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TIP PROJECT: W-5207 I

CONTRACT: DG00255

See Sheet 1-A For Index of Sheets

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

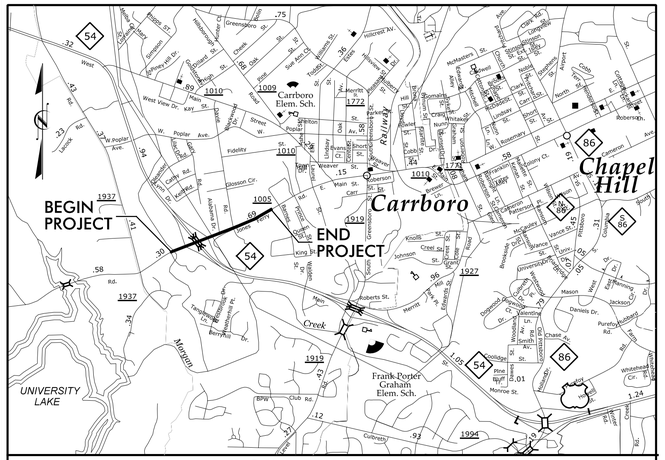
# ORANGE COUNTY

| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|
| N.C. | W-5207 I | 1 | |

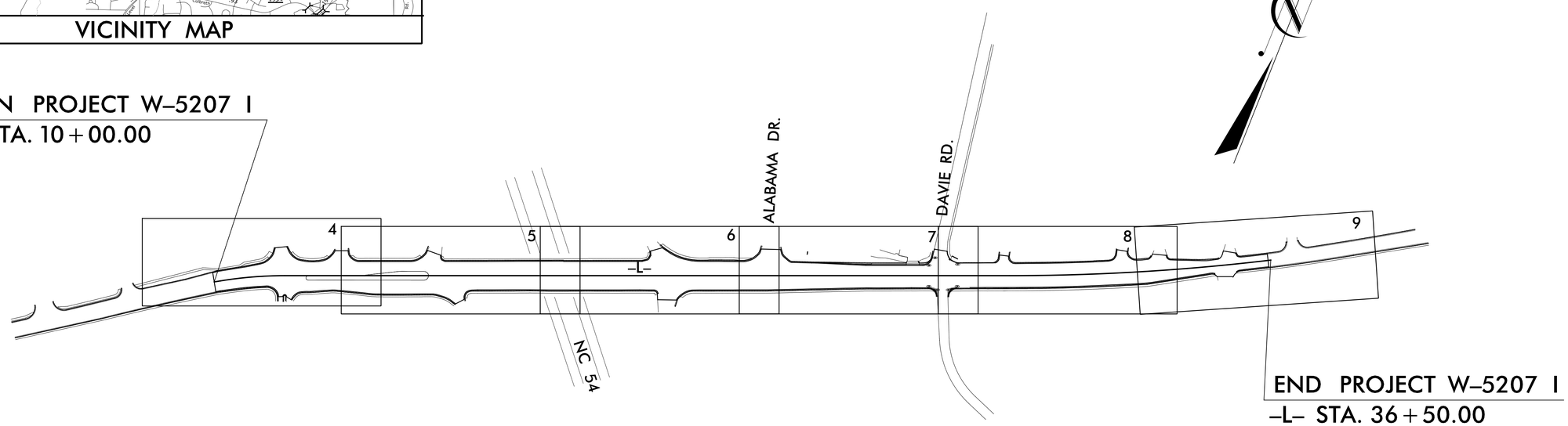
| STATE PROJ. NO. | F.A. PROJ. NO. | DESCRIPTION |
|---|---|---|
| 45337.1.9 | HSIP-1005(30) | PE |
| 45337.2.FD9 | HSIP-1005(30) | R/W |
| 45337.3.FD9 | HSIP-1005(30) | CONST |

***LOCATION: JONES FERRY RD.(SR 1005) FROM WEST OF NC 54 TO WEST OF BARNES ST. IN CARRBORO***

***TYPE OF WORK: GRADING, DRAINAGE, MILLING, PAVING, PAVEMENT MARKINGS, SIGNING & SIGNALS.***




VICINITY MAP




NCDOT CONTACT: CHRIS SMITHERMAN, P.E.
DIVISION 7 - DIVISION DESIGN ENGINEER

***GRAPHIC SCALES***

20 10 0 20 40
PLANS

20 10 0 20 40
PROFILE (HORIZONTAL)

5 2.5 0 5 10
PROFILE (VERTICAL)

***DESIGN DATA***

ADT =
ADT =
DHV = %
D = %
T = % *
V = MPH
* TTST = DUAL
FUNC CLASS =

***PROJECT LENGTH***

***LENGTH ROADWAY PROJECT W-5207I = 0.502 MI***

***TOTAL LENGTH PROJECT W-5207I = 0.502 MI***

Prepared In the Office of:
ICA Engineering
f/k/a Florence & Hutcheson, Inc.
5121 Kingdom Way, Suite 100 Raleigh, NC 27607
NC License No: P-0258

***2012 STANDARD SPECIFICATIONS***

***RIGHT OF WAY DATE:***

***LETTING DATE:***

DAVID C. WALLER, P.E.
***PROJECT ENGINEER***

***HYDRAULICS ENGINEER***

DocuSigned by: Stacey H Bailey 5/22/2015
CB56968C59E046E...
***SIGNATURE:*** ***P.E.***

NORTH CAROLINA PROFESSIONAL SEAL 24451 ENGINEER STACEY H. BAILEY

***ROADWAY DESIGN ENGINEER***

DocuSigned by: David C. Waller 5/22/2015
89AD3F7156C5435...
***SIGNATURE:*** ***P.E.***

NORTH CAROLINA PROFESSIONAL SEAL 22606 ENGINEER DAVID C. WALLER

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

5/22/2015
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ICA Engineering
5121 Kingdom Way,
Suite 100
Raleigh, NC 27607
NC License No: F-0258

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-5207I | I-A |

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 22606 ENGINEER DAVID C. WALLER

DocuSigned by:
David C. Waller 6/3/2015
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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 |
| 2 | PAVEMENT SCHEDULE, TYPICAL SECTIONS |
| 3-A | SUMMARY OF DRAINAGE QUANTITES<br>EARTHWORK SUMMARY<br>ASPHALT PAVEMENT REMOVAL SUMMARY |
| 4 THRU 9 | PLAN SHEET |
| TMP-1 THRU TMP-6 | TRAFFIC CONTROL PLANS |
| PMP-1 THRU PMP-4 | PAVEMENT MARKING PLANS |
| EC-1 THRU EC-14 | EROSION CONTROL PLANS |
| SIGN-1 THRU SIGN-8 | SIGNING PLANS |
| SIG-1 THRU SIG-3 | SIGNAL PLANS |
| X-1 THRU X-14 | CROSS-SECTIONS |

GENERAL NOTES:

2012 SPECIFICATIONS
EFFECTIVE: 01-17-12
REVISED: 07/30/12

GRADE LINE:
GRADING AND SURFACING:

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

CLEARING:

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

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.03 AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

STREET TURNOUT:

STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS.

SUBSURFACE PLANS:

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

UTILITIES:

KNOWN UTILITY OWNERS ON THIS PROJECT ARE DUKE ENERGY, CITY OF CARRBORO, OWASA, TIME WARNER CABLE & PSNC ENERGY.

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

CURB RAMPS

CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS.

2012 ROADWAY ENGLISH STANDARD DRAWINGS

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

| STD.NO. | TITLE |
|---|---|
| DIVISION 2 - EARTHWORK | |
| 200.02 | Method of Clearing - Method II |
| 225.09 | Guide for Shoulder and Ditch Transition at Grade Separations |
| DIVISION 3 - PIPE CULVERTS | |
| 300.01 | Method of Pipe Installation |
| DIVISION 5 - SUBGRADE, BASES AND SHOULDERS | |
| 560.01 | Method of Shoulder Construction - High Side of Superelevated Curve - Method I |
| DIVISION 6 - ASPHALT BASES AND PAVEMENTS | |
| 654.01 | Pavement Repairs |
| DIVISION 8 - INCIDENTALS | |
| 838.11 | Brick Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew |
| 840.00 | Concrete Base Pad for Drainage Structures |
| 840.01 | Brick Catch Basin - 12" thru 54" Pipe |
| 840.02 | Concrete Catch Basin - 12" thru 54" Pipe |
| 840.03 | Frame, Grates and Hood - for Use on Standard Catch Basin |
| 840.14 | Concrete Drop Inlet - 12" thru 30" Pipe |
| 840.15 | Brick Drop Inlet - 12" thru 30" Pipe |
| 840.35 | Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates |
| 840.46 | Traffic Bearing Precast Drainage Structure |
| 846.01 | Concrete Curb, Gutter and Curb & Gutter |
| 848.01 | Concrete Sidewalk |
| 848.03 | Driveway Turnout - Drop Curb Type |
| 848.05 | Curb Ramp - Proposed Curb & Gutter |
| 852.01 | Concrete Islands |
| 852.02 | Concrete Mountable Median - for Use with Rigid or Flexible Pavement |
| 852.06 | Method for Placement of Drop Inlets in Concrete Islands |
| 876.01 | Rip Rap in Channels |
| 876.02 | Guide for Rip Rap at Pipe Outlets |

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12/05/11

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5207 I | I-B |

***Note: Not to Scale***

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

# CONVENTIONAL PLAN SHEET SYMBOLS

## *BOUNDARIES AND PROPERTY:*

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

## *BUILDINGS AND OTHER CULTURE:*

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

## *HYDROLOGY:*

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

## *RAILROADS:*

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

## *RIGHT OF WAY:*

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

## *ROADS AND RELATED FEATURES:*

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

## *VEGETATION:*

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

## *EXISTING STRUCTURES:*

MAJOR:

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

MINOR:

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

## *UTILITIES:*

POWER:

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

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

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5121 Kingdom Way, Suite 100
Raleigh, NC 27607
NC License No: F-0258

| PROJECT REFERENCE NO. | SHEET NO. |
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| W-5207 I | 2 |

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 22606 ENGINEER DAVID C. WALLER
DocuSigned by: David C. Waller
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5/22/2015

PAVEMENT DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 30995 ENGINEER CHRISTOPHER B. SMITHERMAN
DocuSigned by: Chris Smitherman
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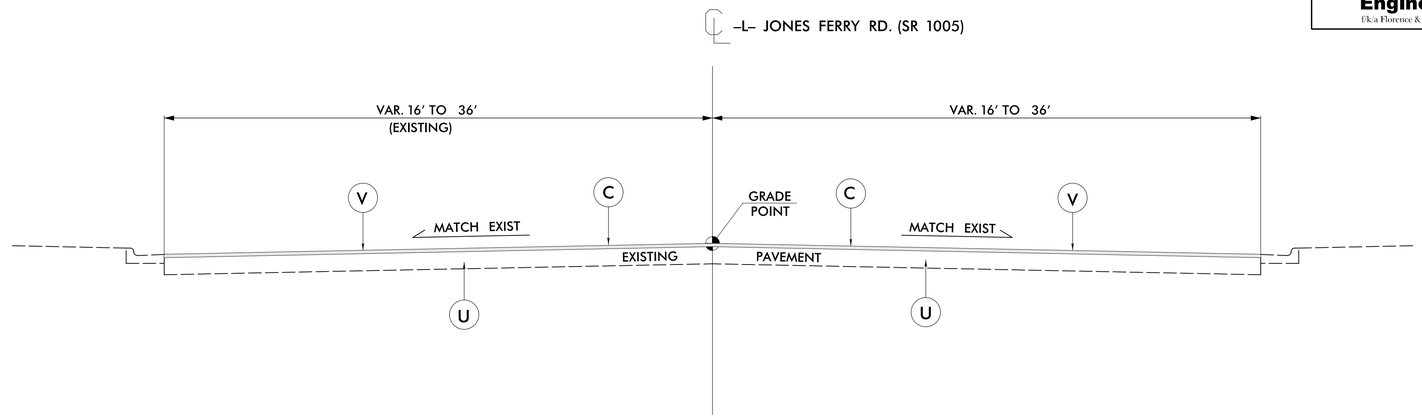
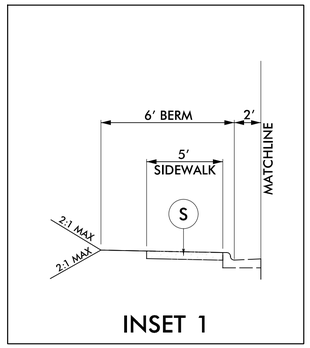
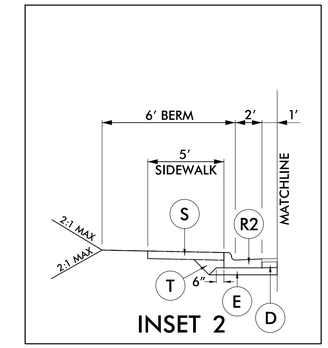



## TYPICAL SECTION NO. 1

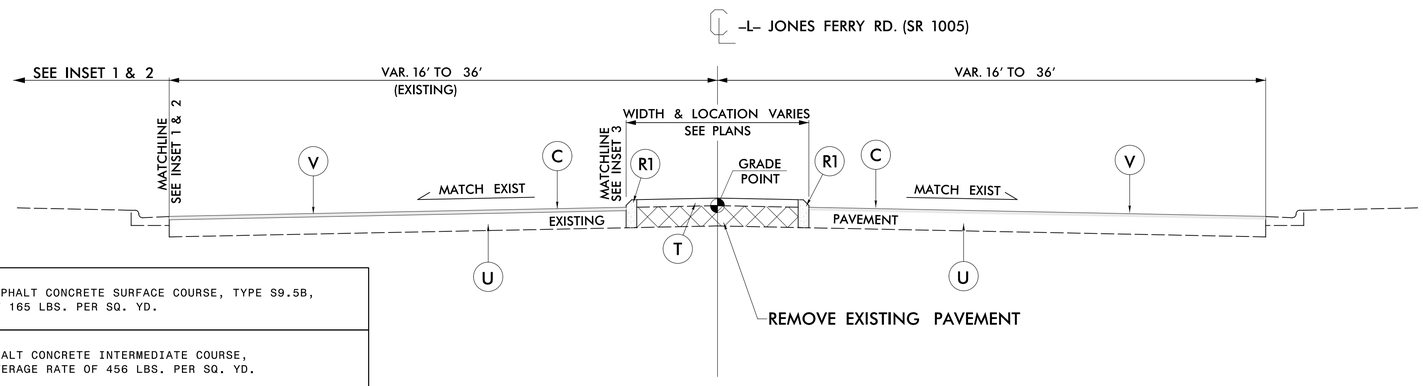
USE TYPICAL SECTION NO. 1 FROM:
-L- STA. 10+00.00 TO 21+58.00
-L- STA. 32+69.00 TO 36+50.00




USE INSET 1 FROM:
-L- STA. 24+41.77 TO 25+13.00 LEFT




USE INSET 2 FROM:
-L- STA. 25+13.00 TO 28+02.79 LEFT

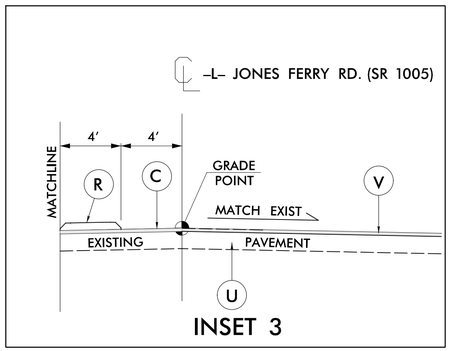



## TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2 FROM:
-L- STA. 21+58.00 TO 32+69.00

| | |
|---|---|
| C | PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. |
| D | PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. |
| E | PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. |
| R | 5" MONOLITHIC CONCRETE ISLAND. (KEYED-IN) |
| R1 | 9" x 12" CONCRETE CURB |
| R2 | 2'-6" CONCRETE CURB & GUTTER |
| S | 4" CONCRETE SIDEWALK. |
| T | EARTH MATERIAL. |
| U | EXISTING PAVEMENT. |
| V | MILLING BITUMINOUS PAVEMENT. 1½" DEPTH. |

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




USE INSET 3 FROM:
-L- STA. 26+38.00 TO 27+84.68 LEFT

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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

## *LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)*

| STATION / SIZE / THICKNESS OR GAUGE | LOCATION (LT,RT, OR CL) | STRUCTURE NO. FROM | STRUCTURE NO. TO | TOP ELEVATION | INVERT ELEVATION | INVERT ELEVATION | SLOPE CRITICAL | R.C. PIPE CLASS IV 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| –L– 26+41 | LT | 0701 | | 434.88 | | | | | | | | | | | |
| –L– 26+31 | RT | 0706 | | 433.63 | | | | | | | | | | | |
| | | 0701 | 0706 | | 431.63 | 430.03 | | 40 | | | | | | | |
| –L– 26+41 | LT | 0702 | | | | | | | | | | | | | |
| TOTAL | | | | | | | | 40 | | | | | | | |

| STATION | BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHERWISE) 12" .064 | 15" .064 | 18" .064 | 24" .064 | 30" .079 | 36" .079 | 42" .109 | 48" .109 | CLASS III R.C. PIPE OR ALUMINIZED C.S. PIPE, TYPE IR OR HDPE PIPE, TYPE S OR D 12" | 15" | 18" | 24" | 30" | 36" | 42" | 48" | 15" SIDE DRAIN PIPE | 18" SIDE DRAIN PIPE | 24" 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. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| –L– 26+41 | | | | | | | | | | | | | | | | | | | | | |
| –L– 26+31 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| –L– 26+41 | | | | | | | | | | | | | | | | | | | | | |
| TOTAL | | | | | | | | | | | | | | | | | | | | | |

| STATION | 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 DROP INLET | CATCH BASIN | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME & GRATE STD. 840.16 | G.D.I. TYPE "A" STD. 840.17 OR 840.26 | G.D.I. TYPE "B" STD. 840.18 OR 840.27 | G.D.I. TYPE "D" STD. 840.19 OR 840.28 | G.D.I. FRAME WITH GRATE STD. 840.22 | G.D.I. FRAME WITH TWO GRATES 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 | J.B. STD. 840.31 OR 840.32 | T.B.D.I. TRAFFIC BEARING GRATED DROP INLET STD. 840.35 | CONVERT C.B. TO J.B. W/SLAB | | | | 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– 26+41 | 1 | | | | | | | | 1 | | | | | | | | | | | | 1 | | | | | | | | | |
| –L– 26+31 | 1 | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | | | REMOVE CB |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| –L– 26+41 | 1 | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| TOTAL | 3 | | | 1 | | | 1 | | 1 | | | | | | | | | | | | 1 | 1 | | | | | | | | |

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– 25+13.00 TO 28+02.79 | 63 | | 3 | | 60 |
| PROJECT SUB–TOTALS | 63 | | 3 | | 60 |
| MATERIAL FOR SHOULDER CONSTRUCTION | | | | 380 | |
| WASTE IN LIEU OF BORROW | | | | –60 | –60 |
| PROJECT TOTALS | 63 | | 3 | 320 | 0 |
| EST. 5% TO REPLACE TOPSOIL ON BORROW PITS | | | | 16 | |
| GRAND TOTALS | 63 | | | 336 | |
| SAY | 75 | | | 350 | |

# *SUMMARY OF REMOVAL EXISTING ASPHALT PAVEMENT*

| SURVEY LINE | STATION | STATION | LOCATION LT/RT/CL | $YD^2$ |
|---|---|---|---|---|
| –L– | 21+57 | 23+57 | LT/RT | 273.68 |
| –L– | 24+22 | 26+39 | LT/RT | 460.09 |
| –L– | 25+13 | 28+06 | LT | 152.72 |
| | | | TOTAL: | 886.50 |
| | | | SAY: | 890 |

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

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ICA Engineering
f/k/a Florence & Hutcheson, Inc.
5121 Kingsdom Way, Suite 100
Raleigh, NC 27607
NC License No: F-0258

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|---|---|
| W-5207 I | 4 |
| R/W SHEET NO. | |

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 22606 ENGINEER DAVID C. WALLER
DocuSigned by: David C. Waller
89AD3F7156C5435...
5/22/2015

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 24451 ENGINEER STACEY H. BAILEY
DocuSigned by: Stacey H. Bailey
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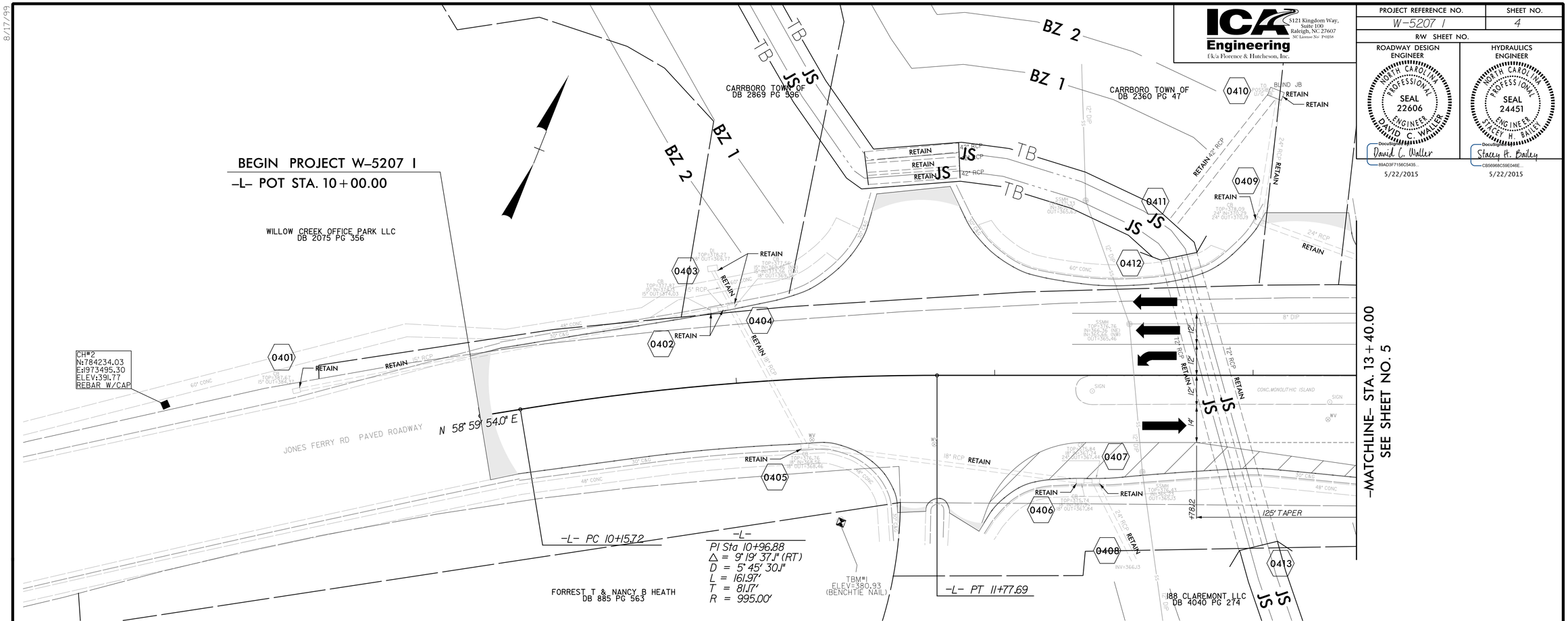


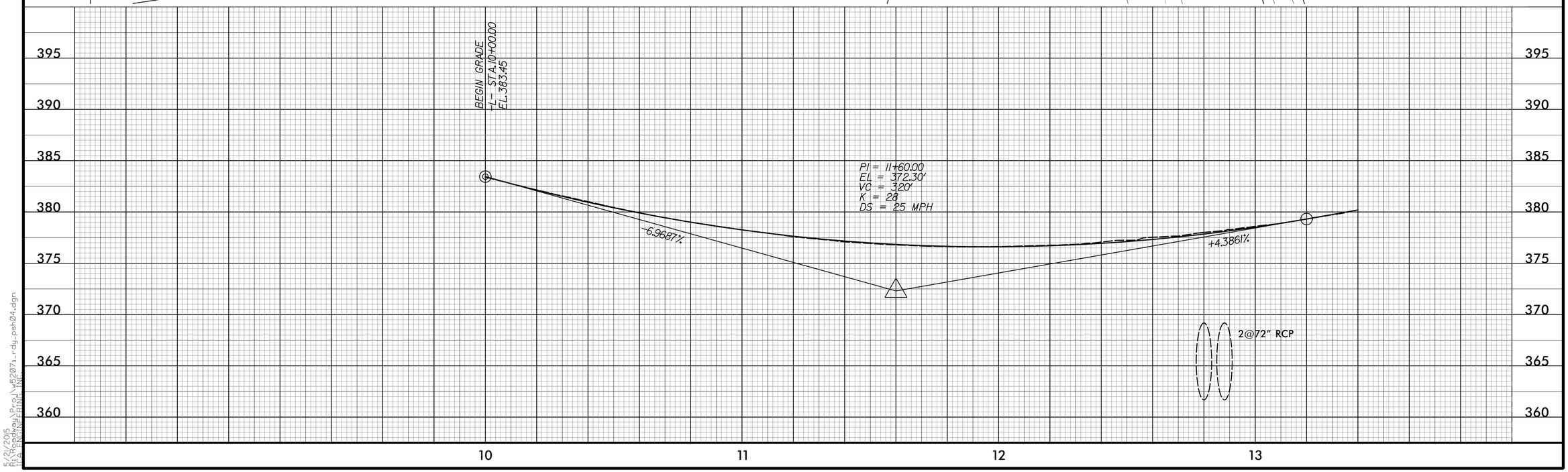


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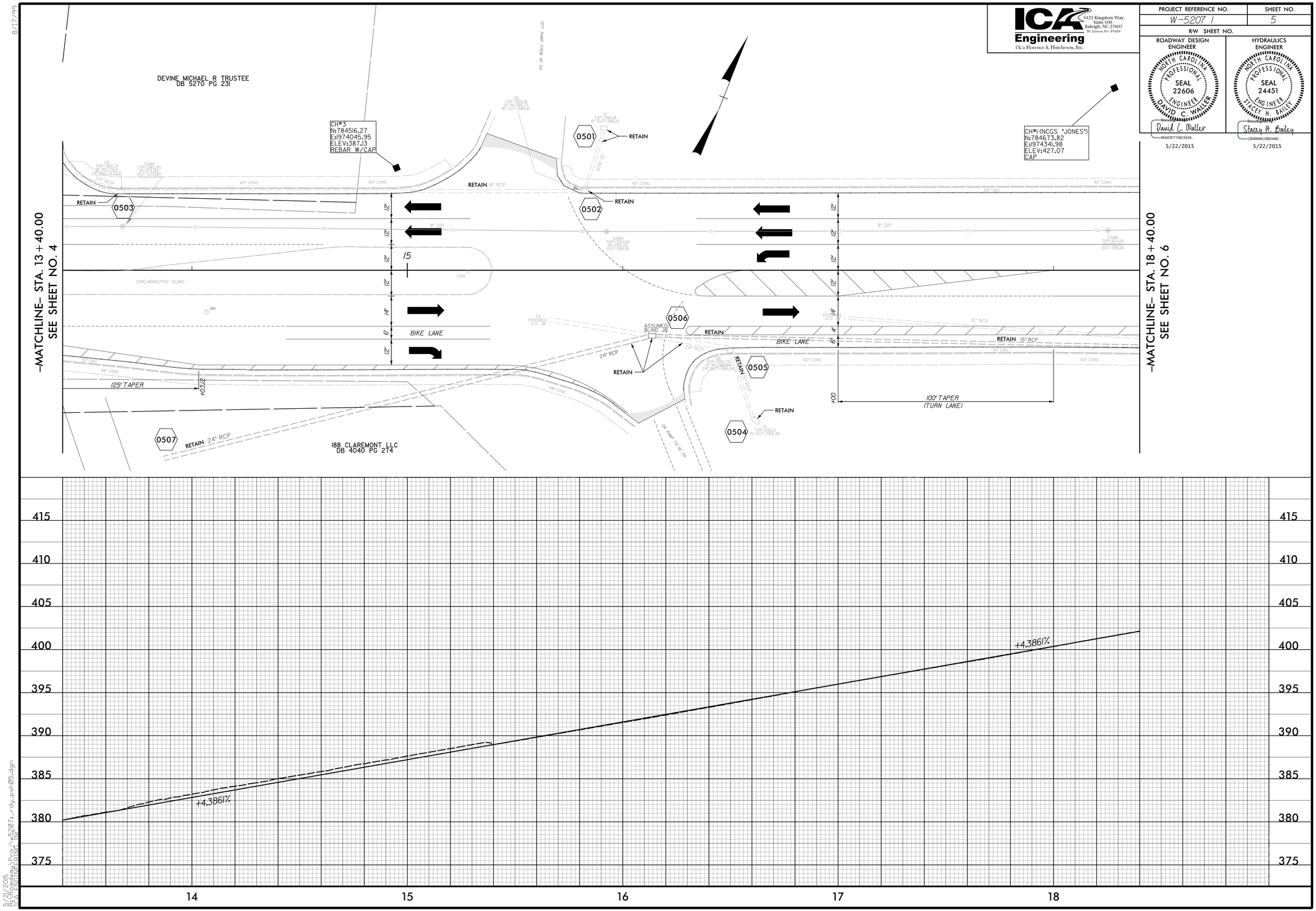


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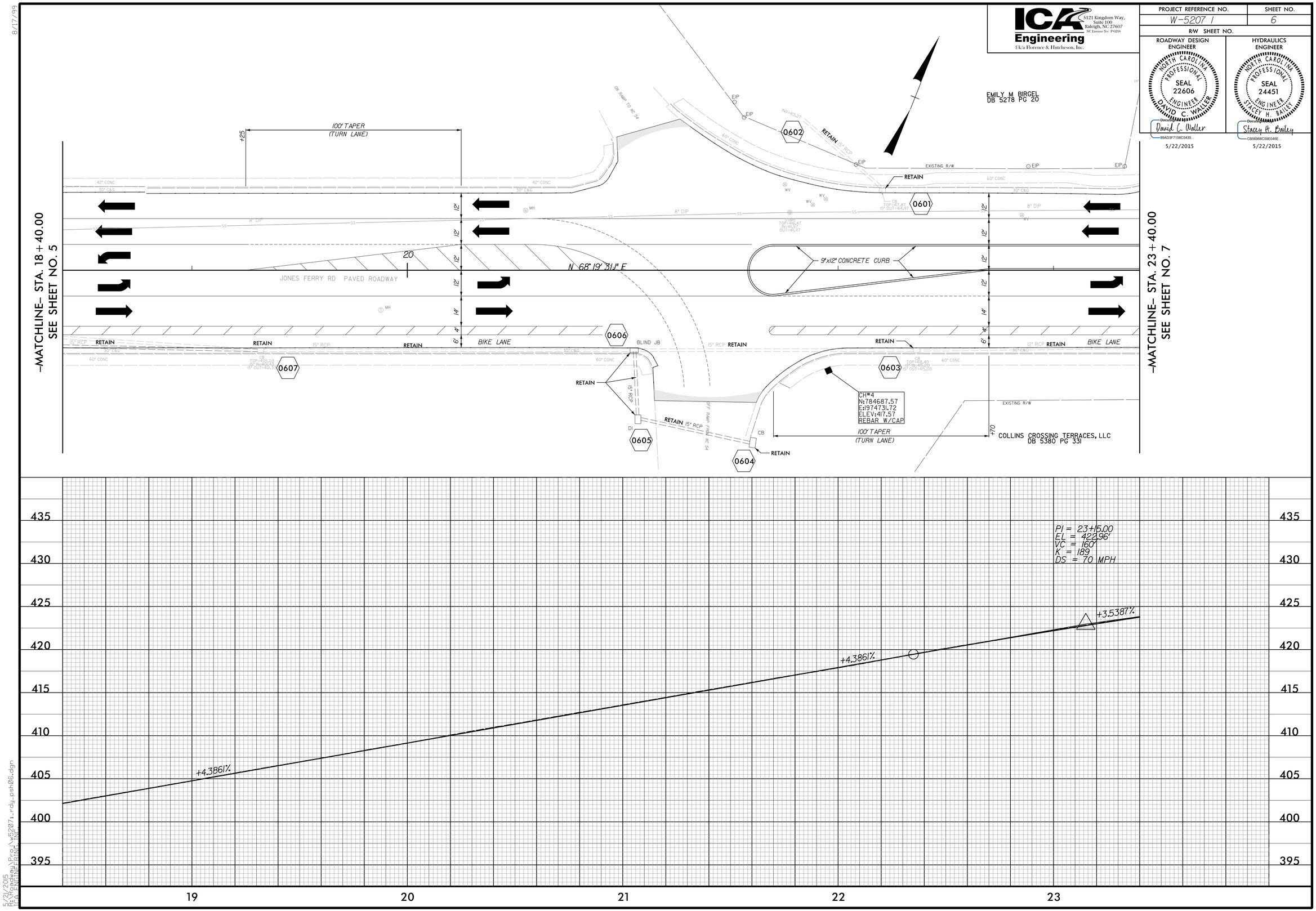


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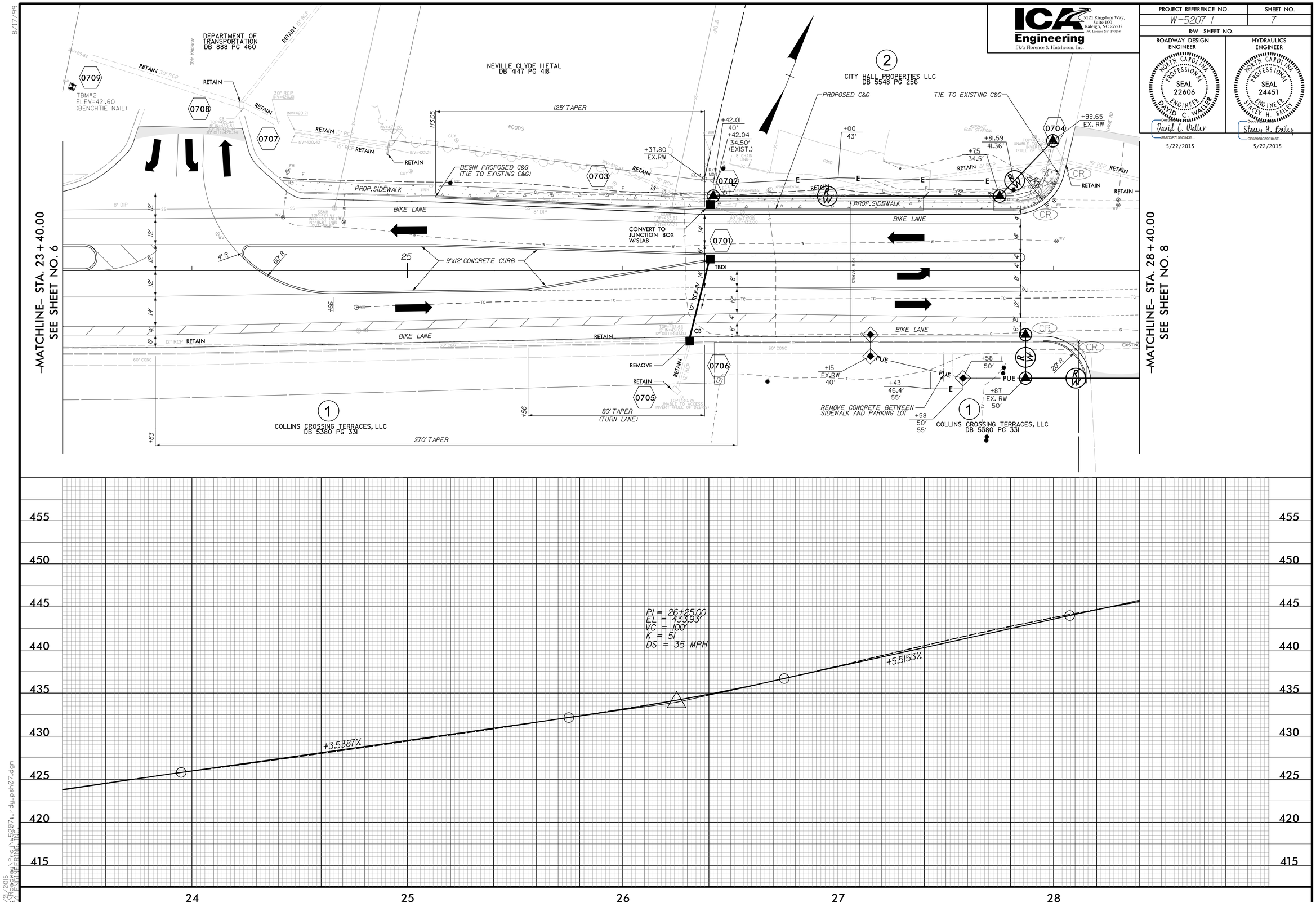


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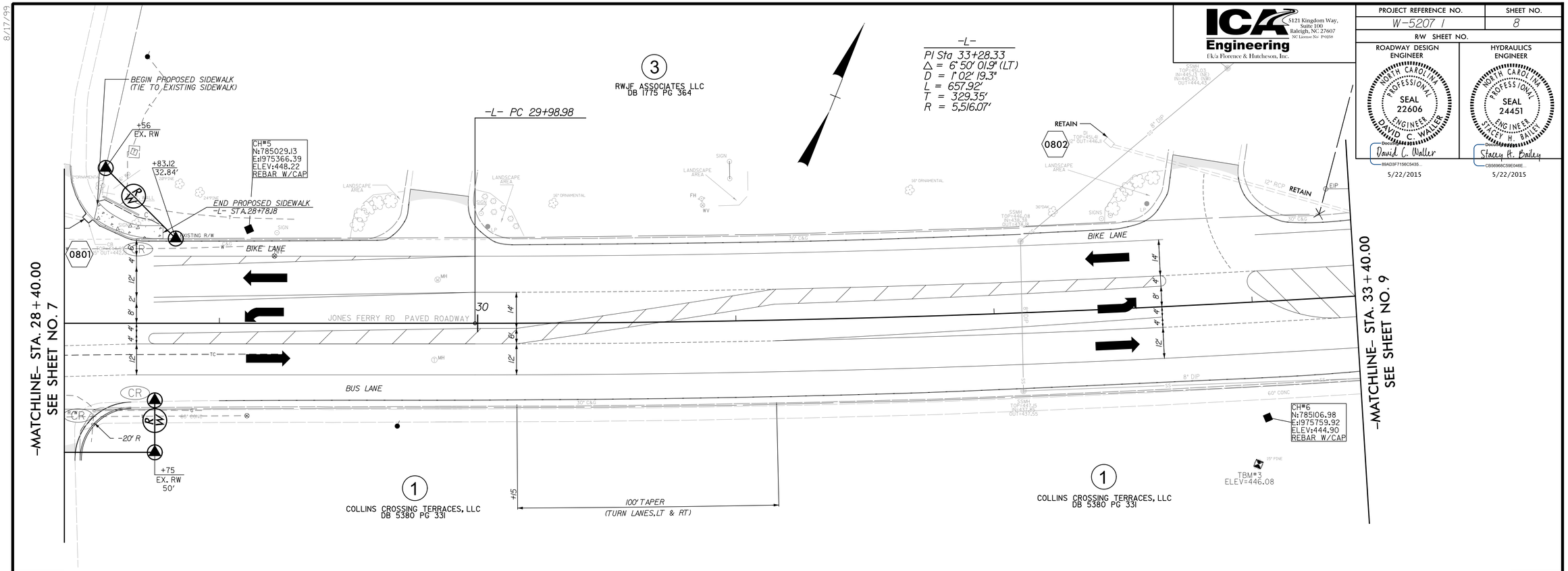


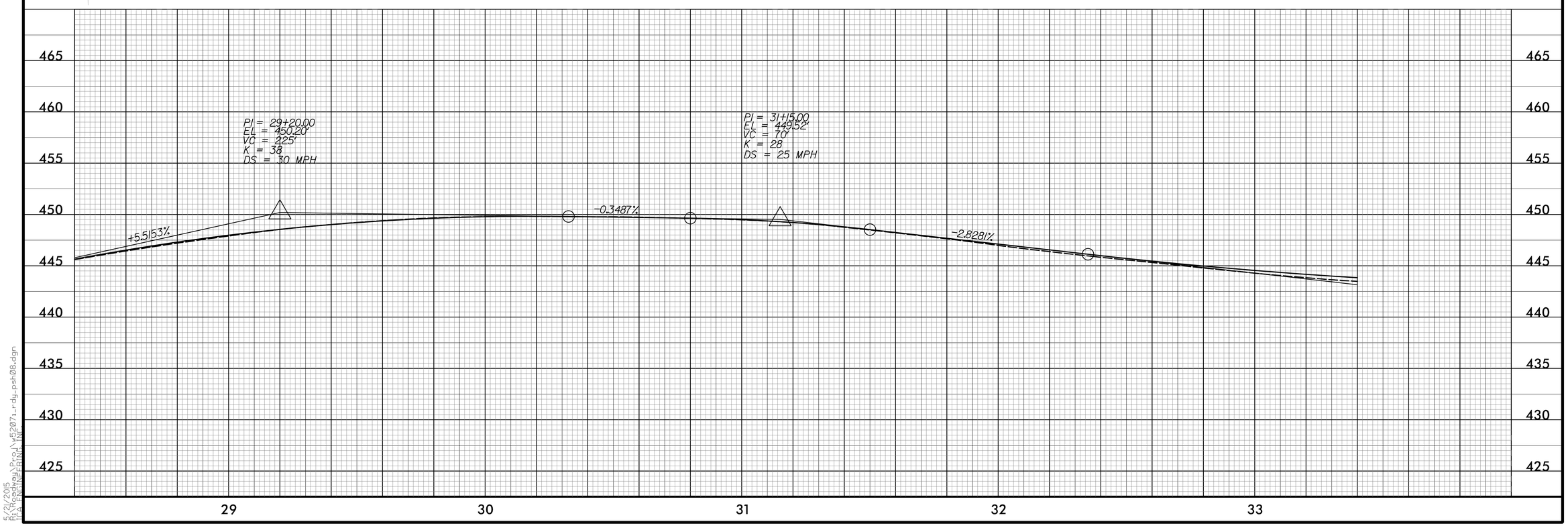


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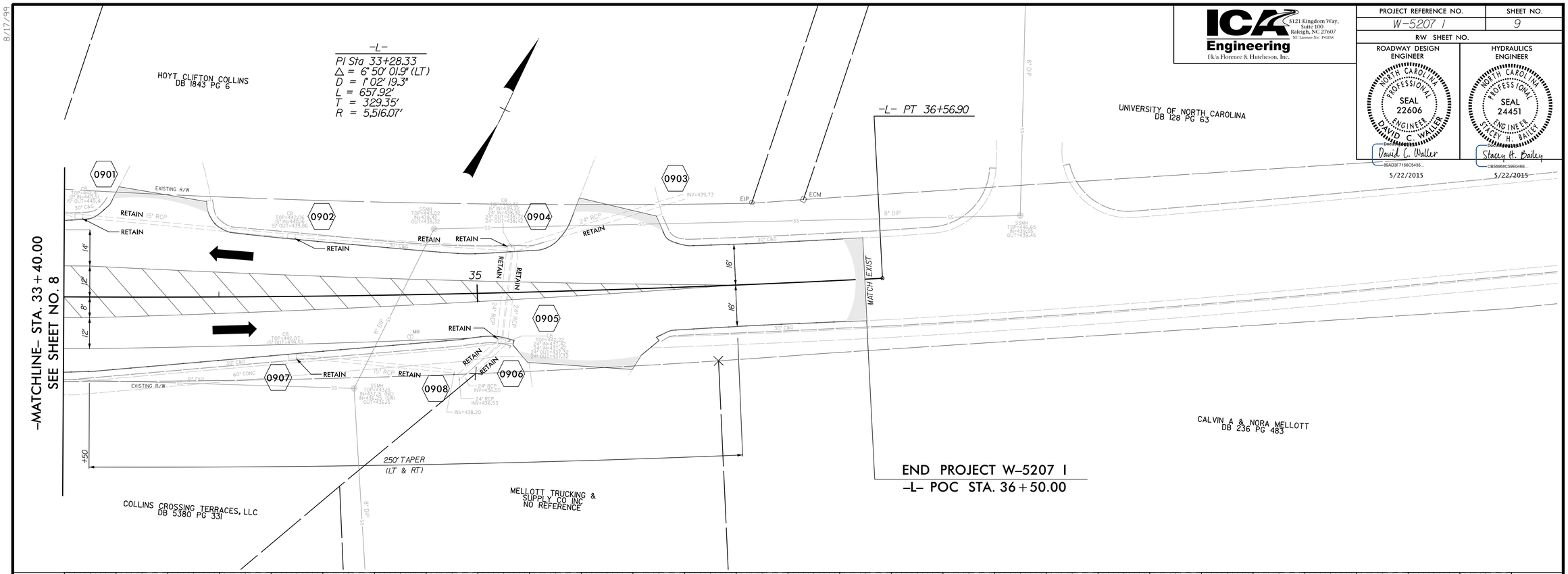


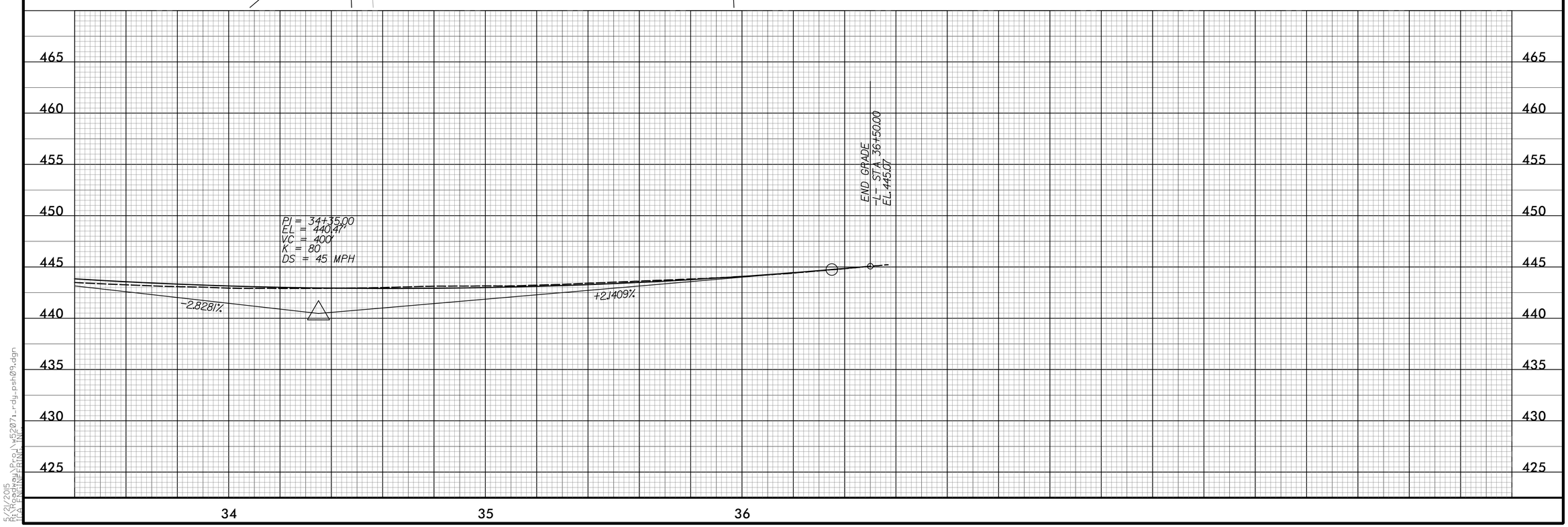


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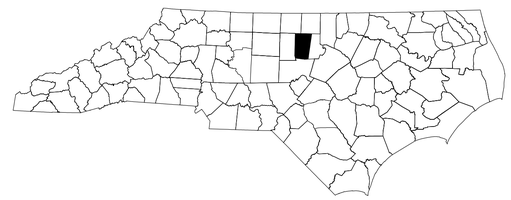
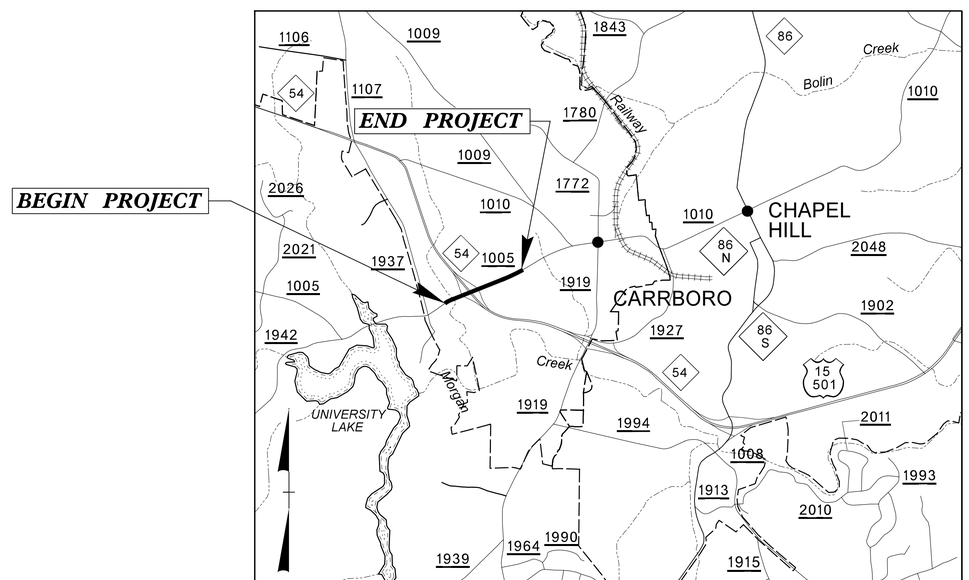
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

# TRANSPORTATION MANAGEMENT PLAN

# ORANGE COUNTY





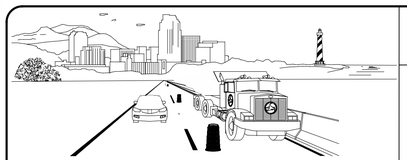

SKETCH MAP SHOWING THE VICINITY OF
STATE PROJECT W-5207I
JONES FERRY RD. (SR 1005) FROM WEST OF
NC 54 TO WEST OF BARNES ST. IN CARRBORO

## INDEX OF SHEETS


| SHEET NO. | TITLE |
|---|---|
| TMP-1 | INDEX OF SHEETS |
| TMP-1A | LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND & TEMPORARY PAVEMENT MARKING SCHEDULE |
| TMP-2 | TRANSPORTATION OPERATION PLAN |
| TMP-3 | PHASING |
| TMP-4 THRU 6 | PHASE II DETAILS |


SHEET NO.
TMP-1

TIP PROJECT: W-5207I



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"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
D. BISSETTE, P.E. — TRAFFIC CONTROL PROJECT ENGINEER
_____ — TRAFFIC CONTROL PROJECT DESIGN ENGINEER
_____ — TRAFFIC CONTROL DESIGN ENGINEER


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# ROADWAY STANDARD DRAWINGS

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

| STD. NO. | TITLE |
|---|---|
| 1101.01 | WORK ZONE ADVANCE WARNING SIGNS |
| 1101.02 | TEMPORARY LANE CLOSURES |
| 1101.11 | TRAFFIC CONTROL DESIGN TABLES |
| 1110.01 | STATIONARY WORK ZONE SIGNS |
| 1110.02 | PORTABLE WORK ZONE SIGNS |
| 1115.01 | FLASHING ARROW BOARDS |
| 1130.01 | DRUM |
| 1135.01 | CONES |
| 1150.01 | FLAGGING DEVICES |
| 1165.01 | WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION |
| 1180.01 | SKINNY-DRUM |
| 1205.01 | PAVEMENT MARKINGS - LINE TYPES AND OFFSETS |
| 1205.02 | PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS |
| 1205.03 | PAVEMENT MARKINGS - EXITS AND ENTRANCE RAMPS |
| 1205.04 | PAVEMENT MARKINGS - INTERSECTIONS |
| 1205.05 | PAVEMENT MARKINGS - TURN LANES |
| 1205.06 | PAVEMENT MARKINGS - LANE DROPS |
| 1205.07 | PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS |
| 1205.08 | PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES |
| 1205.09 | PAVEMENT MARKINGS - PAINTED ISLANDS |
| 1250.01 | RAISED PAVEMENT MARKERS - INSTALLATION SPACING |
| 1251.01 | RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY |

# LEGEND

## GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- WORK AREA
- CONTINUING CONSTRUCTION
- REMOVAL

## TRAFFIC CONTROL DEVICES

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

## TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

## SIGNALS

- EXISTING
- PROPOSED
- TEMPORARY (TEMP)

## PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

## PAVEMENT MARKERS

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

## PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

## TEMPORARY PAVEMENT MARKING

| SYMBOL | DESCRIPTION |
|---|---|
| | PAINT (4") |
| P8 | 2FT.-6FT./SP WHITE MINISKIP |
| PA | WHITE EDGELINE |
| PB | YELLOW EDGELINE |
| PC | 10 FT. WHITE SKIP |
| PD | 3FT.-9FT./SP WHITE MINISKIP |
| PE | WHITE SOLID LANE LINE |
| PI | DOUBLE YELLOW CENTERLINE |
| | PAINT (8") |
| P13 | 3FT.-9FT./SP WHITE MINISKIP |
| PO | WHITE DIAGONAL |
| PP | YELLOW DIAGONAL |
| PR | WHITE SOLID LANE LINE |
| | PAINT (24") |
| P2 | WHITE STOPBAR |
| | PAINT SYMBOL |
| QA | LEFT ARROW |
| QB | RIGHT ARROW |
| QI | ALPHANUMERIC CHARACTER |
| | TEMPORARY RAISED MARKERS |
| MH | YELLOW & YELLOW |
| MI | CRYSTAL & RED |

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SEAL

NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA

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

ROADWAY STANDARD DRAWINGS, LEGEND & TEMPORARY PAVEMENT MARKING SCHEDULE

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# GENERAL NOTES

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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 |
|---|---|
| JONES FERRY ROAD | MONDAY THRU FRIDAY, 7:00 AM TO 9:00 AM |

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

LANE AND SHOULDER CLOSURE REQUIREMENTS

C) 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.

D) 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.

E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

F) 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.

G) 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.

H) DO NOT INSTALL MORE THAN ONE LANE CLOSURE IN ANY ONE DIRECTION ON JONES FERRY ROAD.

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

TRAFFIC CONTROL DEVICES

N) 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 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

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

| ROAD NAME | MARKING | MARKER |
|---|---|---|
| JONES FERRY ROAD | PAINT | TEMPORARY RAISED |

P) 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.

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

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

MISCELLANEOUS

S) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.

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TRANSPORTATION OPERATIONS PLAN

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| DATE: | MAR 2015 |
| DWG. BY: | YTM |
| DESIGN BY: | AKP |
| REVIEWED BY: | MTR |

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# PHASING

## PHASE I

STEP 1

USING RSD 1101.01 (SHEETS 2 & 3 OF 3), INSTALL ADVANCE WARNING SIGNS ON JONES FERRY ROAD, ALABAMA AVENUE, DAVIE ROAD AND ON/OFF RAMPS TO/FROM NC 54.

STEP 2

USING RSD 1101.02 (SHEETS 1 & 7 OF 15), BEGIN INSTALLATION OF PROPOSED DRAINAGE AND PROPOSED SIGNAL AT JONES FERRY ROAD AND DAVIE ROAD (KEEP DEACTIVATED) (SEE ROADWAY AND SIGNAL PLANS)(SEE SHEET TMP-5).

USING RSD 1101.02 (SHEET 7 OF 15), BEGIN CONSTRUCTION OF PROPOSED SIDEWALK AND CURB & GUTTER (SEE ROADWAY PLANS)(SEE SHEET TMP-5).

USING RSD 1101.02 (SHEETS 1 & 7 OF 15), MILL EXISTING JONES FERRY ROAD FROM -L- STA 10+00 TO STA 36+50 (SEE ROADWAY PLANS). PLACE TEMPORARY MARKINGS ON MILLED SURFACE AT END OF EACH WORK PERIOD AND MAINTAIN TRAFFIC IN EXISTING PATTERN.

## PHASE II

STEP 1

USING RSD 1101.02 (SHEETS 1 & 7 OF 15), PLACE TEMPORARY PAVEMENT MARKINGS AND SHIFT TRAFFIC TO FINAL PATTERN (SEE SHEETS TMP-4 THRU TMP-6).

COMPLETE INSTALLATION OF PROPOSED DRAINAGE, PROPOSED SIGNAL AND PROPOSED SIDEWALK AND CURB & GUTTER.

STEP 2

USING RSD 1101.02 (SHEETS 1 & 7 OF 15), COMPLETE THE FOLLOWING:

- CONSTRUCT PROPOSED ISLANDS (SEE ROADWAY PLANS)
- PLACE FINAL LAYER OF SURFACE COURSE
- PLACE FINAL PAVEMENT MARKINGS AND MARKERS.
- ACTIVATE PROPOSED SIGNAL AT JONES FERRY ROAD AND DAVIE ROAD

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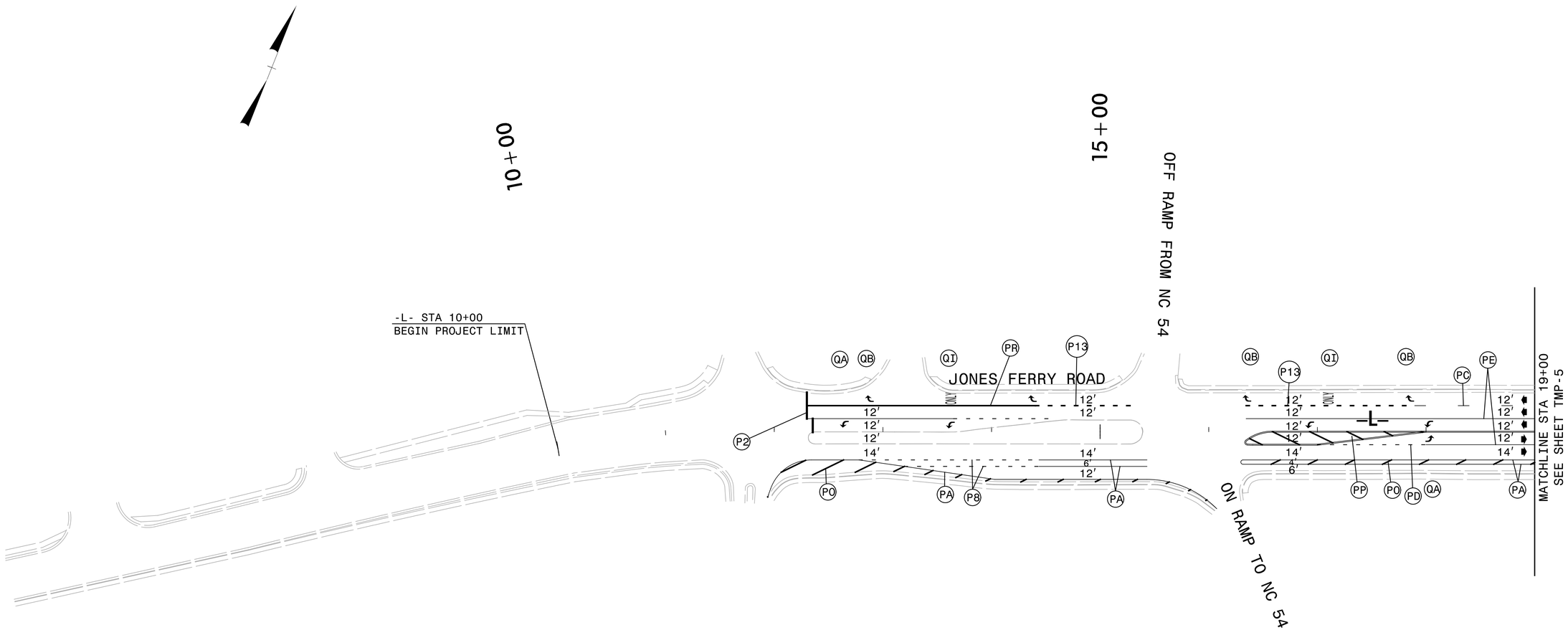


APPROVED: DocuSigned by: Michael T. Rzepka DATE: 5/22/2015

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA

# PHASE II DETAIL

| | |
|---|---|
| SCALE: | NONE |
| DATE: | MAR 2015 |
| DWG. BY: | YTM |
| DESIGN BY: | AKP |
| REVIEWED BY: | MTR |

DIVISION OF HIGHWAYS STATEWIDE TRAFFIC ENGINEERING & SAFETY SYSTEMS TRAFFIC CONTROL

REVISIONS

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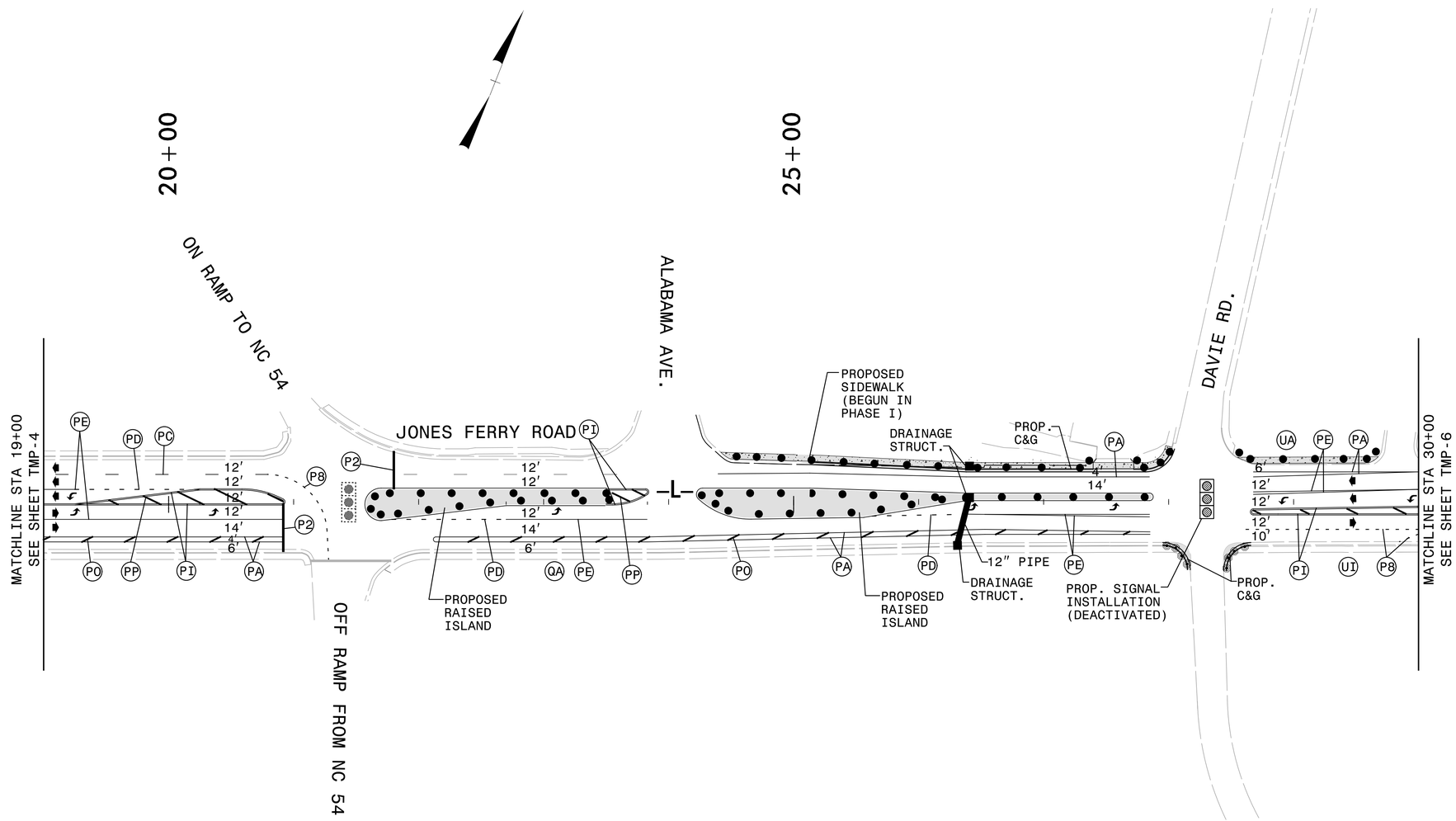
| W-5207I | TMP-5 |




APPROVED: DocuSigned by: Michael T. Rzepka 518C3480C260466 DATE: 5/22/2015

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA

# PHASE II DETAIL

| | |
|---|---|
| SCALE: | NONE |
| DATE: | MAR 2015 |
| DWG. BY: | YTM |
| DESIGN BY: | AKP |
| REVIEWED BY: | MTR |

DIVISION OF HIGHWAYS
TRAFFIC ENGINEERING BRANCH
TRAFFIC CONTROL UNIT

REVISIONS

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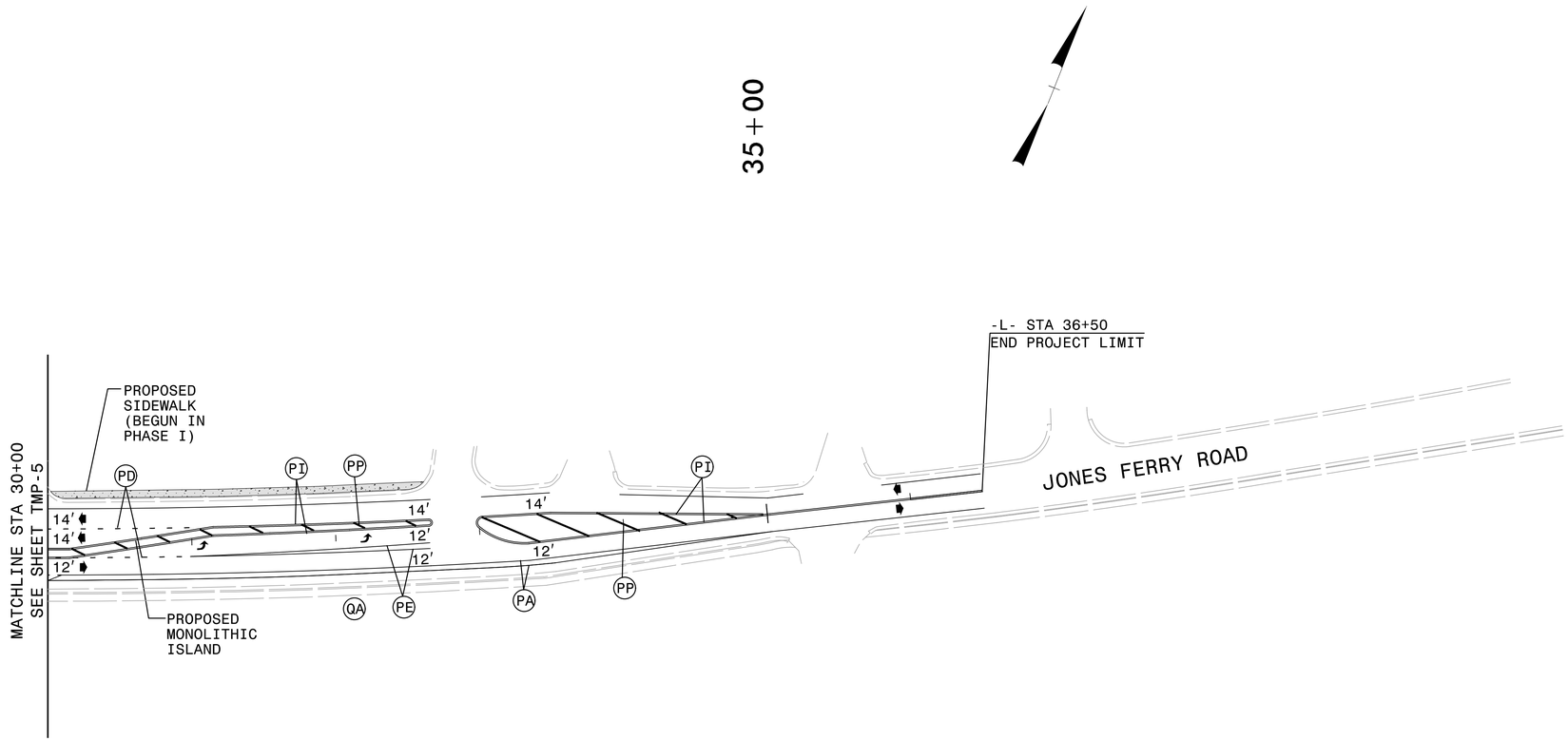
| W-5207I | TMP-6 |




APPROVED DocuSigned by: Michael T. Rzepka 0182C3480C2B49D... DATE: 5/22/2015

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA

# PHASE II DETAIL

| | |
|---|---|
| SCALE: | NONE |
| DATE: | MAR 2015 |
| DWG. BY: | YTM |
| DESIGN BY: | AKP |
| REVIEWED BY: | MTR |

DIVISION OF HIGHWAYS · TRAFFIC ENGINEERING BRANCH · TRAFFIC CONTROL UNIT

REVISIONS

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T.I.P.: W-5207I

CONTRACT:

| TIP NO. | SHEET NO. |
|---|---|
| W-5207I | PMP-1 |

APPROVED: DocuSigned by: Michael T. Rzepka 018C3480C26049D...

DATE: 5/22/2015

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA

# STATE OF NORTH CAROLINA
# DEPARTMENT OF TRANSPORTATION

# PAVEMENT MARKING PLAN

## ORANGE COUNTY

### LOCATION: SR 1005 (JONES FERRY RD) AND DAVIE STREET IN CARRBORO

## FINAL PAVEMENT MARKING SCHEDULE

| SYMBOL | DESCRIPTION | QUANTITY |
|---|---|---|
| | (FINAL PAVEMENT MARKINGS) | |
| | THERMOPLASTIC (4", 90 MILS) | |
| TA | WHITE EDGELINE | 765 |
| TB | YELLOW EDGELINE | 945 |
| | TOTAL | 1710 |
| | THERMOPLASTIC (4", 120 MILS) | |
| T8 | 2 FT.-6 FT./SP WHITE MINISKIP | 318 |
| TC | 10 FT. WHITE SKIP | 117 |
| TD | 3 FT.-9 FT./SP WHITE MINISKIP | 188 |
| TE | WHITE SOLID LANE LINE | 5873 |
| TI | YELLOW DOUBLE CENTER | 636 |
| | TOTAL | 12856 |
| | THERMOPLASTIC (8", 90 MILS) | |
| TO | WHITE DIAGONAL | 529 |
| TP | YELLOW DIAGONAL | 466 |
| | TOTAL | 995 |
| | THERMOPLASTIC (8", 120 MILS) | |
| T13 | 3 FT.-9 FT./SP WHITE MINISKIP | 62 |
| TQ | WHITE CROSSWALK LINE | 1264 |
| TR | WHITE SOLID LANE LINE | 210 |
| | TOTAL | 1536 |
| | THERMOPLASTIC (24", 120 MILS) | |
| T2 | WHITE STOPBAR | 413 |
| T3 | WHITE CROSSWALK | 490 |
| | TOTAL | 903 |
| | THERMOPLASTIC PAVEMENT MARKING SYMBOLS (90 MILS) | |
| UA | LEFT TURN ARROW | 16 |
| UB | RIGHT TURN ARROW | 6 |
| UC | STRAIGHT ARROW | 8 |
| UE | COMBO. STRAIGHT/RIGHT | 3 |
| UJ | BICYCLE | 12 |
| UK | BICYCLE ARROW | 12 |
| | TOTAL | 57 |
| | THERMOPLASTIC PAVEMENT MARKING CHARACTER (120 MILS) | |
| UI | ALPHANUMERIC CHARACTER | 22 |
| | (MARKERS) | |
| | PERMANENT RAISED PAVEMENT MARKERS | |
| MA | YELLOW/YELLOW | 80 |
| MB | CRYSTAL/RED | 213 |
| | TOTAL | 293 |

## 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 - 2-LANE AND MULTILANE ROADWAYS |
| 1205.04 | PAVEMENT MARKINGS - INTERSECTIONS |
| 1205.05 | PAVEMENT MARKINGS - TURN LANES |
| 1205.06 | PAVEMENT MARKINGS - LANE DROPS |
| 1205.08 | PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES |
| 1205.09 | PAVEMENT MARKINGS - PAINTED ISLANDS |
| 1250.01 | RAISED PAVEMENT MARKERS - INSTALLATION SPACING |
| 1251.01 | RAISED PAVEMENT MARKERS - PERMANENT |

## GENERAL NOTES

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

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

| ROAD NAME | MARKING | MARKER |
|---|---|---|
| ALL | THERMOPLASTIC | PERMANENT 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) STOP BAR LOCATION AT NON-SIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.

F) UNLESS OTHERWISE SPECIFIED, HEATED-IN-PLACE THERMOPLASTIC MAY BE USED IN LIEU OF EXTRUDED THERMOPLASTIC FOR STOP BARS, SYMBOLS, CHARACTERS AND DIAGONALS. IF HEATED-IN-PLACE IS USED, IT SHALL BE PAID FOR USING THE EXTRUDED THERMOPLASTIC PAY ITEM.

## INDEX


| SHEET NO. | DESCRIPTION |
|---|---|
| PMP-1 | PAVEMENT MARKING PLAN TITLE AND SCHEDULE SHEET |
| PMP-1A | REVISED PAVEMENT MARKING - LANE DROPS |
| PMP-1B | CROSSWALK AND STOP BAR PAVEMENT MARKING DETAIL |
| PMP-2-4 | PAVEMENT MARKING DETAIL |


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

_____ SIGNING & DELINEATION REGIONAL ENGINEER

_____ SIGNING & DELINEATION DESIGN ENGINEER

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


PLAN PREPARED BY: FLORENCE & HUTCHESON

M. T. RZEPKA, P.E. — PROJECT ENGINEER

A. C. PILZ, P.E. — DESIGN ENGINEER

Y. MARIOTTE — DESIGN TECHNICIAN

ICA Engineering, 5121 Kingdom Way, Suite 100, Raleigh, NC 27607, NC License No. P-0208


5/22/2015
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ICA Engineering

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| TIP NO. | SHEET NO. |
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| W-5207I | PMP-1A |

APPROVED: 
DATE: 3/6/12

SEAL

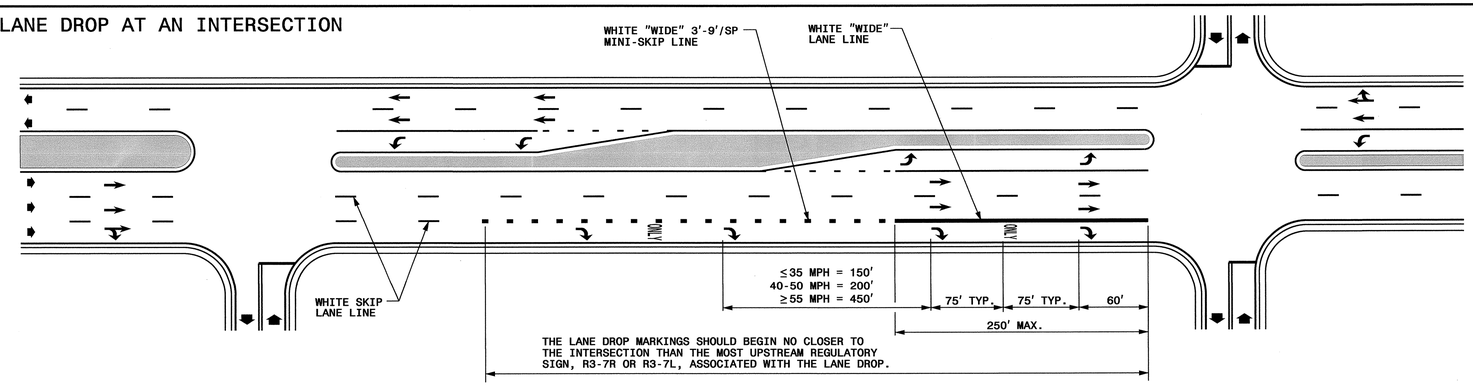
NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING

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

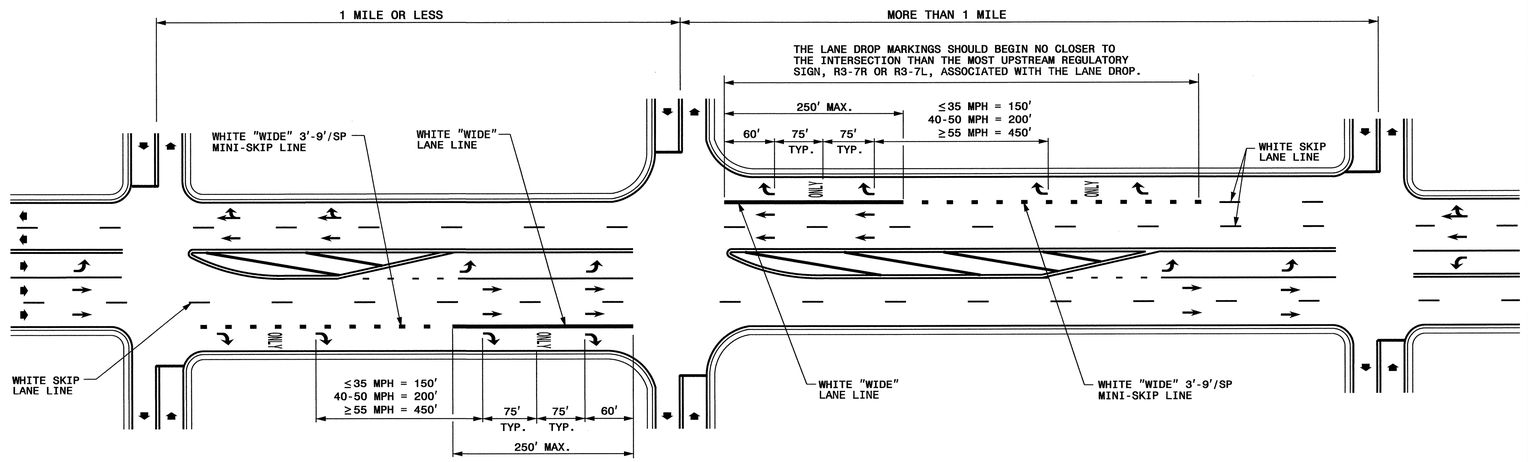
1-12

ENGLISH DETAIL DRAWING FOR
**PAVEMENT MARKINGS**
LANE DROPS

## LANE DROP AT AN INTERSECTION




## LANE DROP AT AN INTERSECTION WITH AN AUXILIARY LANE




GENERAL NOTES:

1- USE THE GUIDANCE SHOWN ON THE ABOVE DETAILS IN CONJUNCTION WITH INTERSECTION GUIDANCE SHOWN ON ROADWAY STANDARD DRAWING 1205.04.

2- LANE LINES INDICATED AS "WIDE" SHALL BE AT LEAST TWICE THE WIDTH OF THE NORMAL LINE.

**LEGEND**

W = WIDTH OF TRAVEL LANE

DIRECTION OF TRAFFIC FLOW

ONLY PAVEMENT MARKING SYMBOLS & CHARACTERS

SHEET 1 OF 3
**1205D06**

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

1-12

ENGLISH DETAIL DRAWING FOR
**PAVEMENT MARKINGS**
LANE DROPS

SHEET 1 OF 3
**1205D06**

**REVISED PAVEMENT MARKING ROADWAY STANDARD DRAWING**

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| W-5207I | PMP-1B |

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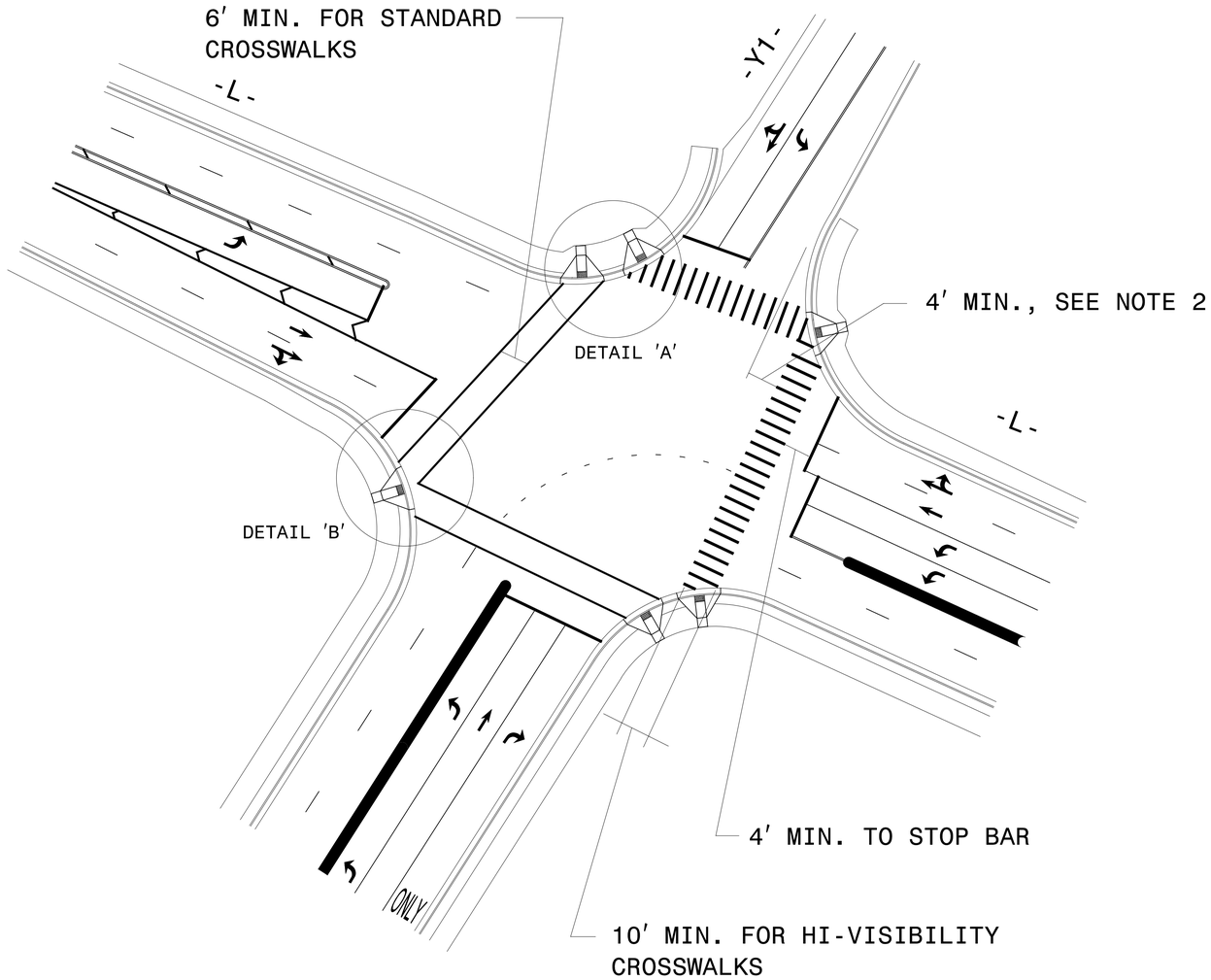
DATE: 5/22/2015

SEAL

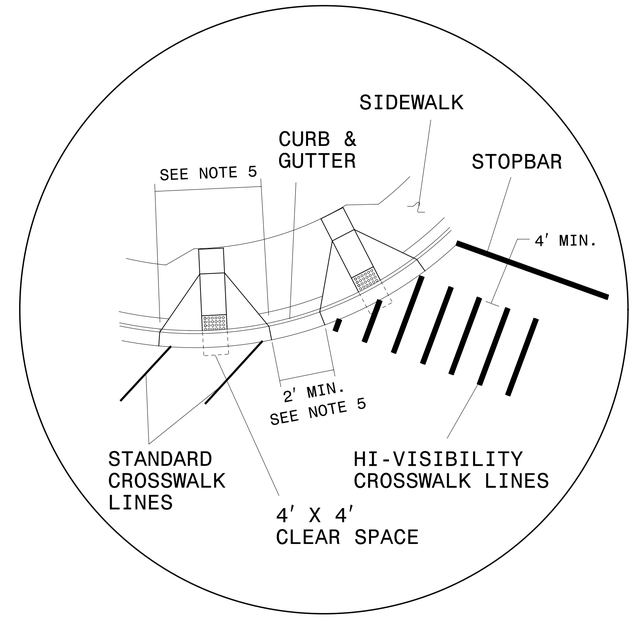
NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA



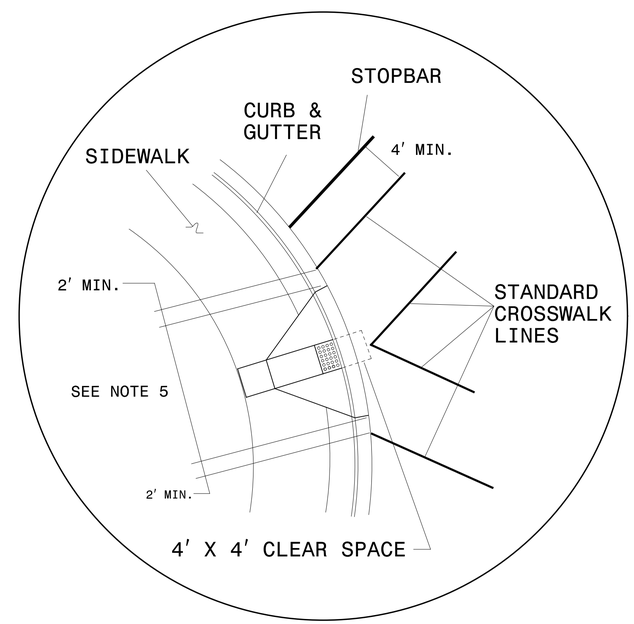

## GUIDANCE DETAIL FOR STANDARD AND HI-VISIBIILTY CROSSWALKS AT SIGNALIZED OR STOP SIGN CONTROLLED INTERSECTIONS

NOTES:

1. USE DETAILS ABOVE AND THE FOLLOWING NOTES FOR GUIDANCE IN PLACING CROSSWALKS AND STOP BARS NOT STATIONED ON THE DETAIL SHEETS OR WHEN FIELD ADJUSTMENTS REQUIRED MOVING STATIONED MARKINGS AS DIRECTED BY THE ENGINEER. REFER TO NCDOT ROADWAY STANDARD DRAWINGS, MUTCD AND ADA STANDARDS FOR ADDITIONAL GUIDANCE.
2. SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL IS 4′ MIN.
3. BEYOND THE BOTTOM GRADE BRAKE, A CLEAR SPACE OF 4′ X 4′ MINIMUM SHALL BE PROVIDED WITHIN THE WIDTH OF THE CROSSWALK.
4. SINGLE DIAGONAL CURB RAMPS WITH FLARED SIDES SHALL HAVE A SEGMENT OF CURB 2 FEET LONG MINIMUM LOCATED ON EACH SIDE OF THE CURB RAMP AND WITHIN THE MARKED CROSSING, SEE DETAIL 'B'.
5. CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE TO THE LATEST NCDOT ROADWAY STANDARD DRAWINGS.




DETAIL 'A'- DUAL CURB RAMPS




DETAIL 'B'- SINGLE DIAGONAL CURB RAMP

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**CROSSWALK AND STOP BAR PAVEMENT MARKING DETAIL**

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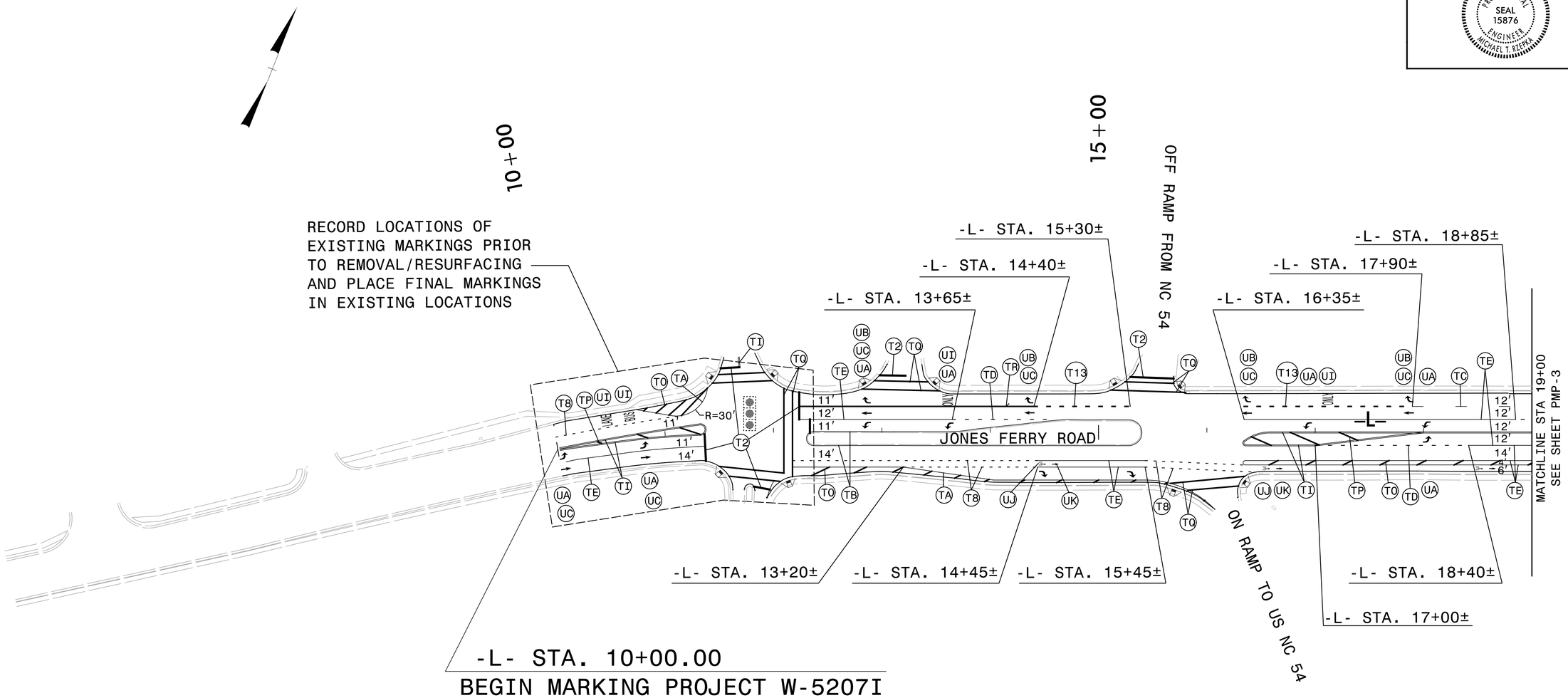
| TIP NO. | SHEET NO. |
|---|---|
| W-5207I | PMP-2 |

APPROVED: DocuSigned by: Michael T. Rzepka 019C3480C26049D...

DATE: 5/22/2015

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA

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# PAVEMENT MARKING DETAIL

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| TIP NO. | SHEET NO. |
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| W-5207I | PMP-3 |

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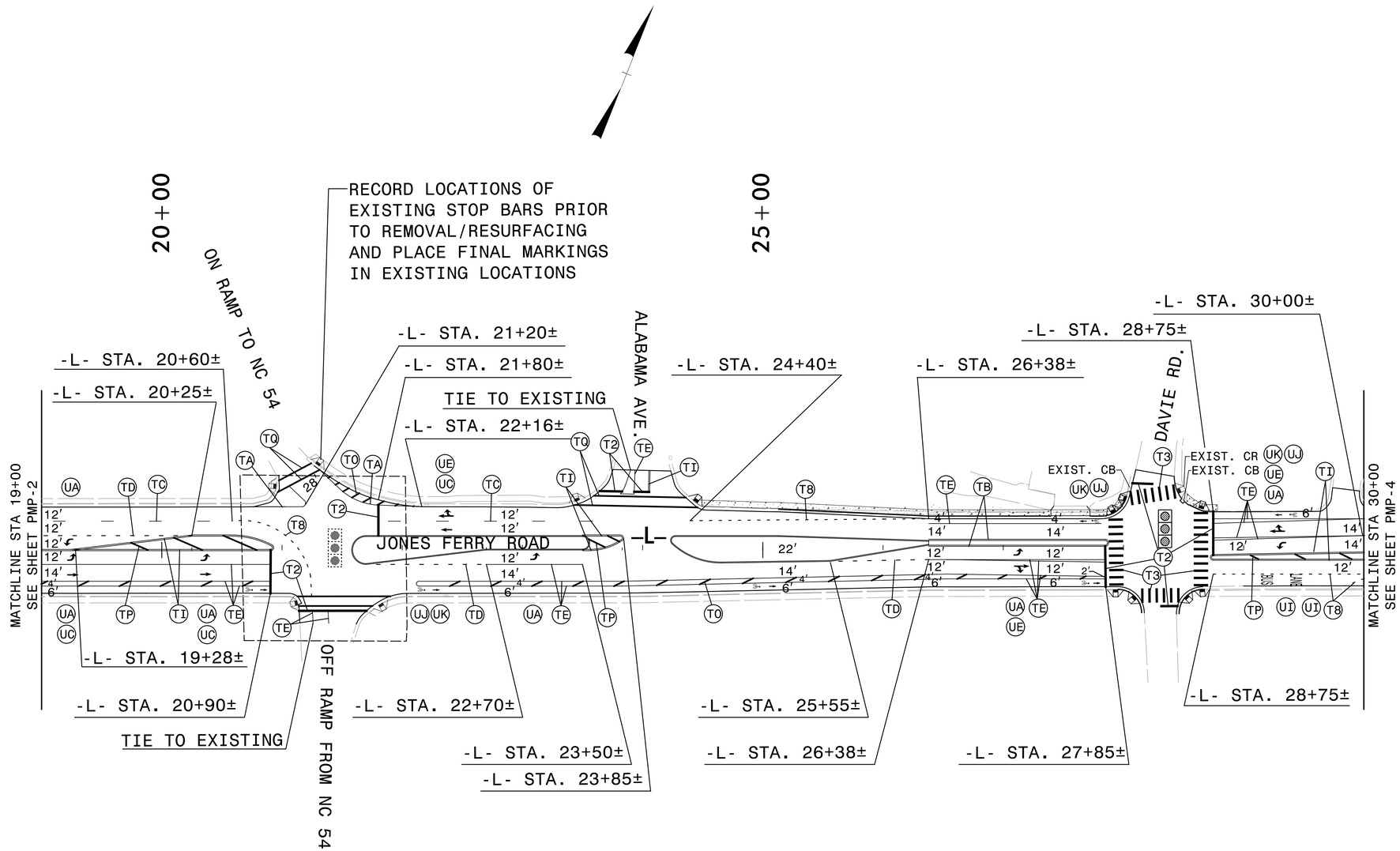
DATE: 5/22/2015

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA

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# PAVEMENT MARKING DETAIL

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| W-5207I | PMP-4 |

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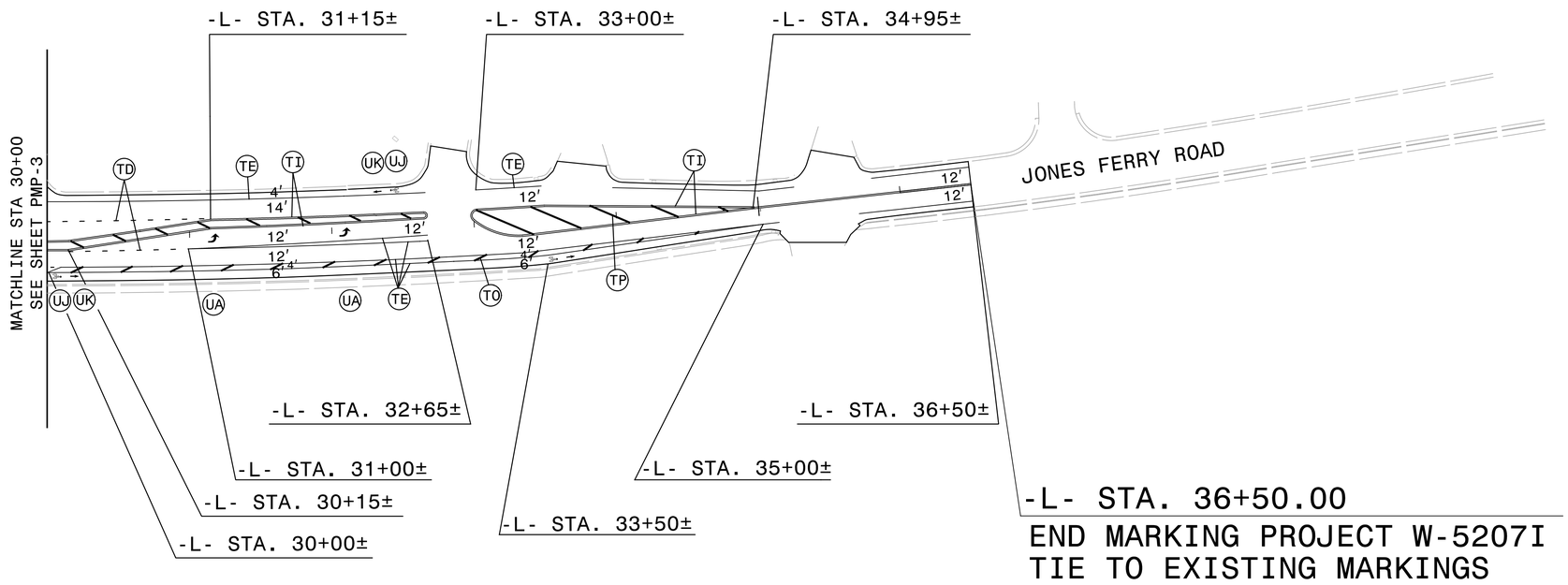
DATE: 5/22/2015

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA

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**PAVEMENT MARKING DETAIL**

| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|
| N.C. | W-5207 I | EC-1 | |

| STATE PROJ. NO. | F.A. PROJ. NO. | DESCRIPTION |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

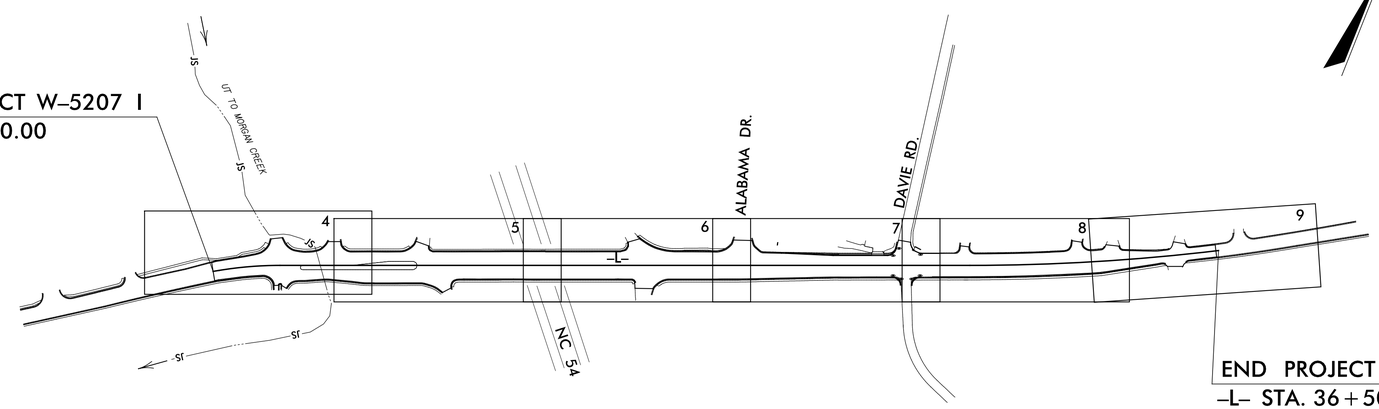
# STATE OF NORTH CAROLINA
# DIVISION OF HIGHWAYS

## PLAN FOR PROPOSED
# HIGHWAY EROSION CONTROL

## *ORANGE COUNTY*

JONES FERRY RD (SR 1005) FROM WEST OF NC 54 TO WEST OF BARNES ST. IN CARRBORO

W-5207 I




## 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 | |
| | Wattle/Coir Fiber Wattle with Polyacrylamide (PAM) | |
| 1634.01 | Temporary Rock Sediment Dam Type-A | |
| 1634.02 | Temporary Rock Sediment Dam Type-B | |
| 1635.01 | Rock Pipe Inlet Sediment Trap Type-A | |
| 1635.02 | Rock Pipe Inlet Sediment Trap Type-B | |
| 1630.04 | Stilling Basin | |
| 1630.06 | Special Stilling Basin | |
| | Rock Inlet Sediment Trap: | |
| 1632.01 | Type A | A |
| 1632.02 | Type B | B |
| 1632.03 | Type C | C |
| | Skimmer Basin | |
| | Tiered Skimmer Basin | |
| | Infiltration Basin | |

**THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.**

**THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.**

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**HIGH QUALITY WATER(S) EXIST ON THIS PROJECT**

***High Quality Water Zone(s) Exist***
***From Sta. _____ Begin***
***to Sta. _____ End***
***Refer To E. C. Special Provisions for Special Considerations.***

### *GRAPHIC SCALE*

20 10 0 20 40
PLANS

20 10 0 20 40
PROFILE (HORIZONTAL)

5 2.5 0 5 10
PROFILE (VERTICAL)

*ROADSIDE ENVIRONMENTAL UNIT*
*DIVISION OF HIGHWAYS*
*STATE OF NORTH CAROLINA*

LEVEL III CERTIFIED BY:
ALEXANDER SNIDER, P.E.
CERTIFICATION NUMBER: 3064
ISSUED: MARCH 30, 2015

***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:*

***ICA ENGINEERING***
*5121 KINGDOM WAY, SUITE 100*
*RALEIGH NC 27607*
*NC License No: F-0258*

***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 | | |

3/31/2015
W5207_title_EC_Erosion Control.dgn
ICA ENGINEERING, INC.

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5207 I | EC-2 |

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. |

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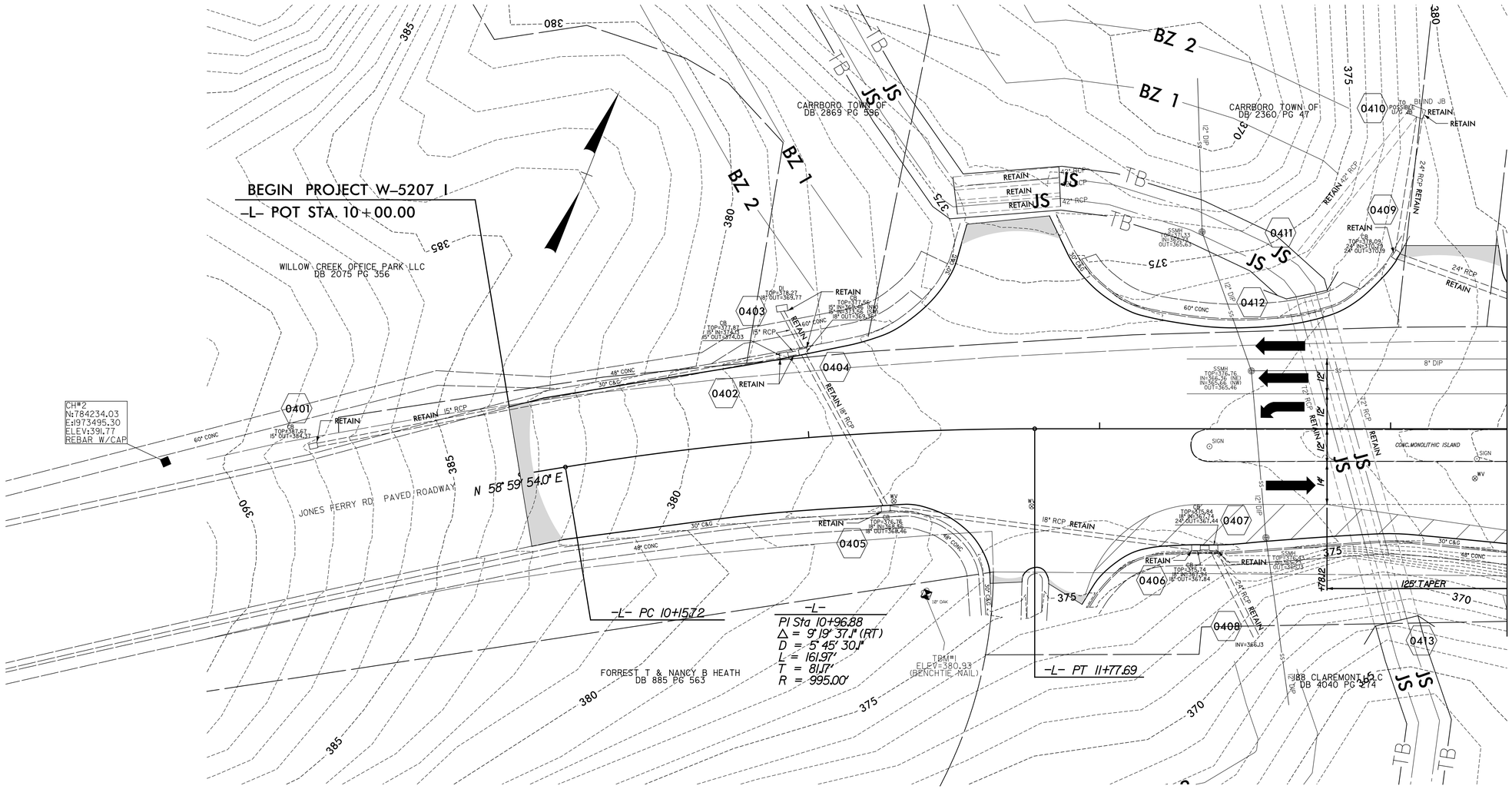
| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5207 I | EC-3/CONST.4 |
| R/W SHEET NO. | |
| ROADSIDE ENVIRONMENTAL PROJECT ENGINEER | |

LEVEL III CERTIFIED BY:
ALEXANDER SNIDER, P.E.
CERTIFICATION NUMBER: 3064
ISSUED: MARCH 30, 2015

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4




NOTE:
ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING/PROPOSED R/W OR EASEMENT.

REVISIONS

8/17/99

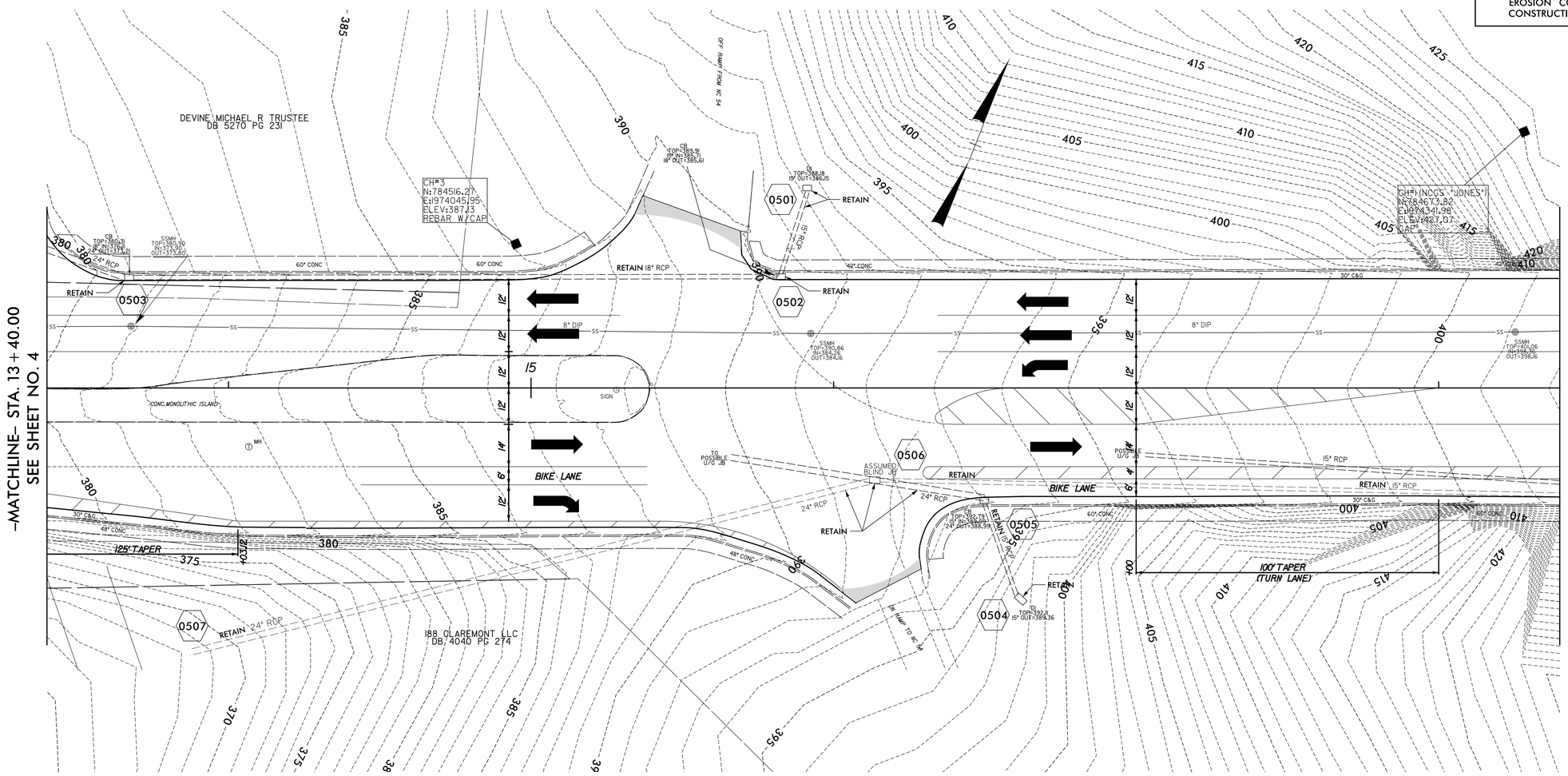
3/31/2015
R:\Hydraulics\Erosion Control\cadd\W52071_esc_psh04_c&g.dgn
Ko & Associates P.C.

ICA Engineering
5121 Kingdom Way, Suite 100
Raleigh, NC 27607
NC License No: F-0258

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5207 I | EC-4/CONST.5 |
| R/W SHEET NO. | |
| ROADSIDE ENVIRONMENTAL PROJECT ENGINEER | |

LEVEL III CERTIFIED BY:
ALEXANDER SNIDER, P.E.
CERTIFICATION NUMBER: 3064
ISSUED: MARCH 30, 2015

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5




NOTE:
ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING/PROPOSED R/W OR EASEMENT.

REVISIONS

8/17/99

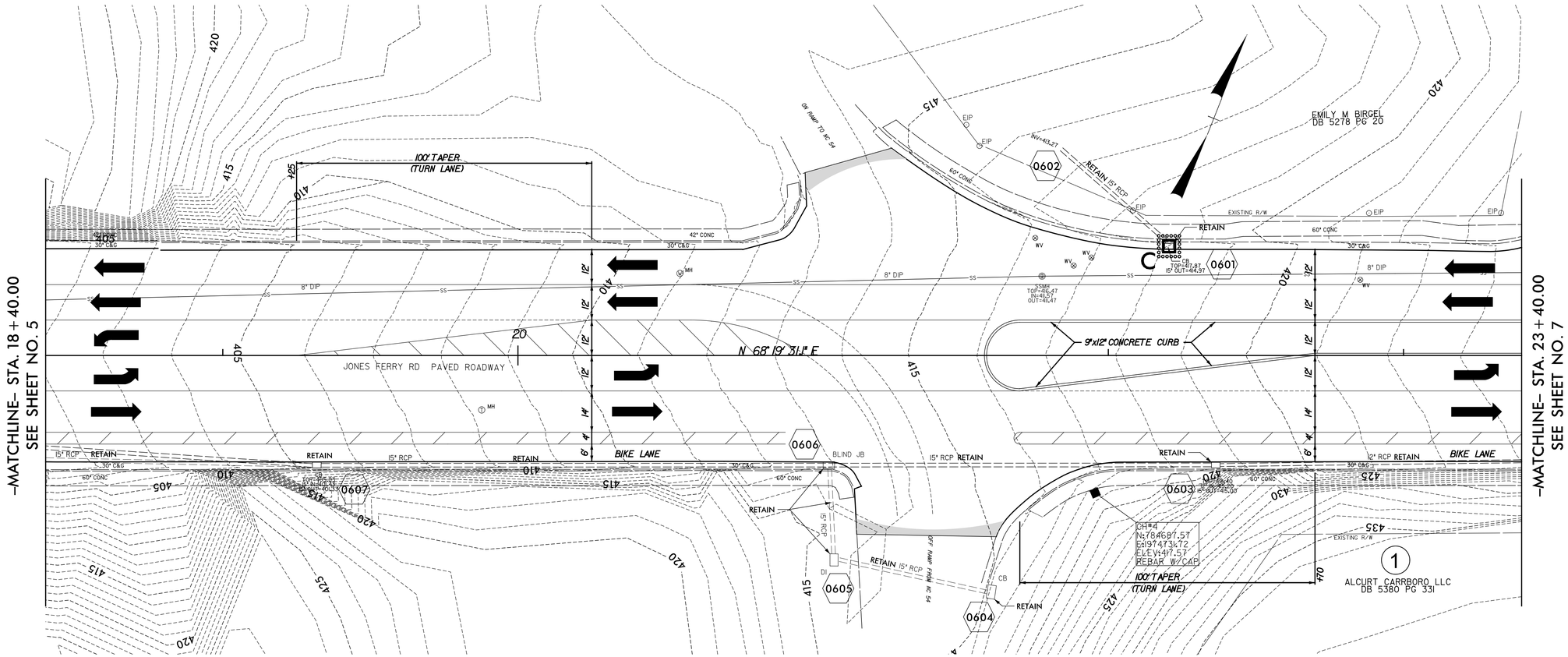
3/31/2015
R:\Hydraulics\Erosion Control\cadd\W52071_esc_psh05_c&g.dgn
Kok & Associates, P.C.

ICA Engineering
5121 Kingdom Way, Suite 100
Raleigh, NC 27607
NC License No. F-0258

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5207 I | EC-5/CONST.6 |
| R/W SHEET NO. | |
| ROADSIDE ENVIRONMENTAL PROJECT ENGINEER | |

LEVEL III CERTIFIED BY:
ALEXANDER SNIDER, P.E.
CERTIFICATION NUMBER: 3064
ISSUED: MARCH 30, 2015

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 6




NOTE:
ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING/PROPOSED R/W OR EASEMENT.

REVISIONS

8/17/99

3/31/2015
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Ko & Associates, P.C.

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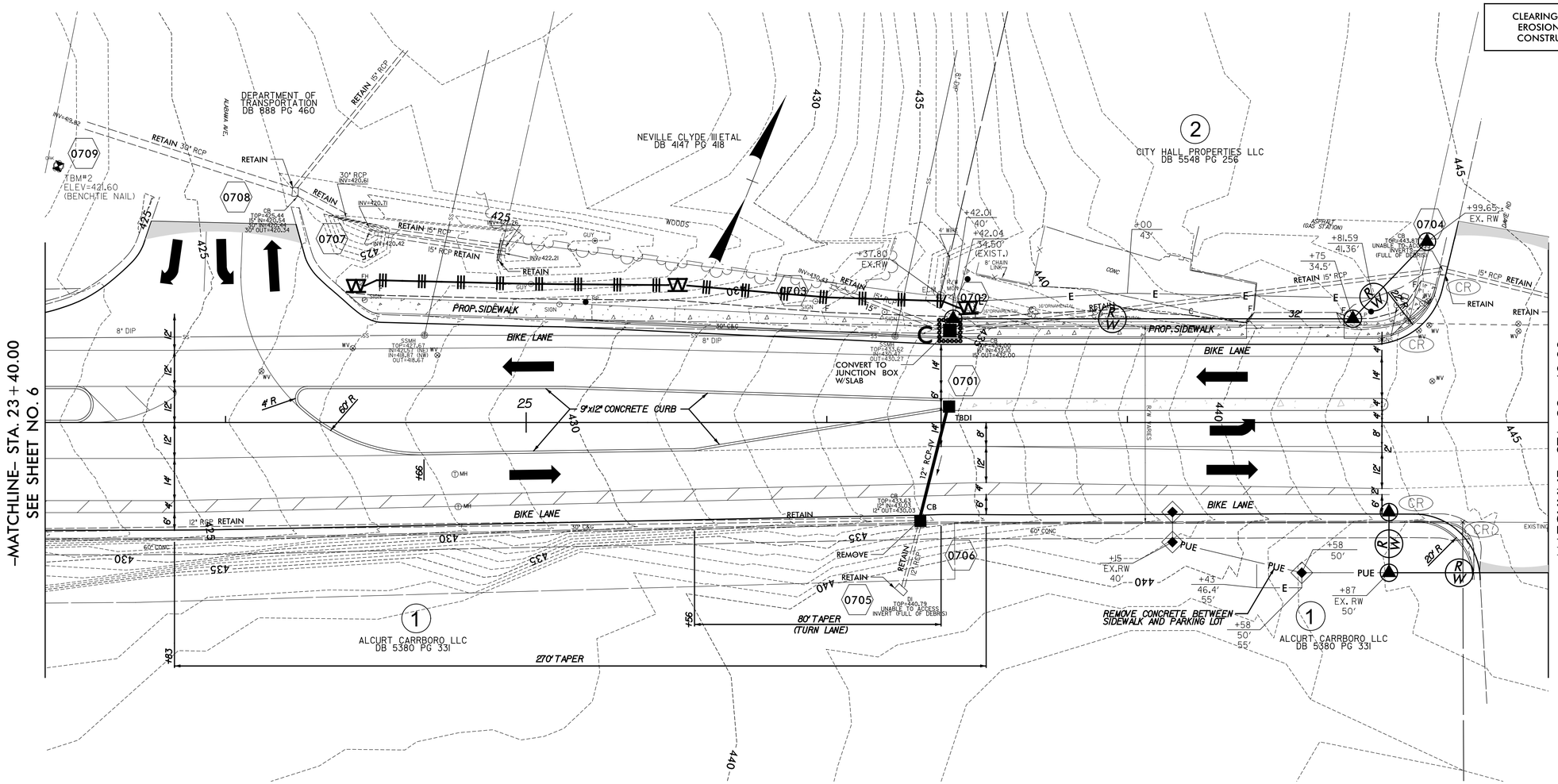
5121 Kingdom Way, Suite 100
Raleigh, NC 27607
NC License No: F-0258

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5207 I | EC-6/CONST.7 |
| R/W SHEET NO. | |
| ROADSIDE ENVIRONMENTAL PROJECT ENGINEER | |

LEVEL III CERTIFIED BY:
ALEXANDER SNIDER, P.E.
CERTIFICATION NUMBER: 3064
ISSUED: MARCH 30, 2015

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 7




NOTE:
ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING/PROPOSED R/W OR EASEMENT.

REVISIONS

8/17/99

3/31/2015
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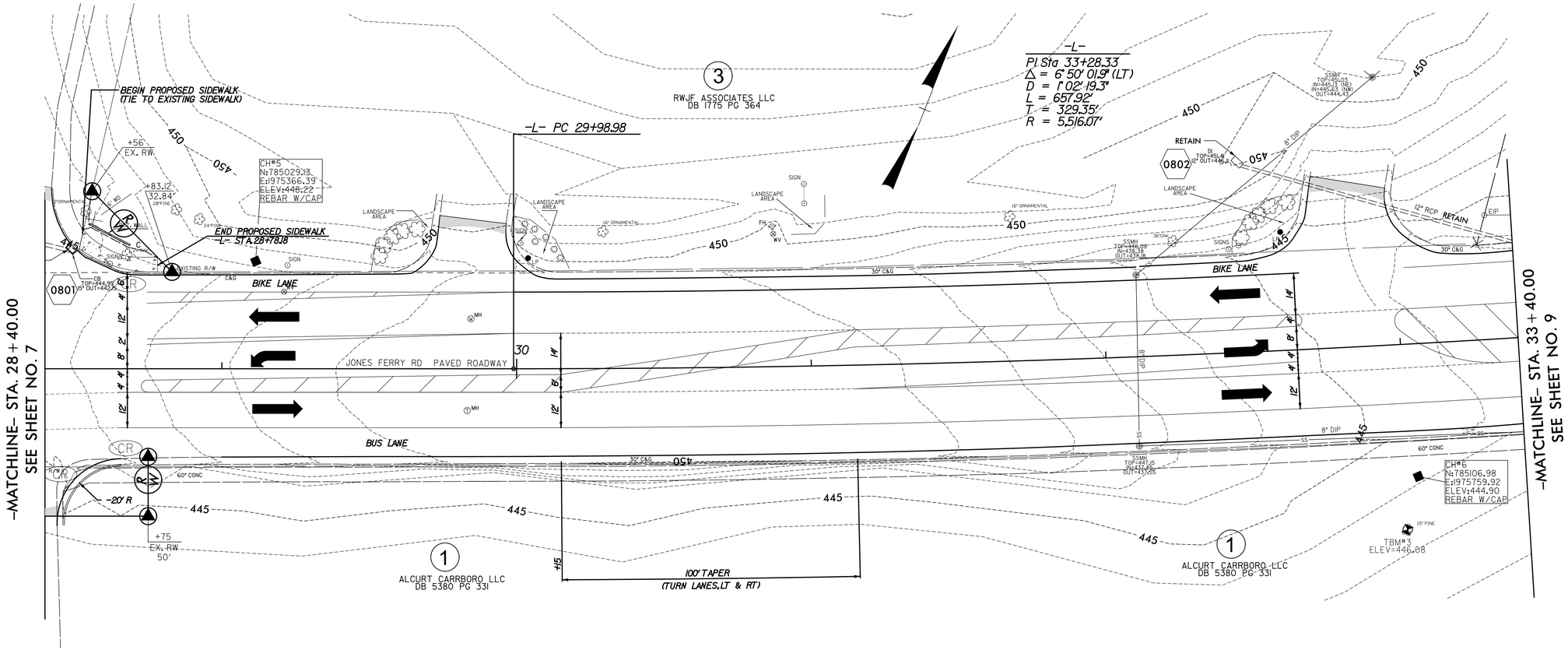
ICA Engineering
5121 Kingdom Way, Suite 100
Raleigh, NC 27607
NC License No: F-0258

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5207 I | EC-7/CONST.8 |
| R/W SHEET NO. | |
| ROADSIDE ENVIRONMENTAL PROJECT ENGINEER | |

LEVEL III CERTIFIED BY:
ALEXANDER SNIDER, P.E.
CERTIFICATION NUMBER: 3064
ISSUED: MARCH 30, 2015

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 8




NOTE:
ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING/PROPOSED R/W OR EASEMENT.

REVISIONS

8/17/99

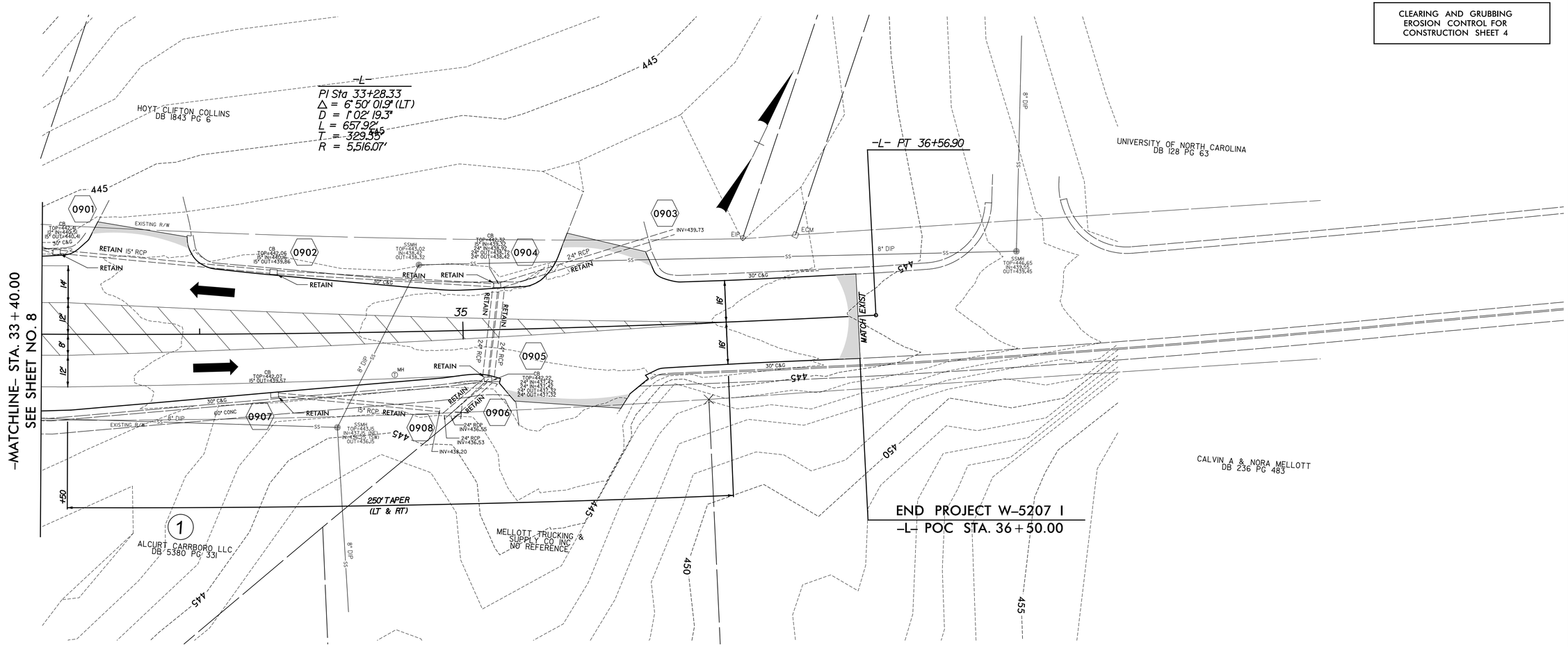
3/31/2015
R:\Roadways\Erosion Control\cadd\W5207I_esc_psh08_c&g.dgn
KG & Associates, P.C.

ICA Engineering
5121 Kingdom Way, Suite 100
Raleigh, NC 27607
NC License No: F-0258

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5207 I | EC-8/CONST.9 |
| R/W SHEET NO. | |
| ROADSIDE ENVIRONMENTAL PROJECT ENGINEER | |

LEVEL III CERTIFIED BY:
ALEXANDER SNIDER, P.E.
CERTIFICATION NUMBER: 3064
ISSUED: MARCH 30, 2015

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4




NOTE:
ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING/PROPOSED R/W OR EASEMENT.

REVISIONS

8/17/99

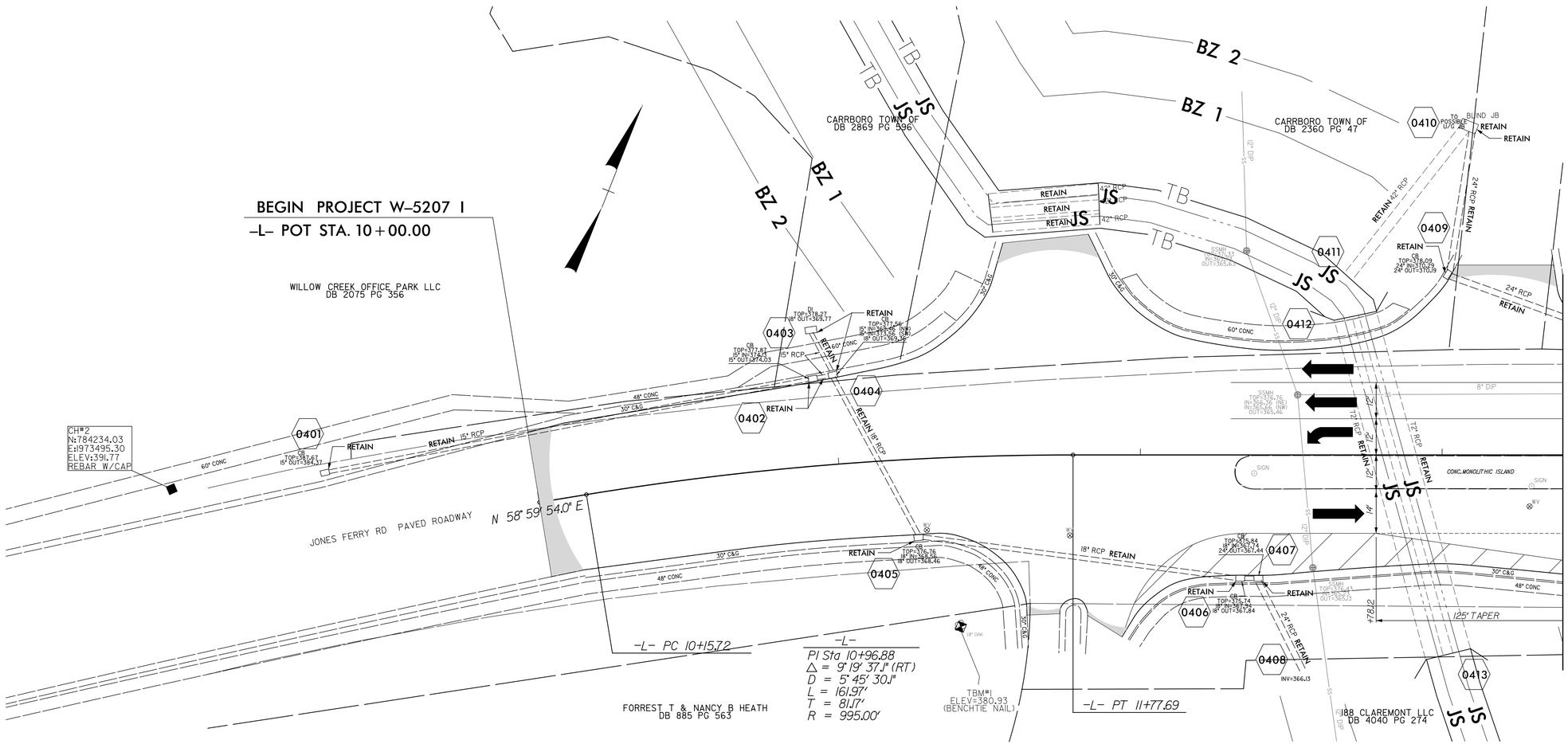
3/31/2015
R:\Graphics\Erosion Control\cadd\W5207I_esc_psh09_c&g.dgn
K. Y. Park & Associates, PC

ICA Engineering
5121 Kingdom Way, Suite 100
Raleigh, NC 27607
NC License No: F-0258

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5207 I | EC-9/CONST.4 |
| R/W SHEET NO. | |
| ROADSIDE ENVIRONMENTAL PROJECT ENGINEER | |

LEVEL III CERTIFIED BY:
ALEXANDER SNIDER, P.E.
CERTIFICATION NUMBER: 3064
ISSUED: MARCH 30, 2015

FINAL EROSION CONTROL FOR CONSTRUCTION SHEET 4




NOTE:
ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING R/W OR EASEMENT.

REVISIONS

8/17/99

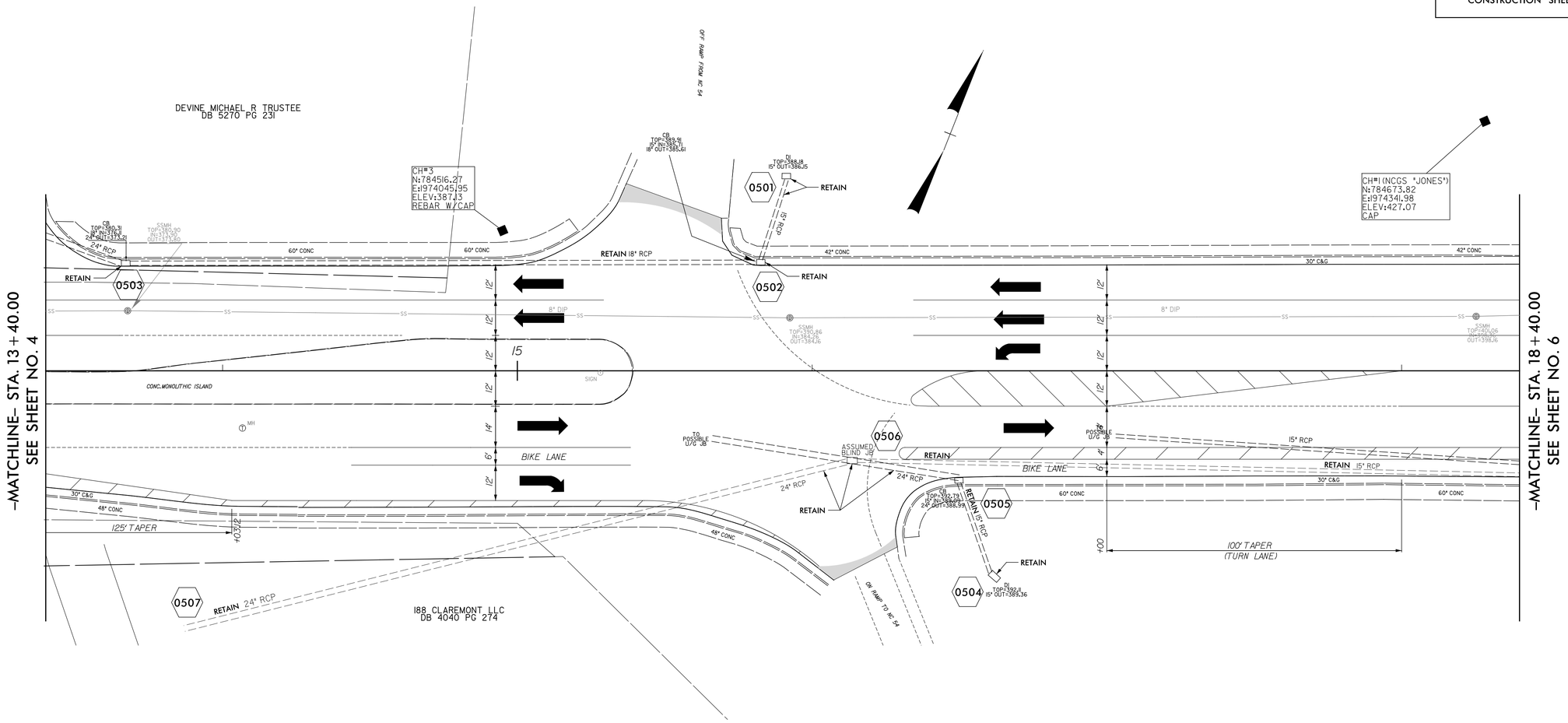
3/31/2015
R:\Roadways\Erosion Control\cadd\W5207I_esc_psh04_final.dgn
Kci & Associates, PC

ICA Engineering
5121 Kingdom Way, Suite 100
Raleigh, NC 27607
NC License No: F-0258

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5207 I | EC-10/CONST.5 |
| R/W SHEET NO. | |
| ROADSIDE ENVIRONMENTAL PROJECT ENGINEER | |

LEVEL III CERTIFIED BY:
ALEXANDER SNIDER, P.E.
CERTIFICATION NUMBER: 3064
ISSUED: MARCH 30, 2015

FINAL EROSION CONTROL FOR CONSTRUCTION SHEET 5




NOTE:
ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING R/W OR EASEMENT.

REVISIONS

8/17/99

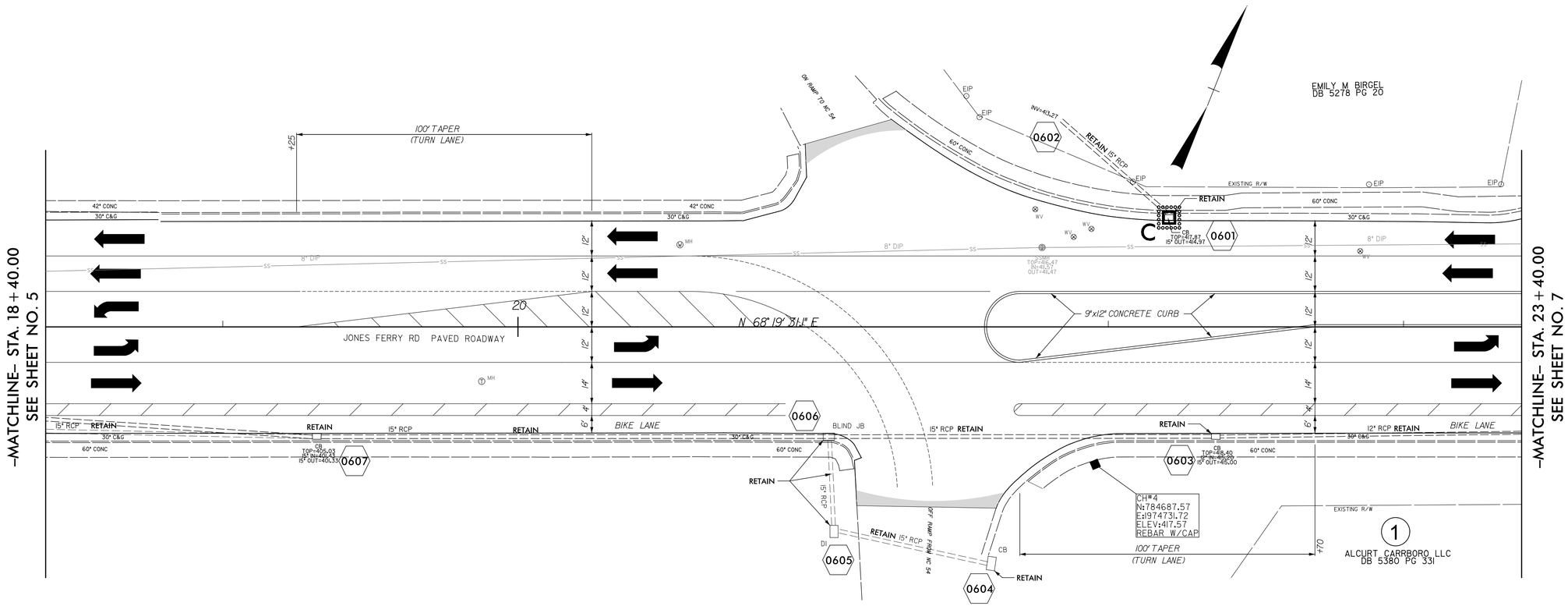
3/31/2015
R:\Projects\Erosion Control\cadd\W52071_esc_psh05_final.dgn
Kimley-Horn & Associates, P.A.

ICA Engineering
5121 Kingdom Way, Suite 100
Raleigh, NC 27607
NC License No: F-0258

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5207 I | EC-II/CONST.6 |
| R/W SHEET NO. | |
| ROADSIDE ENVIRONMENTAL PROJECT ENGINEER | |

LEVEL III CERTIFIED BY:
ALEXANDER SNIDER, P.E.
CERTIFICATION NUMBER: 3064
ISSUED: MARCH 30, 2015

FINAL EROSION CONTROL FOR CONSTRUCTION SHEET 6




NOTE:
ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING R/W OR EASEMENT.

REVISIONS

8/17/99

3/31/2015
R:\Hydraulics\Erosion Control\cadd\W52071_esc_psh06_final.dgn
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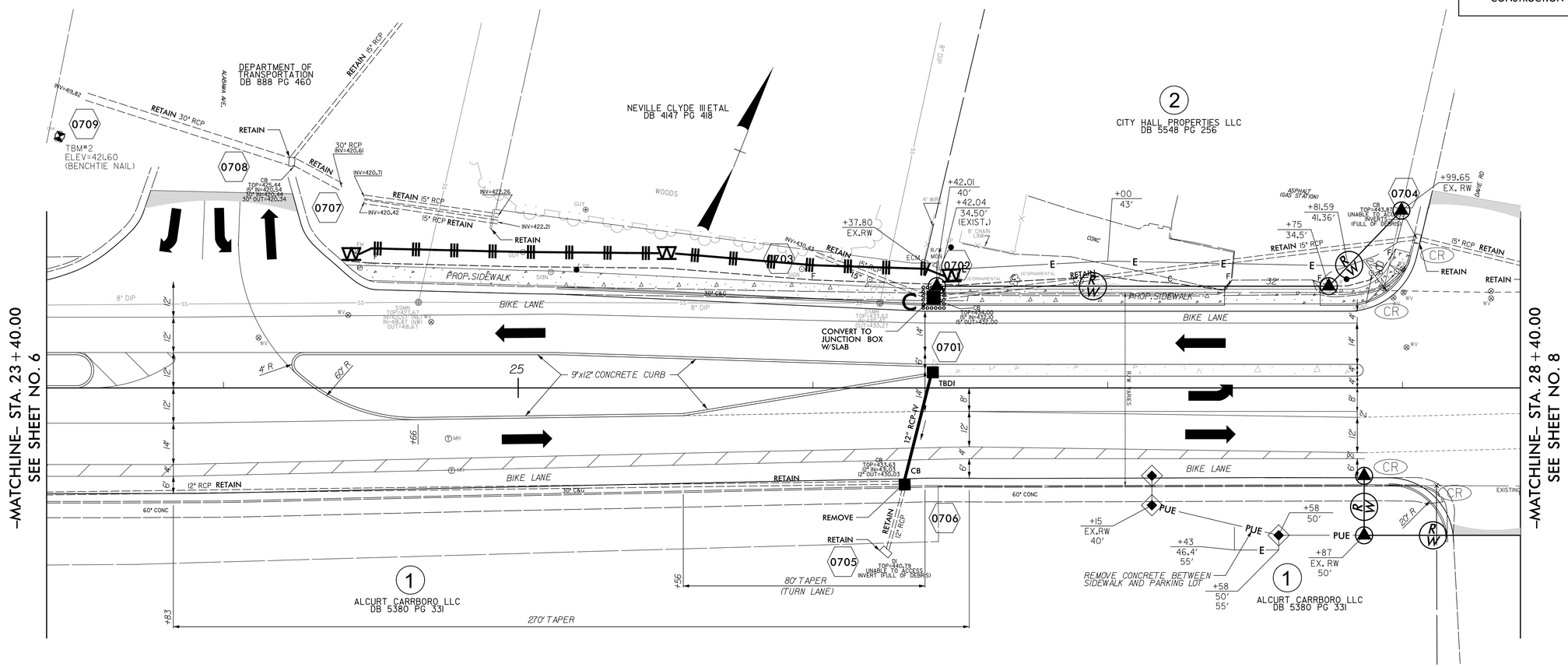
5121 Kingdom Way, Suite 100
Raleigh, NC 27607
NC License No: F-0258

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5207 I | EC-12/CONST.7 |
| R/W SHEET NO. | |
| ROADSIDE ENVIRONMENTAL PROJECT ENGINEER | |

LEVEL III CERTIFIED BY:
ALEXANDER SNIDER, P.E.
CERTIFICATION NUMBER: 3064
ISSUED: MARCH 30, 2015

FINAL EROSION CONTROL FOR CONSTRUCTION SHEET 7




NOTE:
ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING R/W OR EASEMENT.

REVISIONS

8/17/99

3/31/2015
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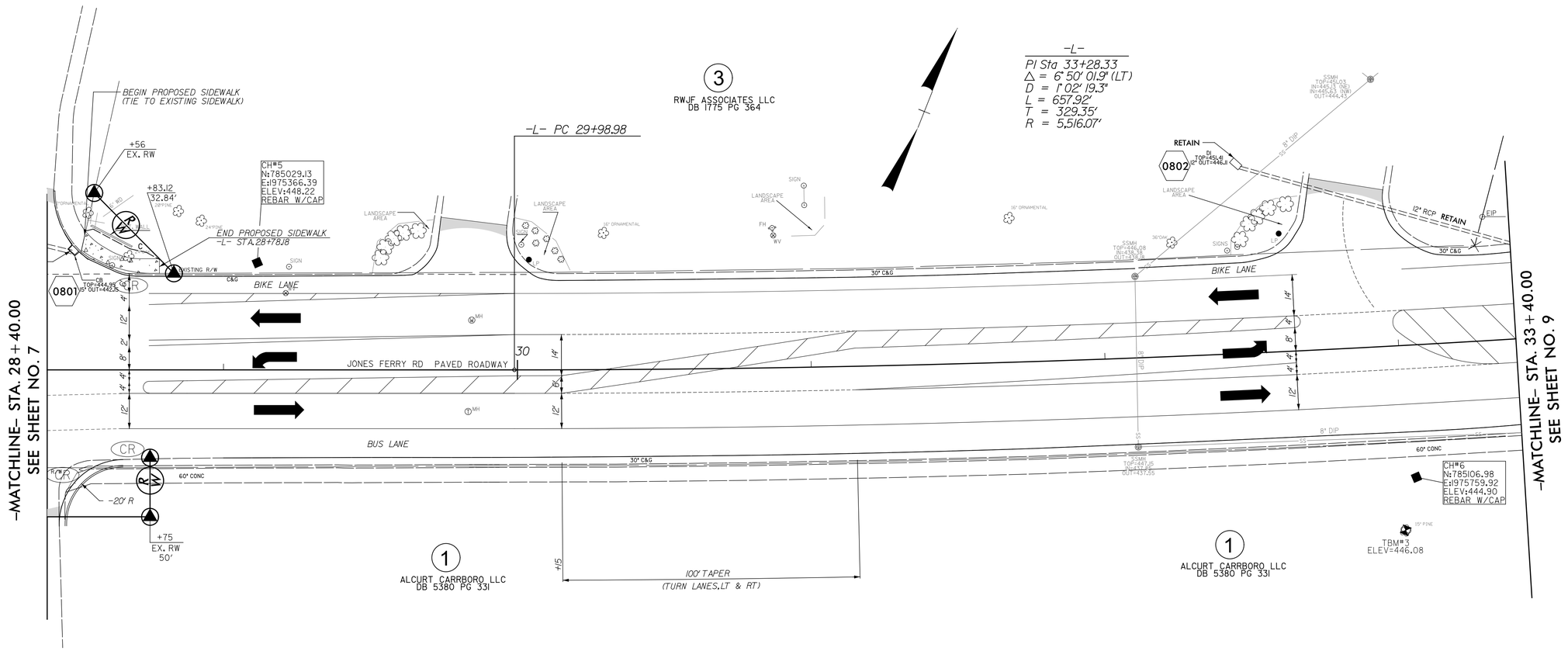
5121 Kingdom Way, Suite 100
Raleigh, NC 27607
NC License No: F-0258

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5207 I | EC-13/CONST.8 |
| R/W SHEET NO. | |
| ROADSIDE ENVIRONMENTAL PROJECT ENGINEER | |

LEVEL III CERTIFIED BY:
ALEXANDER SNIDER, P.E.
CERTIFICATION NUMBER: 3064
ISSUED: MARCH 30, 2015

FINAL EROSION CONTROL FOR CONSTRUCTION SHEET 8




NOTE:
ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING R/W OR EASEMENT.

REVISIONS

8/17/99

3/31/2015
R:\Roadways\Erosion Control\cadd\W5207I_esc_psh08_final.dgn
Ka & Associates, P.C.

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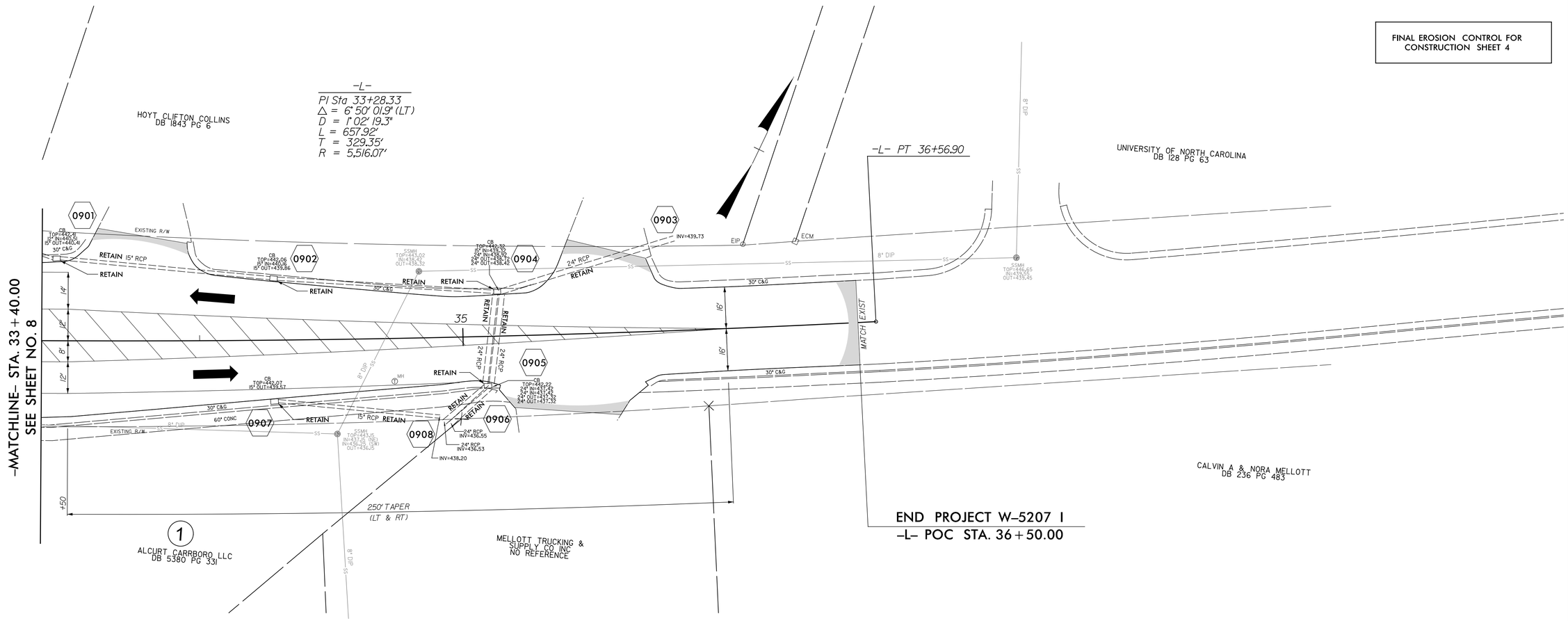
5121 Kingdom Way, Suite 100
Raleigh, NC 27607
NC License No: F-0258

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5207 I | EC-14/CONST.9 |
| R/W SHEET NO. | |
| ROADSIDE ENVIRONMENTAL PROJECT ENGINEER | |

LEVEL III CERTIFIED BY:
ALEXANDER SNIDER, P.E.
CERTIFICATION NUMBER: 3064
ISSUED: MARCH 30, 2015

FINAL EROSION CONTROL FOR CONSTRUCTION SHEET 4




NOTE:
ALL EROSION CONTROL DEVICES SHOWN ARE LOCATED WITHIN EXISTING R/W OR EASEMENT.

REVISIONS

8/17/99

3/31/2015
R:\Projects\Erosion Control\cadd\W5207I_esc_psh09_final.dgn
K. Y. Cooper & Associates, P.C.

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T.I.P.: W-5207 I

CONTRACT:

| TIP NO. | SHEET NO. |
|---|---|
| W-5207 I | SIGN-1 |

APPROVED: DocuSigned by: Michael T. Rzepka 018C3480C260490...

DATE: 5/22/2015

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 15876 MICHAEL T. RZEPKA

# STATE OF NORTH CAROLINA
# DEPARTMENT OF TRANSPORTATION

# SIGNING PLAN
# ORANGE COUNTY

## LOCATION: JONES FERRY RD (SR 1005) FROM WEST OF NC 54 TO WEST OF BARNES ST. IN CARRBORO

## ROADWAY STANDARD DRAWING

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

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

## PROJECT NOTES

1. DISPOSAL OF SIGN SYSTEM, U-CHANNEL
2. RELOCATE SIGN, TYPE E

## GENERAL NOTES

- SIGNS FURNISHED BY STATE
- ALL TYPE 'D' SIGNS SHALL BE MOUNTED ON TWO U-CHANNEL POSTS UNLESS OTHERWISE INDICATED ON THE PLANS.
- IF REMOVAL OR RELOCATION OF SIGNS ON PRIVATE STREET (NON-STATE MAINTAINED) IS REQUIRED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL INFORM THE ENGINEER. THE WORK WILL BE COMPLETED BY OTHERS.
- WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER
- ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.
- WHEN EXISTING SIGNS ARE REMOVED AND INSTALLED ON NEW SUPPORTS, THE RE-ERECTION SHALL IMMEDIATELY FOLLOW THE REMOVAL.
- THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.
- SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.

## SUMMARY OF QUANTITIES

| ITEM NO. DESC. NO. | ITEM NO. SECT. NO. | ITEM DESCRIPTION | QUANTITY | UNIT |
|---|---|---|---|---|
| 4072000000 | 903 | SUPPORTS, 3 LB STEEL U-CHANNEL | 676 | L.F. |
| 4096000000 | 904 | SIGN ERECTION, TYPE D | 3 | EA. |
| 4102000000 | 904 | SIGN ERECTION, TYPE E | 27 | EA. |
| 4108000000 | 904 | SIGN ERECTION, TYPE F | 7 | EA. |
| 4155000000 | 907 | DISPOSAL OF SIGN SYSTEM, U-CHANNEL | 29 | EA. |
| 4116000000 | 904 | SIGN ERECTION, RELOCATE SIGN TYPE E | 1 | EA. |

## INDEX


| SHEET NO. | DESCRIPTION |
|---|---|
| SIGN-1 | TITLE SHEET |
| SIGN-2 | E SHEETS |
| SIGN-3 | F SHEETS |
| SIGN-4 | SIGN DESIGNS |
| SIGN-5 & 6 | EXISTING SIGN DETAIL SHEETS |
| SIGN-7 & 8 | PROPOSED SIGN DETAIL SHEETS |


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

_____ SIGNING & DELINEATION REGIONAL ENGINEER

_____ SIGNING & DELINEATION PROJECT DESIGN ENGINEER

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

ICA Engineering
5121 Kingdom Way, Suite 100
Raleigh, NC 27607
NC License No: F-0258

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| TIP NO. | SHEET NO. |
|---|---|
| W-5207 I | SIGN-2 |

APPROVED: DocuSigned by: Michael T. Rzepka 018C3480C26049D...

DATE: 5/22/2015

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA

(401) QUANTITY REQ'D 3

36 X 36
R1-1

ONE "U" POST PER SIGN

(402) QUANTITY REQ'D 4

36 X 36
R5-1

ONE "U" POST PER SIGN

(403) QUANTITY REQ'D 5

24 X 30
R4-7

ONE "U" POST PER SIGN

(404) QUANTITY REQ'D 4

54 X 18
R6-1 (R)

TWO "U" POSTS PER SIGN

(405) QUANTITY REQ'D 2

54 X 18
R6-1 (L)

TWO "U" POSTS PER SIGN

(406) QUANTITY REQ'D 1

30 X 36
R2-1

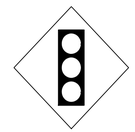
ONE "U" POST PER SIGN

(407) QUANTITY REQ'D 1

36 X 30
R4-4

ONE "U" POST PER SIGN

(408) QUANTITY REQ'D 2



30 X 30
W3-3

ONE "U" POST PER SIGN

(409) QUANTITY REQ'D 2

36 X 36
R3-7

ONE "U" POST PER SIGN

(410) QUANTITY REQ'D 1

30 X 30
W11-1

18 X 24
W16-1P

ONE "U" POST PER SIGN

(411) QUANTITY REQ'D 1

12 X 18
R5-1b

12 X 12
R9-3cP

ONE "U" POST PER SIGN

(412) QUANTITY REQ'D 1

24 X 18
R3-17

24 X 8
R3-17bP

ONE "U" POST PER SIGN

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# TYPE "E" SIGNS

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ICA Engineering

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| TIP NO. | SHEET NO. |
|---|---|
| W-5207 I | SIGN-3 |

APPROVED: DocuSigned by: Michael T. Rzepka 01BC3480C26049D...

DATE: 5/22/2015

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA

(501) QUANTITY REQ'D 2

1-21 X 15

1-24 X 24

ONE U-POST PER SIGN

(502) QUANTITY REQ'D 1

2-24 X 12

2-24 X 24

2-21 X 15

ONE U-POST PER SIGN

(503) QUANTITY REQ'D 1

1-24 X 12

1-24 X 24

1-21 X 15

ONE U-POST PER SIGN

(504) QUANTITY REQ'D 1

1-24 X 12

1-24 X 24

1-21 X 15

SIGN 504 MOUNT BELOW SIGN 301
IN 1 INSTALLATION

ONE U-POST PER SIGN

(505) QUANTITY REQ'D 1

1-24 X 12

1-24 X 24

1-21 X 15

ONE U-POST PER SIGN

(506) QUANTITY REQ'D 1

2-24 X 12

2-24 X 24

2-21 X 15

ONE U-POST PER SIGN

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5121 Kingdom Way,
Suite 100
Raleigh, NC 27607
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# TYPE "F" SIGNS

5/22/2015
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ICA Engineering

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Raleigh, NC 27607
NC License No: F-0258

| TIP NO. | SHEET NO. |
|---|---|
| W-5207 I | SIGN-4 |

APPROVED: DocuSigned by: Michael T. Rzepka 01BC3480C26049D...

DATE: 5/22/2015

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA

SIGN NUMBER: 301
TYPE: D
QUANTITY: 1
SIGN WIDTH: 6′-0″
HEIGHT: 1′-6″
TOTAL AREA: 9.0 Sq.Ft.
BORDER TYPE: FLUSH
RECESS: 0″
WIDTH: 0.75″
RADII: 1.5″
NO. Z BARS:
LENGTH:

BACKG COLOR: Green
COPY COLOR: White

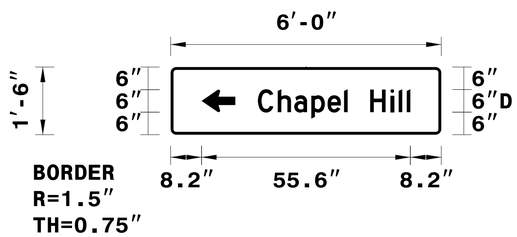
| SYMBOL | X | Y | WID | HT |
|---|---|---|---|---|
| AR_Type D | 8.2 | 6 | 6 | 9 |

MAT'L: 0.125″ (3.2 mm) ALUMINUM

DESIGN BY: TAG
PROJECT ID: W-5207 I
CHECKED BY:
DIV: 7
DATE: May 22, 2013

USE NOTES: 1,2

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




Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

| | C | h | a | p | e | l | | H | i | l | l | | Series/Size Text Length |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23.2 | 5.3 | 4.4 | 4.6 | 4.3 | 4.4 | 1 | 6 | 5.4 | 2.2 | 2.2 | 1 | 8.2 | D 2000 40.6 |

FILENAME: sign designs

NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: 302
TYPE: D
QUANTITY: 1
SIGN WIDTH: 4′-6″
HEIGHT: 2′-6″
TOTAL AREA: 11.3 Sq.Ft.
BORDER TYPE: FLUSH
RECESS: 0″
WIDTH: 0.75″
RADII: 2.25″
NO. Z BARS:
LENGTH:

BACKG COLOR: Green / Green
COPY COLOR: White

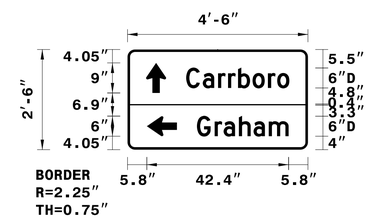
| SYMBOL | X | Y | WID | HT |
|---|---|---|---|---|
| AR_Type D | 5.5 | 17 | 6 | 9 |
| AR_Type D | 5.8 | 4 | 6 | 9 |

MAT'L: 0.125″ (3.2 mm) ALUMINUM

DESIGN BY: MTR
PROJECT ID: W-5207 I
CHECKED BY:
DIV: 7
DATE: Mar 18, 2015

USE NOTES: 1,2

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




Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

| | C | a | r | r | b | o | r | o | | Series/Size Text Length |
|---|---|---|---|---|---|---|---|---|---|---|
| 17.6 | 5 | 4.6 | 3 | 3 | 4.3 | 4.6 | 2.8 | 3.7 | 5.5 | D 2000 30.9 |
| | G | r | a | h | a | m | | | | D 2000 |
| 20.8 | 5.3 | 2.7 | 4.6 | 4.4 | 4.6 | 5.9 | 5.8 | | | 27.4 |

FILENAME: sign designs

NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: 303
TYPE: D
QUANTITY: 1
SIGN WIDTH: 6′-0″
HEIGHT: 2′-6″
TOTAL AREA: 15.0 Sq.Ft.
BORDER TYPE: FLUSH
RECESS: 0″
WIDTH: 0.75″
RADII: 2.25″
NO. Z BARS:
LENGTH:

BACKG COLOR: Green / Green
COPY COLOR: White

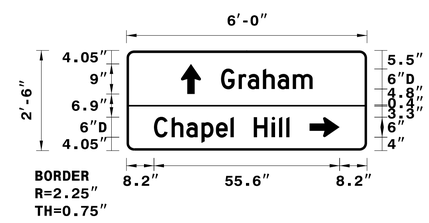
| SYMBOL | X | Y | WID | HT |
|---|---|---|---|---|
| AR_Type D | 16.3 | 17 | 6 | 9 |
| AR_Type D | 54.8 | 4 | 6 | 9 |

MAT'L: 0.125″ (3.2 mm) ALUMINUM

DESIGN BY: MTR
PROJECT ID: W-5207 I
CHECKED BY:
DIV: 7
DATE: Mar 18, 2015

USE NOTES: 1,2

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




Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

| | G | r | a | h | a | m | | | | | | | | | | | | | | | | | | | | | Series/Size Text Length |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 28.3 | 5.3 | 2.7 | 4.6 | 4.4 | 4.6 | 5.9 | 16.3 | | | | | | | | | | | | | | | | | | | | D 2000 27.4 |
| | C | h | a | p | e | l | | H | i | l | l | | | | | | | | | | | | | | | | D 2000 |
| 8.2 | 5.3 | 4.4 | 4.6 | 4.3 | 4.4 | 1 | 6 | 5.4 | 2.2 | 2.2 | 1 | 23.2 | | | | | | | | | | | | | | | 40.6 |

FILENAME: sign designs

NORTH CAROLINA D.O.T. SIGN DETAIL

# SIGN DESIGNS

5/22/2015
R:\Traffic\Signing\CADD\Signing Layout Plans\w5207i_sign_design_sheet1.dgn
ICA Engineering

DocuSign Envelope ID: CA342913-D2F5-4C86-80F5-C960CC267BF9

ICA Engineering
5121 Kingdom Way, Suite 100
Raleigh, NC 27607
NC License No: P-0558

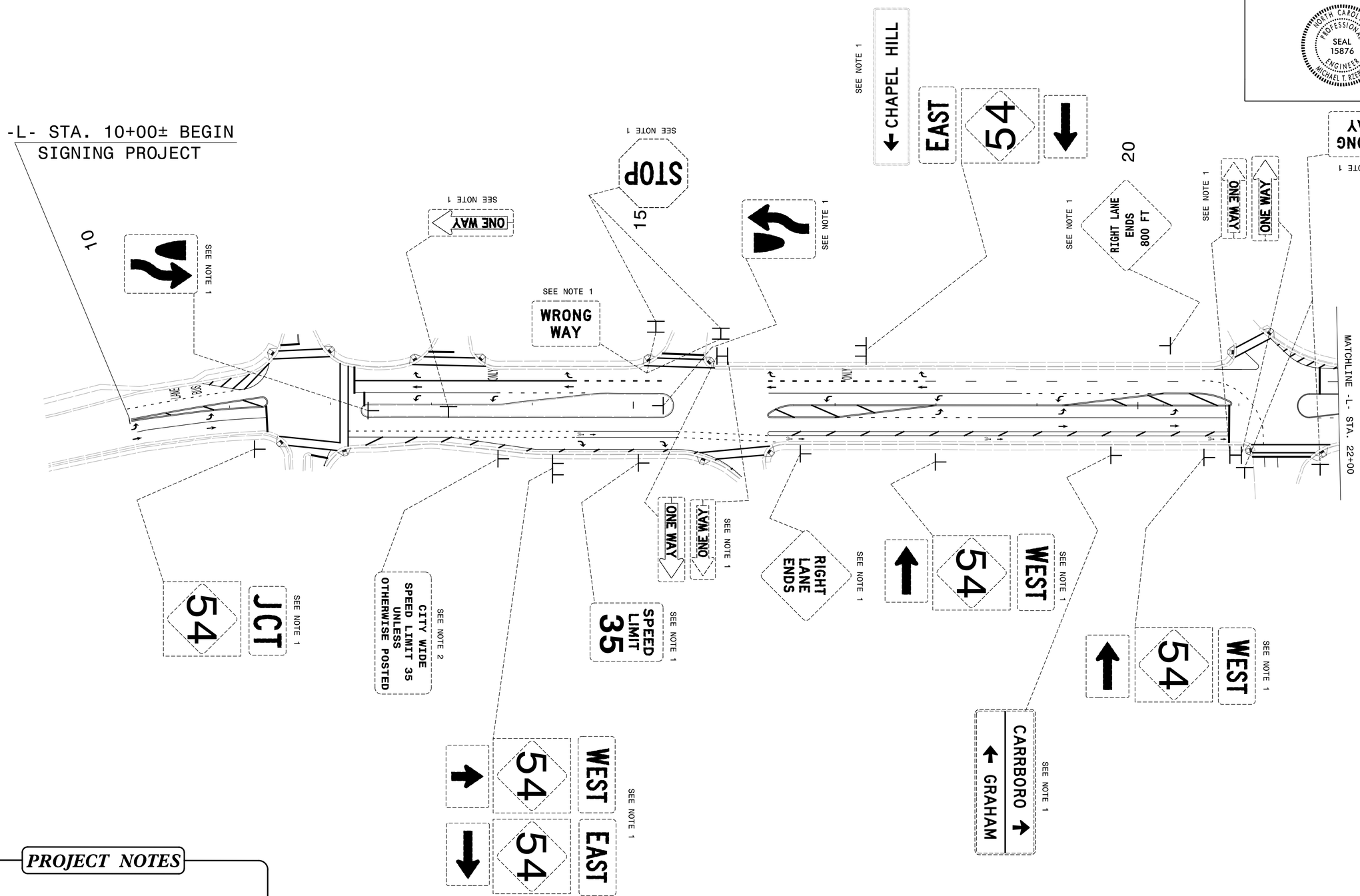
| TIP NO. | SHEET NO. |
|---|---|
| W-5207 I | SIGN-5 |

APPROVED: DocuSigned by: Michael T. Rzepka 018C3480C26049D...

DATE: 5/22/2015

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA




## PROJECT NOTES

1. DISPOSAL OF SIGN SYSTEM, U-CHANNEL
2. RELOCATE SIGN, TYPE E

# EXISTING SIGNS

5/22/2015
R:\Traffic\Signing\CADD\Signing Layout Plans\w5207i_sign_exist_dtl1.dgn
ICA Engineering

DocuSign Envelope ID: CA342913-D2F5-4C86-80F5-C960CC267BF9

ICA Engineering
5121 Kingdom Way,
Suite 100
Raleigh, NC 27607
NC License No: P-0558

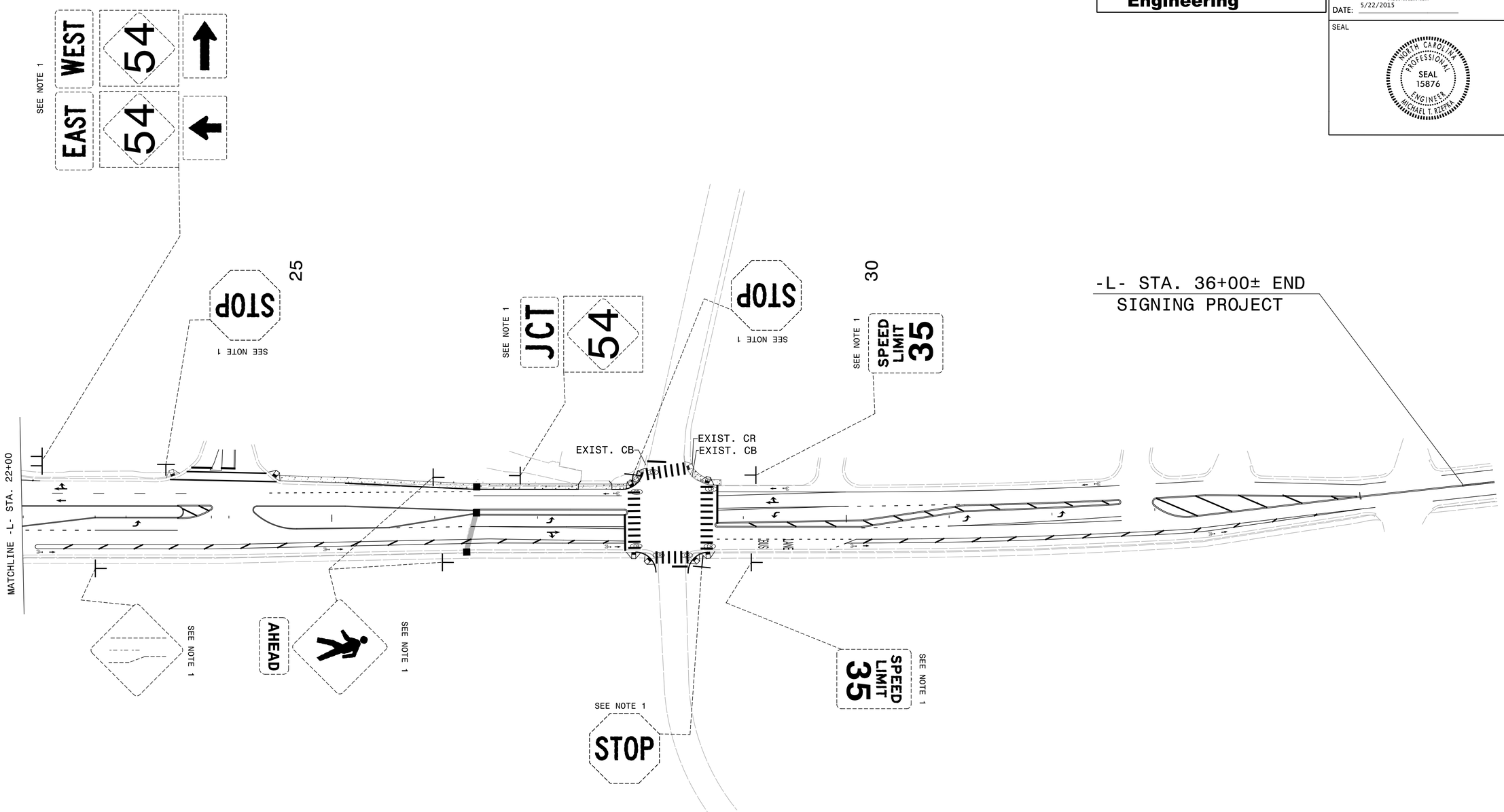
| TIP NO. | SHEET NO. |
|---|---|
| W-5207 I | SIGN-6 |

APPROVED: DocuSigned by: Michael T. Rzepka 01BC3480C260490...

DATE: 5/22/2015

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA




## PROJECT NOTES

1. DISPOSAL OF SIGN SYSTEM, U-CHANNEL
2. RELOCATE SIGN, TYPE E

# EXISTING SIGNS

5/22/2015
R:\Traffic\Signing\CADD\Signing Layout Plans\w5207i_sign_exist_dtl2.dgn
ICA Engineering

DocuSign Envelope ID: CA342913-D2F5-4C86-80F5-C960CC267BF9

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Raleigh, NC 27607
NC License No: P-0558

| TIP NO. | SHEET NO. |
|---|---|
| W-5207 I | SIGN-7 |

APPROVED: DocuSigned by: Michael T. Rzepka 01BC3480C26049D...

DATE: 5/22/2015

SEAL

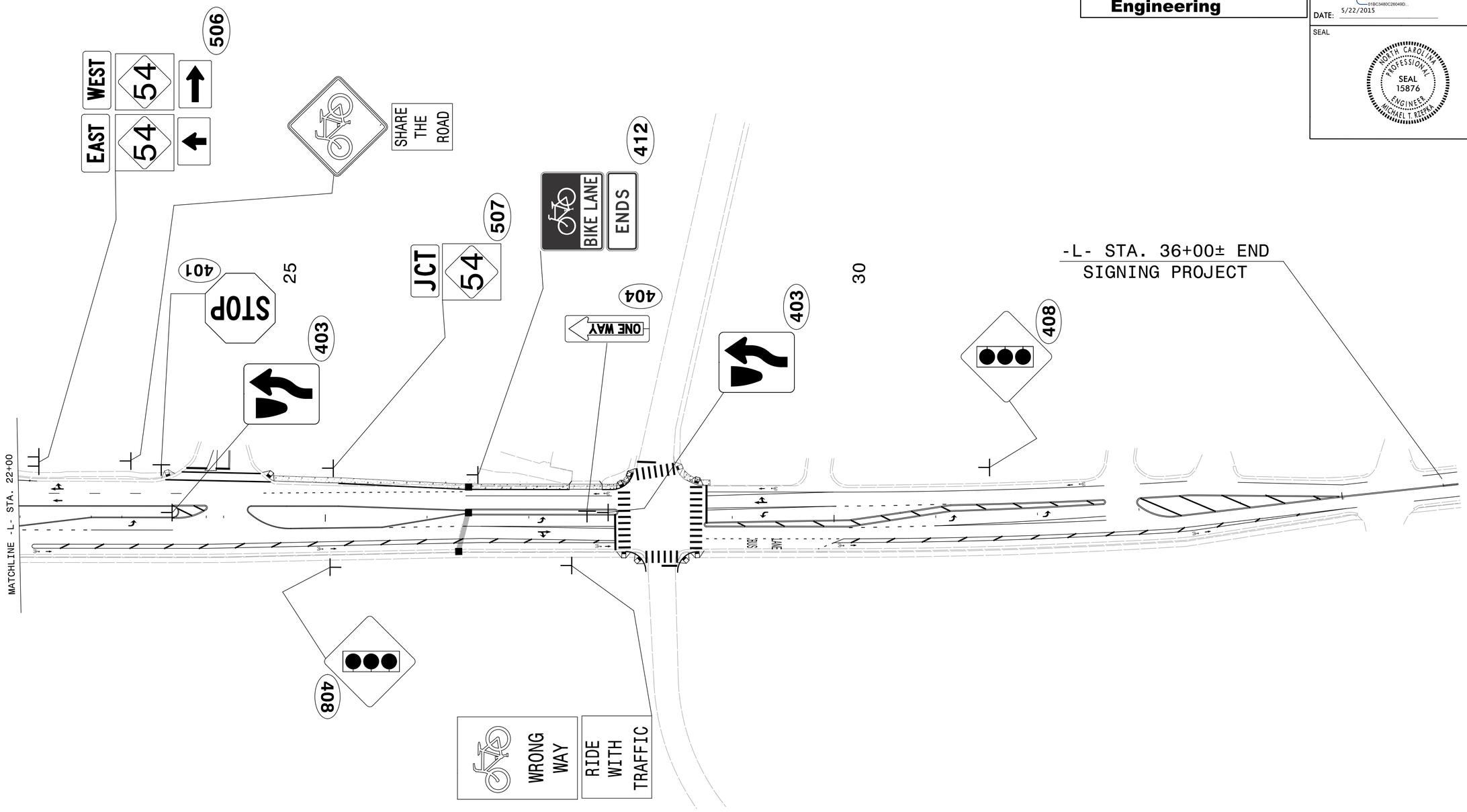
NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA




**PROPOSED SIGNS**

5/22/2015
R:\Traffic\Signing\CADD\Signing Layout Plans\w5207i_sign_dtl.dgn
ICA Engineering

DocuSign Envelope ID: CA342913-D2F5-4C86-80F5-C960CC267BF9




ICA Engineering
5121 Kingdom Way, Suite 100
Raleigh, NC 27607
NC License No: F-0559

| TIP NO. | SHEET NO. |
|---|---|
| W-5207 I | SIGN-8 |

APPROVED: DocuSigned by: Michael T. Rzepka 01BC3480C26049D...

DATE: 5/22/2015

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA

# PROPOSED SIGNS

5/22/2015
R:\Traffic\Signing\CADD\Signing Layout Plans\w5207i_sign_dtl2.dgn
ICA Engineering

DocuSign Envelope ID: 8C94900D-4BBB-40A5-A11C-DDBA7AB8C758

TIP PROJECT: W-5207I

CONTRACT:

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

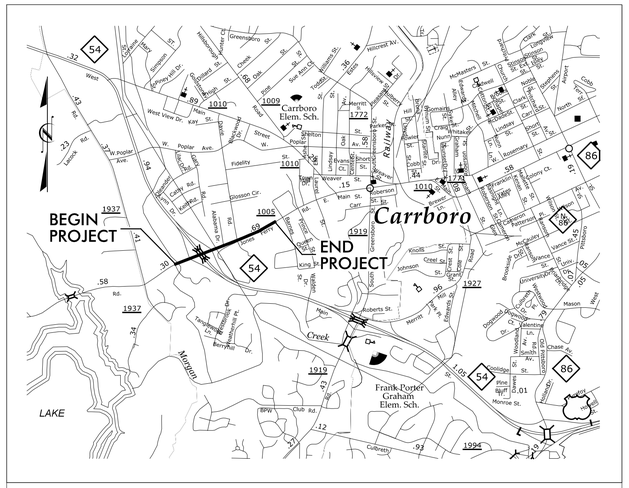
# ORANGE COUNTY

| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|
| N.C. | W-5207I | Sig.1 | |

| STATE PROJ. NO. | F. A. PROJ. NO. | DESCRIPTION |
|---|---|---|
| 45337.1.9 | HSIP-1005(30) | PE |

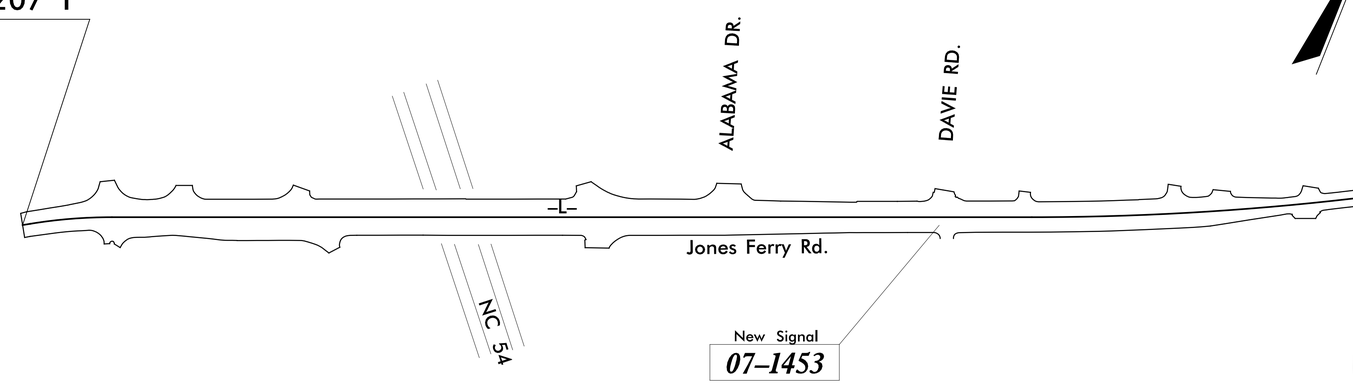
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA
DocuSigned by: Michael T. Rzepka 6/15/2015
SIGNATURE DATE

**LOCATION: JONES FERRY RD.(SR 1005) FROM WEST OF NC 54 TO WEST OF BARNES ST. IN CARRBORO**




VICINITY MAP

# TRAFFIC SIGNAL DESIGN PLANS




**LEGEND**

07-1453
SIGNAL INVENTORY NUMBER
NOT TO SCALE
2012 STANDARD SPECIFICATIONS

**INDEX OF PLANS**

| SHEET NO. | SIG. INV. NO. | LOCATION /DESCRIPTION |
|---|---|---|
| Sig.1 | | Title Sheet |
| Sig. 2-Sig. 3 | 07-1453 | Jones Ferry Road at Davie Road |

ICA Engineering
5121 Kingdom Way, Suite 100
Raleigh, NC 27607
NC License No: F-0258

2012 STANDARD SPECIFICATIONS

PROJECT ENGINEER

LETTING DATE:

RIGHT OF WAY DATE:

**DIVISION OF HIGHWAYS**
**STATE OF NORTH CAROLINA**

Prepared for the Offices of:
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
ITS and Signals Unit
750 N.Greenfield Pkwy,Garner,NC 27529

ROB ZIEMBA, P.E., Central Region Signals Engineer
GEORGE BROWN, P.E., Signal Equipment Design Engineer
NEIL AVERY, Signal Communications Project Engineer

**SIGNAL DESIGN ENGINEER**

MICHAEL T. RZEPKA, PE
SR. PROJECT MANAGER

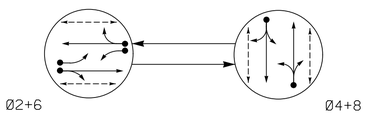
MATTHEW GOETTE, PE
PROJECT DESIGN ENGINEER

6/15/2015
R:\Traffic\Signals\Design\Signals\w5207i_sig_tsh.dgn
ICA Engineering

DocuSign Envelope ID: 8C94900D-4BBB-40A5-A11C-DDBA7AB8C758

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5207 I | SIG-2 |

## PHASING DIAGRAM




PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

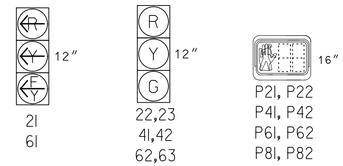
## TABLE OF OPERATION

| SIGNAL FACE | PHASE Ø2+6 | PHASE Ø4+8 | FLASH |
|---|---|---|---|
| 21 | G/Y | R | Y |
| 22, 23 | G | R | Y |
| 41, 42 | R | G | R |
| 61 | G/Y | R | Y |
| 62, 63 | G | R | Y |
| 81, 82 | R | G | R |
| P21, P22 | W | DW | DRK |
| P41, P42 | DW | W | DRK |
| P61, P62 | W | DW | DRK |
| P81, P82 | DW | W | DRK |

W - Walk
DW - Don't Walk
DRK - Dark

## SIGNAL FACE I.D.

All Heads L.E.D.




## OASIS 2070 LOOP & DETECTOR INSTALLATION CHART

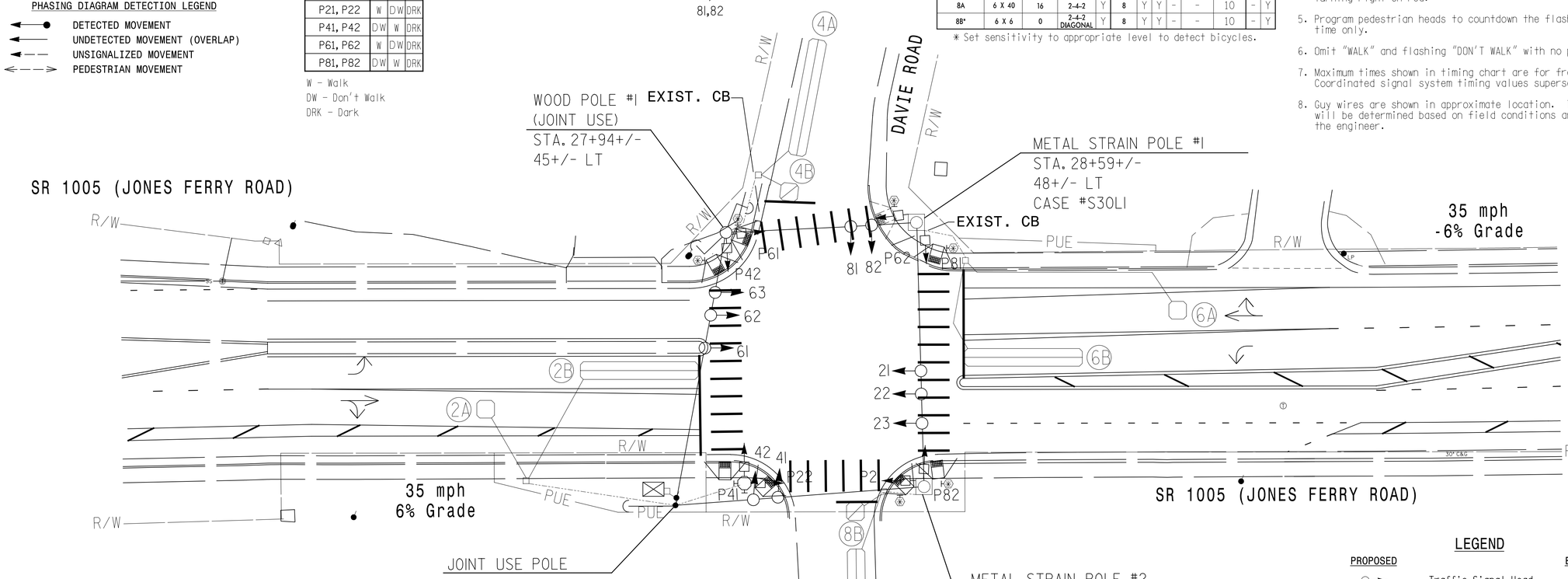
| INDUCTIVE LOOPS | | | | | DETECTOR PROGRAMMING | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LOOP | SIZE (FT) | DISTANCE FROM STOPBAR (FT) | TURNS | NEW LOOP | PHASE | CALLING | EXTENSION | FULL TIME DELAY | STRETCH TIME | DELAY TIME | SYSTEM LOOP | NEW CARD |
| 2A | 6 X 6 | 70 | 3 | Y | 2 | Y | Y | - | - | - | - | Y |
| 2B | 6 X 40 | 0 | 2-4-2 | Y | 2 | Y | Y | - | - | - | - | Y |
| 4A | 6 X 40 | 16 | 2-4-2 | Y | 4 | Y | Y | - | - | 10 | - | Y |
| 4B* | 6 X 6 | 0 | 2-4-2 DIAGONAL | Y | 4 | Y | Y | - | - | 10 | - | Y |
| 6A | 6 X 6 | 70 | 3 | Y | 6 | Y | Y | - | - | - | - | Y |
| 6B | 6 X 40 | 0 | 2-4-2 | Y | 6 | Y | Y | - | - | - | - | Y |
| 8A | 6 X 40 | 16 | 2-4-2 | Y | 8 | Y | Y | - | - | 10 | - | Y |
| 8B* | 6 X 6 | 0 | 2-4-2 DIAGONAL | Y | 8 | Y | Y | - | - | 10 | - | Y |

* Set sensitivity to appropriate level to detect bicycles.

2 Phase
Fully Actuated
(Isolated)

## NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
2. Do not program signal for late night flashing operation.
3. Set all detector units to presence mode.
4. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
5. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
6. Omit "WALK" and flashing "DON'T WALK" with no pedistrian calls.
7. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
8. Guy wires are shown in approximate location. Type and final location will be determined based on field conditions and at the direction of the engineer.

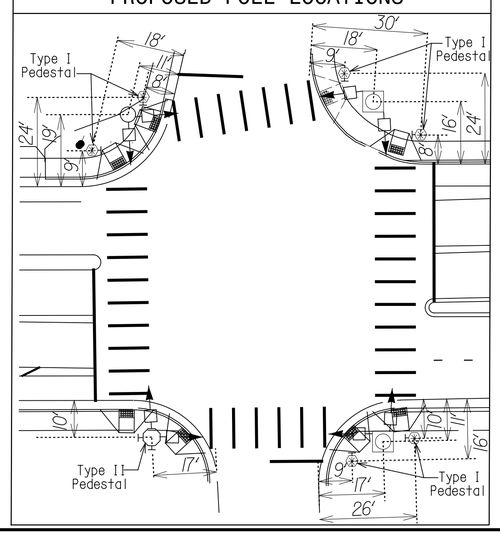



## OASIS 2070 TIMING CHART

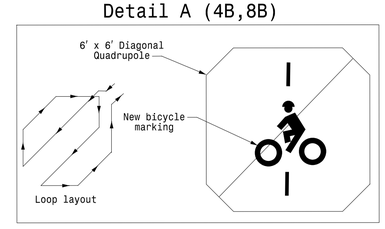
| FEATURE | PHASE 2 | PHASE 4 | PHASE 6 | PHASE 8 |
|---|---|---|---|---|
| Min Green 1 * | 10 | 7 | 10 | 7 |
| Extension 1 * | 3.0 | 2.0 | 3.0 | 2.0 |
| Max Green 1 * | 40 | 30 | 40 | 30 |
| Yellow Clearance | 3.5 | 4.0 | 4.3 | 3.7 |
| Red Clearance | 1.5 | 1.6 | 1.6 | 1.9 |
| Red Revert | 2.0 | 2.0 | 2.0 | 2.0 |
| Walk 1 * | 4 | 4 | 4 | 4 |
| Don't Walk 1 | 8 | 14 | 13 | 15 |
| Seconds Per Actuation * | - | - | - | - |
| Max Variable Initial * | - | - | - | - |
| Time Before Reduction * | - | - | - | - |
| Time To Reduce * | - | - | - | - |
| Minimum Gap | - | - | - | - |
| Recall Mode | MIN RECALL | - | MIN RECALL | - |
| Vehicle Call Memory | YELLOW | - | YELLOW | - |
| Dual Entry | - | ON | - | ON |
| Simultaneous Gap | ON | ON | ON | ON |

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

## PROPOSED POLE LOCATIONS




## Detail A (4B,8B)




## LEGEND

| PROPOSED | | EXISTING |
|---|---|---|
| | Traffic Signal Head | |
| | Modified Signal Head | N/A |
| | Sign | |
| | Pedestrian Signal Head With Push Button & Sign | |
| | Signal Pole with Guy | |
| | Signal Pole with Sidewalk Guy | |
| | Inductive Loop Detector | |
| | Controller & Cabinet | |
| | Junction Box | |
| | 2-in Underground Conduit | |
| N/A | Right of Way | |
| | Directional Arrow | |
| | Metal Strain Pole | |
| | Type II Signal Pedestal | |
| | Type I Signal Pedestal | |

NEW INSTALLATION

ICA Engineering
5121 Kingdom Way, Suite 100
Raleigh, NC 27607
NC License No: F-0258

Prepared for the Offices of:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1005 (Jones Ferry Road)
at
Davie Road

Division 7 Orange County Carrboro

| | | | |
|---|---|---|---|
| PLAN DATE: | APRIL 2015 | REVIEWED BY: | M. RZEPKA |
| PREPARED BY: | M. GOETTE | REVIEWED BY: | |

| REVISIONS | INIT. | DATE |
|---|---|---|
| | | |

SCALE 1"=20' (0 – 20)

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 15876 MICHAEL T. RZEPKA

DocuSigned by:
Michael T. Rzepka 6/15/2015
01BC3480C260450...
SIGNATURE DATE

SIG. INVENTORY NO. 07-1453

6/15/2015
R:\Traffic-Signals\Designs\Signals\W07-1435_signal-final_revised_sig02.dgn
ICA Engineering

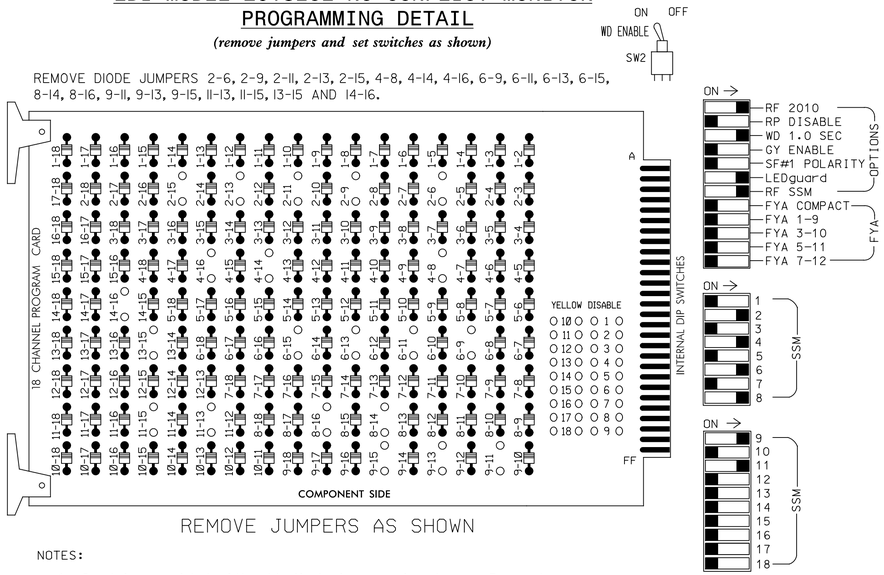
DocuSign Envelope ID: 8C94900D-4BBB-40A5-A11C-DDBA7AB8C758

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| W-5207 I | SIG-3 |

# EDI MODEL 2018ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

*(remove jumpers and set switches as shown)*

REMOVE DIODE JUMPERS 2-6, 2-9, 2-11, 2-13, 2-15, 4-8, 4-14, 4-16, 6-9, 6-11, 6-13, 6-15, 8-14, 8-16, 9-11, 9-13, 9-15, 11-13, 11-15, 13-15 AND 14-16.




REMOVE JUMPERS AS SHOWN

■ = DENOTES POSITION OF SWITCH

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
3. Ensure that Red Enable is active at all times during normal operation.
4. Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

# NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans.
2. Program phases 4 and 8 for Dual Entry.
3. Enable Simultaneous Gap-Out for all phases.
4. Program phases 2 and 6 for Start Up In Green.
5. Program phases 2, 4, 6 and 8 for 'STARTUP PED CALL'.
6. Program phases 2 and 6 for Yellow Flash, and overlap 1 and 2 as Wag Overlaps.
7. The cabinet and controller are part of the Chapel Hill - Carrboro Signal System.

# SIGNAL HEAD HOOK-UP CHART

| LOAD SWITCH NO. | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | S11 | S12 | AUX S1 | AUX S2 | AUX S3 | AUX S4 | AUX S5 | AUX S6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CMU CHANNEL NO. | 1 | 2 | 13 | 3 | 4 | 14 | 5 | 6 | 15 | 7 | 8 | 16 | 9 | 10 | 17 | 11 | 12 | 18 |
| PHASE | 1 | 2 | 2 PED | 3 | 4 | 4 PED | 5 | 6 | 6 PED | 7 | 8 | 8 PED | OLA | OLB | SPARE | OLC | OLD | SPARE |
| SIGNAL HEAD NO. | NU | 22,23 | P21, P22 | NU | 41,42 | P41, P42 | NU | 62,63 | P61, P62 | NU | 81,82 | P81, P82 | 61★ | NU | NU | 21★ | NU | NU |
| RED | | 128 | | | 101 | | | 134 | | | 107 | | | | | | | |
| YELLOW | | 129 | | | 102 | | | 135 | | | 108 | | | | | | | |
| GREEN | | 130 | | | 103 | | | 136 | | | 109 | | | | | | | |
| RED ARROW | | | | | | | | | | | | | A121 | | | A114 | | |
| YELLOW ARROW | | | | | | | | | | | | | A122 | | | A115 | | |
| FLASHING YELLOW ARROW | | | | | | | | | | | | | A123 | | | A116 | | |
| GREEN ARROW | | | | | | | | | | | | | | | | | | |
| ✋ | | | 113 | | | 104 | | | 119 | | | 110 | | | | | | |
| 🚶 | | | 115 | | | 106 | | | 121 | | | 112 | | | | | | |

NU = Not Used

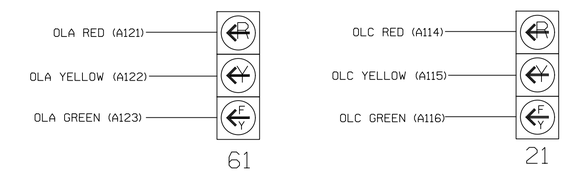
★ See pictorial of head wiring in detail below.

# EQUIPMENT INFORMATION

CONTROLLER.....2070L
CABINET.....332 /W AUX
SOFTWARE.....ECONOLITE OASIS v3.02.77
( OR LATEST APPROVED VERSION)
CABINET MOUNT.....BASE
OUTPUT FILE POSITIONS...18 (12-STD, 6-AUX)
LOAD SWITCHES USED.....S2,S3,S5,S6,S8,S9,S11,S12,AUXS1,AUXS4
PHASES USED.....2,2PED,4,4PED,6,6PED,8,8PED.
OVERLAP "A".....6
OVERLAP "B".....NOT USED
OVERLAP "C".....2
OVERLAP "D".....NOT USED

# 3 SECTION FYA SIGNAL WIRING DETAIL

*(wire signal heads as shown)*




# INPUT FILE POSITION LAYOUT

*(front view)*

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FILE "I" | U | SLOT EMPTY | Ø2 2A | SLOT EMPTY | SLOT EMPTY | SLOT EMPTY | Ø4 4A | SLOT EMPTY | SLOT EMPTY | SLOT EMPTY | SLOT EMPTY | SLOT EMPTY | Ø2 PED DC ISOLATOR | Ø6 PED DC ISOLATOR | FS DC ISOLATOR |
| | L | | Ø2 2B | | | | Ø4 4B | | | | | | Ø4 PED DC ISOLATOR | Ø8 PED DC ISOLATOR | ST DC ISOLATOR |
| FILE "J" | U | SLOT EMPTY | Ø6 6A | SLOT EMPTY | SLOT EMPTY | SLOT EMPTY | Ø8 8A | SLOT EMPTY | SLOT EMPTY | SLOT EMPTY | SLOT EMPTY | SLOT EMPTY | SLOT EMPTY | SLOT EMPTY | SLOT EMPTY |
| | L | | Ø6 6B | | | | Ø8 8B | | | | | | | | |

EX.: 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
ST = STOP TIME

# INPUT FILE CONNECTION & PROGRAMMING CHART

| LOOP NO. | LOOP TERMINAL | INPUT FILE POS. | PIN NO. | INPUT ASSIGNMENT NO. | DETECTOR NO. | NEMA PHASE | CALL | EXTEND | FULL TIME DELAY | STRETCH TIME | DELAY TIME |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2A | TB2-5,6 | I2U | 39 | 1 | 2 | 2 | Y | Y | | | |
| 2B | TB2-7,8 | I2L | 43 | 5 | 12 | 2 | Y | Y | | | |
| 4A | TB4-9,10 | I6U | 41 | 3 | 4 | 4 | Y | Y | | | 10 |
| 4B | TB4-11,12 | I6L | 45 | 7 | 14 | 4 | Y | Y | | | 10 |
| 6A | TB3-5,6 | J2U | 40 | 2 | 6 | 6 | Y | Y | | | |
| 6B | TB3-7,8 | J2L | 44 | 6 | 16 | 6 | Y | Y | | | |
| 8A | TB5-9,10 | J6U | 42 | 4 | 8 | 8 | Y | Y | | | 10 |
| 8B | TB5-11,12 | J6L | 46 | 8 | 18 | 8 | Y | Y | | | 10 |
| PED PUSH BUTTONS | | | | | | | | | | | |
| P21,P22 | TB8-4,6 | I12U | 67 | 29 | PED 2 | 2 PED | | | | | |
| P41,P42 | TB8-5,6 | I12L | 69 | 31 | PED 4 | 4 PED | | | | | |
| P61,P62 | TB8-7,9 | I13U | 68 | 30 | PED 6 | 6 PED | | | | | |
| P81,P82 | TB8-8,9 | I13L | 70 | 32 | PED 8 | 8 PED | | | | | |

NOTE:
INSTALL DC ISOLATORS IN INPUT FILE SLOTS I12 AND I13.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

# COUNTDOWN PEDESTRIAN SIGNAL OPERATION

Countdown Ped Signals are required to display timing only during Ped Clearance Interval. Consult Ped Signal Module user's manual for instructions on selecting this feature.

# OVERLAP PROGRAMMING DETAIL

*(program controller as shown below)*

FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS).

```
PAGE 1: VEHICLE OVERLAP 'A' SETTINGS
PHASE:              |123456789101112131415 16
VEH OVL PARENTS:    |     X
VEH OVL NOT VEH:    |
VEH OVL NOT PED:    |
VEH OVL GRN EXT:    |
STARTUP COLOR: _ RED  _ YELLOW  _ GREEN
FLASH COLORS:  _ RED  _ YELLOW  X GREEN
SELECT VEHICLE OVERLAP OPTIONS:   (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC).........0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)..0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)....0
```

NOTICE GREEN FLASH

PRESS '+' TWICE

```
PAGE 1: VEHICLE OVERLAP 'C' SETTINGS
PHASE:              |123456789101112131415 16
VEH OVL PARENTS:    | X
VEH OVL NOT VEH:    |
VEH OVL NOT PED:    |
VEH OVL GRN EXT:    |
STARTUP COLOR: _ RED  _ YELLOW  _ GREEN
FLASH COLORS:  _ RED  _ YELLOW  X GREEN
SELECT VEHICLE OVERLAP OPTIONS:   (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC).........0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)..0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)....0
```

NOTICE GREEN FLASH

OVERLAP PROGRAMMING COMPLETE

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 07-1453
DESIGNED: April 2014
SEALED:
REVISED:

ELECTRICAL DETAIL SHEET

ICA Engineering
5121 Kingdom Way, Suite 100
Raleigh, NC 27607
NC License No: F-0258

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared for the Offices of:
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1005 (Jones Ferry Road)
at
Davie Road

Division 7 | Orange County | Carrboro

| PLAN DATE: April 2015 | REVIEWED BY: M. Rzepka |
|---|---|
| PREPARED BY: M. Young | REVIEWED BY: |

| REVISIONS | INIT. | DATE |
|---|---|---|
| | | |

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 15876 ENGINEER MICHAEL T. RZEPKA

DocuSigned by: Michael T. Rzepka 018C3480C260490...
SIGNATURE 6/15/2015 DATE

SIG. INVENTORY NO. 07-1453

6/15/2015
R:\Traffic\Signals\Design\Signals\07-1435_signal-final_revised_sig03.dgn
ICA Engineering

| PROJ. REFERENCE NO. | SHEET NO. |
|---|---|
| W-5207 I | X-1 |

# STATE OF NORTH CAROLINA
# DIVISION OF HIGHWAYS

NOTE: EMBANKMENT COLUMN INCLUDES BACKFILL FOR UNDERCUT

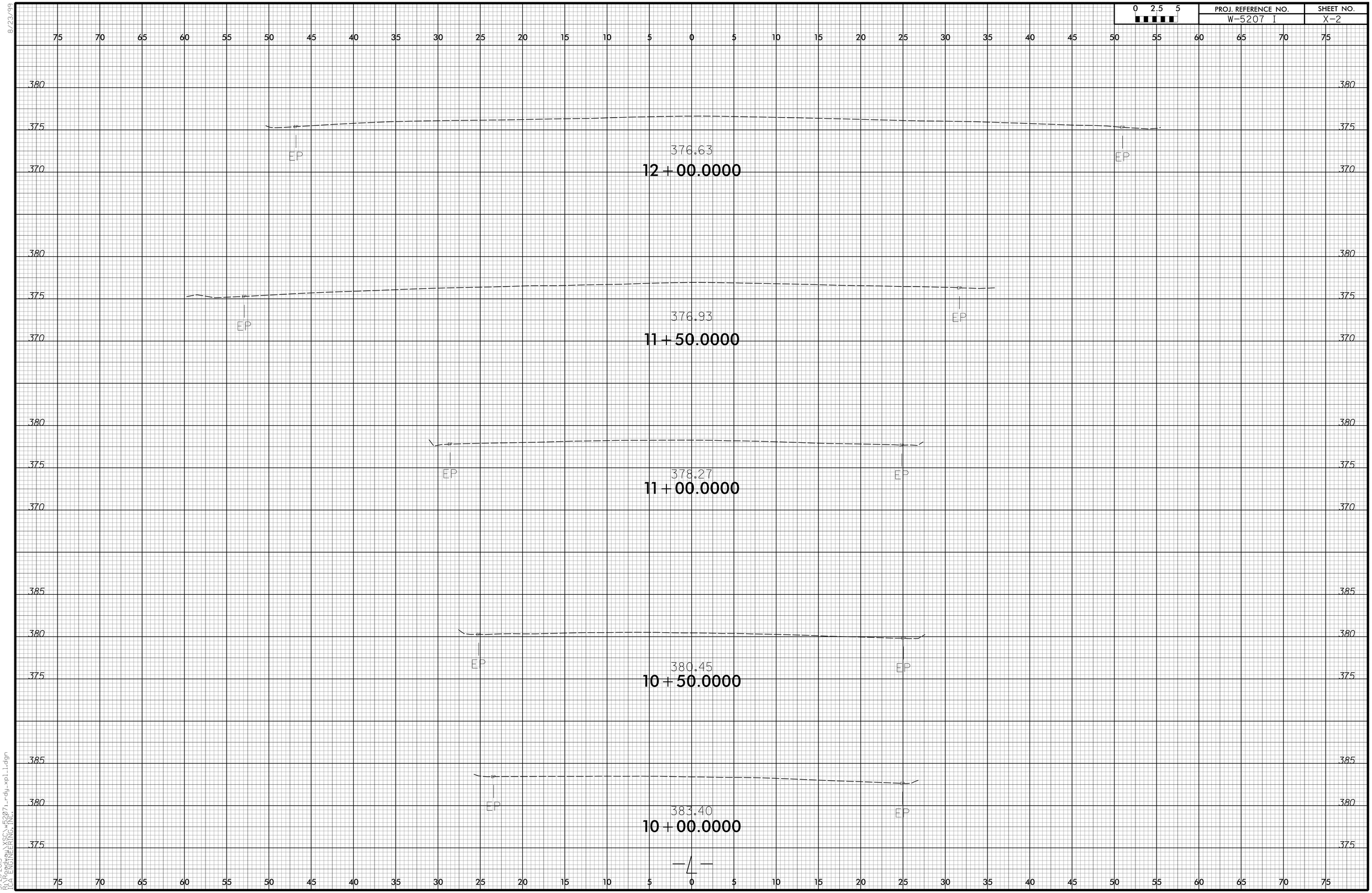
## *CROSS-SECTION SUMMARY*

| Station<br>L | Uncl. Exc.<br>(cu. yd.) | Embt<br>(cu. yd.) |
|---|---|---|
| 25+50.0000 | 0 | 0 |
| 26+00.0000 | 15 | 1 |
| 26+50.0000 | 13 | 1 |
| 26+68.1202 | 5 | 0 |
| 27+00.0000 | 10 | 0 |
| 27+10.6223 | 3 | 0 |
| 27+21.2816 | 3 | 0 |
| 27+42.1359 | 6 | 0 |
| 27+50.0000 | 1 | 0 |
| 28+00.0000 | 7 | 0 |

Approximate quantities only. Unclassified excavation, borrow excavation, shoulder borrow, fine grading, clearing and grubbing, breaking of existing pavement and removal of existing pavement will be paid for at the lump sum price for "Grading".

8/23/99

| 0 2.5 5 | PROJ. REFERENCE NO. | SHEET NO. |
|---|---|---|
| | W-5207 I | X-2 |

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ARCADIS DESIGN & ENGINEERING, INC.

8/23/99

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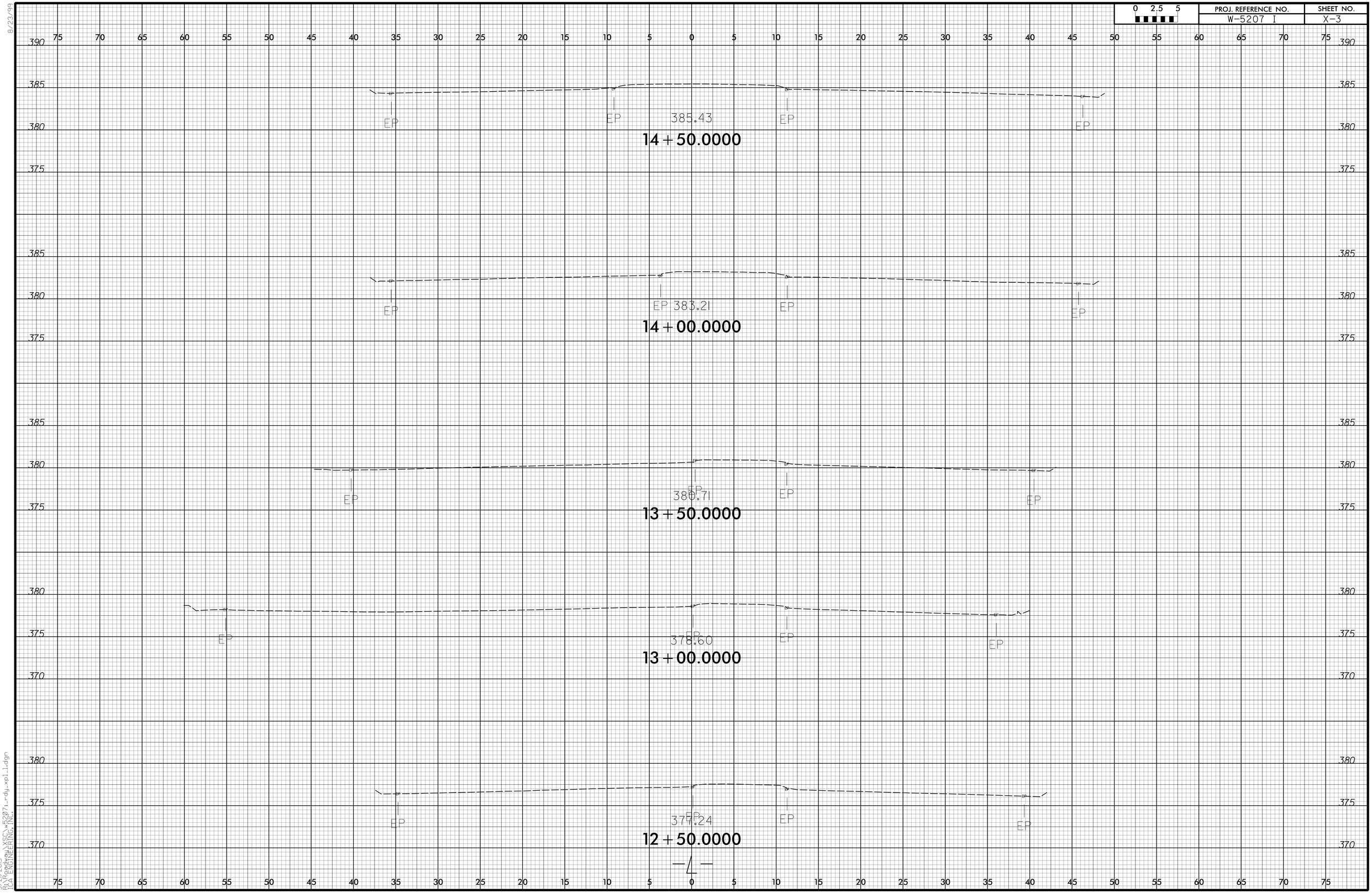
| | W-5207 I | X-3 |

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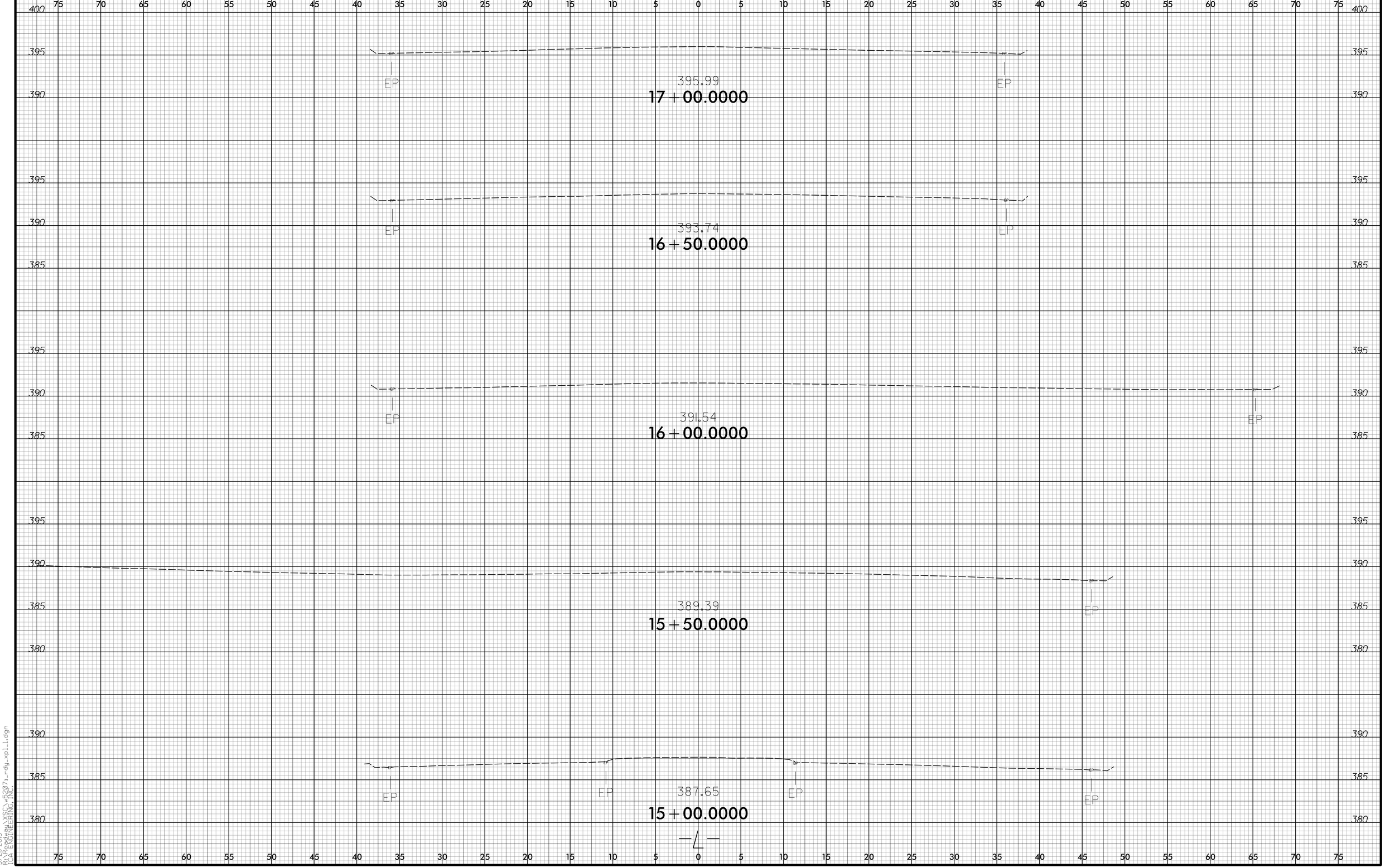


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TRANSPORTATION ENGINEERING, INC.

8/23/99

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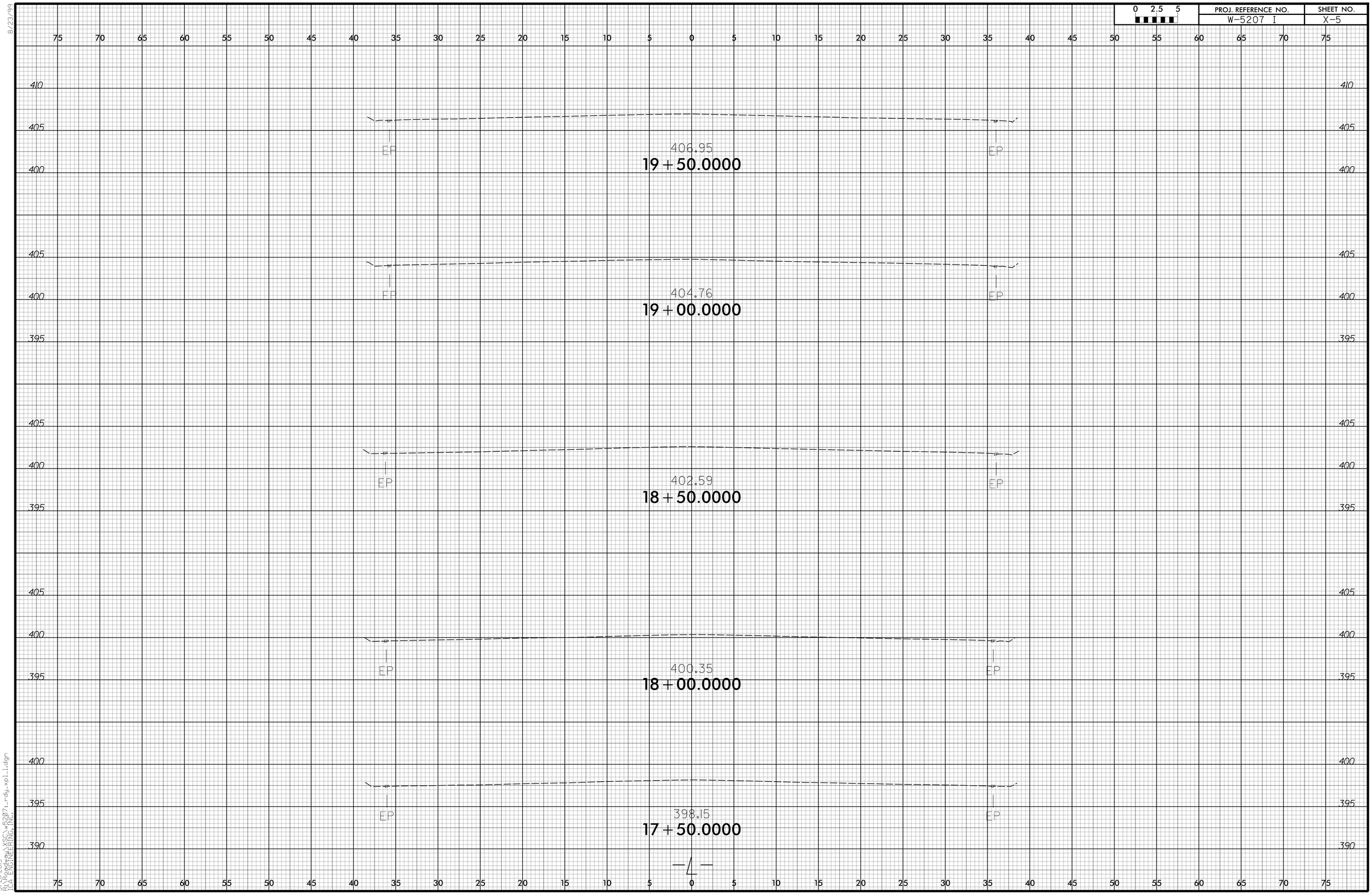
| | W-5207 I | X-5 |

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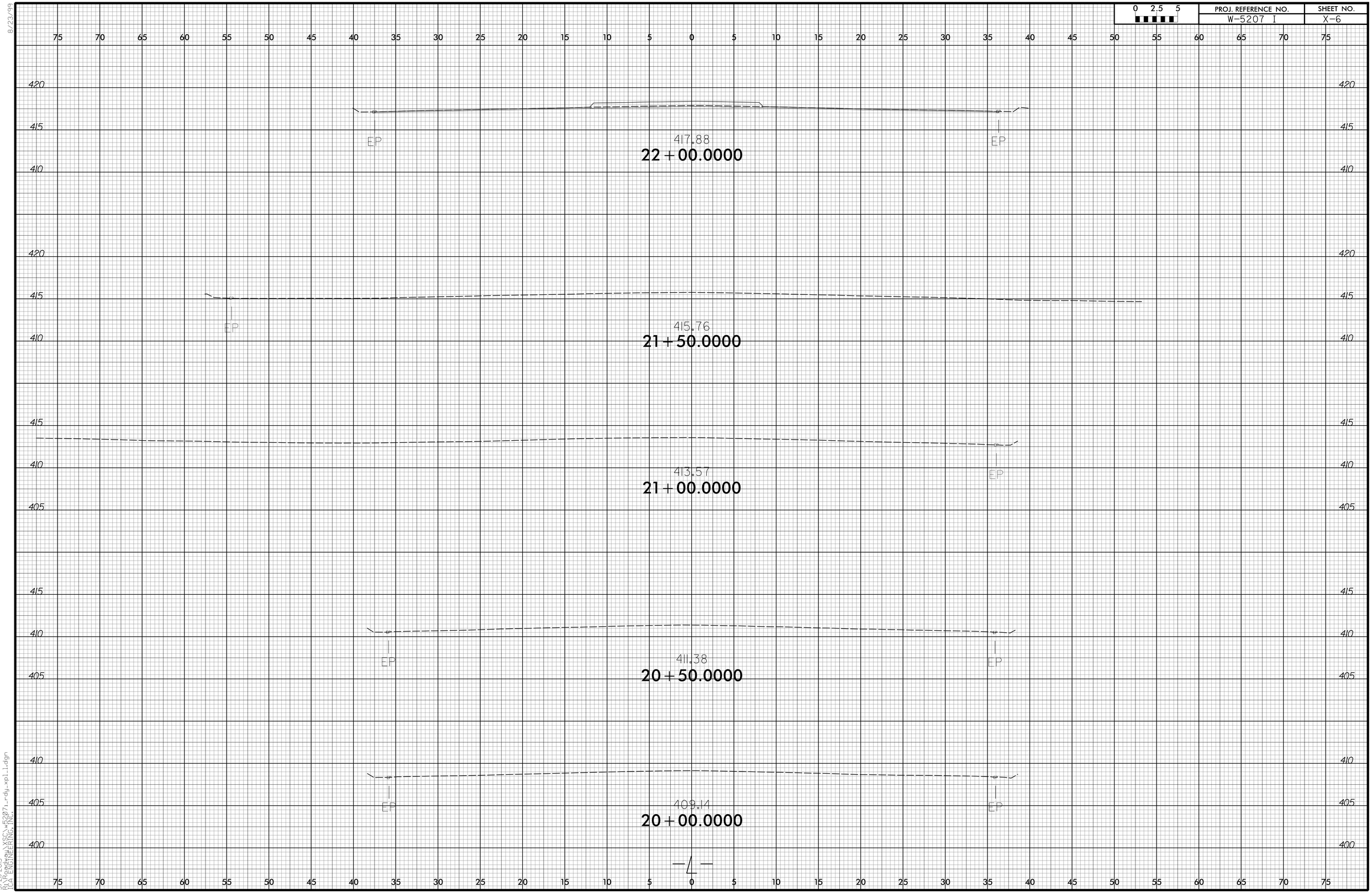


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TRANSYSTEMS ENGINEERING, INC.

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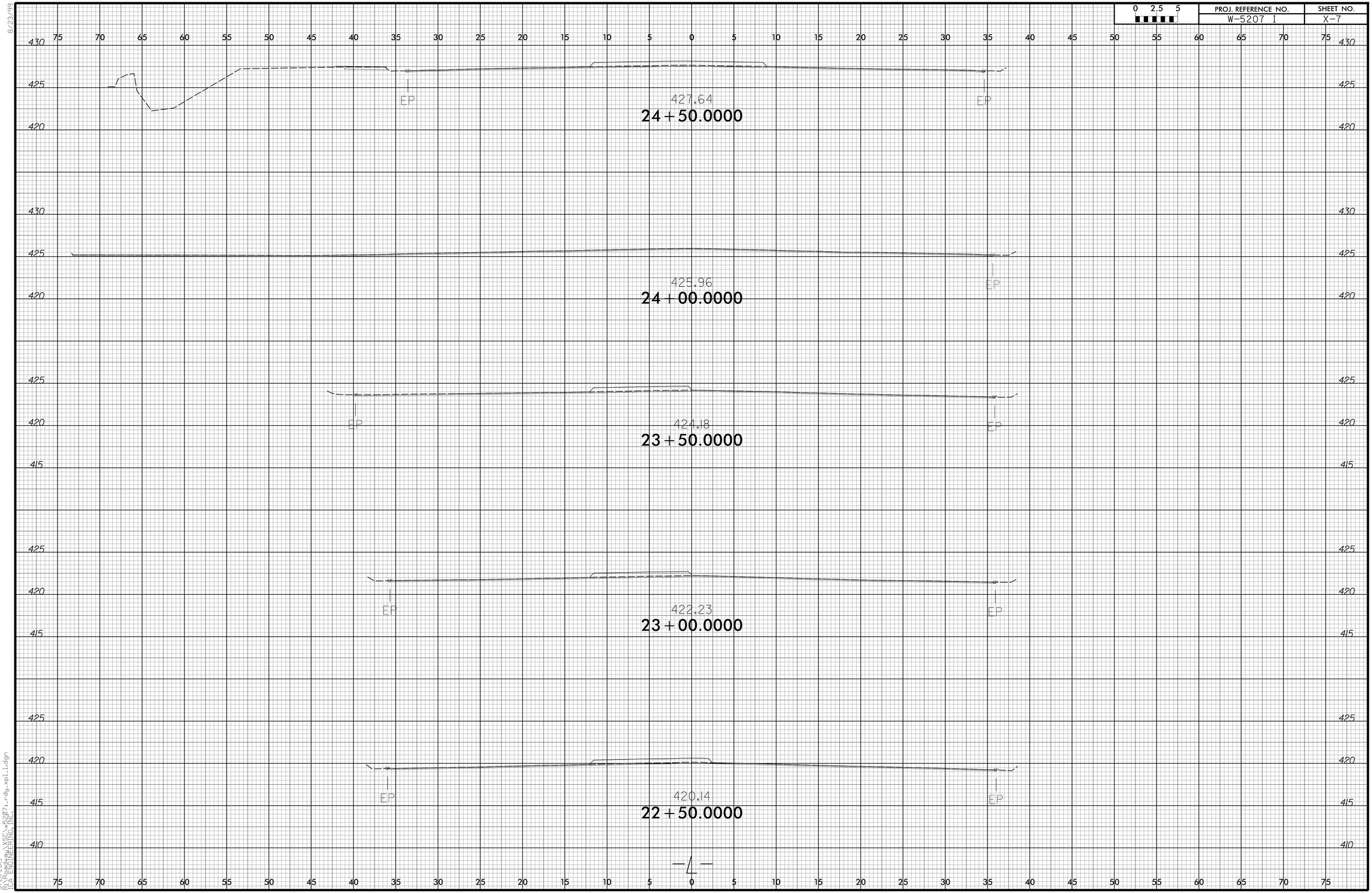


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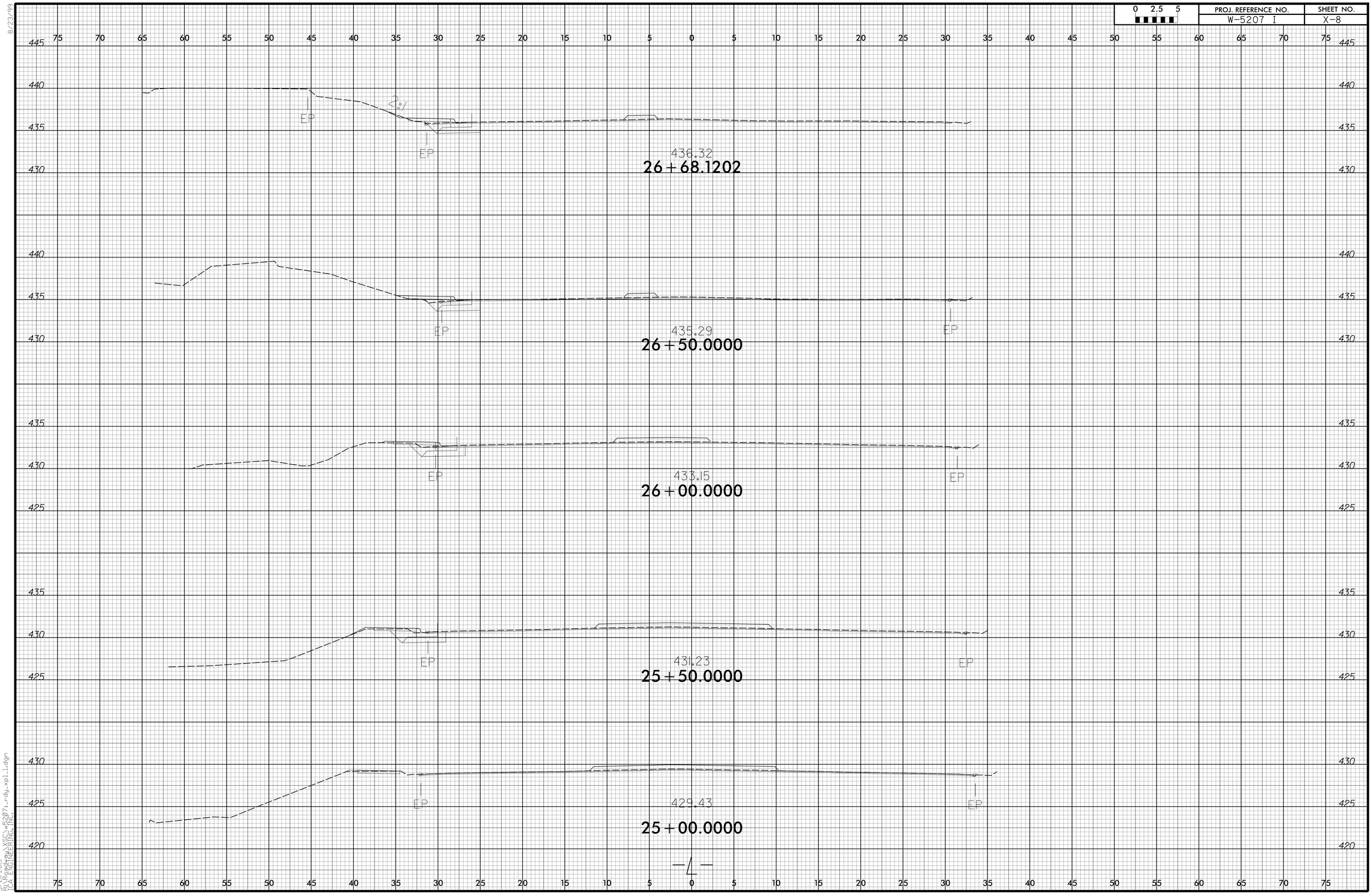


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TRANSCONTINENTAL ENGINEERING, INC.

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| 0 2.5 5 | PROJ. REFERENCE NO. | SHEET NO. |
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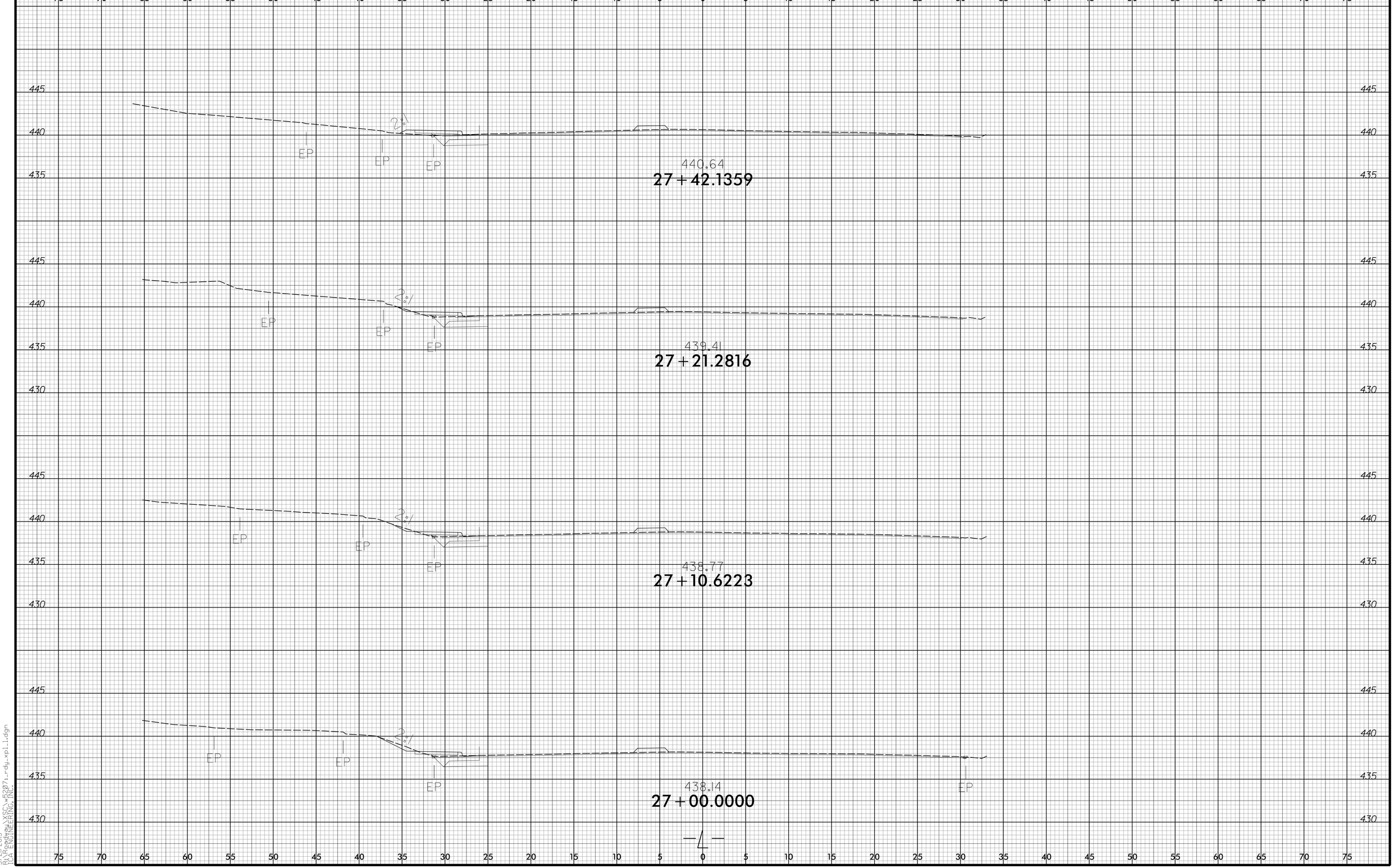


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TRANSENGINEERING, INC.

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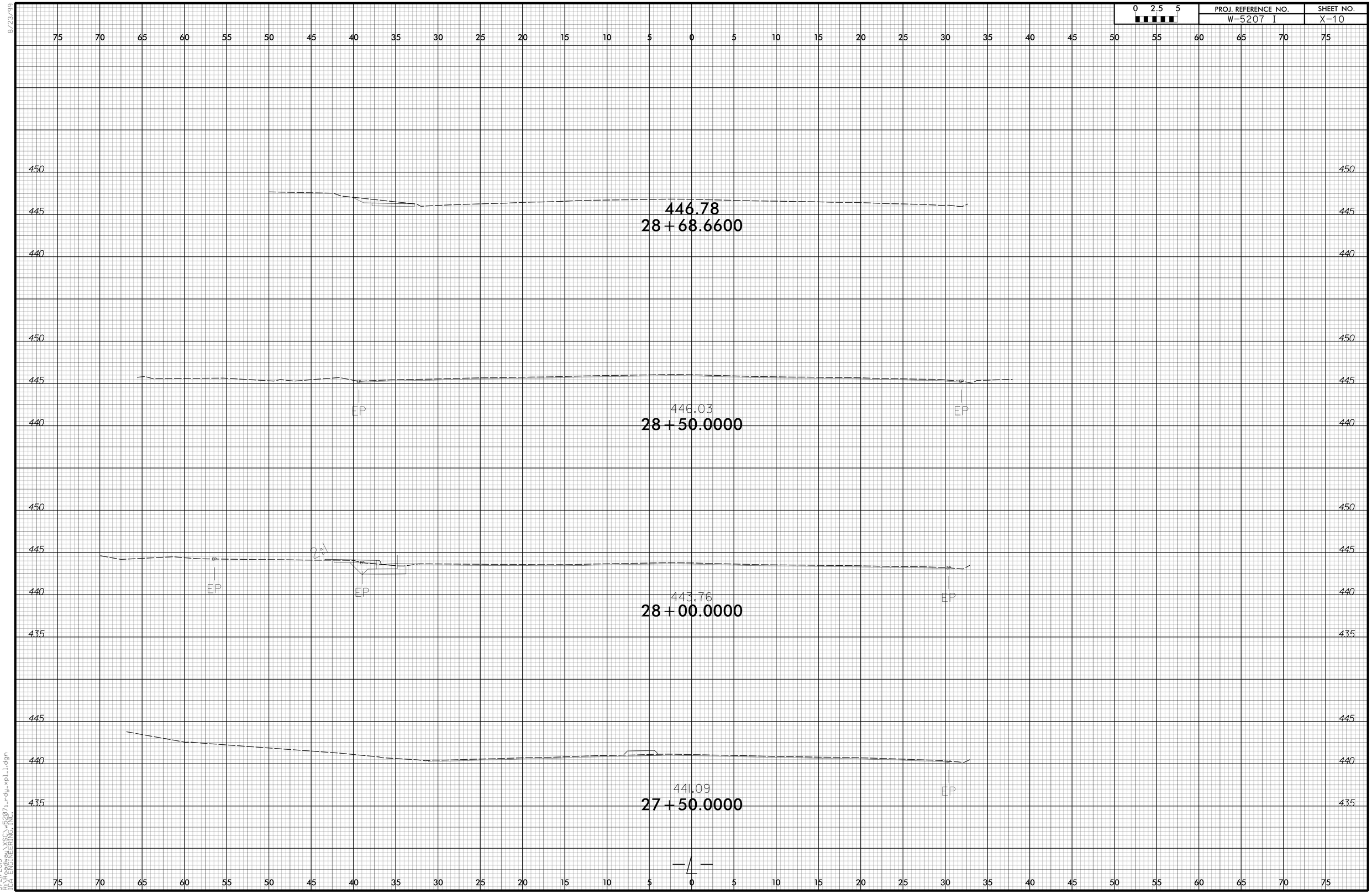


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TRANSENGINEERING, INC.

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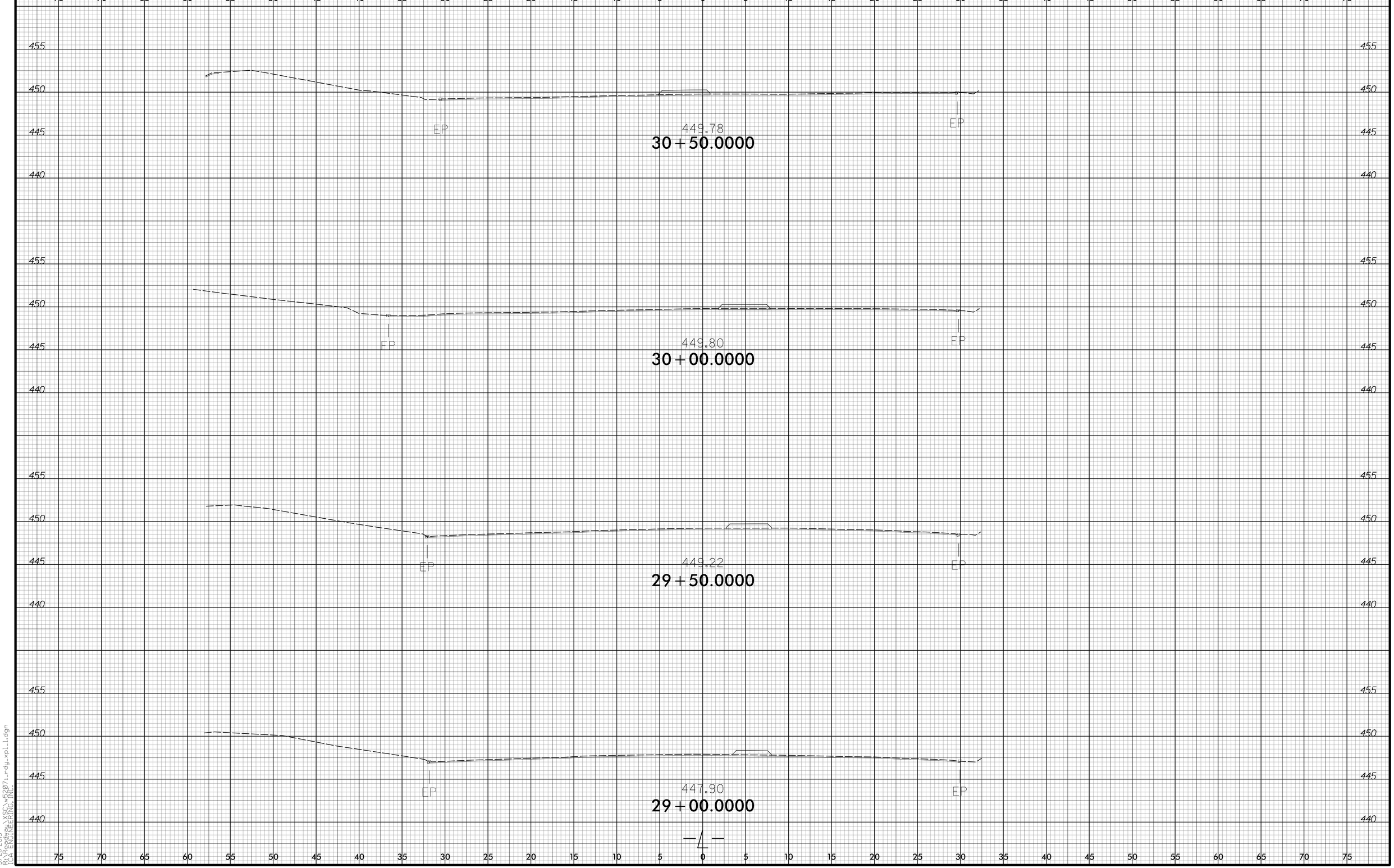


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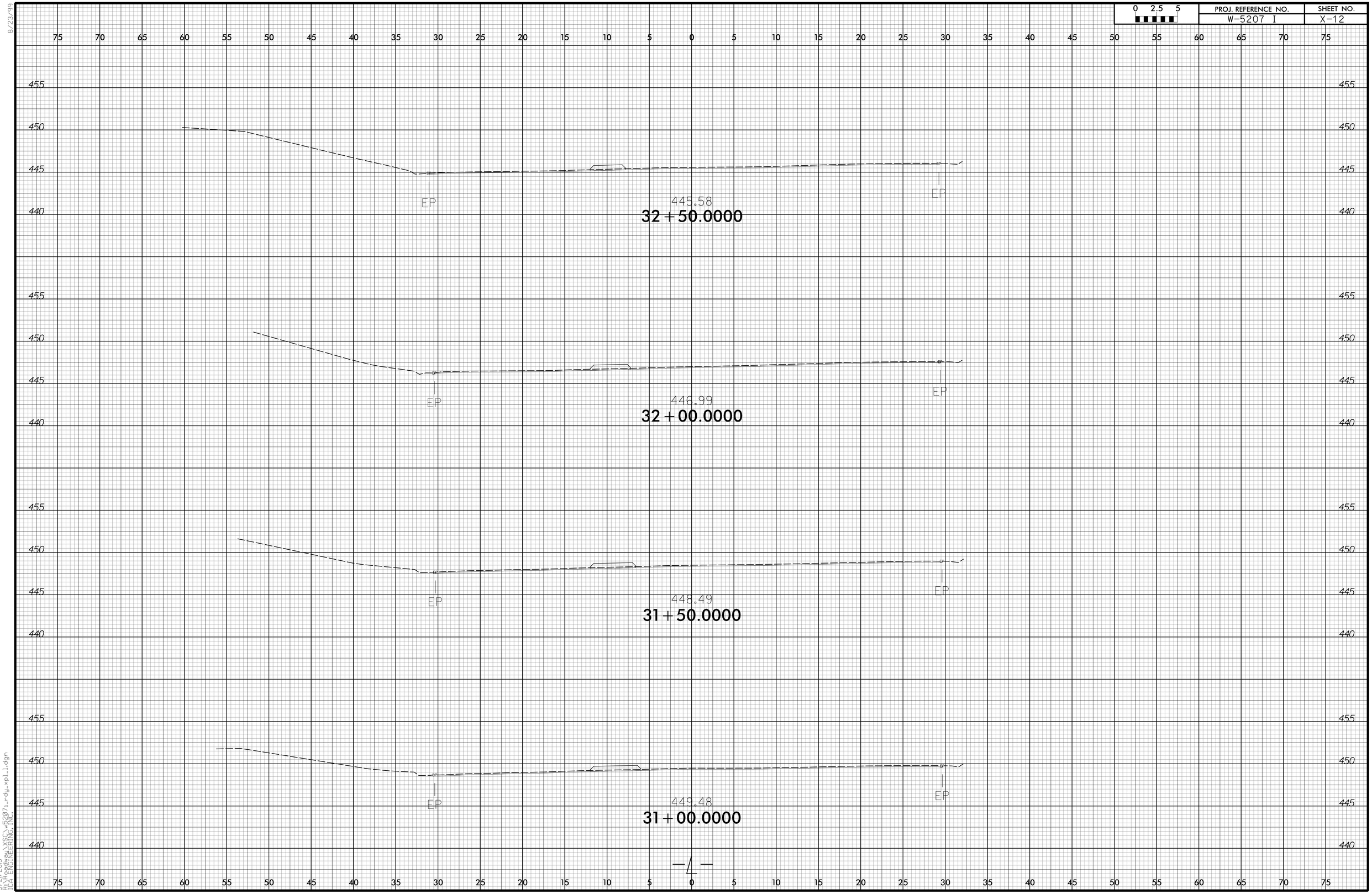


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TRANSCORE ENGINEERING, INC.

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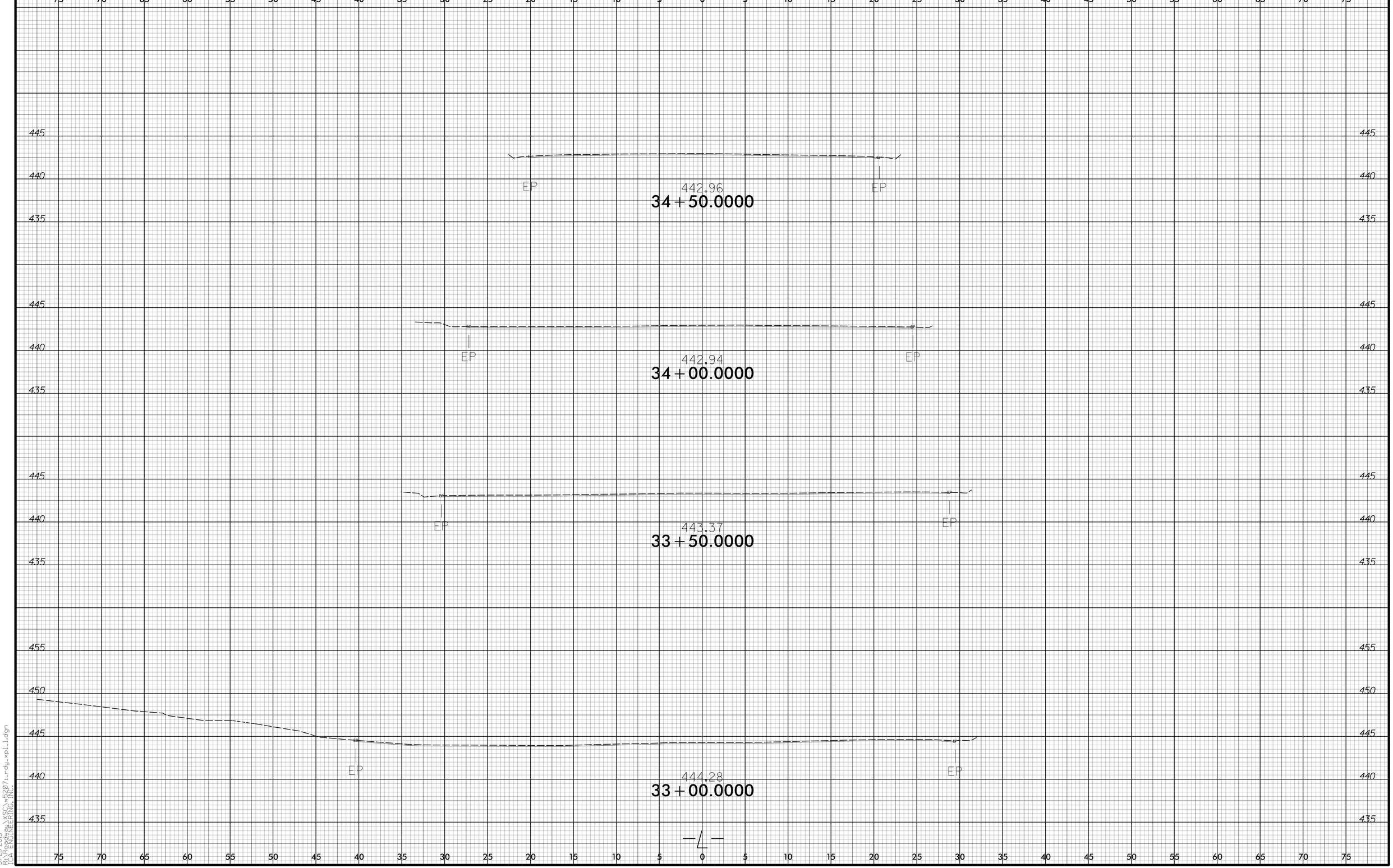


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TRANSYSTEMS ENGINEERING, INC.

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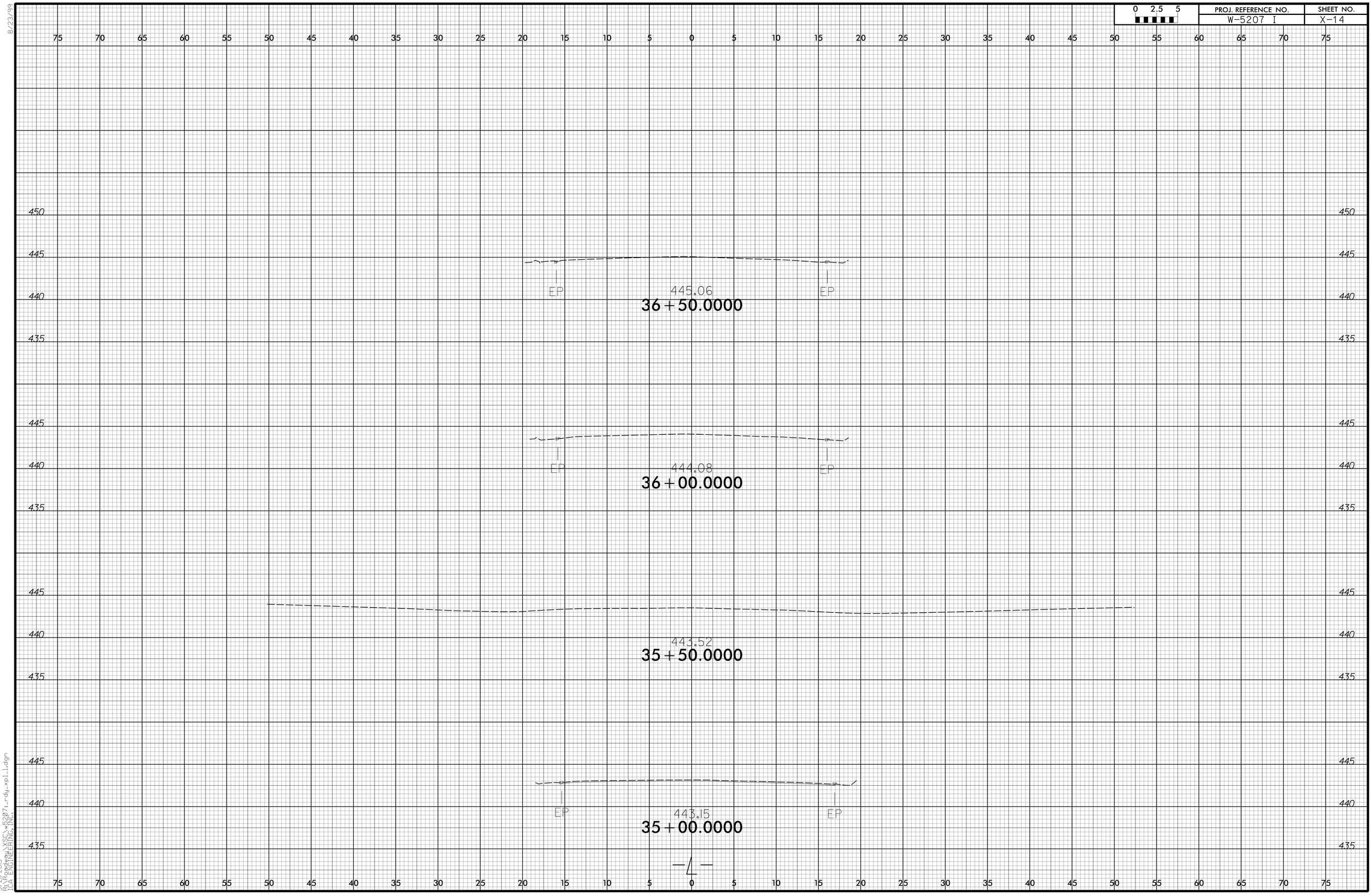


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TEAM ENGINEERING, INC.