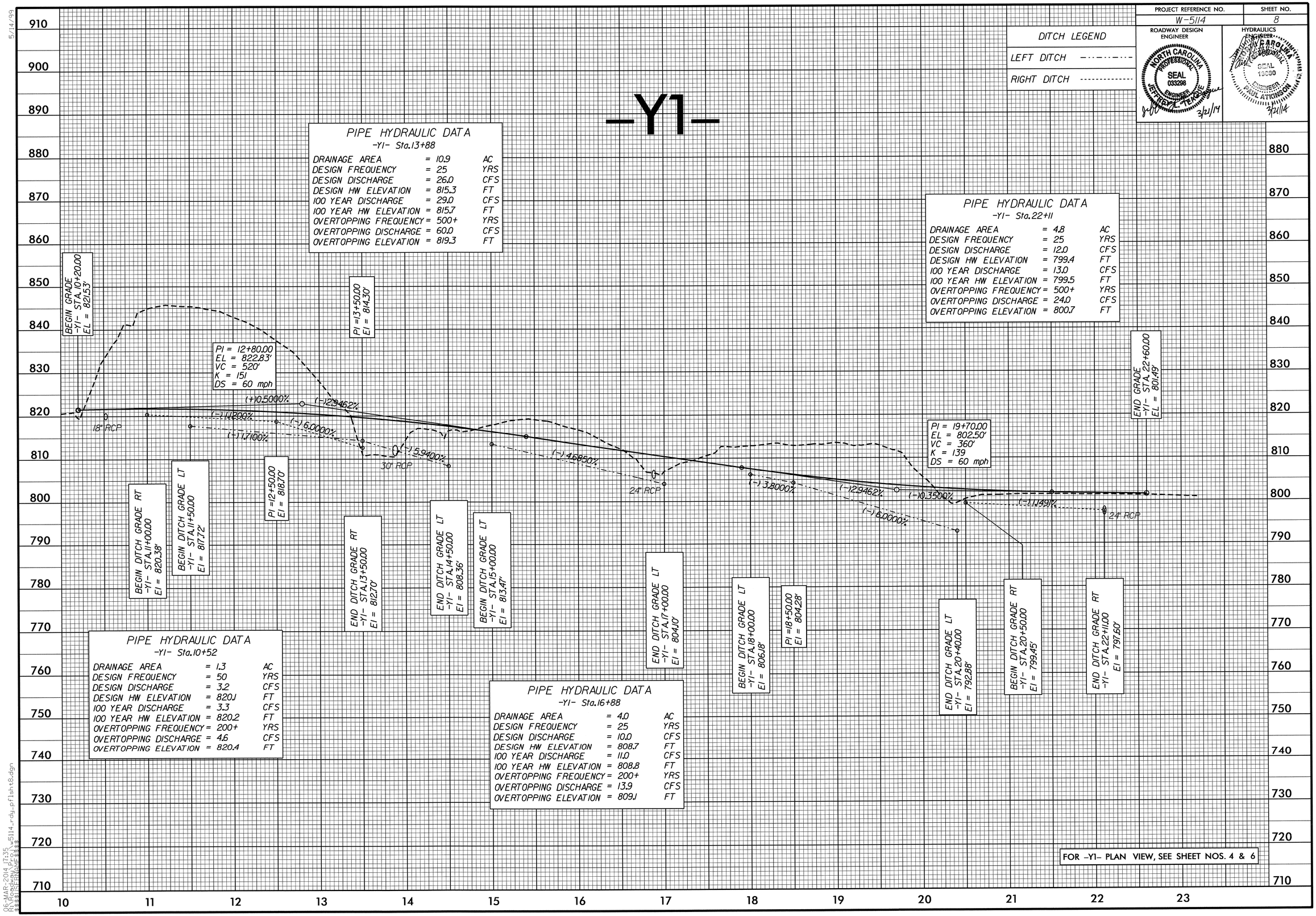
ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 033298 ENGINEER JEFFREY L. TEMPLE 3/21/14

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 18880 ENGINEER PAUL ATKINSON 3/21/14

DITCH LEGEND

LEFT DITCH

RIGHT DITCH



PIPE HYDRAULIC DATA
-Y1- Sta.13+88

DRAINAGE AREA	= 10.9	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 26.0	CFS
DESIGN HW ELEVATION	= 815.3	FT
100 YEAR DISCHARGE	= 29.0	CFS
100 YEAR HW ELEVATION	= 815.7	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 60.0	CFS
OVERTOPPING ELEVATION	= 819.3	FT

PIPE HYDRAULIC DATA
-Y1- Sta.22+11

DRAINAGE AREA	= 4.8	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 12.0	CFS
DESIGN HW ELEVATION	= 799.4	FT
100 YEAR DISCHARGE	= 13.0	CFS
100 YEAR HW ELEVATION	= 799.5	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 24.0	CFS
OVERTOPPING ELEVATION	= 800.7	FT

PIPE HYDRAULIC DATA
-Y1- Sta.10+52

DRAINAGE AREA	= 1.3	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 3.2	CFS
DESIGN HW ELEVATION	= 820.1	FT
100 YEAR DISCHARGE	= 3.3	CFS
100 YEAR HW ELEVATION	= 820.2	FT
OVERTOPPING FREQUENCY	= 200+	YRS
OVERTOPPING DISCHARGE	= 4.6	CFS
OVERTOPPING ELEVATION	= 820.4	FT

PIPE HYDRAULIC DATA
-Y1- Sta.16+88

DRAINAGE AREA	= 4.0	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 10.0	CFS
DESIGN HW ELEVATION	= 808.7	FT
100 YEAR DISCHARGE	= 11.0	CFS
100 YEAR HW ELEVATION	= 808.8	FT
OVERTOPPING FREQUENCY	= 200+	YRS
OVERTOPPING DISCHARGE	= 13.9	CFS
OVERTOPPING ELEVATION	= 809.1	FT

FOR -Y1- PLAN VIEW, SEE SHEET NOS. 4 & 6

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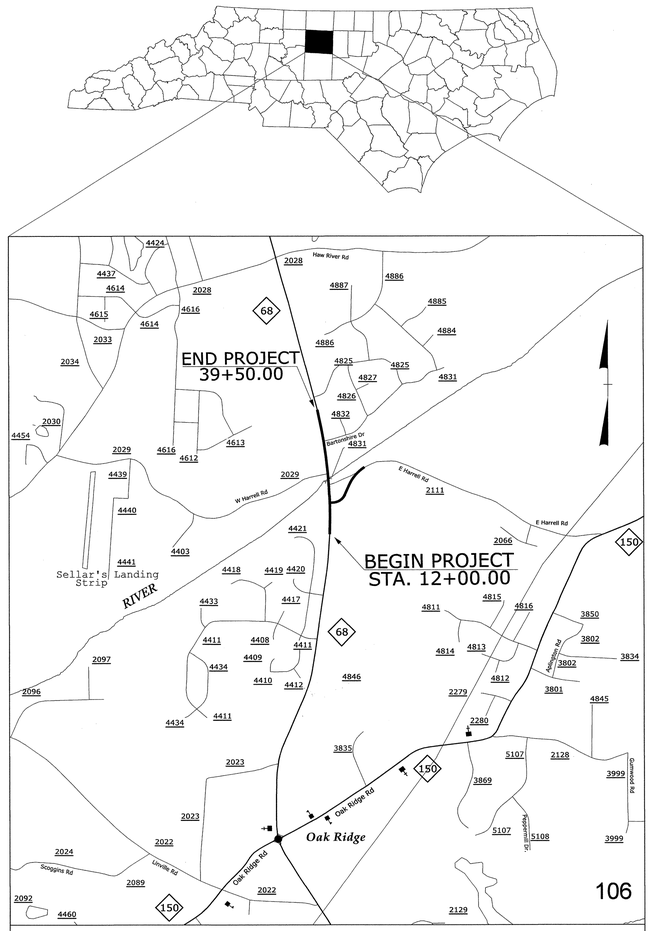
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

GUILFORD COUNTY



VICINITY MAP SHOWING LOCATION OF W-5114

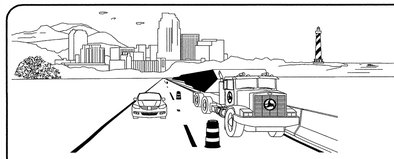
INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANANGEMENT STRATEGIES, GENERAL NOTES, AND PHASING)
TMP-2	SPECIAL SIGN DESIGN
TMP-3	TEMPORARY TRAFFIC CONTROL PHASING
TMP-4	TEMPORARY TRAFFIC CONTROL PHASING STEP 2 DETAIL
TMP-5	TEMPORARY TRAFFIC CONTROL PHASING STEP 2 DETAIL
TMP-6	TEMPORARY TRAFFIC CONTROL PHASING STEP 3 DETAIL
TMP-7	TEMPORARY TRAFFIC CONTROL PHASING STEP 4 DETAIL
TMP-8	TEMPORARY TRAFFIC CONTROL PHASING STEP 4 DETAIL

SHEET NO.
TMP-1

W-5114

TIP PROJECT:



WORK ZONE SAFETY & MOBILITY
"from the MOUNTAINS to the COAST"

N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)
PHONE: (919) 773-2800 FAX: (919) 771-2745

J. S. BOURNE, P.E. — *STATE TRAFFIC MANAGEMENT ENGINEER*
J. ISHAK, P.E. — *TRAFFIC CONTROL PROJECT ENGINEER*
_____ — *TRAFFIC CONTROL PROJECT DESIGN ENGINEER*
G. MAZE — *TRAFFIC CONTROL DESIGN ENGINEER*

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

APPROVED: _____
DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028380 ENGINEER JOSEPH ISHAK
3-3-2014

3/3/2014
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User:gmaze

PROJ. REFERENCE NO.	SHEET NO.
W-5114	TMP-1A

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	DRUM
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION
1170.01	POSITIVE PROTECTION
1180.01	SKINNY-DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.12	PAVEMENT MARKINGS - BRIDGES
1205.13	PAVEMENT MARKINGS - LANE REDUCTIONS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- TEMP. SHORING (LOCATION PURPOSES ONLY)
- WORK AREA
- REMOVAL

SIGNALS

EXISTING PROPOSED TEMPORARY

PAVEMENT MARKINGS

——EXISTING LINES
——TEMPORARY LINES

TRAFFIC CONTROL DEVICES

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

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

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

PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKING

PAVEMENT MARKING SYMBOLS

APPROVED: _____ DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028380 ENGINEER JOSEPH ISHAK

3-3-2014

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

ROADWAY STANDARD DRAWINGS & LEGEND

3/3/2014
P:\TIPProjects-W\5114\Traffic\TrafficControl\TCP\W-5114_TC_TMP_1A.dgn
User:rgmaze

PROJ. REFERENCE NO.	SHEET NO.
W-5114	TMP-1B

MANAGEMENT STRATEGIES

DURING CONSTRUCTION OF THE PROPOSED IMPROVEMENTS, TRAFFIC ON NC 68, EAST HARRELL RD, & BARTONSHIRE RD WILL BE MAINTAINED ON-SITE USING LANE CLOSURES. WEST HARRELL RD WILL BE PERMANATELY CLOSED TO THROUGH TRAFFIC PRIOR TO THE BEGINING OF CONSTRUCTION.

ACCESS TO ALL RESIDENCES AND BUSINESSES MUST BE MAINTAINED AT ALL TIMES WITHIN THE PROJECT LIMITS

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 AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
NC 68	MONDAY THROUGH FRIDAY FROM 8:00 A.M. TO 7:00 P.M.

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME
NC 68

HOLIDAY

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 8:00 A.M. DECEMBER 31st TO 7:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 7:00 P.M. THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 8:00 A.M. THURSDAY AND 7:00 P.M. MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 8:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 8:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE DAY AFTER INDEPENDENCE DAY.

   IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 8:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.
6. FOR LABOR DAY, BETWEEN THE HOURS OF 8:00 A.M. FRIDAY AND 7:00 P.M. TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 8:00 A.M. TUESDAY TO 7:00 P.M. MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 8:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.
9. FOR THE MARTINSVILLE RACE OCCURRING AT MARTINSVILLE SPEEDWAY TRACK AT 8:00 A.M. THE THURSDAY BEFORE THE RACE UNTIL 7:00 P.M. THE FOLLOWING MONDAY AFTER THE RACE.

C) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

D) 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.

E) 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.

F) 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.

G) 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 REMAIN WITHIN THE CLOSED TRAVEL LANE.

H) 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.

I) DO NOT INSTALL MORE THAN ONE LANE CLOSURE IN ANY ONE DIRECTION ON NC 68

PAVEMENT EDGE DROP OFF REQUIREMENTS

J) 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.

K) 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) IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

M) 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.

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

O) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL DEVICES

P) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

PAVEMENT MARKINGS AND MARKERS

Q) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
NC 68	PAINT	NONE
EAST HARRELL RD	PAINT	NONE

R) 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.

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

T) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

APPROVED: _____ DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028380 ENGINEER JOSEPH ISHAK

5-3-2014

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

TRANSPORTATION OPERATION PLAN

3/3/2014
P:\TIPProjects-W\W5114\Traffic\TrafficControl\TCP\W-5114_TC_TMP_1B.dgn
User:gmaze

PROJ. REFERENCE NO.	SHEET NO.
W-5114	TMP-2

SIGN NUMBER: SP14038
TYPE: Stationary
QUANTITY: See Plans

SIGN WIDTH: 2′-6″
HEIGHT: 1′-6″
TOTAL AREA: 3.8 Sq.Ft.
BORDER TYPE: RECESSED

RECESS: 0.38″
WIDTH: 0.63″
RADII: 1.5″

NO. Z BARS:
LENGTH:

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

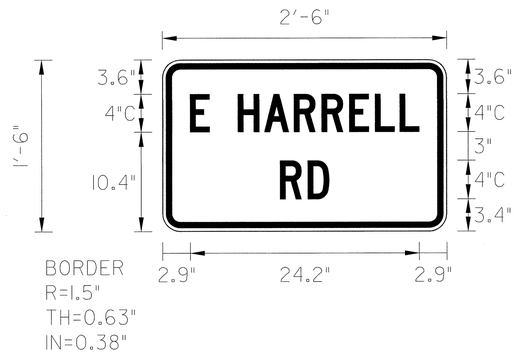
SYMBOL	X	Y	WID	HT

MAT'L: 0.080″ (2.0 mm) ALUMINUM

USE NOTES:

1. Legend and border, shall be direct applied, black, non-reflective sheeting.
2. Background shall be NC Grade B, fluorescent orange, retro-reflective sheeting.

DESIGN BY: J. Hambright CHECKED BY: S. Kunz DIV: 7 DATE: Feb 27, 2014
PROJECT ID: W-5114



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

Series/Size
Text Length

		E		H	A	R	R	E	L	L																	C 2000
	2.9	2	3	2.8	3.1	2.9	2.9	2.7	2.6	2	2.9																24.2
		R	D																								C 2000
	12.4	2.9	2.2	12.4																							5.2

FILENAME: W-5114_Sgn_SGN_SignDesign

NORTH CAROLINA D.O.T. SIGN DETAIL

APPROVED: [signature] DATE: 3/3/14

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING

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

SPECIAL SIGN DESIGN

3/3/2014
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User:sgmaze

PROJ. REFERENCE NO.	SHEET NO.
W-5114	TMP-3

PHASING

STEP 1:
INSTALL ADVANCE WORK ZONE WARNING SIGNS ON NC 68, SR 2111 (EAST HARRELL RD.) AND SR 4381 (BARTONSHIRE DR.)

STEP 2:
USING FLAGGERS (RSD 1101.02, SHEET 1 OF 15), BEGIN CONSTRUCTION OF THE PROPOSED DRAINAGE WORK IN THE PROJECT LIMITS.

USING FLAGGERS (RSD 1101.02, SHEET 1 OF 15), COMPLETE CONSTRUCTION OF PROPOSED DRAINAGE WORK IN THE PROJECT LIMITS AND CONSTRUCT PROPOSED WIDENING ON L UP TO EDGE AND ELEVATION OF EXISTING PAVEMENT FROM STA. 12+00+/-TO STA.39+50+/- INCLUDING PROPOSED INTERSECTION OF NC 68 AND BARTONSHIRE DR.

BEGIN CONSTRUCTION OF PROPOSED U-TURN BULB ON Y2 FROM STA.11+20+/- TO STA.12+50+/- BEGIN PAVEMENT REMOVAL ON SR 2029 (WEST HARRELL RD). COMPLETE CONSTRUCTION OF WEST HARRELL RD CUT OFF.

AWAY FROM TRAFFIC CONSTRUCT PROPOSED Y1 UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE FROM Y1 STA.10+20+/- TO Y1 STA. 20+50+/-

COMPLETE ALL WORK IN STEP 2.

STEP 3:
USING RSD 1101.03, SHEET 1 OF 9, SHEET TMP-6, INSTALL DETOUR SIGNS, PLACE TYPE III BARRICADES TO CLOSE SR 2111 (EAST HARRELL RD) TO THRU TRAFFIC. COVER ALL DETOUR SIGNS.

COMPLETE THE WORK OF STEP 4 BETWEEN THE HOURS OF 6:00 P.M. FRIDAY THRU 6:00 A.M. MONDAY. SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.

STEP 4:
UNCOVER ALL DETOUR SIGNS, CLOSE AND DETOUR SR 2111 (EAST HARRELL RD) TRAFFIC OFFSITE. COMPLETE CONSTRUCTION OF TIE-IN BETWEEN Y1 AND EAST HARRELL RD UP TO BUT NOT INCLUDING FINAL LAYER OF SUFACE COURSE.

USING FLAGGERS (1101.02, SHEET 1 OF 15), COMPLETE CONSTRUCTION OF TIE-IN BETWEEN L AND Y1 UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE.

REMOVE CONFLICTING PAVEMENT MARKINGS ON L AND PLACE TEMPORARY PAVEMENT MARKINGS ON L FROM STA.12+00+/- TO STA.39+50+/- AND Y1 FROM STA. 10+20+/- TO 22+60+/-. CLOSE EXISTING EAST HARRELL RD. FROM NC 68 TO Y1 STA.22+60+/- AND SHIFT TRAFFIC ONTO NEWLY CONSTRUCTED Y1 IN 2L/2W PATTERN. ONCE PROPOSED Y1 IS OPENED, PLACE THE L-TRAFFIC IN THE PROPOSED 3 LANE/2 WAY PATTERN (LEFT TURN FROM NC 68 ONTO EAST HARREL RD.)

STEP 5:
REMOVE EXISTING EAST HARRELL RD. FROM NC 68 INTERSECTION TO Y1 STA. 22+60+/-

USING FLAGGERS (RSD 1101.02, SHEET 1 OF 15), PLACE FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS ON L AND Y1.

REMOVE ALL TRAFFIC CONTROL DEVICES.

APPROVED: _____ DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 028380 JOSEPH ISHAK

3-3-2014

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

PHASING

3/3/2014
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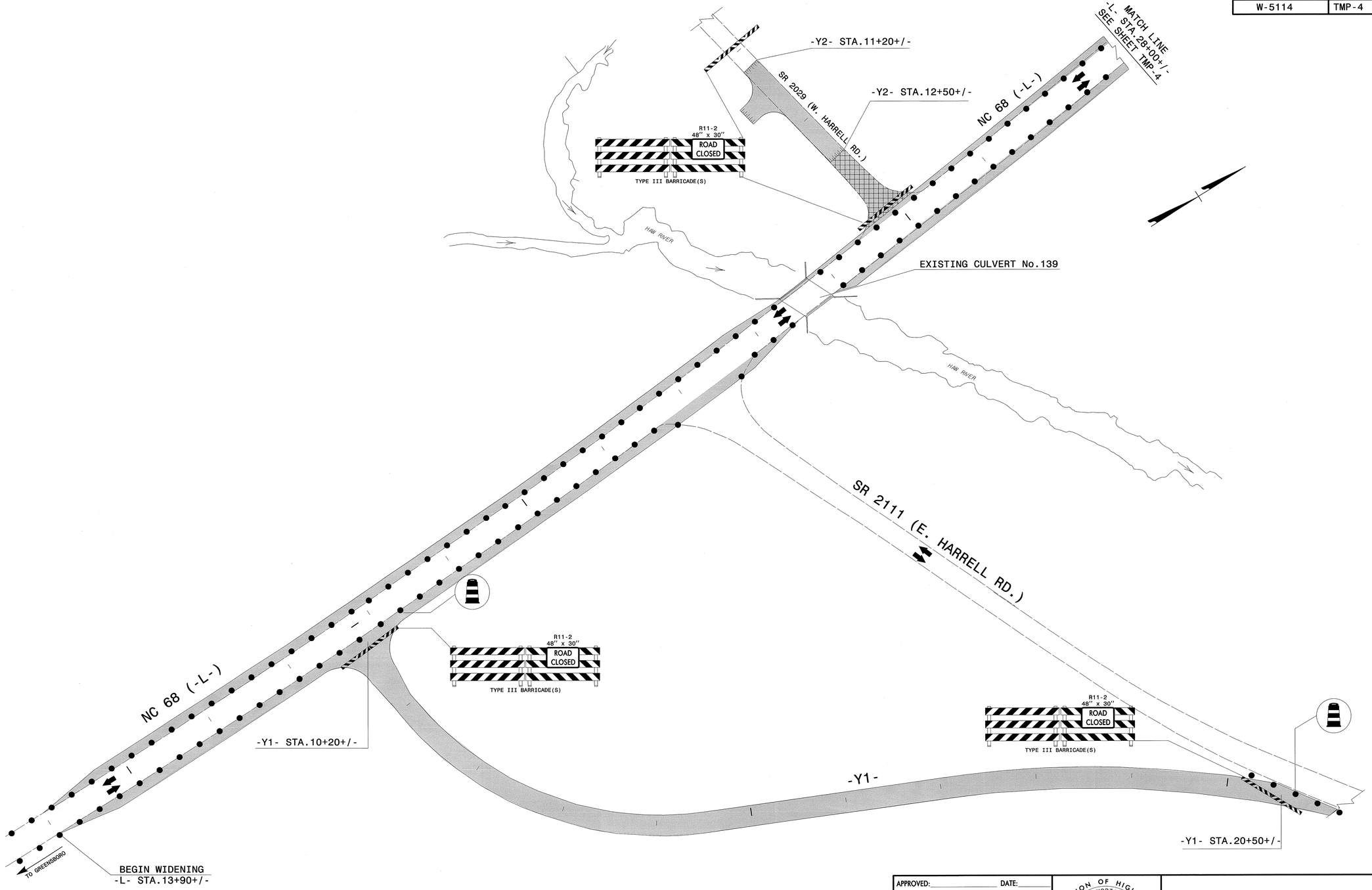
User:rgmaze

PROJ. REFERENCE NO.	SHEET NO.
W-5114	TMP-4



APPROVED: _____ DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028380 ENGINEER JOSEPH I SHAW

3-3-2014

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

STEP 2 DETAIL

3/3/2014
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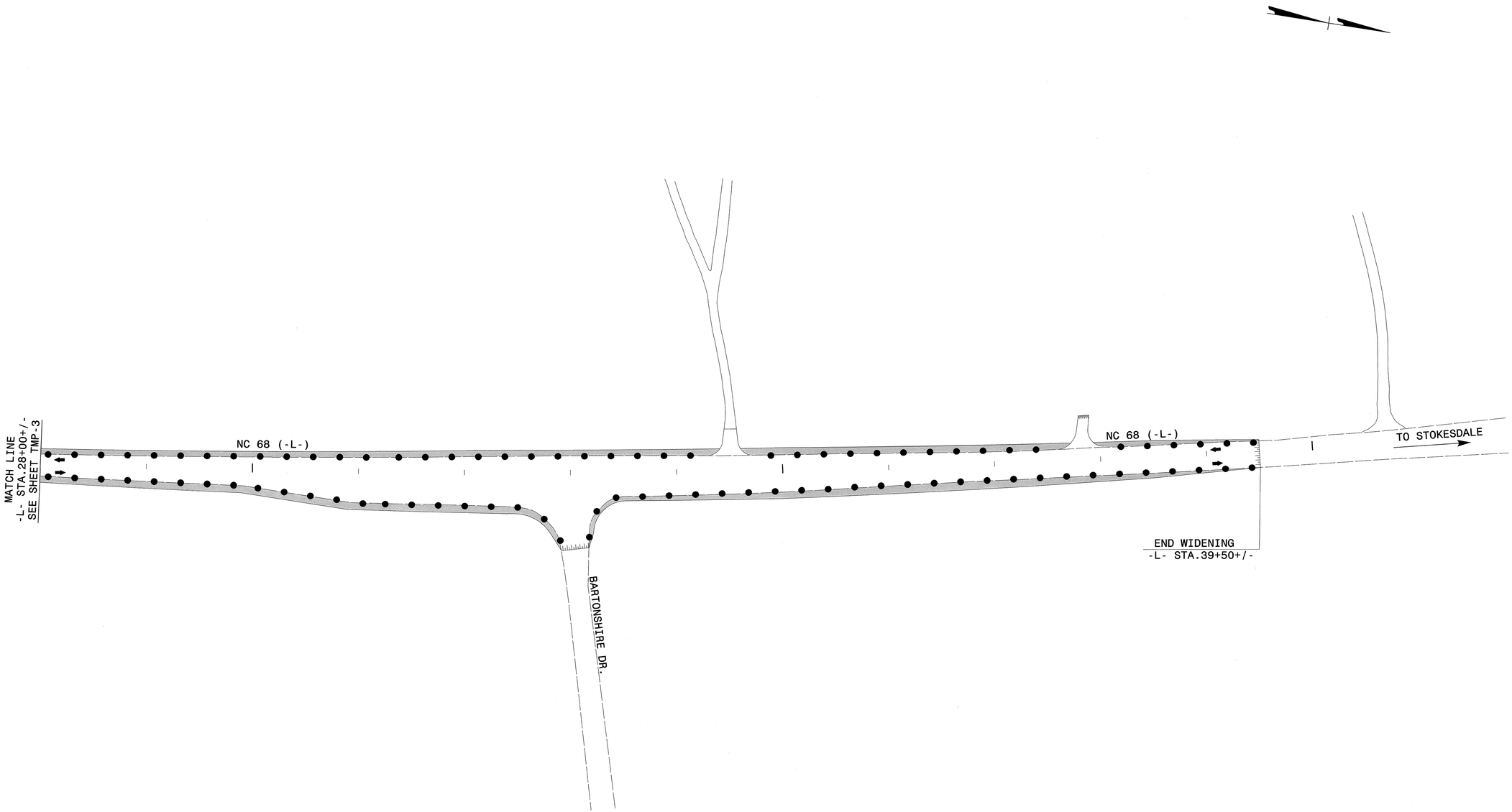
User:gmaze

PROJ. REFERENCE NO.	SHEET NO.
W-5114	TMP-5



APPROVED: _____ DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028380 ENGINEER JOSEPH CHAK

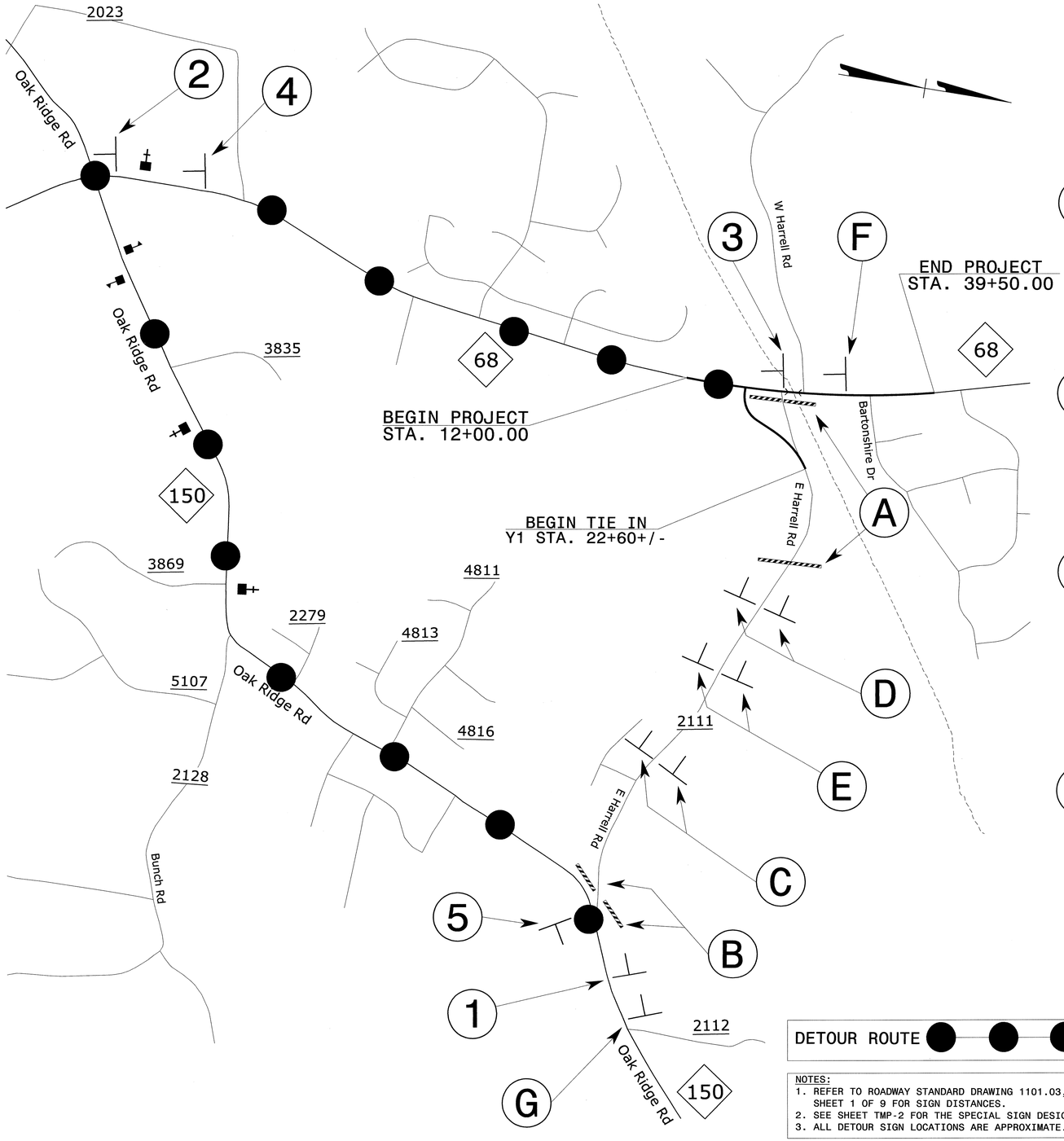
3-3-2014

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

STEP 2 DETAIL

3/3/2014
P:\TIPProjects-WV\W5114\Traffic\TrafficControl\TCP\W-5114_TC_TMP_5.dgn
User:gmaze

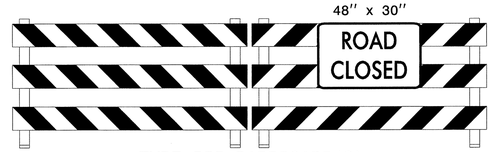
PROJ. REFERENCE NO.	SHEET NO.
W-5114	TMP-6



DETOUR ROUTE

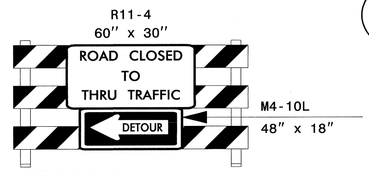
NOTES:
1. REFER TO ROADWAY STANDARD DRAWING 1101.03, SHEET 1 OF 9 FOR SIGN DISTANCES.
2. SEE SHEET TMP-2 FOR THE SPECIAL SIGN DESIGN.
3. ALL DETOUR SIGN LOCATIONS ARE APPROXIMATE.

A



TYPE III BARRICADE(S)

B



TYPE III BARRICADE

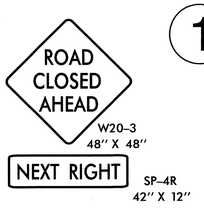
C

D

E

F

G



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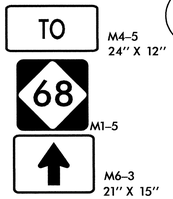

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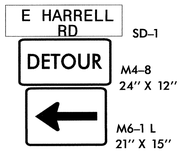

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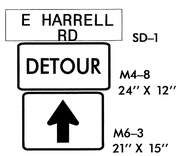

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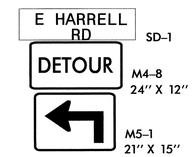

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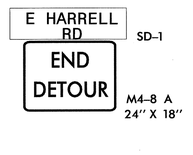
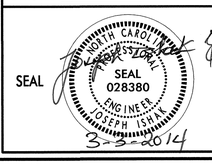


APPROVED: _____ DATE: _____

SEAL



STEP 3 DETAIL

3/3/2014
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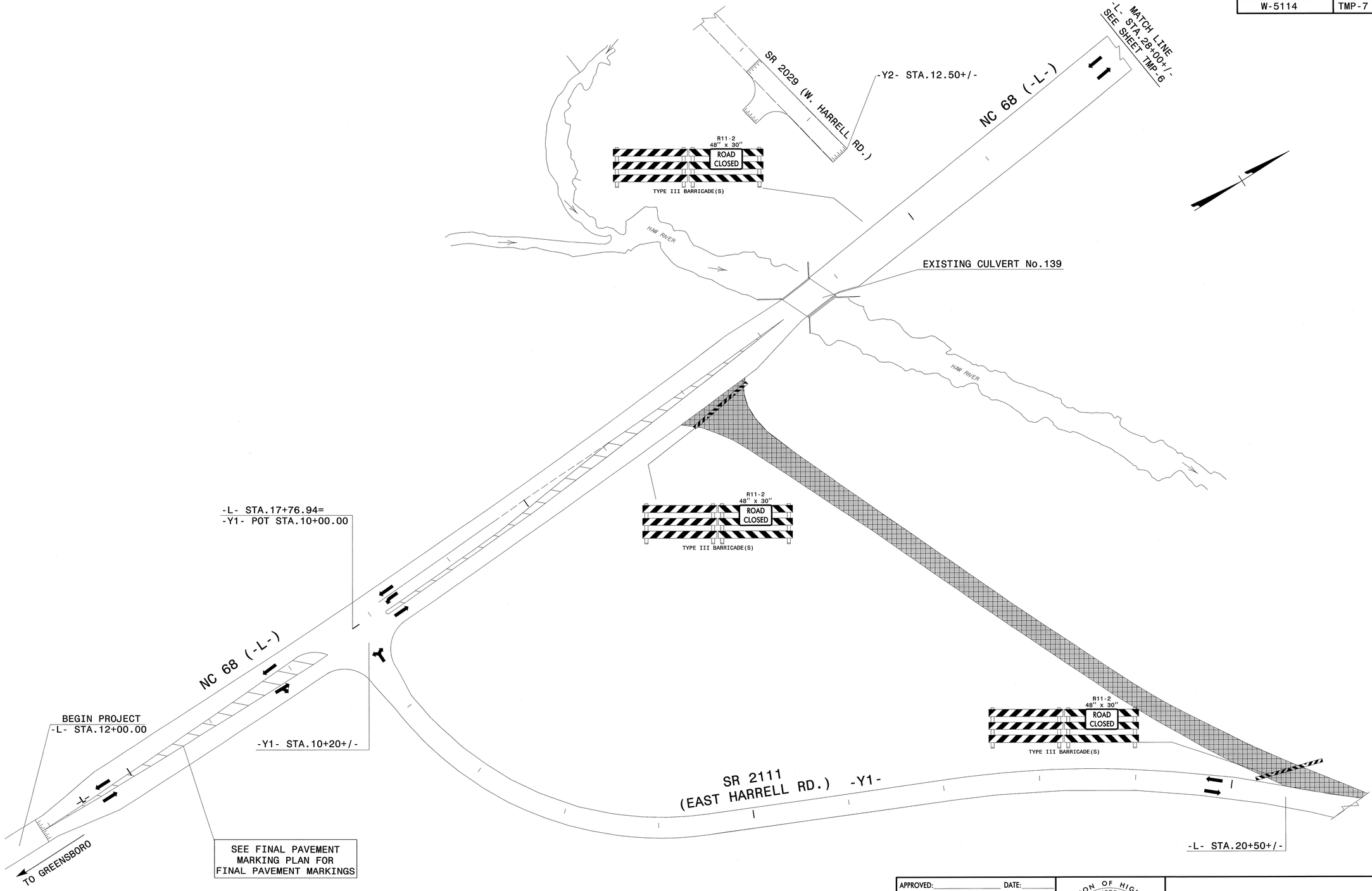
Usergmoze

PROJ. REFERENCE NO.	SHEET NO.
W-5114	TMP-7



APPROVED: _____ DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 028380 JOSEPH ISHAK

3-3-2014

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

STEP 4 DETAIL

3/3/2014
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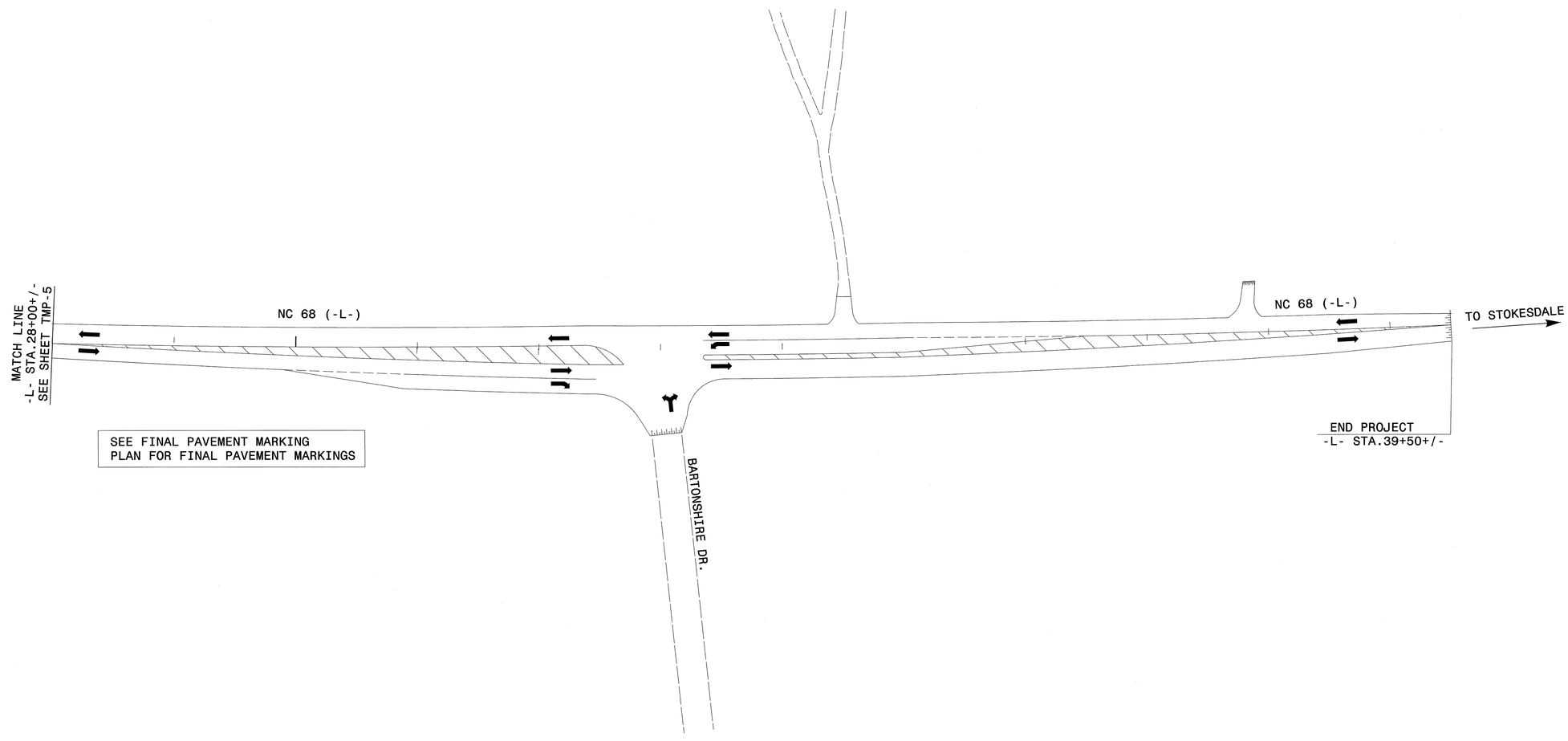
User:gmaze

PROJ. REFERENCE NO.	SHEET NO.
W-5114	TMP-8



APPROVED: _____ DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028380 ENGINEER JOSEPH ISHAK

3-3-2014

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

STEP 4 DETAIL

3/3/2014
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User:gmaze

T.I.P.: W-5114

CONTRACT: C203415

TIP NO.	SHEET NO.
W-5114	PMP-1

APPROVED: _____

DATE: 2/27/14

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 32396 ENGINEER WILLIAM J. HAMILTON

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN

GUILFORD COUNTY

LOCATION: NC 68 FROM SOUTH OF SR 2111 (EAST HARRELL ROAD) TO SR 4831 (BARTONSHIRE DRIVE) IN OAK RIDGE AND STOKESDALE

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
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.12	PAVEMENT MARKINGS - BRIDGES
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1253.01	RAISED PAVEMENT MARKERS - SNOWPLOWABLE
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION

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	SNOWPLOWABLE

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

C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.

D) STOP BAR LOCATION AT NON-SIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.

INDEX

SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING PLAN COVER SHEET AND PAVEMENT MARKING SCHEDULE
PMP-2-3	PAVEMENT MARKING DETAILS

PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION
THERMOPLASTIC(4", 90 MILS)	
TA	WHITE EDGELINE
THERMOPLASTIC(4", 120 MILS)	
TD	3 FT. - 9 FT./SP WHITE MINISKIP
TE	WHITE SOLID LANE LINE
TI	YELLOW DOUBLE CENTER
T8	2 FT. - 6 FT./SP WHITE MINISKIP
THERMOPLASTIC(8", 90 MILS)	
TP	YELLOW DIAGONAL
THERMOPLASTIC PAVEMENT MARKING SYMBOLS (90 MILS)	
UA	LEFT TURN ARROW
UB	RIGHT TURN ARROW
UC	STRAIGHT ARROW

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

SUSAN B. KUNZ — SIGNING & DELINEATION REGIONAL ENGINEER

JAMES HAMBRIGHT — SIGNING & DELINEATION PROJECT DESIGN ENGINEER

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

PLAN PREPARED BY: Ramey Kemp & Associates

W.JASON HAMILTON, P.E., PTOE — PROJECT MANAGER

NICHOLAS E. BURNS, E.I. — PROJECT ENGINEER

RAMEY KEMP & ASSOCIATES, INC.
Transportation Engineers
5808 Farrington Place, Suite 100
Raleigh, North Carolina 27609
919-872-5115 Tel. 919-878-8416 Fax.
www.rameykemp.com

TIP NO.	SHEET NO.
W-5114	PMP-2

APPROVED:

DATE: 2/27/14

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 32396 ENGINEER WILLIAM J. HAMILTON

BEGIN TIP PROJECT W-5114
-L- POT STA. 12+00.00

NC GRID NAD 83/NSRS 2007

-L- STA. 10+00+/-
TIE TO EXISTING

-L- STA. 17+40+/-

-L- STA. 18+10+/-

-L- STA. 19+30+/-

-L- STA. 21+20+/-

-L- STA. 23+40+/-

-L- STA. 17+26+/-

-L- STA. 18+28+/-

-Y1- STA. 10+30+/-

-Y1- STA. 23+00+/-
TIE TO EXISTING

MATCH LINE -L- STA. 26+50
SEE SHEET PMP-3

MATCH LINE -Y1- STA. 17+50

MATCH LINE -Y1- STA. 17+50

TA TI TP T8 TE TD

GRAU 350 TL-3

HAW RIVER

TES

12' 12' 10' 10'

15 20 25

SYMBOL LEGEND	
UC	STRAIGHT ARROW
UA	LEFT ARROW

Prepared in the offices of:
RAMEY KEMP & ASSOCIATES, INC.
Transportation Engineers
5808 Faringdon Place, Suite 100
Raleigh, North Carolina 27609
919-872-5115 Tel. 919-870-6418 Fax.
www.rameykemp.com

PAVEMENT MARKING DETAIL

TIP NO.	SHEET NO.
W-5114	PMP-3

APPROVED:

DATE: 2/27/14

SEAL

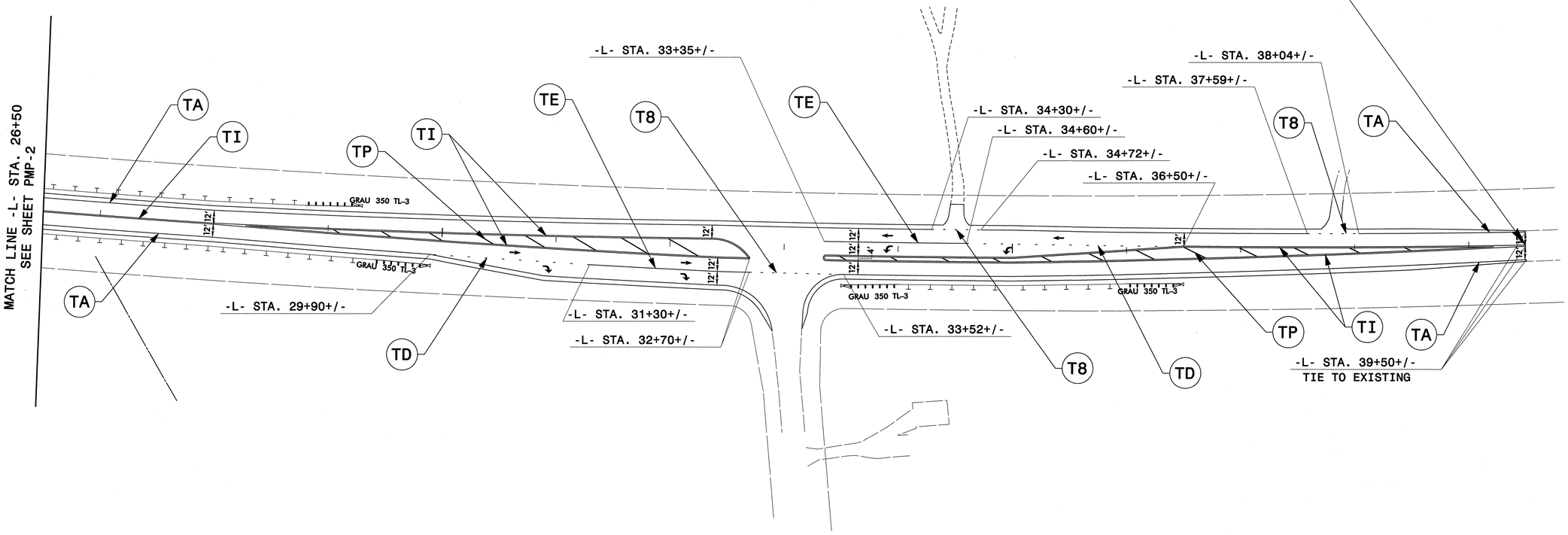
NORTH CAROLINA PROFESSIONAL SEAL 32396 ENGINEER WILLIAM J. HAMILTON

NAD 83/NSRS 2007 NC GRID

30

35

END TIP PROJECT W-5114
-L- POT STA. 39+50.00



SYMBOL LEGEND		
↑	UC	STRAIGHT ARROW
↰	UA	LEFT ARROW
↱	UB	RIGHT ARROW

Prepared in the offices of:

RAMEY KEMP & ASSOCIATES, INC.

Transportation Engineers

8000 Partington Place, Suite 100
Raleigh, North Carolina 27609
919-872-5115 Tel. 919-878-0416 Fax.
www.rameykemp.com

PAVEMENT MARKING DETAIL

TIP PROJECT: W-5114

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5114	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

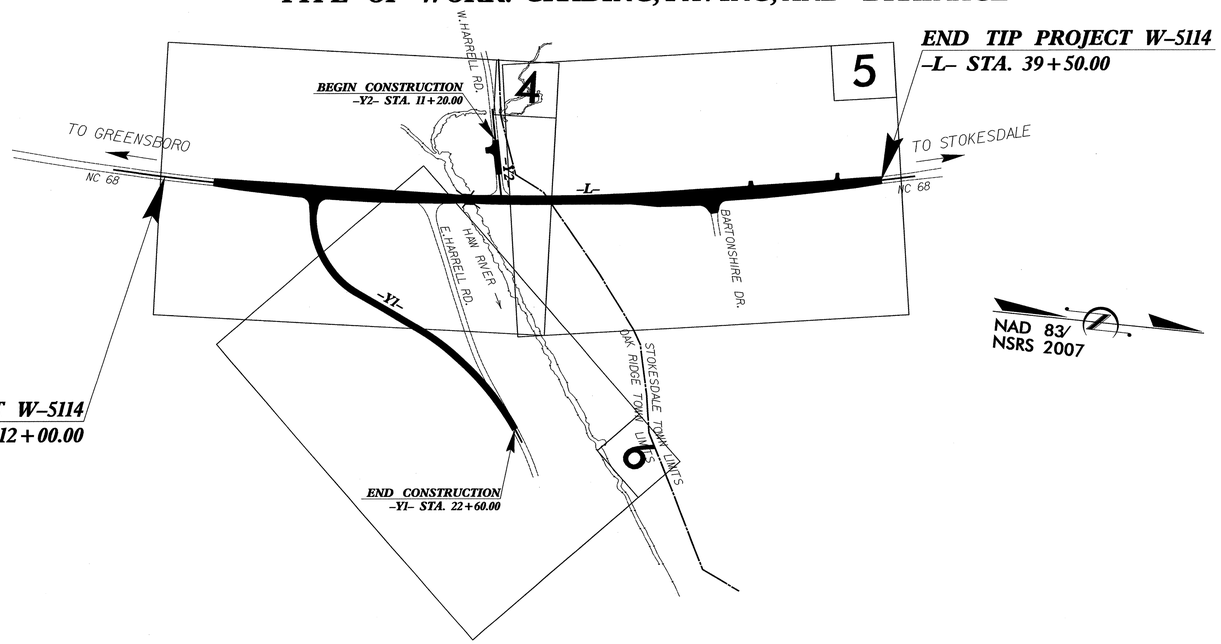
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

GUILFORD COUNTY

LOCATION: NC 68 FROM SOUTH OF SR 2111 (EAST HARRELL ROAD) TO SR 4831 (BARTONSHIRE DRIVE) IN OAK RIDGE AND STOKESDALE

TYPE OF WORK: GRADING, PAVING, AND DRAINAGE

NAD 83/
NSRS 2007



NAD 83/
NSRS 2007

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
1633.02	Temporary Rock Silt Check Type-B	
	Wattle / Coir Fiber Wattle	SW CFW
	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	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
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 CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

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.

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:

ROADSIDE ENVIRONMENTAL UNIT

1 South Wilmington St.
Raleigh, NC 27611

2012 STANDARD SPECIFICATIONS

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 revison 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		

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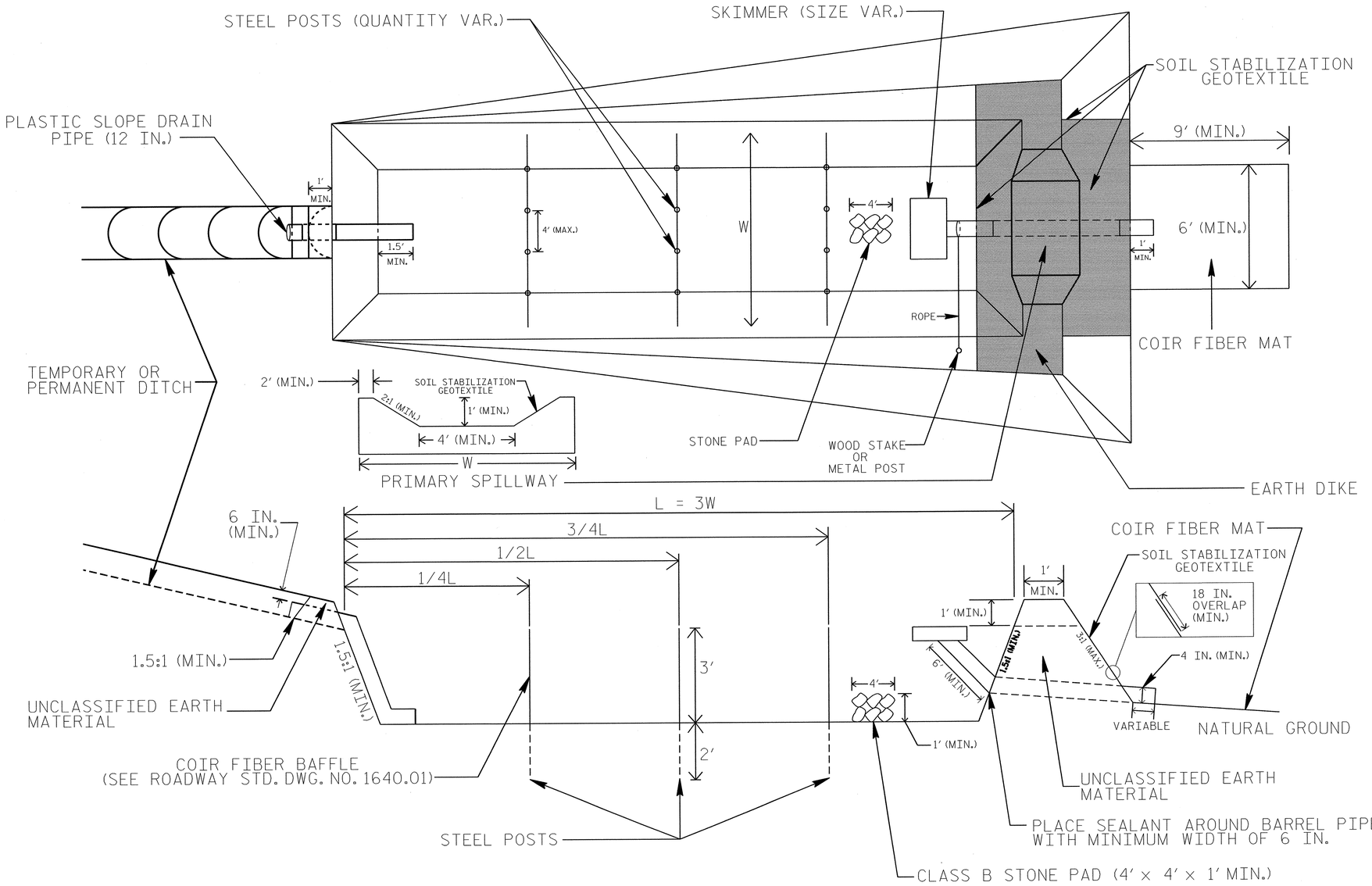
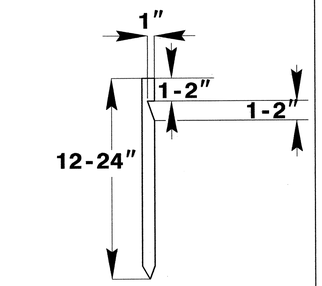
R:\Environmental\Roadside\Projects\W-5114_EC_tsh.dgn
awarren (2500)

PROJECT REFERENCE NO.	SHEET NO.
W-5114	EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

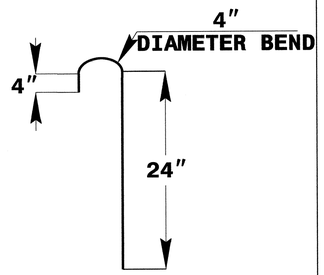
SKIMMER BASIN WITH BAFFLES DETAIL



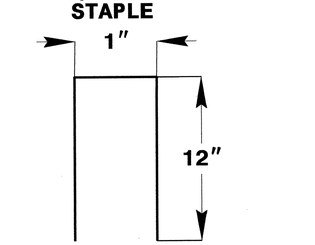
2" x 2" (nominal) WOODEN STAKE



#10 STEEL REINFORCEMENT BAR



1" (nominal) STAPLE



COIR FIBER MAT ANCHOR OPTIONS

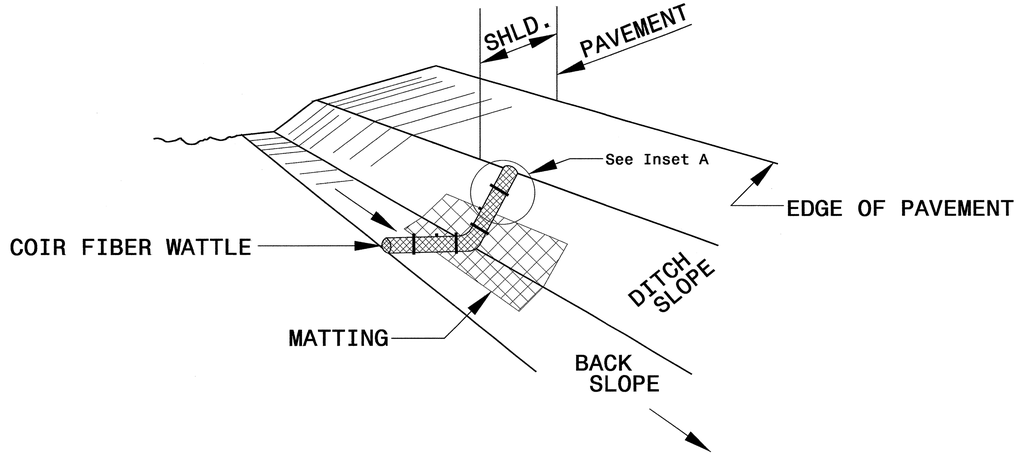
NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE PRIMARY SPILLWAY WEIR LENGTH (FT.) USING Q/0.4, WHERE Q IS FLOW RATE (CFS) INTO BASIN.
5. PLASTIC SLOPE DRAIN PIPE AT INLET OF BASIN MAY BE REPLACED BY FILTRATION GEOTEXTILE OR TARP AS DIRECTED.
6. SOIL STABILIZATION GEOTEXTILE FOR PRIMARY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

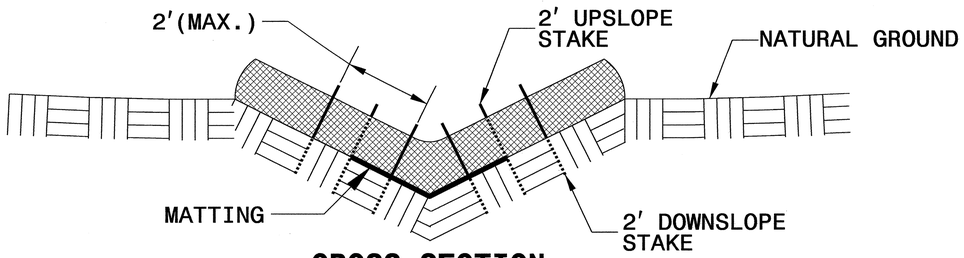
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
W-5114	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

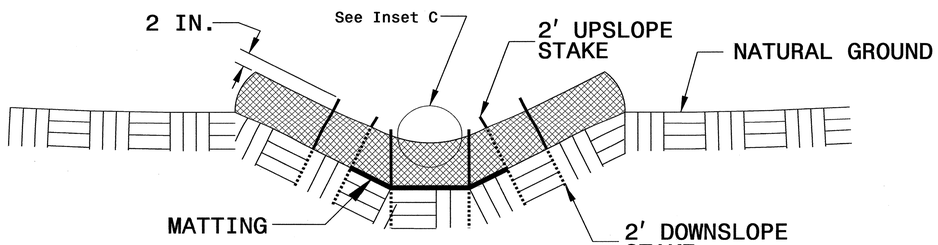
COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

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.

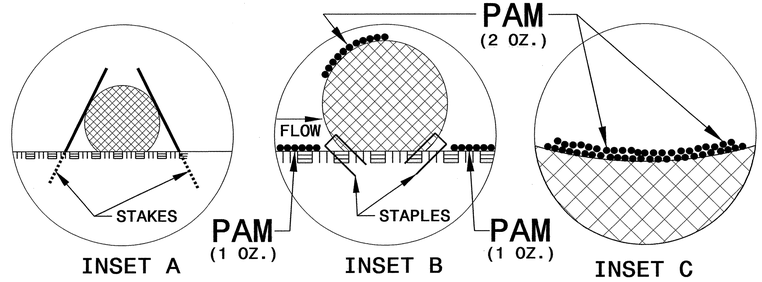
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

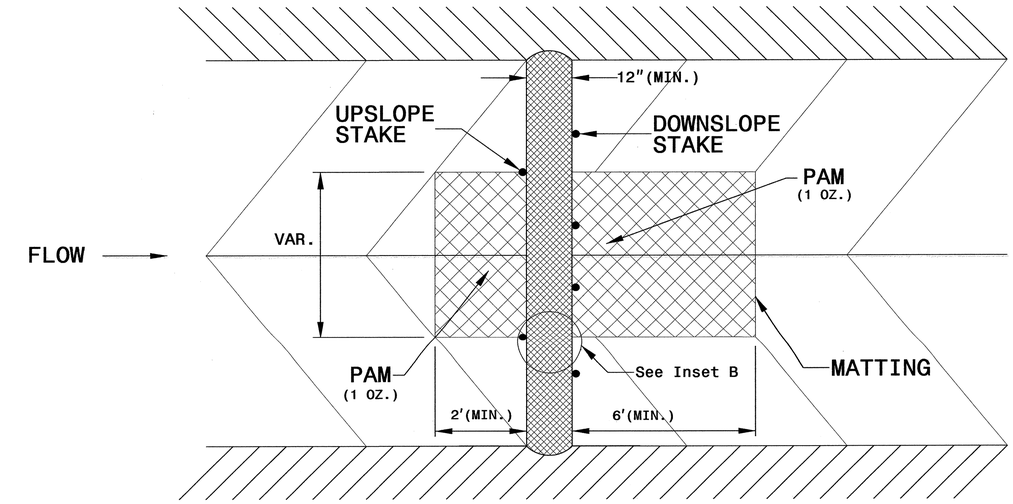
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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 MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.

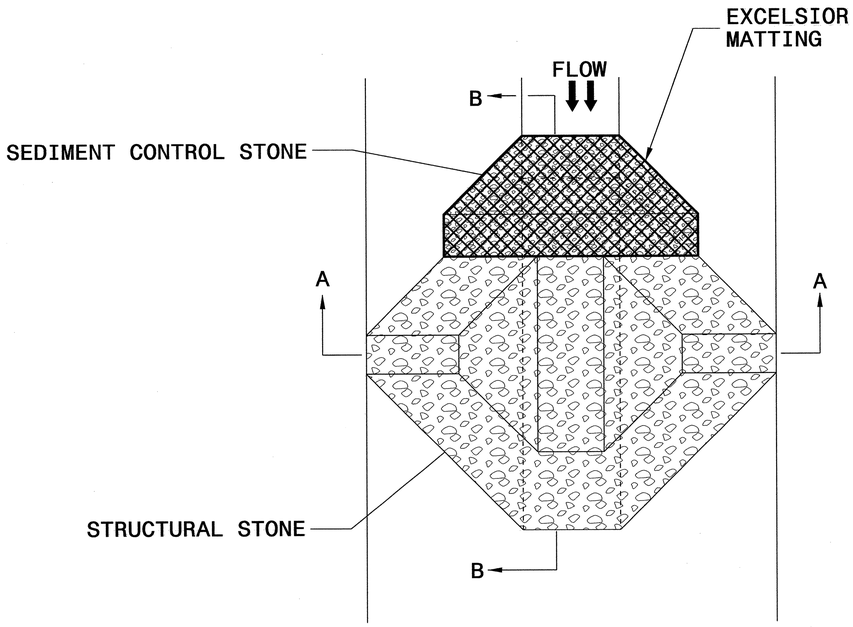




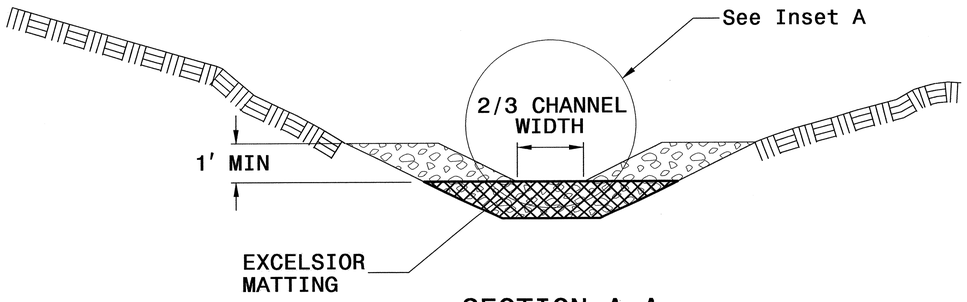
TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
W-5114	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)



PLAN



SECTION A-A

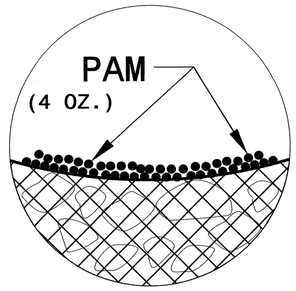
NOTES:

INSTALL TEMPORARY ROCK SILT CHECK TYPE A IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1633.01.

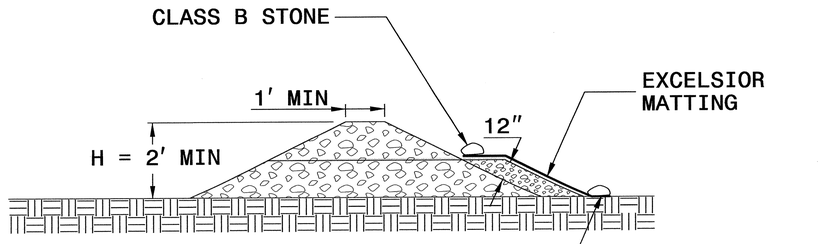
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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 ROCK SILT CHECK.

INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION B-B

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
W-5114	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	14+00	14+50	RT	105
4	-L-	16+50	20+00	LT	490
4	-Y1-	11+00	14+00	LT	630
6	-Y1-	14+00	16+50	RT	350
6	-Y1-	17+50	22+00	RT	630
				SUBTOTAL	2205
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					7,700
				TOTAL	9,905
				SAY	10,000

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	14+50	16+50	LT	280
4	-L-	14+50	17+00	RT	350
6	-Y1-	15+00	16+50	LT	315
6	-Y1-	18+00	20+00	LT	280
				SUBTOTAL	1225
		ADDITIONAL PSRM TO BE INSTALLED			1455
				TOTAL	2680
				SAY	2700

PROJECT REFERENCE NO.	SHEET NO.
W-5114	EC-3A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

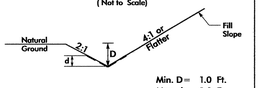
SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	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.

8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
W-5114	EC-4/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

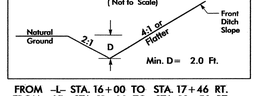
DETAIL A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



Min. D= 1.0 Ft.
Max. d= 1.0 Ft.
Type of Liner= PSRM

FROM –L– STA. 12+00 TO STA. 14+10 RT.

DETAIL C
SPECIAL CUT DITCH
(Not to Scale)



Min. D= 2.0 Ft.

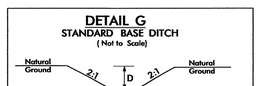
FROM –L– STA. 16+00 TO STA. 17+46 RT.
FROM –Y1– STA. 11+00 TO STA. 13+50 RT.

DETAIL B
SPECIAL CUT DITCH
(Not to Scale)

Min. D= 1.0 Ft.
Max d= 1.5 Ft.
Type of Liner= PSRM

FROM –L– STA. 18+24 TO STA. 21+88 RT.

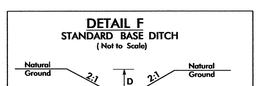
DETAIL G
STANDARD BASE DITCH
(Not to Scale)



Min. D= 1.5 Ft.
B= 2.0 Ft.

FROM –L– STA. 24+37 TO 25+17 LT.

DETAIL F
STANDARD BASE DITCH
(Not to Scale)



Min. D= 1.5 Ft.
B= 3.0 Ft.

–L– STA. 14+22 LT.

DETAIL H
SPECIAL CUT DITCH
(Not to Scale)

Min. D= 1.0 Ft.

FROM –Y1– STA. 11+50 TO STA.14+50 LT.

NAD 83/NSRS 2007

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

BEGIN TIP PROJECT W-5114
–L– POC STA. 12+00.00

–L– +70.00
50.41' RT

–L– +00.00
75.00' RT

–L– +48.00
109.00' RT

–Y1– +80.00
50.00' RT

–Y1– +35.00
118.00' RT

–Y1– +75.00
70.00' RT

N 60°51'52" E
1246.41'

–L– +60.00
132.00' LT

OUTLET DITCH
SEE DETAIL F
EST. DDE 139 CY

CL B RIP RAP
EST. 5 TONS
EST. 14 SY GEOTEXTILE

–L– +20.00
49.79' LT

60.00' LT

–L– +00.00
49.77' LT

SPECIAL LATERAL 'V'
DITCH 'W' PSRM
SEE DETAIL A
EST. 146 SY PSRM

NANCY B. ABBITT
DB 2940 PG 895
2

–L– +00.00
49.89' LT

60.00' LT

132.00' LT

–L– +60.00
49.84' LT

60.00' LT

–L– +40.00
71.00' LT

WOODS

30.0' TAPER
LT & RT

TDE

0404

0405

0406

0407

COLLAR AND EXTEND 24" PIPE

REMOVE 4' OF EXIST. PIPE
COLLAR AND EXTEND 24" PIPE

CLEAN OUT PIPE

MATCH EXIST. DITCH

NC 68
82' BST

RCP

SPECIAL CUT DITCH
SEE DETAIL C

–L– +95.00
49.89' RT

–L– +10.00
72.00' LT

–L– POC STA. 17+76.94 =
–Y1– POT STA. 10+00.00
N 88°20'27.0" E (–Y1–)

S 08°39'45" E
572.00'

CL B RIP RAP PAD
EST. 1 TON
EST. 4 SY GEOTEXTILE

COLLIN M. JR & NANCY ABBITT
DB 1749 PG 292
1

–L– +00.00
60.00' LT

BM#1

30.0' TAPER
LT & RT OUTSIDE EOP

50.0' TAPER
LEFT TURN LANE

EXISTING R/W

35' R

–L– +40.00
60.00' RT

GRADE PT

–L– +55.00
49.74' RT

CLASS B RIP RAP PAD
EST. 3 TONS
EST. 10 SY GEOTEXTILE

–Y1– +00.00
75.00' LT

–Y1– +80.00
50.00' LT

PC Sta. 10+71.50

SPECIAL CUT DITCH
W/PSRM
SEE DETAIL B
EST. 386 SY PSRM

SPECIAL CUT DITCH
SEE DETAIL H

–Y1– +50.00
50.00' LT

–Y1– +50.00
60.00' LT

–Y1– +00.00
55.48' LT

CHORD-B

30" RCP III

SPECIAL CUT DITCH
SEE DETAIL C

–Y1– +75.00
70.00' RT

MATCH LINE –Y1– STA. 14+00.00 SHEET 6

55 x 27 x 3
1.5 inch Skimmer
with 1.125 inch
Orifice Diameter
19 ft. weir
ID 4.1

EXISTING DITCH

BILLY RAY MOORE
DB 7210 PG 1776
4

WEST HARRELL RD SR 2089
EXISTING R/W
60.00'

N 78°15'15.2" E

–Y2– +15.00
30.00' RT
70.00' RT

BEGIN CONSTRUCTION
–Y2– POT STA. 11+20.00

RETAIN

STONE TOE WALL

GUARDRAIL BARRIER

WOODS

–Y2– +90.00
30.00' RT
70.00' RT

–Y2– 47.45
30.00' RT

–Y2– +43.00
53.00' RT

N 04°46'58" E
239.69'

S 02°36'48" W
57.10'

STANDARD BASE DITCH
SEE DETAIL G
EST. DDE 220 CY

–Y2– +66.00
EX. R/W

REMOVE EXIST. RCP

TES

SESSOMS DEVELOPMENT, INC.
DB 4402 PG 190

–Y2– +73.00
55.00' LT

–L– +43.00
50.65' LT

–L– +26.00
60.00' LT

FRANKLIN D. BLAYLOCK
DB 5949 PG 207
3

–L– POC STA. 24+92.99 =
–Y2– POT STA. 13+50.64

MATCH LINE –L– STA. 26+50.00 SHEET 5

PROP PAVED SHOULDER
PROP PAINT STRIPING
PAVEMENT REMOVAL

27-FEB-2014 09:21
R:\Projects\mcm\Design\W-5114_EC_psh4.dgn
aytomar
AT RENV26x36.cfg

PROJECT REFERENCE NO.	SHEET NO.
W-5114	EC-5/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

8/17/99

REVISIONS

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

NAD 83/NSRS 2007

90 x 15 x 3
1.5 inch Skimmer
with 1.0 inch
Orifice Diameter
8 ft. weir
ID 5.1 rev

66 x 16 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
8 ft. weir
ID 5.2

25 x 12 x 3
1.5 inch Skimmer
with 0.375 inch
Orifice Diameter
4 ft. weir
ID 5.3CG

MATCH LINE –L– STA 26+50.00 SHEET 4

VICTOR J. BIERMAN, JR.
ANNE E. HERSHEY
DB 7222 PG 158
PB 73 PG 114

JOHN EDWARD ACREE
DB 3361PG 234
PB 73 PG 251

THOMAS E. THOMPSON, JR.
DB 3361PG 234
PB 73 PG 251

FLOYD R. & LISA W. BAGBY
DB 7204 PG 2138
PB 134 PG 103

SESSOMS DEVELOPMENT, INC.
DB 4402 PG 188

FRANKLIN D. BLAYLOCK
DB 5949 PG 2071

LARRY W. MADDOX
JEAN A. MADDOX
(ESTATE OF JIMMY GARY MADDOX, SR.)
DB 4709 PG 830
PB 126 PG 85

BRIAN P. MITCHELL
DB 5105 PG 206
PB 126 PG 85

MICHAEL W. & CHERIE A. COBLE
DB 4920 PG 342
PB 126 PG 85

SESSOMS DEVELOPMENT, INC.
DB 4366 PG 1833
PB 126 PG 85

STOKESDALE TOWN LIMITS
OAK RIDGE TOWN LIMITS

SPECIAL LATERAL 'V' DITCH W/PSRM SEE DETAIL D EST. 265 SY PSRM

SPECIAL CUT DITCH W/PSRM SEE DETAIL E EST. 318 SY PSRM

SPECIAL CUT DITCH W/PSRM SEE DETAIL E EST. 341 SY PSRM

440' TAPER LT & RT

450' TAPER LT & RT

150' LEFT TURN TAPER

100' RIGHT LANE TAPER

150' TAPER TO EXIST LT & RT

45:1 P.S. TAPER

3.5:1 P.S. TAPER

TIE TO EXISTING

TIE PIPE TO EXISTING DITCH ELEV.=847.10

REMOVE

REMOVE 4' OF EXIST. PIPE

RETAIN

CL B RIP RAP EST. 3 TONS

EST. 11 SY GEOTEXTILE

COLLAR AND SEAL 18" RCP

COLLAR AND SEAL 24" RCP

GRAU 350 TL-3

TOP=838.13
INV=830.78

TOP=831.8
INV=829.3
INV=829.90
INV=822.40

INV=847.10

INV=834.91

INV=829.9

END TIP PROJECT W-5114
–L– POC STA. 39+50.00

DETAIL D
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground, 2:1, d, D, 4:1, Front Ditch Slope

Min. D= 1.1 Ft.
Max d= 1.5 Ft.
Type of Liner= PSRM

FROM –L– STA. 29+50 TO STA. 31+50 LT

DETAIL E
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground, 2:1, d, D, 4:1 or Flatter, Front Ditch Slope

Min. D= 1.5 Ft.
Max d= 1.5 Ft.
Type of Liner= PSRM

FROM –L– STA. 31+50 TO STA. 34+50 LT
FROM –L– STA. 36+28 TO STA. 39+50 LT.

PROP PAVED SHOULDER
PROP PAINT STRIPING

27-FEB-2014 09:22
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awarner

PROJECT REFERENCE NO.	SHEET NO.
W-5114	EC-6/CONST.6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 6

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

REVISIONS

8/17/99

51 x 25 x 3
1.5 inch Skimmer
with 1.0 inch
Orifice Diameter
17 ft. weir
ID 6.1

46 x 23 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
15 ft. weir
ID 6.2

33 x 38 x 3
1.5 inch Skimmer
with 1.0 inch
Orifice Diameter
30 ft. weir
ID 6.3

NAD 83/NSRS 2007

MATCH LINE -Y1- STA 14+00.00 SHEET 4

END CONSTRUCTION
-Y1- POC STA. 22+60.00

FRANKLIN D. BLAYLOCK
DB 5949 PG 2071
3

COLLIN M. JR & NANCY ABBITT
DB 3781 PG 158
1

NANCY B. ABBITT
DB 6764 PG 462
13

WOODS

REMOVE 15" RCP
STANDARD BASE DITCH
SEE DETAIL G
EST. DDE 43 CY

REMOVE
18" RCP

SPECIAL CUT DITCH
SEE DETAIL H

FALSE SUMP
SEE DETAIL J

FALSE SUMP
SEE DETAIL K

CLASS "B"
RIP-RAP PAD
EST. 1 TON
EST. 4 SY GEOTEXTILE

CL B RIP RAP PAD
EST. 3 TONS
EST. 11 SY GEOTEXTILE

CL I RIP RAP PAD
EST. 7 TONS
EST. 17 SY GEOTEXTILE

-Y1- +95.00
112.00' LT

-Y1- +89.00
60.00' LT
49.80' LT

-Y1- +65.00
60.00' LT

-Y1- +00.00
55.48' LT

-Y1- +30.00
68.00' LT

-Y1- +71.00
68.00' LT
52.74' LT

-Y1- +40.00
65.00' LT

-Y1- +00.00
50.00' LT

-Y1- +17.00
60.00' LT
44.91' LT

-Y1- +30.00
50.00' LT

-Y1- +40.00
95.00' LT

-Y1- +01.07
50.00' LT

-Y1 +20.00
82.94' LT

-Y1- +15.00
64.06' LT

-Y1- +70.00
68.00' LT

-Y1- +64.95
50.00' LT

-Y1- +80.00
50.00' LT
95.00' LT

-Y1- +95.00
50.00' LT
65.00' LT

-Y1- +35.00
93.00' LT

-Y1- +25.00
50.00' LT
65.00' LT

-Y1- +60.00
30.42' LT
50.00' LT

-Y1- +20.00
50.00' RT

-Y1- +07.88
50.00' RT

-Y1- +07.00
65.00' RT

-Y1- +60.00
29.59' RT
50.00' RT

POC STA. 14+50.87

PT STA. 14+50.87

PC STA. 17+07.88

PT STA. 22+96.51

POT STA. 23+18.68

0601 0602 0603 0604 0605

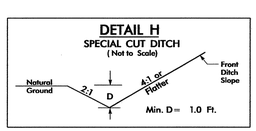
30" RCP

24" RCP

18" RCP

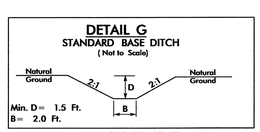
CHORD
TD
N 24° 36.4' E
N 56° 38.0' E
S 05°55'36" E
1400.0'

DETAIL H
SPECIAL CUT DITCH
(Not to Scale)



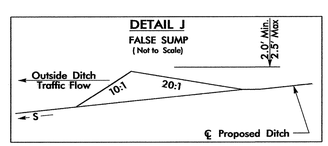
FROM -Y1- STA. 15+00 TO STA. 17+00 LT.
FROM -Y1- STA. 18+00 TO STA. 20+40 LT.
FROM -Y1- STA. 20+50 TO STA. 22+11 RT.

DETAIL G
STANDARD BASE DITCH
(Not to Scale)

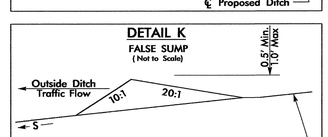


-Y1- STA. 17+87 LT.

DETAIL J
FALSE SUMP
(Not to Scale)



DETAIL K
FALSE SUMP
(Not to Scale)



PAVEMENT REMOVAL

27-FEB-2014 09:24
R:\Environmental Design\W-5114_EC_psh6.dgn
awsmar AT REN/26969

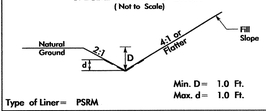
PROJECT REFERENCE NO.	SHEET NO.
W-5114	EC-7/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

8/17/99

REVISIONS

NAD 83/NSRS 2007

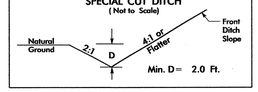
DETAIL A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



Min. D= 1.0 Ft.
Max. d= 1.0 Ft.
Type of Liner= PSRM

FROM -L- STA. 12+00 TO STA. 14+10 RT.

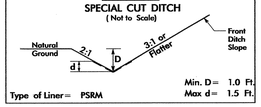
DETAIL C
SPECIAL CUT DITCH
(Not to Scale)



Min. D= 2.0 Ft.

FROM -L- STA. 16+00 TO STA. 17+46 RT.
FROM -Y1- STA. 11+00 TO STA. 13+50 RT.

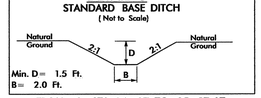
DETAIL B
SPECIAL CUT DITCH
(Not to Scale)



Min. D= 1.0 Ft.
Max d= 1.5 Ft.
Type of Liner= PSRM

FROM -L- STA. 18+24 TO STA. 21+88 RT.

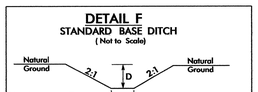
DETAIL G
STANDARD BASE DITCH
(Not to Scale)



Min. D= 1.5 Ft.
B= 2.0 Ft.

FROM -L- STA. 24+37 TO 25+17 LT.

DETAIL F
STANDARD BASE DITCH
(Not to Scale)



Min. D= 1.5 Ft.
B= 3.0 Ft.

-L- STA. 14+22 LT.

DETAIL H
SPECIAL CUT DITCH
(Not to Scale)

Min. D= 1.0 Ft.

FROM -Y1- STA. 11+50 TO STA.14+50 LT.

BEGIN TIP PROJECT W-5114
-L- POC STA. 12+00.00

-L- POC STA. 17+76.94 =
-Y1- POT STA. 10+00.00
N 88°20'27.0" E (-Y1-)

BEGIN CONSTRUCTION
-Y2- POT STA. 11+20.00

-L- POC STA. 24+92.99 =
-Y2- POT STA. 13+50.64

MATCH LINE -L- STA. 26+50.00 SHEET 5

MATCH LINE -Y1- STA. 14+00.00 SHEET 6

55 x 27 x 3
1.5 inch Skimmer
with 1.125 inch
Orifice Diameter
19 ft. weir
ID 4.1

BILLY RAY MOORE
DB 7210 PG 1776
4

NANCY B. ABBITT
DB 2940 PG 895
2

COLLIN M. JR & NANCY ABBITT
DB 1749 PG 292
1

FRANKLIN D. BLAYLOCK
DB 5949 PG 2071
3

SESSOMS DEVELOPMENT, INC.
DB 4402 PG 190

WEST HARRELL RD SR 2029

STOKESDALE TOWN LIMITS

OAK RIDGE TOWN LIMITS

HAW RIVER

WOODS

EXISTING R/W

EOP

EOI

BM#1

PROP PAVED SHOULDER
PROP PAINT STRIPING
PAVEMENT REMOVAL

27-FEB-2014 08:23
R:\Celico\Projects\Design\W-5114_EC_psh4.dgn
Automatic AT RENA26859

PROJECT REFERENCE NO.	SHEET NO.
W-5114	EC-8/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83/NSRS 2007

REVISIONS 8/17/99

MATCH LINE -L- STA 26+50.00 SHEET 4

90 x 15 x 3
1.5 inch Skimmer
with 1.0 inch
Orifice Diameter
8 ft. weir
ID 5.1 rev

66 x 16 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
8 ft. weir
ID 5.2

VICTOR J. BIERMAN, JR.
ANNE E. HERSHEY
DB 7222 PG 158
PB 73 PG 114

JOHN EDWARD ACREE
DB 3361 PG 234
PB 73 PG 251

THOMAS E. THOMPSON, JR.
DB 3361 PG 234
PB 73 PG 251

SESSOMS DEVELOPMENT, INC.
DB 4402 PG 190

FLOYD R. & LISA W. BAGBY
DB 7204 PG 2138
PB 134 PG 103

FRANKLIN D. BLAYLOCK
DB 5949 PG 2071

LARRY W. MADDOX
JEAN A. MADDOX
(ESTATE OF JIMMY GARY MADDOX, SR.)
DB 4709 PG 830
PB 126 PG 85

BRIAN P. MITCHELL
DB 5109 PG 2061
PB 126 PG 85

MICHAEL W. & CHERIE A. COBLE
DB 4920 PG 342
PB 126 PG 85

SESSOMS DEVELOPMENT, INC.
DB 4365 PG 1833
PB 126 PG 85

ARTHUR V. DENNING, JR. & CATHY CARTER-CLINE
DB 4617 PG 2122
PB 126 PG 85

C. HINSON & MARIA E.
DB 6811 PG 651

MATTHEW E. JANOWSKI
DB 6892 PG 2501

SPECIAL LATERAL 'V' DITCH W/PSRM SEE DETAIL D EST. 265 SY PSRM

SPECIAL CUT DITCH W/PSRM SEE DETAIL E EST. 318 SY PSRM

SPECIAL CUT DITCH W/PSRM SEE DETAIL E EST. 341 SY PSRM

TIE TO EXISTING

580.06'
S 03°31'39" E

440' TAPER LT & RT

N 03°34'10" W
260.63'

150' LEFT TURN TAPER

450' TAPER LT & RT

100' TAPER TO EXIST LT & RT

100' RIGHT LANE TAPER

-L- +00.00
68.00' RT

-L- +90.00
49.32' RT

-L- +90.00
65.00' RT

-L- +73.03
65.00' RT

-L- +50.00
50.48' LT

-L- +10.00
50.44' LT
60.00' LT

-L- +60.00
50.40' LT
60.00' LT

-L- +75.00
50.31' LT

-L- +55.00
49.47' RT
79.00' RT

-L- +39.33
69.45' RT

TOP=838.13
INV=830.78

TOP=831.8
INV=829.3
INV=829.00
INV=827.49

INV=847.10

REMOVE

REMOVE 4' OF EXIST PIPE

COLLAR AND RETAIN

RETAIN

CL B RIP RAP
EST. 3 TONS
EST. 17 SY GEOTEXTILE

TIE PIPE TO EXISTING DITCH ELEV.=847.10

END TIP PROJECT W-5114
-L- POC STA. 39+50.00

DETAIL D
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground, 2:1, d, D, 4:1, Front Ditch Slope

Min. D= 1.1 Ft.
Max d= 1.5 Ft.

Type of Liner= PSRM

FROM -L- STA. 29+50 TO STA. 31+50 LT

DETAIL E
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground, 2:1, d, D, 4:1 or Flatter, Front Ditch Slope

Min. D= 1.5 Ft.
Max d= 1.5 Ft.

Type of Liner= PSRM

FROM -L- STA. 31+50 TO STA. 34+50 LT
FROM -L- STA. 36+28 TO STA. 39+50 LT.

PROP PAVED SHOULDER
PROP PAINT STRIPING

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mtamer
(RENV26959)

PROJECT REFERENCE NO.	SHEET NO.
W-5114	EC-9/CONST.6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

8/17/99

REVISIONS

27-FEB-2014 09:25
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ncowan
(4) HDW2.5DGN

FRANKLIN D. BLAYLOCK
DB 5949 PG 2071
WOODS
3

COLLIN M. JR & NANCY ABBITT
DB 3781 PG 158
1

NANCY B. ABBITT
DB 6764 PG 462
13

WOODS

REMOVE 15" RCP
STANDARD BASE DITCH
SEE DETAIL G
EST. DDE 43 CY

51 x 25 x 3
1.5 inch Skimmer
with 1.0 inch
Orifice Diameter
17 ft. weir
ID 6.1

46 x 23 x 3
1.5 inch Skimmer
with 0.875 inch
Orifice Diameter
15 ft. weir
ID 6.2

33 x 38 x 3
1.5 inch Skimmer
with 1.0 inch
Orifice Diameter
30 ft. weir
ID 6.3

CLASS "B" RIP-RAP PAD
EST. 1 TON
EST. 4 SY GEOTEXTILE

CL B RIP RAP PAD
EST. 3 TONS
EST. 11 SY GEOTEXTILE

CL 1 RIP RAP PAD
EST. 7 TONS
EST. 17 SY GEOTEXTILE

SPECIAL CUT DITCH
SEE DETAIL H

REMOVE
18" RCP

FALSE SUMP
SEE DETAIL J

FALSE SUMP
SEE DETAIL K

MATCH LINE -Y1- STA 14+00.00 SHEET 4

MATCH LINE -Y1- STA 23+18.58

POT Sta. 23+18.58

PT Sta. 22+96.51

END CONSTRUCTION
-Y1- POC STA. 22+60.00

PC Sta. 17+07.88

PT Sta. 14+50.87

CHORD
TD
N 24° 36.4' E

-Y1-

-Y1- +00.00
55.48' LT

-Y1- +30.00
68.00' LT

-Y1- +71.00
68.00' LT
52.74' LT

-Y1- +40.00
65.00' LT

-Y1- +00.00
50.00' LT

-Y1- +95.00
112.00' LT

-Y1- +89.00
60.00' LT
49.80' LT

-Y1- +65.00
60.00' LT

-Y1- +17.00
60.00' LT
49.81' LT

-Y1- +40.00
95.00' LT

-Y1- +30.00
50.00' LT

-Y1- +01.07
50.00' LT

-Y1 +20.00
82.94' LT

-Y1- +15.00
64.06' LT

-Y1- +70.00
68.00' LT

-Y1- +64.95
50.00' LT

-Y1- +80.00
50.00' LT
95.00' LT

-Y1- +95.00
50.00' LT
65.00' LT

-Y1- +35.00
93.00' LT

-Y1- +25.00
50.00' LT
65.00' LT

-Y1- +60.00
30.42' LT
50.00' LT

-Y1- +07.88
50.00' RT

-Y1- +07.00
65.00' RT

-Y1- +20.00
50.00' RT

-Y1- +60.00
29.59' RT
50.00' RT

-Y1-
50.0

0601
0602
0603
0604
0605

24" RCP
30" RCP
42" RCP
48" RCP

25.5' INC.

20' BST

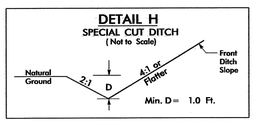
EXISTING R/W

S 65°09'35" E
1400.13'

N 56° 13' 38.0" E

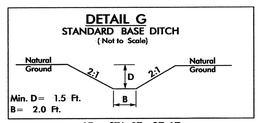
NAD 83/NSRS 2007

DETAIL H
SPECIAL CUT DITCH
(Not to Scale)



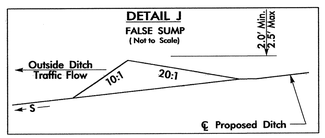
FROM -Y1- STA. 15+00 TO STA. 17+00 LT.
FROM -Y1- STA. 18+00 TO STA. 20+40 LT.
FROM -Y1- STA. 20+50 TO STA. 22+11 RT.

DETAIL G
STANDARD BASE DITCH
(Not to Scale)

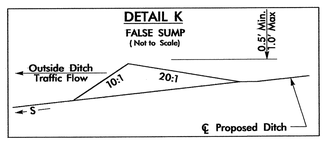


-Y1- STA. 17+87 LT.

DETAIL J
FALSE SUMP
(Not to Scale)



DETAIL K
FALSE SUMP
(Not to Scale)



PAVEMENT REMOVAL

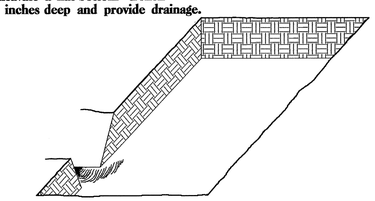
PROJECT REFERENCE NO.	SHEET NO.
W-5114	RF-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PLANTING DETAILS

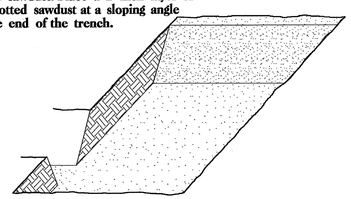
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

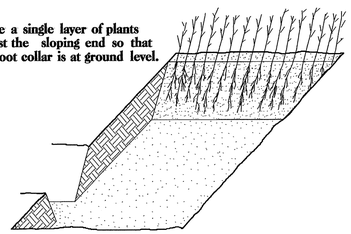
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



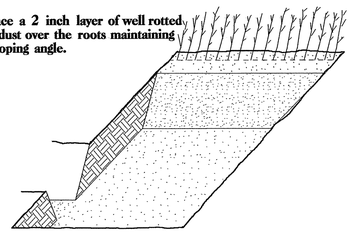
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



4. Place a single layer of plants against the sloping end so that the root collar is at ground level.

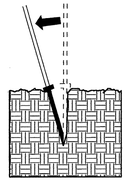


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

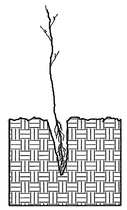


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

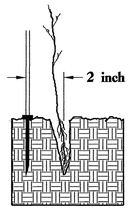
DIBBLE PLANTING METHOD
USING THE KBC PLANTING BAR



1. Insert planting bar as shown and pull handle toward planter.

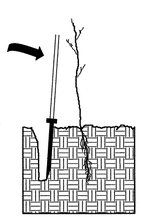


2. Remove planting bar and place seedling at correct depth.

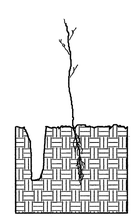


3. Insert planting bar 2 inches toward planter from seedling.

4. Pull handle of bar toward planter, firming soil at bottom.



5. Push handle forward firming soil at top.



6. Leave compaction hole open. Water thoroughly.

PLANTING NOTES:

PLANTING BAG
During planting, seedlings shall be kept in a moist canvas bag or similar container to prevent the root systems from drying.

KBC PLANTING BAR
Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.

ROOT PRUNING
All seedlings shall be root pruned, if necessary, so that no roots extend more than 10 inches below the root collar.

REFORESTATION

☐ TREE REFORESTATION SHALL BE PLANTED 6 FT. TO 10 FT. ON CENTER, RANDOM SPACING, AVERAGING 8 FT. ON CENTER, APPROXIMATELY 680 PLANTS PER ACRE.

REFORESTATION

MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

25% PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	12 in – 18 in BR
25% LIRIODENDRON TULIPIFERA	TULIP POPLAR	12 in – 18 in BR
25% FRAXINUS PENNSYLVANICA	GREEN ASH	12 in – 18 in BR
25% BETULA NIGRA	RIVER BIRCH	12 in – 18 in BR

REFORESTATION DETAIL SHEET

N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

T.I.P.: W-5114

CONTRACT: C203415

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

TIP NO.	SHEET NO.
W-5114	SIGN-1

APPROVED: 1/4/14

DATE: 2/22/14

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 32396 ENGINEER WILLIAM J. HAMILTON

SIGNING PLAN
GUILFORD COUNTY

LOCATION: NC 68 FROM SOUTH OF SR 2111 (EAST HARRELL ROAD) TO SR 4831 (BARTONSHIRE DRIVE) IN OAK RIDGE AND STOKESDALE

GENERAL NOTES

- SIGNS FURNISHED BY STATE
- ALL TYPE 'D' SIGNS SHALL BE MOUNTED ON TWO U-CHANNEL POSTS UNLESS OTHERWISE INDICATED ON THE PLANS.
- SIGNING PLANS DO NOT INCLUDE TEMPORARY CONSTRUCTION SIGNING OR PAVEMENT MARKINGS. SEE TRAFFIC CONTROL PLANS.
- WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER.
- ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.
- THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.
- SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.

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
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	250	L.F.
4096000000	904	SIGN ERECTION, TYPE D	7	EA.
4102000000	904	SIGN ERECTION, TYPE E	7	EA.
4155000000	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	16	EA.

"E" SIGN

(401) QUANTITY REQ'D 3

36 X 36
R1-1

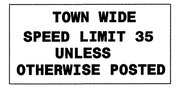
ONE "U" POST PER SIGN

(403) QUANTITY REQ'D 3

30 X 36
R2-1

TWO "U" POSTS PER SIGN

(402) QUANTITY REQ'D 2



60 X 36
R2-27(SP)

ONE "U" POST PER SIGN

(404) QUANTITY REQ'D 3

18 X 18
OM4-1

ONE "U" POST PER SIGN

PLAN PREPARED BY: Ramey Kemp & Associates

W.JASON HAMILTON, P.E., PTOE — PROJECT MANAGER

NICHOLAS E. BURNS, E.I. — PROJECT ENGINEER

RAMEY KEMP & ASSOCIATES, INC.
Transportation Engineers
5808 Farlington Place, Suite 100
Raleigh, North Carolina 27609
919-872-5115 Tel. 919-878-0415 Fax.
www.rameykemp.com

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

SUSAN B. KUNZ — SIGNING & DELINEATION REGIONAL MANAGER

JAMES HAMBRIGHT — SIGNING & DELINEATION PROJECT DESIGN ENGINEER

INDEX

SHEET NO.	DESCRIPTION
SIGN-1	TITLE SHEET, TYPE "E" SIGNS, AND NOTES
SIGN-2	SIGN DESIGNS
SIGN-3	EXISTING AND PROPOSED SIGNS

TIP NO.	SHEET NO.
W-5114	SIGN-2

APPROVED: [signature]

DATE: 2/27/14

SIGN NUMBER: 301,302
TYPE: D
QUANTITY: 2

SIGN WIDTH: 2'-6"
HEIGHT: 2'-0"
TOTAL AREA: 5.0 Sq.Ft.

BORDER TYPE: FLUSH
RECESS: 0"
WIDTH: 1"
RADII: 3"

NO. Z BARS:
LENGTH:

BACKG COLOR: Green
COPY COLOR: White

SYMBOL	X	Y	WID	HT

MAT'L: 0.125" (3.2 mm) ALUMINUM

USE NOTES: 1,2

1. Legend and border(except those that are colored black) shall be direct applied Grade C sheeting.
2. Background shall be Grade C reflective sheeting.

DESIGN BY: NE BURNS
PROJECT ID: W-5114
CHECKED BY: WJ HAMILTON
DIV: 7
DATE: Feb 27, 2014

BORDER
R=3"
TH=1"

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

								Series/Size Text Length
		H	a	w				D 2000
	7	5.1	4.1	6.8	7			16
		R	i	v	e	r		D 2000
	6	5	1.7	4.7	4.4	2.3	6	18.1

FILENAME: Nicks Sign Designs

NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: 303
TYPE: D
QUANTITY: 1

SIGN WIDTH: 4'-0"
HEIGHT: 2'-0"
TOTAL AREA: 8.0 Sq.Ft.

BORDER TYPE: FLUSH
RECESS: 0"
WIDTH: 1"
RADII: 3"

NO. Z BARS:
LENGTH:

BACKG COLOR: Green
COPY COLOR: White

SYMBOL	X	Y	WID	HT

MAT'L: 0.125" (3.2 mm) ALUMINUM

USE NOTES: 1,2

1. Legend and border(except those that are colored black) shall be direct applied Grade C sheeting.
2. Background shall be Grade C reflective sheeting.

DESIGN BY: NE BURNS
PROJECT ID: W-5114
CHECKED BY: WJ HAMILTON
DIV: 7
DATE: Feb 27, 2014

BORDER
R=3"
TH=1"

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

													Series/Size Text Length
		O	a	k		R	i	d	g	e			D 2000
	5.2	5.2	4.6	3.8	4.5	5	1.9	4.6	4.6	3.5	5.2		37.6
		T	O	W	N		L	I	M	I	T		C 2000
	11	2.5	2.8	3.6	2.2	4	2.6	1.4	3.5	1.1	2	11	25.9

FILENAME: Nicks Sign Designs

NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: 304
TYPE: D
QUANTITY: 1

SIGN WIDTH: 4'-0"
HEIGHT: 2'-0"
TOTAL AREA: 8.0 Sq.Ft.

BORDER TYPE: FLUSH
RECESS: 0"
WIDTH: 1"
RADII: 3"

NO. Z BARS:
LENGTH:

BACKG COLOR: Green
COPY COLOR: White

SYMBOL	X	Y	WID	HT

MAT'L: 0.125" (3.2 mm) ALUMINUM

USE NOTES: 1,2

1. Legend and border(except those that are colored black) shall be direct applied Grade C sheeting.
2. Background shall be Grade C reflective sheeting.

DESIGN BY: NE BURNS
PROJECT ID: W-5114
CHECKED BY: WJ HAMILTON
DIV: 7
DATE: Feb 27, 2014

BORDER
R=3"
TH=1"

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

													Series/Size Text Length
		S	t	o	k	e	s	d	a	l	e		D 2000
	5	4.4	2.8	4.6	4.3	4	3.4	4.5	4.6	1.9	3.5	4.9	38.1
		T	O	W	N		L	I	M	I	T		C 2000
	11	2.5	2.8	3.6	2.2	4	2.6	1.4	3.5	1.1	2	11	25.9

FILENAME: Nicks Sign Designs

NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN DESIGNS

TIP NO.	SHEET NO.
W-5114	SIGN-3

APPROVED: _____

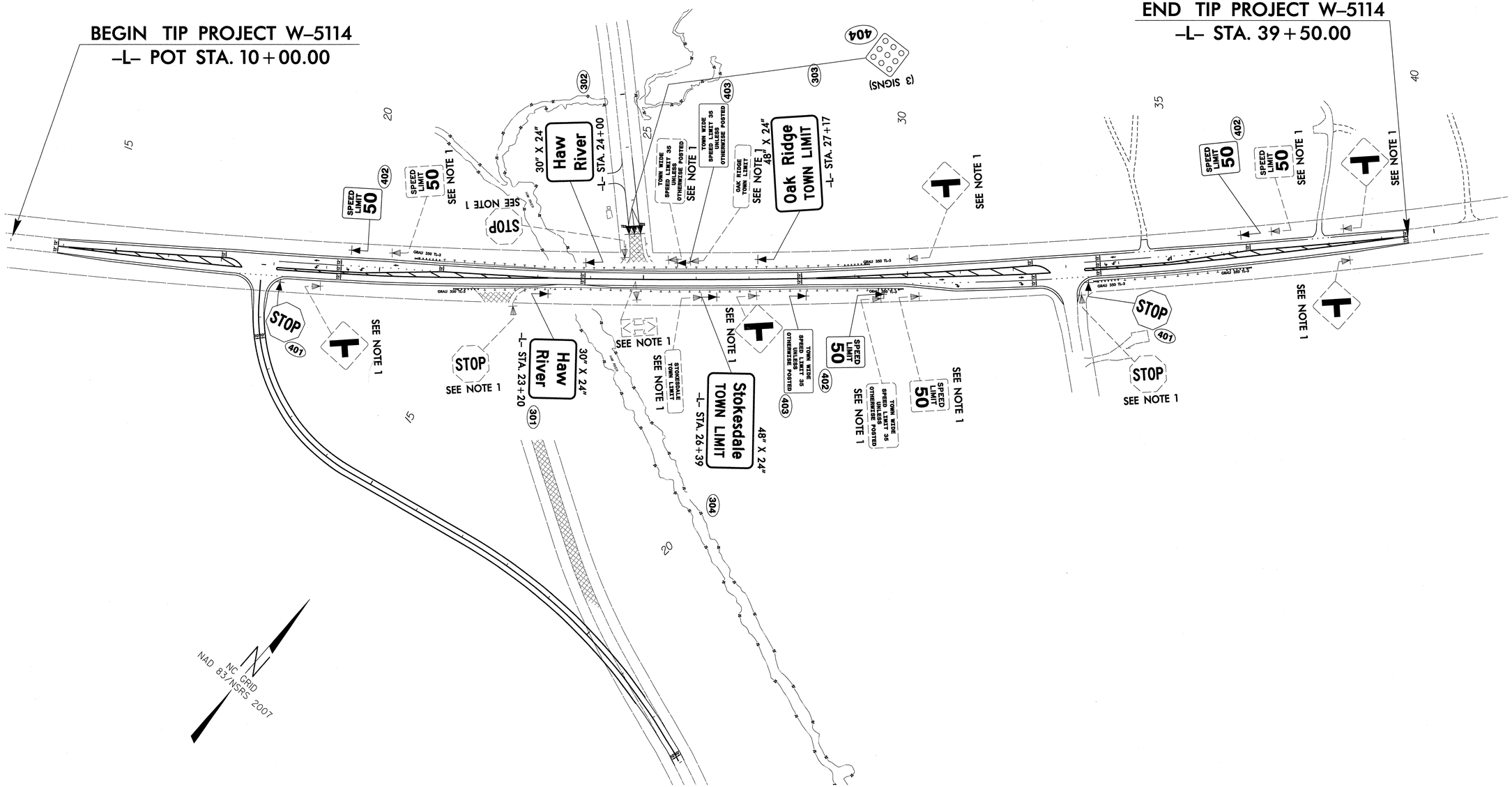
DATE: 2/27/14

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 32396 ENGINEER WILLIAM J. HAMILTON

BEGIN TIP PROJECT W-5114
–L– POT STA. 10+00.00

END TIP PROJECT W-5114
–L– STA. 39+50.00



PAY ITEM NOTES

1	DISPOSAL OF SIGN SYSTEM, U-CHANNEL

Prepared in the offices of:
RAMEY KEMP & ASSOCIATES, INC.
Transportation Engineers
5808 Faringdon Place, Suite 100
Raleigh, North Carolina 27609
919-872-5115 Tel. 919-878-8498 Fax.
www.rameykemp.com

EXISTING AND PROPOSED SIGNS

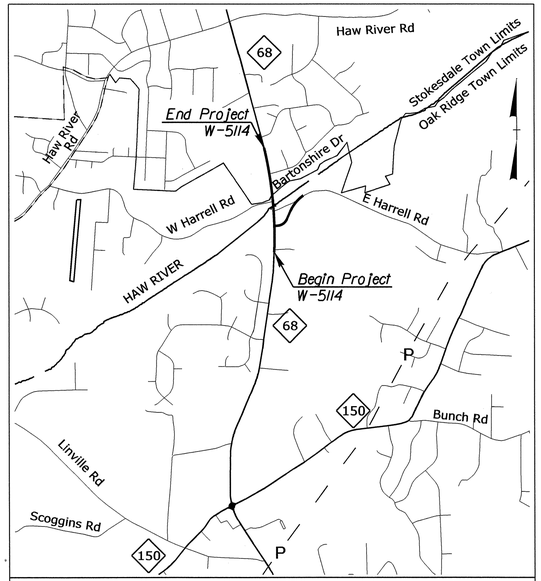
T.I.P. NO.	SHEET NO.
W-5114	UO-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

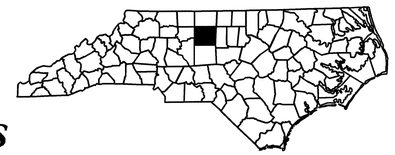
UTILITIES BY OTHERS PLANS
GUILFORD COUNTY

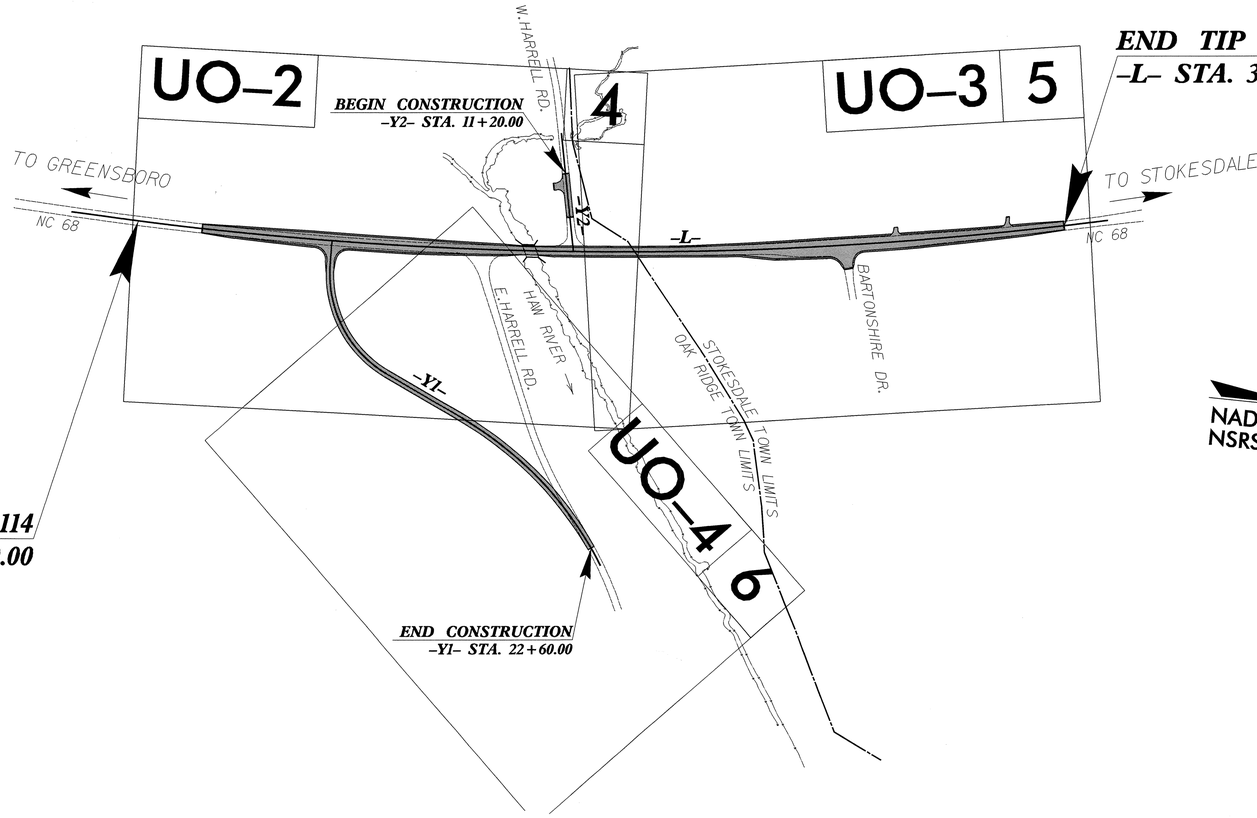
LOCATION: NC 68 FROM SOUTH OF SR 2111 (EAST HARRELL ROAD) TO SR 4831 (BARTONSHIRE DRIVE) IN OAK RIDGE AND STOKESDALE

TYPE OF WORK: RELOCATION OF POWER AND TELEPHONE UTILITIES



VICINITY MAP SHOWING LOCATION OF W-5114





NAD 83/
NSRS 2007

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

INDEX OF SHEETS

SHEET NO.	*DESCRIPTION*
UO-1	*TITLE SHEET*
UO-2 THRU UO-4	*UTILITY BY OTHERS PLAN SHEETS*

UTILITY OWNERS ON PROJECT

(A) DUKE ENERGY PROGRESS – POWER DISTRIBUTION
(B) A T & T – COMMUNICATIONS
(C) PIEDMONT NATURAL GAS – NATURAL GAS

PREPARED IN THE OFFICE OF:
DIVISION OF HIGHWAYS
UTILITIES UNIT
UTILITIES ENGINEERING
1555 MAIL SERVICES CENTER
RALEIGH NC 27699-1555
PHONE (919) 707-6690
FAX (919) 250-4151

Roger Worthington, P.E. — *UTILITIES SECTION ENGINEER*
Steve McKee, P.E. — *UTILITIES SQUAD LEADER PROJECT ENGINEER*
John Nigro — *UTILITIES PROJECT DESIGNER*

TIP PROJECT: W-5114

05/08/90
17-FEB-2014 14:40
R:\Utilities\Engineering\UBO\Proj\W5114_Ut_tsh_UO1_psh.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
W-5114	UO-2

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR PROPOSED UTILITY WORK SHOWN ON THIS SHEET.

5/14/99

19-FEB-2014 08:15
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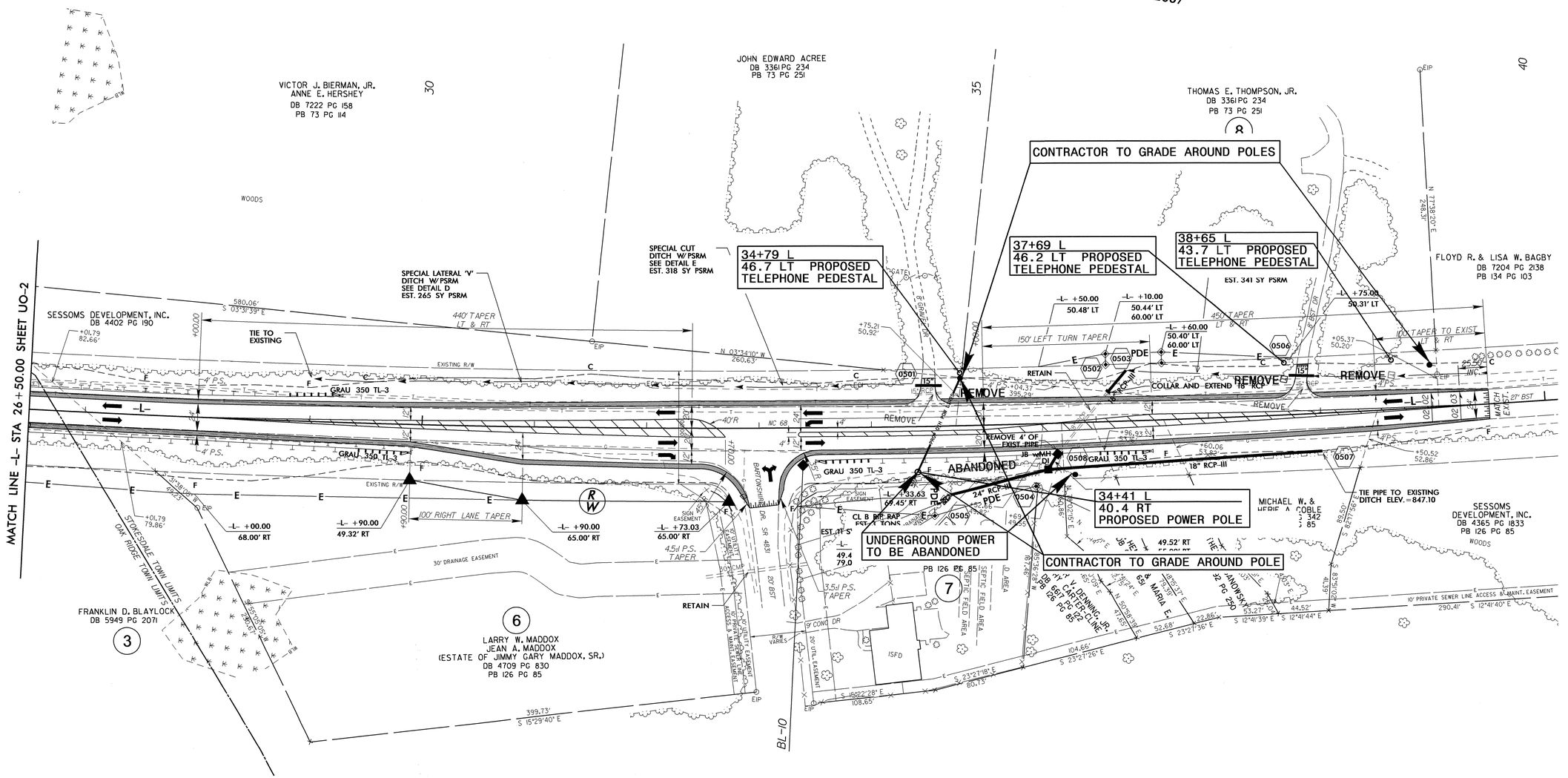
PROJECT REFERENCE NO.	SHEET NO.
W-5114	U0-3

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR PROPOSED UTILITY WORK SHOWN ON THIS SHEET.

NAD 83/NSRS 2007



5/14/99
05-MAR-2014 14:34
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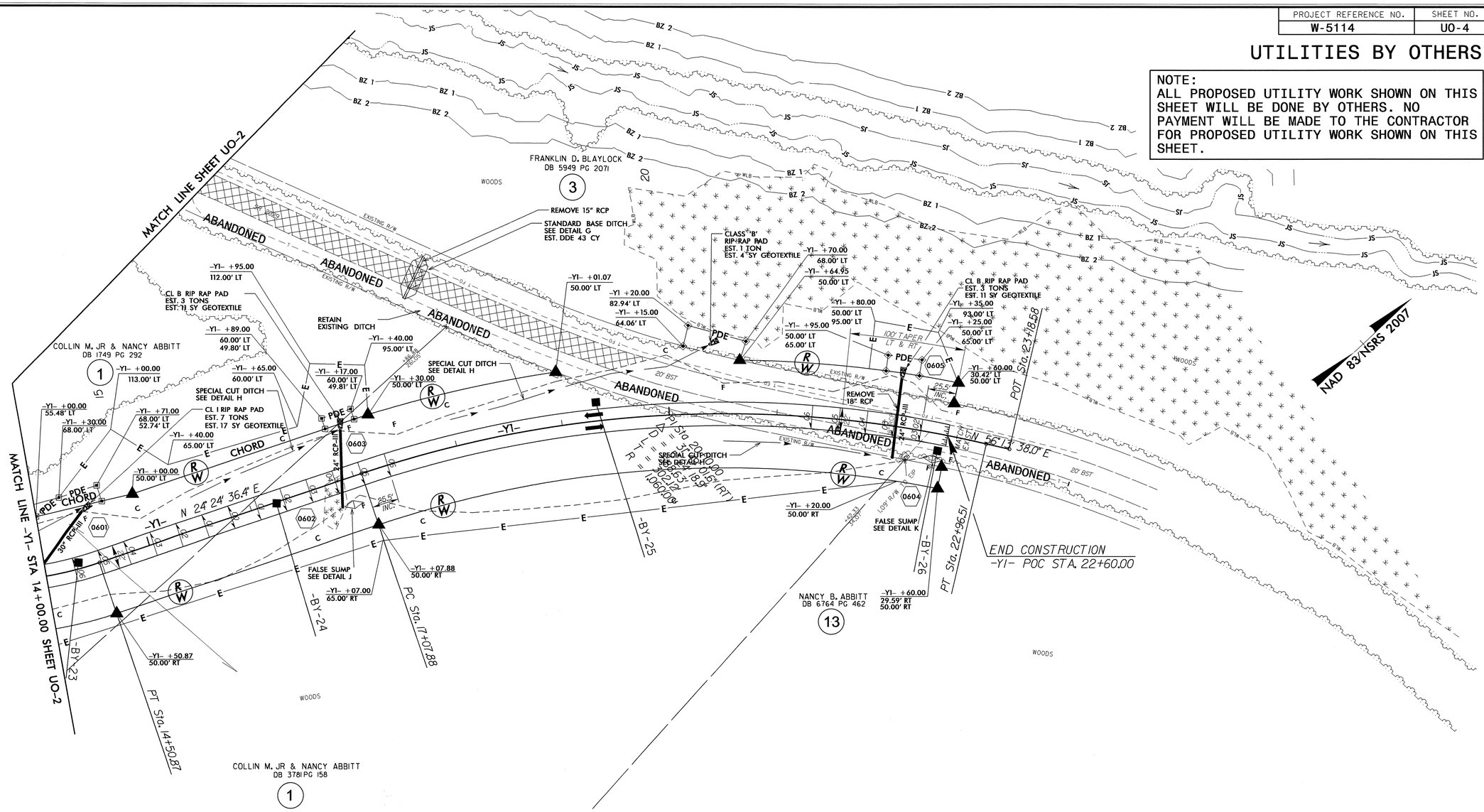
12FENAME1.pshdgn
Utilities by Others

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
W-5114	U0-4

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR PROPOSED UTILITY WORK SHOWN ON THIS SHEET.



19-FEB-2014 08:16
\\Tpcfile\Projects\UBO\Proj\W5114_Ut_6_U04_psh.dgn
$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
W-5114	X-1A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CROSS-SECTION SUMMARY

Approximate quantities only. Fine Grading, Clearing and Grubbing, Removal of Existing Asphalt Pavement, and Shoulder Borrow will be paid for at the lump sum price for "Grading".

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT

Station -L- LT	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
13+90.00	5	0
14+00.00	3	0
14+50.00	37	0
15+00.00	58	0
15+50.00	81	2
16+00.00	155	3
16+50.00	246	3
17+00.00	331	6
17+50.00	360	9
18+00.00	256	13
18+50.00	141	19
19+00.00	117	19
19+50.00	94	17
20+00.00	38	18
20+50.00	4	19
21+00.00	2	15
21+50.00	1	16
22+00.00	1	29
22+50.00	6	49
23+00.00	11	68
23+47.15	12	68

Station -L- LT	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
23+83.21	0	0
24+00.00	4	36
24+50.00	16	54
25+00.00	26	0
25+50.00	19	5
26+00.00	6	19
26+50.00	6	31
27+00.00	4	24
27+50.00	1	16
28+00.00	0	14
28+50.00	0	16
29+00.00	0	19
29+50.00	4	14
30+00.00	11	17
30+50.00	21	21
31+00.00	29	23
31+50.00	54	19
32+00.00	58	14
32+50.00	31	16
33+00.00	19	13
33+50.00	14	14
34+00.00	12	17
34+50.00	31	8
35+00.00	32	10
35+50.00	10	21
36+00.00	10	14
36+50.00	40	14
37+00.00	57	20

Station -L- LT	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
37+50.00	45	15
38+00.00	57	7
38+50.00	56	6
39+00.00	39	9
39+50.00	37	7

Station -L- RT	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
12+00.00	0	0
12+50.00	18	0
13+00.00	44	0
13+50.00	59	1
13+90.00	104	3
14+00.00	45	1
14+50.00	173	6
15+00.00	143	7
15+50.00	249	9
16+00.00	459	9
16+50.00	829	10
17+00.00	1163	9
17+50.00	642	6
18+00.00	3	4
18+50.00	247	8
19+00.00	296	12
19+50.00	63	11
20+00.00	34	12
20+50.00	36	15
21+00.00	24	24
21+50.00	13	34
22+00.00	6	19
22+50.00	8	0
23+00.00	7	69
23+47.15	5	131

Station -L- RT	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
23+83.21	0	0
24+00.00	1	144
24+50.00	4	294
25+00.00	7	165
25+50.00	9	194
26+00.00	6	209
26+50.00	4	206
27+00.00	3	231
27+50.00	2	282
28+00.00	1	319
28+50.00	0	284
29+00.00	0	190
29+50.00	0	94
30+00.00	1	38
30+50.00	2	31

Station -L- RT	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
31+00.00	3	50
31+50.00	5	46
32+00.00	6	23
32+50.00	3	6
33+00.00	1	0
33+50.00	2	0
34+00.00	5	13
34+50.00	6	34
35+00.00	5	146
35+50.00	4	180
36+00.00	5	80
36+50.00	6	33
37+00.00	7	14
37+50.00	6	13
38+00.00	6	12
38+50.00	5	8
39+00.00	6	6
39+50.00	7	3

Station -Y1-	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
10+20.00	0	0
10+50.00	1213	0
11+00.00	3384	0
11+50.00	5046	0
12+00.00	5156	0
12+50.00	4214	0
13+00.00	2706	0
13+50.00	1010	330
14+00.00	59	532
14+50.00	41	290
15+00.00	189	87
15+50.00	528	0
16+00.00	648	0
16+50.00	375	14
17+00.00	81	179
17+50.00	219	173
18+00.00	725	8
18+50.00	1207	0
19+00.00	1550	0
19+50.00	1635	42
20+00.00	1324	98
20+50.00	858	95
21+00.00	523	65
21+50.00	319	45
22+00.00	147	70
22+50.00	38	60
22+60.00	3	4

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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5114	X-1

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

850
840
830
860
820

EOP
4'
4:1
2:1
840.65
837.67

13+00.00

EOP
4'
4:1
2:1
842.71
840.19

12+50.00

EOP
4'
BEGIN TIP PROJECT W-5114
-L- STA. 12+00.00
844.72
4:1
2:1
842.70

12+00.00

846.50

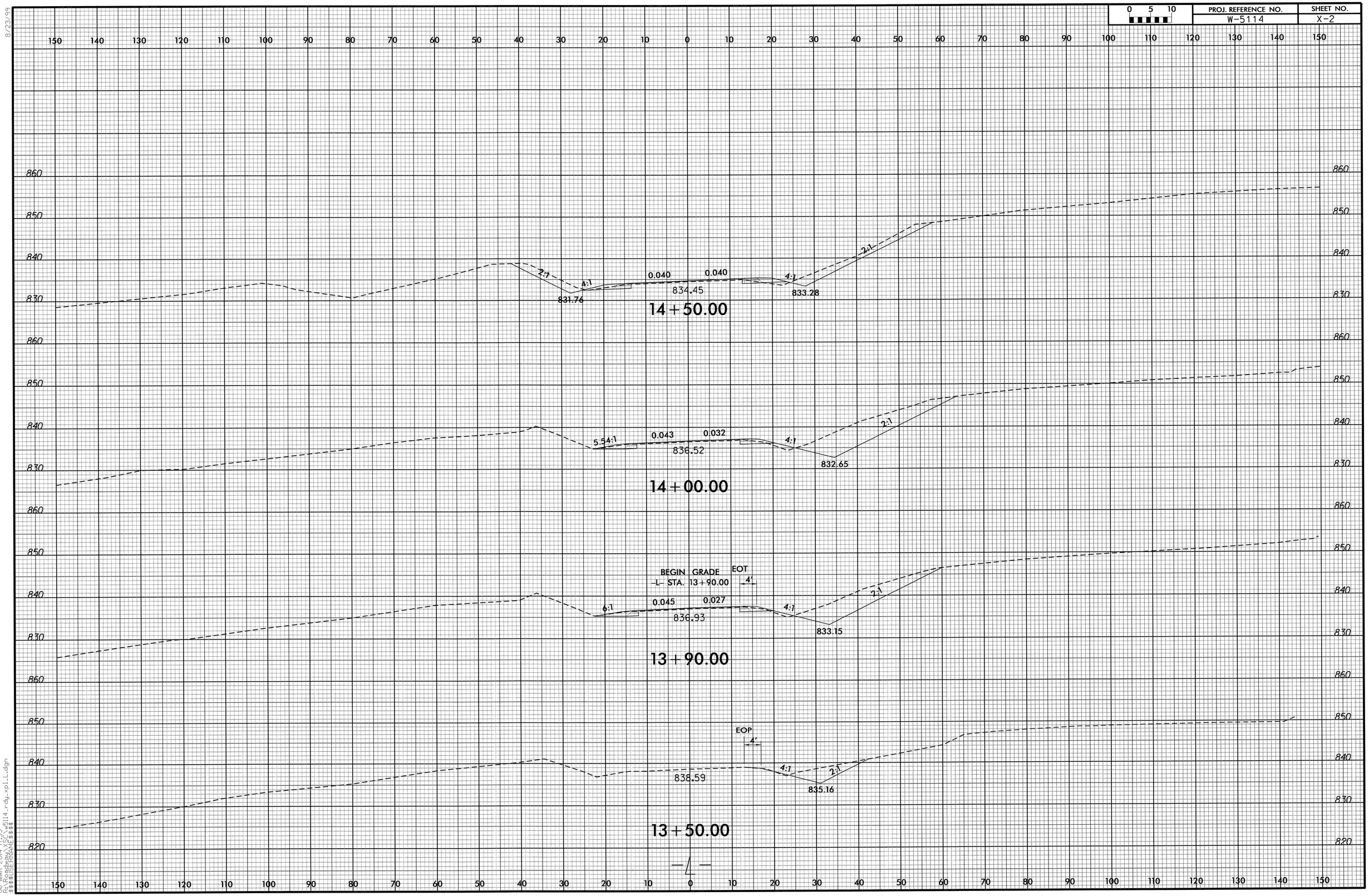
11+50.00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

06-MAR-2014 18:05
R:\Roadway\XSC\w5114_rdy_xpl_L.dgn
$$$$USERNAME$$$$

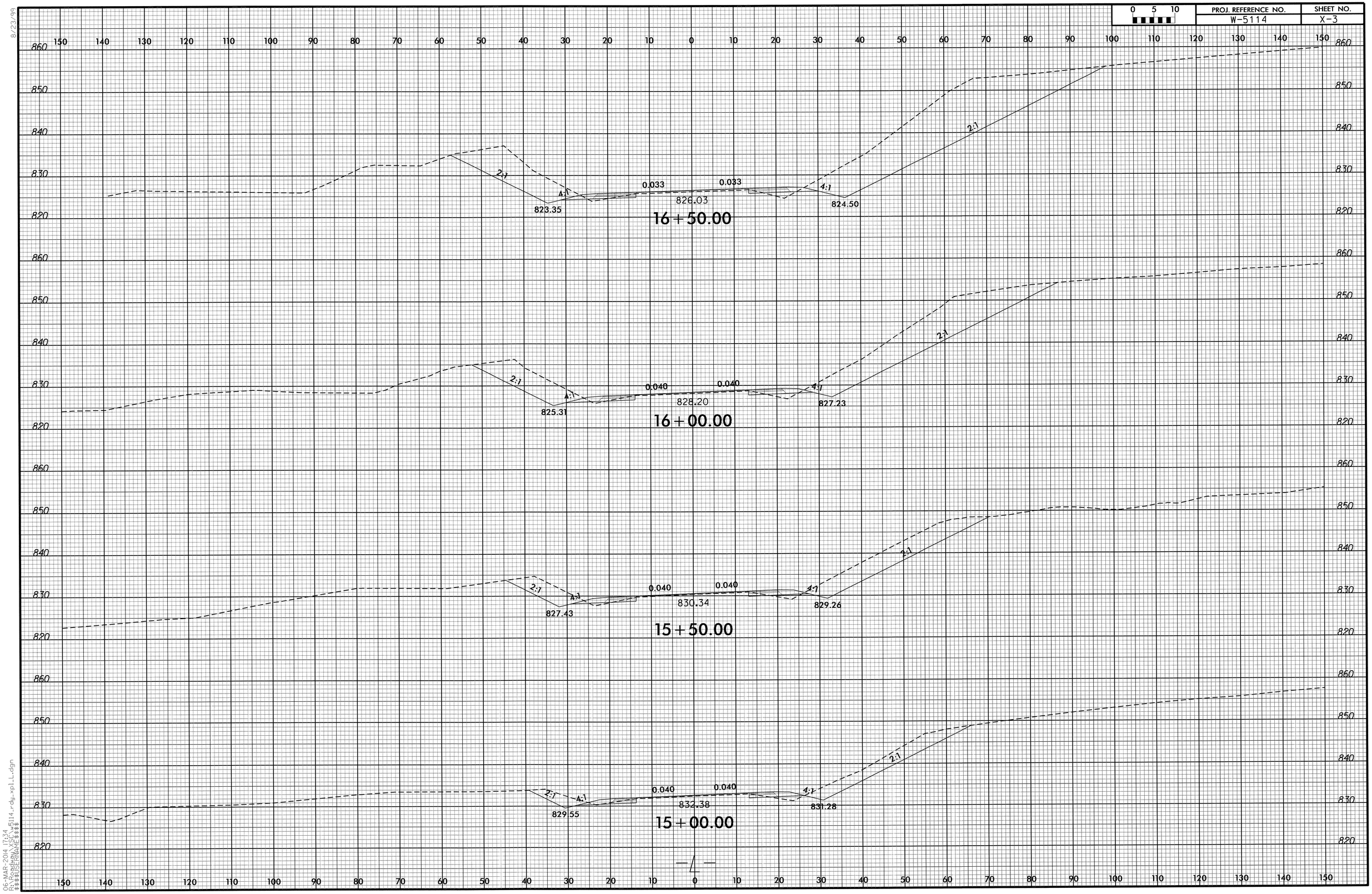
8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5114	X-2



06-MAR-2014 17:35
R:\Roadway\SC\w5114_rdy_xpl_L.dgn
$$$$USERNAME$$$$

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5114	X-3



8/23/99

06-MAR-2014 17:34
R:\Roadway\X-SC\w5114rdwy_xpl_L.dgn
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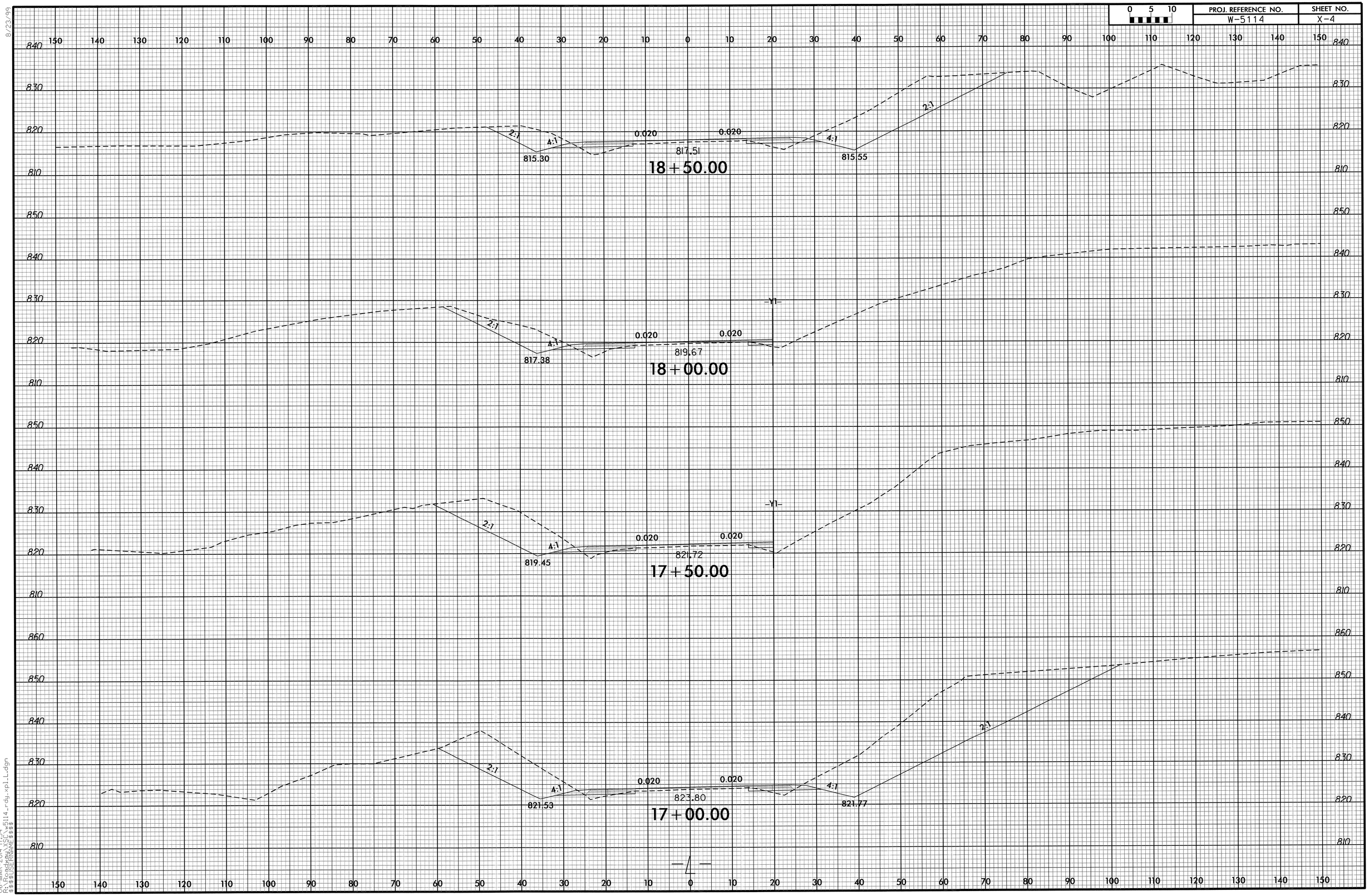


8/23/99

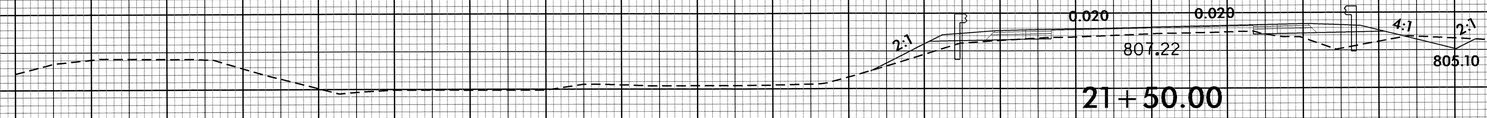
06-MAR-2014 17:34
R:\Roadway\XSC\w5114_rdy_xpl_L.dgn
$$$$USERNAME$$$$

8/23/99

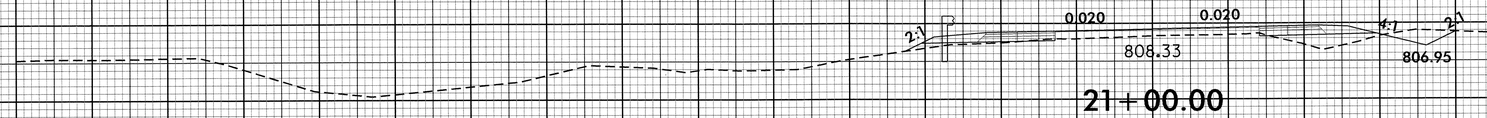
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5114	X-5

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

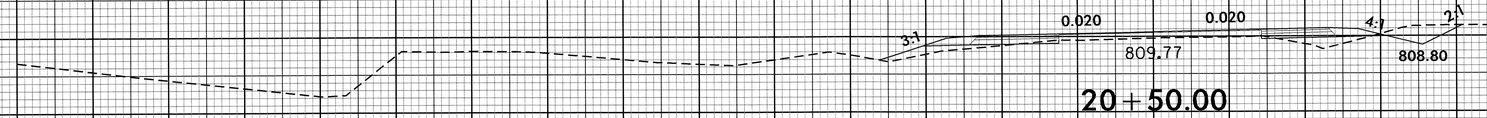
820 810 800 790 810 800 820 810 800 820 810 800 820 830 820 810 800 830 820 810



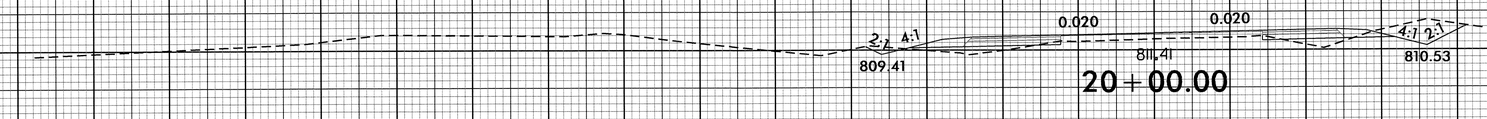
21+50.00



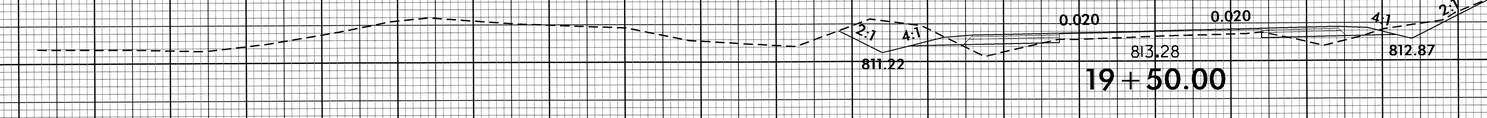
21+00.00



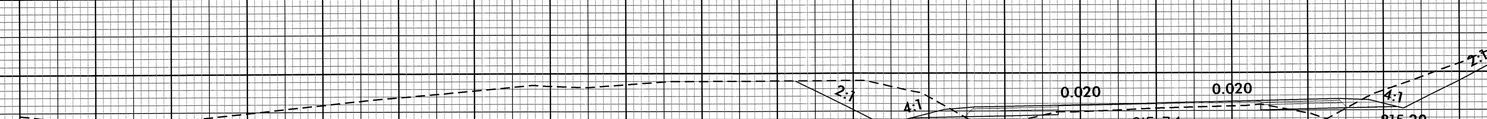
20+50.00



20+00.00



19+50.00



19+00.00

06-MAR-2014 17:34
R:\Roadway\xs\w5114_rdy_xpLL.dgn
$$$$USERNAME$$$$

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5114	X-6

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

810 800 790 780

0.048 0.020
805.29
2:1 2:1

24+00.00

0.050 0.020
805.47
2:1

23+50.00

0.040 0.020
805.62
2:1 2:1

23+00.00

0.027 0.020
805.95
2:1 4:1

22+50.00

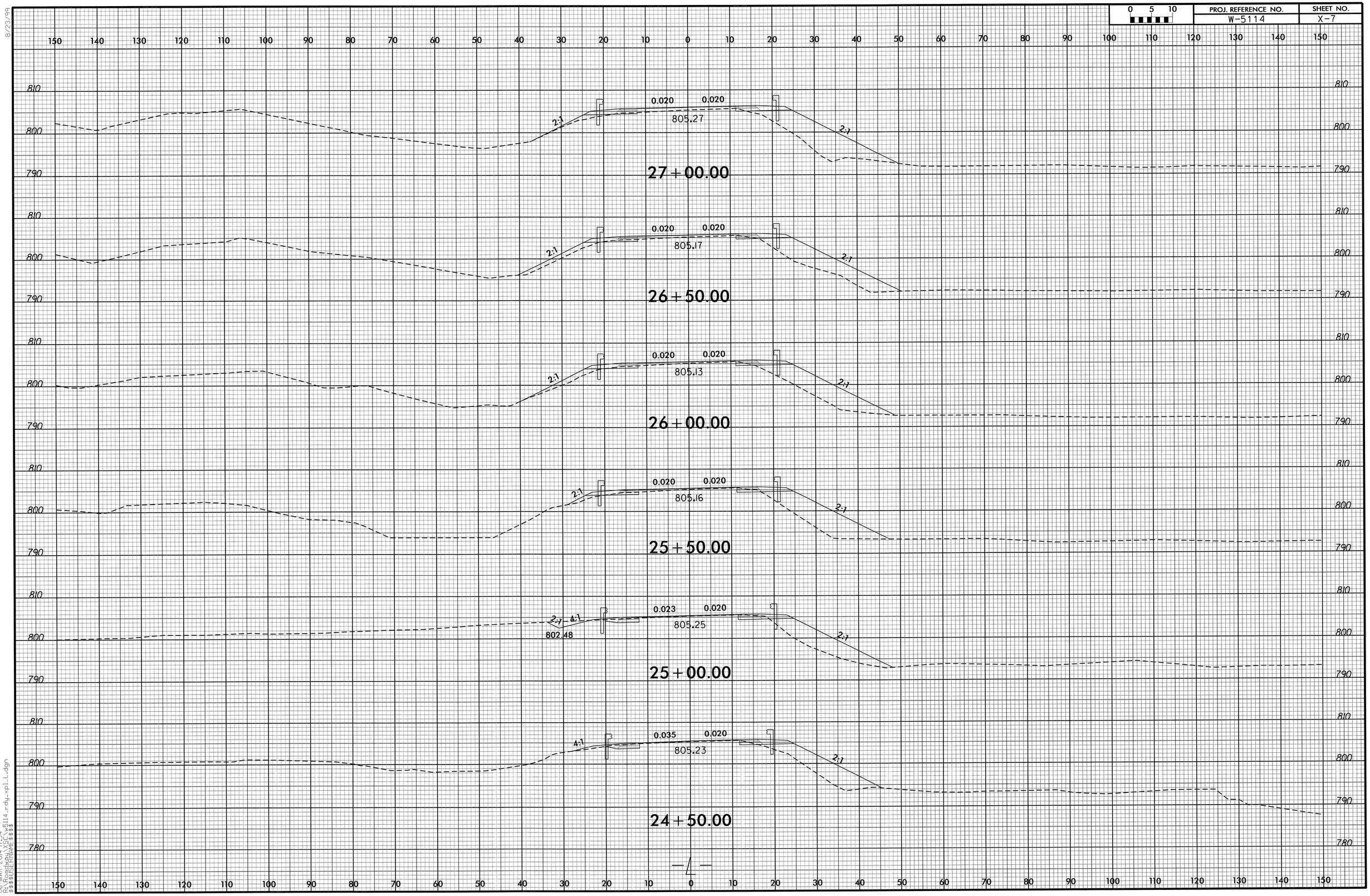
0.020 0.020
806.49
2:1 4:1

22+00.00

-4-

8/23/99

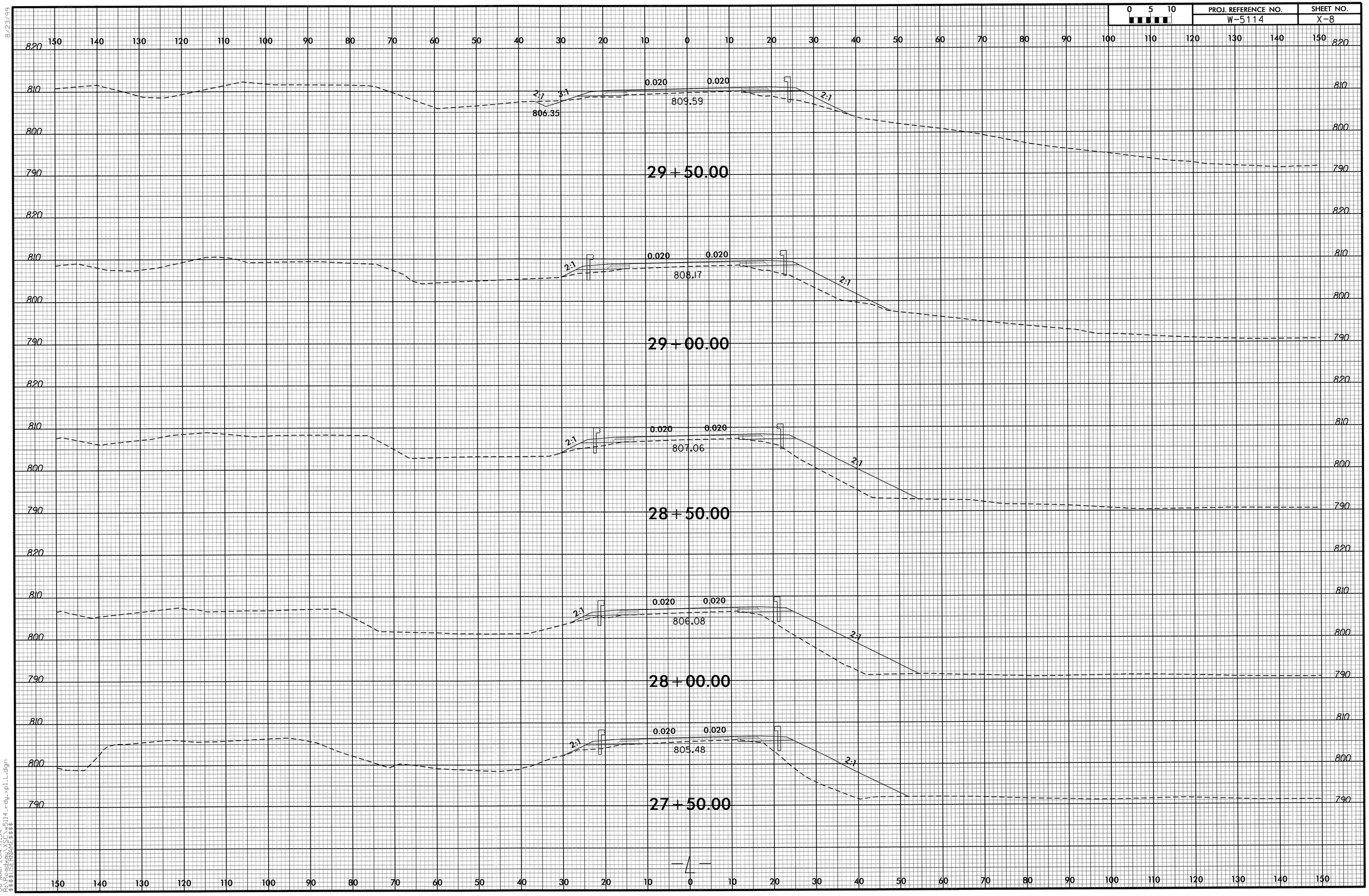
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5114	X-7



06-MAR-2014 17:34
R:\Roadway\xsec\w5114_rdy_xpl_L.dgn
$$$$USERNAME$$$$

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5114	X-8



06-MAR-2014 17:34
R:\Roadway\XSC_w5114_rdy_xpll.dgn
$$$$USERNAME$$$$

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5114	X-9

BARTONSHIRE DR.

32+50.00

2:1 4:1 0.020 0.020 2:1
819.90 822.66

32+00.00

2:1 4:1 0.020 0.020 2:1
817.10 820.18

31+50.00

2:1 4:1 0.020 0.020 2:1
814.30 817.85

31+00.00

2:1 4:1 0.020 0.020 2:1
811.50 815.49

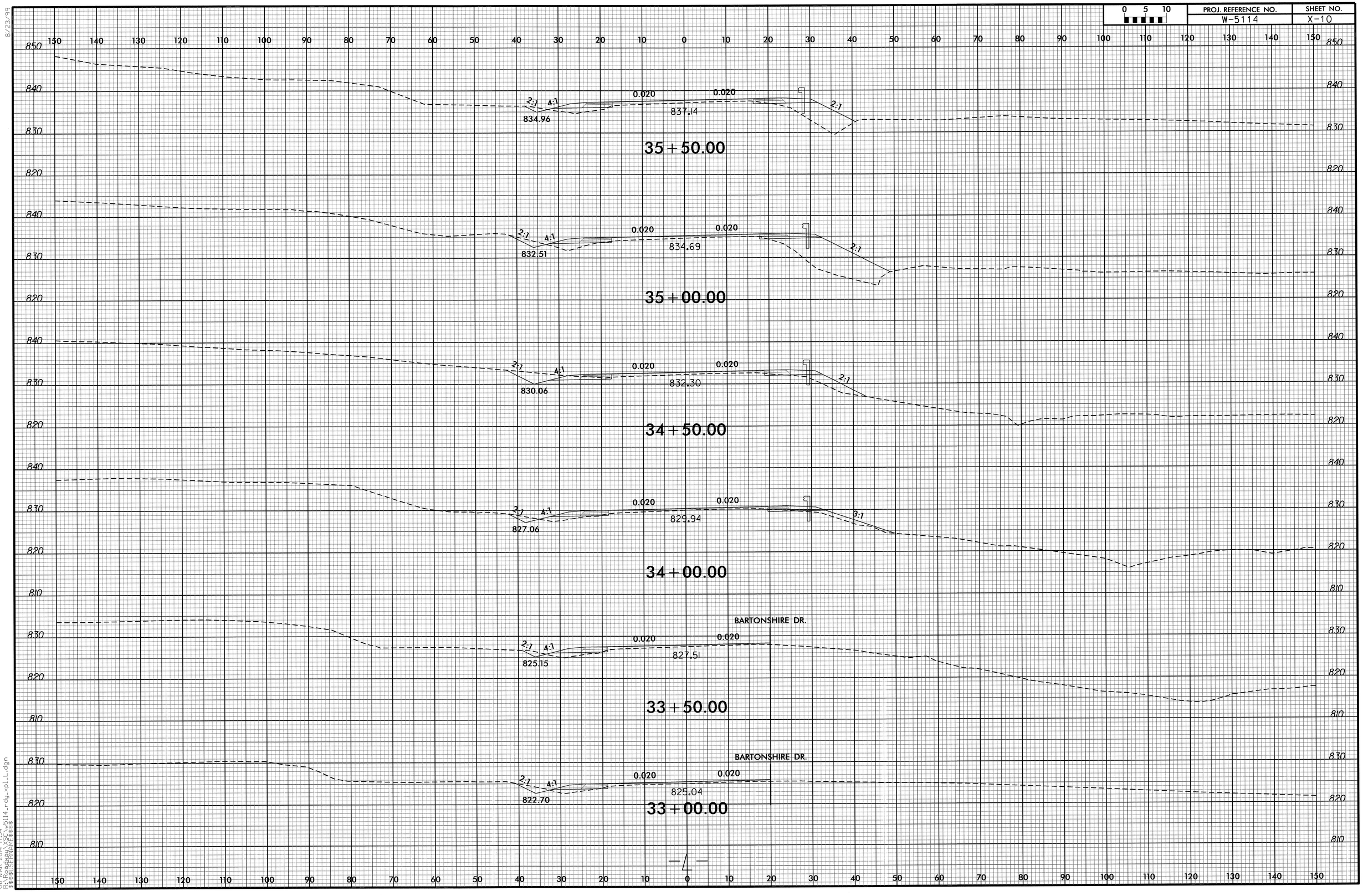
30+50.00

2:1 4:1 0.020 0.020 2:1
809.60 813.29

30+00.00

2:1 4:1 0.020 0.020 2:1
807.70 811.32

06-MAR-2014 17:34
R:\Roadway\xsc\w5114-rdy-xpl.L.dgn
$$$$USERNAME$$$$



8/23/99

06-MAR-2014 17:34
R:\Roadway\XSC\w5114_rdy_xpl_L.dgn
$$$$USERNAME$$$$

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5114	X-11

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

860 850 840 830

2:1 4:1 0.020 0.020 4:1

849.33

846.39

38+00.00

2:1 4:1 0.020 0.020 4:1

846.97

843.43

37+50.00

2:1 4:1 0.020 0.020 4:1

844.64

840.47

37+00.00

2:1 4:1 0.020 0.020 4:1

842.29

837.51

36+50.00

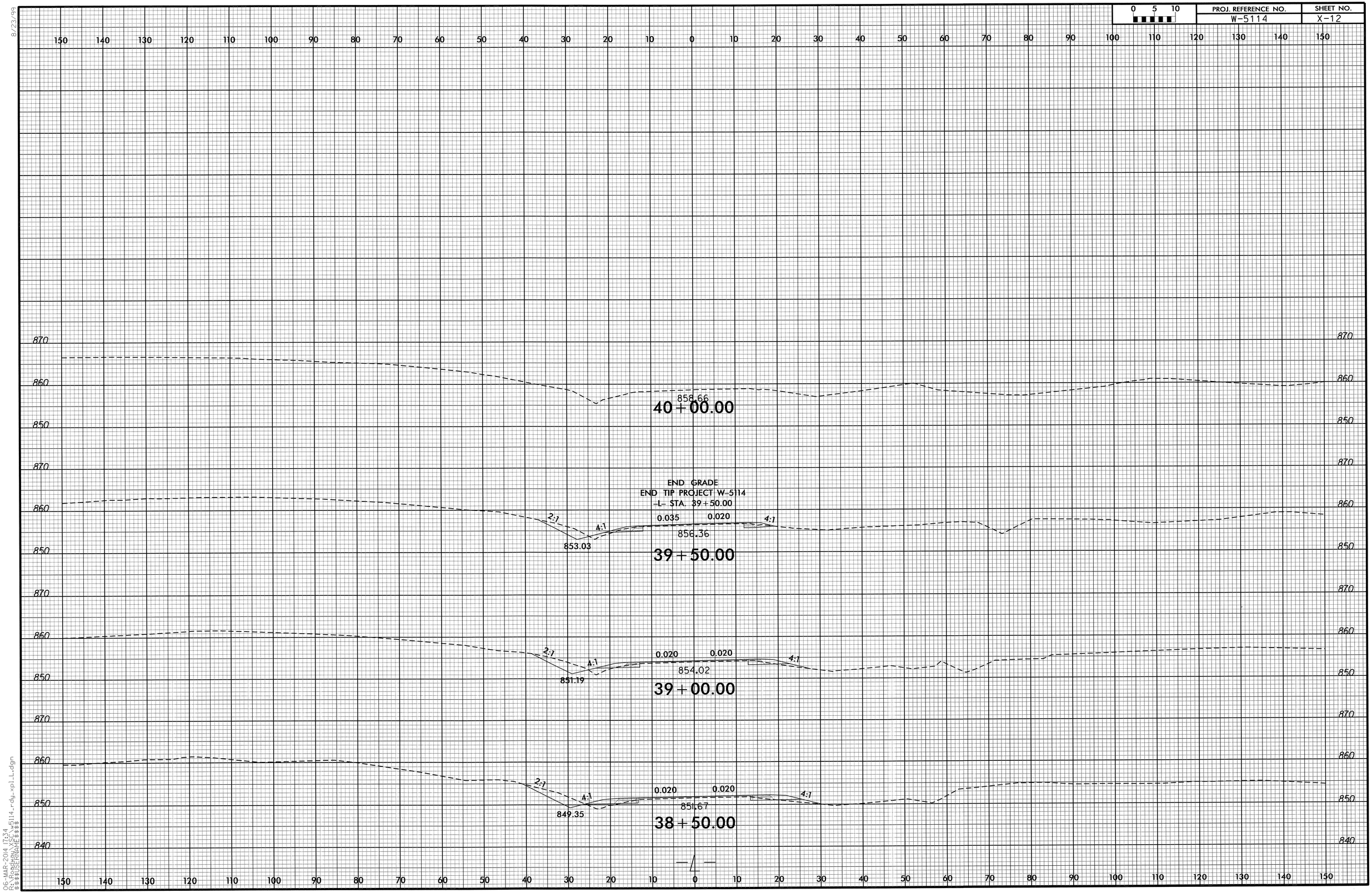
2:1 4:1 0.020 0.020 4:1

839.68

837.38

36+00.00

06-MAR-2014 17:34
R:\Roadway\X5C_w5114-rdy_xpl_L.dgn
$$$$USERNAME$$$$



0 5 10
PROJ. REFERENCE NO.
W-5114
SHEET NO.
X-12
8/23/99
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
870
860
850
840
858.66
40+00.00
END GRADE
END TIP PROJECT W-5114
-L- STA. 39+50.00
2:1
4:1
0.035
0.020
4:1
853.03
856.36
39+50.00
2:1
4:1
0.020
0.020
4:1
851.19
854.02
39+00.00
2:1
4:1
0.020
0.020
4:1
849.35
851.67
38+50.00
-L-
06-MAR-2014 17:34
R:\Roadway\XSC\w5114_rdy_xpl_L.dgn
$$$$USERNAME$$$$

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5114	X-13

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

870 860 850 840 830 820 810

845.35
2:1
4:1
817.72
0.060
0.060
4:1
819.82
2:1

11+50.00

844.82
2:1
4:1
818.58
0.060
0.060
4:1
820.38
2:1

11+00.00

833.28
2:1
4:1
818.48
0.057
0.058
4:1
820.31
2:1

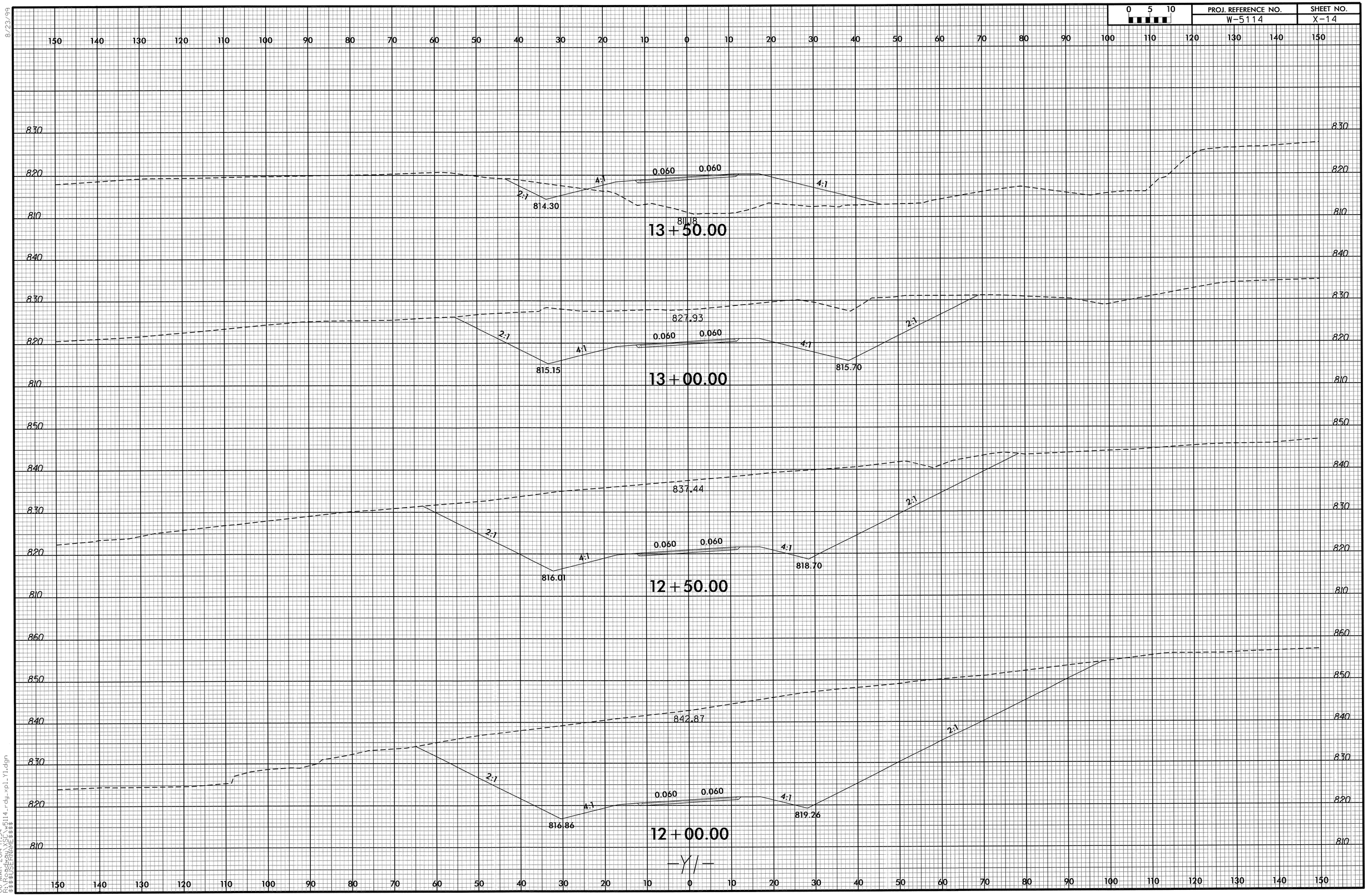
10+50.00

—Y1—

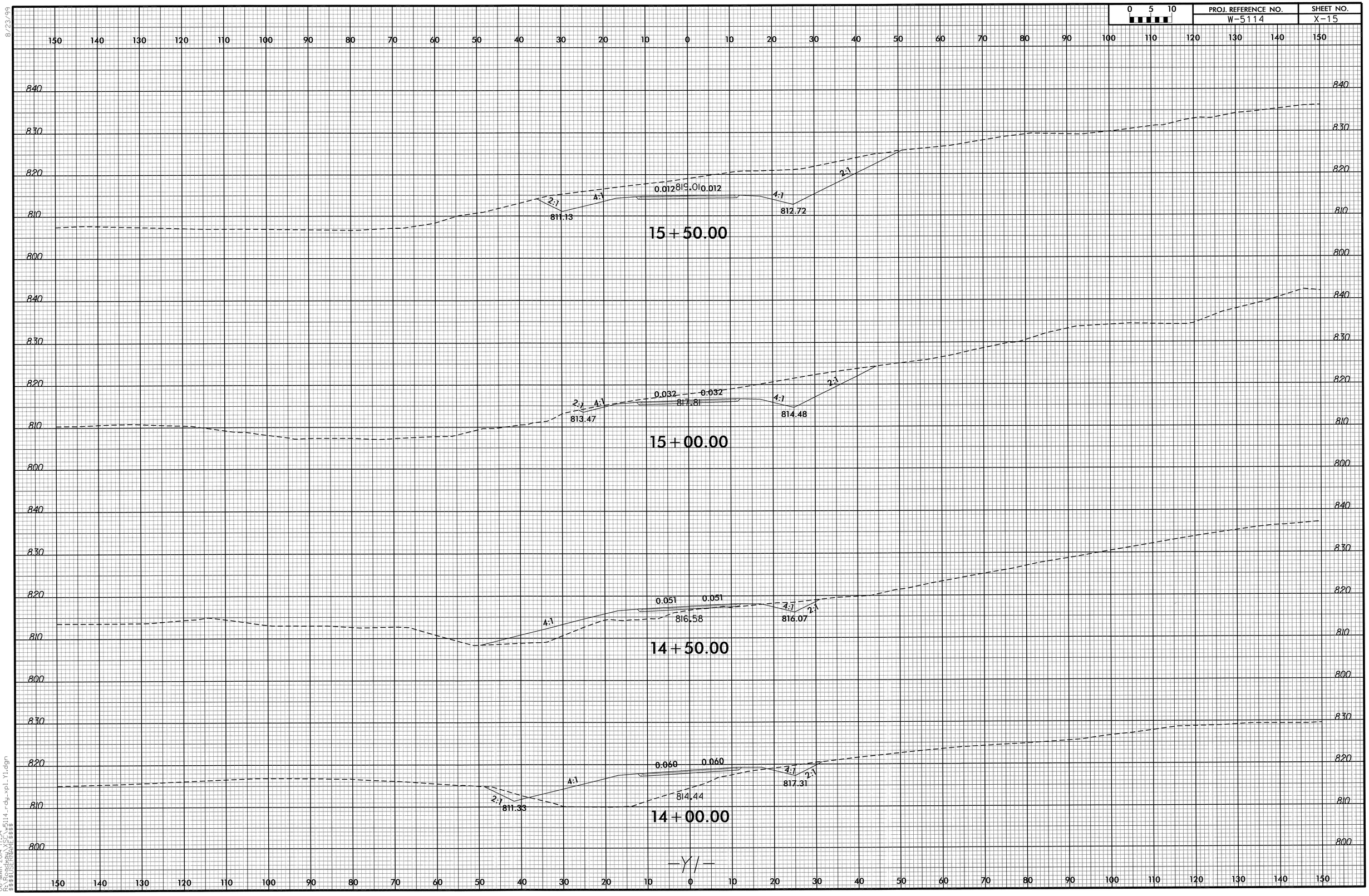
06-MAR-2014 17:34
R:\Roadway\dgn\w5114_rdy_xpl_Y1.dgn
$$$$USERNAME$$$$

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5114	X-14

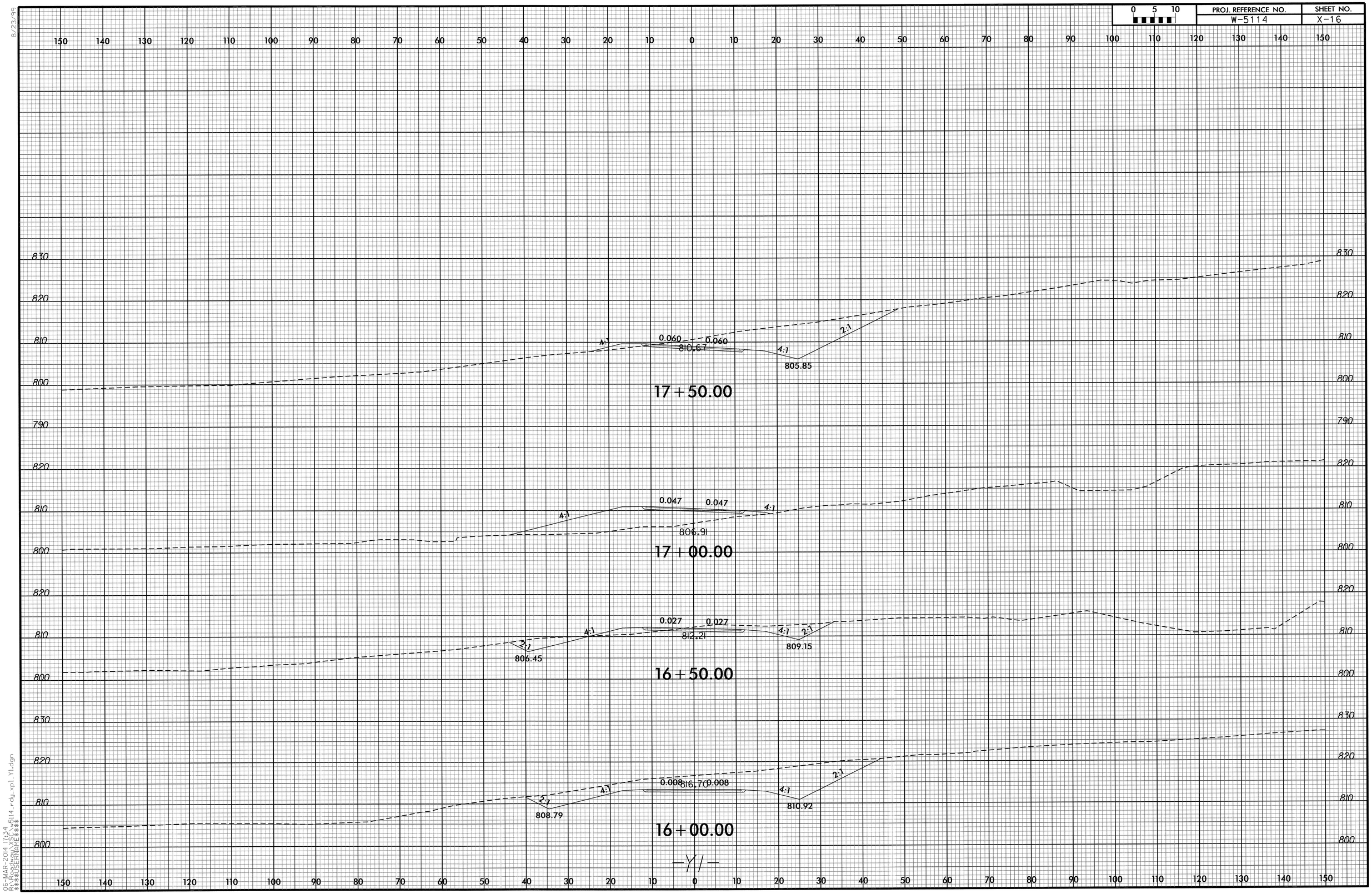


06-MAR-2014 17:34
R:\Roadway\XSC\w5114_rdy_xpl_Y1.dgn
$$$$USERNAME$$$$



8/23/99

06-MAR-2014 17:34
R:\Roadway\XSC\w5114_rdy_xpl_Y1.dgn
$$$$USERNAME$$$$



8/23/99

06-MAR-2014 17:34
R:\Roadway\XSC\w5114_rdy_xpl_Y1.dgn
$$$$USERNAME$$$$

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5114	X-17

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

840 830 820 810 800 790

813.61
2:1 4:1 0.060 0.060 4:1 2:1
801.28 801.86

19+00.00

813.00
2:1 4:1 0.060 0.060 4:1 2:1
804.28 803.03

18+50.00

812.91
2:1 4:1 0.060 0.060 4:1 2:1
806.18 804.38

18+00.00

—Y1—

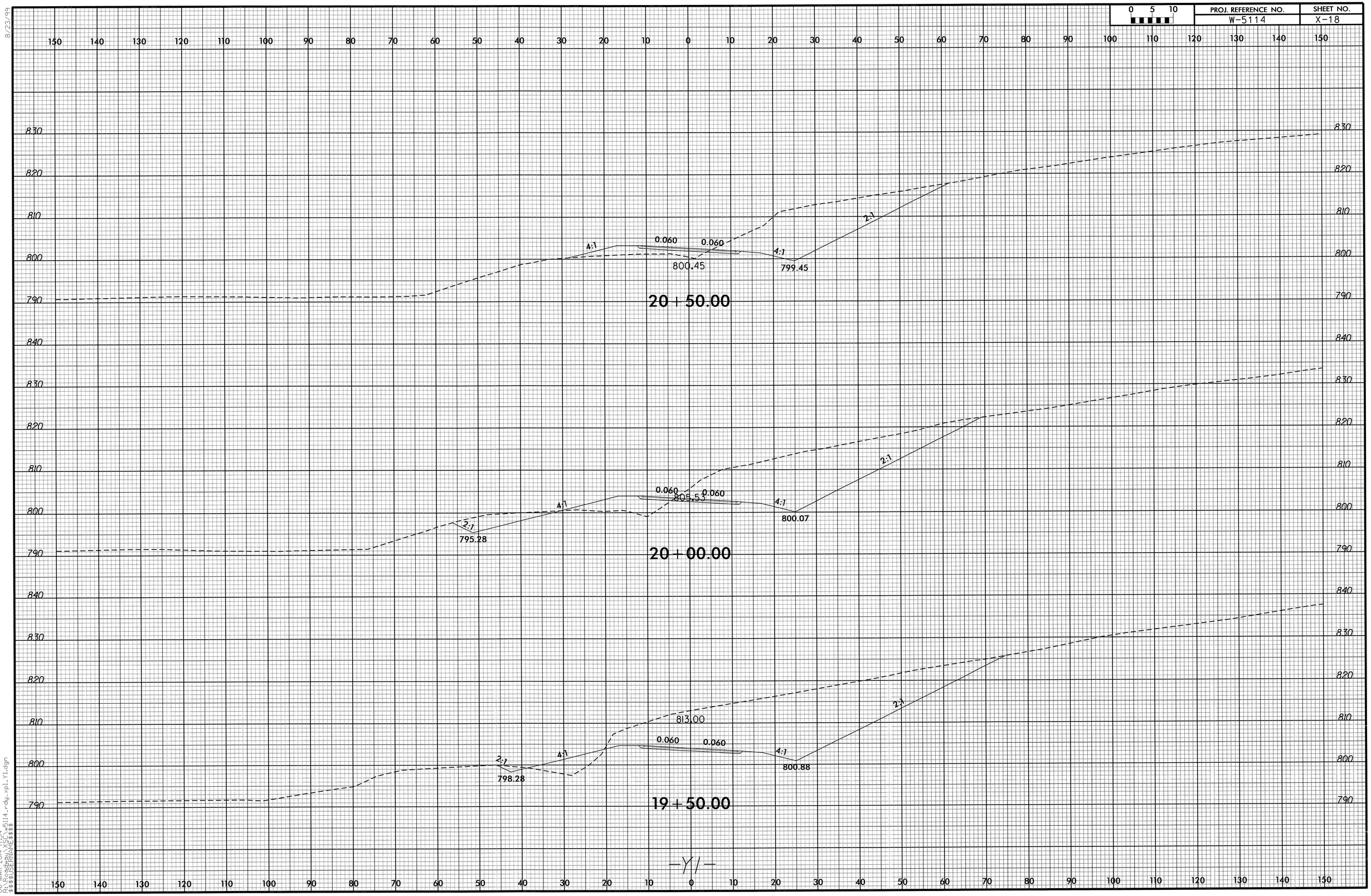
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

840 830 820 810 800 790

06-MAR-2014 17:34
R:\Projdwg\VDC\w5114_rdy_xpl_Y1.dgn
$$$$USERNAME$$$$

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5114	X-18



06-MAR-2014 17:34
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$$$$USERNAME$$$$

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5114	X-19

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

820 810 800 790

4:1 0.016 0.030 4:1
801.27

22+50.00

780 800 790

4:1 0.034 0.034 4:1 2:1
801.39 797.73

22+00.00

820 810 800 790

4:1 0.053 0.053 4:1 2:1
801.47 798.30

21+50.00

830 820 810 800 790

4:1 0.060 0.060 4:1 2:1
801.40 798.88

21+00.00

-Y1-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

06-MAR-2014 17:34
R:\Roadway\XSC\ws114_rdy_xpl_Y1.dgn
$$$$USERNAME$$$$

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5114	X-20

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

820
810
800
790

800.96

23+00.00

820
810
800
790

END GRADE
END CONSTRUCTION
-Y1- STA. 22+60.00
0.013 0.030

4:1 4:1

801.24

22+60.00

-Y1-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

06-MAR-2014 17:34
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