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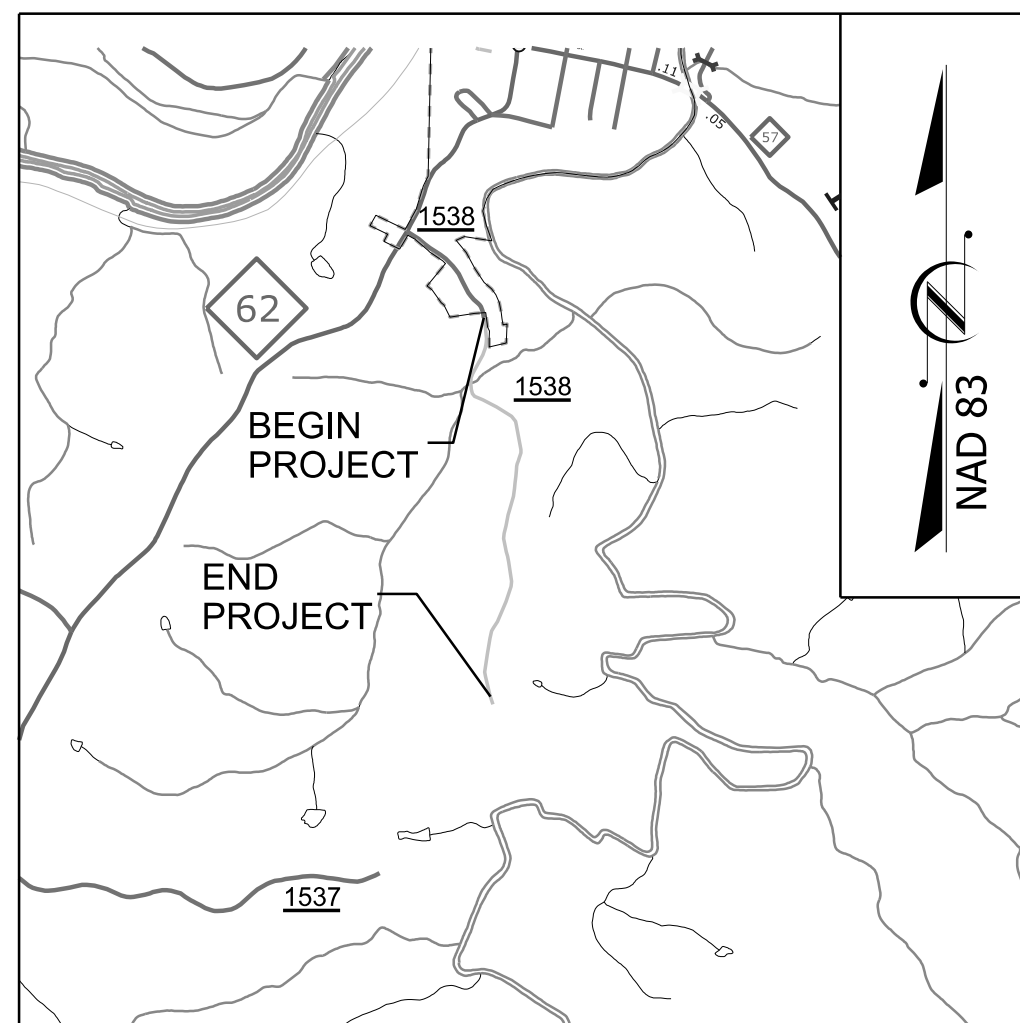
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numbers appear on each page, on the dates appearing
with their signature on that page.**

**This file or an individual page
shall not be considered a certified document.**

PROJECT: 51362

CONTRACT: DG00674

See Sheet 1A For Index of Sheets



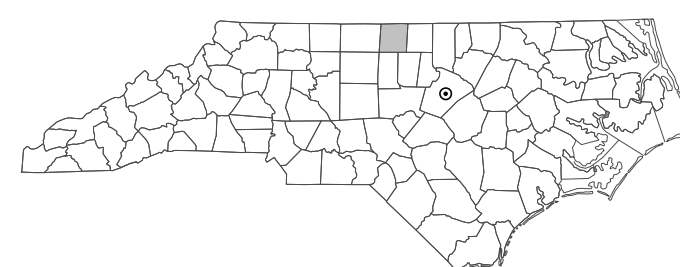
VICINITY MAP (NTS)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CASWELL COUNTY

LOCATION: SR 1538 (DOLL BRANCH ROAD) IMPROVEMENTS

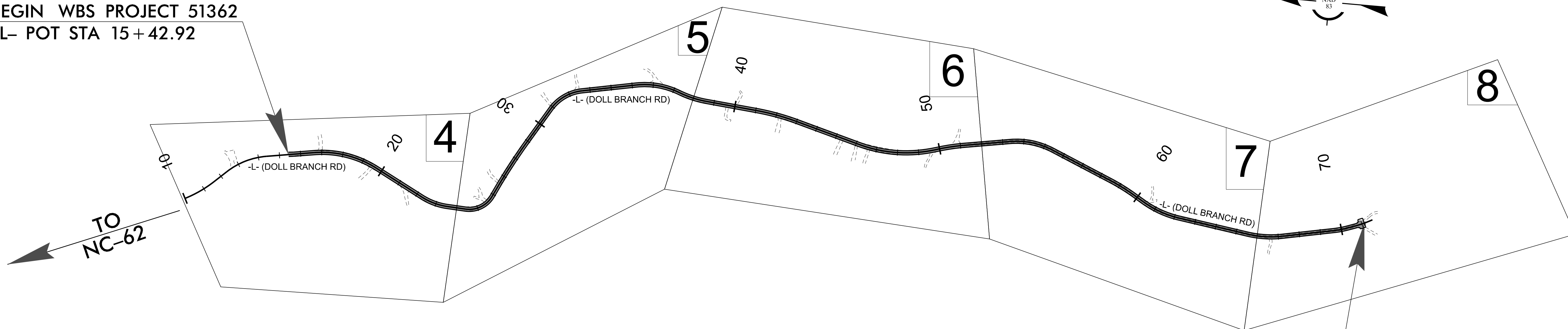
TYPE OF WORK: GRADING, DRAINAGE, AND BASE



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	51362	1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
51362	N/A	CONST.	

BEGIN WBS PROJECT 51362

-L- POT STA 15+42.92

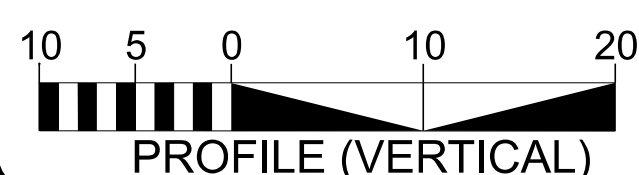
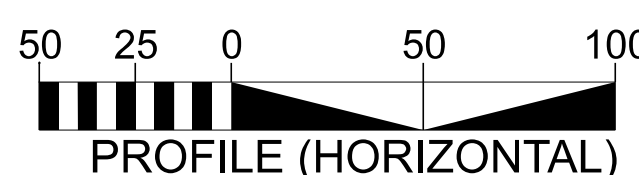
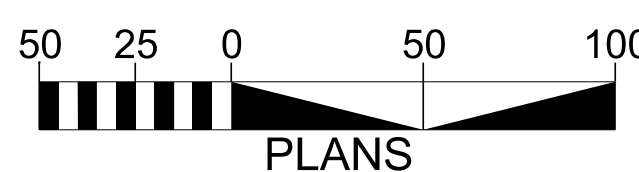


END WBS PROJECT 51362

-L- POC STA 71+12.36

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2025 = 765
ADT 2045 = 846
K = N/A %
D = N/A %
T = N/A % *
V = 30 MPH
* TTST =N/A DUAL N/A
FUNC CLASS =
LOCAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY WBS PROJECT 51362 = 1.055 MILES
TOTAL LENGTH OF WBS PROJECT 51362 = 1.055 MILES

Prepared in the Office of:
DIVISION OF HIGHWAYS
1584 Yanceyville St. Greensboro, NC 27405

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
FEBRUARY 24, 2025

LETTING DATE:
JULY 17, 2025

BONNIE CAUDILL
PROJECT ENGINEER

NEIL KEARNS
PROJECT DESIGN ENGINEER

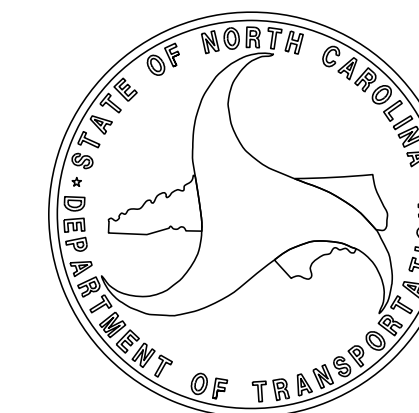
TRUNG NGUYEN, P.E.
NCDOT CONTACT

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.
ROADWAY DESIGN ENGINEER

Signed by: *Trung Nguyen*

P.E.



INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
3B-1	ROADWAY SUMMARIES
4 THRU 8	PLAN SHEETS
9 THRU 13	PROFILE SHEETS
PMP1 THRU PMP-6	PAVEMENT MARKING PLANS
EC-0 THRU EC-7	EROSION CONTROL PLANS
UO-1 THRU UO-6	UTILITIES BY OTHERS PLANS
X-1 THRU X-57	CROSS-SECTIONS

EFF. 01-16-2024
REV.

2024 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Contracts Standards and Development Unit - N. C. Department of Transportation - Raleigh, N. C., Dated January 16, 2024 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
235.01	Embankment Monitoring
240.01	Guide for Berm Ditch Construction
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation (Use Details in Lieu of Standards for Sheets 1 and 2 of 2)
310.10	Driveway Pipe Construction
DIVISION 8 - INCIDENTALS	
862.01	Guardrail Placement (Use Details in Lieu of Standards for Sheets 4, 6, 12, and 14 of 15)
862.02	Guardrail Installation
876.01	Rip Rap in Channels and Ditches
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

GENERAL NOTES: 2024 SPECIFICATIONS
EFFECTIVE: 01-16-2024
REVISED:

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.

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.

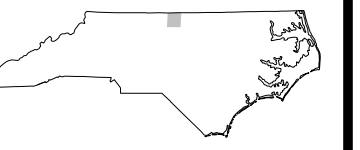
SUBSURFACE PLANS:

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

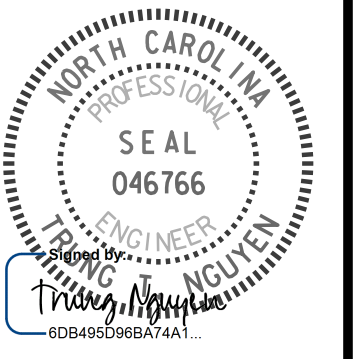
UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE:
TOWN OF MILTON
BRIGHTSPEED
DUKE ENERGY
CHARTER

51362
4R01 | IA
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
CASWELL COUNTY



DIVISION 7
ROADWAY DESIGN
ENGINEER



PREPARED BY



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

Note: Not to Scale

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS
CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

Table listing symbols for boundaries and property: State Line, County Line, Township Line, City Line, Reservation Line, Property Line, Existing Iron Pin (EIP), Computed Property Corner, Existing Concrete Monument (ECM), Parcel / Sequence Number, Existing Fence Line, Proposed Woven Wire Fence, Proposed Chain Link Fence, Proposed Barbed Wire Fence, Existing Wetland Boundary, Proposed Wetland Boundary, Existing Endangered Animal Boundary, Existing Endangered Plant Boundary, Existing Historic Property Boundary, Known Contamination Area: Soil, Potential Contamination Area: Soil, Known Contamination Area: Water, Potential Contamination Area: Water, Contaminated Site: Known or Potential.

BUILDINGS AND OTHER CULTURE:

Table listing symbols for buildings and other culture: Gas Pump Vent or U/G Tank Cap, Sign, Well, Small Mine, Foundation, Area Outline, Cemetery, Building, School, Church, Dam.

HYDROLOGY:

Table listing symbols for hydrology: Stream or Body of Water, Hydro, Pool or Reservoir, Jurisdictional Stream, Buffer Zone 1, Buffer Zone 2, Flow Arrow, Disappearing Stream, Spring, Wetland, Proposed Lateral, Tail, Head Ditch, False Sump.

RAILROADS:

Table listing symbols for railroads: Standard Gauge, RR Signal Milepost, Switch, RR Abandoned, RR Dismantled.

RIGHT OF WAY & PROJECT CONTROL:

Table listing symbols for right of way and project control: Primary Horiz Control Point, Primary Horiz and Vert Control Point, Secondary Horiz and Vert Control Point, Vertical Benchmark, Existing Right of Way Monument, Proposed Right of Way Monument (Rebar and Cap), Proposed Right of Way Monument (Concrete), Existing Permanent Easement Monument, Proposed Permanent Easement Monument (Rebar and Cap), Existing C/A Monument, Proposed C/A Monument (Rebar and Cap), Proposed C/A Monument (Concrete), Existing Right of Way Line, Proposed Right of Way Line, Existing Control of Access Line, Proposed Control of Access Line, Proposed ROW and CA Line, Existing Easement Line, Proposed Temporary Construction Easement, Proposed Temporary Drainage Easement, Proposed Permanent Drainage Easement, Proposed Permanent Drainage/Utility Easement, Proposed Permanent Utility Easement, Proposed Temporary Utility Easement, Proposed Aerial Utility Easement.

ROADS AND RELATED FEATURES:

Table listing symbols for roads and related features: Existing Edge of Pavement, Existing Curb, Proposed Slope Stakes Cut, Proposed Slope Stakes Fill, Proposed Curb Ramp, Existing Metal Guardrail, Proposed Guardrail, Existing Cable Guiderail, Proposed Cable Guiderail, Equality Symbol, Pavement Removal.

VEGETATION:

Table listing symbols for vegetation: Single Tree, Single Shrub, Hedge.

Table listing symbols for existing structures: Woods Line, Orchard, Vineyard.

EXISTING STRUCTURES:

Table listing symbols for existing structures: MAJOR: Bridge, Tunnel or Box Culvert, Bridge Wing Wall, Head Wall and End Wall; MINOR: Head and End Wall, Pipe Culvert, Footbridge, Drainage Box: Catch Basin, DI or JB, Paved Ditch Gutter, Storm Sewer Manhole, Storm Sewer.

UTILITIES:

* SUE - Subsurface Utility Engineering
LOS - Level of Service - A, B, C or D (Accuracy)

Table listing symbols for utilities: POWER: Existing Power Pole, Proposed Power Pole, Existing Joint Use Pole, Proposed Joint Use Pole, Power Manhole, Power Line Tower, Power Transformer, U/G Power Cable Hand Hole, H-Frame Pole, U/G Power Line Test Hole (SUE - LOS A)*, U/G Power Line (SUE - LOS B)*, U/G Power Line (SUE - LOS C)*, U/G Power Line (SUE - LOS D)*.

TELEPHONE:

Table listing symbols for telephone: Existing Telephone Pole, Proposed Telephone Pole, Telephone Manhole, Telephone Pedestal, Telephone Cell Tower, U/G Telephone Cable Hand Hole, U/G Telephone Test Hole (SUE - LOS A)*, U/G Telephone Cable (SUE - LOS B)*, U/G Telephone Cable (SUE - LOS C)*, U/G Telephone Cable (SUE - LOS D)*, U/G Telephone Conduit (SUE - LOS B)*, U/G Telephone Conduit (SUE - LOS C)*, U/G Telephone Conduit (SUE - LOS D)*, U/G Fiber Optics Cable (SUE - LOS B)*, U/G Fiber Optics Cable (SUE - LOS C)*, U/G Fiber Optics Cable (SUE - LOS D)*.

WATER:

Table listing symbols for water: Water Manhole, Water Meter, Water Valve, Water Hydrant, U/G Water Line Test Hole (SUE - LOS A)*, U/G Water Line (SUE - LOS B)*, U/G Water Line (SUE - LOS C)*, U/G Water Line (SUE - LOS D)*, Above Ground Water Line.

TV:

Table listing symbols for TV: TV Pedestal, TV Tower, U/G TV Cable Hand Hole, U/G TV Test Hole (SUE - LOS A)*, U/G TV Cable (SUE - LOS B)*, U/G TV Cable (SUE - LOS C)*, U/G TV Cable (SUE - LOS D)*, U/G Fiber Optic Cable (SUE - LOS B)*, U/G Fiber Optic Cable (SUE - LOS C)*, U/G Fiber Optic Cable (SUE - LOS D)*.

GAS:

Table listing symbols for gas: Gas Valve, Gas Meter, U/G Gas Line Test Hole (SUE - LOS A)*, U/G Gas Line (SUE - LOS B)*, U/G Gas Line (SUE - LOS C)*, U/G Gas Line (SUE - LOS D)*, Above Ground Gas Line.

SANITARY SEWER:

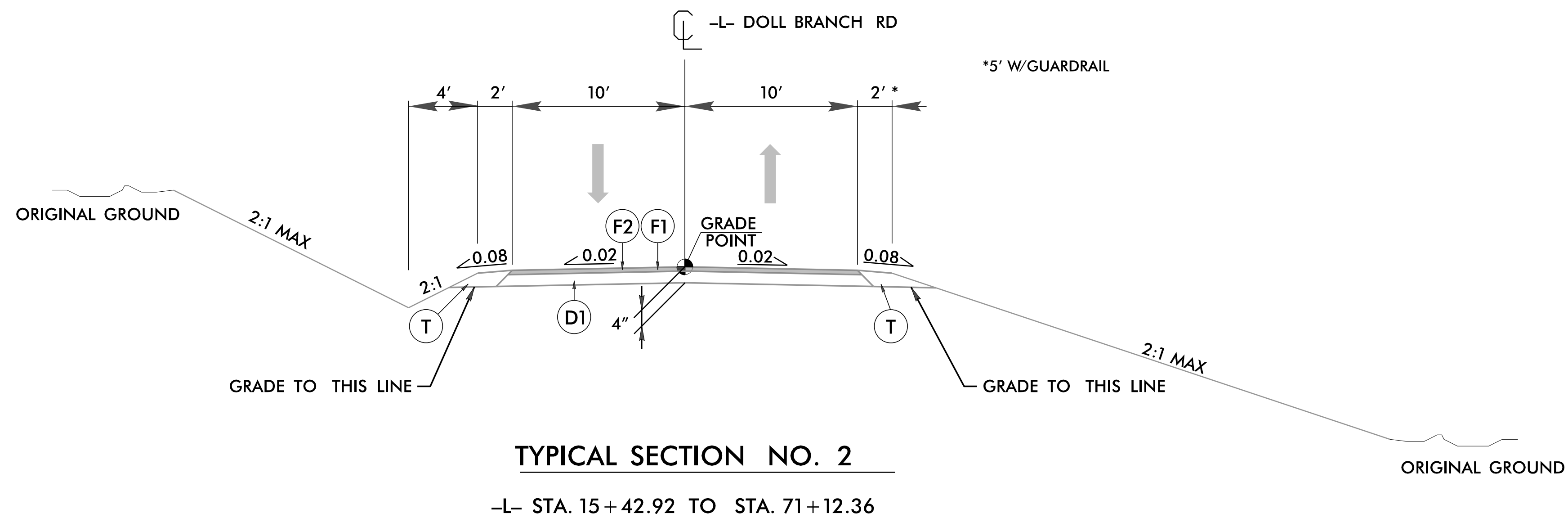
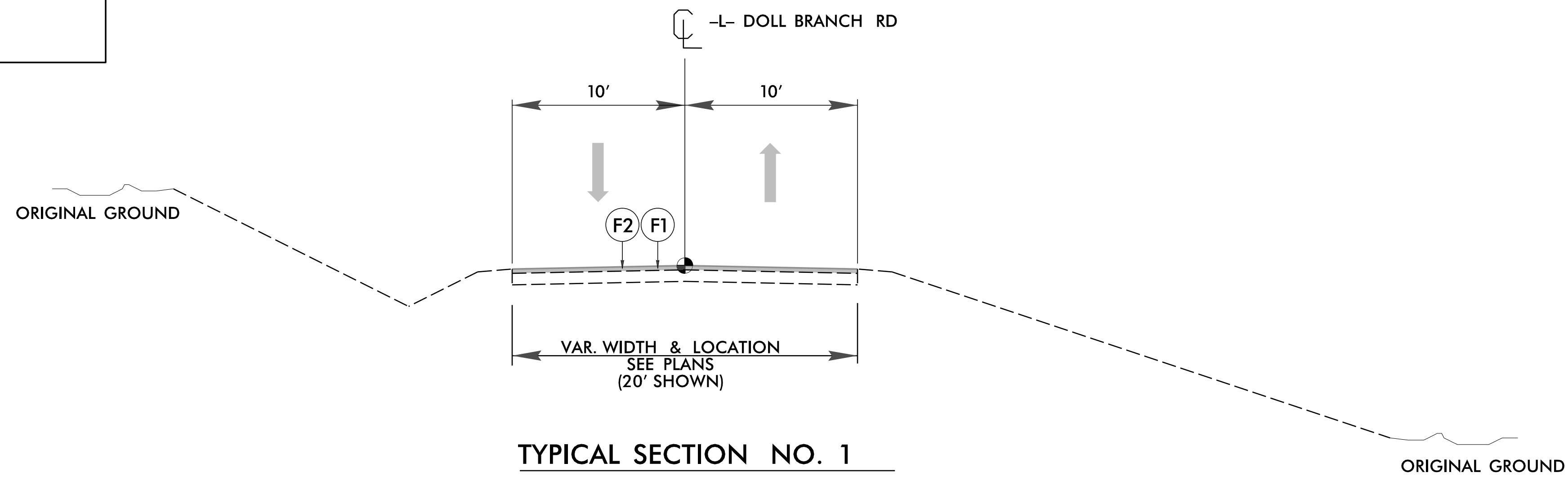
Table listing symbols for sanitary sewer: Sanitary Sewer Manhole, Sanitary Sewer Cleanout, U/G Sanitary Sewer Line, Above Ground Sanitary Sewer, SS Force Main Line Test Hole (SUE - LOS A)*, SS Force Main Line (SUE - LOS B)*, SS Force Main Line (SUE - LOS C)*, SS Force Main Line (SUE - LOS D)*.

MISCELLANEOUS:

Table listing symbols for miscellaneous: Utility Pole, Utility Pole with Base, Utility Located Object, Utility Traffic Signal Box, Utility Unknown U/G Line (SUE - LOS B)*, U/G Tank; Water, Gas, Oil, Underground Storage Tank, Approx. Loc., A/G Tank; Water, Gas, Oil, Geoenvironmental Boring, Abandoned According to Utility Records, End of Information.

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
F1	PROPOSED ASPHALT SURFACE TREATMENT, DOUBLE SEAL
F2	PROPOSED FOG SEAL
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
T	EARTH MATERIAL

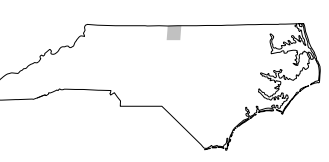
NOTE: ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



51362

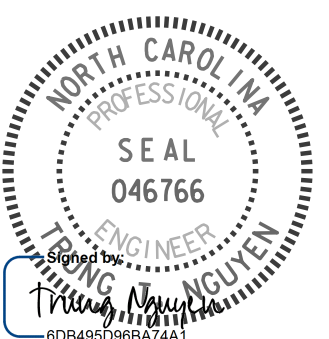
4R01 2A-1

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
CASWELL COUNTY

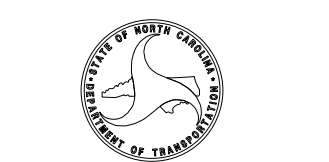


DIVISION 7

ROADWAY DESIGN
ENGINEER

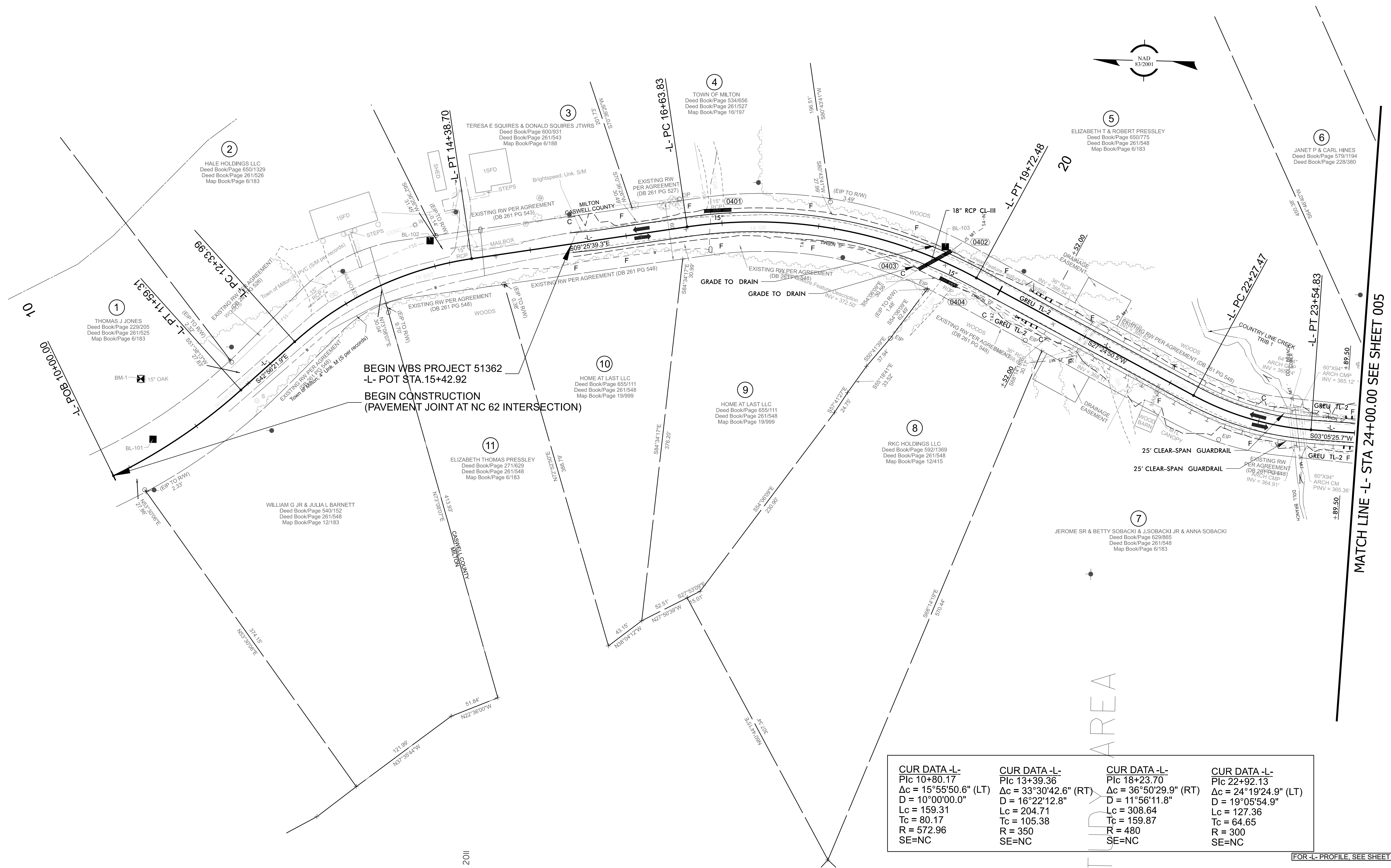
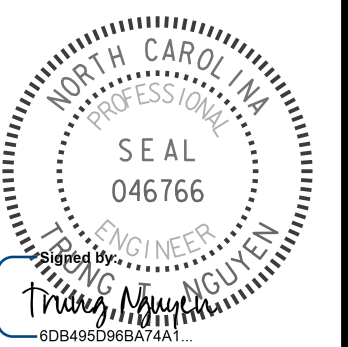
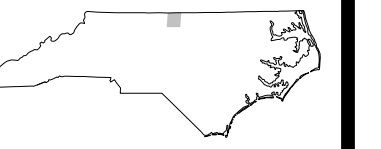


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REVISIONS



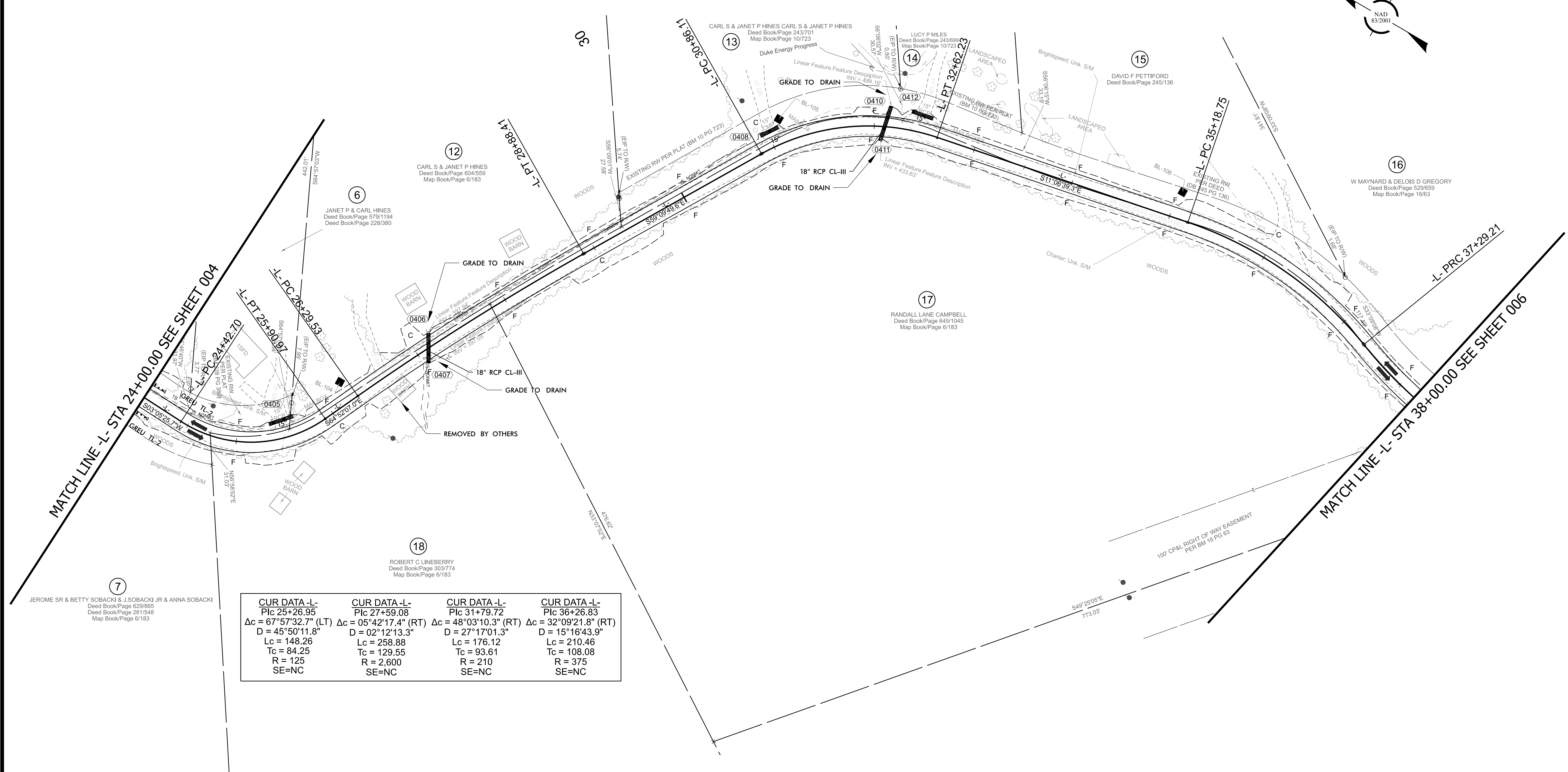
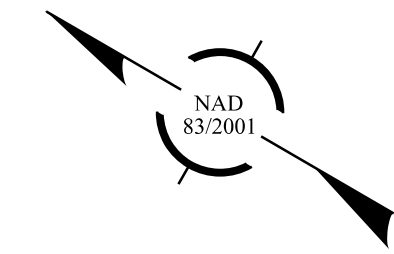
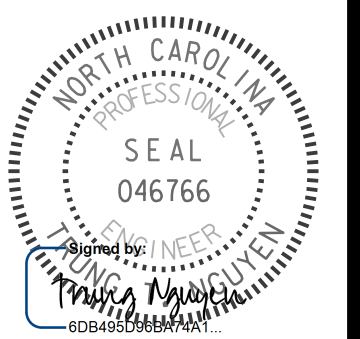
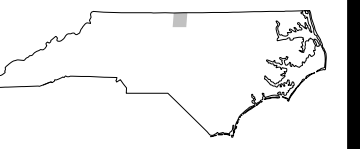
BEGIN WBS PROJECT 51362
-L- POT STA. 15+42.92
BEGIN CONSTRUCTION
(PAVEMENT JOINT AT NC 62 INTERSECTION)

MATCH LINE -L- STA 24+00.00 SEE SHEET 005

CUR DATA -L- Plc 10+80.17 Δc = 15°55'50.6" (LT) D = 10°00'00.0" Lc = 159.31 Tc = 80.17 R = 572.96 SE=NC	CUR DATA -L- Plc 13+39.36 Δc = 33°30'42.6" (RT) D = 16°22'12.8" Lc = 204.71 Tc = 105.38 R = 350 SE=NC	CUR DATA -L- Plc 18+23.70 Δc = 36°50'29.9" (RT) D = 11°56'11.8" Lc = 308.64 Tc = 159.87 R = 480 SE=NC	CUR DATA -L- Plc 22+92.13 Δc = 24°19'24.9" (LT) D = 19°05'54.9" Lc = 127.36 Tc = 64.65 R = 300 SE=NC
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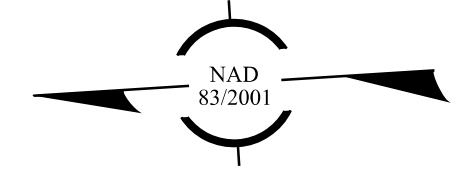
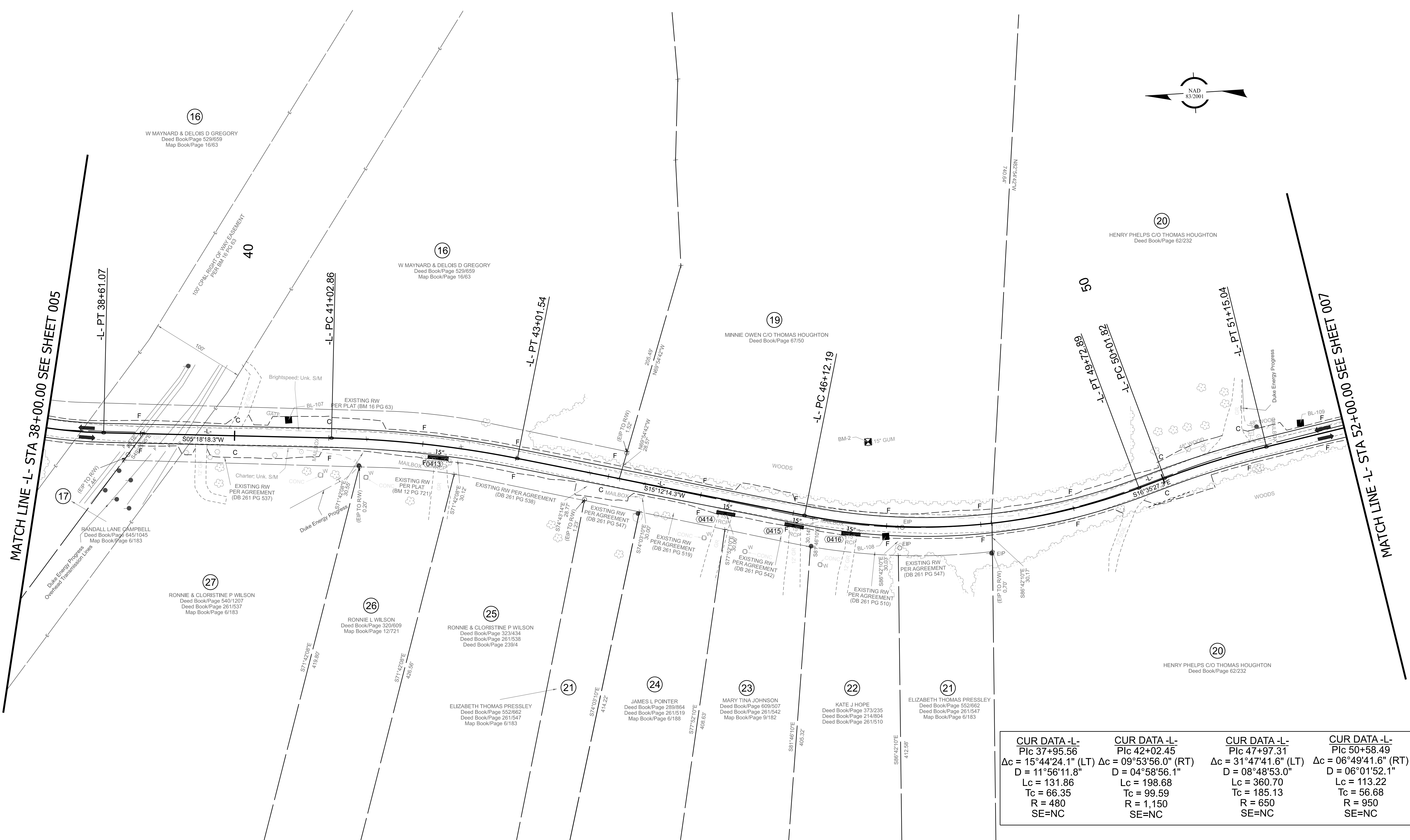
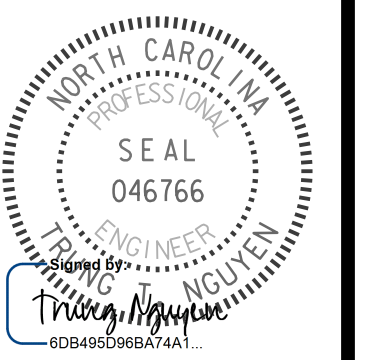
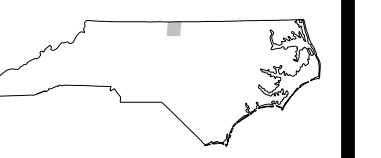
FOR -L- PROFILE, SEE SHEET 005

REVISIONS



CUR DATA -L- P/c 25+26.95	CUR DATA -L- P/c 27+59.08	CUR DATA -L- P/c 31+79.72	CUR DATA -L- P/c 36+26.83
$\Delta c = 67^{\circ}57'32.7''$ (LT)	$\Delta c = 05^{\circ}42'17.4''$ (RT)	$\Delta c = 48^{\circ}03'10.3''$ (RT)	$\Delta c = 32^{\circ}09'21.8''$ (RT)
D = 45°50'11.8"	D = 02°12'13.3"	D = 27°17'01.3"	D = 15°16'43.9"
Lc = 148.26	Lc = 258.88	Lc = 176.12	Lc = 210.46
Tc = 84.25	Tc = 129.55	Tc = 93.61	Tc = 108.08
R = 125	R = 2,600	R = 210	R = 375
SE=NC	SE=NC	SE=NC	SE=NC

FOR -L- PROFILE, SEE SHEET 10



MATCH LINE -L- STA 38+00.00 SEE SHEET 005

MATCH LINE -L- STA 52+00.00 SEE SHEET 007

CUR DATA -L- Plc 37+95.56	CUR DATA -L- Plc 42+02.45	CUR DATA -L- Plc 47+97.31	CUR DATA -L- Plc 50+58.49
$\Delta c = 15^{\circ}44'24.1''$ (LT)	$\Delta c = 09^{\circ}53'56.0''$ (RT)	$\Delta c = 31^{\circ}47'41.6''$ (LT)	$\Delta c = 06^{\circ}49'41.6''$ (RT)
D = 11'56'11.8"	D = 04'58'56.1"	D = 08'48'53.0"	D = 06'01'52.1"
Lc = 131.86	Lc = 198.68	Lc = 360.70	Lc = 113.22
Tc = 66.35	Tc = 99.59	Tc = 185.13	Tc = 56.68
R = 480	R = 1,150	R = 650	R = 950
SE=NC	SE=NC	SE=NC	SE=NC

FOR -L- PROFILE, SEE SHEET 11

REVISIONS

51362
4R01 007

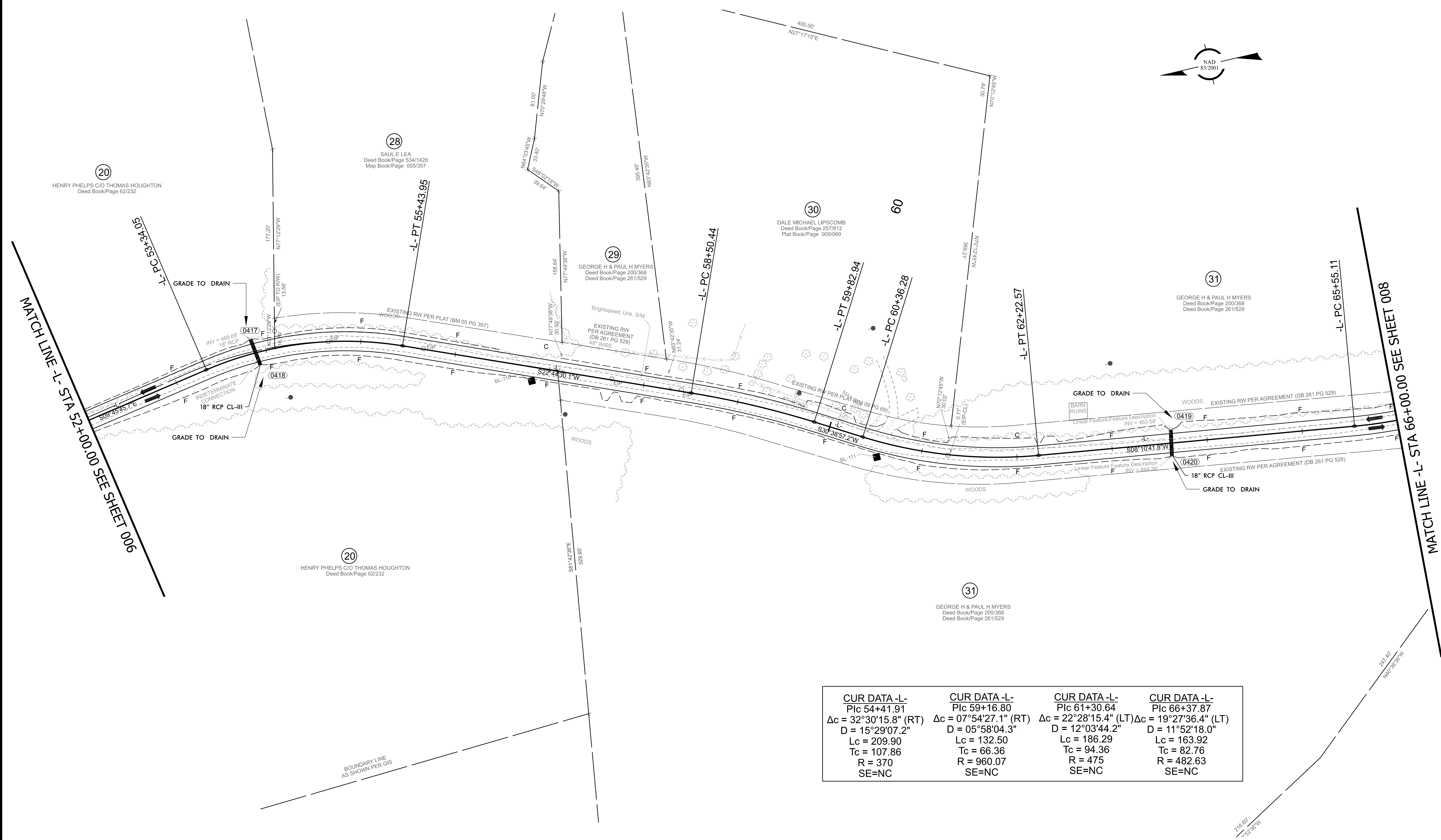
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
CASWELL COUNTY

DIVISION 7
ROADWAY DESIGN
ENGINEER

PROFESSIONAL
SEAL
046766
ENGINEER
P. NGUYEN
EDWARD CORREY, P.E.

PREPARED BY

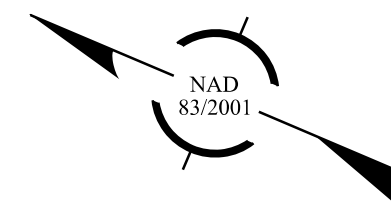
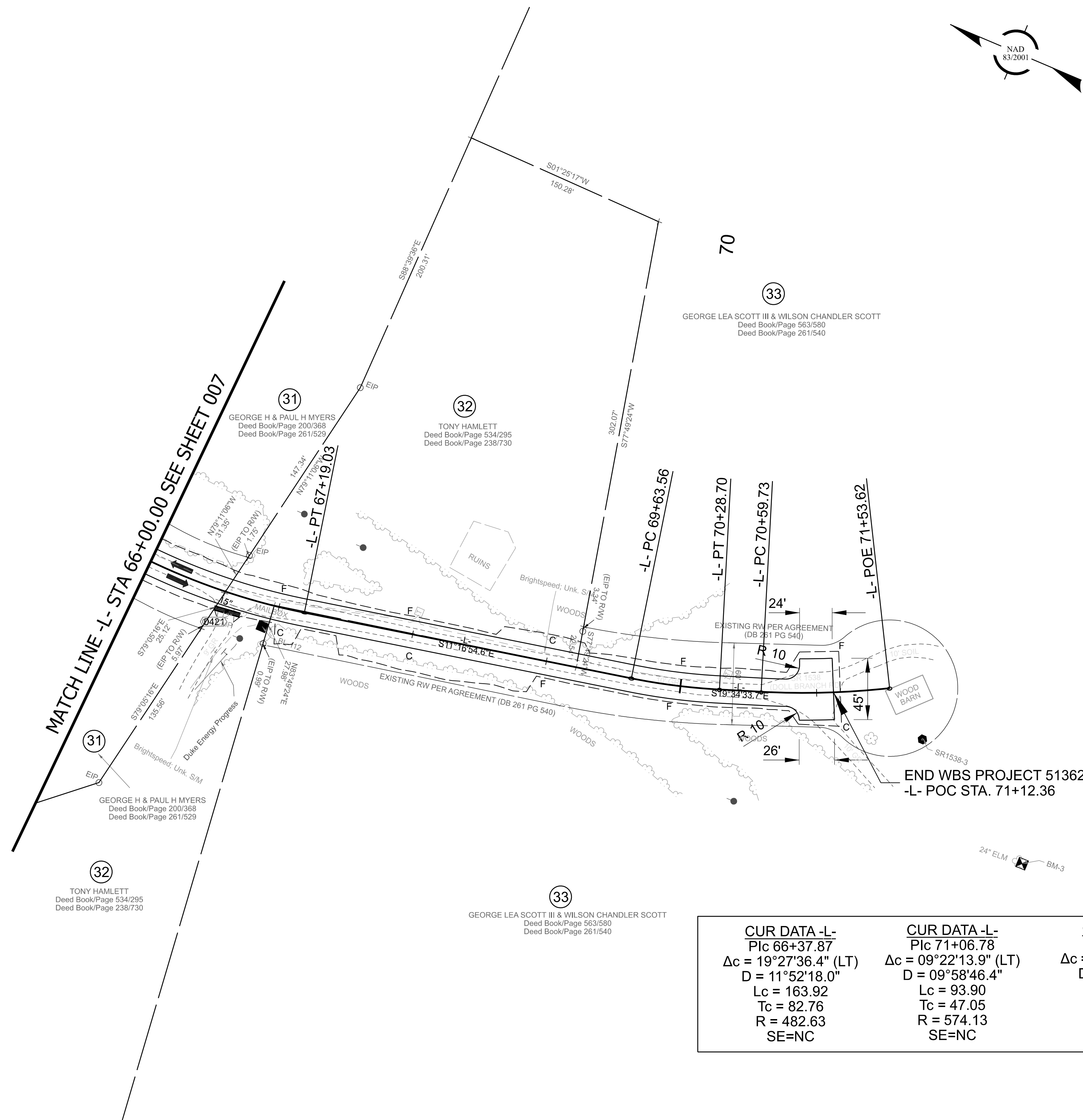
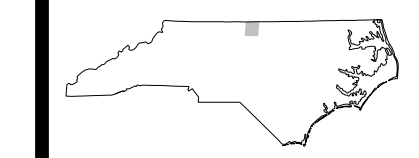
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



CUR DATA -L- Plc 54+41.91 $\Delta c = 32^\circ 30' 15.8''$ (RT) D = 15'29'07.2" Lc = 209.90 Tc = 107.86 R = 370 SE=NC	CUR DATA -L- Plc 59+16.80 $\Delta c = 07^\circ 54' 27.1''$ (RT) D = 05'58'04.3" Lc = 132.50 Tc = 66.36 R = 960.07 SE=NC	CUR DATA -L- Plc 61+30.64 $\Delta c = 22^\circ 28' 15.4''$ (LT) D = 12'03'44.2" Lc = 186.29 Tc = 94.36 R = 475 SE=NC	CUR DATA -L- Plc 66+37.87 $\Delta c = 19^\circ 27' 36.4''$ (LT) D = 11'52'18.0" Lc = 163.92 Tc = 82.76 R = 482.63 SE=NC
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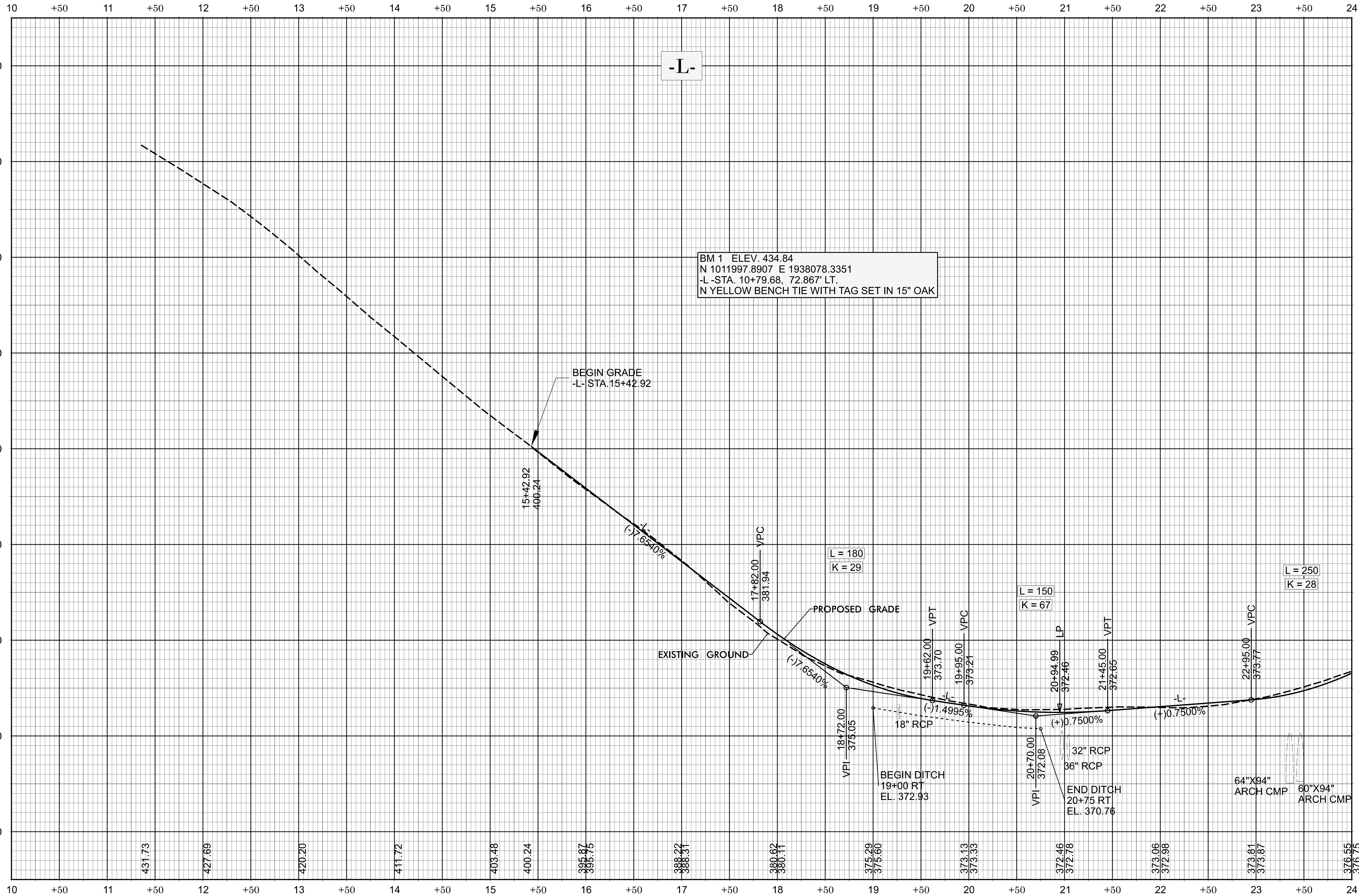
FOR -L- PROFILE, SEE SHEET 12

REVISIONS



FOR -L- PROFILE, SEE SHEET 13

REVISIONS



-L-

BM 1 ELEV. 434.84
 N 1011997.8907 E 1938078.3351
 -L -STA. 10+79.68, 72.867' LT.
 N YELLOW BENCH TIE WITH TAG SET IN 15" OAK

BEGIN GRADE
 -L- STA. 15+42.92

L = 180
 K = 29

L = 150
 K = 67

L = 250
 K = 28

EXISTING GROUND

PROPOSED GRADE

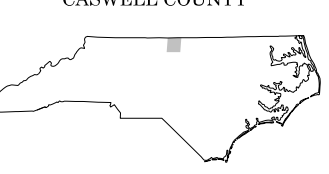
BEGIN DITCH
 19+00 RT
 EL. 372.93

END DITCH
 20+75 RT
 EL. 370.76

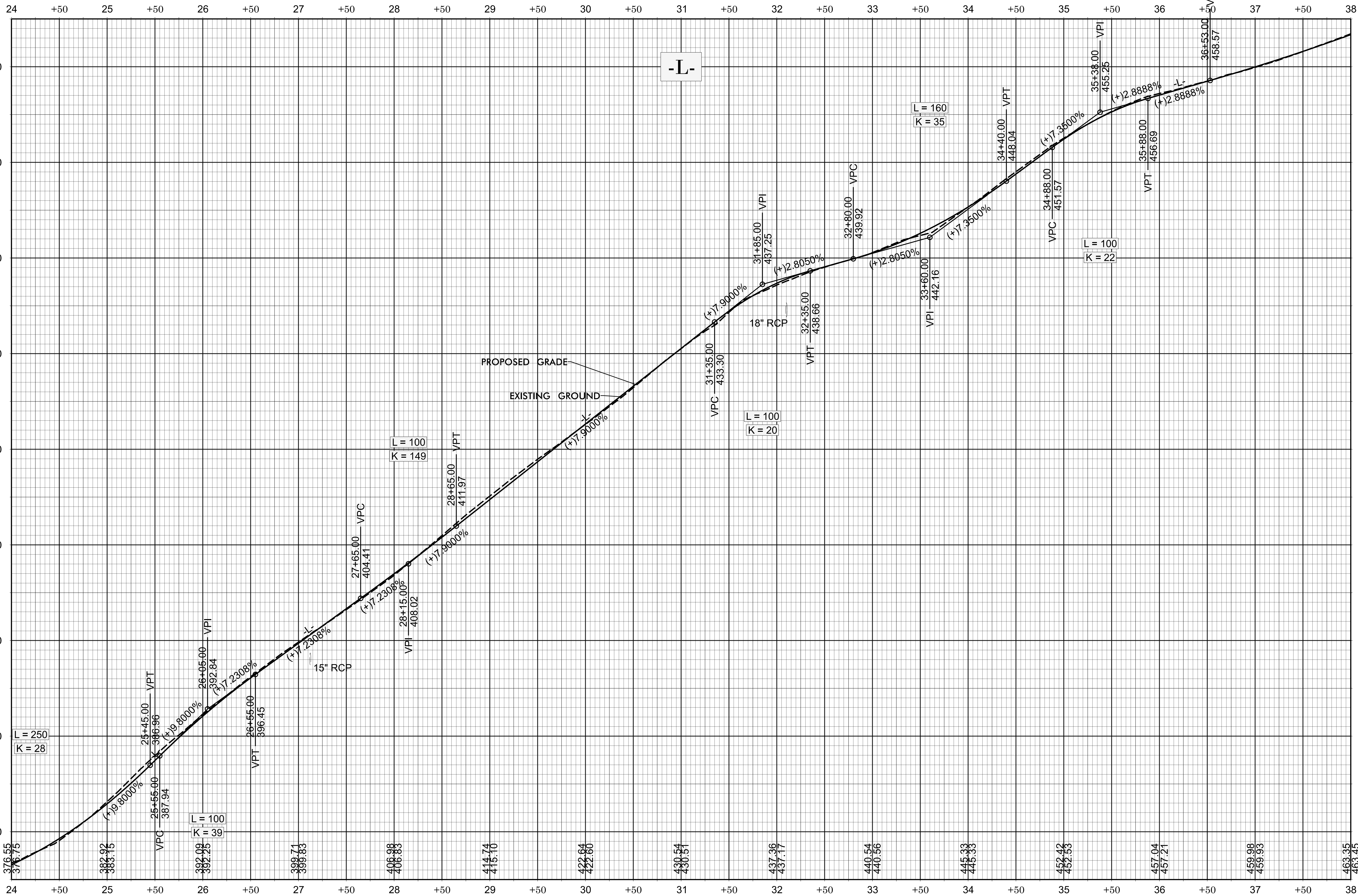
64"X94"
 ARCH CMP

60"X94"
 ARCH CMP

FOR -L- PLAN, SEE SHEET 004



REVISIONS



FOR L- PLAN, SEE SHEET 009

51362
4R01 | 010
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
CASWELL COUNTY

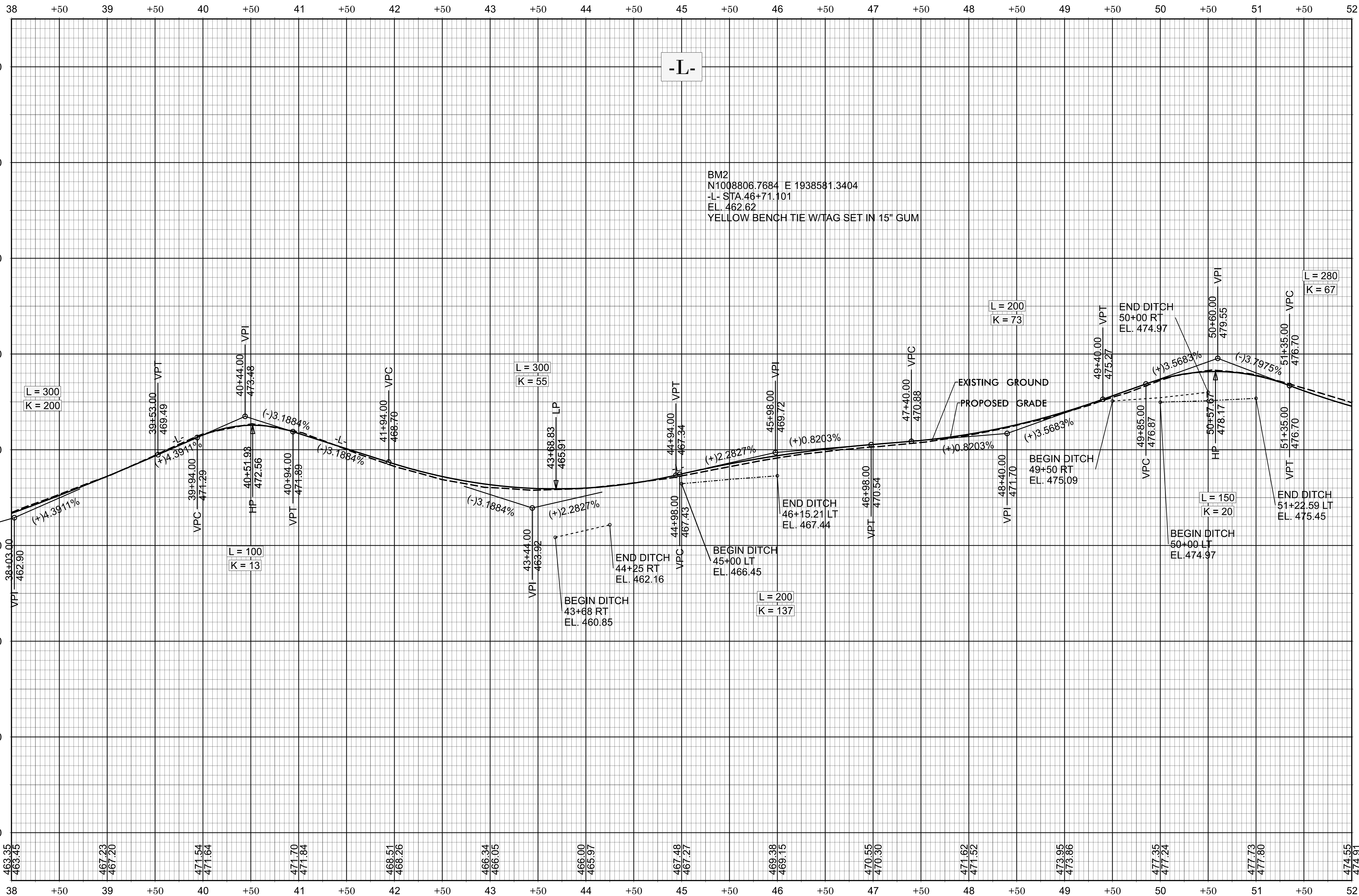
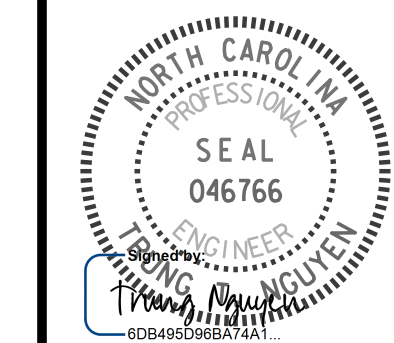
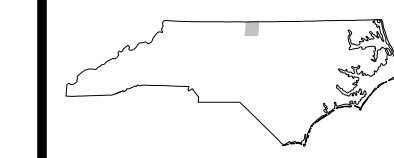
DIVISION 7
ROADWAY DESIGN
ENGINEER

NORTH CAROLINA
PROFESSIONAL
SEAL
046766
Walter M. Myers
P.E.

PREPARED BY

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UNLESS ALL SIGNATURES COMPLETED

REVISIONS



-L-

BM2
N1008806.7684 E 1938581.3404
-L- STA. 46+71.101
EL. 462.62
YELLOW BENCH TIE W/TAG SET IN 15" GUM

L = 300
K = 200

L = 100
K = 13

L = 300
K = 55

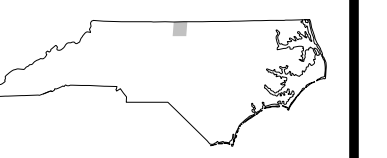
L = 200
K = 137

L = 200
K = 73

L = 280
K = 67

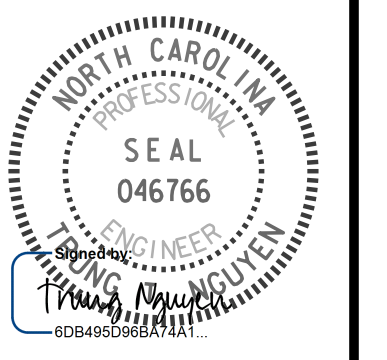
L = 150
K = 20

FOR L- PLAN, SEE SHEET 008



DIVISION 7

ROADWAY DESIGN
ENGINEER

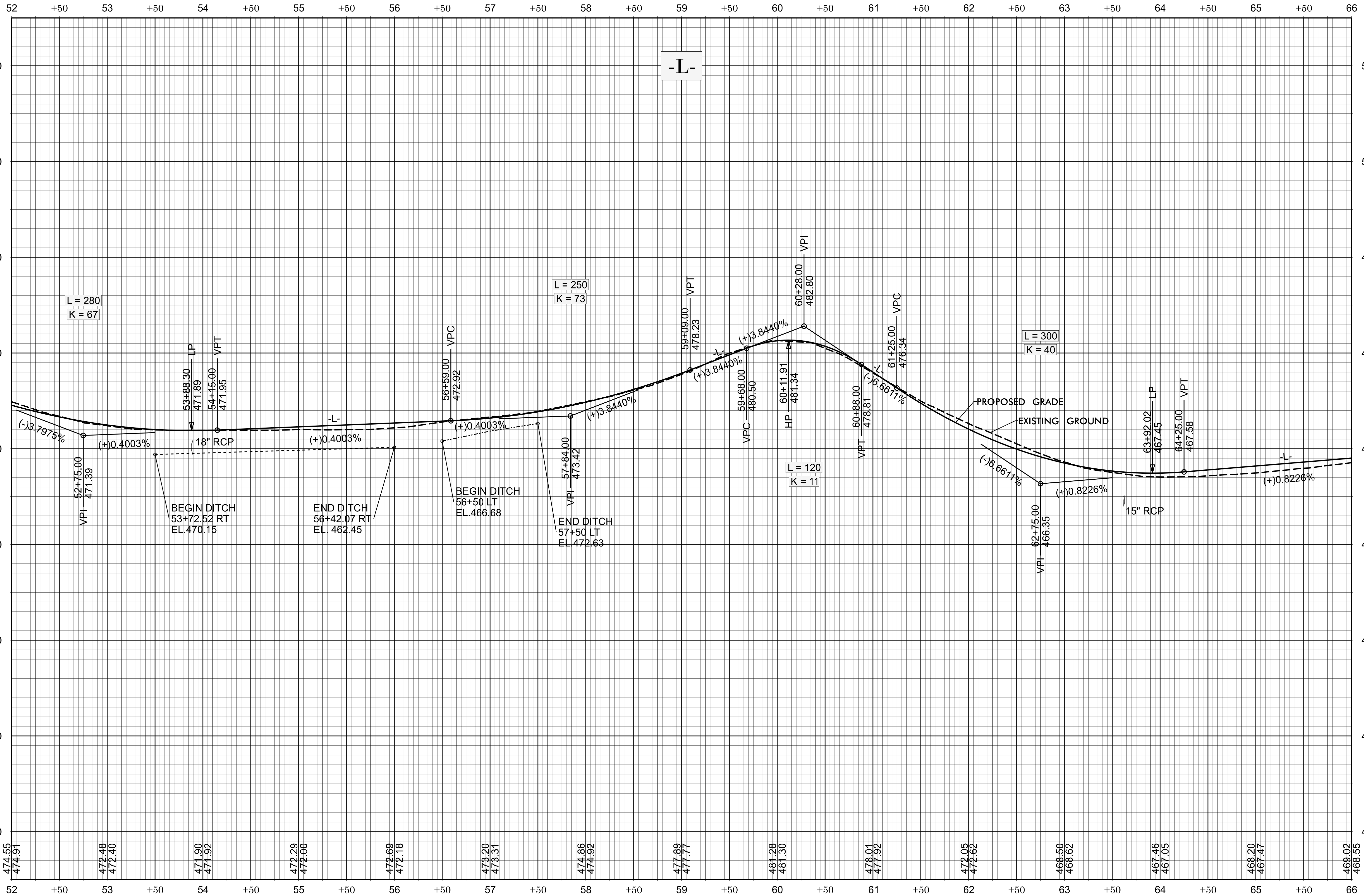


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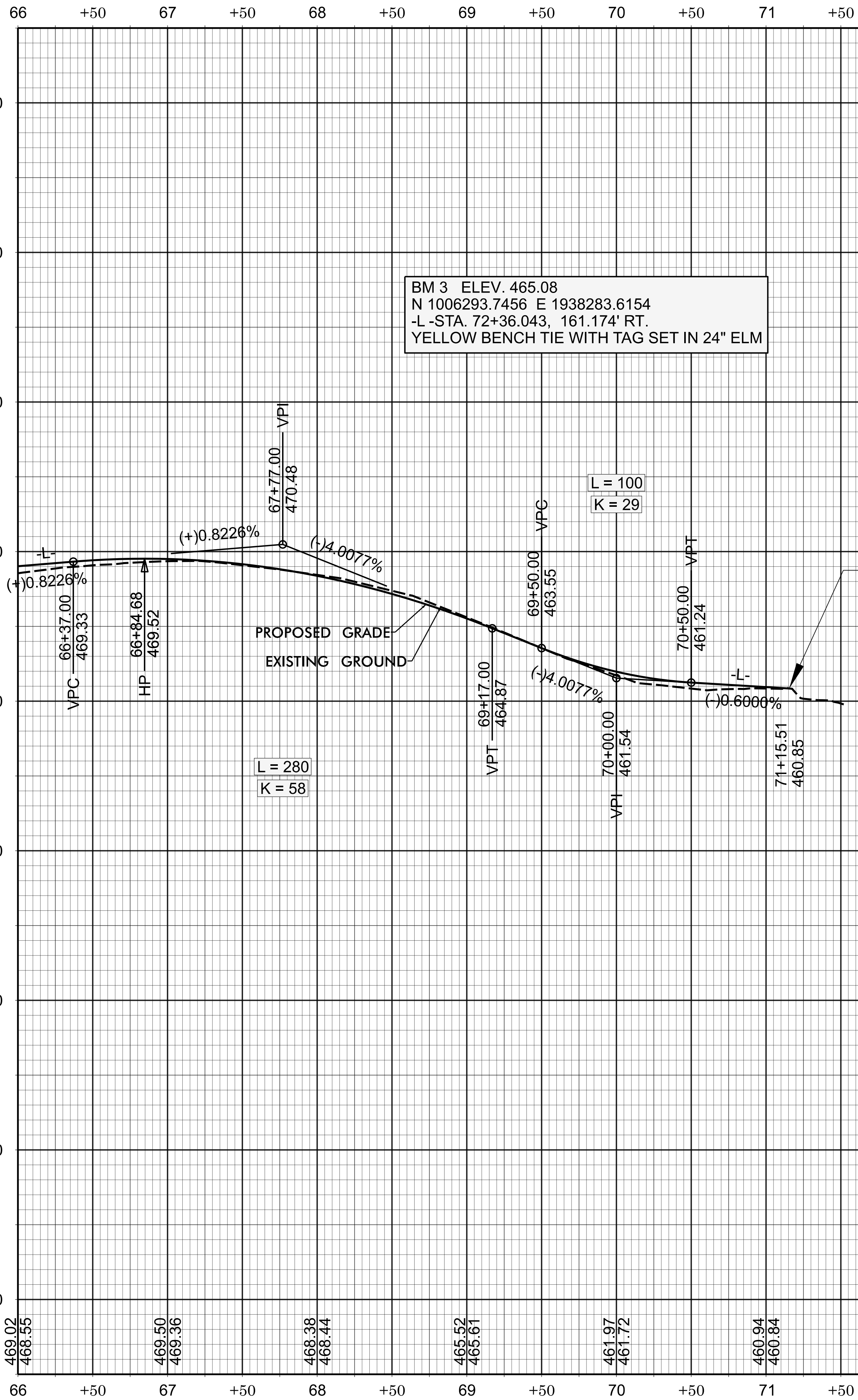


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REVISIONS



FOR L- PLAN, SEE SHEET 007



51362
4R01 013
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
CASWELL COUNTY

DIVISION 7
ROADWAY DESIGN
ENGINEER

SEAL
046766
Professional Engineer
C. W. WOODLYN

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REVISIONS

FOR L- PLAN, SEE SHEET 008