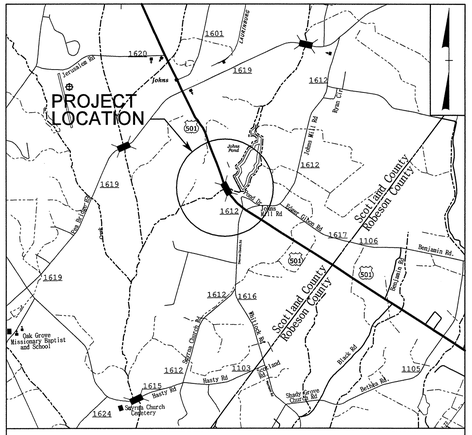
09/08/99

PROJECT: B-5551

CONTRACT: C203311

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



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SCOTLAND COUNTY

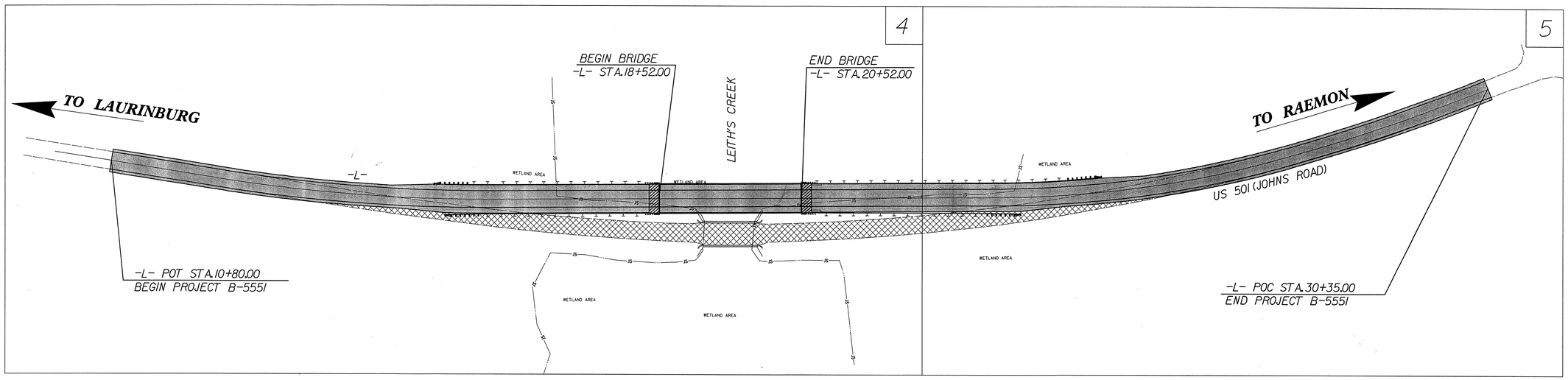
LOCATION: BRIDGE NO. 18 OVER LEITH'S CREEK ON US 501 (JOHNS ROAD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING & STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5551	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
8B.108314.1		PE
8B.108314.1		R/W & UTIL.
43684.3.FR1	BRSTP-0501(29)	CONST.

NC GRID 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)

DESIGN DATA

ADT 2013 = 4810
D = 50 %
T = 8 % *
V = 60 MPH

FUNC CLASS = MINOR ARTERIAL
* TTST 4% DUAL 4%

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT B-5551 = 0.332 MI
LENGTH OF STRUCTURE PROJECT B-5551 = 0.038 MI
TOTAL LENGTH OF PROJECT B-5551 = 0.370 MI

Prepared In the Office of:
SEPI ENGINEERING & CONSTRUCTION
1025 Wade Avenue
Raleigh, NC 27605
Tel:919-789-9977
Fax:919-789-9591
License: C-2197

FOR THE NORTH CAROLINA DEPT. OF TRANSPORATION

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
SEPTEMBER 2012

LETTING DATE:
OCTOBER 15, 2013

STEVE SCOTT, PE
PROJECT ENGINEER

AGNIESZKA NAU, PE
ROADWAY PROJECT DESIGN ENGINEER

TIM WELCH, PE
NCDOT CONTACT

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 033719 ENGINEER BRIAN A. MAZZOCHI
SIGNATURE: Brian A. Mazzochi 06/26/13 P.M.

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 029712 ENGINEER AGNIESZKA J. NAU
SIGNATURE: 06/26/13 P.M.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$USERNAME$$$$

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-5551	1-A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 029712 ENGINEER AGNIESZKA J. NAU 07-03-13

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARDS

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
2	PAVEMENT SCHEDULE, TYPICAL SECTIONS
2A	UNDERCUT DETAIL
2B	STRUCTURE ANCHOR UNIT DETAIL
3	SUMMARY OF QUANTITIES
3A	SUMMARY OF DRAINAGE, EARTHWORK AND PAVEMENT REMOVAL
3B	SUMMARY OF GUARDRAIL
3C	PARCEL INDEX SHEET
4 THRU 5	PLAN SHEET
6	PROFILE SHEET
TMP-1 THRU TCP-5	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-3	PAVEMENT MARKING PLANS
EC-1 THRU EC-9	EROSION CONTROL PLANS
RF-1	REFORESTATION DETAIL
WMD-4 THRU WMD-5	WETLAND MITIGATION EXCAVATION
UO-1 THRU UO-3	UTILITIES BY OTHERS
X-1	CROSS SECTION SUMMARY
X-2 THRU X-11	CROSS-SECTIONS
S-1 THRU S-44	STRUCTURE PLANS

GENERAL NOTES:

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

GRADE LINE:
GRADING AND SURFACING:

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

CLEARING:

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

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. 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.

DRIVEWAYS:

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

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.

END BENTS:

THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

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 CONTRACT.

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

2012 ROADWAY ENGLISH STANDARD DRAWINGS

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

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 4 - MAJOR STRUCTURES	
422.10	Reinforced Bridge Approach Fills
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.15	Brick Drop Inlet - 12" thru 30" Pipe
840.20	Frames and Wide Slot Flat Grates
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.36	Traffic Bearing Grated Drop Inlet - for Steel (840.37) Double Frame and Grates
840.66	Drainage Structure Steps
846.04	Drop Inlet Installation in Shoulder Berm Gutter
850.10	Guide for Berm Drainage Outlet - 15" and 18" Pipe
862.01	Guardrail Placement
862.02	Guardrail Installation

$$$$SYSTIME$$$$
$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

3/15/06

PROJECT REFERENCE NO.	SHEET NO.
B-5551	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

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
- 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 Utility Easement — PUE
- 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 Wheel Chair Ramp — WCR
- 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 — HH
- 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

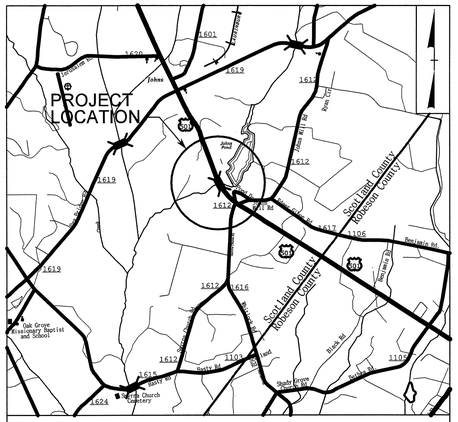
MISCELLANEOUS:

- 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
- A/G Tank; Water, Gas, Oil
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-5551	1C

SURVEY CONTROL SHEET B-5551

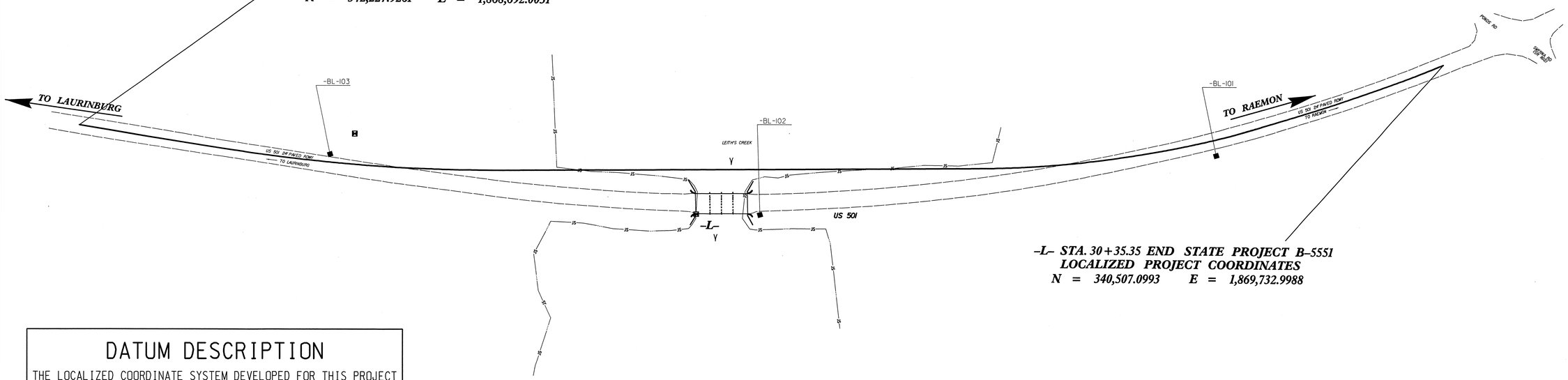


VICINITY MAP

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
101	BL-101	340736.0963	1869455.4611	152.21	26+77.87	23.1517 RT
102	BL-102	341283.8478	1869056.6506	156.18	20+07.83	67.0234 RT
103	BL-103	341883.3129	1868831.0090	156.80	13+72.24	12.0684 LT

NAD 83/ NSRS 2007

-L- STA. 10+00.00 BEGIN STATE PROJECT B-5551
LOCALIZED PROJECT COORDINATES
N = 342,227.9261 E = 1,868,692.0031



-L- STA. 30+35.35 END STATE PROJECT B-5551
LOCALIZED PROJECT COORDINATES
N = 340,507.0993 E = 1,869,732.9988

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "820018-1"
WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
NORTHING: 342408.760(ft) EASTING: 1868658.424(ft)
ELEVATION: 169.209(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: .9999173191
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "820018D-1" TO -L- STATION 10+00.00 IS
S10°30'38"E 183.7409'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTES:

1. *THE CONTROL DATA FOR THIS PROJECT WAS PROVIDED BY NCDOT.*
   CONTROL POINTS PROVIDED ARE AS FOLLOWS:
   820018- N=342,408.760 E=1,868,658.424 ELEV=169.209'

   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.*

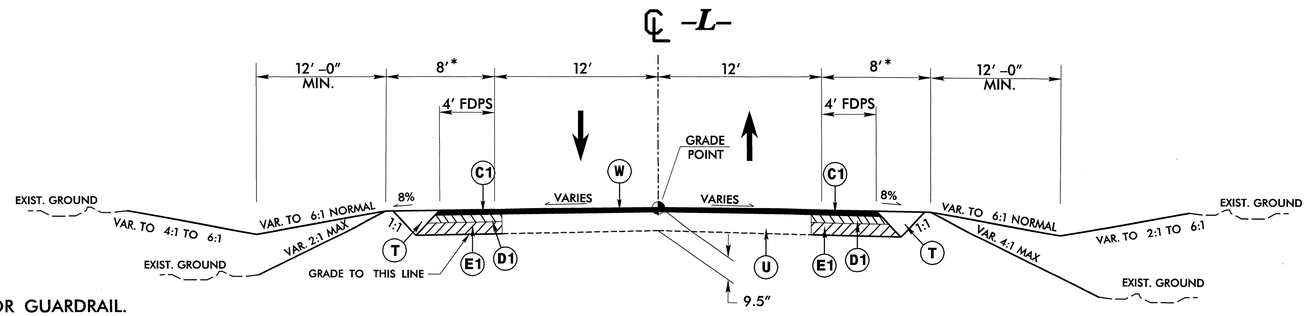
◆ *INDICATES CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY NCDOT.*

NOTE: DRAWING NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-5551	2
R/W SHEET NO.	
PAVEMENT MANAGEMENT	ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 22886 ENGINEER CLARK S. MORRISON 7/8/13

NORTH CAROLINA PROFESSIONAL SEAL 029712 ENGINEER AGNIESZKA J. MAY 06/6/13

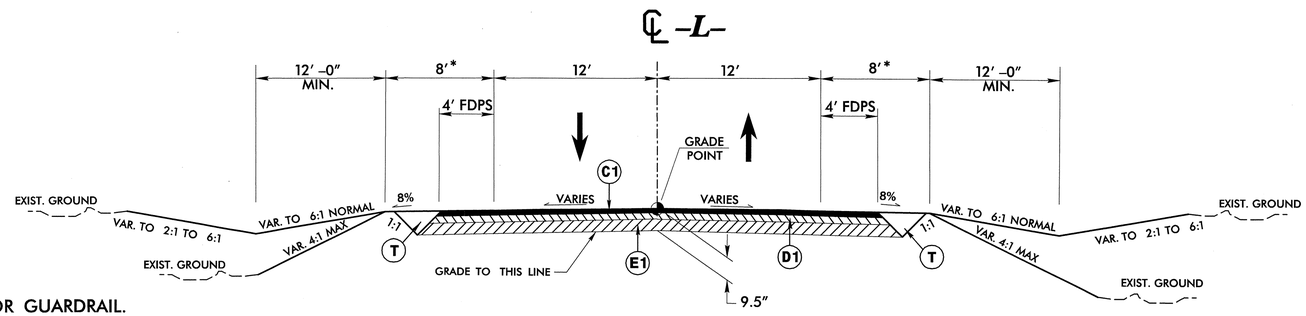


* ADD 3′ TO SHOULDERS FOR GUARDRAIL.
PAVE TO FACE OF GUARDRAIL.

TYPICAL SECTION NO. 1

–L– STA. 10+80.00 TO –L– STA. 16+00.00

–L– STA. 23+50.00 TO –L– STA. 30+35.00



* ADD 3′ TO SHOULDERS FOR GUARDRAIL.
PAVE TO FACE OF GUARDRAIL.

TYPICAL SECTION NO. 2

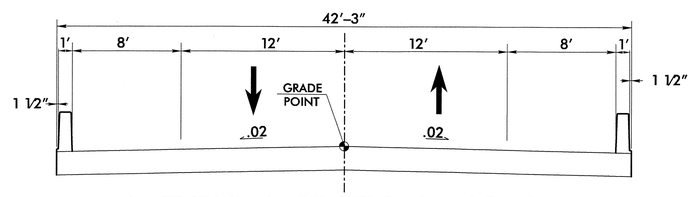
–L– STA. 16+00.00 TO –L– STA. 18+52.00 (BEGIN BRIDGE)

–L– STA. 20+52.00 (END BRIDGE) TO –L– STA. 23+50.00

PAVEMENT SCHEDULE

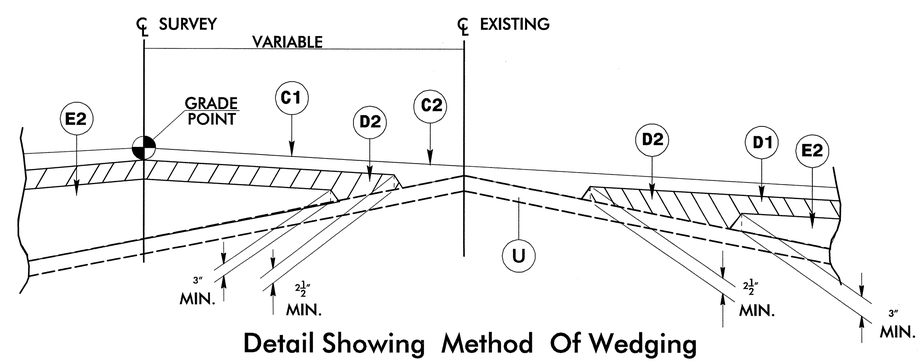
C1	PROP. APPROX. 3″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. APPROX. 1½″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	PROP. APPROX. 2.5″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1″ DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2½″ OR GREATER THAN 4″ IN DEPTH.
E1	PROP. APPROX. 4″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1″ DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 3″ OR GREATER THAN 5½″ IN DEPTH.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING (SEE DETAIL)

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



TYPICAL SECTION NO. 3

–L– STA. 18+52.00 (BEGIN BRIDGE)
TO –L– STA. 20+52.00 (END BRIDGE)



Detail Showing Method Of Wedging

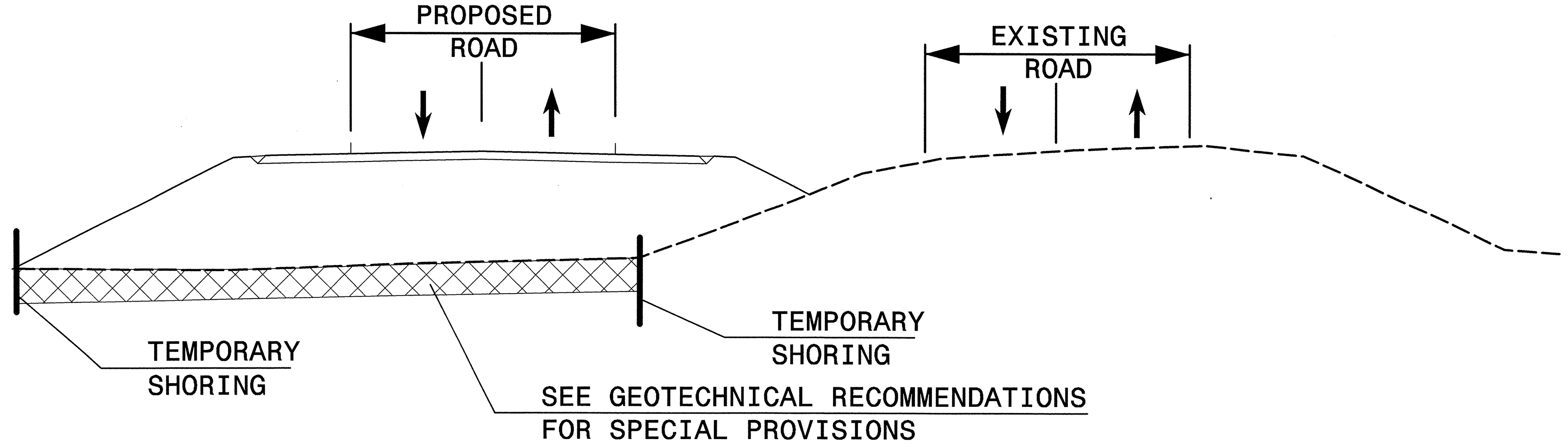
5/14/99

$$$$SYSTIME$$$$
$$$$FILENAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-5551	2A
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 029712 ENGINEER AGNIESZKA J. NAU 06-26-13



UNDERCUT DETAIL

–L– STA. 16+25.00 TO –L– STA. 18+70.00
–L– STA. 20+40.00 TO –L– STA. 23+90.00

5/14/99

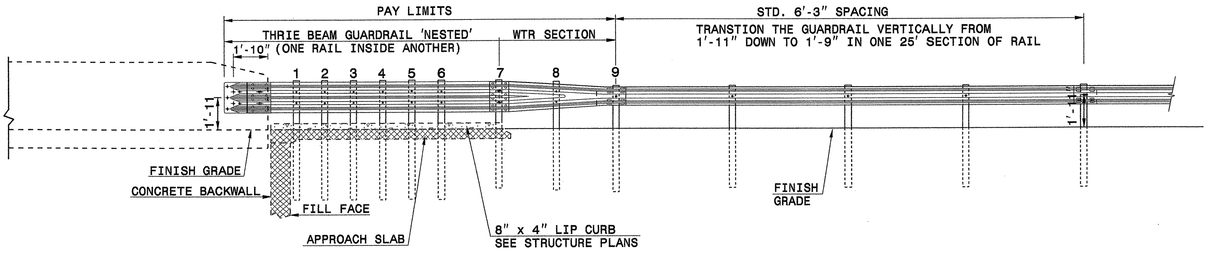
$$$$SYSTIME$$$$
$$$$$$$$DGN$$$$$$$$$$$$$$$$$
$$$USERNAME$$$$

$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

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

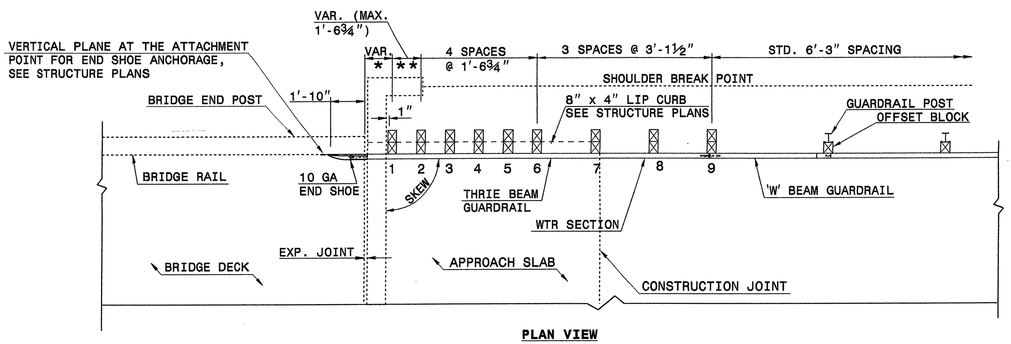
ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO
RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7
862d03



ELEVATION

NOTE:
- **POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- *THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11½" IF CONCRETE BACKWALL IS NOT PRESENT.
- -SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" x 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.
- -MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
- -LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
- -SEE SHEET 5 FOR POST SECTIONS 1 THRU 9.



PLAN VIEW

GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

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

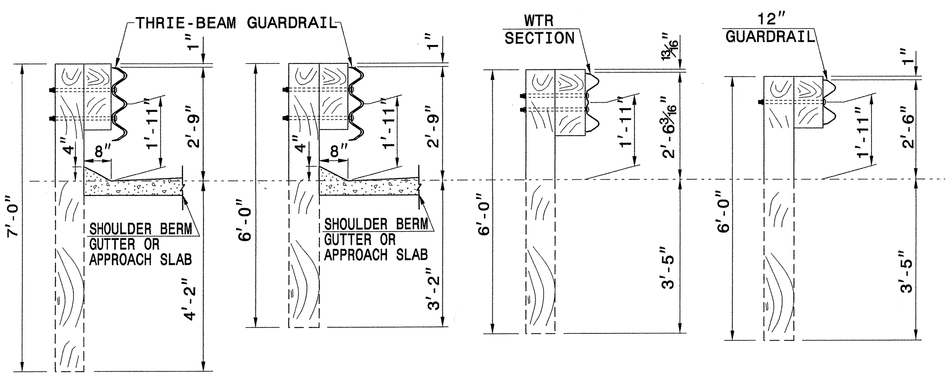
ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO
RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7
862d03

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

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III

SHEET 3 OF 7
862d03

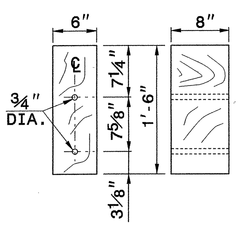


SECTION OF THRIE BEAM POSTS 1 THRU 6

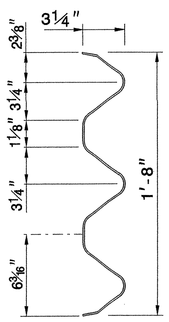
SECTION OF THRIE BEAM POST 7

SECTION OF WTR BEAM POST 8

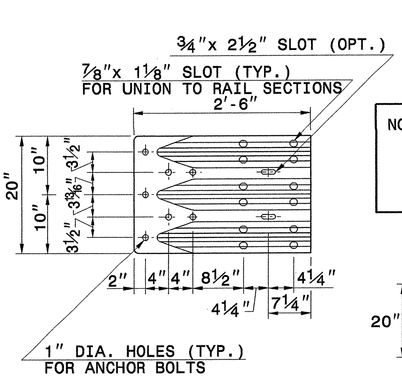
SECTION OF 'W' BEAM POST 9



THRIE BEAM OFFSET BLOCK

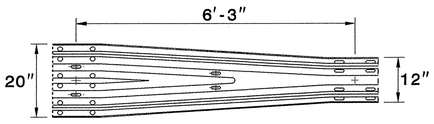


THRIE-BEAM SECTION

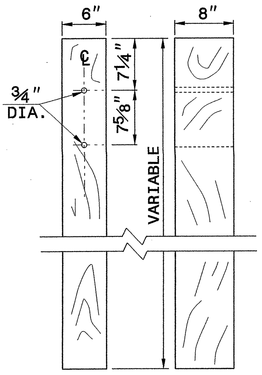


END SHOE

NOTE: THE MID POST AND OFFSET BLOCK OF THE WTR SECTION WILL REQUIRE SPECIAL BOLT HOLE DRILLING IN THE THRIE BEAM OFFSET BLOCK AND LINE POST.



WTR SECTION
ELEVATION VIEW



THRIE BEAM LINE POST

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

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III

SHEET 3 OF 7
862d03

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

SEE TITLE BLOCK

ORIGINAL BY: J. HOWERTON DATE: 06-22-12
MODIFIED BY: DATE:
CHECKED BY: DATE: 11/13/12
FILE SPEC.:

NORTH CAROLINA PROFESSIONAL SEAL 032566 ENGINEER
7/25/13

PROJECT REFERENCE NO. B-5551
SHEET NO. 28

COMPUTED BY:	DATE:
CHECKED BY:	DATE:

6/21/00

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
B-5551	3

SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C203311

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING
0029000000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ************ (19+52 -L-)
0036000000-E	225	2,800	CY	UNDERCUT EXCAVATION
0043000000-N	226	Lump Sum		GRADING
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING
0194000000-E	SP	5,300	CY	SELECT GRANULAR MATERIAL, CLASS III
0196000000-E	270	150	SY	GEOTEXTILE FOR SOIL STABILIZA-TION
0199000000-E	SP	555	SF	TEMPORARY SHORING
0257000000-E	SP	1,350	LF	GENERIC GRADING ITEM TEMPORARY SHORING FOR UNDERCUT
0318000000-E	300	10	TON	FOUNDATION CONDITIONING MATE-RIAL, MINOR STRUCTURES
0320000000-E	300	20	SY	FOUNDATION CONDITIONING GEO-TEXTILE
0343000000-E	310	24	LF	15" SIDE DRAIN PIPE
0448200000-E	310	60	LF	15" RC PIPE CULVERTS, CLASS IV
0995000000-E	340	22	LF	PIPE REMOVAL
1220000000-E	545	100	TON	INCIDENTAL STONE BASE
1489000000-E	610	1,480	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1498000000-E	610	840	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0B
1519000000-E	610	1,050	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
1575000000-E	620	170	TON	ASPHALT BINDER FOR PLANT MIX
2000000000-N	806	13	EA	RIGHT OF WAY MARKERS
2286000000-N	840	2	EA	MASONRY DRAINAGE STRUCTURES
2364200000-N	840	2	EA	FRAME WITH TWO GRATES, STD 840.20
2556000000-E	846	24	LF	SHOULDER BERM GUTTER

ItemNumber	Sec #	Quantity	Unit	Description
3030000000-E	862	1,087.5	LF	STEEL BM GUARDRAIL
3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
3215000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE III
3270000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
3380000000-E	862	212.5	LF	TEMPORARY STEEL BM GUARDRAIL
3387000000-N	862	2	EA	TEMPORARY GUARDRAIL ANCHOR UNITS, TYPE ********** (III)
3389100000-N	SP	2	EA	TEMPORARY GUARDRAIL ANCHOR UNITS, TYPE 350
3656000000-E	876	750	SY	GEOTEXTILE FOR DRAINAGE
3659000000-N	SP	1	EA	PREFORMED SCOUR HOLES WITH LEVEL SPREADER APRON
4400000000-E	1110	48	SF	WORK ZONE SIGNS (STATIONARY)
4405000000-E	1110	96	SF	WORK ZONE SIGNS (PORTABLE)
4410000000-E	1110	36	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4430000000-N	1130	35	EA	DRUMS
4445000000-E	1145	48	LF	BARRICADES (TYPE III)
4450000000-N	1150	1,920	HR	FLAGGER
4650000000-N	1251	48	EA	TEMPORARY RAISED PAVEMENT MARKERS
4685000000-E	1205	3,379	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)
4686000000-E	1205	2,930	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)
4770000000-E	1205	1,380	LF	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (4") (II)
4810000000-E	1205	15,320	LF	PAINT PAVEMENT MARKING LINES (4")
4850000000-E	1205	400	LF	REMOVAL OF PAVEMENT MARKING LINES (4")
4900000000-N	1251	24	EA	PERMANENT RAISED PAVEMENT MARKERS
6000000000-E	1605	2,100	LF	TEMPORARY SILT FENCE

ItemNumber	Sec #	Quantity	Unit	Description
6006000000-E	1610	135	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	300	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	255	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	5	ACR	TEMPORARY MULCHING
6018000000-E	1620	250	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	1	TON	FERTILIZER FOR TEMPORARY SEED-ING
6024000000-E	1622	720	LF	TEMPORARY SLOPE DRAINS
6029000000-E	SP	1,050	LF	SAFETY FENCE
6030000000-E	1630	20	CY	SILT EXCAVATION
6036000000-E	1631	1,000	SY	MATTING FOR EROSION CONTROL
6037000000-E	SP	400	SY	COIR FIBER MAT
6038000000-E	SP	2,250	SY	PERMANENT SOIL REINFORCEMENT MAT
6042000000-E	1632	190	LF	1/4" HARDWARE CLOTH
6048000000-E	SP	80	SY	FLOATING TURBIDITY CURTAIN
6070000000-N	1639	6	EA	SPECIAL STILLING BASINS
6071012000-E	SP	70	LF	COIR FIBER WATTLE
6071020000-E	SP	90	LB	POLYACRYLAMIDE (PAM)
6084000000-E	1660	5	ACR	SEEDING & MULCHING
6087000000-E	1660	3	ACR	MOWING
6090000000-E	1661	100	LB	SEED FOR REPAIR SEEDING
6093000000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
6096000000-E	1662	175	LB	SEED FOR SUPPLEMENTAL SEEDING
6108000000-E	1665	4.75	TON	FERTILIZER TOPDRESSING
6111000000-E	SP	860	LF	IMPERVIOUS DIKE
6114500000-N	1667	10	MHR	SPECIALIZED HAND MOWING
6117000000-N	SP	25	EA	RESPONSE FOR EROSION CONTROL
6123000000-E	1670	0.6	ACR	REFORESTATION
6135000000-E	SP	0.6	ACR	GENERIC EROSION CONTROL ITEM DISKING
6135000000-E	SP	0.6	ACR	GENERIC EROSION CONTROL ITEM RIPPING

$$$$SYSTIME$$$$
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$$$$USERNAME$$$$

COMPUTED BY:	AJN	DATE:	09/09/12
CHECKED BY:	BAM	DATE:	06/20/13

4/04/06

PROJECT REFERENCE NO.	SHEET NO.
B-5551	3A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SUB-REGIONAL & REGIONAL
LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE
SIZE / THICKNESS OR GAUGE																			
-L- 20+75	LT	0401	0402	155.87	152.87	152.5	NO												
-L- 20+75	RT	0402	0403	155.87	152.5	146.5	NO												
-L- 15+02	LT				153.8	153.9	NO												
TOTAL																			

STATION	C.S. PIPE 12" (.064)	15" (.064)	18" (.064)	24" (.064)	36" (.079)	42" (.109)	48" (.109)	R.C. PIPE (CLASS III) 15"	18"	24"	30"	36"	42"	48"	R.C. PIPE (CLASS IV) 12"	15"	18"	24"	30"	36"	42"	48"
-L- 20+75																36'						
-L- 20+75																24'						
-L- 15+02																						
TOTAL																60'						

STATION	**" R. C. PIPE (CLASS V)	**" R. C. PIPE CULVERTS, CONTRACTOR DESIGN PIPE	**" R. C. PIPE CULVERTS, CONTRACTOR DESIGN PIPE	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	ENDWALLS STD. 838.01, STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	* TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. *FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G		CONCRETE TRANSITIONAL SECTION CATCH BASIN	DROP INLET		G.D.I. FRAME WITH TWO GRATES STD. 840.20	G.D.I. FRAME WITH GRATE STD. 840.22	G.D.I. (N.S.) FRAME WITH GRATE STD. 840.24	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	T.B.G.D.I. STD. 840.36	CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN.FT.	REMARKS
-L- 20+75								1											1				1					
-L- 20+75								1											1				1					
-L- 15+02				24																							22'	
TOTAL				24				2											2				2				22'	

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I. (N.S.)	GRATED DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

SUMMARY OF EARTHWORK
IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT+%	BORROW	WASTE
-L- STA. 10+80 TO 30+35	745	2,217	13,596	12,851	2,217
SUBTOTAL	745	2,217	13,596	12,851	2,217
REMOVAL OF EXISTING ROAD -L- STA. 15+00 TO 24+50	9,790				9,790
SUBTOTAL	9,790				9,790
TOTAL	10,535	2,217	13,596	12,851	12,007
ADDITIONAL UNDECUT (GEOTECH. UNIT)		100	125	125	100
SELECT GRANULAR FILL IN LIEU OF BORROW (GEOTCH. UNIT)			-6,625	-6,625	
PROJECT TOTAL	10,535	2,317	7,096	6,351	12,107
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT					
GRAND TOTAL	10,535	2,317	7,096	6,351	12,107
SAY	10,550				

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

SUMMARY OF PAVEMENT REMOVAL
IN SQUARE YARDS

LOCATION	ASPHALT REMOVAL	ASPHALT BREAK UP	CONCRETE REMOVAL	CONCRETE BREAK UP
-L- STA. 13+50 TO 19+13	1,196			
-L- STA. 19+89 TO 26+00	1,337			
TOTAL	2,533			
SAY	2,540			

$$$$$$SYSTIME$$$$$
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$$$$USERNAME$$$$$

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-5551	3B
R/W SHEET NO.	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GUARDRAIL SUMMARY

SURVEY LINE	BEGINNING STATION	END STATION	LOCATION	LENGTH			WARRENT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH	FLARE LENGTH		W		ANCHORS			REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	GRAU-350	AT-1	TYPE III	
-L-	15+36	18+52	LT	325'				18+52	8'	11'					1		1	
-L-	15+52	18+52	RT	300'			15+52		8'	11'					1		1	
-L-	20+52	24+75	LT	425'			20+52		8'	11'					1		1	
-L-	20+52	23+59	RT	312.50'				23+59	8'	11'					1		1	
SUBTOTAL				1362.50'														
LESS ANCHOR DEDUCTIONS																		
GRAU-350, 4 @ 50' =				-200'														
TYPE III, 4 @ 18.75'				-75'														
TOTAL				1,087.5'			ADDITIONAL GUARDRAIL POSTS = 5 EA.											
SAY				1,087.5'											4		4	

TEMPORARY GUARDRAIL SUMMARY

SURVEY LINE	BEGINNING STATION	END STATION	LOCATION	LENGTH			WARRENT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH	FLARE LENGTH		W		ANCHORS			REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	GRAU-350	AT-1	TYPE III	
-L-	17+58	19+13	LT	162.50'				19+13	4'	7'					1		1	
-L-	19+90	21+76	LT	187.50'			19+90		4'	7'					1		1	
SUBTOTAL				350.00'														
LESS ANCHOR DEDUCTIONS																		
GRAU-350, 2 @ 50' =				-100.00'														
TYPE III 2 @ 18.75' =				-37.50'														
TOTAL				212.50'														
SAY				212.50'											2		2	

$$$$SYSTIME$$$$
$$$$SIGN$$$$
$$$$USERNAME$$$$

5/14/99

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

PARCEL No.	SHEET No.	PROPOERT OWNER NAME
1	4	THOMAS & VIRGINIA GIBSON
2	4 & 5	HAYNES STONE
2Z	4 & 5	HAYNES STONE
3	4 & 5	HELEN LIVINGSTON & THOMAS JOHN JR.
4Z	4	THOMAS & CHERLY GIBSON

$$$$$$SYSTIME$$$$$
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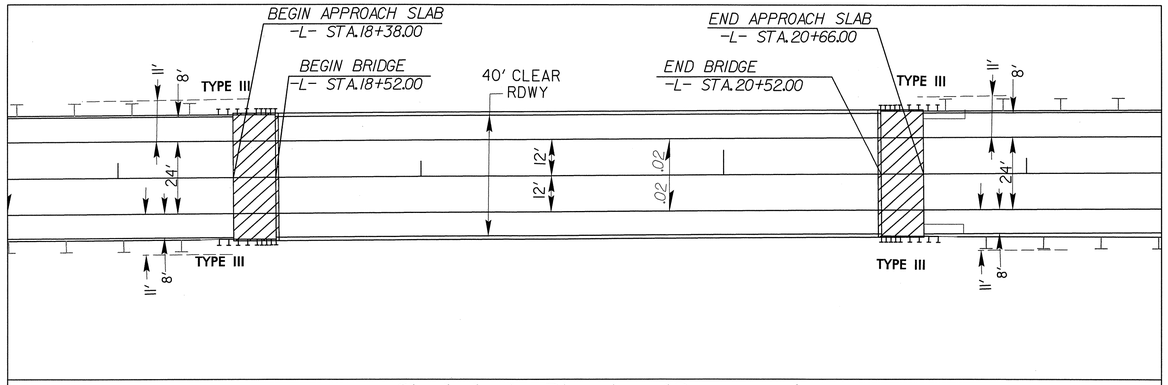
$$$$USERNAME$$$$$

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-5551	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 029712 ENGINEER JAMES ZIKA, JR. 06-26-13

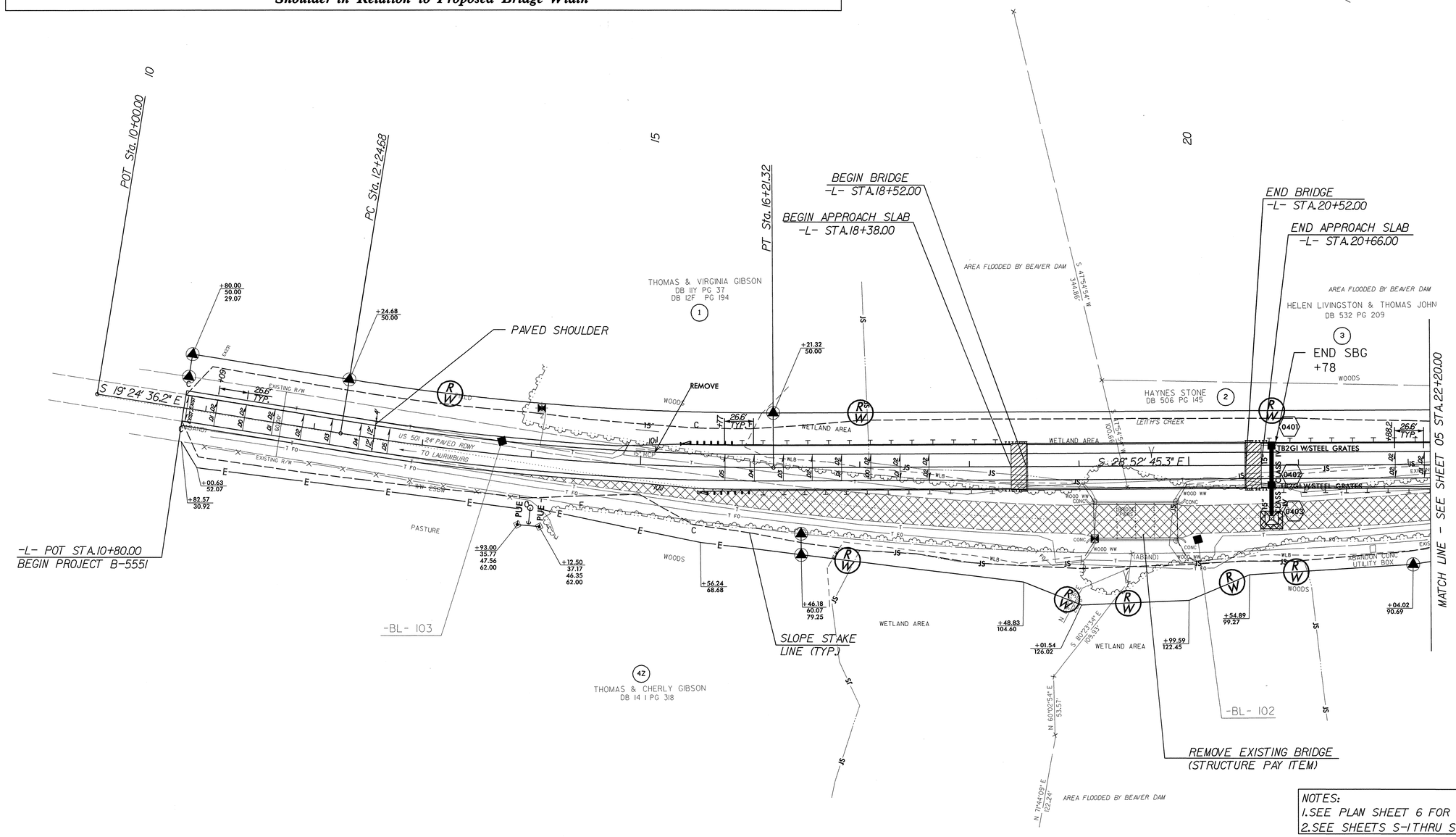
NORTH CAROLINA PROFESSIONAL SEAL 033719 ENGINEER BRIAN A. MAZZOCHI 06-26-13



Sketch showing Dimensions of Pavement and Shoulder in Relation to Proposed Bridge Width

-L-
PI Sta 14+23.45
Δ = 9° 28' 09.1" (LT)
D = 2° 23' 14.4"
L = 396.64'
T = 198.77'
R = 2,400.00'

NC GRID
NAD 83/NSRS 2007



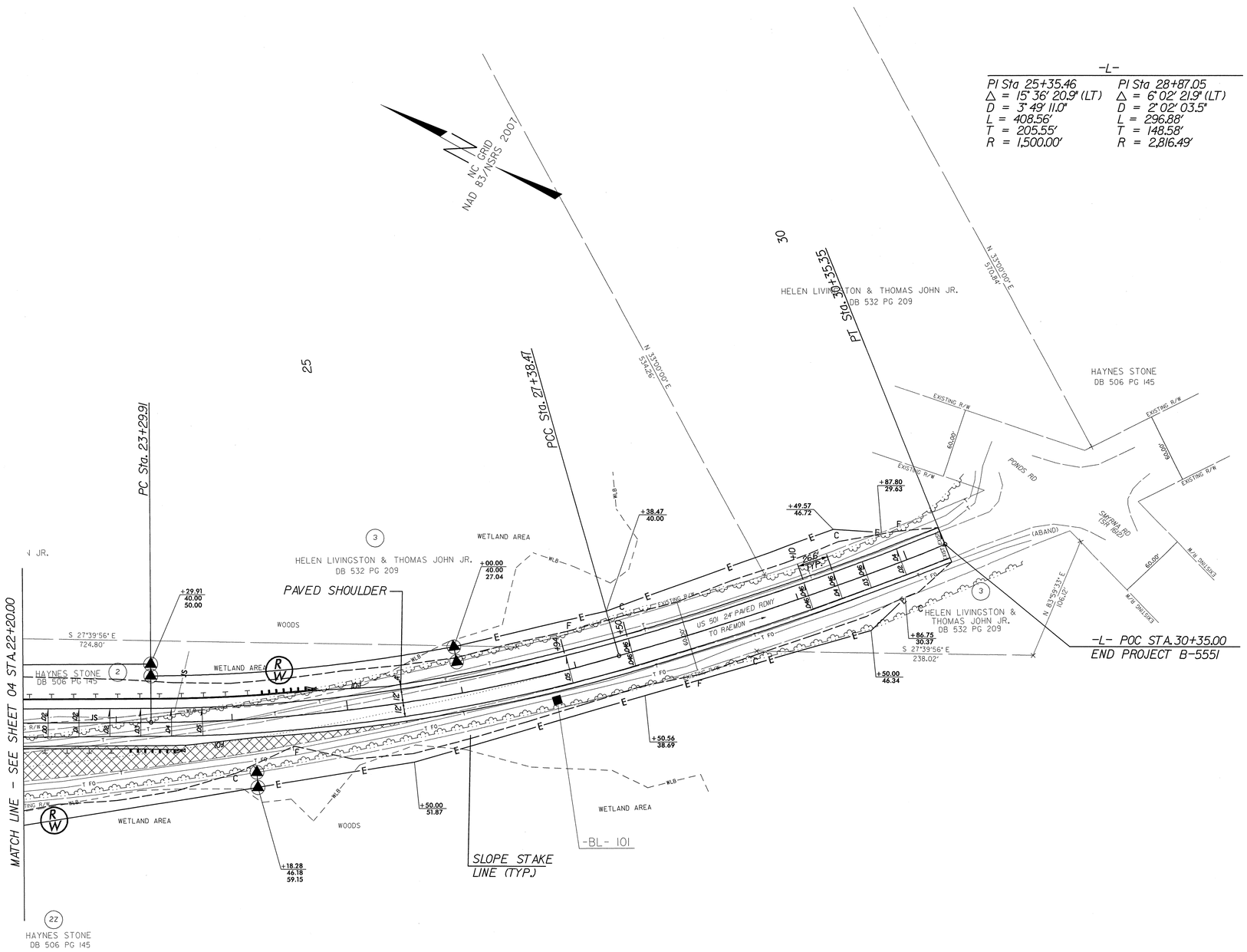
NOTES:
1. SEE PLAN SHEET 6 FOR PROFILE
2. SEE SHEETS S-1 THRU S-44 FOR STRUCTURES PLANS

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-5551	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 029872 ENGINEER IGNIEZKA J. MAJ 06/26/13

NORTH CAROLINA PROFESSIONAL SEAL 033719 ENGINEER BRIAN A. MAZZOCHI 06/26/13



5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-5551	6

ROADWAY DESIGN ENGINEER

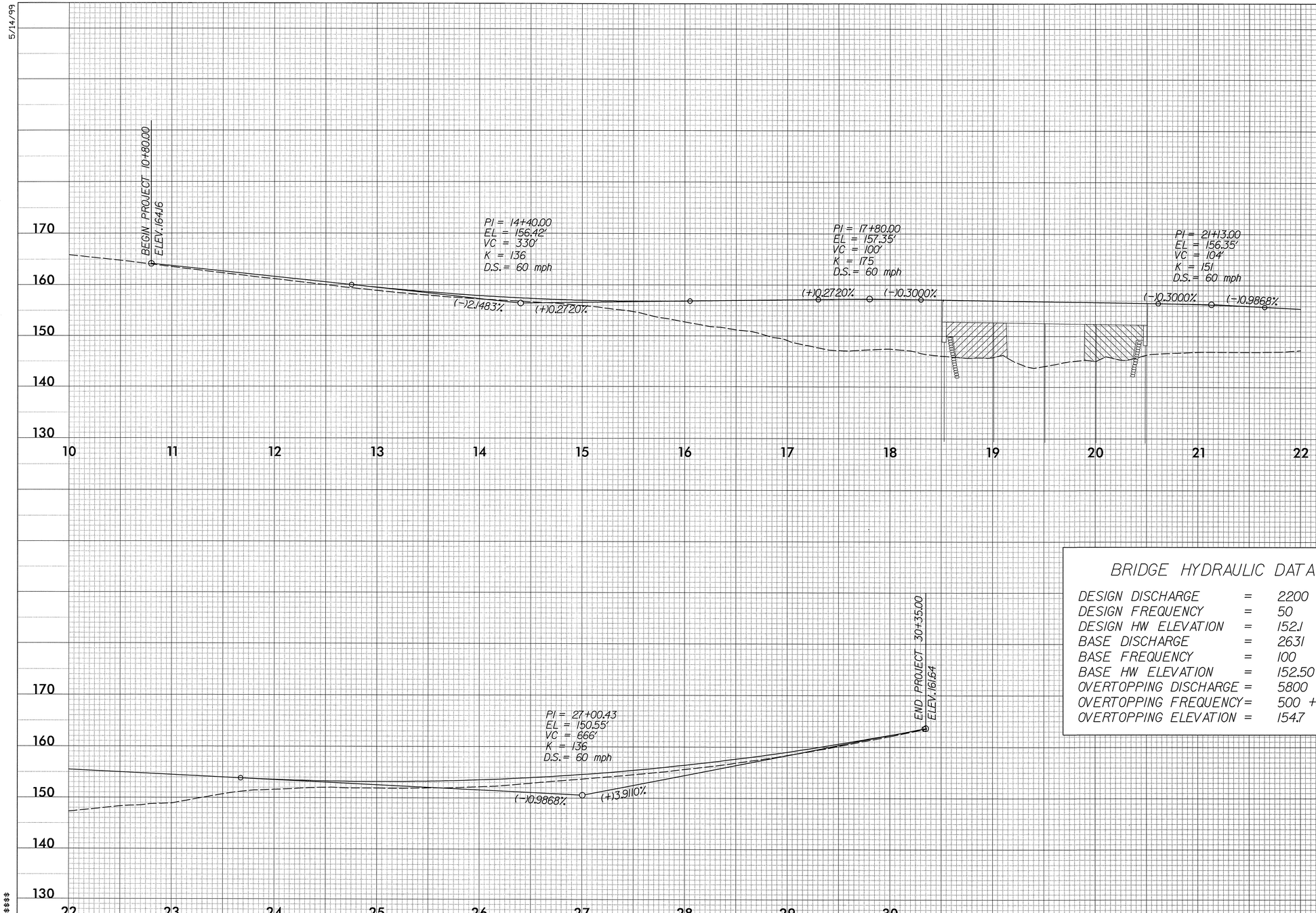
NORTH CAROLINA PROFESSIONAL SEAL 029712 ENGINEER AGNIESZKA J. MAI

06-26-13

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 033719 ENGINEER BRIAN A. MAZZOCHI

06-26-13



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	2200	CFS
DESIGN FREQUENCY	=	50	YRS
DESIGN HW ELEVATION	=	152.1	FT
BASE DISCHARGE	=	2631	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	152.50	FT
OVERTOPPING DISCHARGE	=	5800	CFS
OVERTOPPING FREQUENCY	=	500 +	YRS
OVERTOPPING ELEVATION	=	154.7	FT

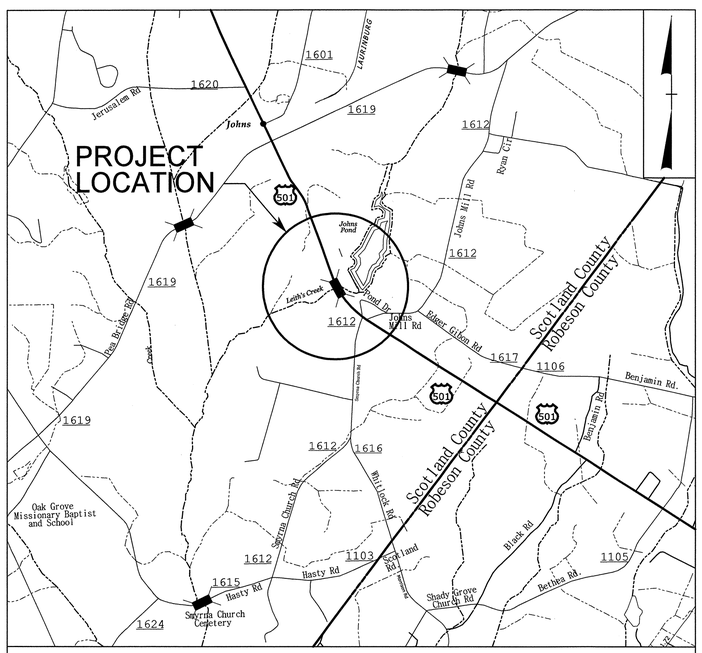
NOTE: FOR PLAN VIEW SEE SHEET 4 & 5
SEE SHEETS S-1 THRU S-44 FOR STRUCTURES PLANS

$$$$$SYSTIME$$$$$
$$$$$DGN$$$$$
$$$$$USERNAME$$$$$

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

SCOTLAND COUNTY



VICINITY MAP

LOCATION: ***BRIDGE NO. 18 OVER LEITH'S CREEK ON US 501 (JOHNS ROAD)***

TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURE

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, AND TEMPORARY PAVEMENT MARKING SCHEDULE
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES AND GENERAL NOTES)
TMP-2	TEMPORARY SHORING DATA
TMP-3	TEMPORARY TRAFFIC CONTROL PHASING
TMP-4	TEMPORARY TRAFFIC CONTROL PHASE I DETAIL
TMP-5	TEMPORARY TRAFFIC CONTROL PHASE II DETAIL

SHEET NO.
TMP-1

TIP PROJECT: B-5551

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*
B. SCHOENBAUER, P.E. — *TRAFFIC CONTROL PROJECT DESIGN ENGINEER*
S. HASSAN — *TRAFFIC CONTROL DESIGN ENGINEER*

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

Prepared In the Office of:
SEPI ENGINEERING & CONSTRUCTION
1025 Wade Avenue
Raleigh, NC 27605
Tel:919-789-9977
Fax:919-789-9591
License: C-2197

APPROVED: *S.B. Hall*
DATE: *6-26-13*

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

$$$$$$$$SYSTIME$$$$$$$$
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PROJ. REFERENCE NO.	SHEET NO.
B-5551	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
1101.03	TEMPORARY ROAD 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
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES - TYPE III
1150.01	FLAGGING DEVICES
1180.01	SKINNY - DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
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
- WEDGING
- USER DEFINED (IF NEEDED)

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 SCHEDULE

	PAINT (4")
PA	WHITE EDGELINE
PI	YELLOW DOUBLE CENTER
	PAVEMENT MARKERS
MH	YELLOW/YELLOW TEMPORARY RAISED

APPROVED: [signature] DATE: 6-26-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

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

ROADWAY STANDARD DRAWINGS & LEGEND

$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
B-5551	TMP-1B

MANAGEMENT STRATEGIES

-US 501 TRAFFIC WILL BE MAINTAINED DURING LANE AND SHOULDER CLOSURES.

-ONCE THE -L- BRIDGE IS CONSTRUCTED, TRAFFIC WILL BE SHIFTED TO -L- WHILE THE EXISTING BRIDGE IS REMOVED.

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
US 501	MEMORIAL DAY THROUGH LABOR DAY 7:00 AM FRIDAY THROUGH 6:00 PM SUNDAY

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

ROAD NAME
US 501

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 7:00 A.M. DECEMBER 31st TO 6:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 6:00 P.M. THE FOLLOWING TUESDAY.

3. FOR EASTER, BETWEEN THE HOURS OF 7:00 A.M. THURSDAY AND 6:00 PM TUESDAY.

4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY TO 6:00 PM TUESDAY.

5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 7:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 6:00 P.M. THE DAY AFTER INDEPENDENCE DAY.

   IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN BETWEEN THE HOURS OF 7:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 6:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.

6. FOR LABOR DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY AND 6:00 P.M. TUESDAY.

7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 7:00 A.M. TUESDAY TO 6:00 P.M. MONDAY.

8. FOR CHRISTMAS, BETWEEN THE HOURS OF 7:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 6:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

C) DO NOT CLOSE A LANE AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS	DURATION AND OPERATION
US 501	MEMORIAL DAY THROUGH LABOR DAY 7:00 AM FRIDAY THROUGH 6:00 PM SUNDAY	UNLOADING BEAMS 15 MINUTES

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.

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.

PAVEMENT EDGE DROP OFF REQUIREMENTS

I) 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.

J) 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) (350) FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

L) 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.

M) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

N) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

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

TRAFFIC CONTROL DEVICES

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

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

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
US 501	PAINT	TEMPORARY RAISED

S) 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.

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

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

APPROVED: DATE: 8-20-18

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

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

TRANSPORTATION OPERATIONS PLAN

$$$$SYSTIME$$$$
$$$$USERNAME$$$$

TEMPORARY SHORING NO. 1

FOR TEMPORARY SHORING, AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

DESIGN TEMPORARY SHORING FROM STATION 18+25 -L-, 25.5 FT. RT, TO STATION 18+75 -L-, 25.5 FT RT. FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 LB/CF
FRICTION ANGLE (ϕ) = 28 DEGREES
COHESION (c) = 0 LB/SF
GROUNDWATER ELEVATION = 148 FT

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 18+25 -L-, 25.5 FT. RT, TO STATION 18+75 -L-, 25.5 FT RT. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DO NOT USE A TEMPORARY WALL FOR THE TEMPORARY SHORING FROM STATION 18+25 -L-, 25.5 FT. RT, TO STATION 18+75 -L-, 25.5 FT RT.

TEMPORARY SHORING NO. 2

FOR TEMPORARY SHORING, AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

DESIGN TEMPORARY SHORING FROM STATION 20+35 L-, 27 FT. RT, TO STATION 20+85 -L-, 27.0 FT. RT. FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

UNIT WEIGHT (γ) = 120 LB/CF
FRICTION ANGLE (ϕ) = 28 DEGREES
COHESION (c) = 0 LB/SF
GROUNDWATER ELEVATION = 148 FT

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 20+35 L-, 27 FT. RT, TO STATION 20+85 -L-, 27.0 FT. RT. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DO NOT USE A TEMPORARY WALL FOR THE TEMPORARY SHORING FROM STATION 20+35 L-, 27 FT. RT, TO STATION 20+85 -L-, 27.0 FT.

"THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED THROUGH A SEALED DOCUMENT FROM THE GEOTECHNICAL ENGINEERING UNIT. THE DOCUMENT WAS SUBMITTED TO THE WZTC SECTION ON JUNE 27, 2013 AND SEALED BY A PROFESSIONAL ENGINEER, DAVID L. TEAGUE, LICENSE # 027869".

APPROVED: [signature] DATE: 6-27-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

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

TEMPORARY SHORING DATA

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
B-5551	TMP-3

PHASING

PHASE I

STEP 1: USING ROADWAY STANDARD DRAWING (RSD) 1101.01 SHEET 3 OF 3, INSTALL ADVANCE WARNING SIGNS ON US 501.

STEP 2: PLACE TRAFFIC CONTROL DEVICES AS SHOWN ON TMP-4.

STEP 3: USING RSD 1101.02 SHEET 1 OF 15 AND FLAGGERS AS NECESSARY, INSTALL TEMPORARY GUARDRAIL ALONG THE EXISTING ROADWAY AND BEGIN CONSTRUCTION OF THE PROPOSED ROADWAY SHOWN ON TMP-4 FROM STA 10+80± TO STA 29+95± UP TO BUT NOT INCLUDING THE FINAL SURFACE LAYER. ENSURE THAT RUNOFF DRAINS AND THAT PONDING IS PREVENTED.
DO NOT INSTALL THE PROPOSED GUARDRAIL PORTION RIGHT OF -L- THAT CONFLICTS WITH THE EXISTING ROADWAY.

STEP 4: INSTALL TEMPORARY SHORING LOCATION 1 FROM -L- STA 18+25±, 25.5 FT RIGHT OF -L- TO STA 18+75±, 25.5 FT RIGHT OF -L- AND INSTALL TEMPORARY SHORING LOCATION 2 FROM -L- STA 20+35±, 27 FT RIGHT OF -L- TO STA 20+85±, 27 FT RIGHT OF -L-.

STEP 5: CONSTRUCT THE PROPOSED STRUCTURE.

STEP 6: COMPLETE CONSTRUCTION OF THE ROADWAY PORTIONS SHOWN ON TMP-4 FROM STA 10+80± TO STA 29+95± UP TO BUT NOT INCLUDING THE FINAL SURFACE LAYER.

STEP 7: USING RSD 1101.02 SHEET 1 OF 15 AND FLAGGERS AS NECESSARY, PERFORM THE FOLLOWING IN A CONTINUOUS MANNER:
- CONSTRUCT A TIE IN FROM THE EXISTING ROADWAY TO THE NEW ALIGNMENT AS SHOWN ON TMP-5 USING WEDGING AS NECESSARY.
- PLACE TEMPORARY PAVEMENT MARKINGS AS SHOWN ON TMP-5 AND IN ACCORDANCE WITH THE TEMPORARY PAVEMENT MARKING SCHEDULE ON TMP-1A. REMOVE CONFLICTING MARKINGS. PLACE TEMPORARY MARKERS IN ACCORDANCE WITH RSD 1250.01.
- PLACE TRAFFIC CONTROL DEVICES AS SHOWN ON TMP-5.
- SHIFT TRAFFIC TO A 1-LANE, 2-WAY PATTERN ON THE LEFT SIDE OF THE NEW ALIGNMENT.
- COMPLETE GUARDRAIL INSTALLATION RIGHT OF -L-, PROTECTING ANY UNFINISHED END WITH A TRUCK MOUNTED ATTENUATOR.
- RETURN TRAFFIC TO A TWO-LANE, TWO-WAY PATTERN ON THE NEW ALIGNMENT BY END OF WORK DAY.

PHASE II

STEP 1: WHILE MAINTAINING TRAFFIC ON THE NEW ALIGNMENT AND USING RSD 1101.02 SHEET 1 OF 15 AND FLAGGERS AS NECESSARY, REMOVE THE EXISTING STRUCTURE AND REMOVE EXISTING PAVEMENT AS INDICATED IN THE ROADWAY PLANS. REMOVE TEMPORARY SHORING AND TEMPORARY GUARDRAIL. COMPLETE ALL ROADWAY CONSTRUCTION UP TO BUT NOT INCLUDING THE FINAL SURFACE LAYER.

STEP 2: USING RSD 1101.02 SHEET 1 OF 15 AND FLAGGERS AS NECESSARY, PLACE THE FINAL SURFACE LAYER AND FINAL PAVEMENT MARKINGS AS SHOWN ON THE PAVEMENT MARKING PLANS.

STEP 3: REMOVE ALL TRAFFIC CONTROL DEVICES.

APPROVED: DATE: 6-26-13

SEAL

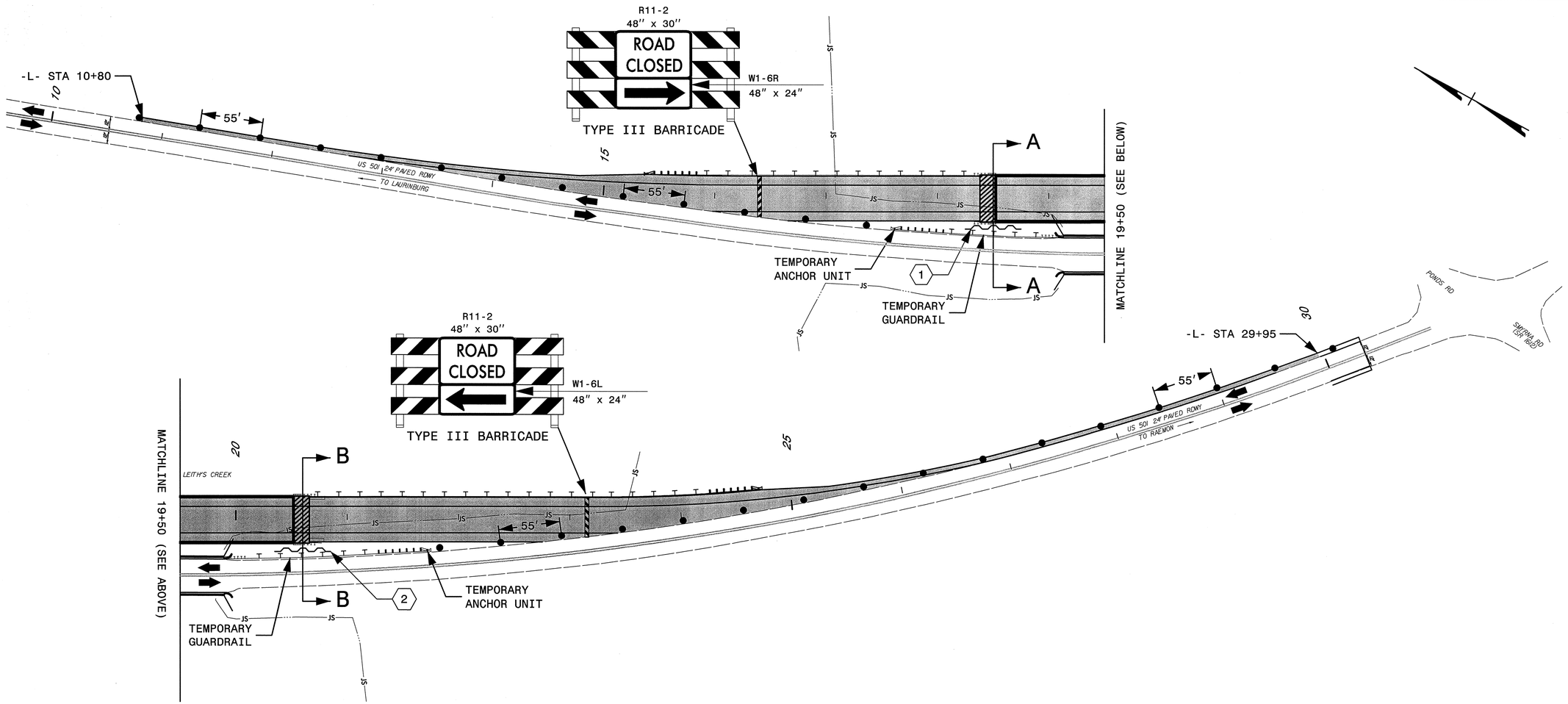
NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

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

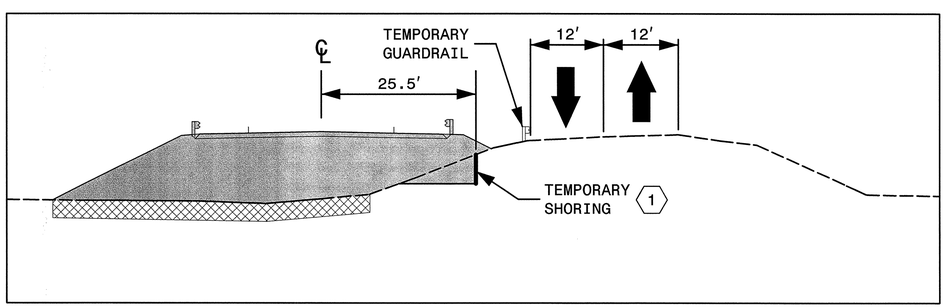
PHASING

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$

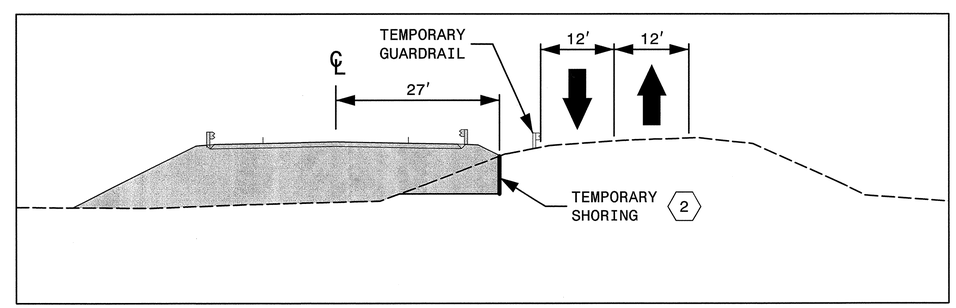
PROJ. REFERENCE NO.	SHEET NO.
B-5551	TMP-4



A-A 18+50



B-B 20+60



(1) QUANTITY = 245 SQ FT.
TEMPORARY SHORING DESIGNED FOR IMPACT
FROM -L- STATION 18+25± 25.5' RIGHT OF -L-
TO -L- STATION 18+75± 25.5' RIGHT OF -L-
ESTIMATED LENGTH: 50'
AVERAGE HEIGHT: 4.9'
(SEE TEMPORARY SHORING DATA SHEET TMP-2)

(2) QUANTITY = 310 SQ FT.
TEMPORARY SHORING DESIGNED FOR IMPACT
FROM -L- STATION 20+35± 27.0' RIGHT OF -L-
TO -L- STATION 20+85± 27.0' RIGHT OF -L-
ESTIMATED LENGTH: 50'
AVERAGE HEIGHT: 6.2'
(SEE TEMPORARY SHORING DATA SHEET TMP-2)

APPROVED: DATE: 6-26-13

SEAL

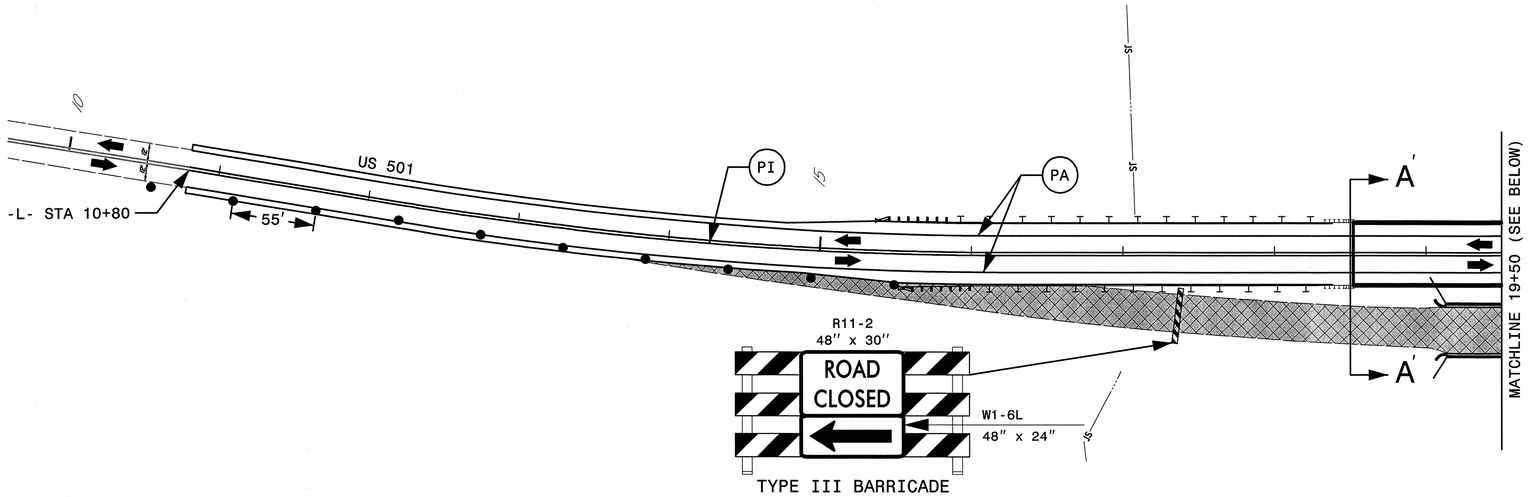
NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

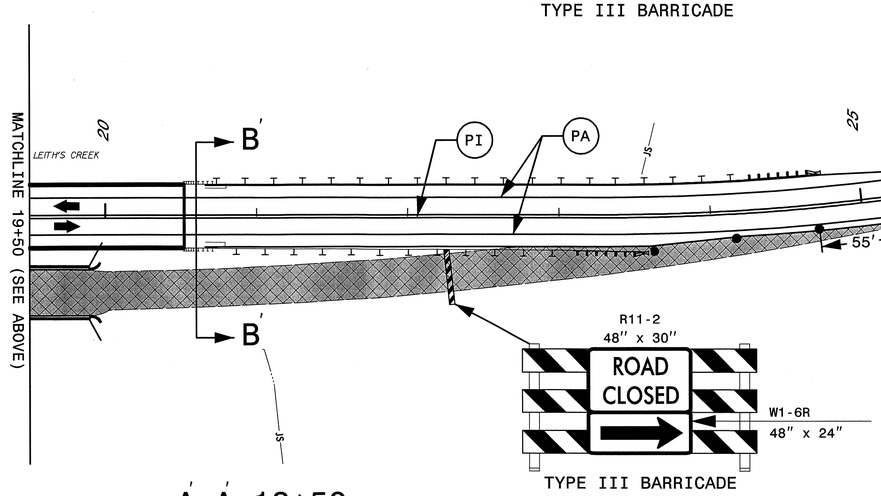
DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

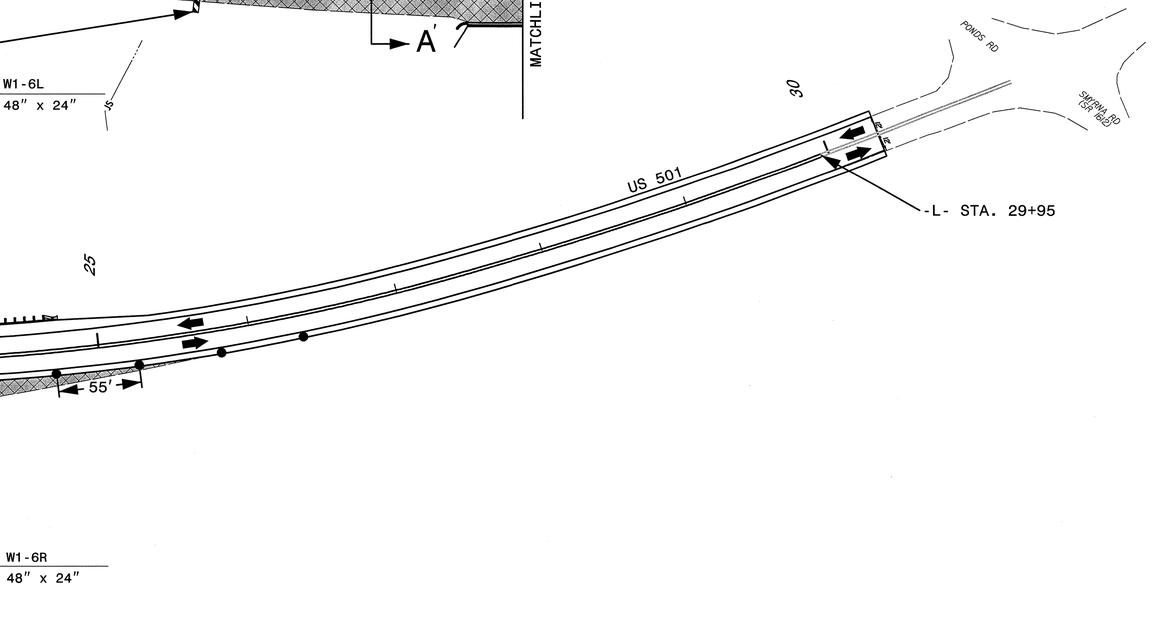
PHASE I

$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

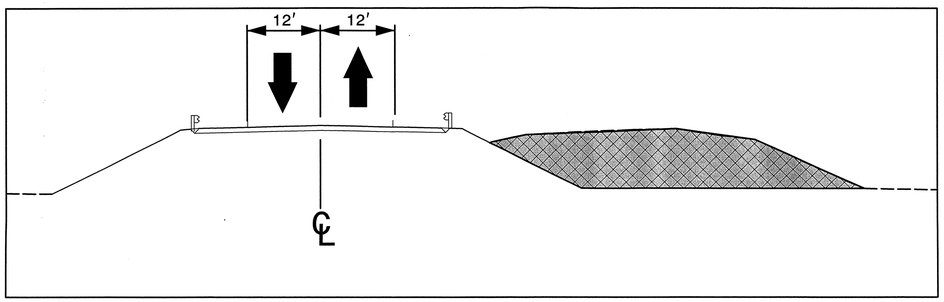
PROJ. REFERENCE NO.	SHEET NO.
B-5551	TMP-5



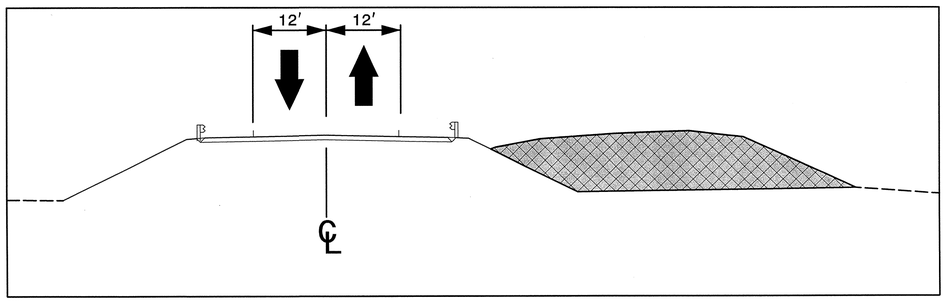




A'-A' 18+50



B'-B' 20+60



APPROVED: DATE: 6-26-17

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 037026 ENGINEER STEVEN D. MILLER

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

PHASE II

$$$$$$SYSTIME$$$$
$$$$$$$$$$USERNAME$$$$UON$$$$$$$$$$$$$$$$

T.I.P.: B-5551

CONTRACT:

TIP NO.	SHEET NO.
B-5551	PMP-1

APPROVED: [signature]

DATE: 06/26/13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 029712 ENGINEER AGNIESZKA J. NAU

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
SCOTLAND COUNTY

INDEX

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

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
1205.12	PAVEMENT MARKINGS - BRIDGES
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

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
US 501	THERMOPLASTIC	RAISED
CONCRETE BRIDGE DECK	COLD APPLIED PLASTIC(TYPE II)	RAISED

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

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

D) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.

E) TYPE III COLD APPLIED PLASTIC MAY BE USED IN LIEU OF TYPE II COLD APPLIED PLASTIC. IF TYPE III COLD APPLIED PLASTIC IS USED, IT SHALL BE PAID FOR USING THE TYPE II COLD APPLIED PLASTIC PAY ITEM.

F) REMOVE ALL RESIDUE AND SURFACE LAITANCE BY ACCEPTABLE METHODS ON CONCRETE BRIDGE DECK PRIOR TO PLACING COLD APPLIED PLASTIC PAVEMENT MARKING MATERIAL.

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

CHRIS B. HOWARD SIGNING & DELINEATION STANDARDS ENGINEER

MARK MANRIQUEZ SIGNING & DELINEATION PROJECT DESIGN ENGINEER

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

PLAN PREPARED BY: SEPI Engineering & Construction

AGNIESZKA NAU, P.E. TRANSPORTATION ENGINEER

TONY HARRIS CADD TECHNICIAN

SEPI ENGINEERING & CONSTRUCTION
1025 Wade Avenue
Raleigh, NC 27605
Tel:919-789-9977
Fax:919-789-9591
License: C-2197

$$$$SYSTIME$$$$
$$$$DGN$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

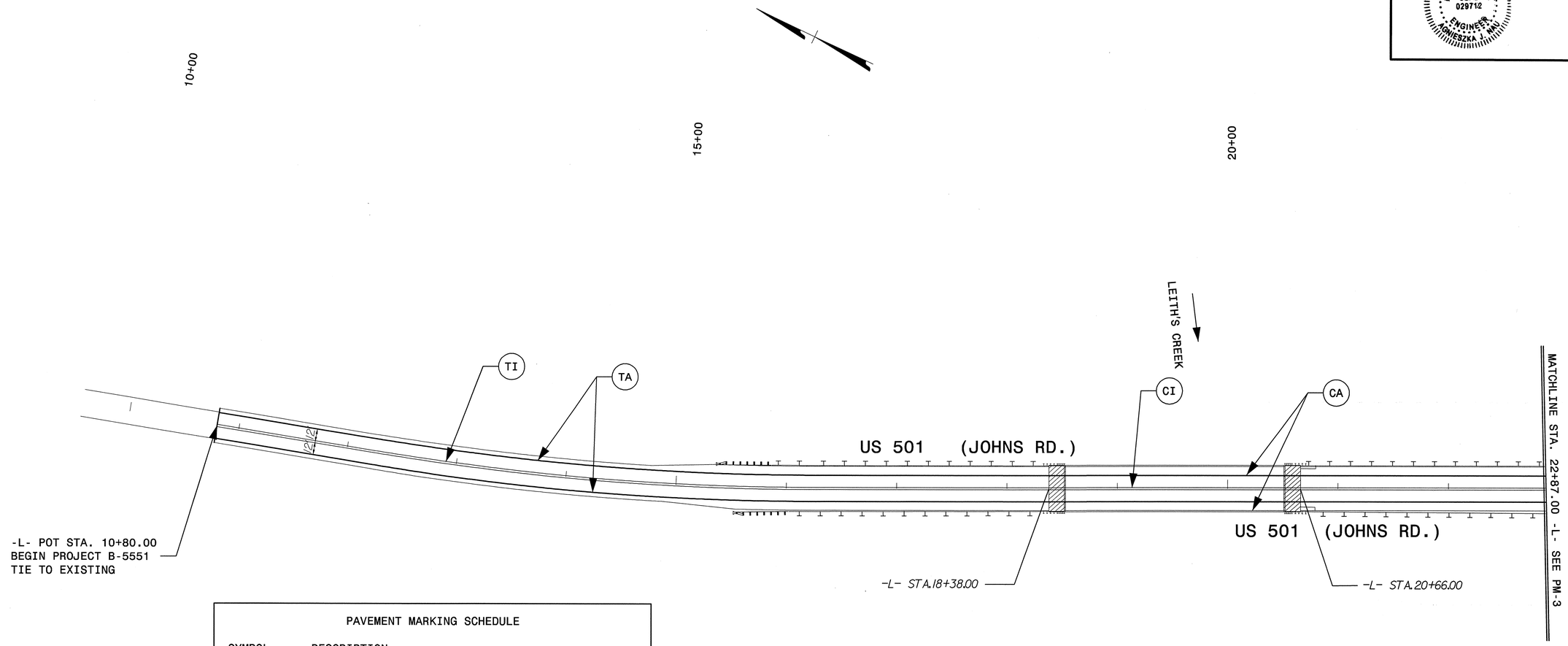
SEPI ENGINEERING & CONSTRUCTION
1025 Wade Avenue
Raleigh, NC 27605
Tel:919-789-9977
Fax:919-789-9591
License: C-2197

TIP NO.	SHEET NO.
B-5551	PMP-2

APPROVED: [illegible]
DATE: 07-22-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 029712 ENGINEER AGNIESZKA J. MAY



PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	FINAL PAVEMENT MARKINGS
TI	YELLOW DOUBLE CENTER	THERMOPLASTIC (4", 120 MILS)
TA	WHITE EDGELINE	THERMOPLASTIC (4", 90 MILS)
		MARKERS RAISED
		COLD APPLIED PLASTIC (4") TYPE II
CI	YELLOW DOUBLE CENTER	
CA	WHITE EDGELINE	

$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PAVEMENT MARKING DETAIL AND SCHEDULE

SEPI ENGINEERING & CONSTRUCTION
1025 Wade Avenue
Raleigh, NC 27605
Tel:919-789-9977
Fax:919-789-9591
License: C-2197

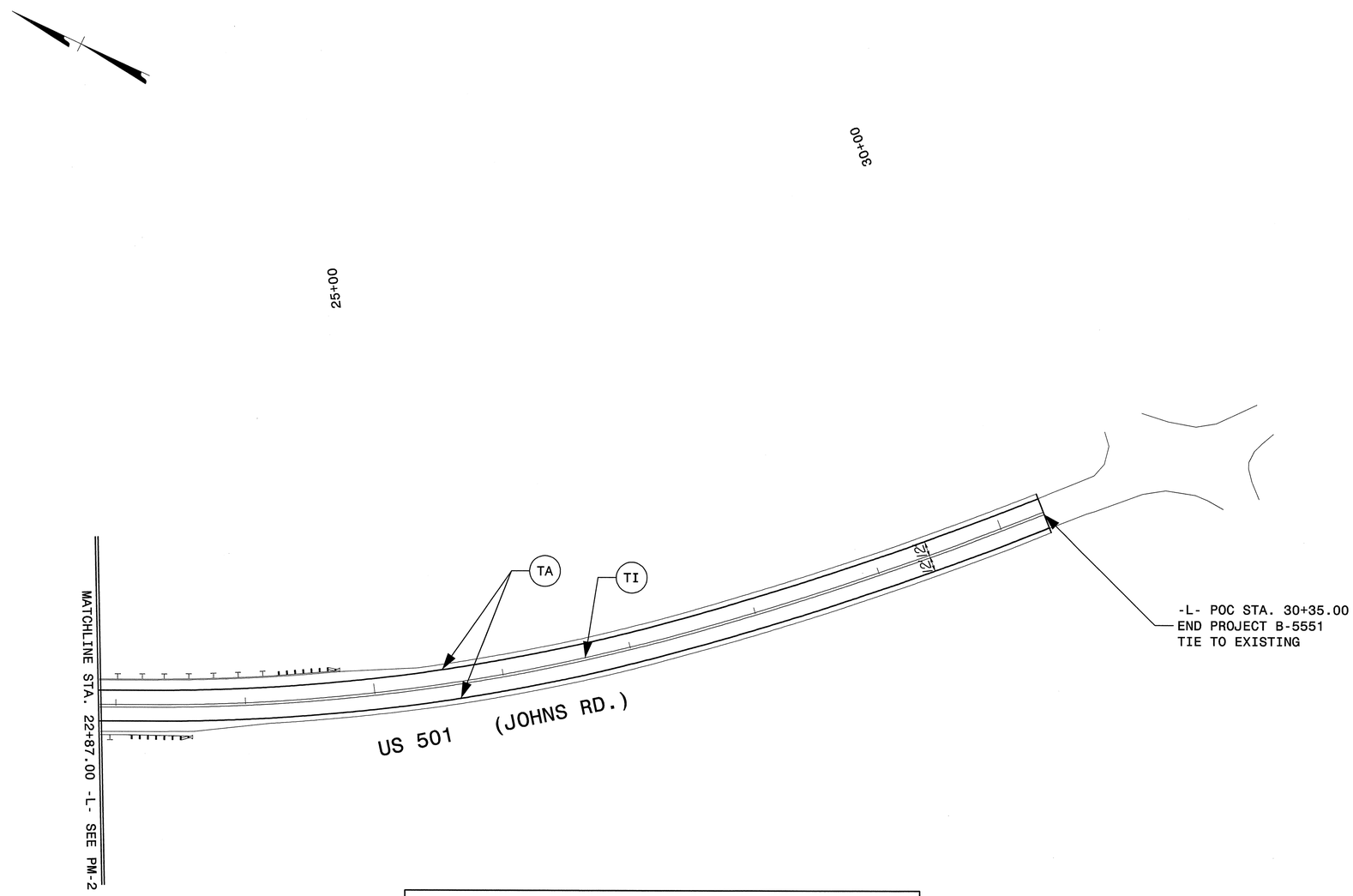
TIP NO.	SHEET NO.
B-5551	PMP-3

APPROVED: [illegible]

DATE: 06/26/3[illegible]

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 029712 ENGINEER AGNIESZKA J. NIO



PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	FINAL PAVEMENT MARKINGS
TI	YELLOW DOUBLE CENTER	THERMOPLASTIC (4", 120 MILS)
TA	WHITE EDGELINE	THERMOPLASTIC (4", 90 MILS)
		MARKERS
		RAISED

PAVEMENT MARKING DETAIL AND SCHEDULE

$$$$SYSTIME$$$$
$$$$USERNAME$$$$DGN$$$$

TIP PROJECT: B-5551

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5551	EC-01	

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

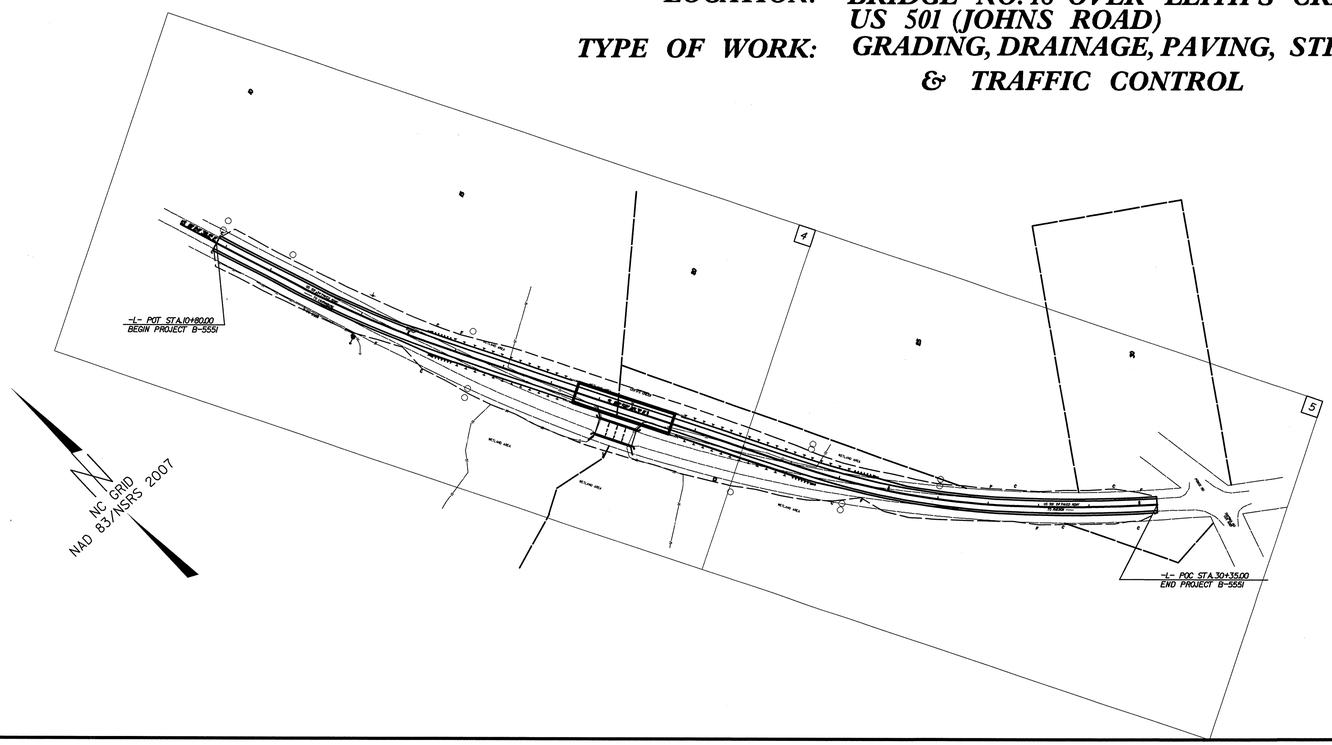
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

SCOTLAND COUNTY

LOCATION: ***BRIDGE NO. 18 OVER LEITH'S CREEK ON US 501 (JOHNS ROAD)***

TYPE OF WORK: ***GRADING, DRAINAGE, PAVING, STRUCTURE & TRAFFIC CONTROL***

DISTURBED AREA
178500 SF



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	EW 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.

GRAPHIC SCALE

25 0 50

PLANS

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

BRIAN A. MAZZOCHI, PE
LEVEL III DESIGNER OF EROSION AND SEDIMENT CONTROL PLANS
3120
LEVEL III CERTIFICATION NO.

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:

SEPI ENGINEERING & CONSTRUCTION
1025 Wade Avenue
Raleigh, NC 27605
Tel:919-789-9977
Fax:919-789-9591
License: C-2197

2012 STANDARD SPECIFICATIONS

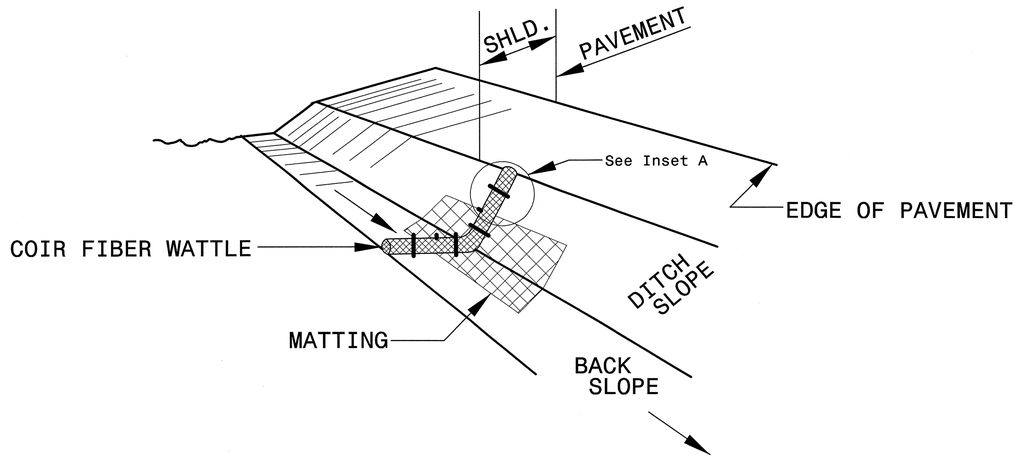
Roadway Standard Drawings

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.

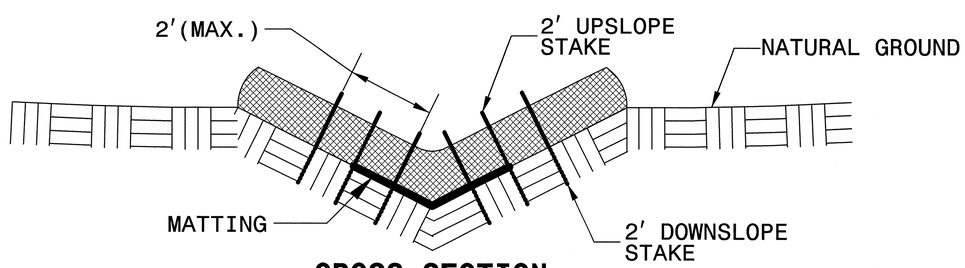
1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type 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		

PROJECT REFERENCE NO.	SHEET NO.
B-5551	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

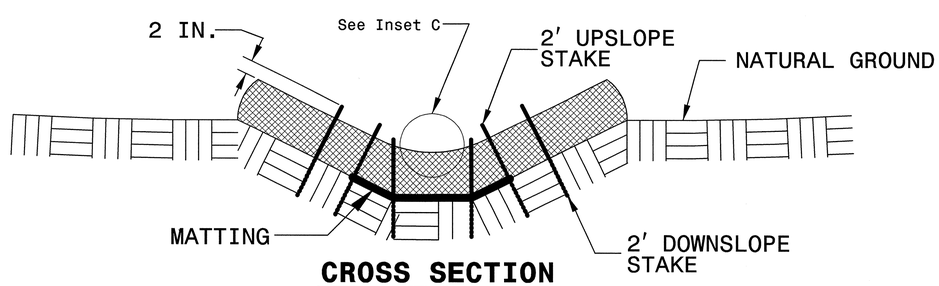
COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



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.

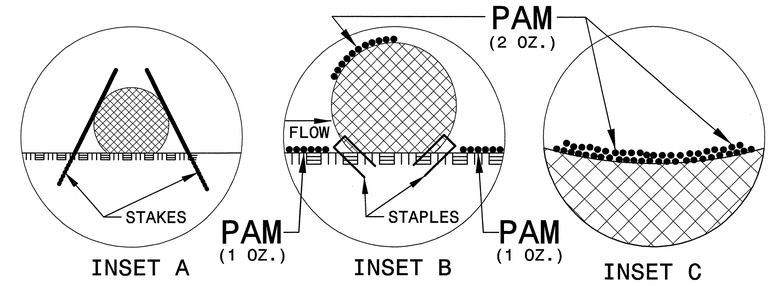
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

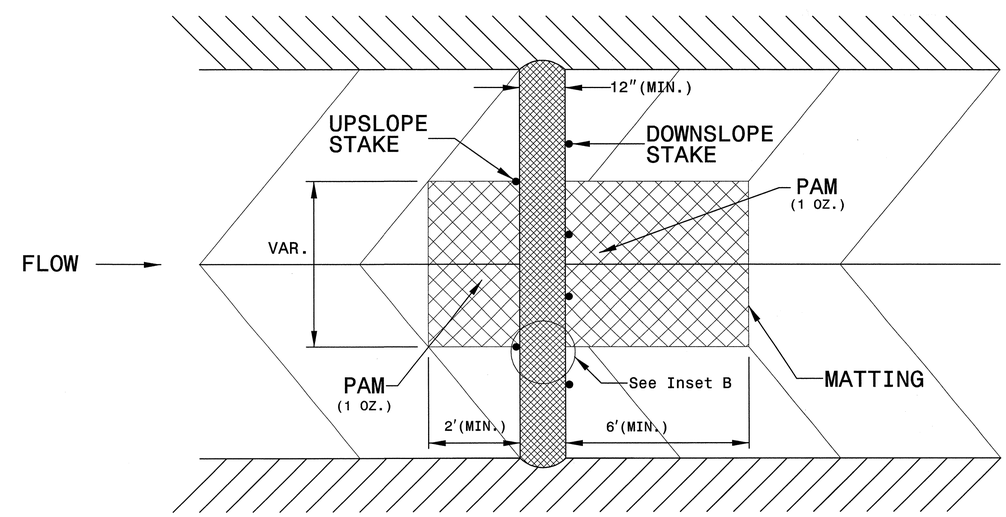
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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.

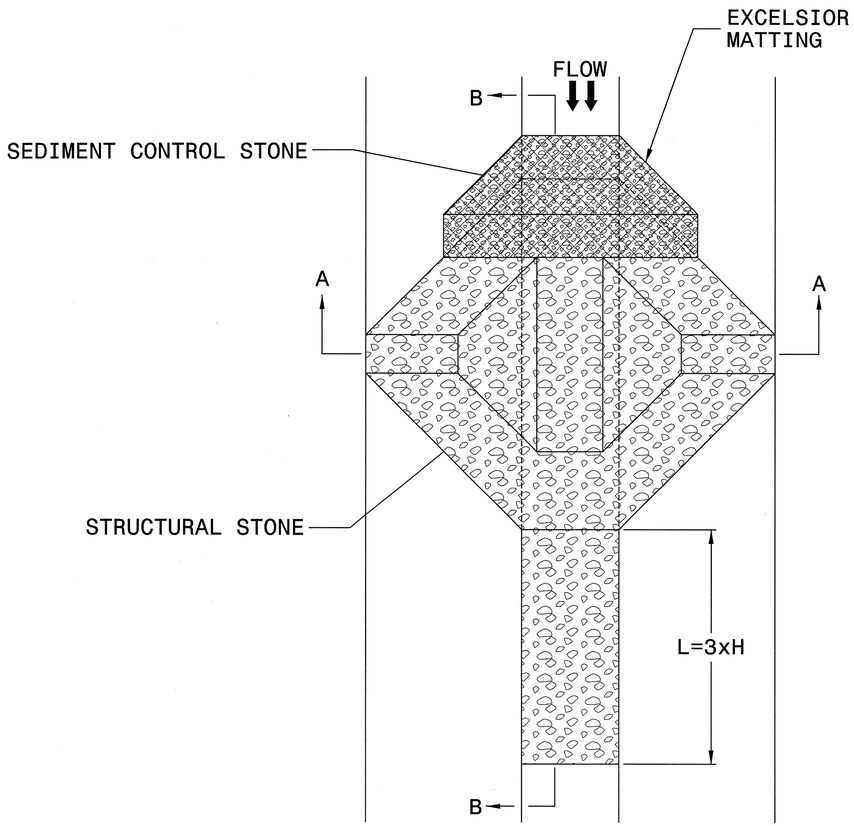




TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
B-5551	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



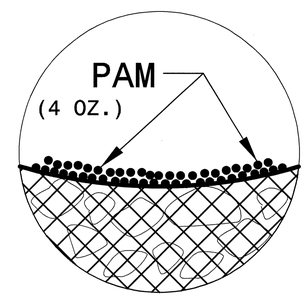
PLAN

NOTES

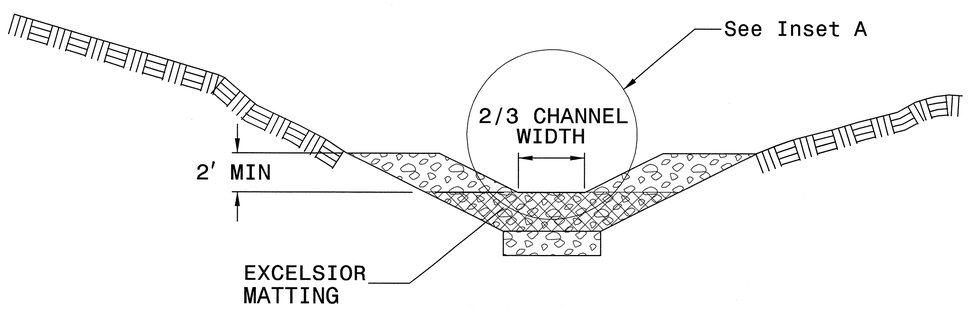
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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.

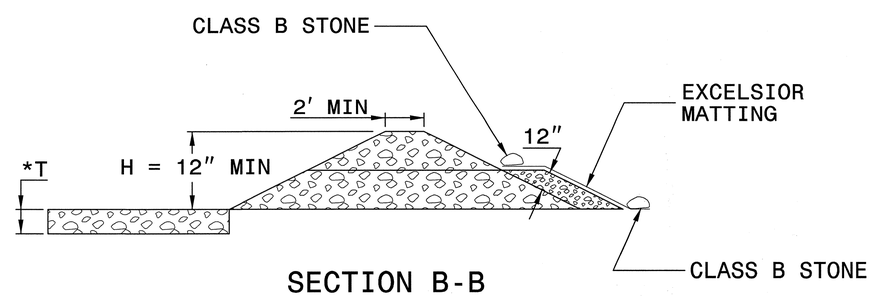
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



SECTION B-B

*T = 12" MIN., 18" MAX.

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-5551	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-	10+50	15+60	LT.	145
4	-L-	10+50	14+50	RT.	140
5	-L-	27+50	30+00	LT.	65
5	-L-	28+50	30+00	RT.	50
				SUBTOTAL	400
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					600
				TOTAL	1000
				SAY	1000

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4					
				SUBTOTAL	
		ADDITIONAL PSRM TO BE INSTALLED			
				TOTAL	
				SAY	

PROJECT REFERENCE NO.	SHEET NO.
B-5551	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.

PROJECT REFERENCE NO.	SHEET NO.
B-5551	EC-4/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

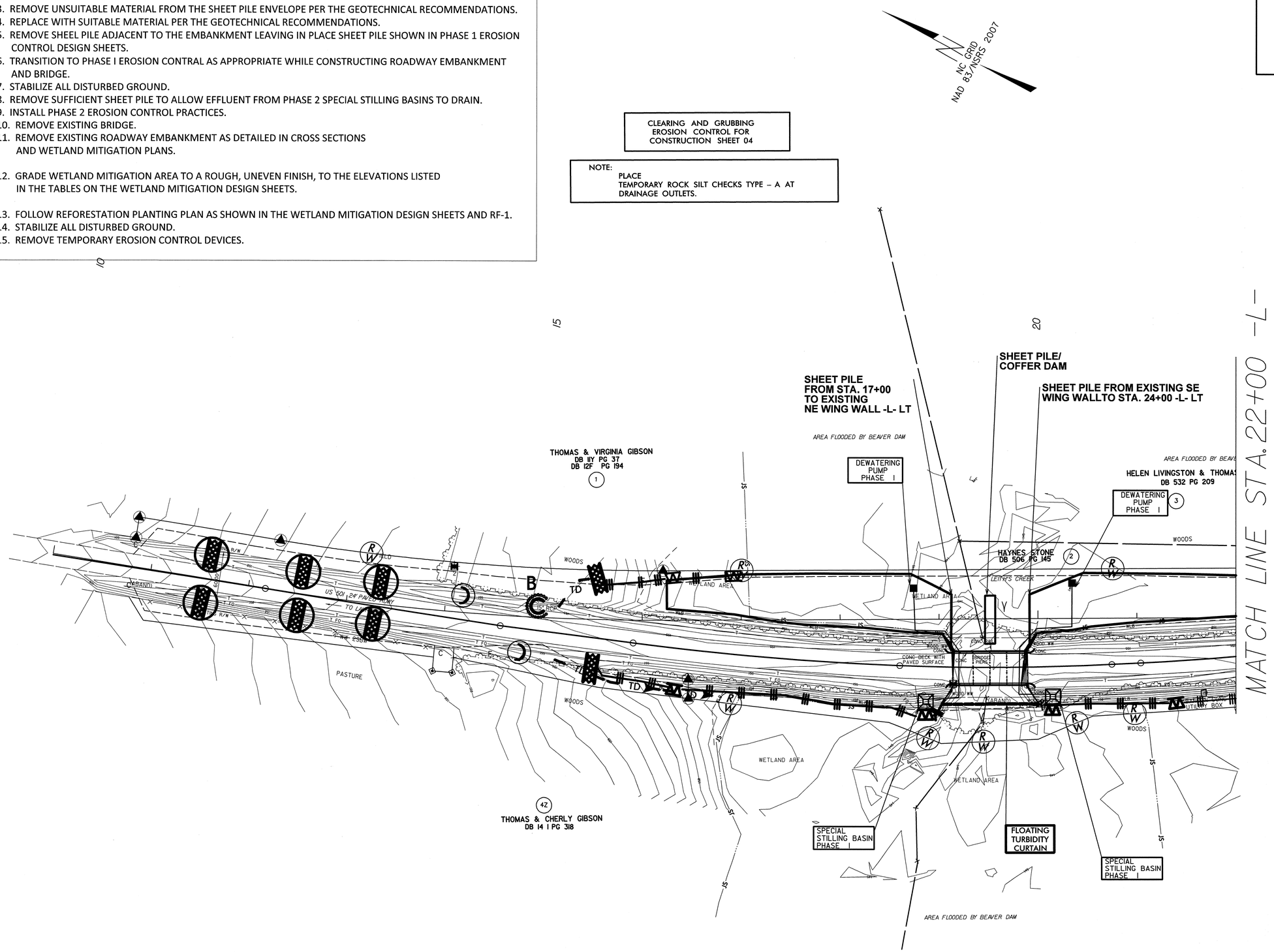
CONSTRUCTION SEQUENCE

1. INSTALL CLEARING AND GRUBBING EROSION CONTROL PRACTICES INCLUDING SHEET PILE AS SHOWN.
2. CLEAR AND GRUB WORK AREA.
3. REMOVE UNSUITABLE MATERIAL FROM THE SHEET PILE ENVELOPE PER THE GEOTECHNICAL RECOMMENDATIONS.
4. REPLACE WITH SUITABLE MATERIAL PER THE GEOTECHNICAL RECOMMENDATIONS.
5. REMOVE SHEEL PILE ADJACENT TO THE EMBANKMENT LEAVING IN PLACE SHEET PILE SHOWN IN PHASE 1 EROSION CONTROL DESIGN SHEETS.
6. TRANSITION TO PHASE I EROSION CONTRAL AS APPROPRIATE WHILE CONSTRUCTING ROADWAY EMBANKMENT AND BRIDGE.
7. STABILIZE ALL DISTURBED GROUND.
8. REMOVE SUFFICIENT SHEET PILE TO ALLOW EFFLUENT FROM PHASE 2 SPECIAL STILLING BASINS TO DRAIN.
9. INSTALL PHASE 2 EROSION CONTROL PRACTICES.
10. REMOVE EXISTING BRIDGE.
11. REMOVE EXISTING ROADWAY EMBANKMENT AS DETAILED IN CROSS SECTIONS AND WETLAND MITIGATION PLANS.

12. GRADE WETLAND MITIGATION AREA TO A ROUGH, UNEVEN FINISH, TO THE ELEVATIONS LISTED IN THE TABLES ON THE WETLAND MITIGATION DESIGN SHEETS.

13. FOLLOW REFORESTATION PLANTING PLAN AS SHOWN IN THE WETLAND MITIGATION DESIGN SHEETS AND RF-1.
14. STABILIZE ALL DISTURBED GROUND.
15. REMOVE TEMPORARY EROSION CONTROL DEVICES.

CLEARING AND GRUBBING PHASE



5/14/99

$$$$$SYSTIME$$$$$
$$$$$DGN$$$$$
$$$$$CELLNAME$$$$$

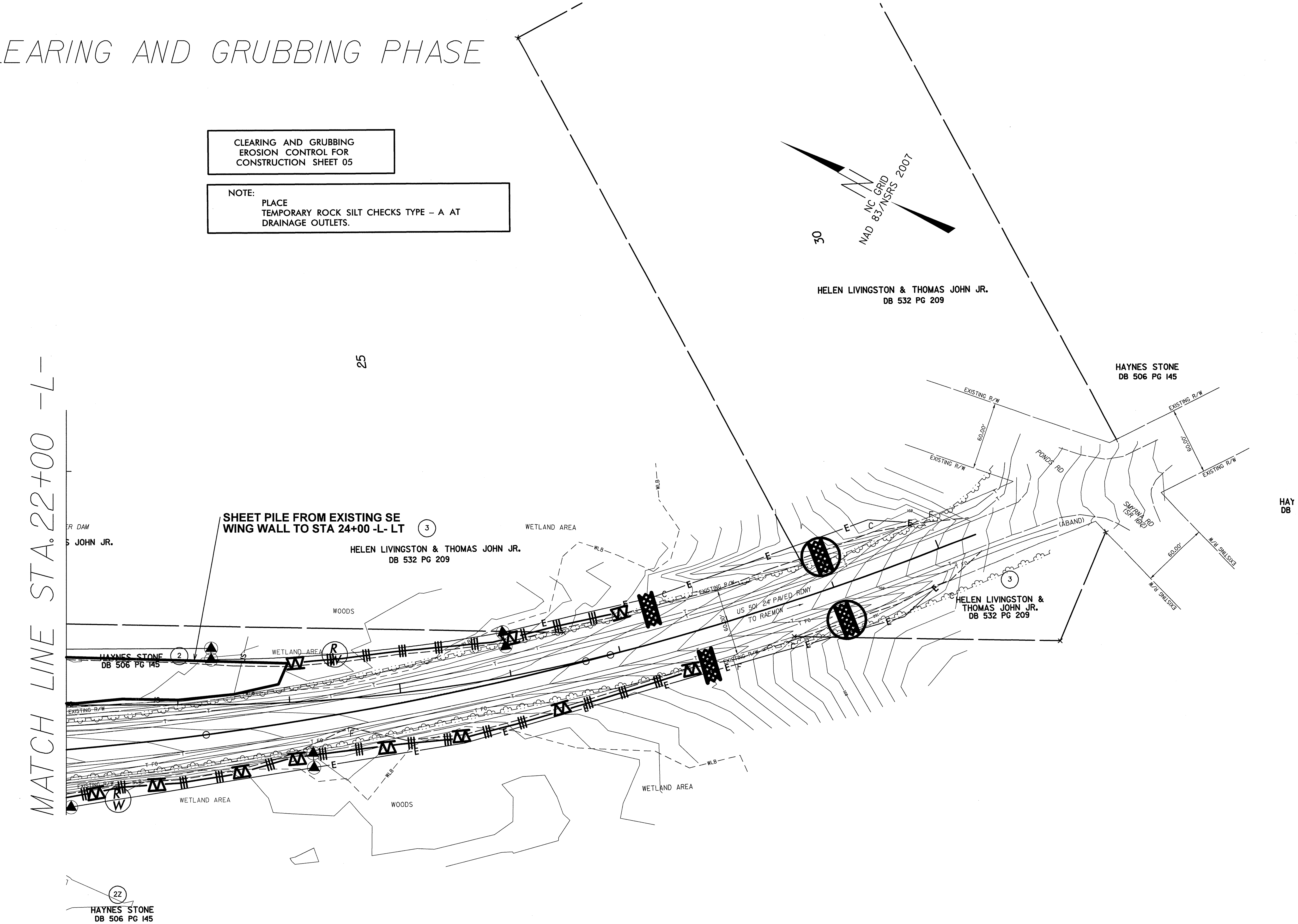
PROJECT REFERENCE NO.	SHEET NO.
B-5551	EC-5/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

5/14/99

CLEARING AND GRUBBING PHASE

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 05

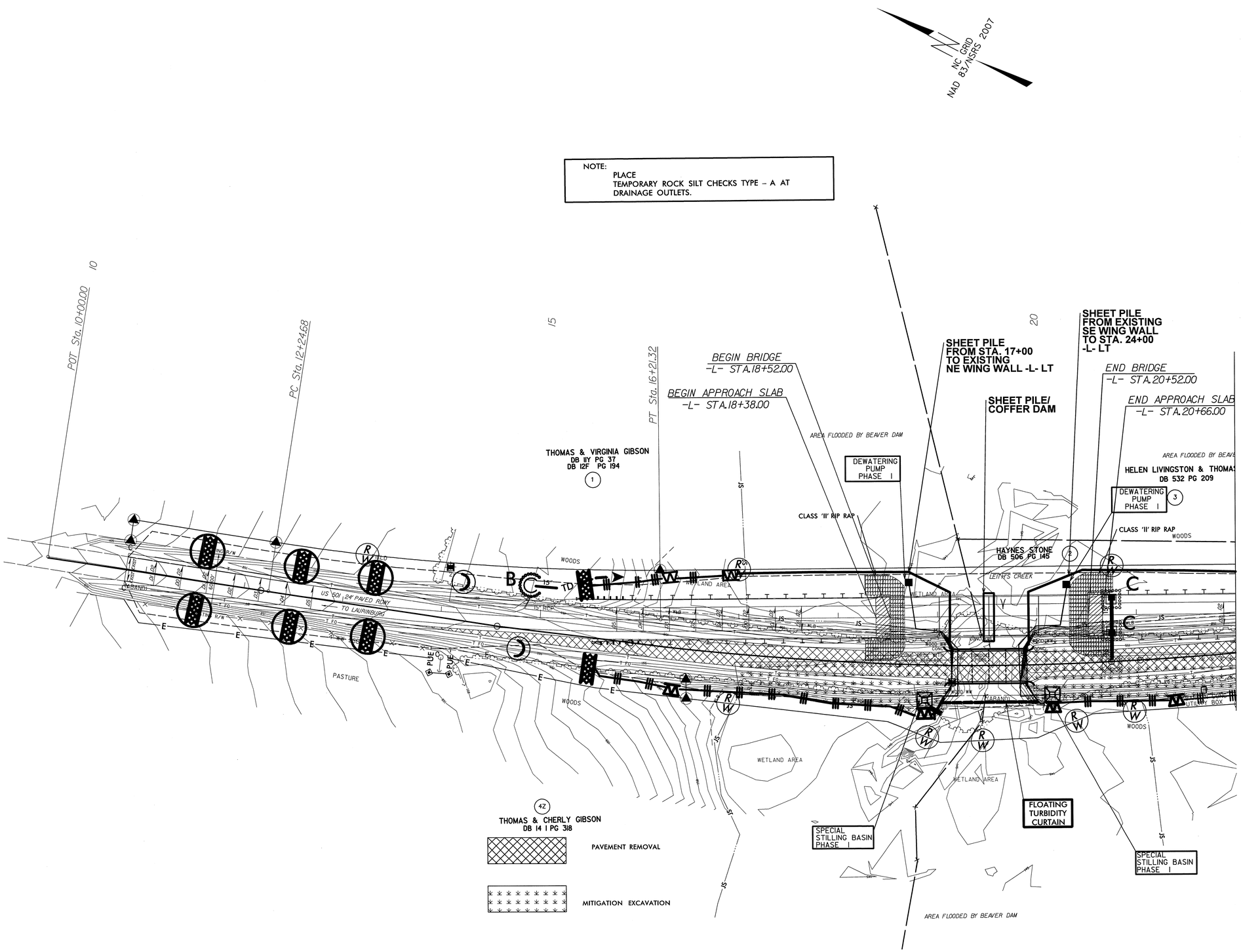
NOTE:
PLACE
TEMPORARY ROCK SILT CHECKS TYPE – A AT
DRAINAGE OUTLETS.



$$$$SYSTIME$$$$
$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-5551	EC-6/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EROSION CONTROL PHASE 1



5/14/99

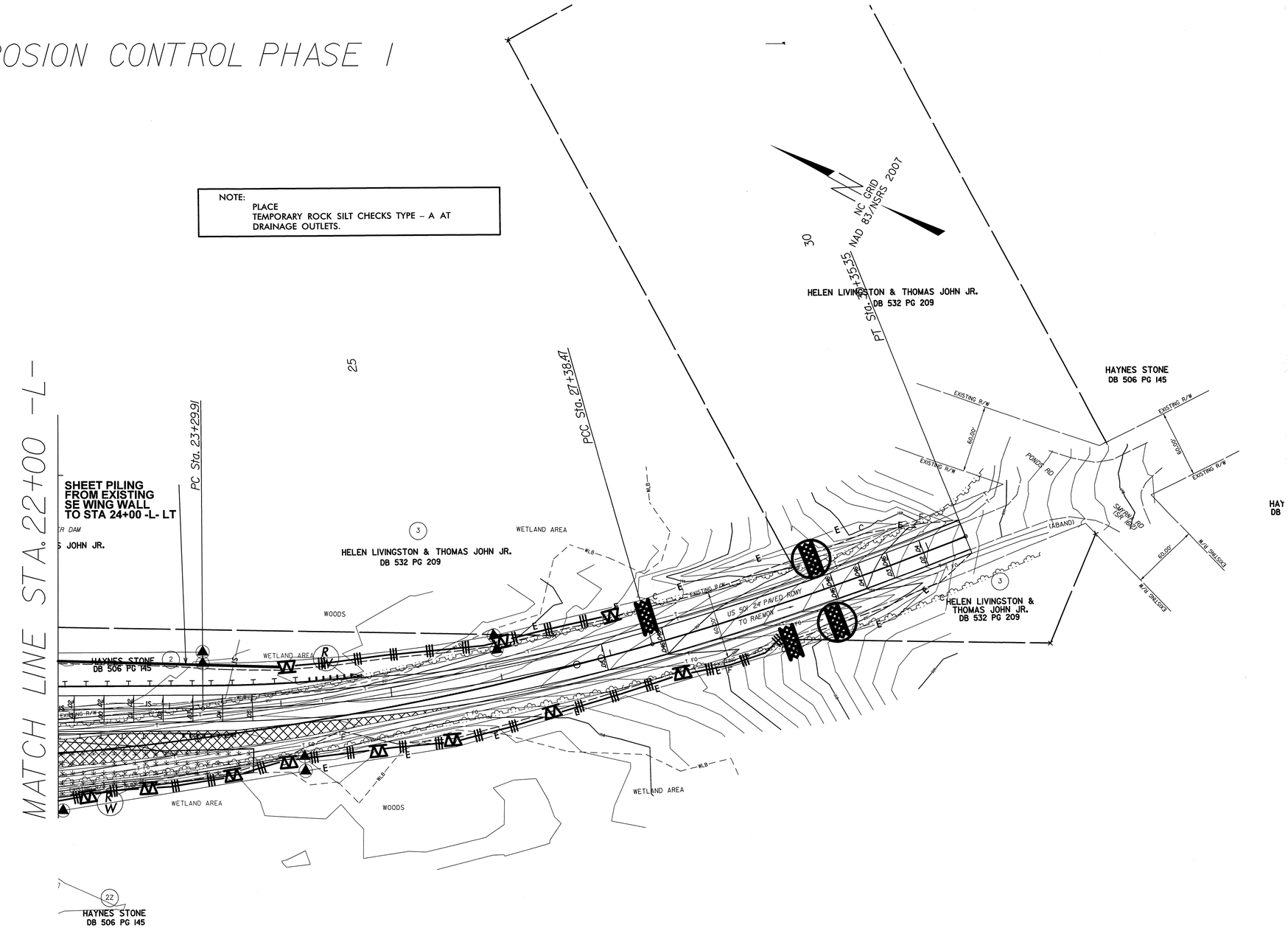
$$$$SYSTIME$$$$
$$$$ENGINF$$$$DGN$$$$$$$$$$$$$$$$$$$$

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-5551	EC-7/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EROSION CONTROL PHASE I

NOTE:
PLACE
TEMPORARY ROCK SILT CHECKS TYPE – A AT
DRAINAGE OUTLETS.



PAVEMENT REMOVAL

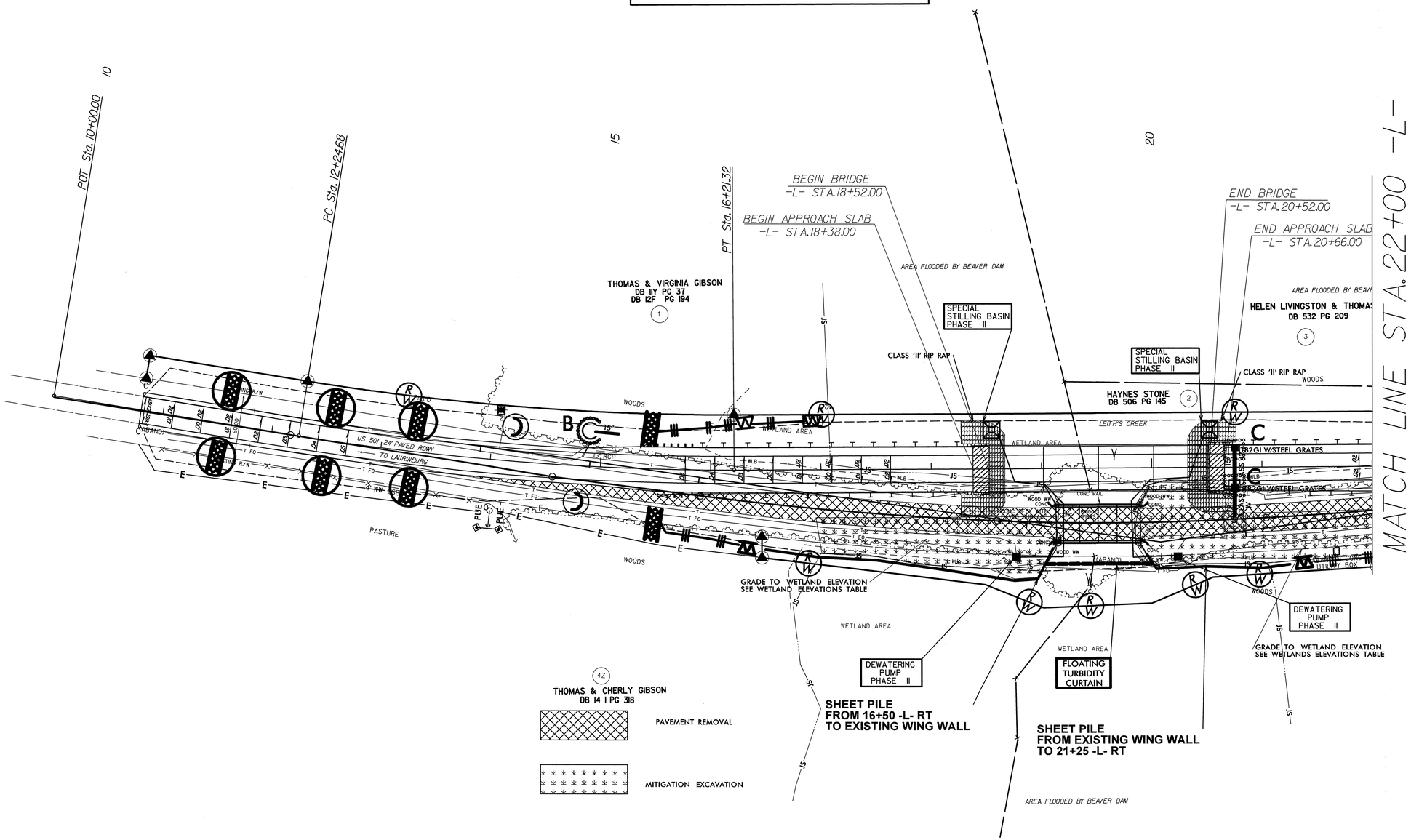
MITIGATION EXCAVATION

PROJECT REFERENCE NO.	SHEET NO.
B-5551	EC-8/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EROSION CONTROL PHASE II

NC GRID
NAD 83/NSRS 2007

NOTE:
PLACE
TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.



5/14/99

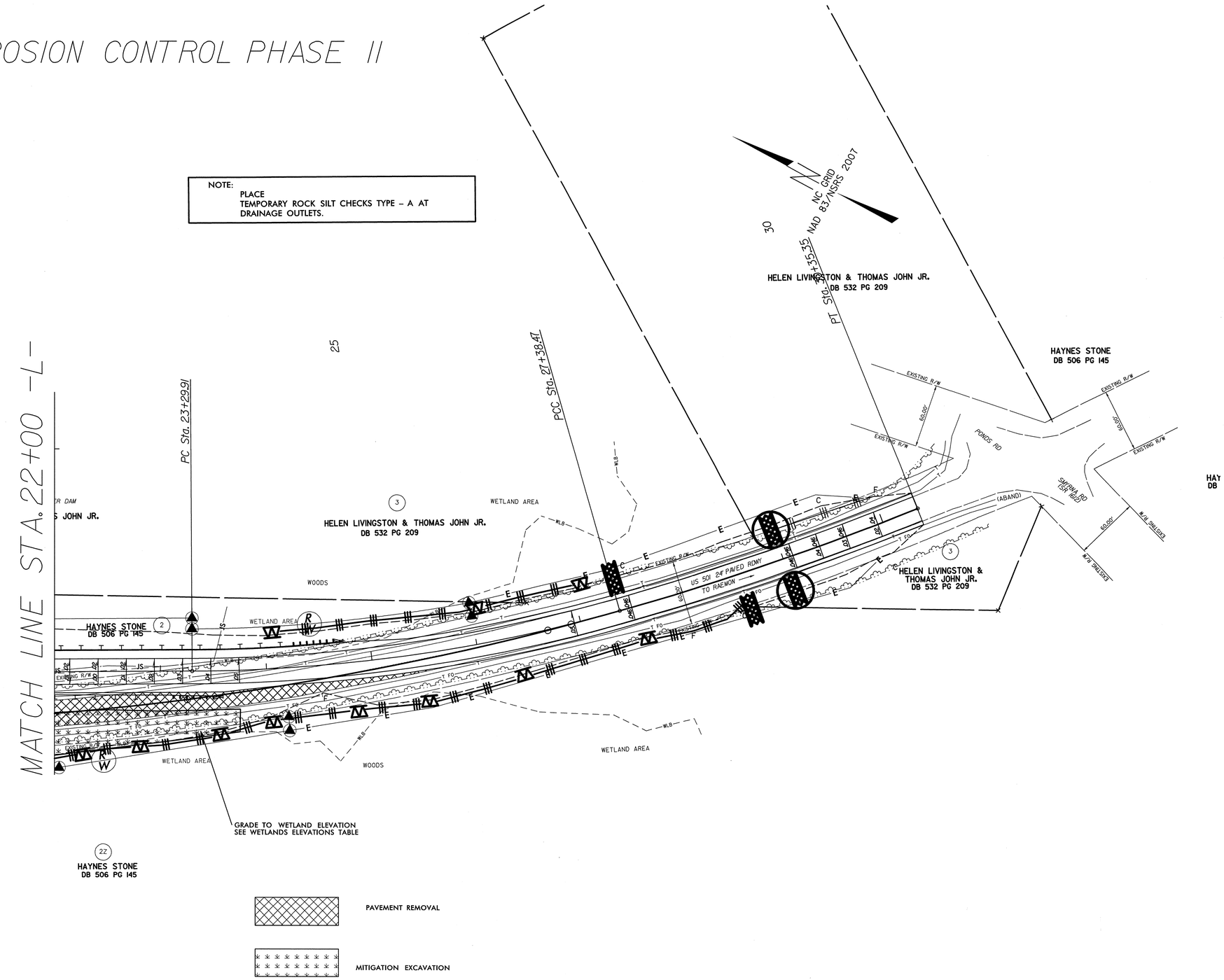
$$$$$SYSTIME$$$$$
$$$$$DGN$$$$$
$$$$$FILENAME$$$$$

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-5551	EC-9/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EROSION CONTROL PHASE II

NOTE:
PLACE
TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5551	RF-1	

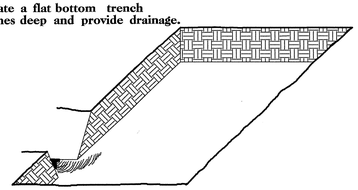
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
43684.3.1	BRSTP-0501(29)	
8B.108314.1		

PLANTING DETAILS

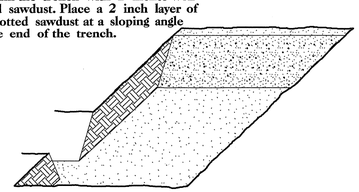
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

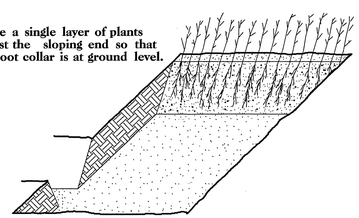
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



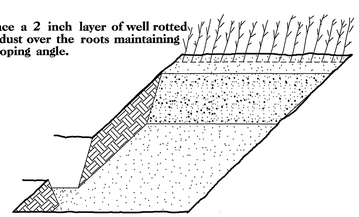
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



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

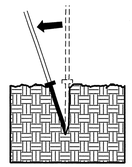


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

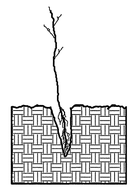


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

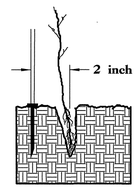
DIBBLE PLANTING METHOD
USING THE KBC PLANTING BAR



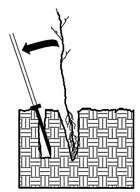
1. Insert planting bar as shown and pull handle toward planter.



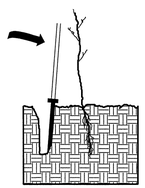
2. Remove planting bar and place seedling at correct depth.



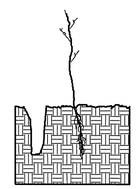
3. Insert planting bar 2 inches toward planter from seedling.



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 8 FT. TO 12 FT. ON CENTER, RANDOM SPACING, AVERAGING 10 FT. ON CENTER, APPROXIMATELY 435 PLANTS PER ACRE.

REFORESTATION

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

45%	SWAMP GUM	Nyssa biflora	12 in - 18 in BR
25%	BALD CYPRESS	Taxodium distichum	12 in - 18 in BR
15%	BUTTONBUSH	Cephalanthus occidentalis	12 in - 18 in BR
15%	TAG ALDER	Alnus serrulata	12 in - 18 in BR
	WATER TUPELO substitute for Nyssa biflora as needed	Nyssa aquatica	

Prepared In the Office of:
SEPI ENGINEERING & CONSTRUCTION
1025 Wade Avenue
Raleigh, NC 27605
Tel:919-789-8977
Fax:919-789-9591
License: C-2197
FOR THE NORTH CAROLINA DEPT. OF TRANSPORATION

REFORESTATION DETAIL SHEET

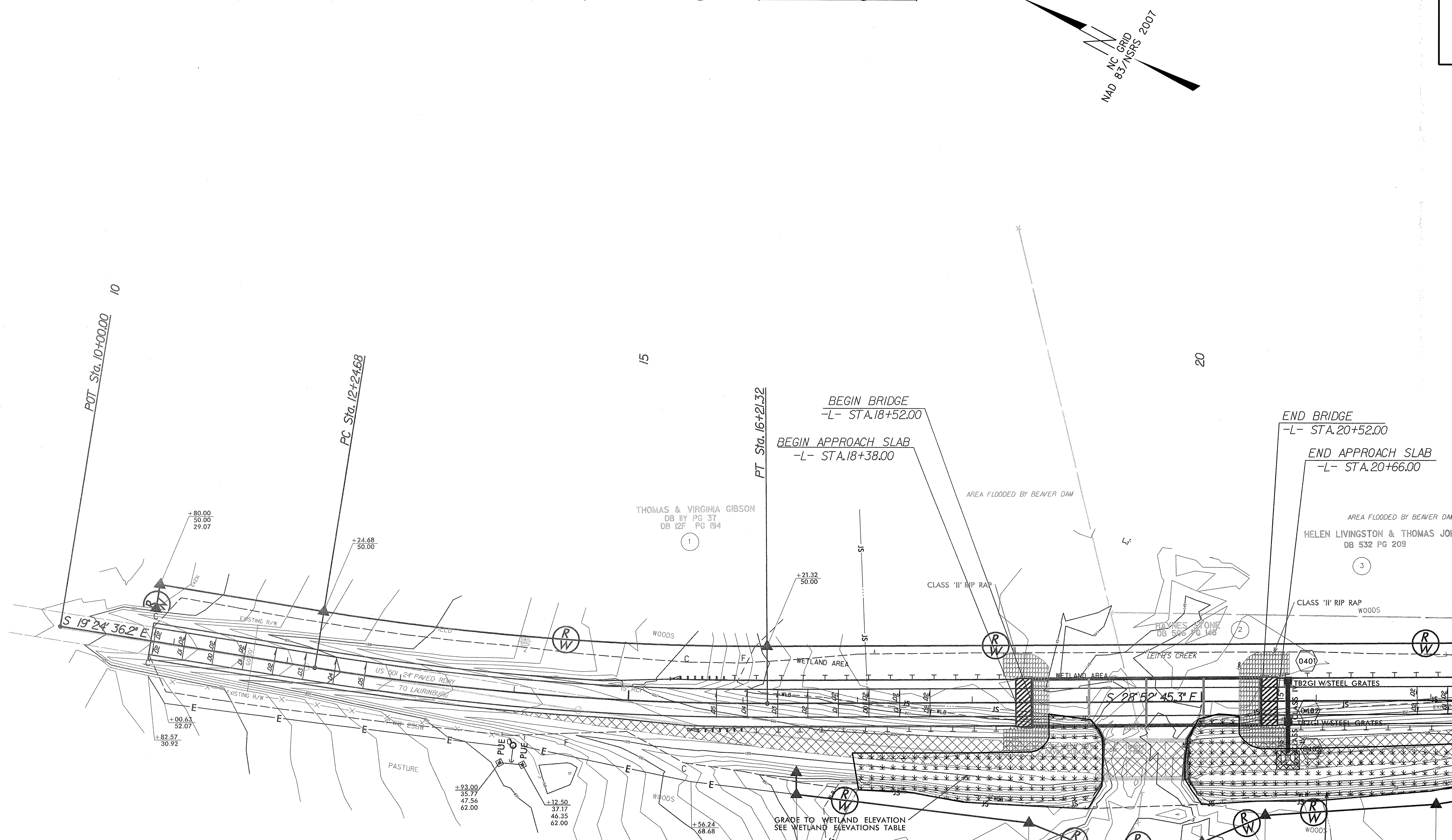
N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

PROJECT REFERENCE NO.	SHEET NO.
B-5551	WMD-4
R/W SHEET NO.	

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 33719 ENGINEER BRIAN A. MAZZOCHI 06-26-13

WETLAND MITIGATION EXCAVATION



PROPOSED WETLAND ELEVATIONS TABLE

-L- STA.	ELEV. RANGE
STA. 16+50 TO 20+25	146.0 TO 147.5
STA. 20+25 TO 23+00	146.5 TO 148.0
STA. 23+00 TO 23+80	147.0 TO 148.5
CONFIRM ELEVATIONS WITH FIELD ENGINEER PRIOR TO GRADING	

THOMAS & CHERLY GIBSON
DB 14 1 PG 318

PAVEMENT REMOVAL

MITIGATION EXCAVATION

NOTES:
1. SEE PLAN SHEET 6 FOR PROFILE
2. SEE SHEETS S-1 THRU S- FOR STRUCTURES PLANS
3. SEE SHEETS 4 & 5 FOR ROADWAY PLANS

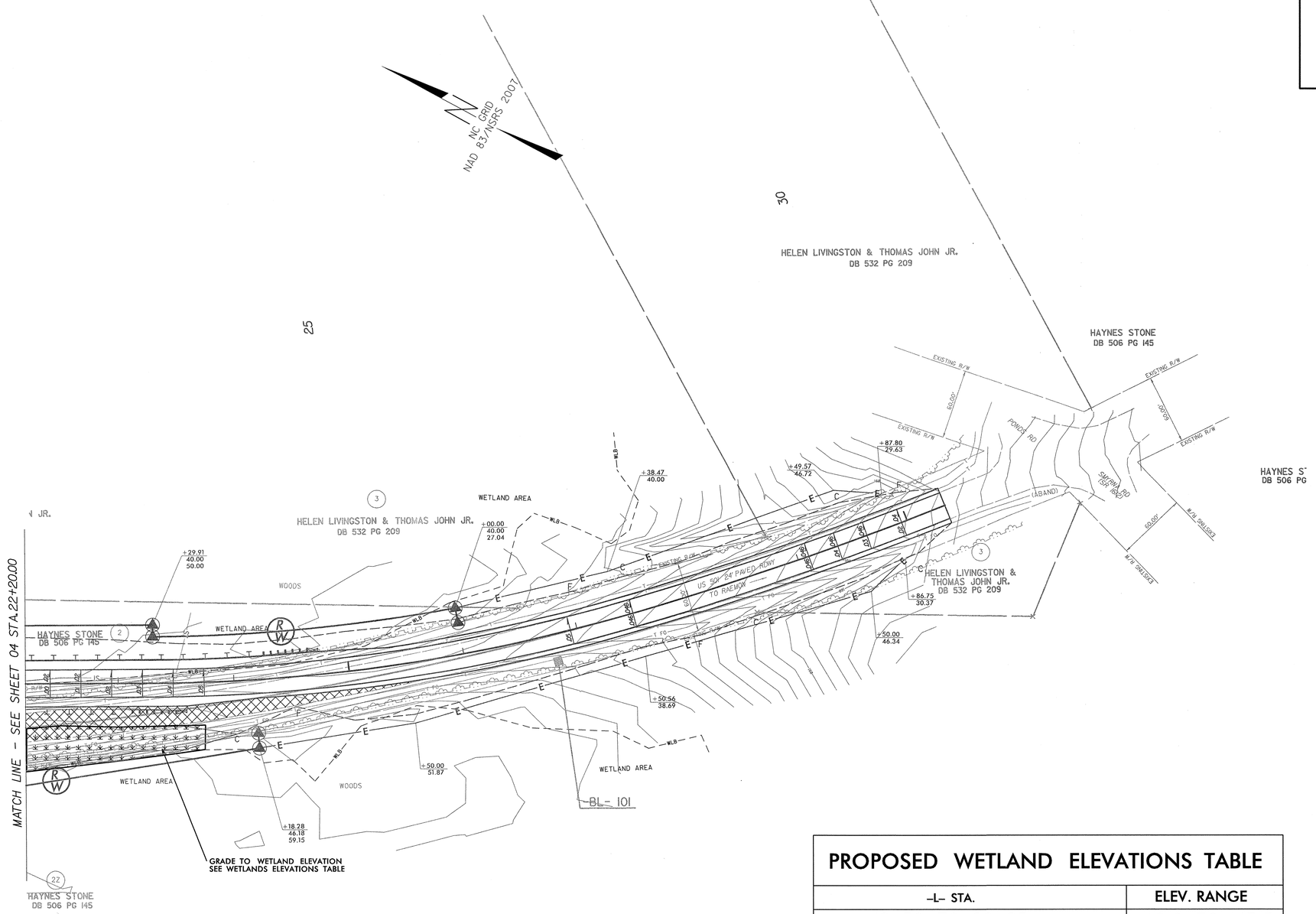
5/14/99

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$DGN$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-5551	WMD-5
R/W SHEET NO.	
	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 33719 ENGINEER BRIAN A. MAZZOCHI 06-20-13

WETLAND MITIGATION EXCAVATION



PROPOSED WETLAND ELEVATIONS TABLE

-L- STA.	ELEV. RANGE
STA. 16+50 TO 20+25	146.0 TO 147.5
STA. 20+25 TO 23+00	146.5 TO 148.0
STA. 23+00 TO 23+80	147.0 TO 148.5
CONFIRM ELEVATIONS WITH FIELD ENGINEER PRIOR TO GRADING	

5/14/99

$$$$SYSTIME$$$$
$$$$USERNAME$$$$DGN$$$$

TIP PROJECT: B-5551

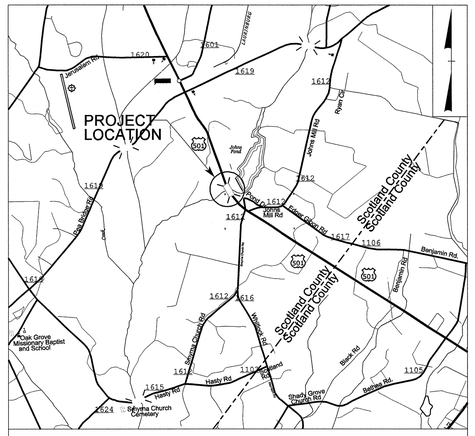
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
B-5551	UO-1

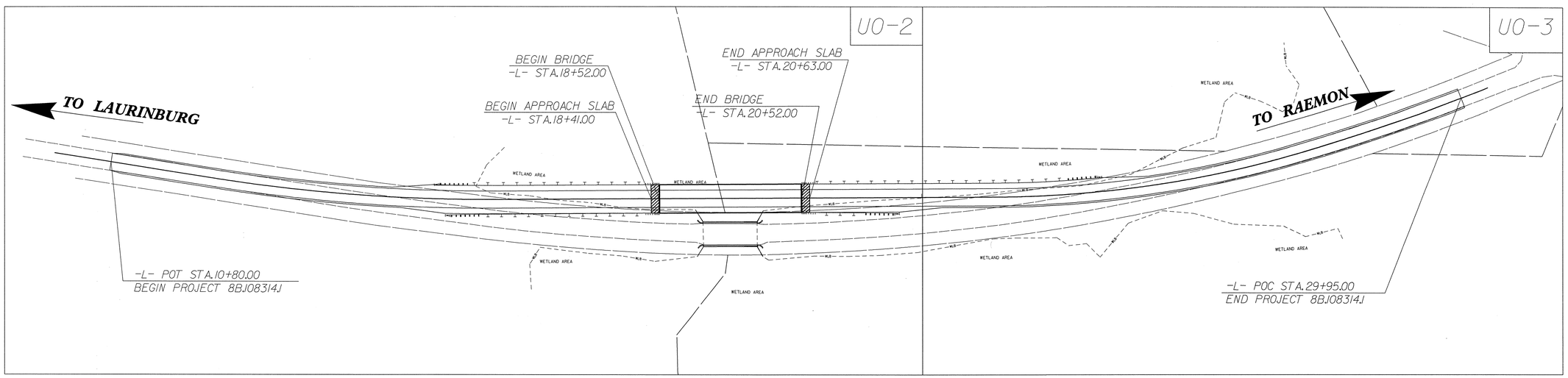
UTILITIES BY OTHERS PLAN
SCOTLAND COUNTY

LOCATION: BRIDGE STR.# 18D OVER LEITH'S CREEK ON US 501 (JOHNS ROAD)

TYPE OF WORK: POWER DISTRIBUTION AND TELEPHONE COMMUNICATIONS RELOCATION



VICINITY MAP



NC GRID NAD 83

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 – UO-3	UTILITIES BY OTHERS PLAN SHEETS

UTILITY OWNERS ON PROJECT

(A) Progress Energy (Power Distribution)
(B) AT&T (Telecommunications)

Baker
Michael Baker Engineering, Inc.
8000 Regency Parkway,
Suite 600
Cary, NC 27518

UTILITIES COORDINATION CONSULTANT
Brandy Creech

PREPARED IN THE OFFICE OF:
DIVISION OF HIGHWAYS
UTILITIES ENGINEERING SECTION
1591 MAIL SERVICES CENTER
RALEIGH NC 27699-1555
PHONE (919) 707-6690
FAX (919) 250-4151

Roger Worthington, P.E. — UTILITIES SECTION ENGINEER
James S. McKee, P.E. — UTILITIES SQUAD LEADER PROJECT ENGINEER

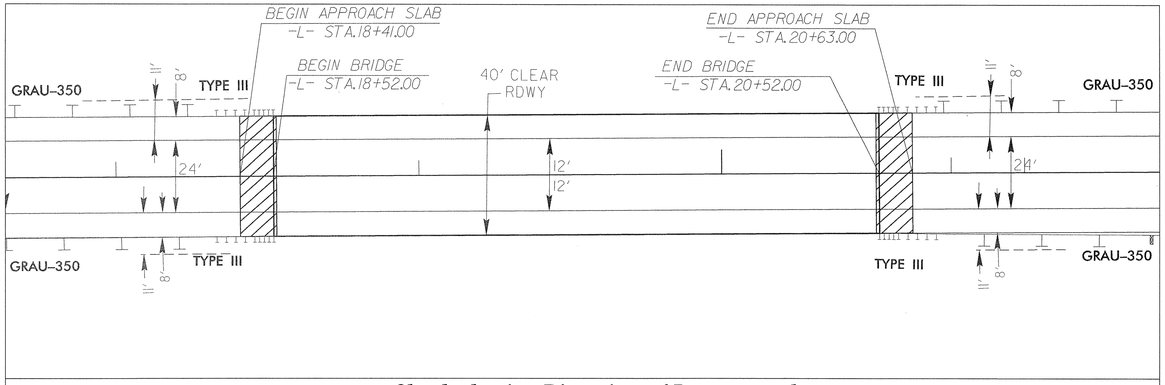
09/08/99
05-APR-2013 10:58
Y:\Projects\NCDOT\Division On-Call SEPI\Scotland 18\Utilities\82-0018d_RDY_tsh_UB0.dgn
CNewsome AT RALEWCNEWSOME

PROJECT REFERENCE NO.	SHEET NO.
B-5551	U0-2
R/W SHEET NO.	4

Baker

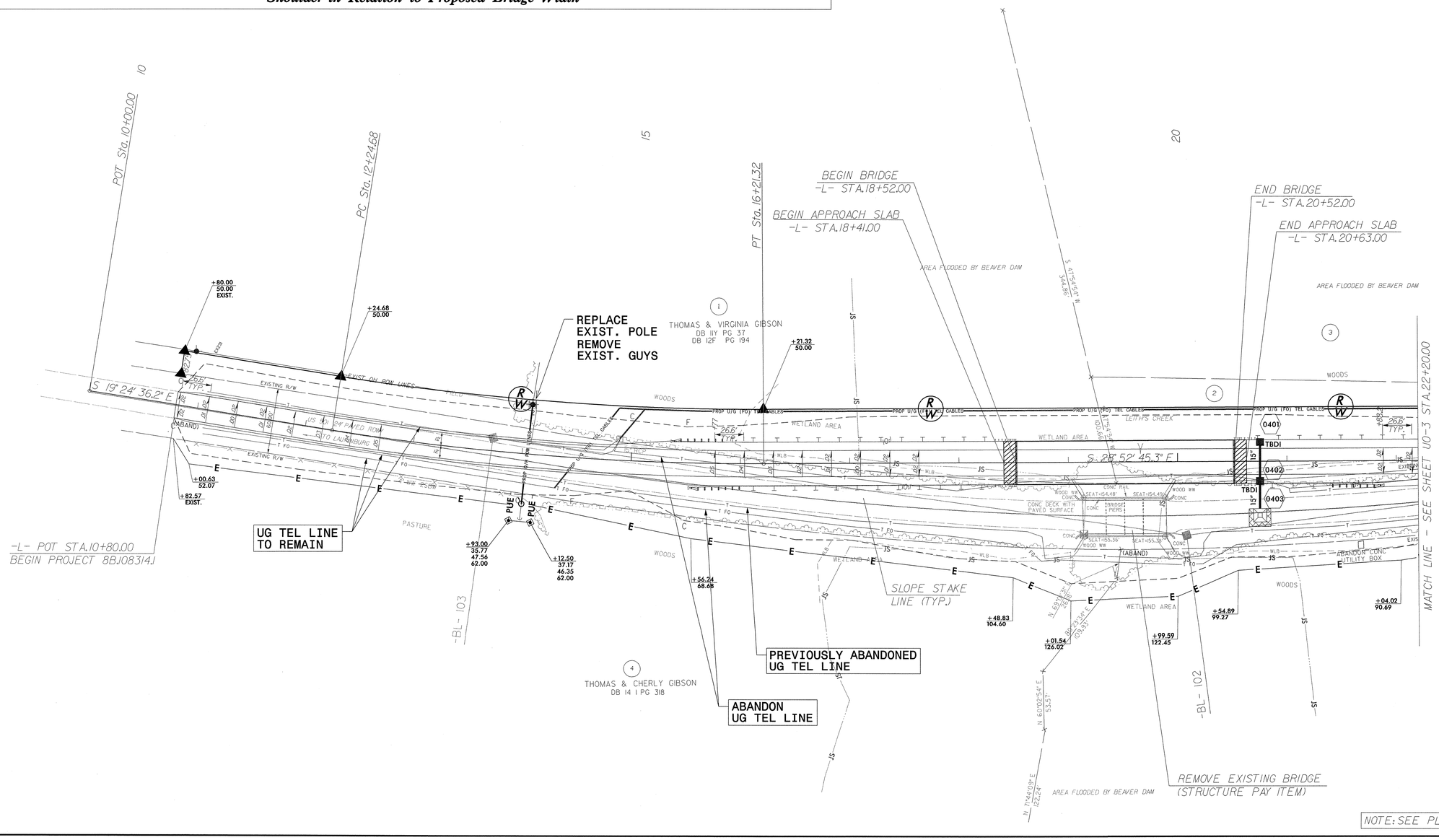
Michael Baker Engineering, Inc.
8000 Regency Parkway,
Suite 600
Cary, NC 27518

UTILITIES BY OTHERS



Sketch showing Dimensions of Pavement and Shoulder in Relation to Proposed Bridge Width

-L-
PI Sta 14+23.45
Δ = 9° 28' 09.1" (LT)
D = 2° 23' 14.4"
L = 396.64'
T = 198.77'
R = 2,400.00'



NOTE: SEE PLAN SHEET 6 FOR PROFILE

REVISIONS

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Newsome, A. RALEIGHNEWSOME

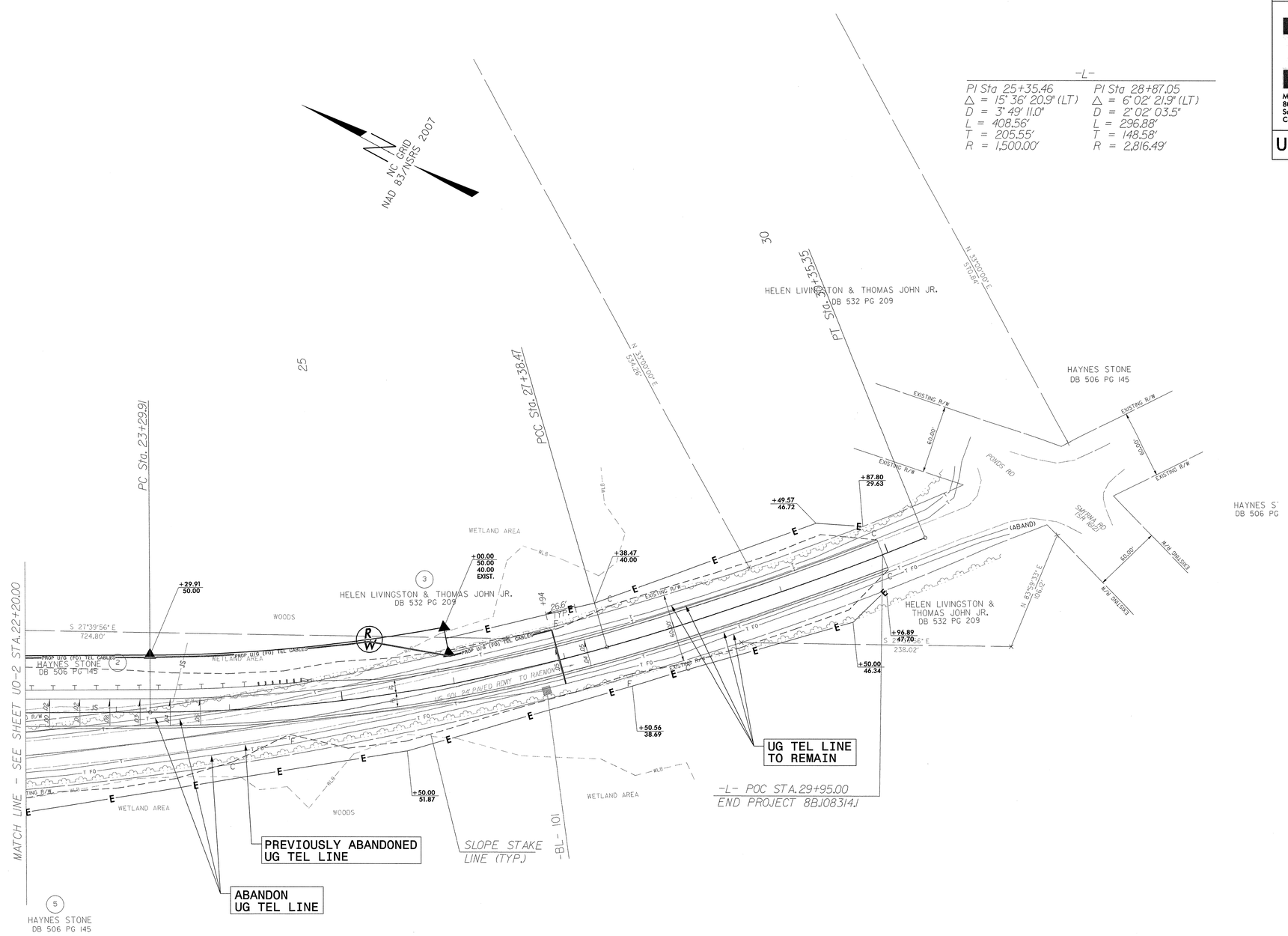
PROJECT REFERENCE NO.	SHEET NO.
B-5551	U0-3
R/W SHEET NO.	5

Baker

Michael Baker Engineering, Inc.
8000 Regency Parkway,
Suite 600
Cary, NC 27518

UTILITIES BY OTHERS

REVISIONS



NOTE: SEE PLAN SHEET 6 FOR PROFILE

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Alexsome AT RALEWINE-WSDME

CROSS SECTION INDEX

X-1 CROSS SECTION INDEX

X-2 THRU X-11 -L-

CROSS-SECTION SUMMARY

IN CUBIC YARDS

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

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT. 5,300 CY OF SELECT GRANULAR MATERIAL, CLASS III WILL BE USED BACKFILL THE UNDERCUT.

LOCATION -L-	UNCLASSIFIED EXCAVATION CY	EMBANKMENT CY	UNDERCUT CY
10+80	0	0	
11+00	0	0	
11+50	161	25	
12+00	136	37	
12+50	116	46	
13+00	105	51	
13+50	100	52	
14+00	92	49	
14+50	77	46	
15+00	47	36	
15+50	30	66	
16+00	105	217	
16+50	247	441	34
17+00	355	647	168
17+50	491	799	219
18+00	648	864	249
18+50	740	943	280
19+00	998	0	89
19+50	611	0	
20+00	648	0	
20+50	1144	0	
21+00	892	407	157
21+50	747	772	241
22+00	659	686	219
22+50	523	595	198
23+00	402	484	186
23+50	300	354	165
24+00	113	237	14
24+50	0	160	
25+00	0	118	
25+50	0	105	
26+00	0	92	
26+50	0	67	
27+00	1	49	
27+50	3	36	
28+00	8	32	
28+50	10	39	
29+00	9	46	
29+50	12	42	
30+00	5	20	
30+35	0	0	
TOTAL	10,535	8,660	2,217

6/21/00

$$$$$SYSTIME$$$$
$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$
$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
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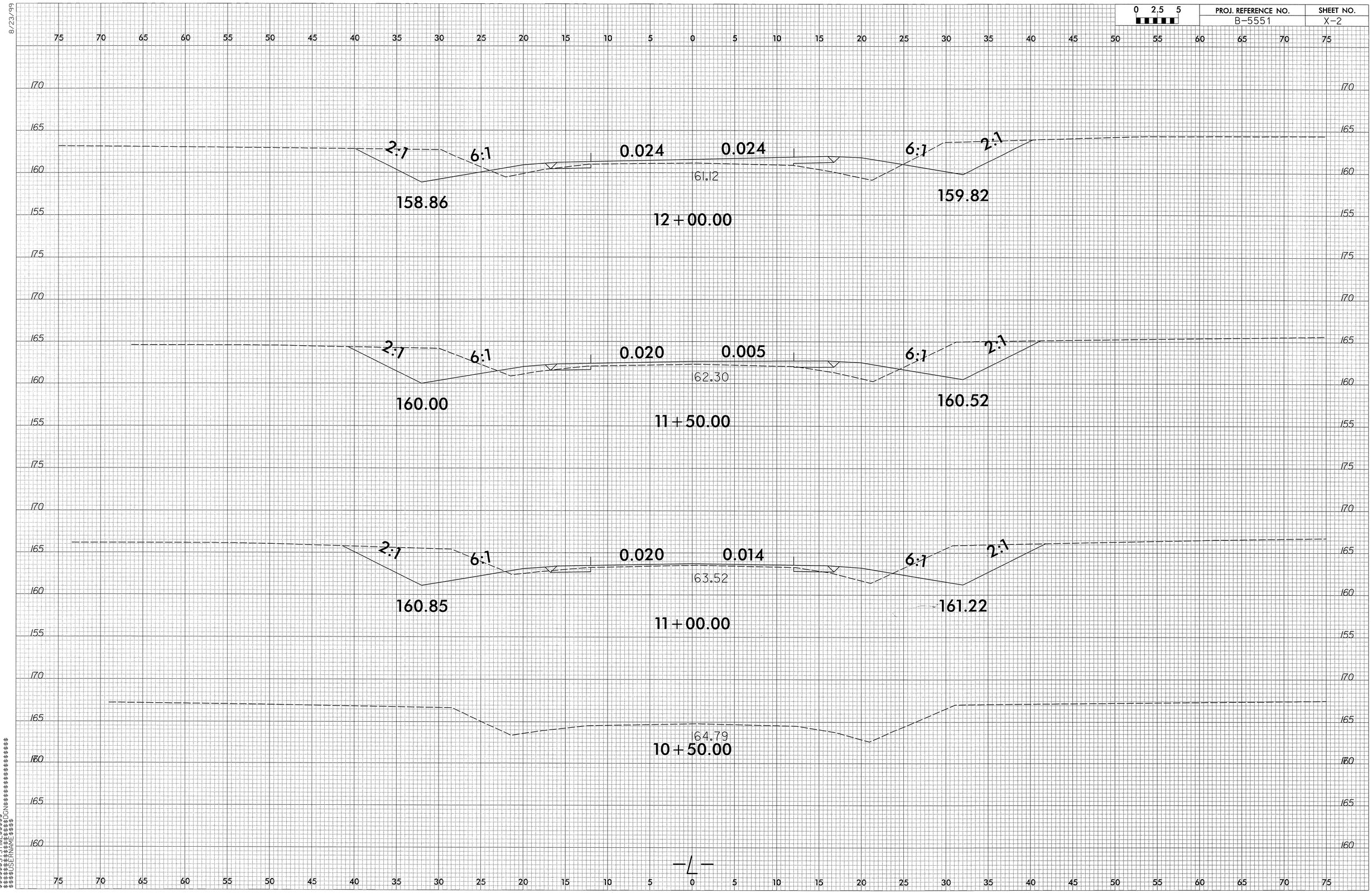

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8/23/99

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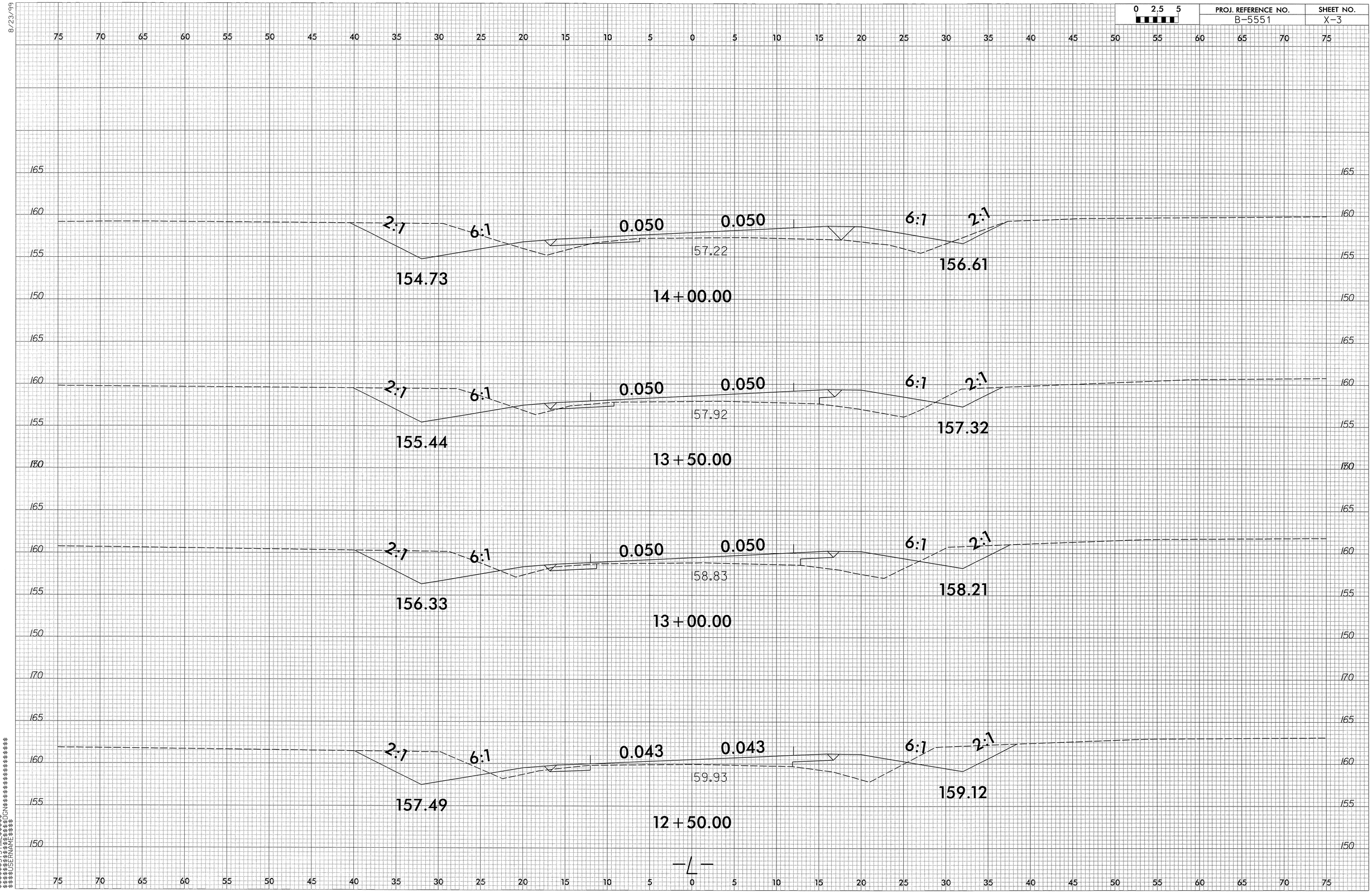

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8/23/99

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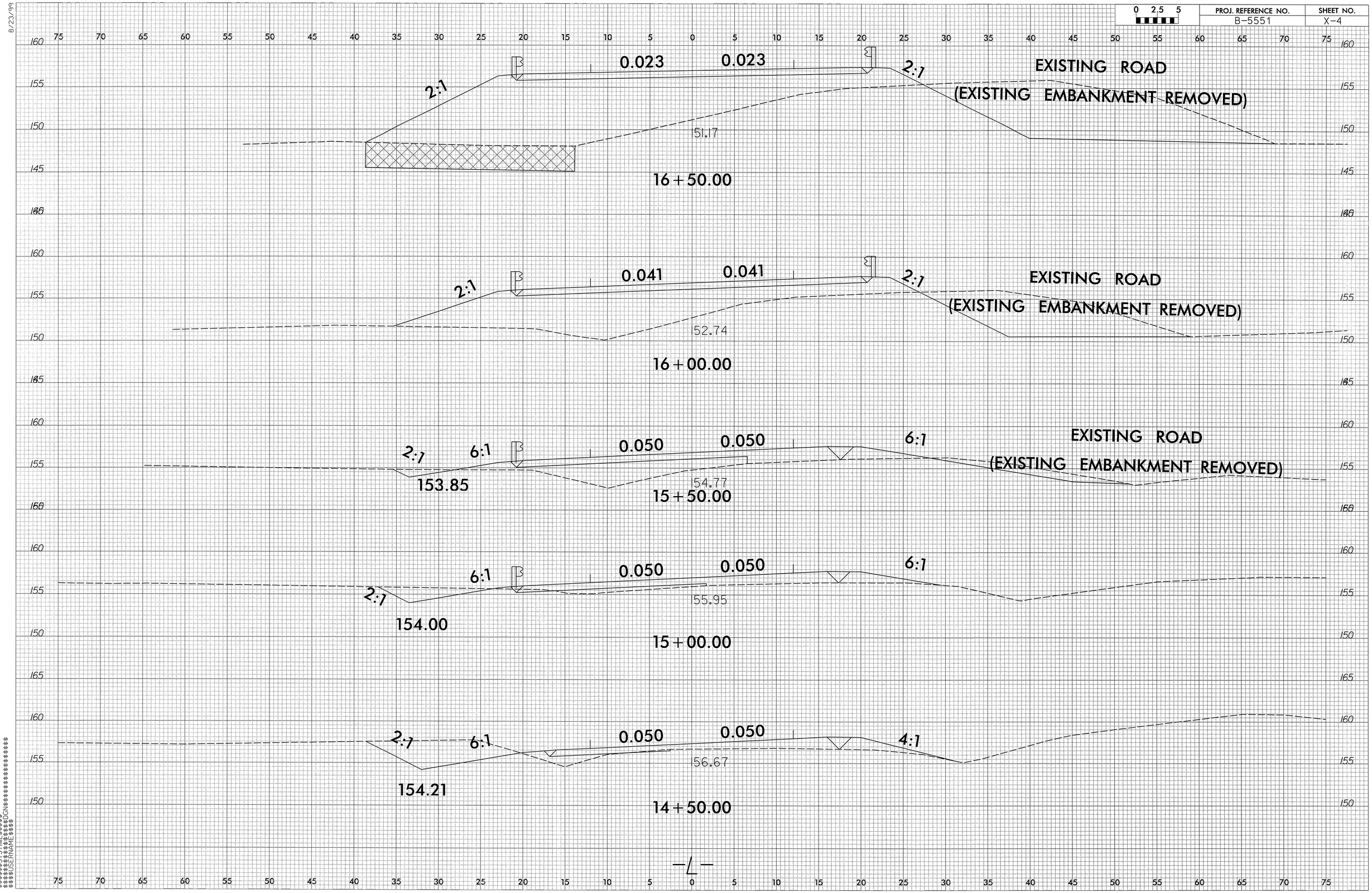

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8/23/99

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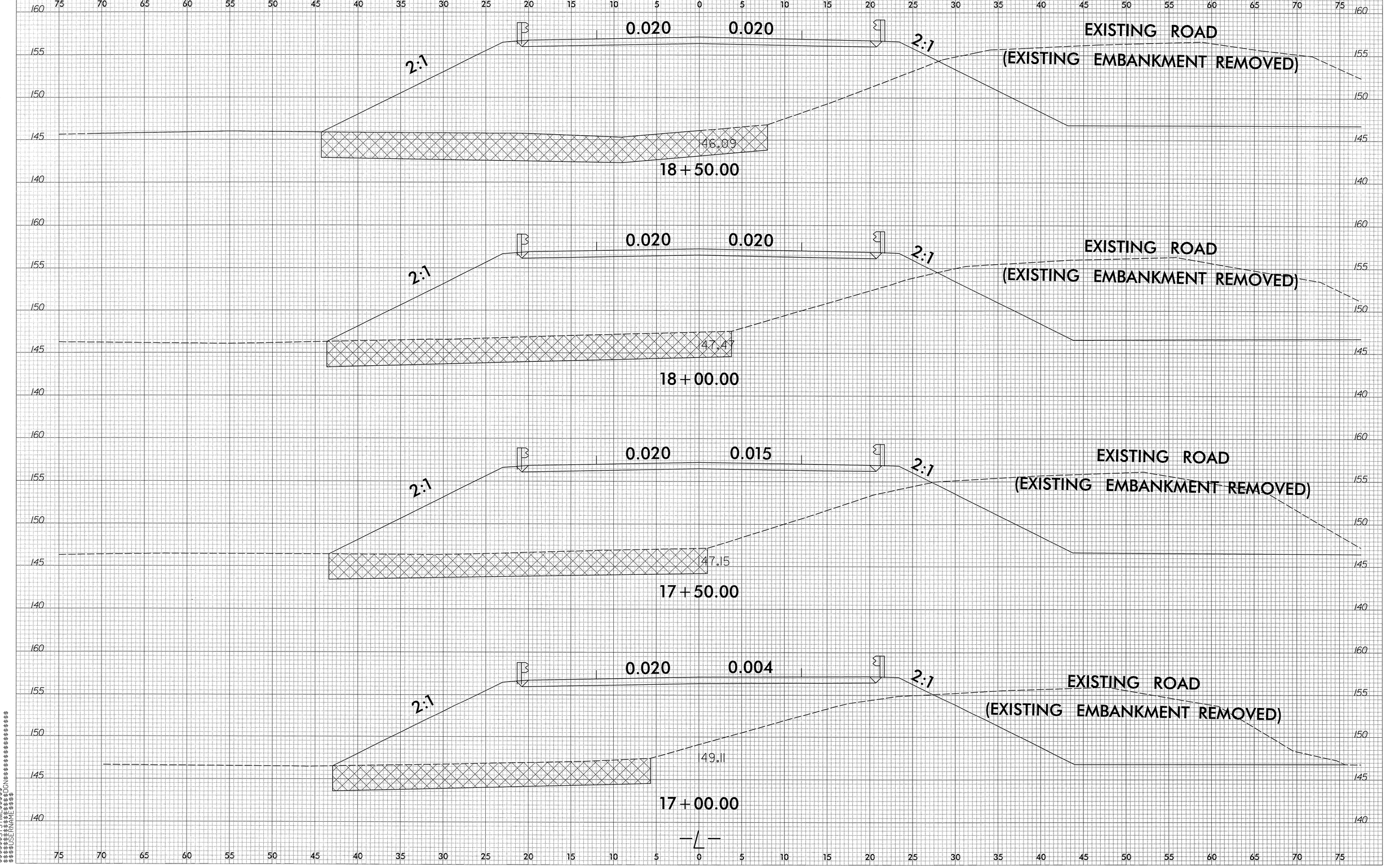

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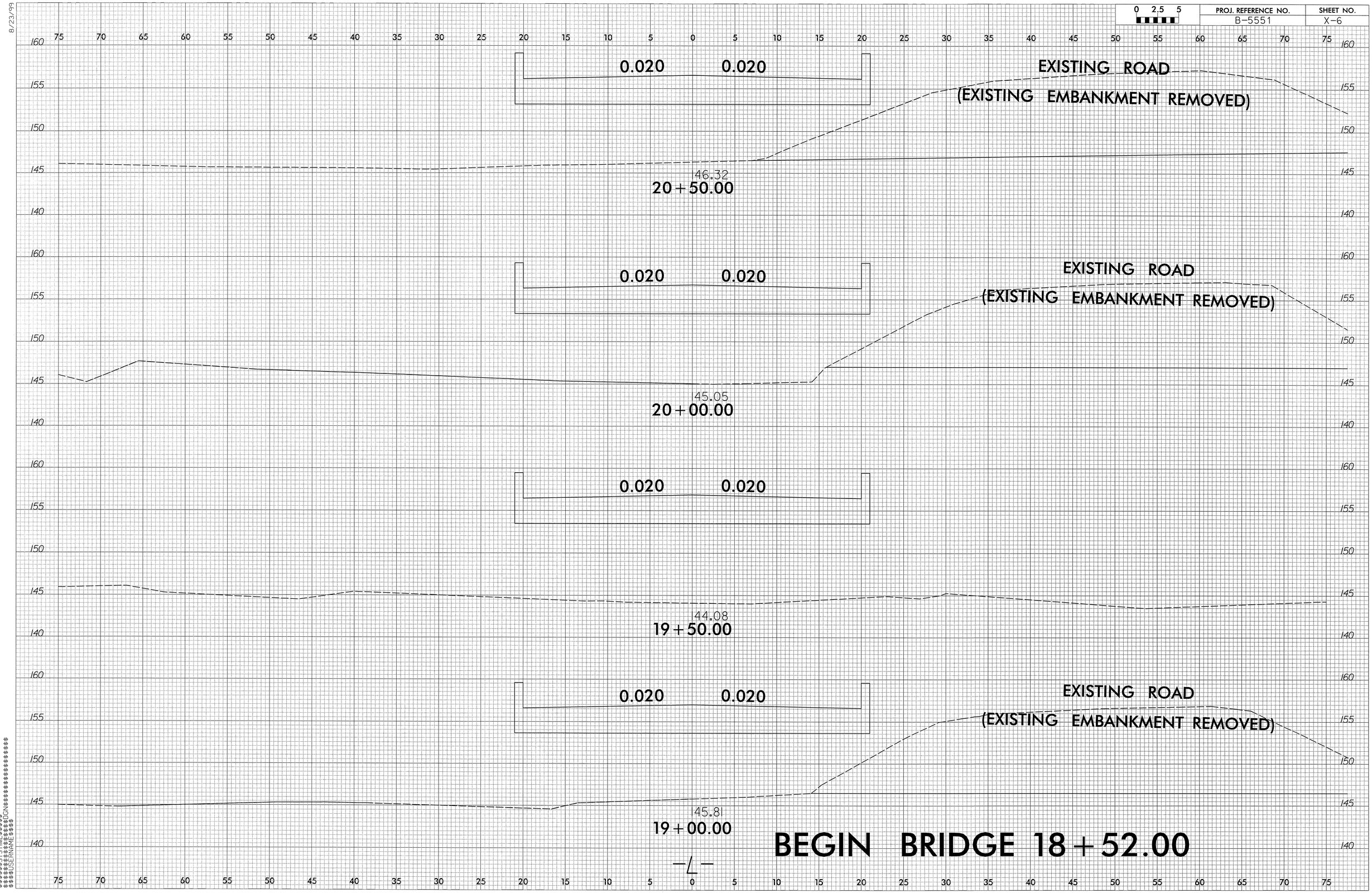

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	B-5551	X-7

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-5551	X-8

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8/23/99

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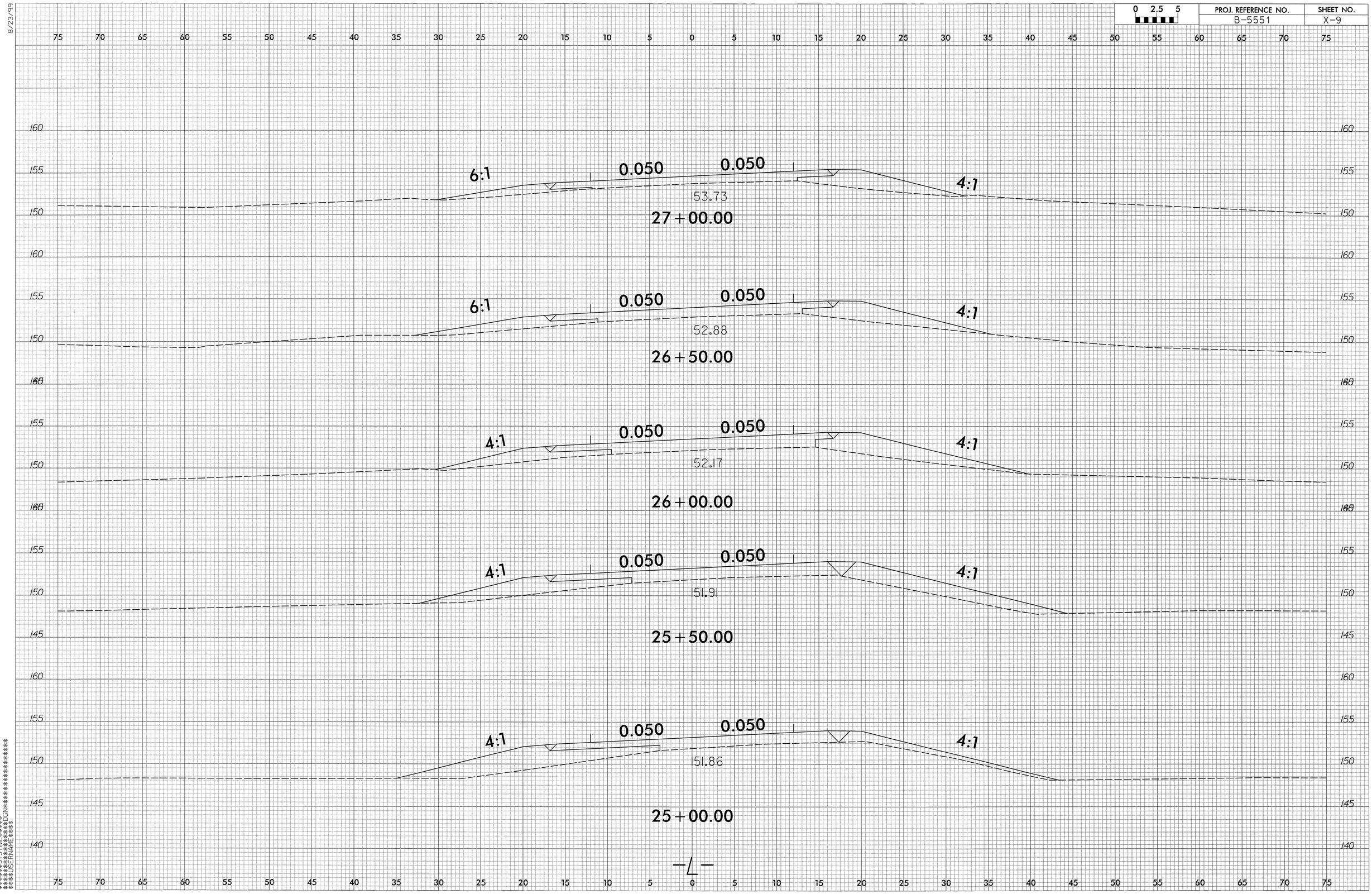

$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$ENAME
$$$$CELL

8/23/99

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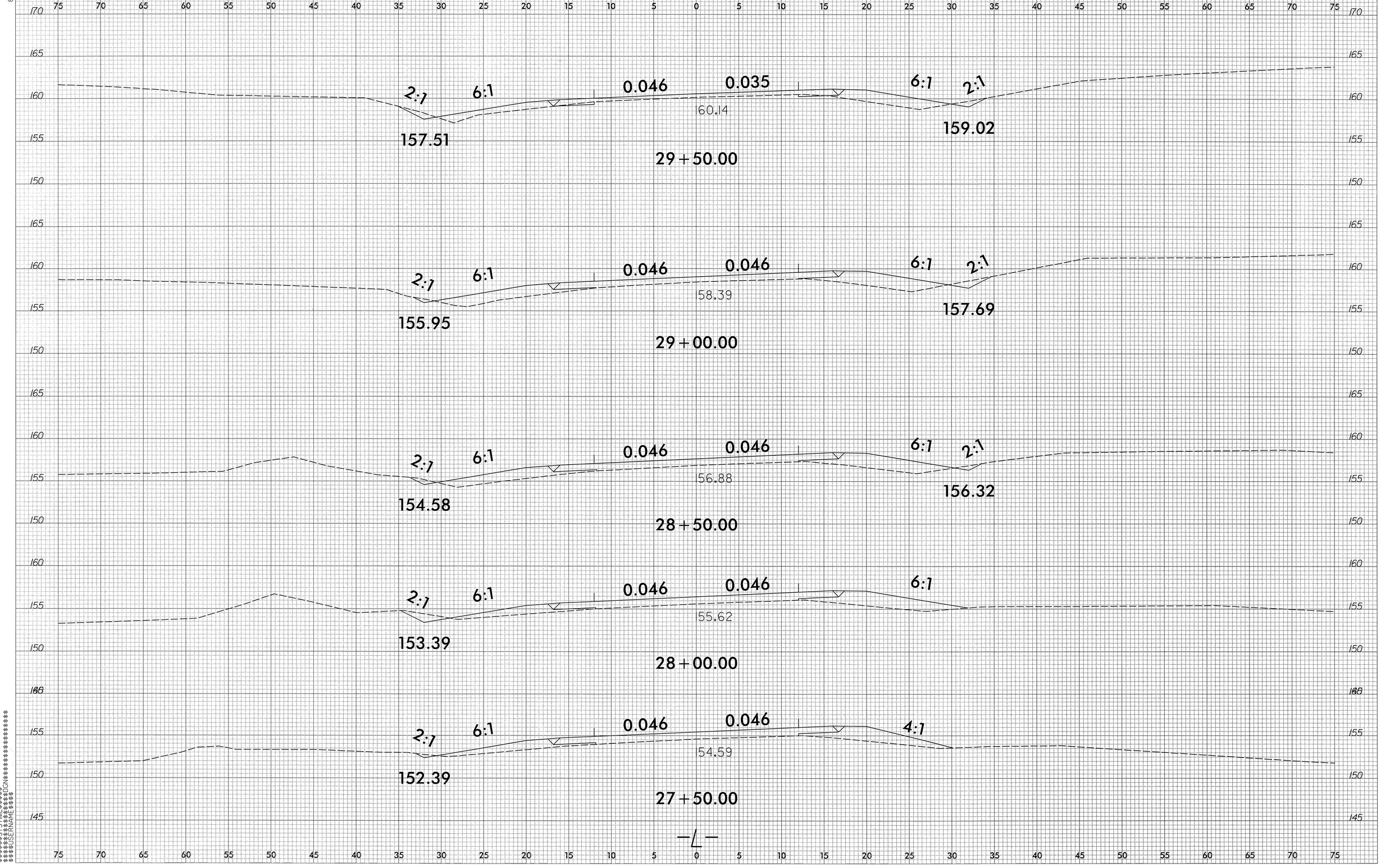

SYSTIME$$$$
SCREEN$$$$
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8/23/99

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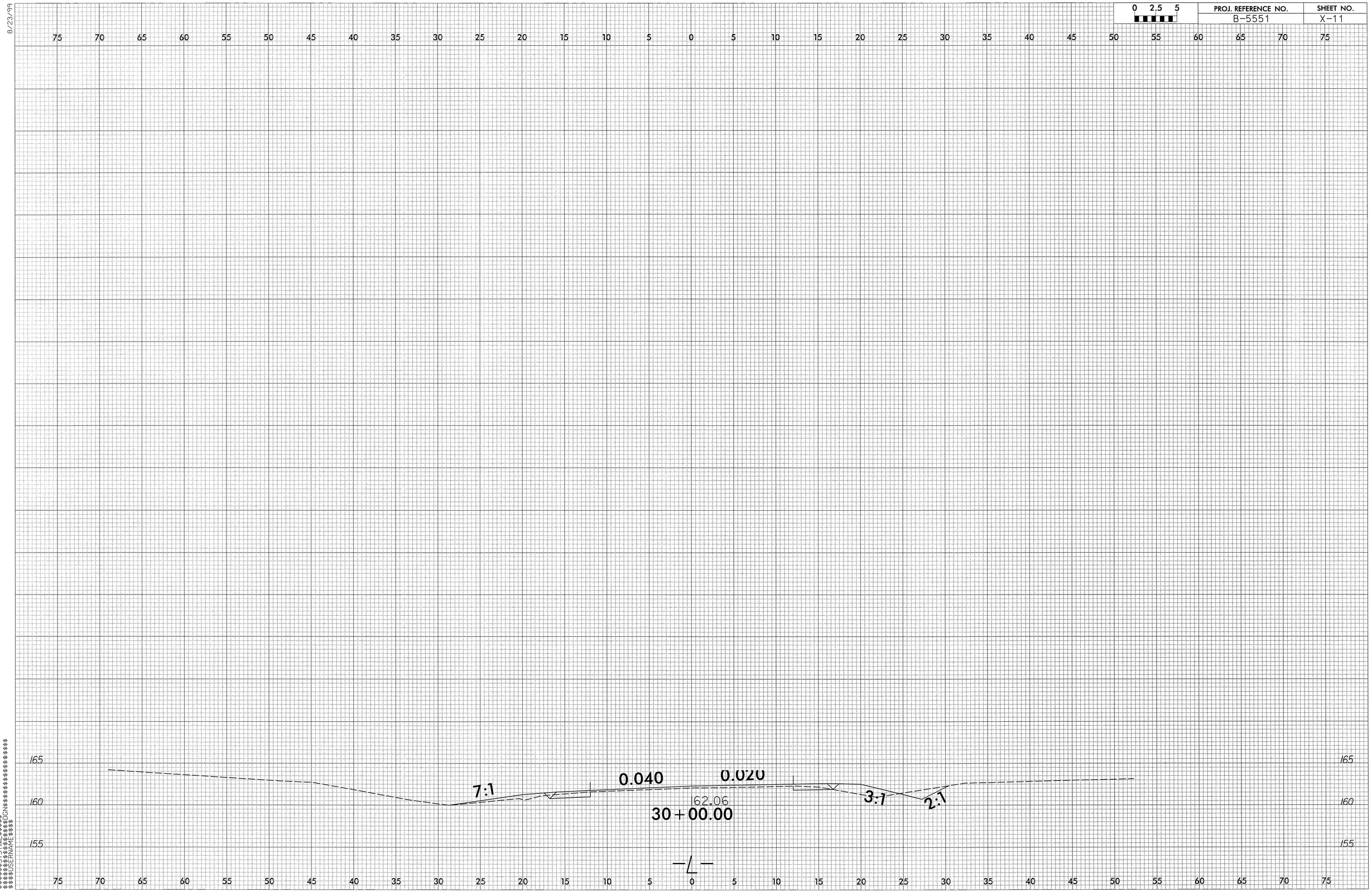

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SCALE$$$$$$$$$$