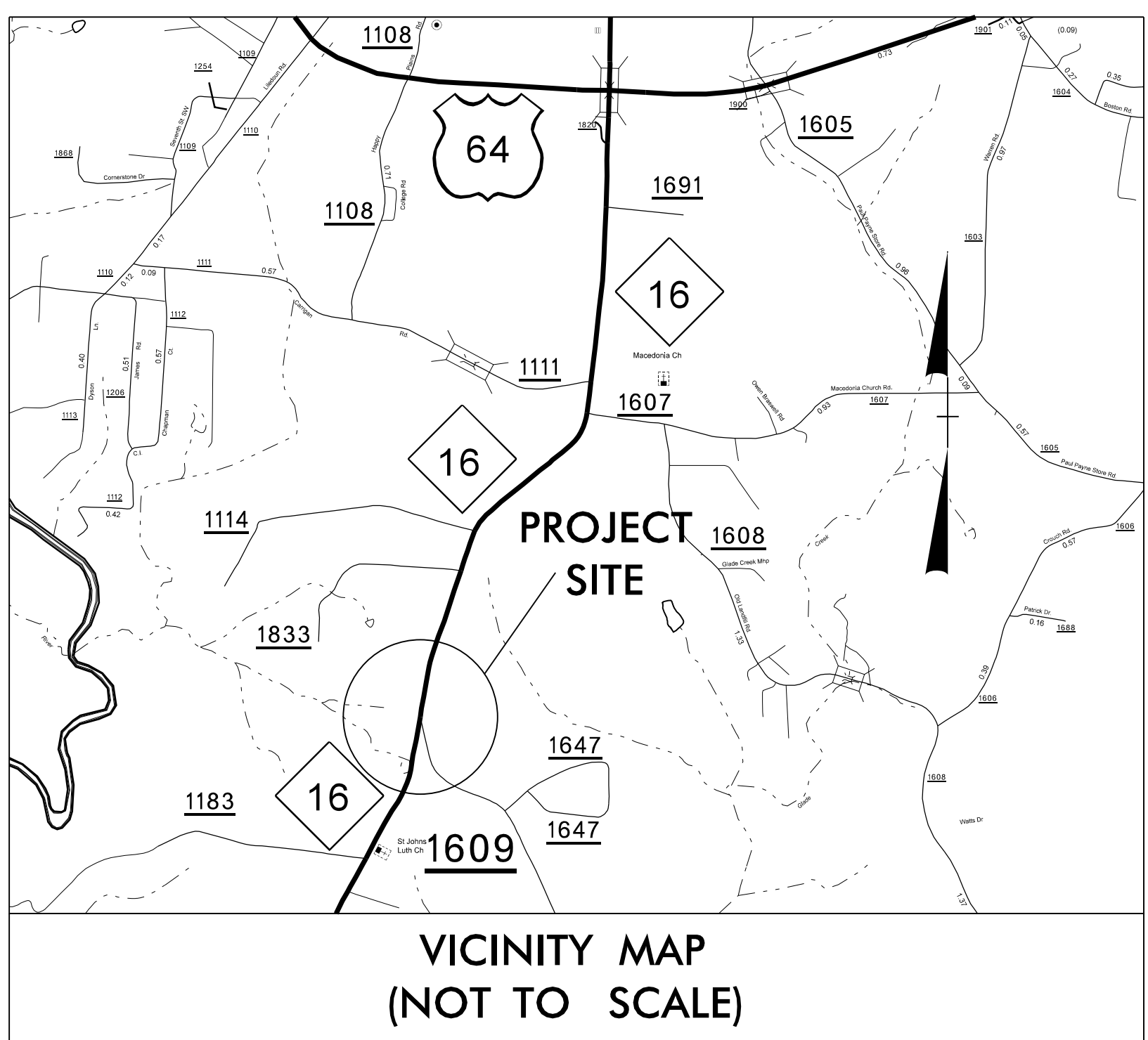


09.08/99

See Sheet 1A For Index of Sheets



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ALEXANDER COUNTY

LOCATION: NC 16 AT SR 1609 (COUNTY HOME RD.)

TYPE OF WORK: GRADING, PAVING, DRAINAGE, PAVEMENT MARKINGS & MARKERS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5762	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
44644.1.1		PE	
44644.2.1		RW	
44644.3.1		CONSTR.	

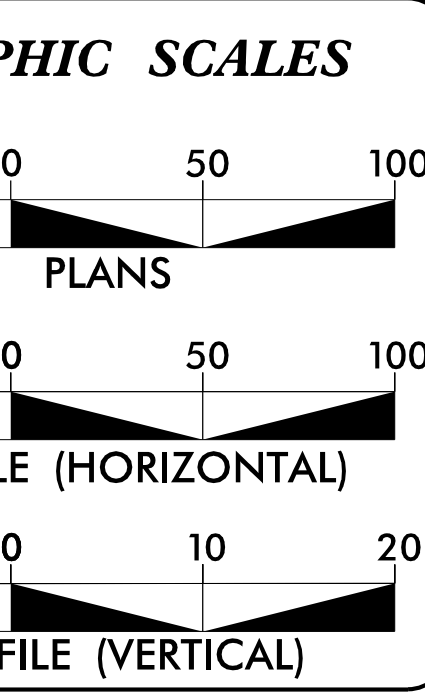
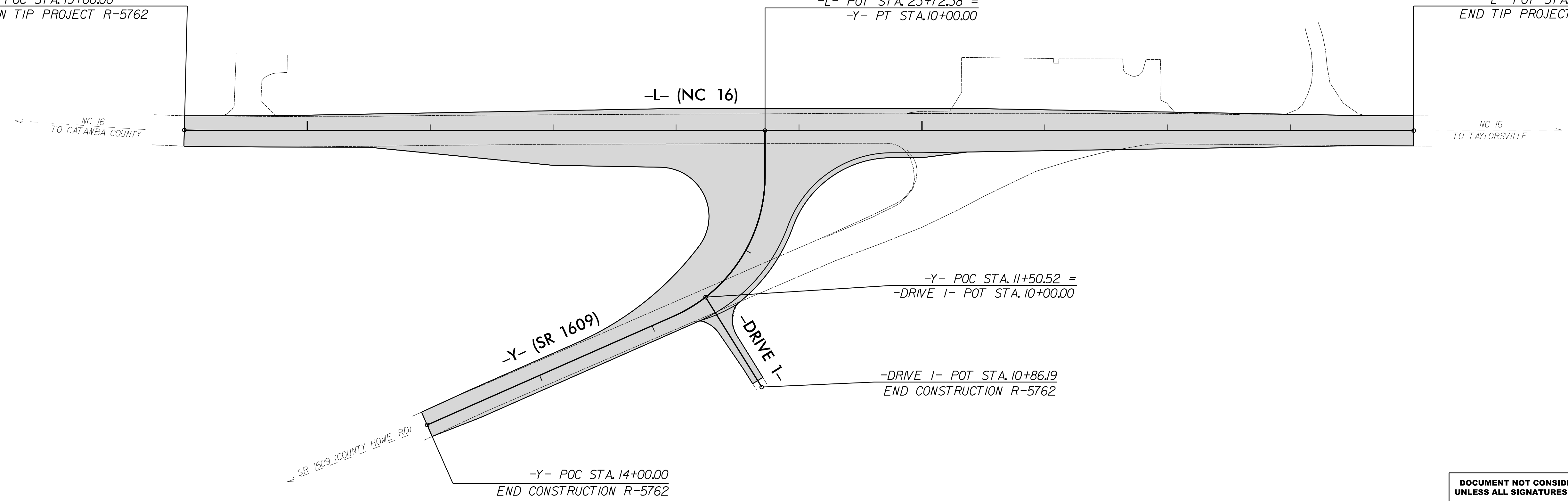
TIP PROJECT: R-5762

CONTRACT: DL00206

-L- POC STA. 19+00.00
BEGIN TIP PROJECT R-5762

-L- POT STA. 23+72.38 =
-Y- PT STA. 10+00.00

-L- POT STA. 29+00.00
END TIP PROJECT R-5762



DESIGN DATA

ADT 2020 = 10,000
ADT 2040 = 12,000

V = 55 MPH

FUNC CLASS =
MINOR ARTERIAL

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT R-5762 = 0.281 MILES
TOTAL LENGTH OF TIP PROJECT R-5762 = 0.281 MILES

Prepared in the Office of:
DIVISION OF HIGHWAYS
1710 E. MARION ST., SHELBY NC 28152

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JUNE 30, 2018

LETTING DATE:
FEBRUARY 22, 2022

B.K. SOWELL, PE
PROJECT ENGINEER

J.S. CARPENTER
PROJECT DESIGN ENGINEER

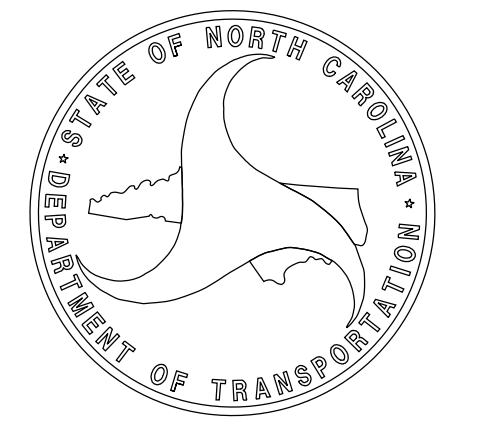
HYDRAULICS ENGINEER

Seal: Heather Harkunder, P.E., 035021, 01/30/2022

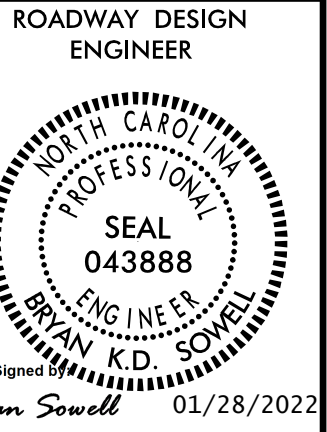
ROADWAY DESIGN ENGINEER

Seal: Bryan K.D. Sowell, P.E., 043888, 01/30/2022

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



I:\JAN-2022 21453 R:\Roadway\Proj\N.Verified FinalFiles 01.11.22\R-5762_Rdy_tsh.dgn \$\$\$USER\$\$\$



**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

GENERAL NOTES: 2018 SPECIFICATIONS
EFFECTIVE: 01-16-2018
REVISED:

EFF. 01-16-2018
REV.

GRADING AND SURFACING OR RESURFACING AND WIDENING:

2018 ROADWAY ENGLISH STANDARD DRAWINGS

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

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2018 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide For Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
225.06	Method of Grading Sight Distance at Intersections
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
852.01	Concrete Islands

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2B-1 THRU 2B-2	ROADWAY DETAILS
3B-1	ROADWAY & DRAINAGE SUMMARIES
3D-1	DRAINAGE SUMMARIES
4 THRU 6	PLAN AND PROFILE SHEET
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-2	EROSION CONTROL PLANS
UC-1 THRU UC-4	UTILITIES CONSTRUCTION PLANS
X-1 THRU X-16	CROSS-SECTIONS

CLEARING:

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

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

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

SIDE ROADS:

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

DRIVEWAYS:

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

TEMPORARY SHORING:

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

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE
AT&T (Phone), Duke Energy (Power), Spectrum (Cable),
City of Hickory (Water), and City of Taylorsville (Sewer)
ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

RIGHT-OF-WAY MARKERS:

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

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

12/2/2016

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EIP
Computed Property Corner	-----
Property Monument	□ ECM
Parcel/Sequence Number	①23
Existing Fence Line	-x-x-x-
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
Existing Historic Property Boundary	----- HPB
Known Contamination Area: Soil	☠-S-☠
Potential Contamination Area: Soil	☠-S-☠
Known Contamination Area: Water	☠-W-☠
Potential Contamination Area: Water	☠-W-☠
Contaminated Site: Known or Potential	☠?

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	-----
False Sump	▽

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○
Switch	□
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY & PROJECT CONTROL:

Secondary Horiz and Vert Control Point	◆
Primary Horiz Control Point	○
Primary Horiz and Vert Control Point	◆
Exist Permanent Easement Pin and Cap	◇
New Permanent Easement Pin and Cap	◆
Vertical Benchmark	▲
Existing Right of Way Marker	△
Existing Right of Way Line	-----
New Right of Way Line	-----
New Right of Way Line with Pin and Cap	-----
New Right of Way Line with Concrete or Granite R/W Marker	-----
New Control of Access Line with Concrete C/A Marker	-----
Existing Control of Access	-----
New Control of Access	-----
Existing Easement Line	-----
New Temporary Construction Easement	-----
New Temporary Drainage Easement	-----
New Permanent Drainage Easement	-----
New Permanent Drainage / Utility Easement	-----
New Permanent Utility Easement	-----
New Temporary Utility Easement	-----
New Aerial Utility Easement	-----

ROADS AND RELATED FEATURES:

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

VEGETATION:

Single Tree	○
Single Shrub	○

Note: Not to Scale *S.U.E. = *Subsurface Utility Engineering*

Hedge	-----
Woods Line	-----
Orchard	-----
Vineyard	-----

EXISTING STRUCTURES:

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

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	●
U/G Power Line LOS B (S.U.E.*)	-----
U/G Power Line LOS C (S.U.E.*)	-----
U/G Power Line LOS D (S.U.E.*)	-----

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	○ T
Telephone Pedestal	□
Telephone Cell Tower	⬇
U/G Telephone Cable Hand Hole	-----
U/G Telephone Cable LOS B (S.U.E.*)	-----
U/G Telephone Cable LOS C (S.U.E.*)	-----
U/G Telephone Cable LOS D (S.U.E.*)	-----
U/G Telephone Conduit LOS B (S.U.E.*)	-----
U/G Telephone Conduit LOS C (S.U.E.*)	-----
U/G Telephone Conduit LOS D (S.U.E.*)	-----
U/G Fiber Optics Cable LOS B (S.U.E.*)	-----
U/G Fiber Optics Cable LOS C (S.U.E.*)	-----
U/G Fiber Optics Cable LOS D (S.U.E.*)	-----

WATER:

Water Manhole	○ W
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
U/G Water Line LOS B (S.U.E.*)	-----
U/G Water Line LOS C (S.U.E.*)	-----
U/G Water Line LOS D (S.U.E.*)	-----
Above Ground Water Line	----- A/G Water

TV:

TV Pedestal	□
TV Tower	⊗
U/G TV Cable Hand Hole	-----
U/G TV Cable LOS B (S.U.E.*)	-----
U/G TV Cable LOS C (S.U.E.*)	-----
U/G TV Cable LOS D (S.U.E.*)	-----
U/G Fiber Optic Cable LOS B (S.U.E.*)	-----
U/G Fiber Optic Cable LOS C (S.U.E.*)	-----
U/G Fiber Optic Cable LOS D (S.U.E.*)	-----

GAS:

Gas Valve	◇
Gas Meter	◇
U/G Gas Line LOS B (S.U.E.*)	-----
U/G Gas Line LOS C (S.U.E.*)	-----
U/G Gas Line LOS D (S.U.E.*)	-----
Above Ground Gas Line	----- A/G Gas

SANITARY SEWER:

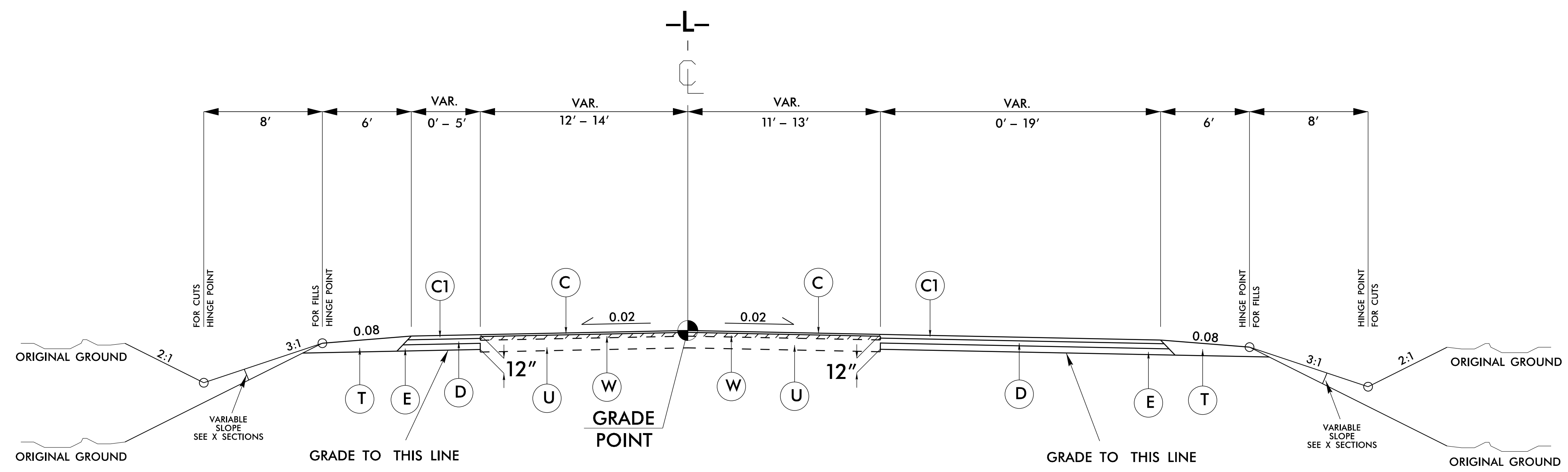
Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	----- A/G Sanitary Sewer
SS Forced Main Line LOS B (S.U.E.*)	-----
SS Forced Main Line LOS C (S.U.E.*)	-----
SS Forced Main Line LOS D (S.U.E.*)	-----

MISCELLANEOUS:

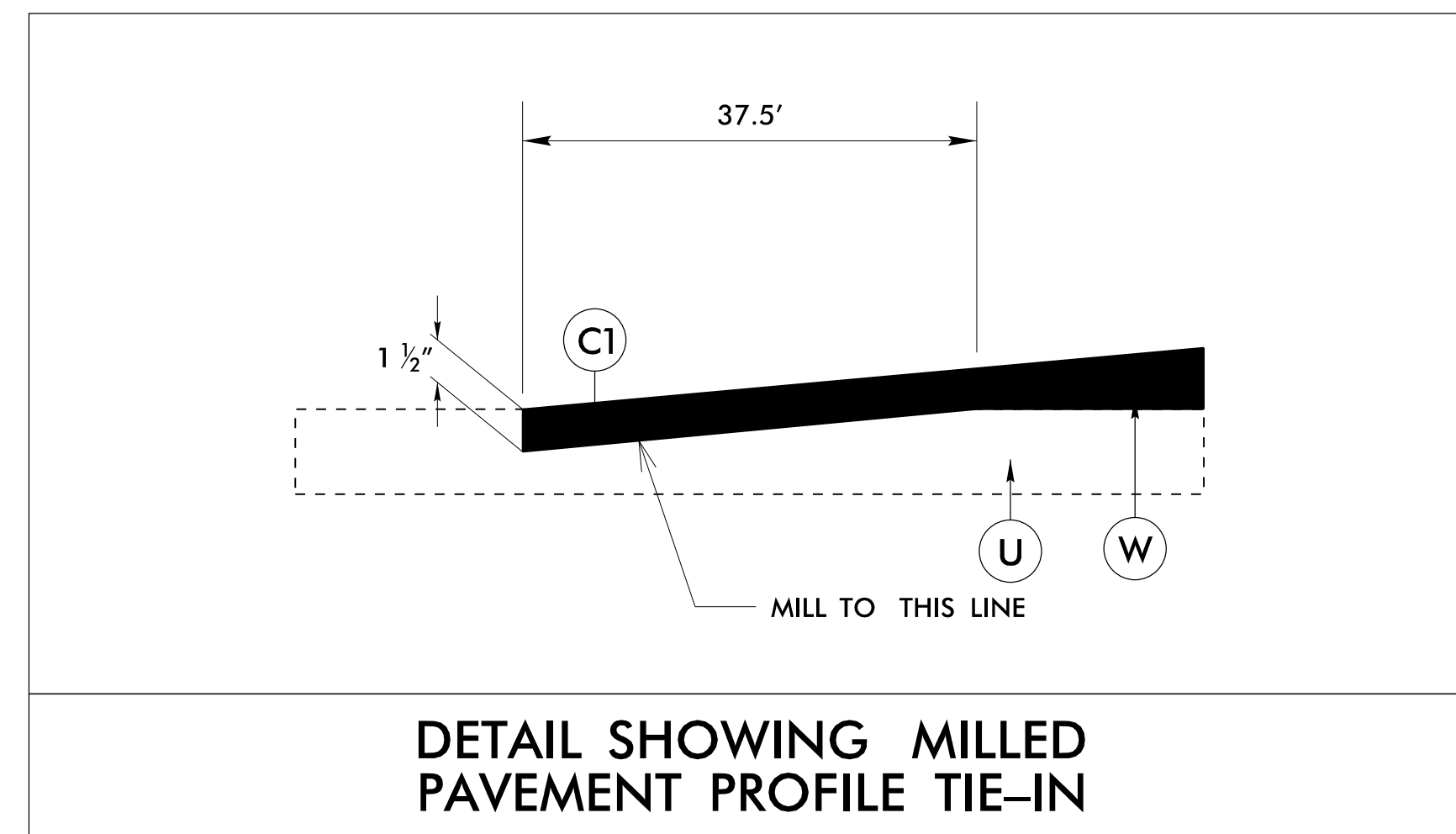
Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	□
Utility Unknown U/G Line LOS B (S.U.E.*)	-----
U/G Tank; Water, Gas, Oil	□
Underground Storage Tank, Approx. Loc.	□
A/G Tank; Water, Gas, Oil	□
Geoenvironmental Boring	⊕
U/G Test Hole LOS A (S.U.E.*)	○
Abandoned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

8/17/99

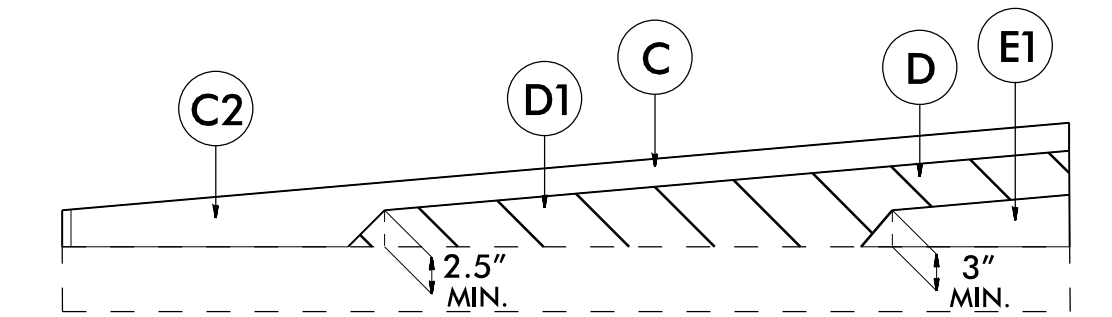
PROJECT REFERENCE NO. R-5762	SHEET NO. 2A-1
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	
Documented by: Bryan Sowell 01/28/2022	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



TYPICAL SECTION NO. 1
-L- STA. 19+00 TO 29+00



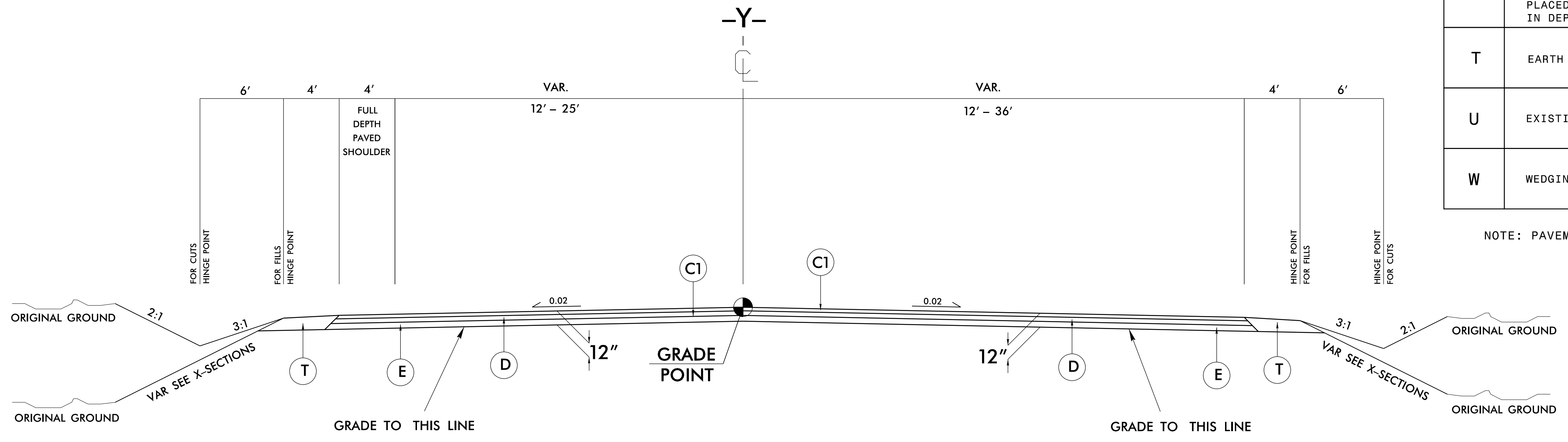
DETAIL SHOWING MILLED PAVEMENT PROFILE TIE-IN



WEDGING DETAIL FOR RESURFACING
USE WITH TYPICAL SECTION NO. 1


PAVEMENT SCHEDULE	
FINAL PAVEMENT DESIGN	
C	PROP. APPROX. 1.5" OF ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LB. PER SQ. YARD.
C1	PROP. APPROX. 3.0" OF ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LB. PER SQ. YARD IN EACH OF TWO LAYERS.
C2	PROP. VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD PER 1" IN DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH
D	PROP. APPROX. 4.0" OF ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LB. PER SQ. YARD.
D1	PROP. VARIABLE DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" IN DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2.5" IN DEPTH OR GREATER THAN 4" IN DEPTH
E	PROP. APPROX. 5.0" OF ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LB. PER SQ. YARD.
E1	PROP. VARIABLE DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE 114 LBS. PER SQ. YD. PER 1" IN DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5.5" IN DEPTH
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING.

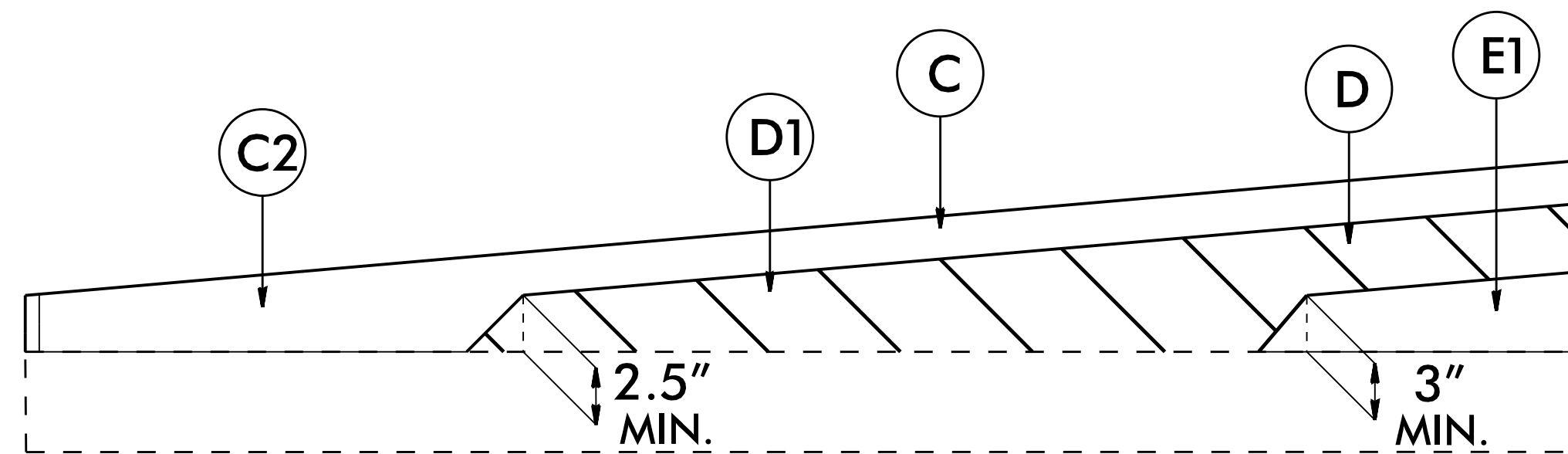
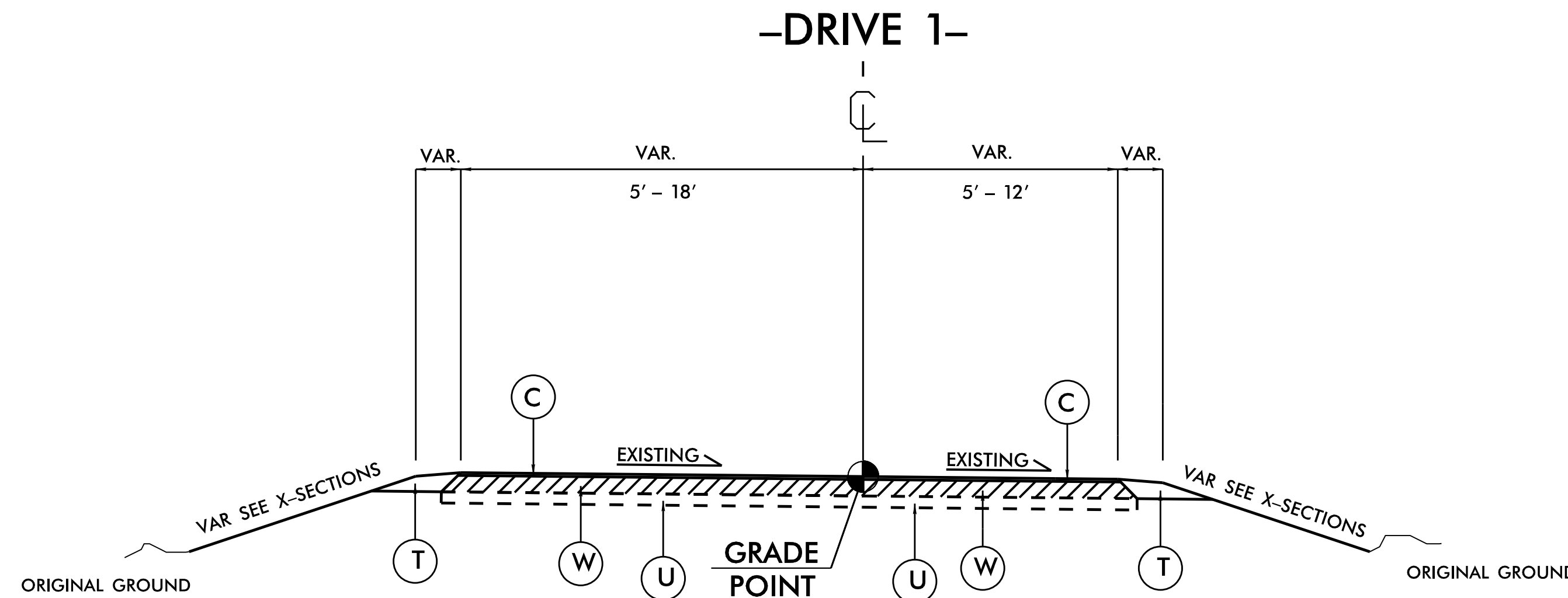
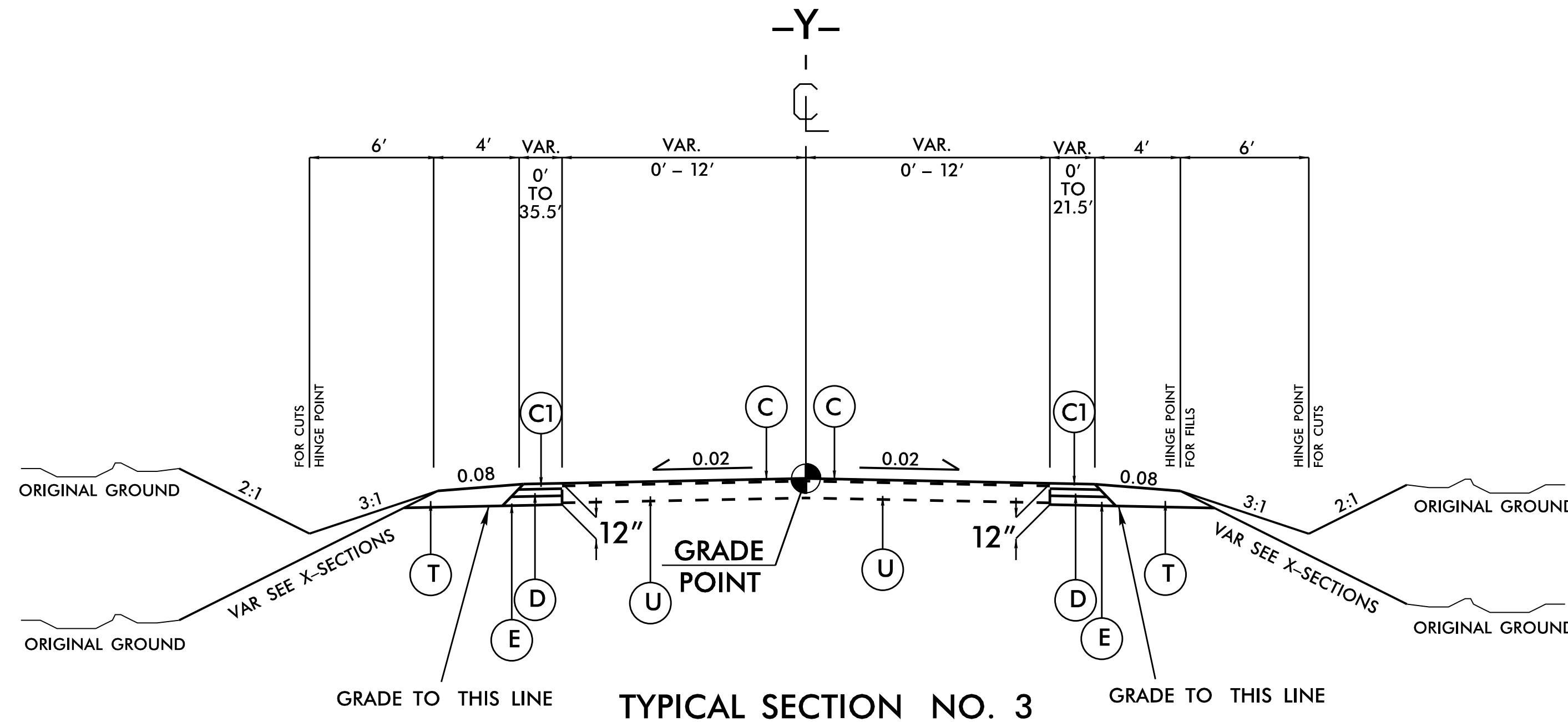
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION NO. 2
-Y- STA. 10+18.00 TO STA. 11+00.00

I:\JAN-2022 2428
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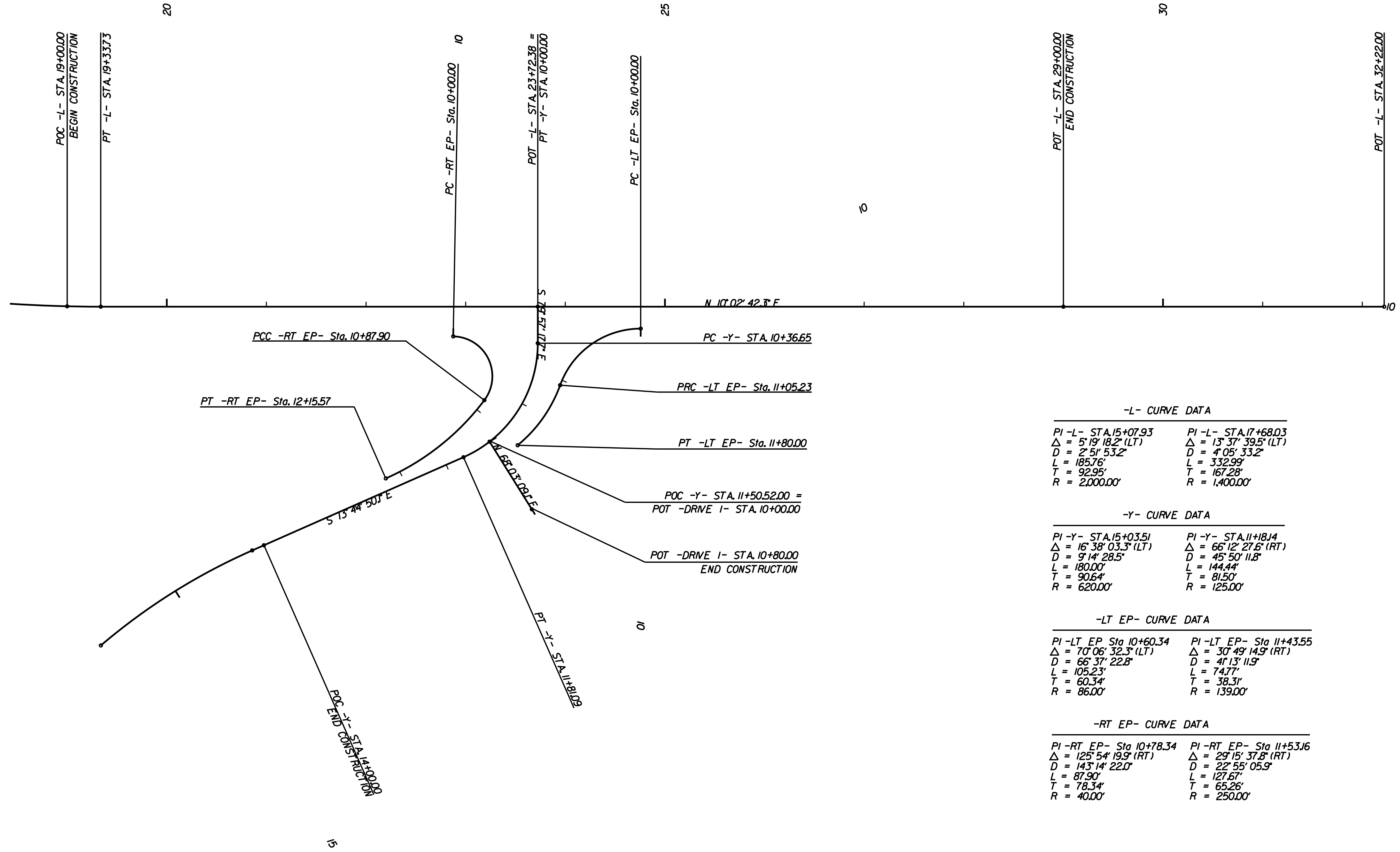
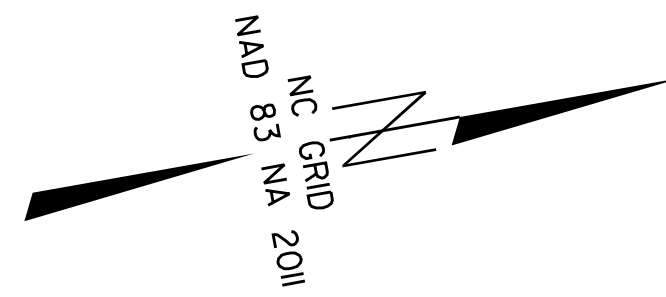
PROJECT REFERENCE NO. R-5762	SHEET NO. 2A-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	
	
Designed by: <i>Bryan Sowell</i> 01/28/2022 79EAB	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



PAVEMENT SCHEDULE	
FINAL PAVEMENT DESIGN	
C	PROP. APPROX. 1.5" OF ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LB. PER SQ. YARD.
C1	PROP. APPROX. 3.0" OF ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LB. PER SQ. YARD IN EACH OF TWO LAYERS.
C2	PROP. VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE 112 LBS. PER SQ YD PER 1" DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH
D	PROP. APPROX. 4.0" OF ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LB. PER SQ. YARD.
D1	PROP. VARIABLE DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" IN DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2.5" IN DEPTH OR GREATER THAN 4" IN DEPTH
E	PROP. APPROX. 5.0" OF ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LB. PER SQ. YARD.
E1	PROP. VARIABLE DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE 114 LBS. PER SQ. YD. PER 1" IN DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5.5" IN DEPTH
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING.

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

ALIGNMENT DETAIL



-L- CURVE DATA	
PI -L- STA. 15+07.93	PI -L- STA. 17+68.03
$\Delta = 5^\circ 19' 18.2\" (LT)$	$\Delta = 13^\circ 37' 39.5\" (LT)$
$D = 2^\circ 51' 53.2\"$	$D = 4^\circ 05' 33.2\"$
$L = 185.76'$	$L = 332.99'$
$T = 92.95'$	$T = 167.28'$
$R = 2,000.00'$	$R = 1,400.00'$

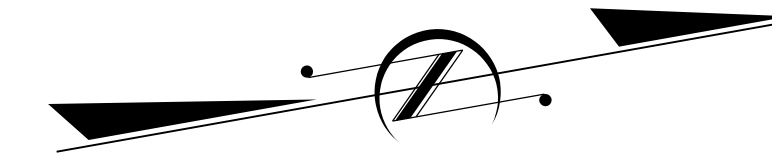
-Y- CURVE DATA	
PI -Y- STA. 15+03.51	PI -Y- STA. 11+18.14
$\Delta = 16^\circ 38' 03.3\" (LT)$	$\Delta = 66^\circ 12' 27.6\" (RT)$
$D = 9^\circ 14' 28.5\"$	$D = 45^\circ 50' 11.8\"$
$L = 180.00'$	$L = 144.44'$
$T = 90.64'$	$T = 81.50'$
$R = 620.00'$	$R = 125.00'$

-LT EP- CURVE DATA	
PI -LT EP Sta 10+60.34	PI -LT EP- Sta 11+43.55
$\Delta = 70^\circ 06' 32.3\" (LT)$	$\Delta = 30^\circ 49' 14.9\" (RT)$
$D = 66^\circ 37' 22.8\"$	$D = 41^\circ 13' 11.9\"$
$L = 105.23'$	$L = 74.77'$
$T = 60.34'$	$T = 38.31'$
$R = 86.00'$	$R = 139.00'$

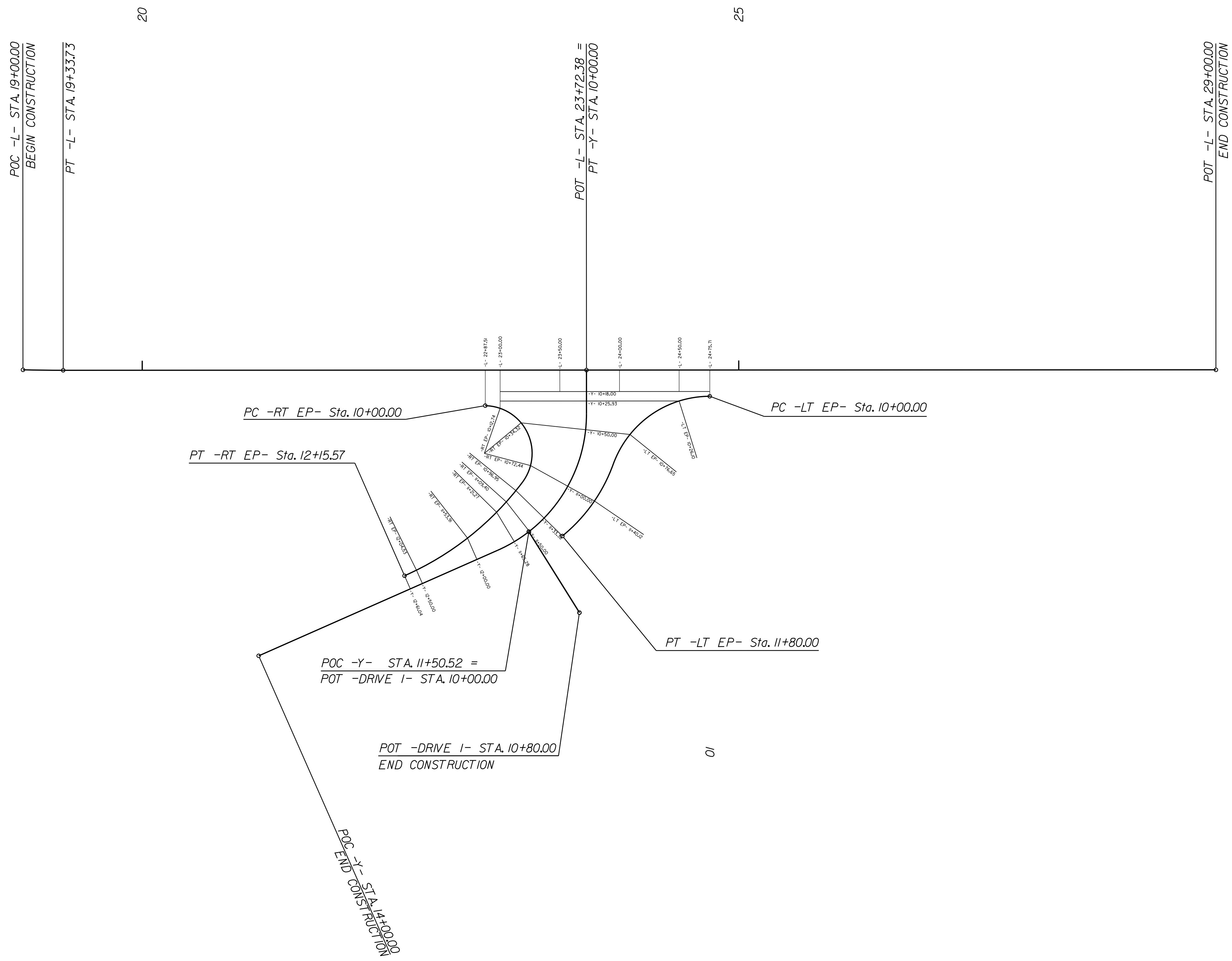
-RT EP- CURVE DATA	
PI -RT EP- Sta 10+78.34	PI -RT EP- Sta 11+53.16
$\Delta = 125^\circ 54' 19.9\" (RT)$	$\Delta = 29^\circ 15' 37.8\" (RT)$
$D = 143^\circ 14' 22.0\"$	$D = 22^\circ 55' 05.9\"$
$L = 87.90'$	$L = 127.67'$
$T = 78.34'$	$T = 65.26'$
$R = 40.00'$	$R = 250.00'$

8/17/99
 SYSTEMS
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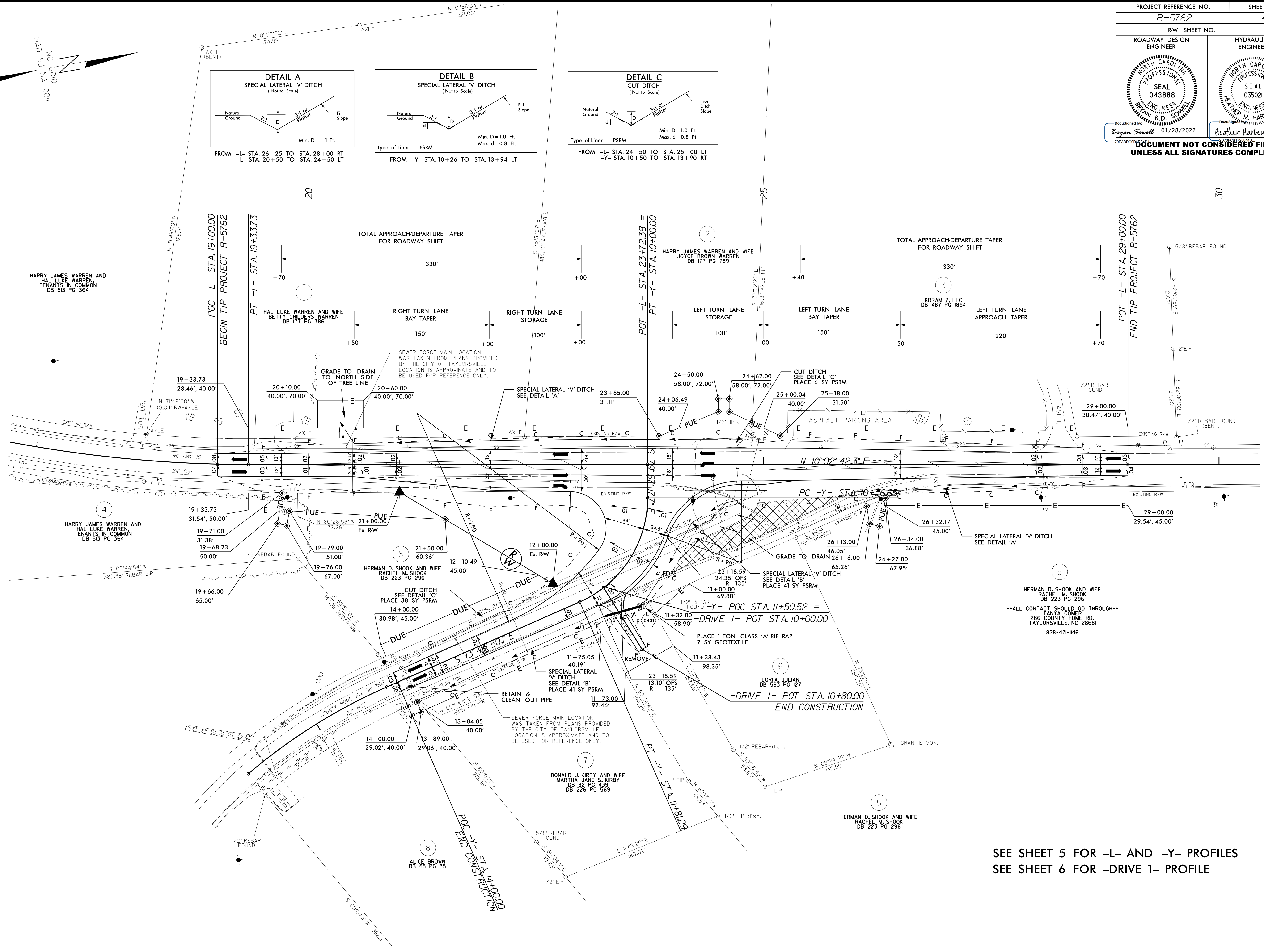
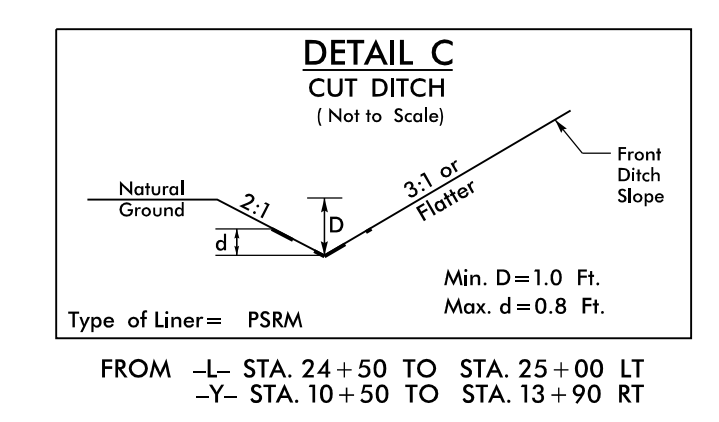
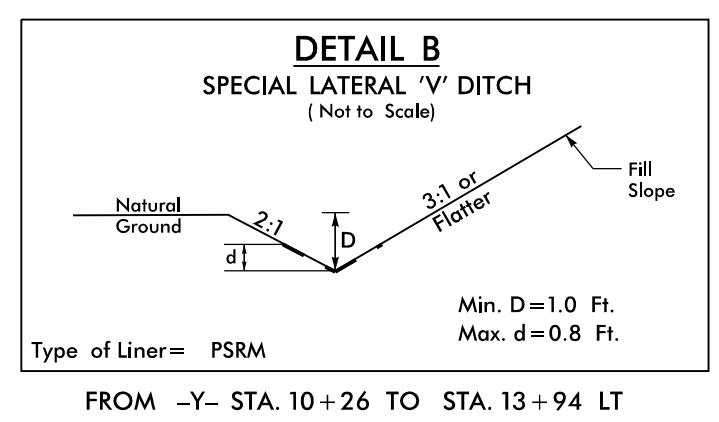
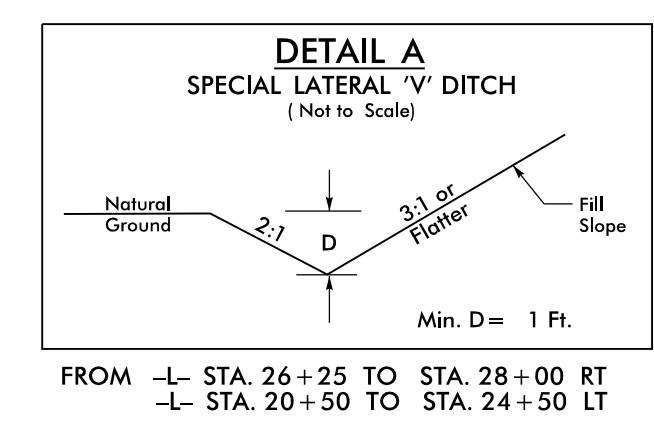
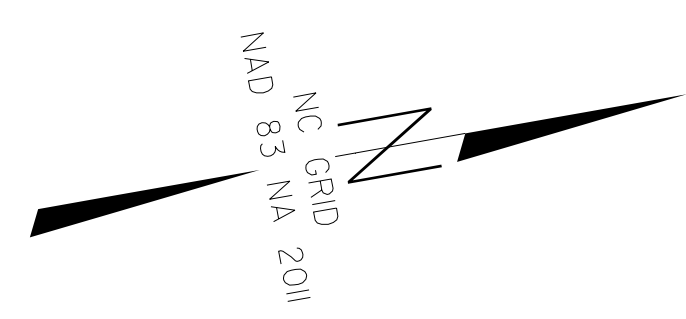
SHEAR POINT DIAGRAM



PROJECT REFERENCE NO. <i>R-5762</i>	SHEET NO. <i>2B-2</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	
DocuSigned by: <i>Bryan Sowell</i> 01/28/2022	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



PROJECT REFERENCE NO. R-5762		SHEET NO. 4	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		SEAL 043888	
BRYAN SOWELL		01/28/2022	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		HEATHER HARKENHILL	
		01/30/2022	



SEE SHEET 5 FOR -L- AND -Y- PROFILES
SEE SHEET 6 FOR -DRIVE 1- PROFILE

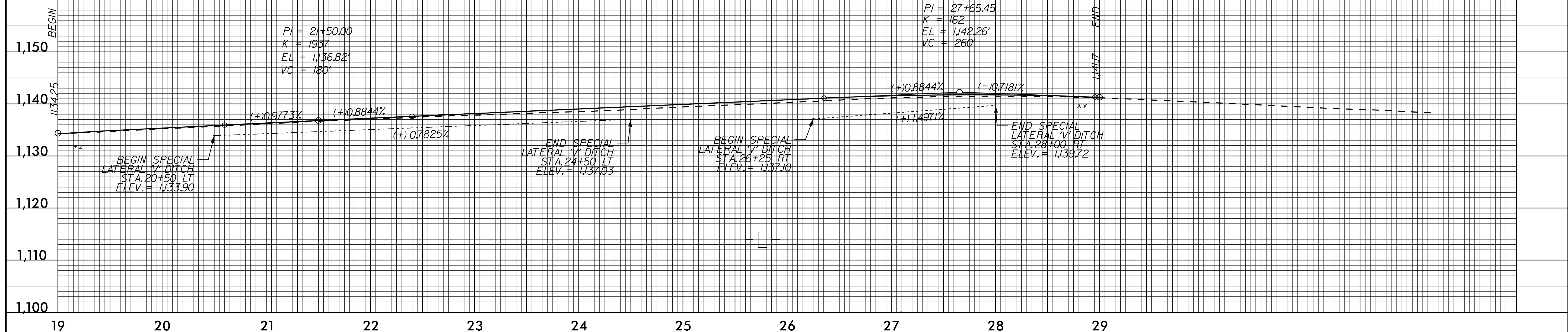
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 BRYAN SOWELL

5/28/99

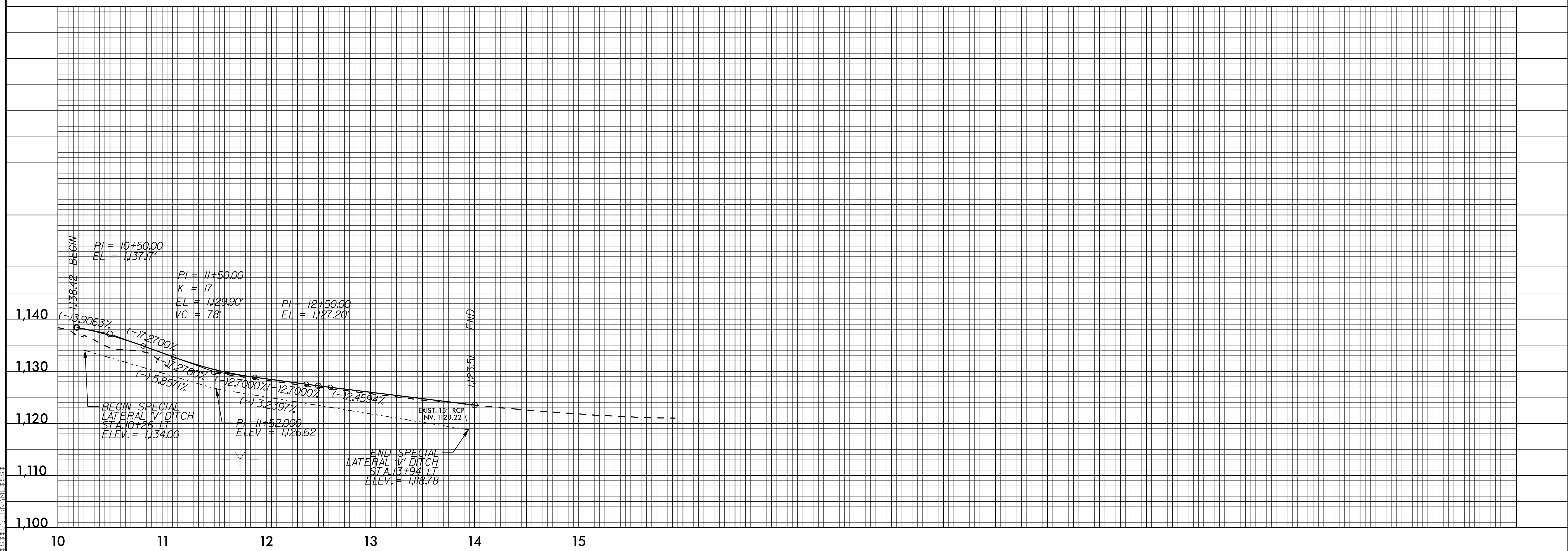
PROJECT REFERENCE NO. R-5762	SHEET NO. 5
ROADWAY DESIGN ENGINEER BRYAN K.D. SOBEL SEAL 043888 NORTH CAROLINA PROFESSIONAL ENGINEER	HYDRAULICS ENGINEER HEATHER M. HARKENBERGER SEAL 035021 NORTH CAROLINA PROFESSIONAL ENGINEER
DocuSign Bryan Sobel 01/28/2022	DocuSign Heather Harkenberger 01/30/2022

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

**MILL TO TIE IN AT BEGIN AND END PROFILE 37.5'
SEE DETAIL ON PLANSHEET 2A-1



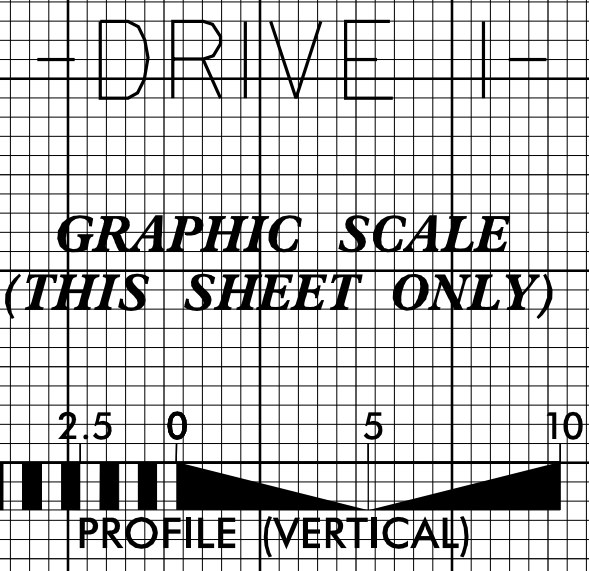
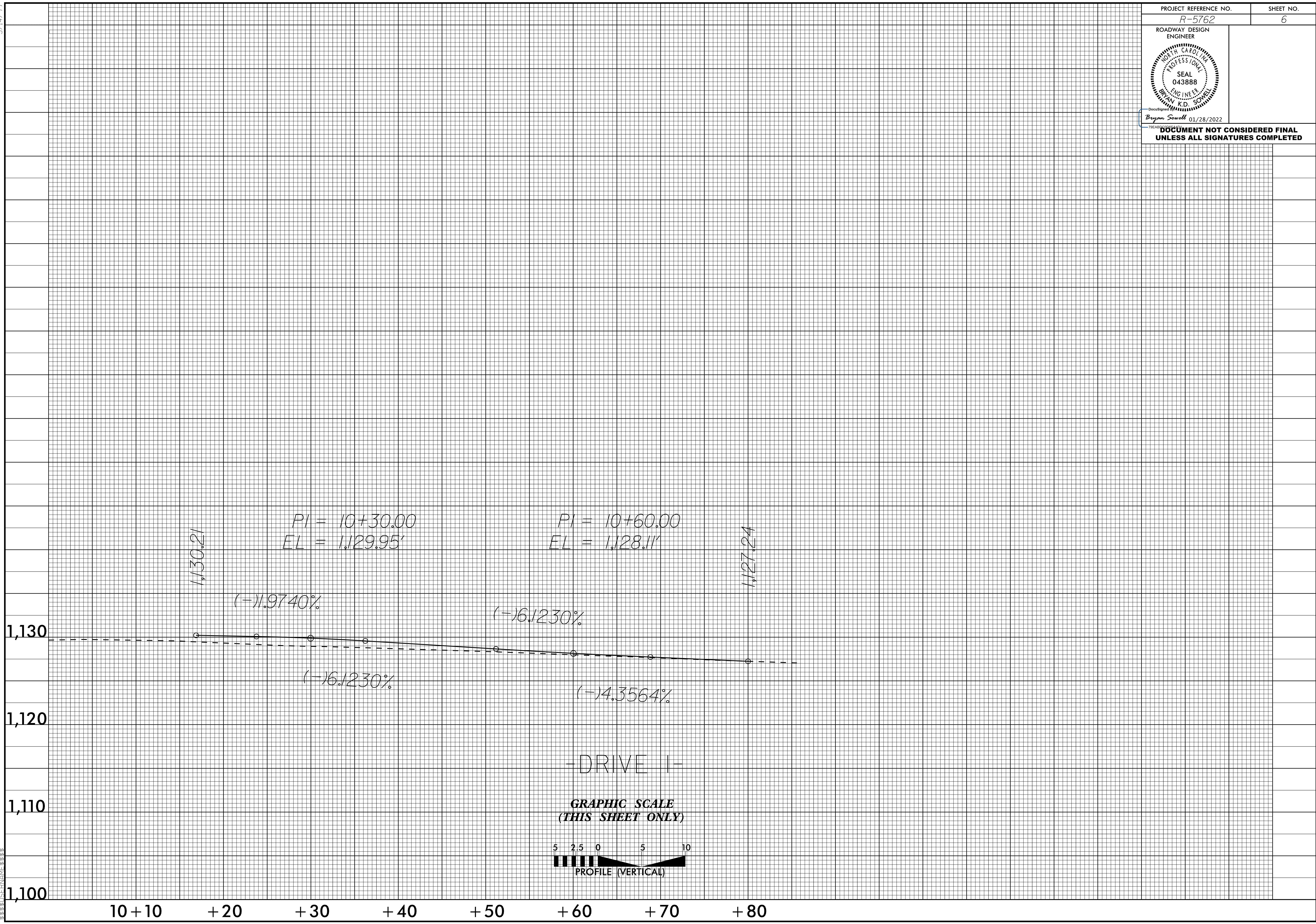
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\$\$\$\$\$CERAMIC\$\$\$\$\$



5/14/99

PROJECT REFERENCE NO. <i>R-5762</i>	SHEET NO. <i>6</i>
ROADWAY DESIGN ENGINEER	
<i>Bryan Sowell</i> 01/28/2022 <small>DocuSign</small>	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

P:\AN-2022_10-03\1_Verified_Final_Files\011122\AR-5762_Rdy_psh_6.dgn



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5762	RW01	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

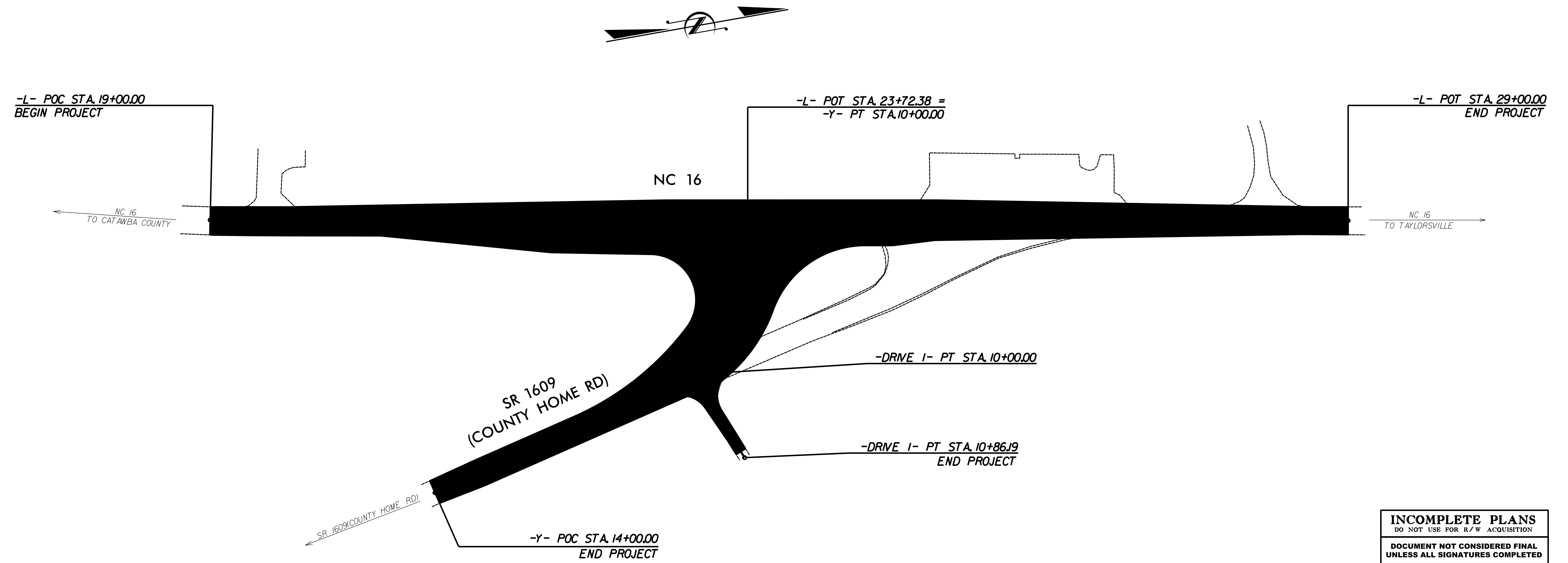
SURVEY CONTROL, EXISTING CENTERLINES,
RIGHT OF WAY, EASEMENTS AND PROPERTY TIES

ALEXANDER COUNTY

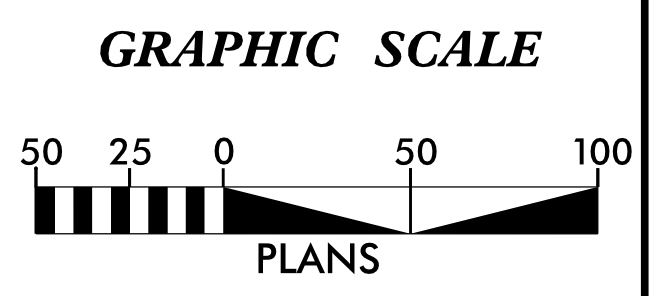
LOCATION: NC 16 AT SR 1609 (COUNTY HOME RD.)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, PERMANENT PAVEMENT MARKINGS & MARKERS

CONTRACT: TIP PROJECT: R-5762



INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "R5762-2" WITH NAD 83/NSRS 2011 STATE PLANE GRID COORDINATES OF NORTHING: 781,756.561(ft) EASTING: 1,352,138.637(ft) ELEVATION: 1,132.30(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999884

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "R5762-2" TO -L- STATION 19+33.73 IS N 8° 23' 31.1" E 239.53(ft)

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

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

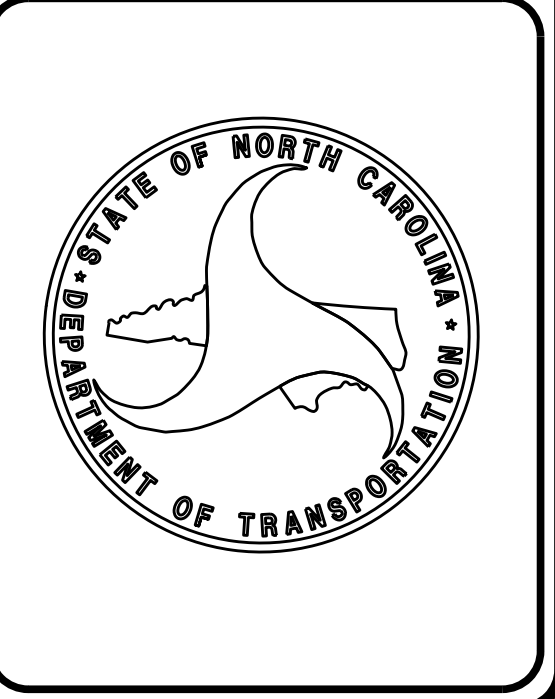
2017 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JUNE 30, 2018

LETTING DATE:
JUNE 11, 2019

PROFESSIONAL LAND SURVEYOR

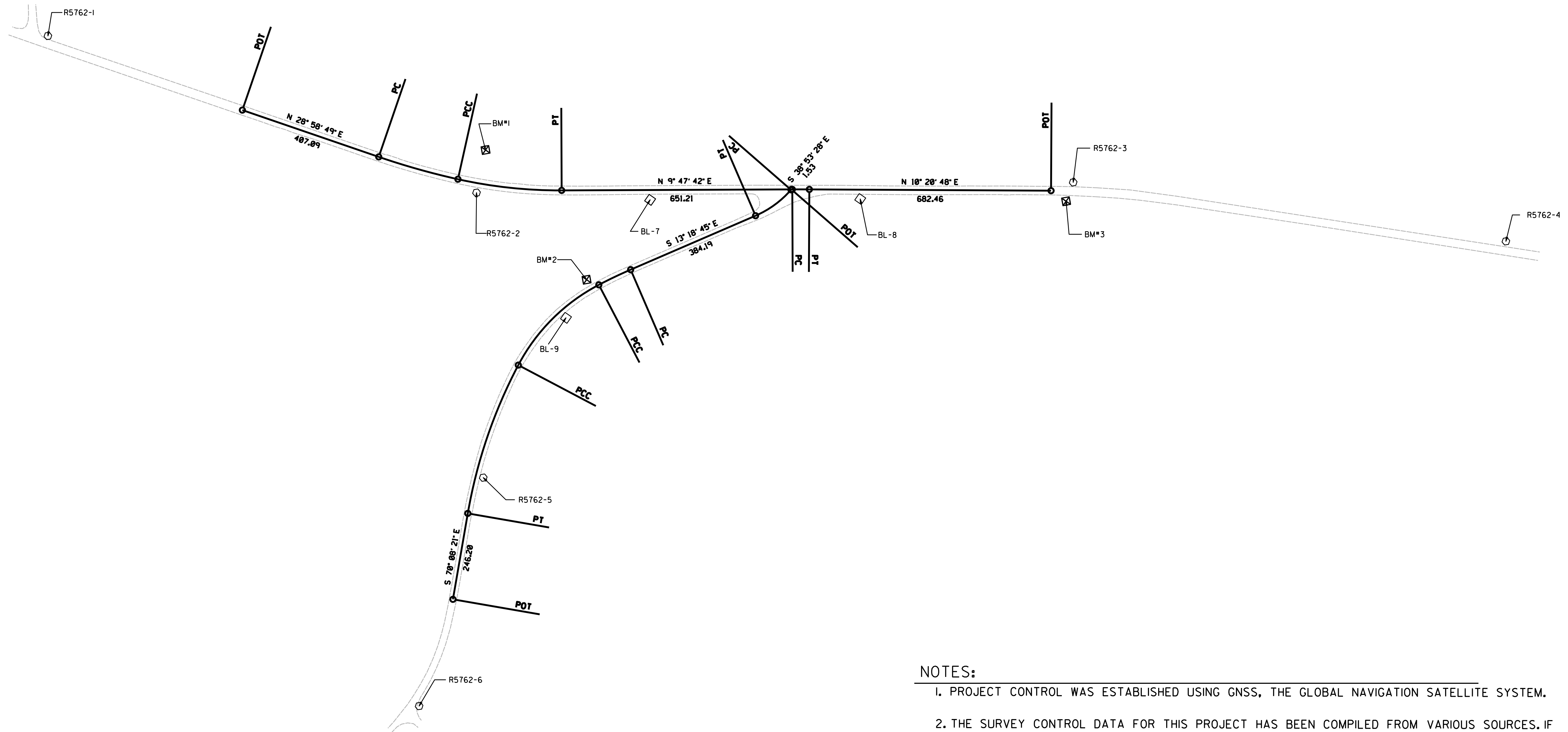
DocuSigned by:
[Signature]
SIGNATURE:



\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DDN\$\$\$\$\$
\$\$\$\$\$USERNAME\$\$\$\$\$

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

REVISIONS

6/2/99

25-MAY-2018 09:01
 C:\Users\james\OneDrive\Desktop\Projects\5762\5762-1.dgn

PROPOSED ALIGNMENT CONTROL SHEET

L			
TYPE	STATION	NORTH	EAST
POT	10+00.00	781146.2050	1351793.7240
PC	14+14.99	781509.1789	1351994.8776
PCC	16+00.75	781675.6047	1352077.2517
PT	19+33.73	781993.5287	1352173.5954
POT	32+22.00	783262.0513	1352398.2996

Y			
TYPE	STATION	NORTH	EAST
POT	10+00.00	782425.4503	1352250.1054
PC	10+36.65	782419.0583	1352286.1900
PT	11+81.09	782325.6794	1352385.8063
PC	14+12.88	782100.5313	1352440.8882
PT	15+92.88	781934.2994	1352508.2676

DRIVE_1			
TYPE	STATION	NORTH	EAST
POT	10+00.00	782354.1958	1352375.0003
POT	10+86.19	782386.4105	1352454.9455

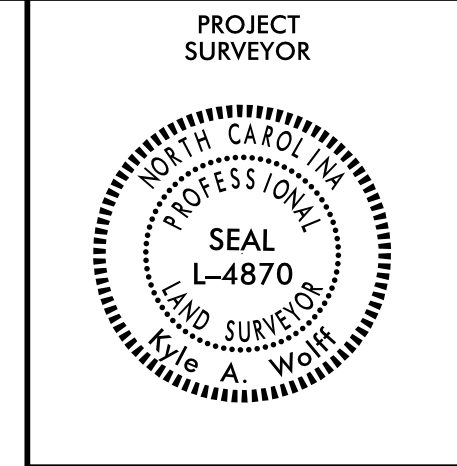
REVISIONS

NOTES:

- PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
- THE PROPOSED ALIGNMENT CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATINO REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

6/2/99

Location and Surveys

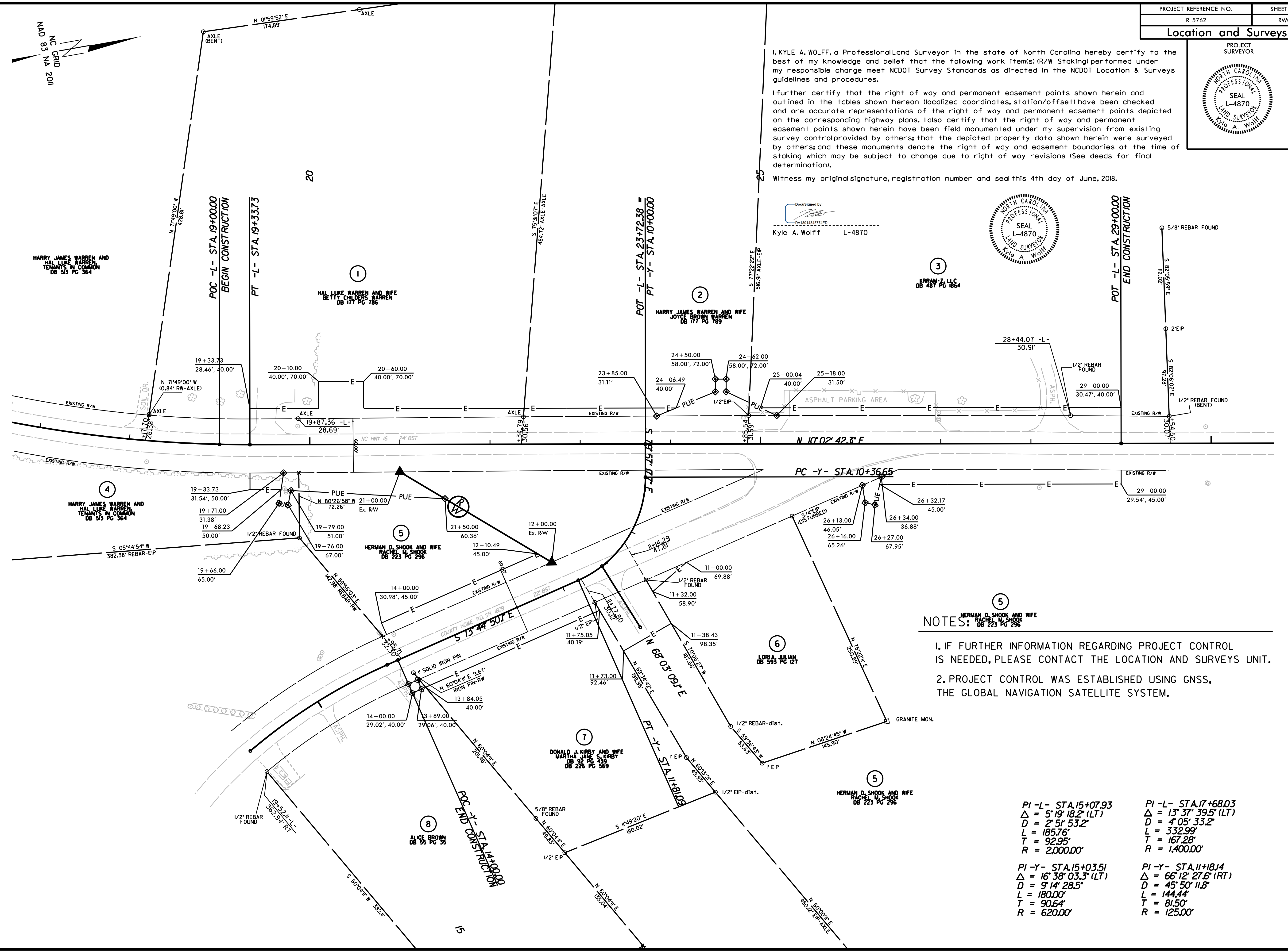


I, KYLE A. WOLFF, a Professional Land Surveyor in the state of North Carolina hereby certify to the best of my knowledge and belief that the following work item(s) (R/W Staking) performed under my responsible charge meet NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures.

I further certify that the right of way and permanent easement points shown herein and outlined in the tables shown hereon (localized coordinates, station/offset) have been checked and are accurate representations of the right of way and permanent easement points depicted on the corresponding highway plans. I also certify that the right of way and permanent easement points shown herein have been field monumented under my supervision from existing survey control provided by others; that the depicted property data shown herein were surveyed by others; and these monuments denote the right of way and easement boundaries at the time of staking which may be subject to change due to right of way revisions (See deeds for final determination).

Witness my original signature, registration number and seal this 4th day of June, 2018.

DocuSigned by:
 Kyle A. Wolff L-4870

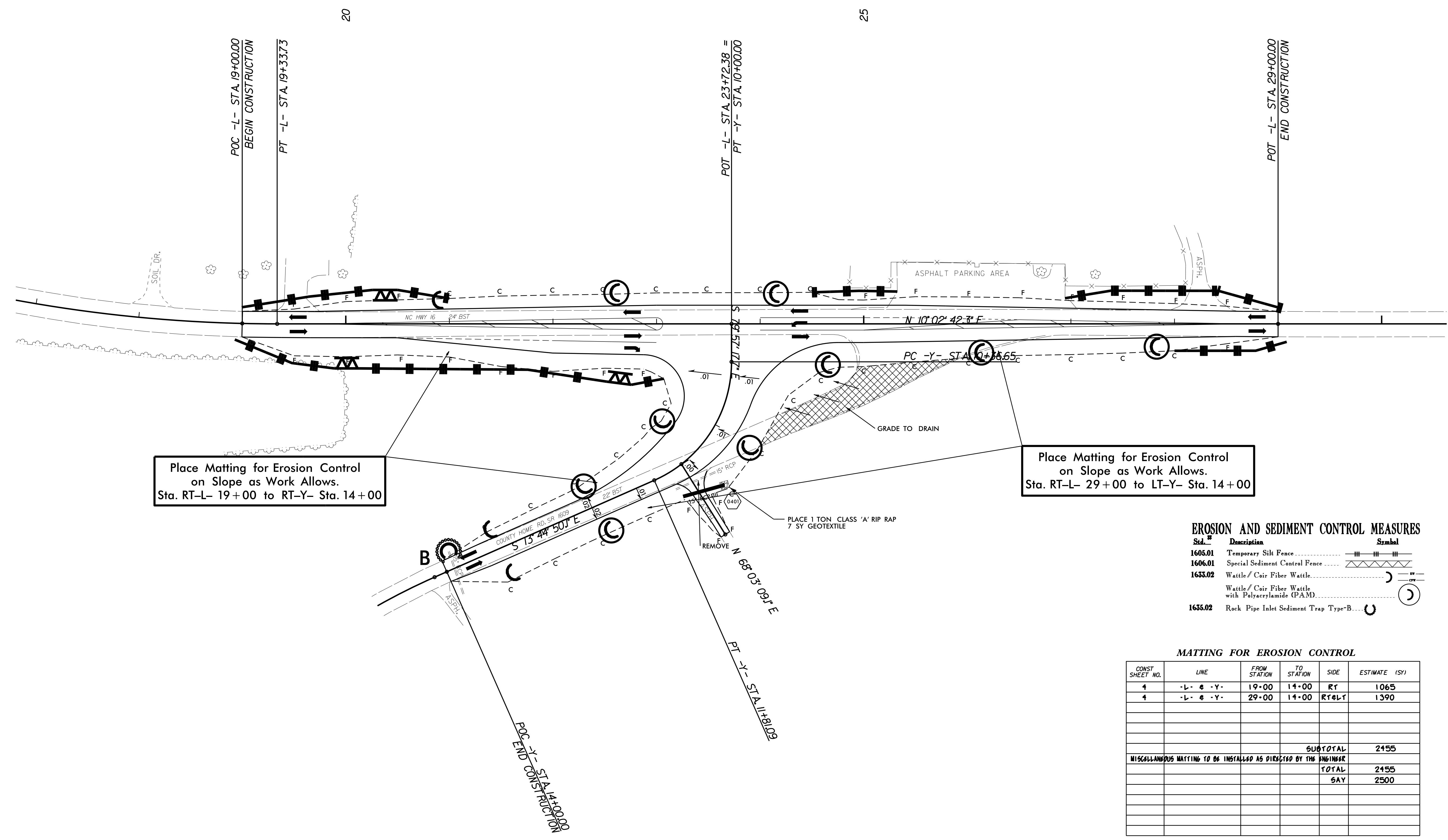
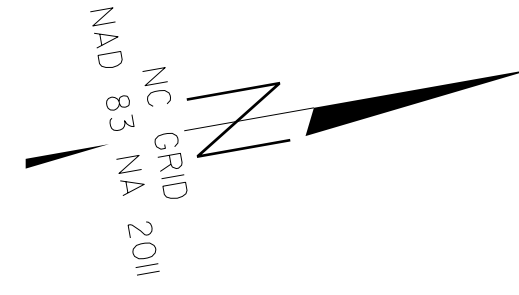


NOTES:

- IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
- PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

PI -L- STA.15+07.93 $\Delta = 5^{\circ}19'18.2''$ (LT) $D = 2^{\circ}51'53.2''$ $L = 185.76'$ $T = 92.95'$ $R = 2,000.00'$	PI -L- STA.17+68.03 $\Delta = 13^{\circ}37'39.5''$ (LT) $D = 4^{\circ}05'33.2''$ $L = 332.99'$ $T = 167.28'$ $R = 1,400.00'$
PI -Y- STA.15+03.51 $\Delta = 16^{\circ}38'03.3''$ (LT) $D = 9^{\circ}14'28.5''$ $L = 180.00'$ $T = 90.64'$ $R = 620.00'$	PI -Y- STA.11+18.14 $\Delta = 66^{\circ}12'27.6''$ (RT) $D = 45^{\circ}50'11.8''$ $L = 144.44'$ $T = 81.50'$ $R = 125.00'$

6/2/2018
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 County\B5762\N-5762-1.s_rw04.dgn
 15



EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1605.01	Temporary Silt Fence	— III — III — III —
1606.01	Special Sediment Control Fence	— X X X X —
1633.02	Wattle / Coir Fiber Wattle	— W — W — W — W —
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	— W — W — W — W —
1655.02	Rock Pipe Inlet Sediment Trap Type-B	⊙

MATTING FOR EROSION CONTROL

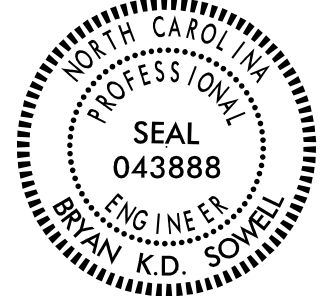
CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)	
1	-L- # -Y-	19+00	14+00	RT	1065	
1	-L- # -Y-	29+00	14+00	RT<	1390	
					SUBTOTAL	2455
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					TOTAL	2455
					5AY	2500

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 8/17/19
 15

**STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING PLANS
ALEXANDER COUNTY**

LOCATION: NC 16 AT SR 1609 (COUNTY HOME RD.)

PROJECT REFERENCE NO. R-5762	SHEET NO. PMP - 1
APPROVED: _____	
DATE: _____	
SEAL	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

T.I.P.: R-5762

CONTRACT: DL00206

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 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

<u>STD. NO.</u>	<u>TITLE</u>
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY

PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION
<u>THERMOPLASTIC(24", 90 MILS)</u>	
T2	WHITE STOP BAR
<u>THERMOPLASTIC(4", 90 MILS)</u>	
TA	WHITE EDGELINE
TD	3 FT. - 9 FT./SP WHITE MINISKIP
TE	WHITE SOLID LANE LINE
TI	YELLOW DOUBLE CENTER
<u>THERMOPLASTIC(12", 90 MILS)</u>	
TP	YELLOW DIAGONAL
<u>THERMOPLASTIC PAVEMENT MARKING SYMBOLS (90 MILS)</u>	
UA	LEFT TURN ARROW
UB	RIGHT TURN ARROW

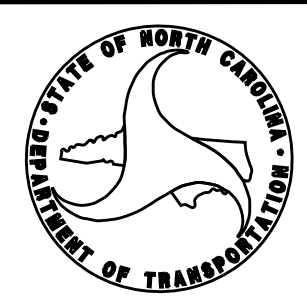
PAVEMENT MARKING GENERAL NOTES

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

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

ROAD NAME	MARKING	MARKER
ALL ROADS	THERMOPLASTIC	PERMANENT
- B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.
- D) STOP BAR LOCATION AT NON-SIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.

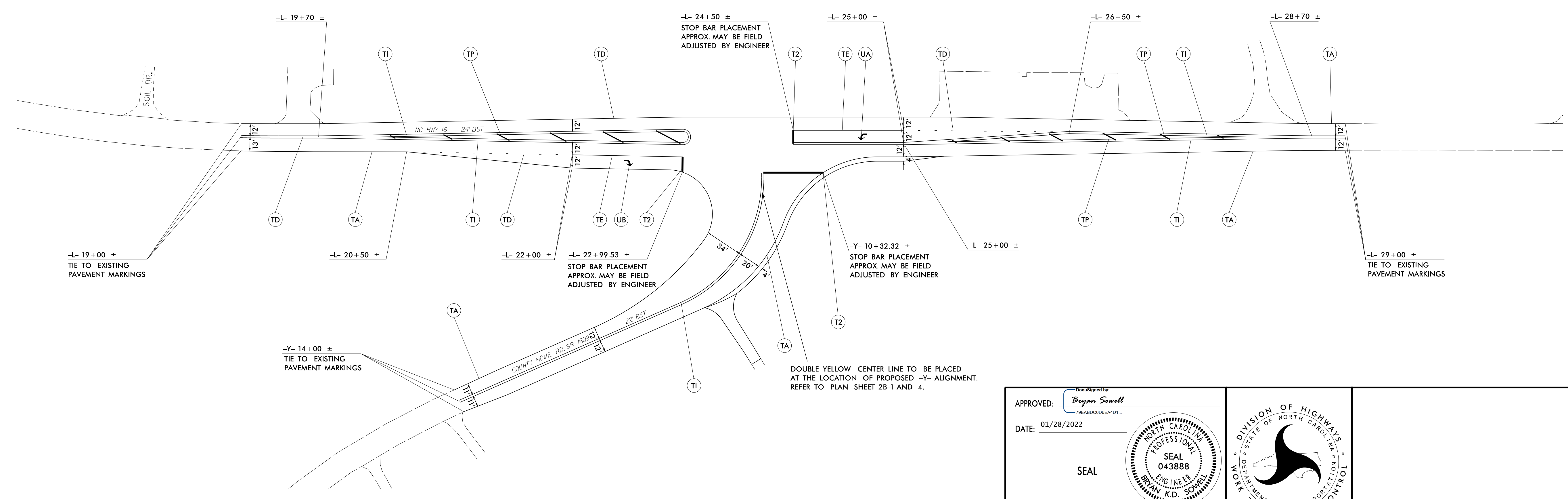
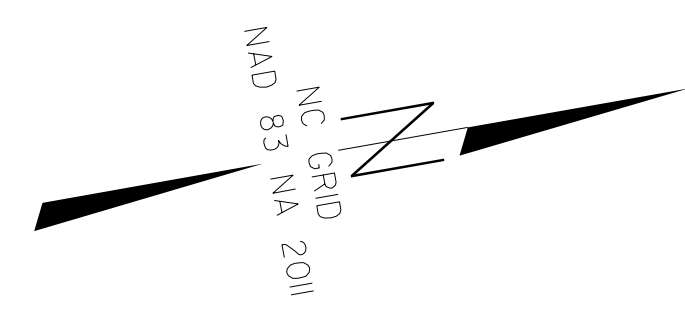
PLAN PREPARED BY: N.C.D.O.T. DIVISION 12



INDEX

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
PMP-1	TITLE SHEET
PMP-2	PAVEMENT MARKING PLANS

\$\$\$\$\$ TIME\$\$\$\$\$

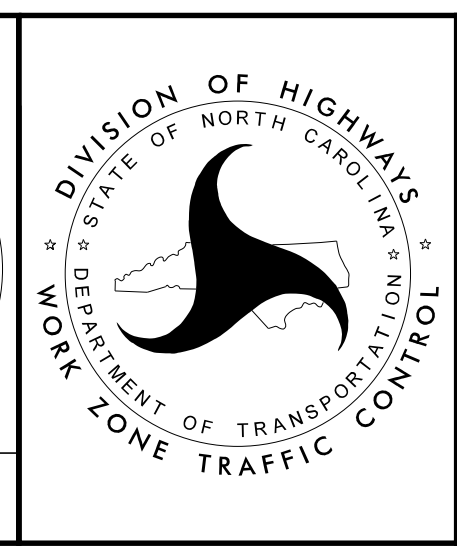


12/30/2021
 User: bksowell
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APPROVED: *Bryan Sowell*
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DATE: 01/28/2022

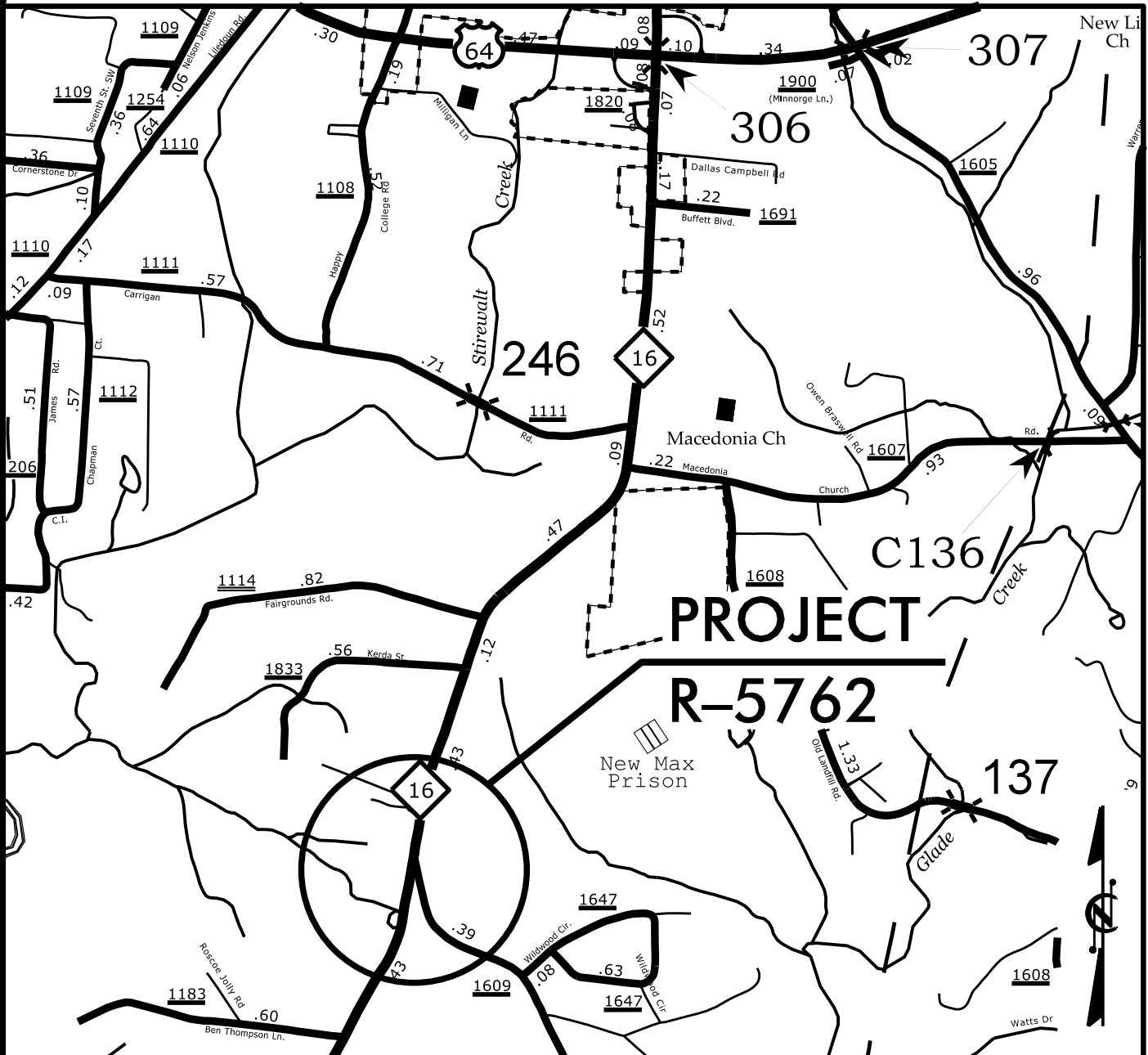
SEAL



**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

T.I.P. NO.	SHEET NO.
R-5762	UC-1

TIP PROJECT: R-5762

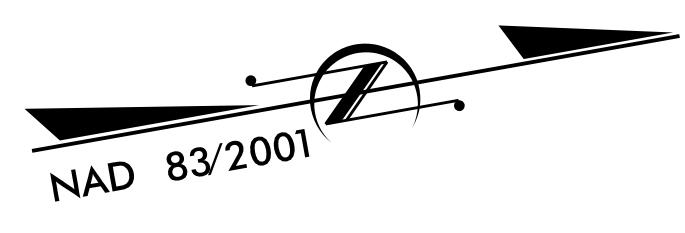
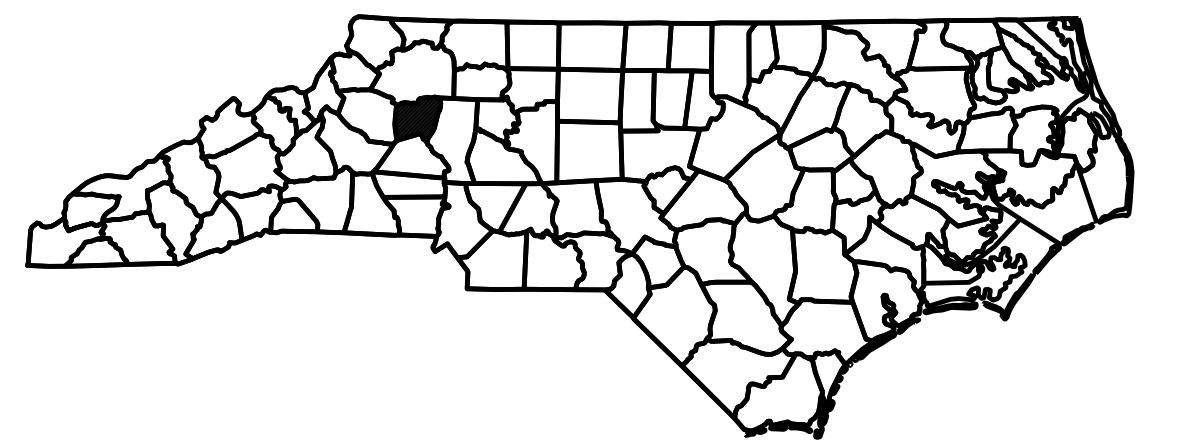


VICINITY MAP
NOT TO SCALE

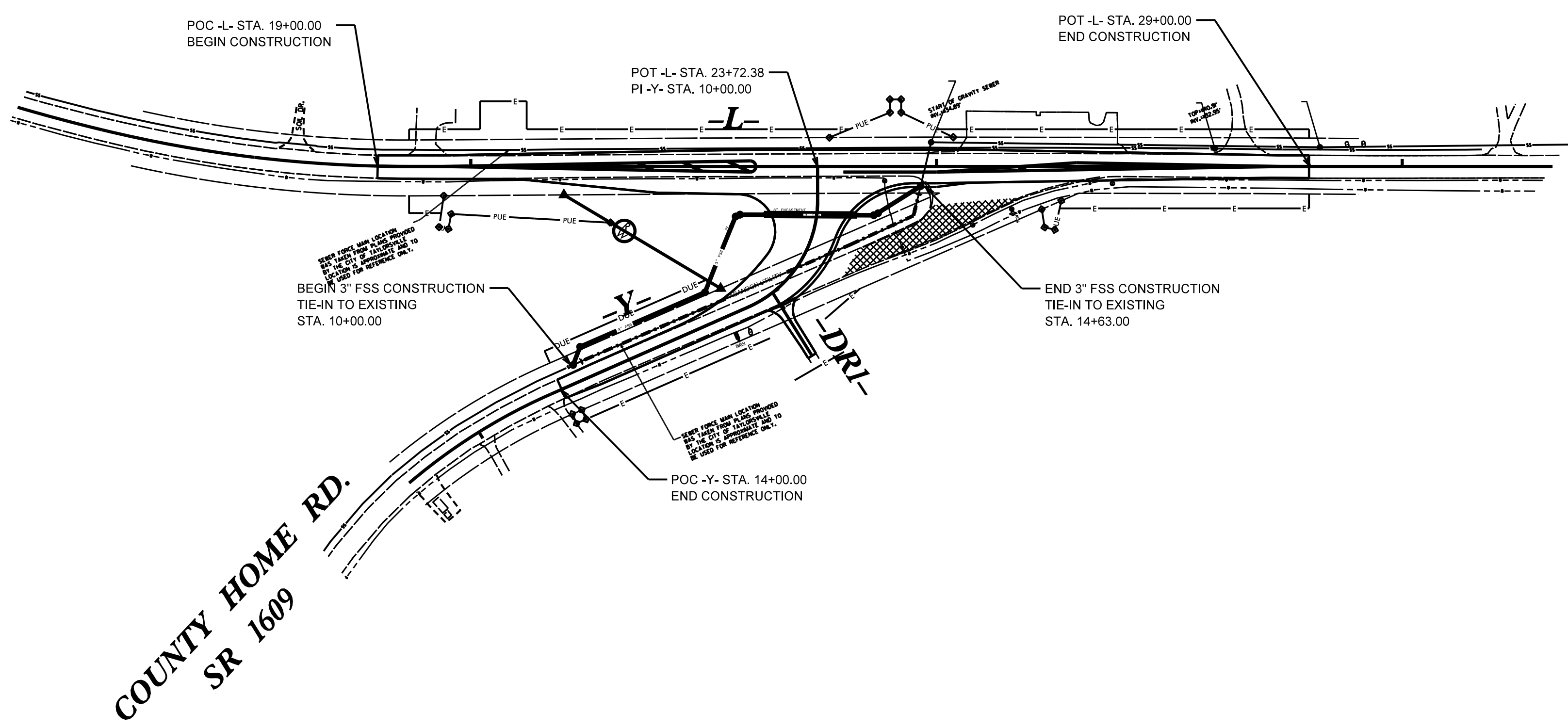
STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

UTILITY CONSTRUCTION PLANS ALEXANDER COUNTY

LOCATION: NC 16 AT SR 1609 (COUNTY HOME ROAD)
 TYPE OF WORK: RELOCATION OF EXISTING 3" FSS
 FOR NEW ROADWAY ALIGNMENT



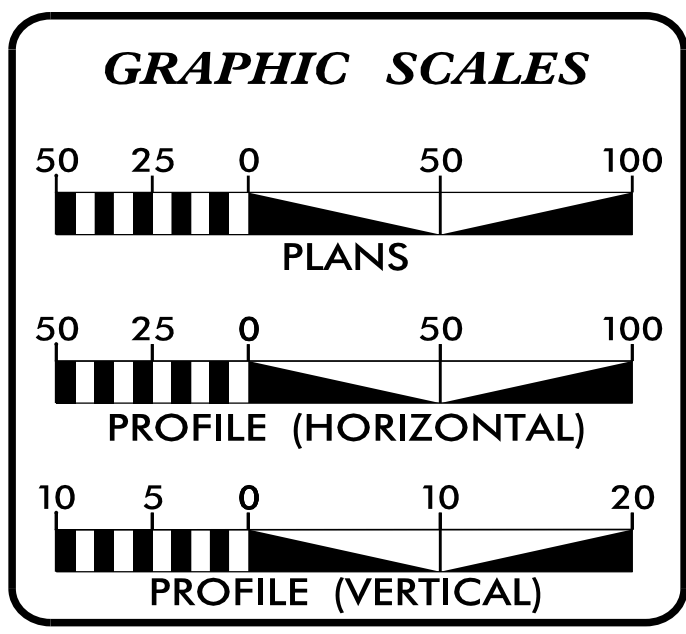
NC HWY 16



NC HWY 16



DOCUMENT NOT CONSIDERED FINAL
UNTIL ALL SIGNATURES ARE COMPLETED



INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	NOTES
UC-3A-3B	DETAILS
UC-4	UC 3" FSS PLAN & PROFILE SHEET

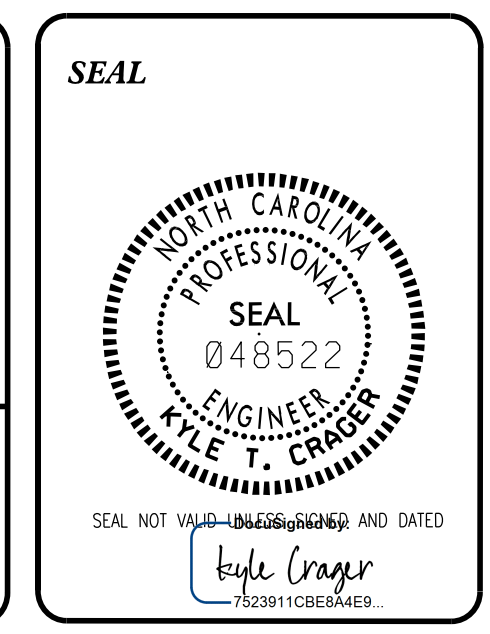
UTILITY OWNERS ON PROJECT

SEWER OWNER	WATER OWNER
TOWN OF TAYLORSVILLE PUBLIC WORKS DEPT. 67 MAIN AVENUE DRIVE TAYLORSVILLE, NC 28681 828-932-2218	CITY OF HICKORY PUBLIC UTILITIES DEPT. 1441 9TH AVENUE HICKORY, NC 28601 980-552-4237

PREPARED IN THE OFFICE OF
Michael Baker Engineering, Inc.
 8000 Regency Pkwy
 Suite 600
 Cary, NC 27518
 NC License: F-1084

Michael Baker
 INTERNATIONAL

KYLE T. CRAGER, PE UTILITY DESIGN ENGINEER
BRANDY CREECH PROJECT MANAGER



**UTILITIES UNIT
DIVISION 12 OFFICES**
 1710 E. MARION STREET
 SHELBY, NC 28151
 PHONE (980) 552 4237

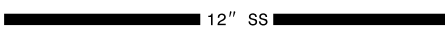
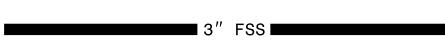







CHAD DREWERY UTILITIES ENGINEER
WARREN ANDERSON UTILITIES COORDINATOR

SYSTEM TIME: 09/25/2018 10:00:00 AM
 USER: KYLE T. CRAGER

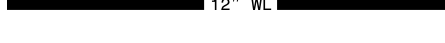















STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS







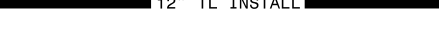

PROPOSED SEWER SYMBOLS








Gravity Sewer Line (Sized as Shown)	
Force Main Sewer Line (Sized as Shown)	
Manhole (Sized per Note)	
Sewer Pump Station	
11 1/4 Degree Bend	
22 1/2 Degree Bend	
45 Degree Bend	
90 Degree Bend	
Plug	

PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	
11 1/4 Degree Bend	
22 1/2 Degree Bend	
45 Degree Bend	
90 Degree Bend	
Plug	
Tee	
Cross	
Reducer	
Gate Valve	
Butterfly Valve	
Tapping Valve	
Fire Hydrant	
Relocate Fire Hydrant	
Remove Fire Hydrant	REM FH
Water Meter	
Relocate Water Meter	
Remove Water Meter	REM WM



















PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

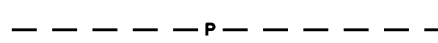





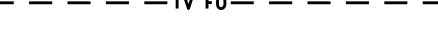
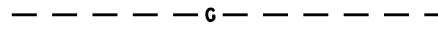
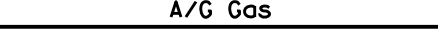










Power Pole	
Telephone Pole	
Joint Use Pole	
Telephone Pedestal	
Utility Line by Others (Type as Shown)	
Trenchless Installation	
Encasement by Open Cut	
Encasement	

Thrust Block	
Air Release Valve	
Utility Vault	
Concrete Pier	
Steel Pier	
Plan Note	
Pay Item Note	

NOTE
PAY ITEM

EXISTING UTILITIES SYMBOLS

Power Pole	
Telephone Pole	
Joint Use Pole	
Utility Pole	
Utility Pole with Base	
H-Frame Pole	
Power Transmission Line Tower	
Water Manhole	
Power Manhole	
Telephone Manhole	
Sanitary Sewer Manhole	
Hand Hole for Cable	
Power Transformer	
Telephone Pedestal	
CATV Pedestal	
Gas Valve	
Gas Meter	
Located Miscellaneous Utility Object	
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

*Underground Power Line	
*Underground Telephone Cable	
*Underground Telephone Conduit	
*Underground Fiber Optics Telephone Cable	
*Underground TV Cable	
*Underground Fiber Optics TV Cable	
*Underground Gas Pipeline	
Aboveground Gas Pipeline	
*Underground Water Line	
Aboveground Water Line	
*Underground Gravity Sanitary Sewer Line	
Aboveground Gravity Sanitary Sewer Line	
*Underground SS Forced Main Line	
Underground Unknown Utility Line	
SUE Test Hole	
Water Meter	
Water Valve	
Fire Hydrant	
Sanitary Sewer Cleanout	

*For Existing Utilities
 Utility Line Drawn from Record SS
 (Type as Shown)
 Designated Utility Line SS
 (Type as Shown)

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UTILITY CONSTRUCTION

GENERAL NOTES:

1. THE PROPOSED UTILITY CONSTRUCTION WILL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2018.

2. THE EXISTING UTILITY OWNER INFORMATION:

FORCED SANITARY SEWER - TOWN OF TAYLORSVILLE, PUBLIC WORKS DEPARTMENT

WATER SYSTEM - CITY OF HICKORY, PUBLIC UTILITIES DEPARMENT

3. ALL SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT QUALITY, DIVISION OF WATER RESOURCES, WATER QUALITY SECTION. PERFORM ALL WORK IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODES.

4. THE UTILITY OWNER OWNS THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY THE DEPARTMENT.

THE DEPARTMENT OWNS THE CONSTRUCTION CONTRACT AND HAS ADMINISTRATIVE AUTHORITY. COMMUNICATIONS AND DECISIONS BETWEEN THE CONTRACTOR AND UTILITY OWNER ARE NOT BINDING UPON THE DEPARTMENT OR THIS CONTRACT UNLESS AUTHORIZED BY THE ENGINEER.

AGREEMENTS BETWEEN THE UTILITY OWNER AND CONTRACTOR FOR THE WORK THAT IS NOT PART OF THIS CONTRACT OR IS SECONDARY TO THIS CONTRACT ARE ALLOWED, BUT ARE NOT BINDING UPON THE DEPARTMENT.

5. PROVIDE ACCESS FOR THE DEPARTMENT PERSONNEL AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND ONE WEEK PRIOR TO SERVICE INTERRUPTION. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPORTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING DAMAGE TO EXISTING FACILITIES. REPAIR ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE DEPARTMENT.

7. PRIOR TO ORDERING ANY MATERIAL, CONTRACTOR WILL FIELD LOCATE THE EXISTING 3-INCH FSS PLANNED TIE-IN LOCATIONS AND CONFIRM PIPE ELEVATION, PIPE SIZE AND PIPE MATERIAL.

8. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.

9. CONTRACTOR WILL COORDINATE WITH THE TOWN OF TAYLORSVILLE FOR SHUTDOWN OF THE LIFT STATION. LIFT STATION SERVES A MANUFACTURING FACILITY. ANY SHUTDOWN MUST BE COORDINATED WITH ADVANCE NOTICE PER NOTE 5.

10. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.

11. ALL UTILITY MATERIALS WILL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT. SEE 1500-7, " SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE STANDARD SPECIFICATIONS.

LIST OF STANDARD DRAWINGS

1. STANDARD DETAILS ARE PROVIDED FOR THE PROJECT. WHERE NO STANDARD DETAIL IS PROVIDED IN DRAWINGS, CONTRACTOR WILL USE THE STANDARD SPECIFICATIONS, DIVISION 15 STANDARD DETAILS FOR UTILITY CONSTRUCTION.

PROJECT SPECIFIC NOTES:

1. CONTRACTOR'S ATTENTION IS DIRECTED TO THE UTILITY CONSTRUCTION PROJECT SPECIAL PROVISIONS PROVIDED ALONG WITH THIS PLAN SET.

2. PROPOSED 3-INCH FSS LINE WILL BE PVC SDR-21 PIPE. PVC PIPE MANUFACTURED MORE THAN 12 MONTHS PRIOR TO THE INSTALLATION DATE WILL NOT BE ACCEPTED.

3. MAINTAIN 3-FEET COVER FOR FSS LINE.

4. ALL PROPOSED FITTINGS (BENDS, PLUGS, ETC.) WILL BE ADEQUATELY RESTRAINED BY THE USE OF RESTRAINED JOINT CONSTRUCTION AND / OR CAST IN PLACE CONCRETE THRUST RESTRAINS AS DETAILED ON THESE DRAWINGS OR AS DIRECTED BY THE RESIDENT PROJECT REPRESENTATIVE OR RESIDENT ENGINEER.

5. EXISTING WATER METERS TO BE RELOCATED WILL BE CONNECTED TO THE EXISTING WATER LINE WITH NEW WATER SERVICES LINES. ANY EXTENSIONS OF MODIFICATIONS TO THE EXISTING SERVICE LINES ON THE CUSTOMER SIDE OF THE WATER METER WILL BE INCIDENTAL TO THE RELOCATION OF THE WATER METER.

6. ALL WATER LINE WORK WILL BE CONDUCTED WITH LIKE PIPE MATERIALS AS THE EXISTING PIPES. UNLESS THE EXISTING MATERIAL IS FOUND TO BE UNSUITABLE (I.E. GALVANIZED OR LEAD). FOR UNSUITABLE MATERIAL, CONTRACTOR WILL USE COPPER WATER PIPE AND TUBING CONFORMING TO ASTM B88 SOFT ANNEALED TYPE K. USE FLARED OR COMPRESSION TYPE FITTINGS CONFORMING TO ANSI/AWWA C800.

7. PIPE TESTING WILL BE IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS. ALL PIPE TESTING MUST BE IN THE PRESENCE OF THE UTILITY OWNER.

PROJECT REFERENCE NO.		SHEET NO.	
R-5762		UC-3	
DESIGNED BY:	MCM		UTILITY CONSTRUCTION PLANS ONLY
DRAWN BY:	MCM		
CHECKED BY:	MCM		
APPROVED BY:			
REVISER:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151			

Michael Baker Engineering, Inc.
 8000 Regency Pkwy
 Suite 600
 Cary, NC 27518
 NC License: F-1084

Michael Baker INTERNATIONAL

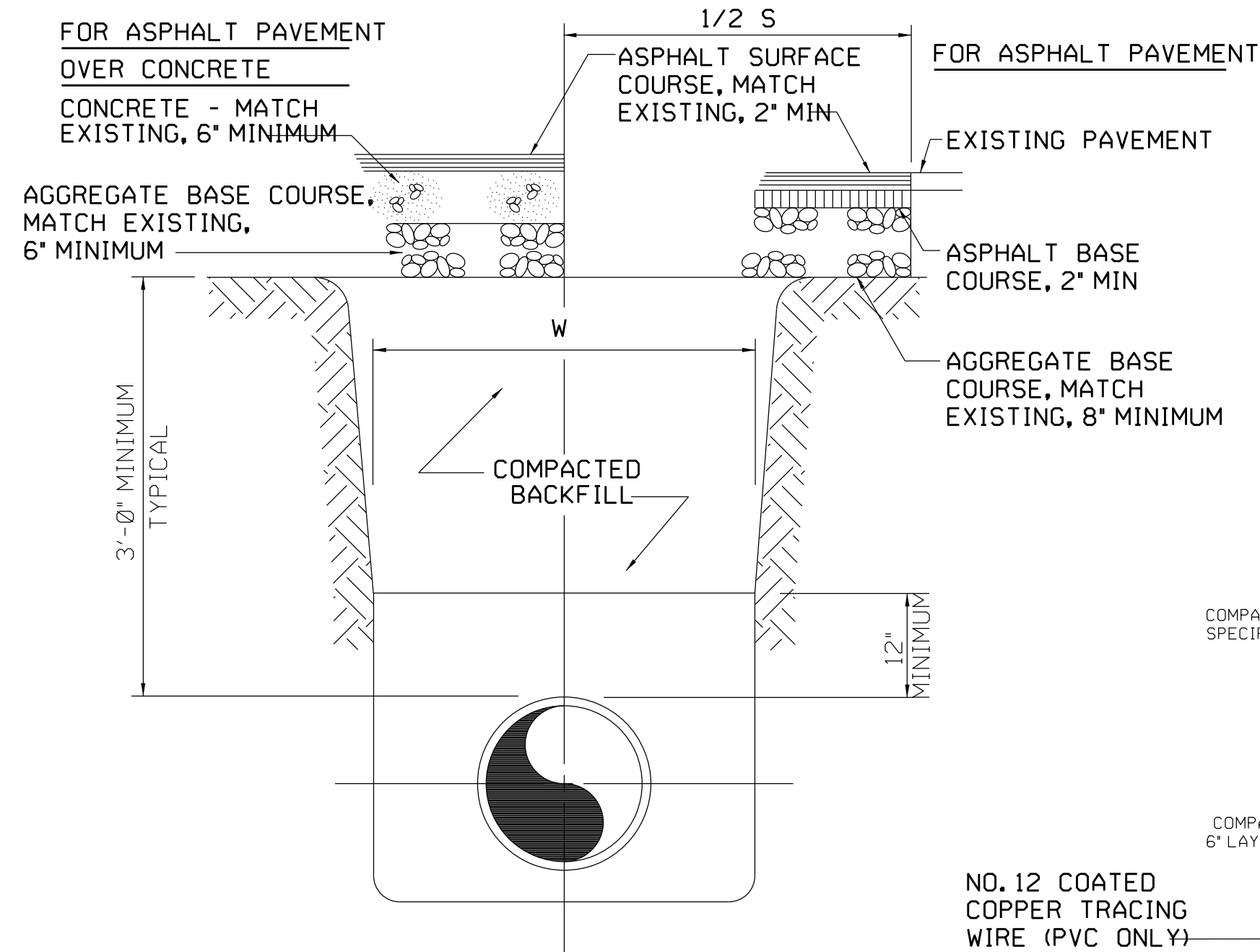
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UTILITY CONSTRUCTION



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PROJECT TYPICAL DETAILS

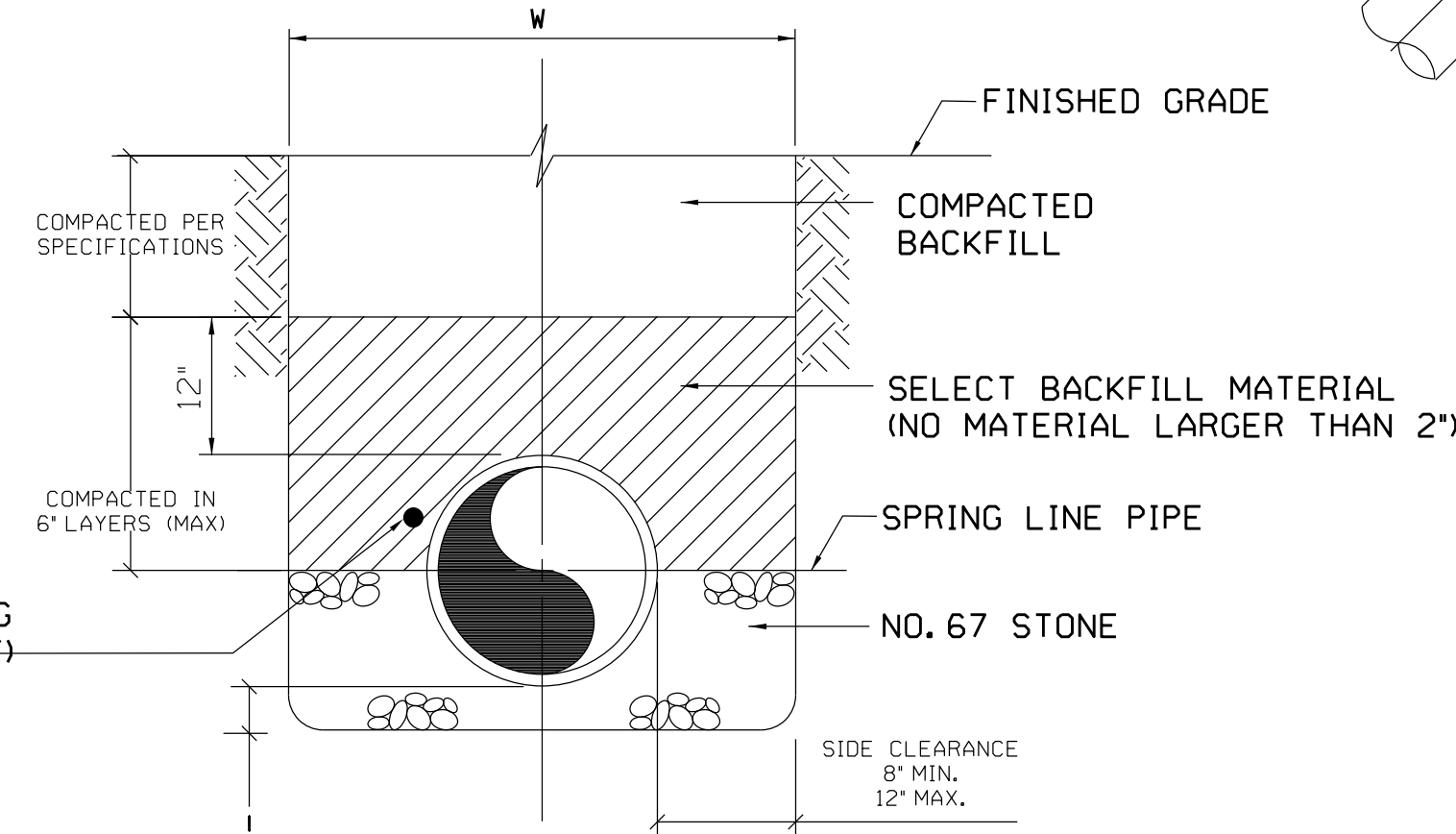


TYPICAL TRENCH

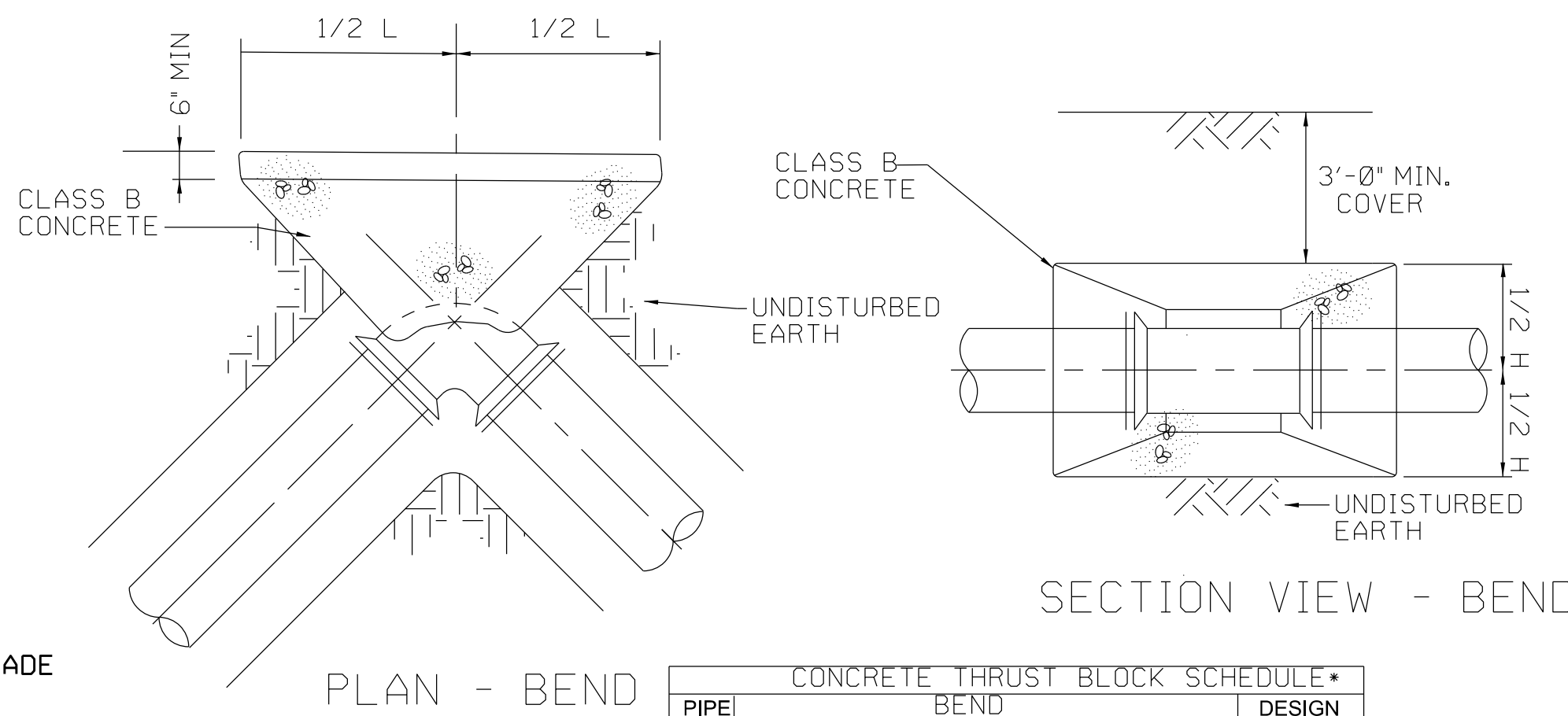
- NOTES:
 1. PROVIDE 8" TOPSOIL AND SEEDING WHEN TRENCH IS IN NON-PAVED AREA.
 2. REFER TO NCDOT 2018 SPECIFICATION FOR PIPE BACKFILL AND COMPACTION.

TRENCH EXCAVATION LIMITS		
INTERNAL DIAMETER OF PIPE	WIDTH OF TRENCH	
	MAX	W-MIN
< 4'	2'-6"	2'-0"
4'-6"	3'-9"	2'-0"
DEPTH OF CUT	S	
	MAXIMUM PAVEMENT REPLACEMENT WIDTH	
0-6'	S=W+4'	
>6-8'	S=W+8'	
>8-10'	S=W+12'	

W = TRENCH WIDTH AT BOTTOM OF PIPE. TRENCH SIDE SLOPES SHALL BE IN ACCORDANCE WITH OSHA REQUIREMENTS.



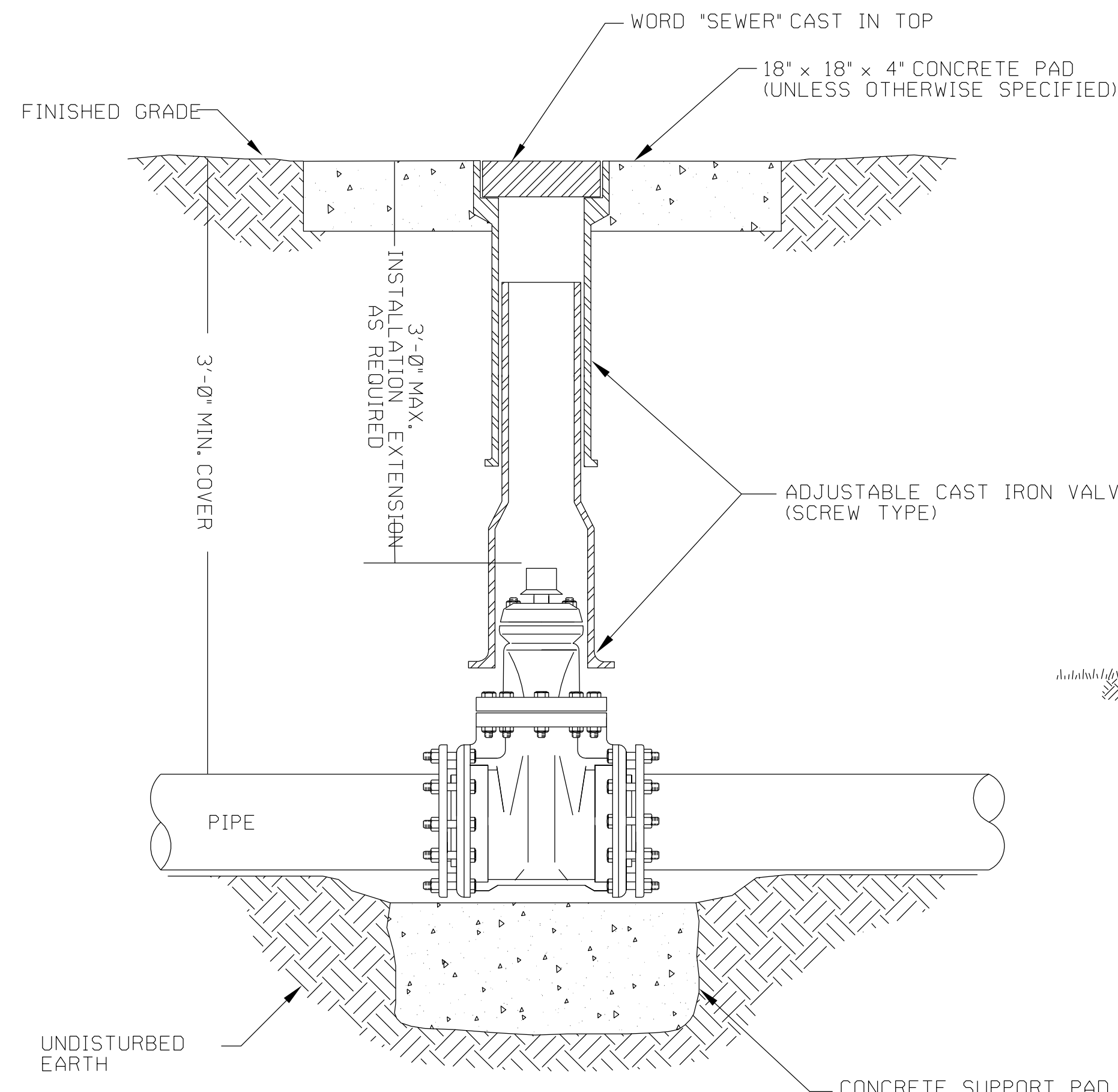
BEDDING FOR PVC SEWER PIPE



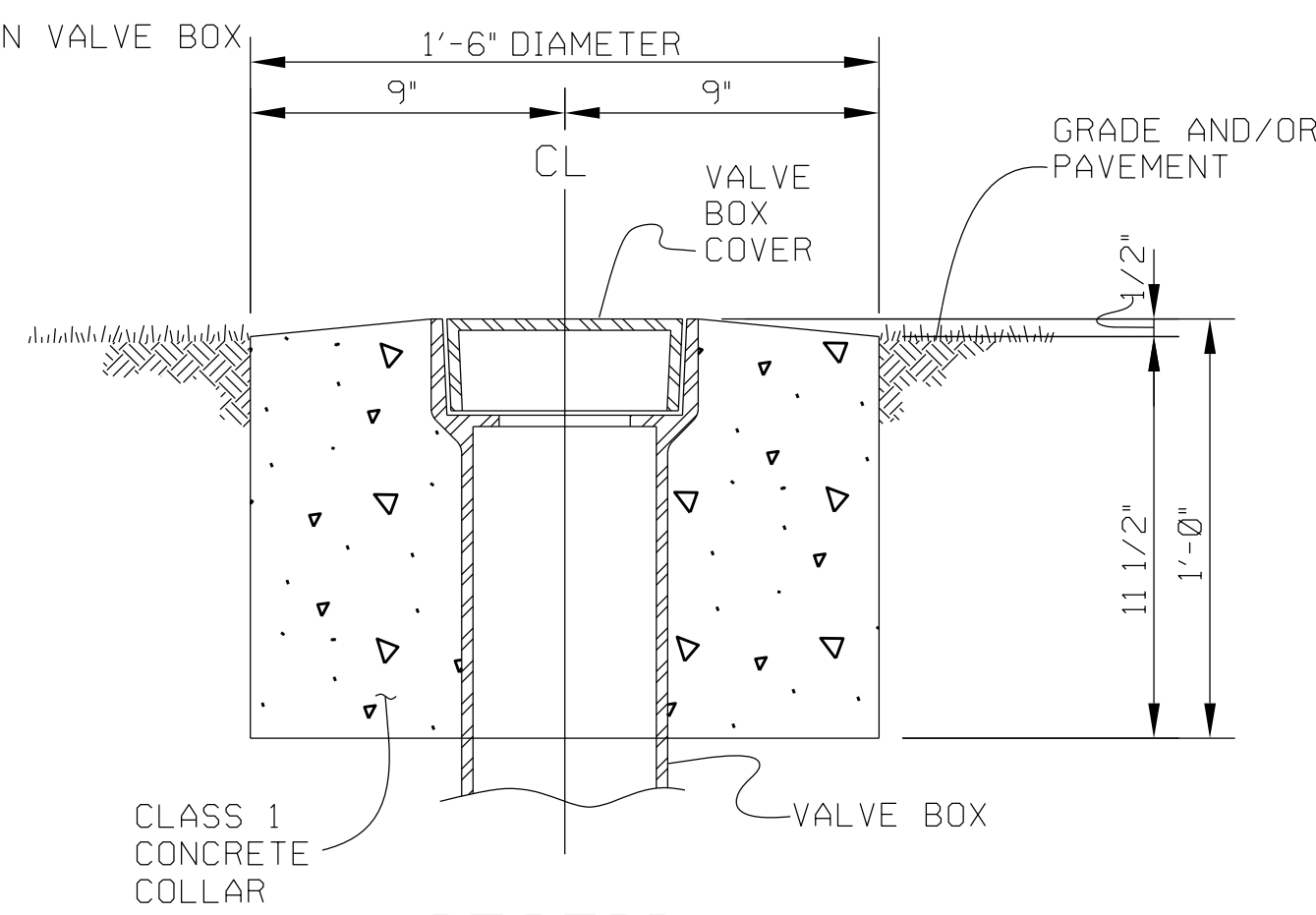
PIPE SIZE (IN)	CONCRETE THRUST BLOCK SCHEDULE*								DESIGN PRESSURE (PSI)
	BEND				BEND				
	H	L	H	L	H	L	H	L	
3	1.0	1.0	1.0	1.0	0.5	0.5	0.5	0.5	100

* BASED ON AVERAGE SOIL PASSIVE BEARING STRENGTH OF 1200 PSF. DIMENSIONS FOR BLOCKS IN FEET

THRUST BLOCKING

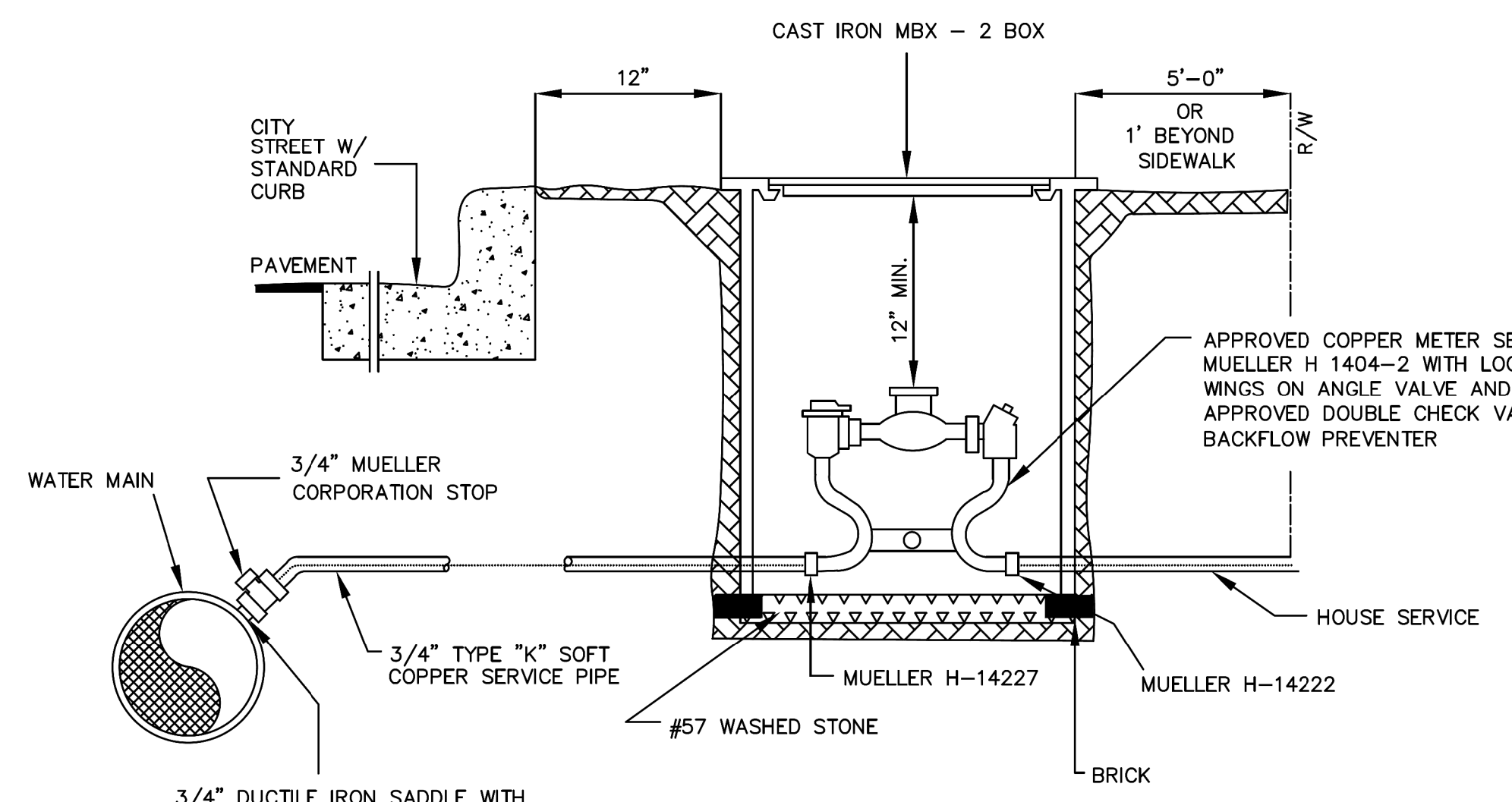


TYPICAL VALVE



SECTION VALVE BOX DETAIL

HICKORY CITY OF HICKORY
 UTILITIES ENGINEERING
 TYPICAL WATER SERVICE CONNECTION (3/4" & 1")
 DATE: 2-1-07
 SHEET 1 OF 2
 STD. NO. 515
 NOT TO SCALE



3/4" CONN. SHOWN

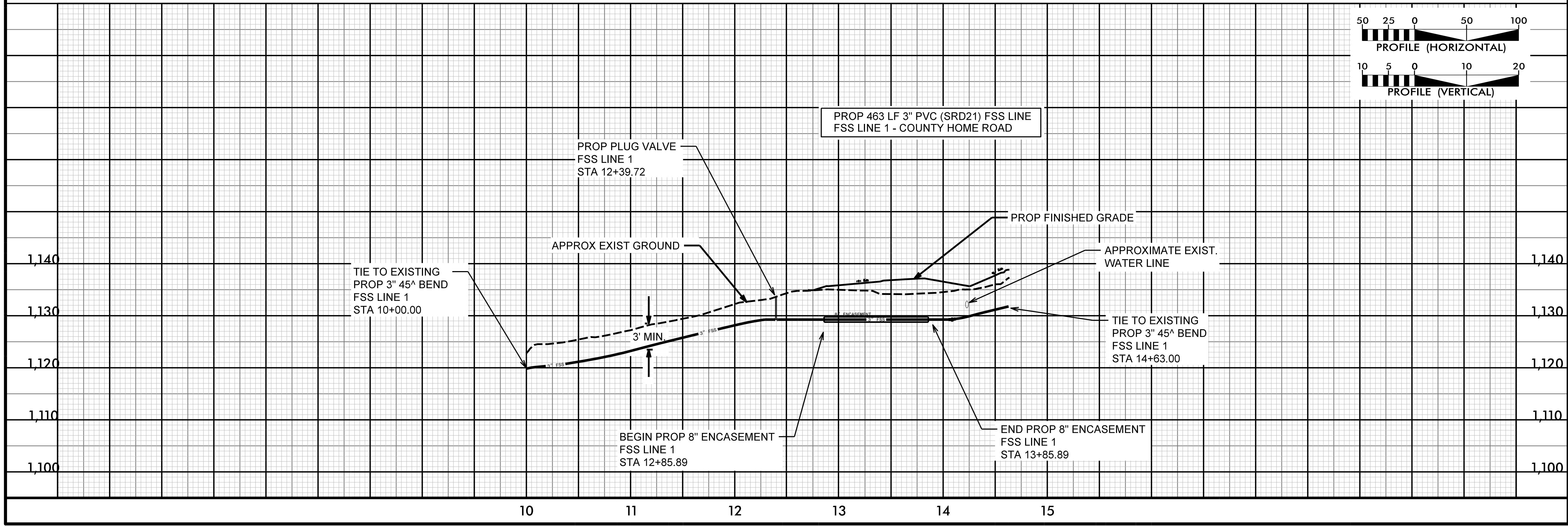
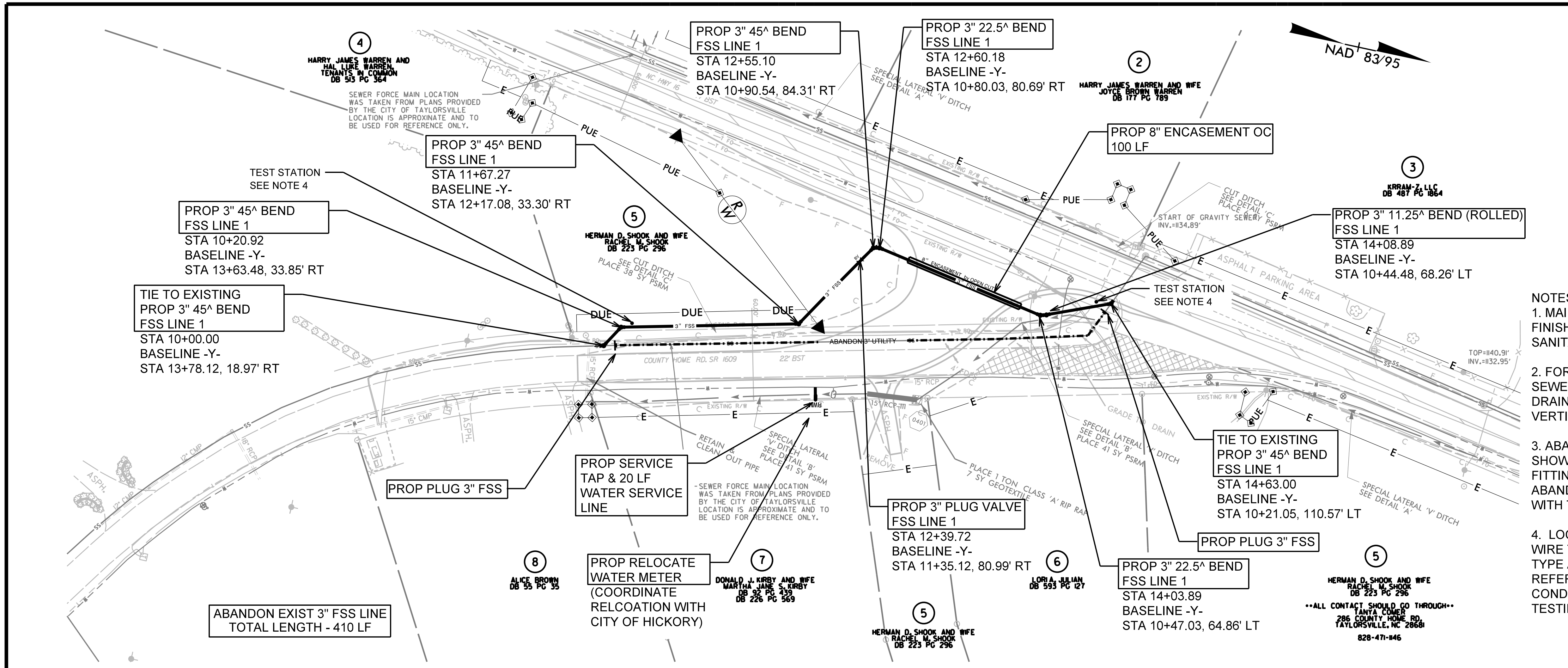
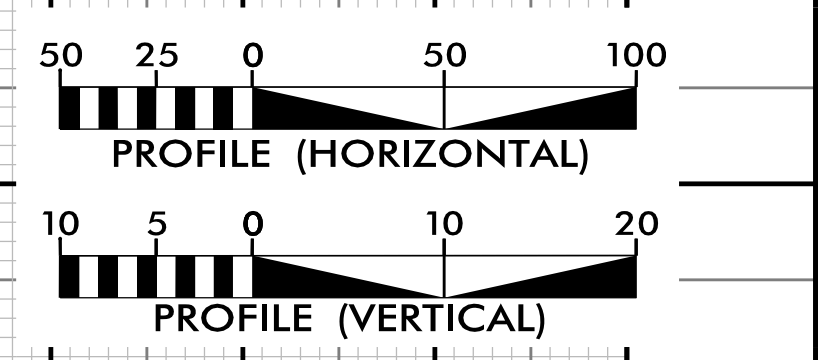
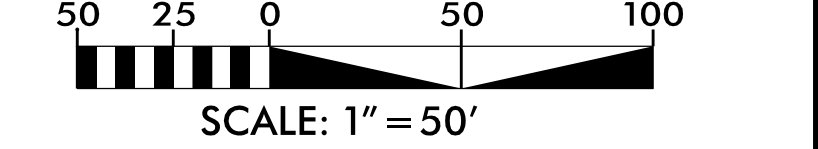
- FOR 1" CONNECTION
 1) 1" CORPORATION COCK
 2) 1" TYPE "K" SOFT COPPER
 3) 1" STANDARD METER

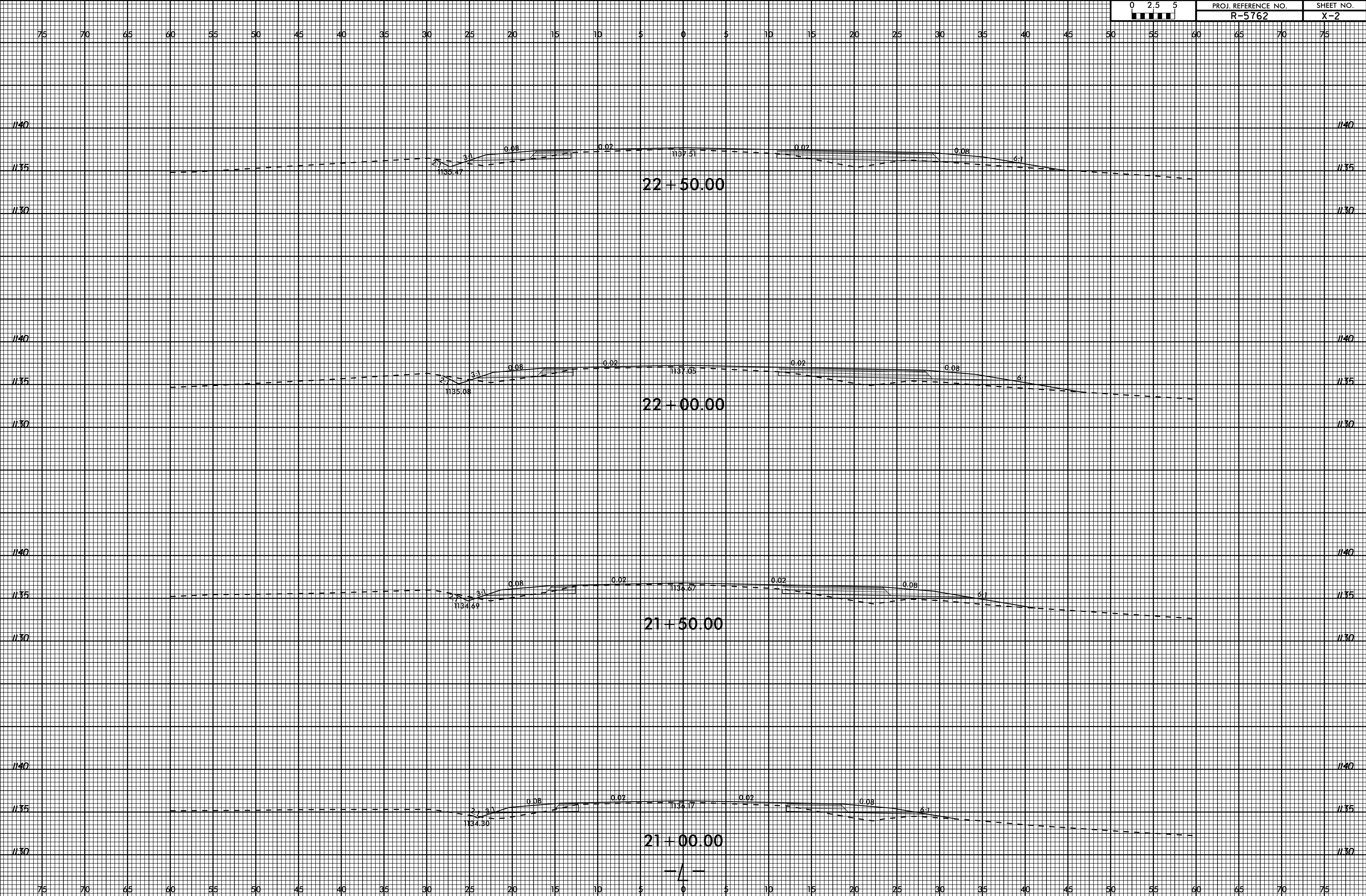
PROJECT REFERENCE NO. R-5762	SHEET NO. UC-3A
DESIGNED BY: MCM	
DRAWN BY: MCM	
CHECKED BY:	
APPROVED BY:	
REVIS: _____	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151
Michael Baker Engineering, Inc. 8000 Regency Pkwy Suite 600 Cary, NC 27518 NC License: F-1084	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED UTILITY CONSTRUCTION PLANS ONLY	

PROJECT REFERENCE NO.	SHEET NO.
R-5762	UC-4
DESIGNED BY: MCM	
DRAWN BY: CN	
CHECKED BY: JD	
APPROVED BY:	
REVISED:	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151
Michael Baker Engineering, Inc. Michael Baker International 8000 Regency Pkwy Suite 600 Cary, NC 27518 NC License: F-1084	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

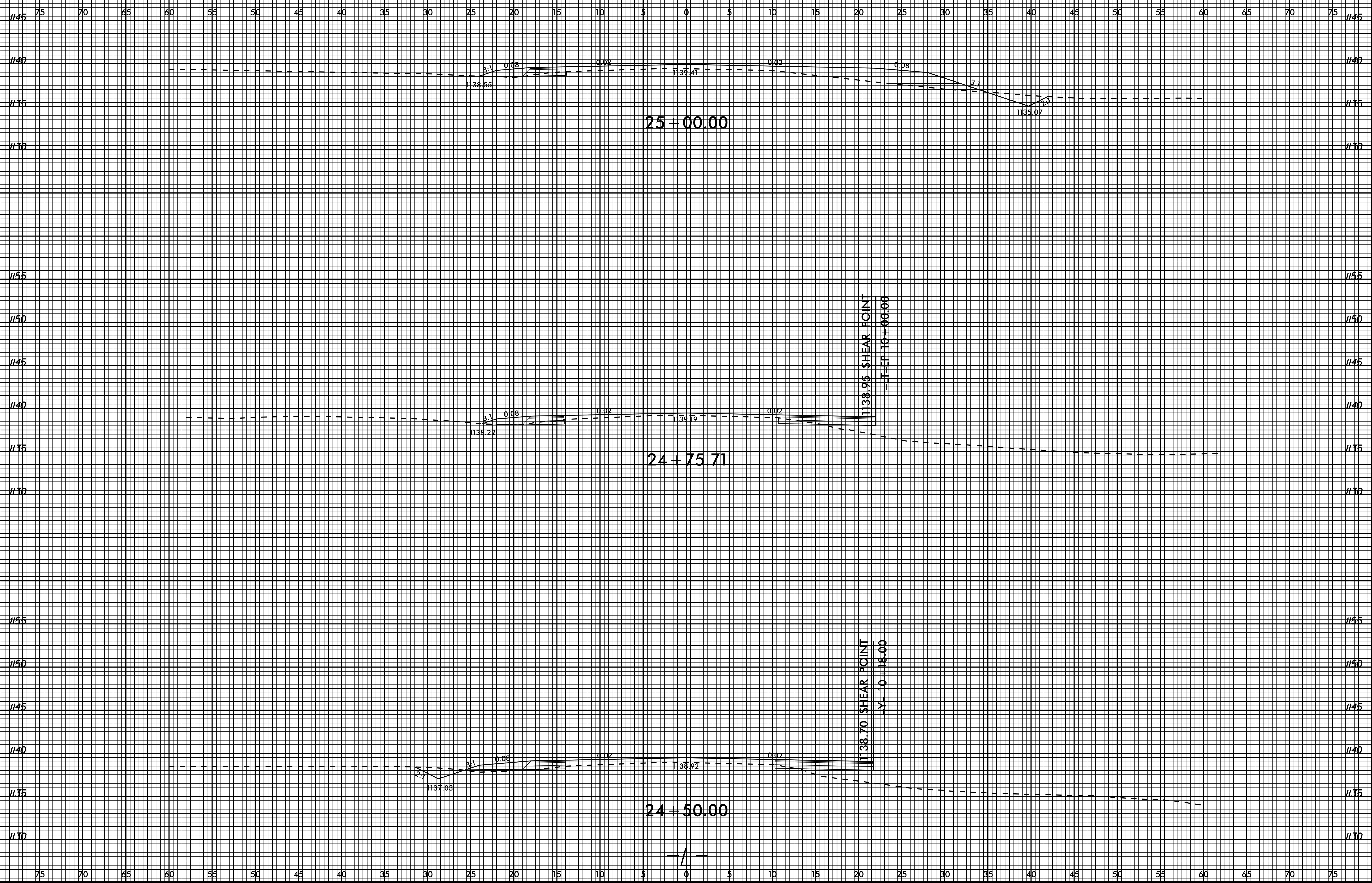
UTILITY CONSTRUCTION

- NOTES:
1. MAINTAIN MINIMUM 36-INCH COVER BELOW FINISHED GRADE FOR ALL FORCED SANITARY SEWER LINES.
 2. FOR ALL LOCATION WHERE PROPOSED SEWER CROSSES WATER LINE OR DRAINAGE LINE, PROVIDE 18-INCH MINIMUM VERTICAL CLEARANCE.
 3. ABANDON SEWER LINE IN LOCATIONS SHOWN. ABANDONMENT INCLUDE ALL FITTINGS AND APPURTENANCES. ABANDONMENT TO BE IN ACCORDANCE WITH THE NCDOT'S REQUIREMENTS.
 4. LOCATION IS APPROXIMATE FOR TRACER WIRE TEST STATION. COORDINATE STATION TYPE AND LOCATION WITH UTILITY OWNER. REFER TO DETAILS AND SPECIAL CONDITIONS FOR TRACE WIRE AND TESTING STATION REQUIREMENTS.





SYSTEMS
CONDON
LLP
SOUTH
DAKOTA
STATE
CAPITOL
BUILDING
PISTON
COURT
SIOUX
FALLS
SD
57102



SYTIME\$\$\$\$
 CONDON\$\$\$\$
 ALLIUS\$\$\$\$
 NAYLE\$\$\$\$
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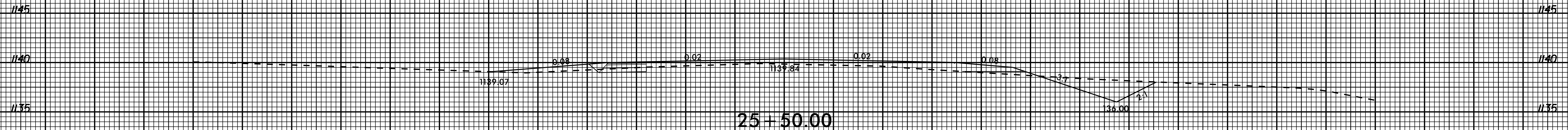
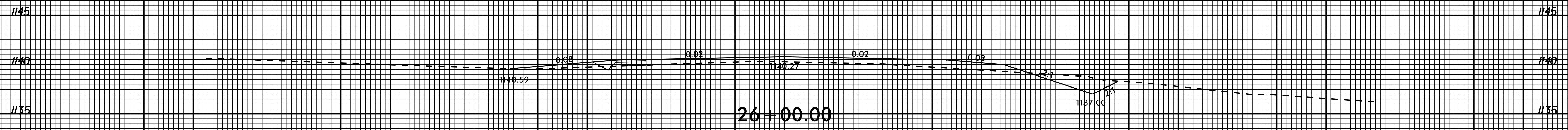
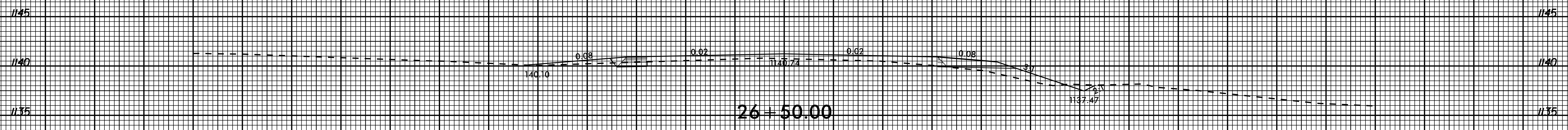
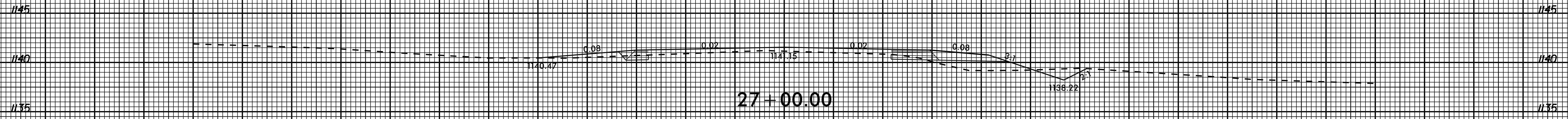
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PROJ. REFERENCE NO.
R-5762

SHEET NO.
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75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

SYSTEMS
 DESIGN
 CONSULTING
 INC.
 1100
 S. WILSON
 AVENUE
 SUITE 100
 WEST
 VALLEY
 CITY,
 UTAH
 84119
 801-226-1100
 WWW.SDCI.COM

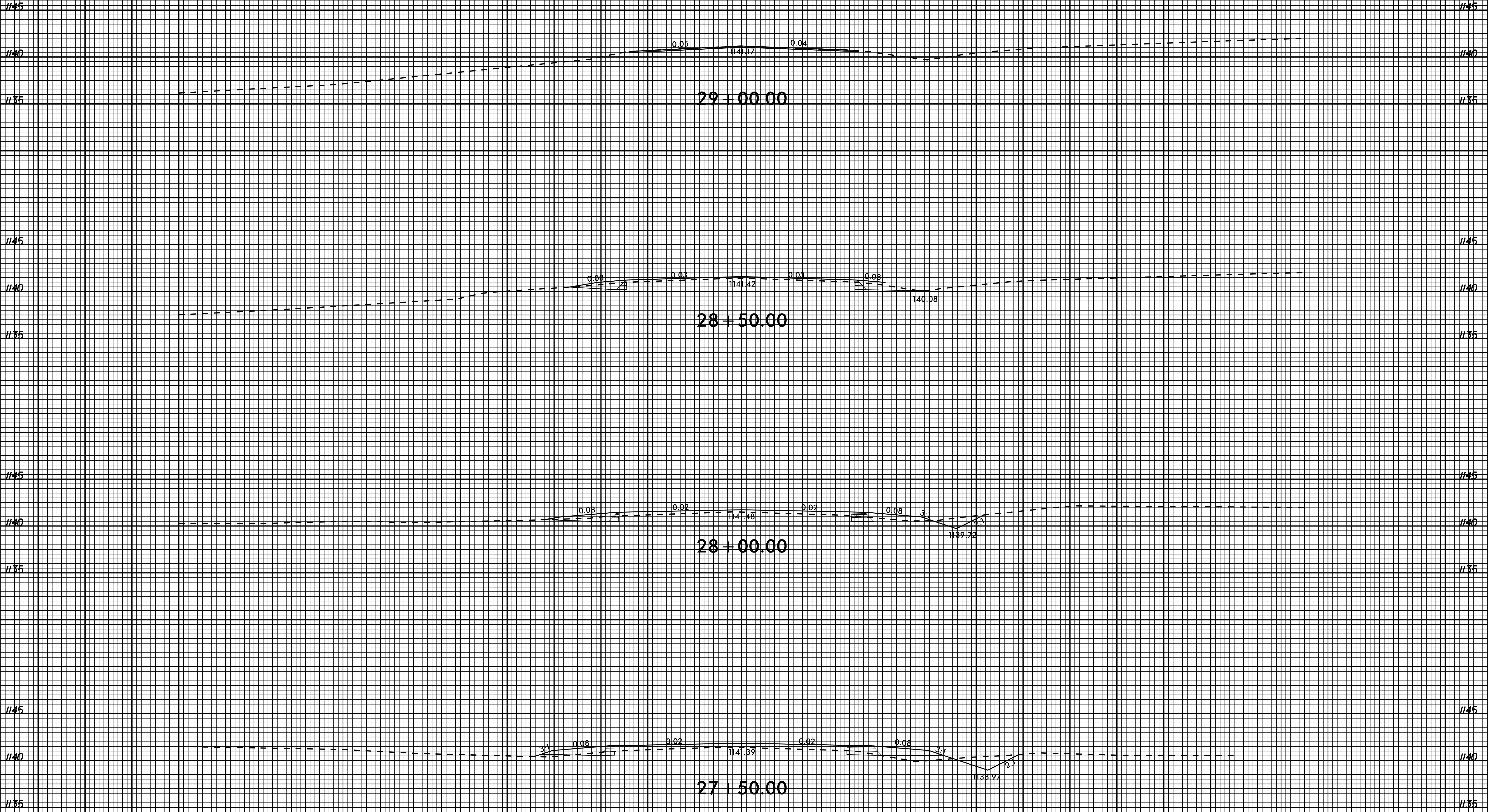
6/23/16

0 2.5 5

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R-5762

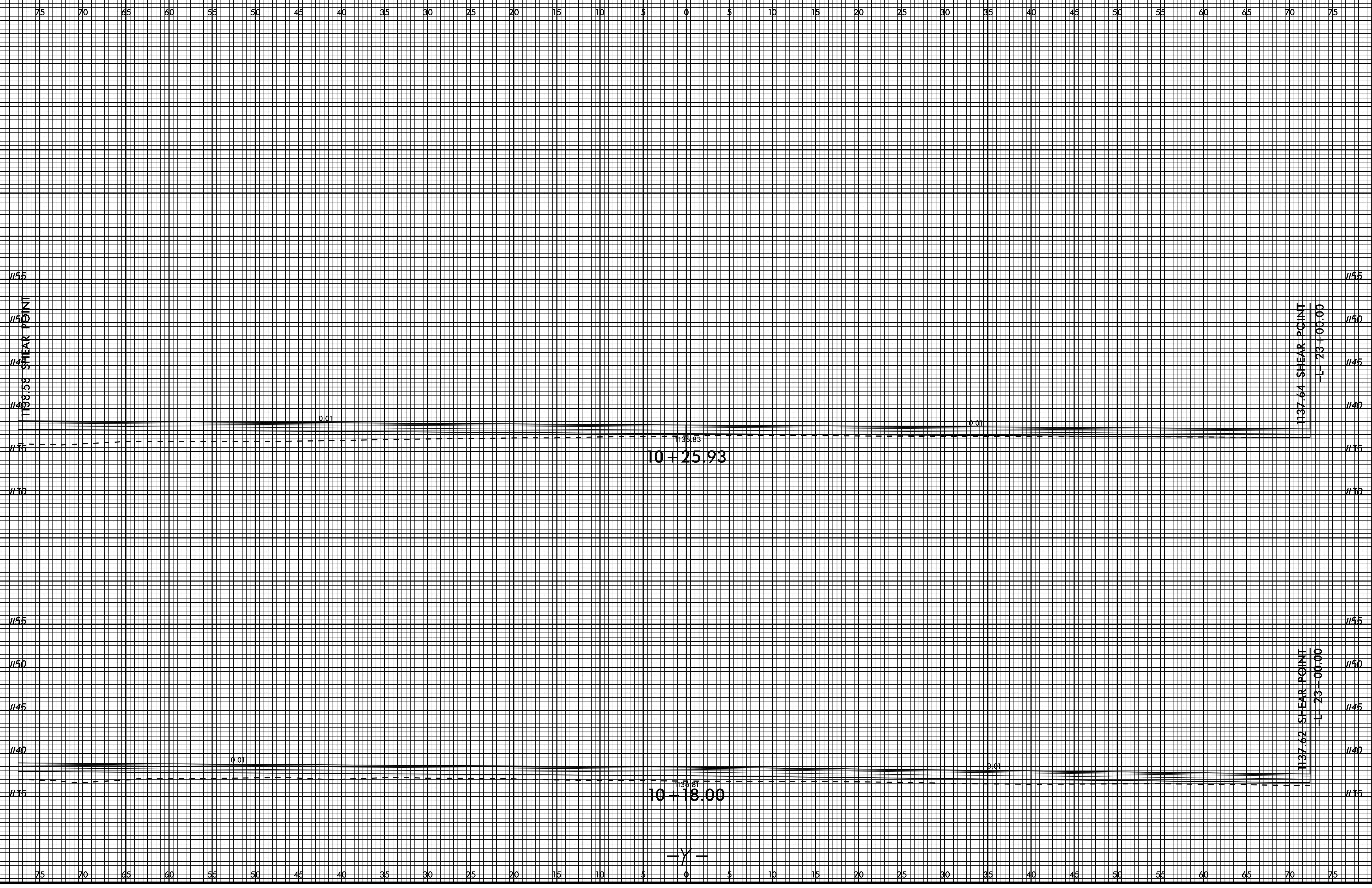
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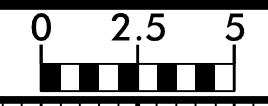
SYSTEMS
CONSULTANTS
INCORPORATED

6/23/16



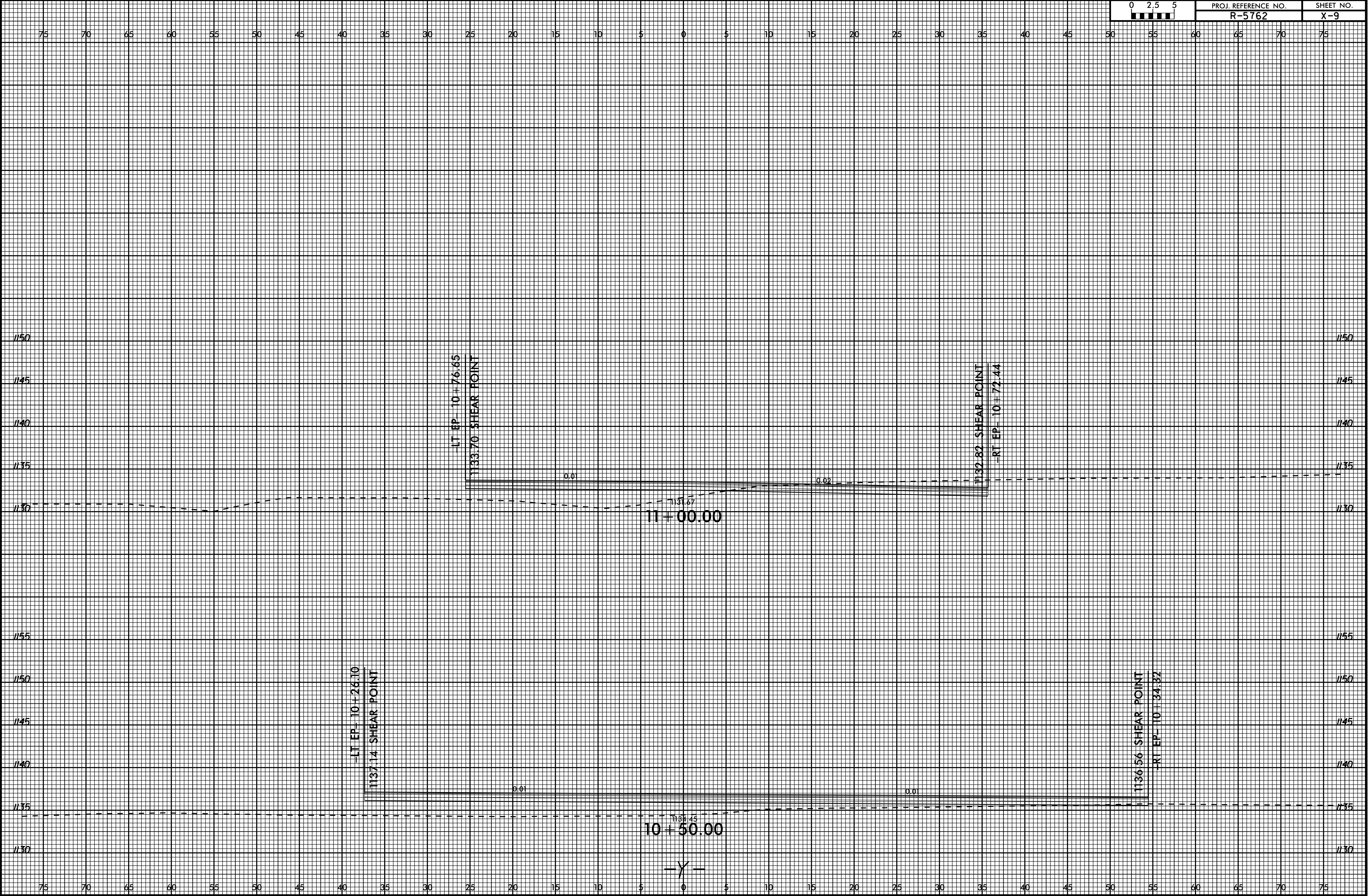
SYSTEMS
 CONSULTING
 CORPORATION
 11550
 11500
 11450
 11400
 11350

6/23/16



PROJ. REFERENCE NO.
R-5762

SHEET NO.
X-9



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RT EP= 10+72.44
1132.80 SHEAR POINT

LT EP= 10+26.10
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RT EP= 10+34.32
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0.02

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11+00.00

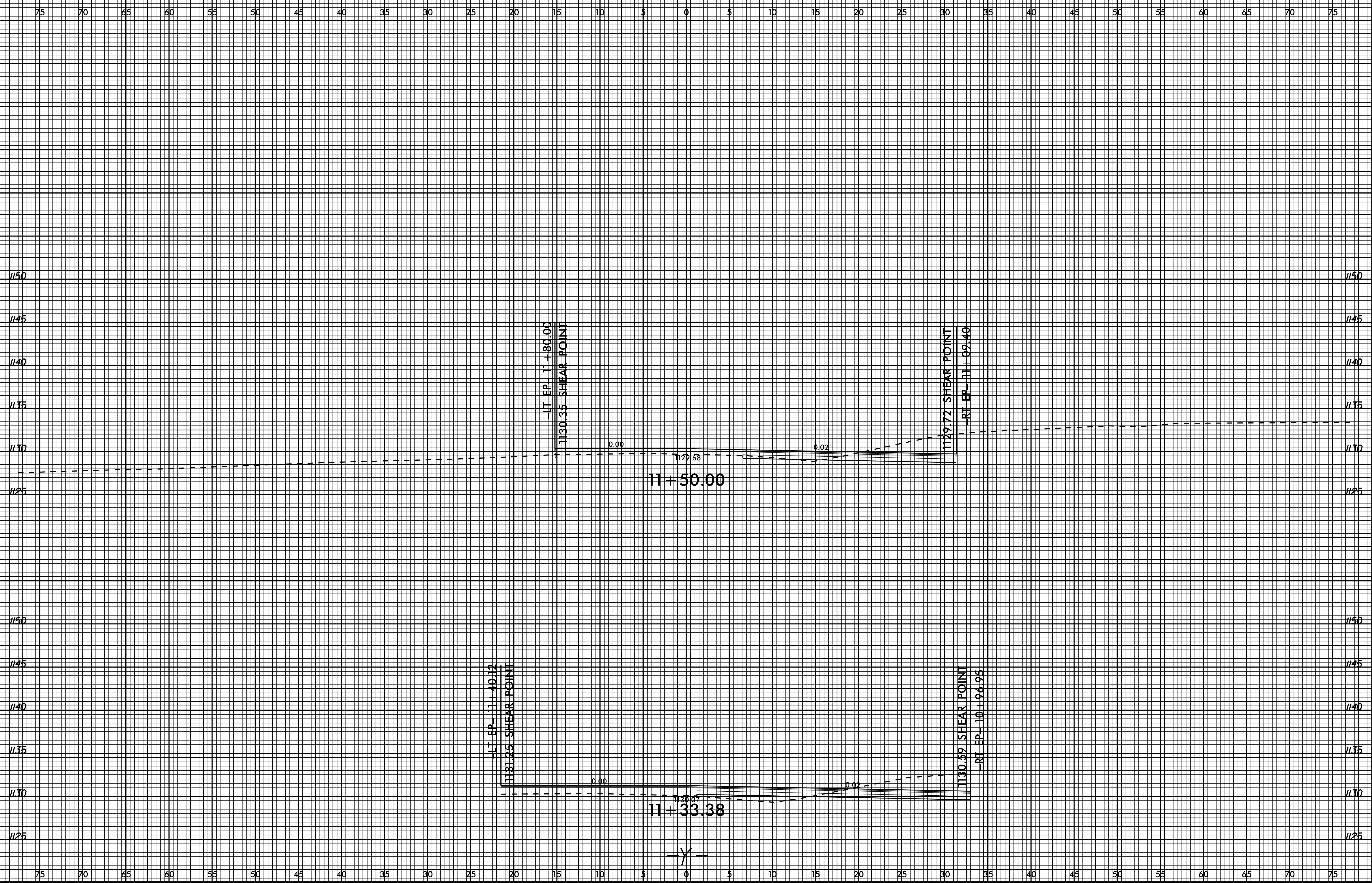
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10+50.00

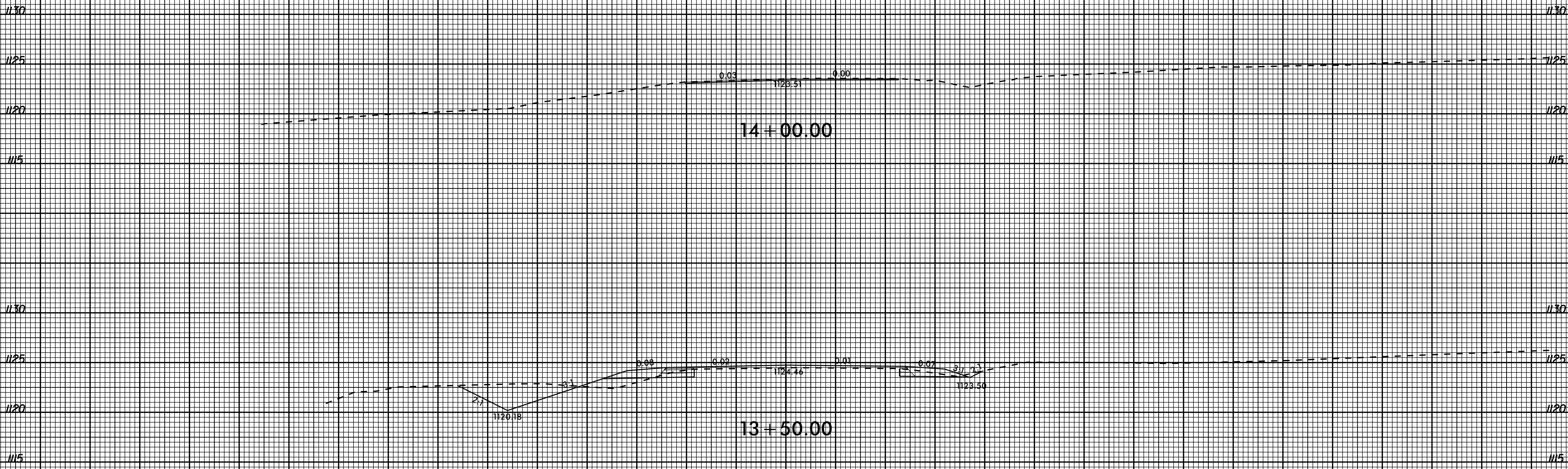
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SYSTEMS CONDITION ANALYSIS

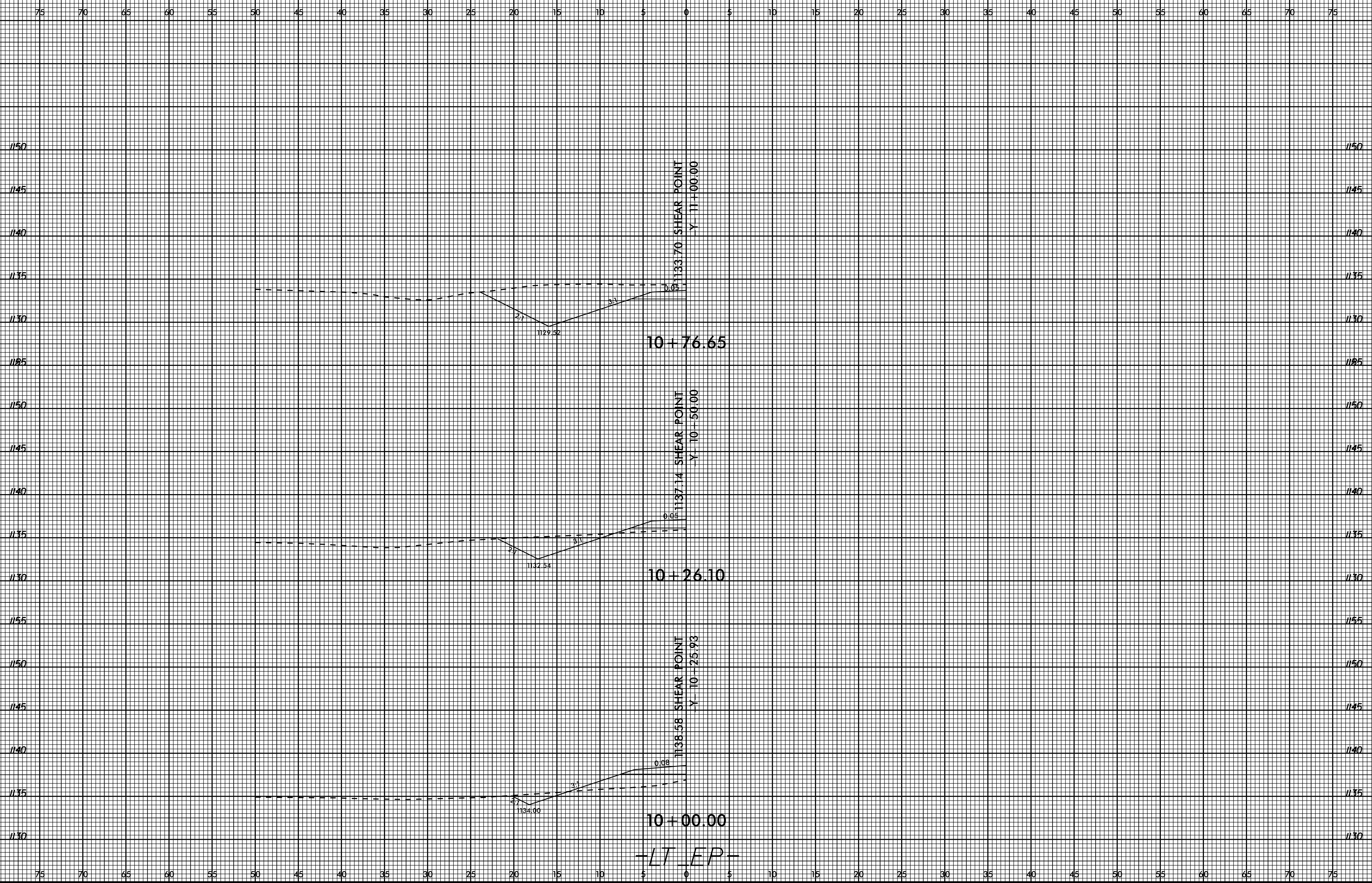


SYSTEME \$\$\$\$\$\$
CONDON \$\$\$\$\$\$
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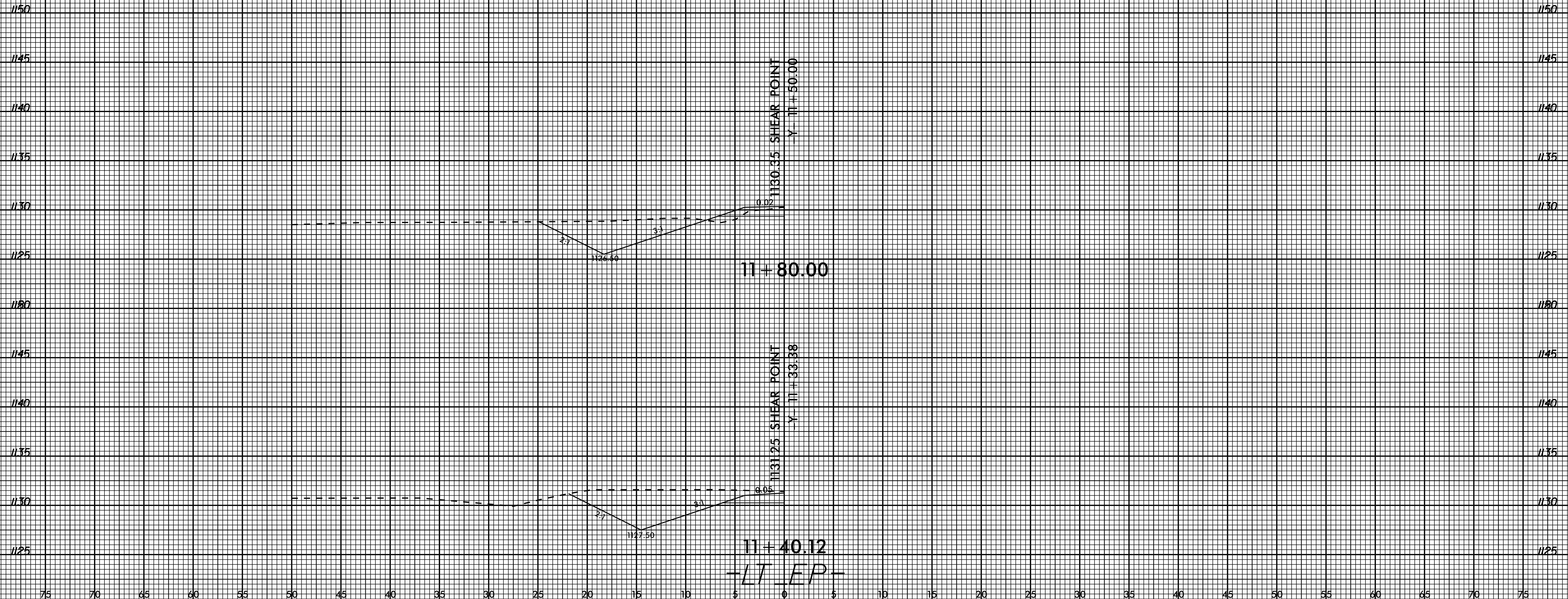
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SYSTEMS CONDITION ANALYSIS

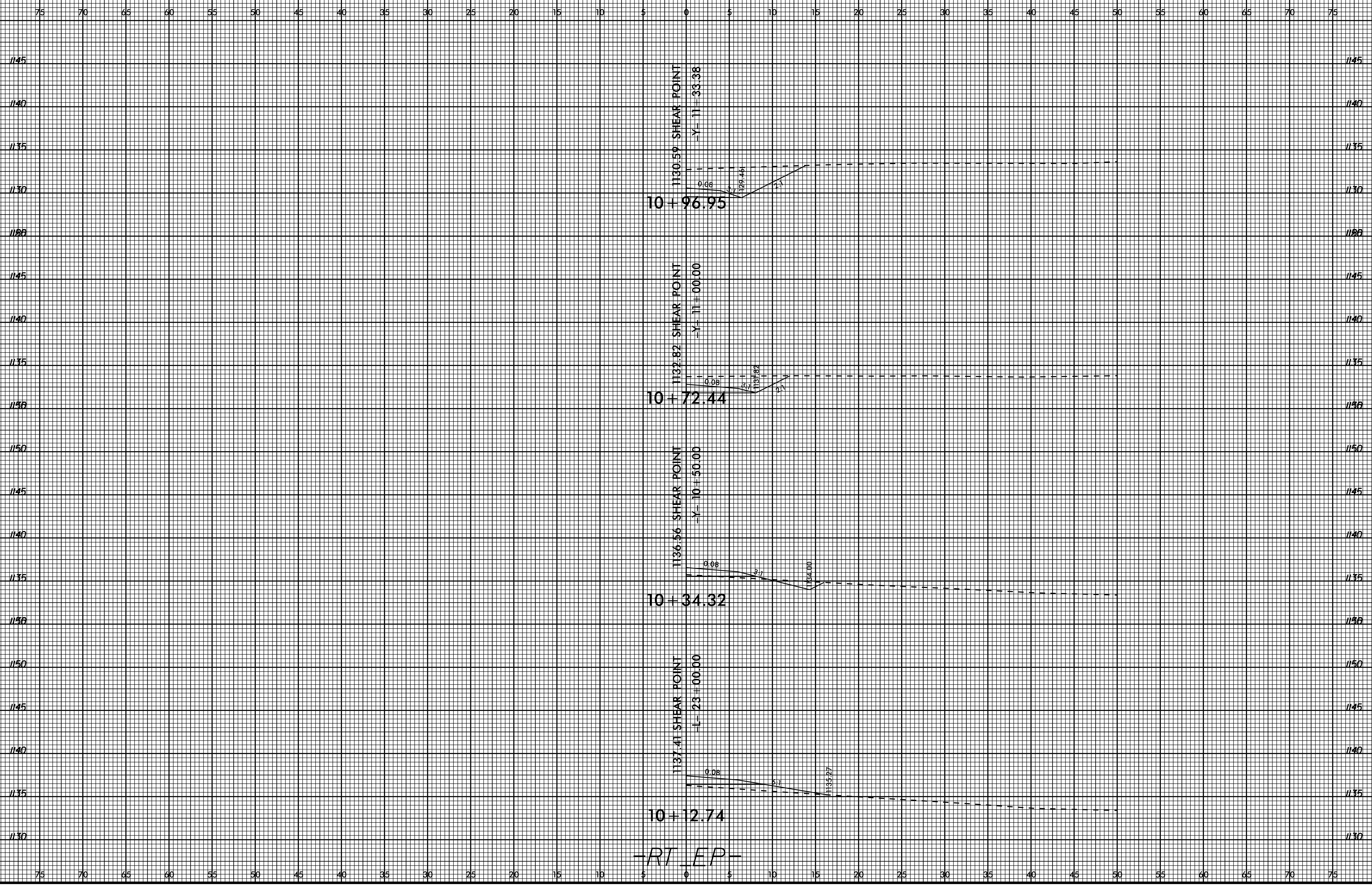
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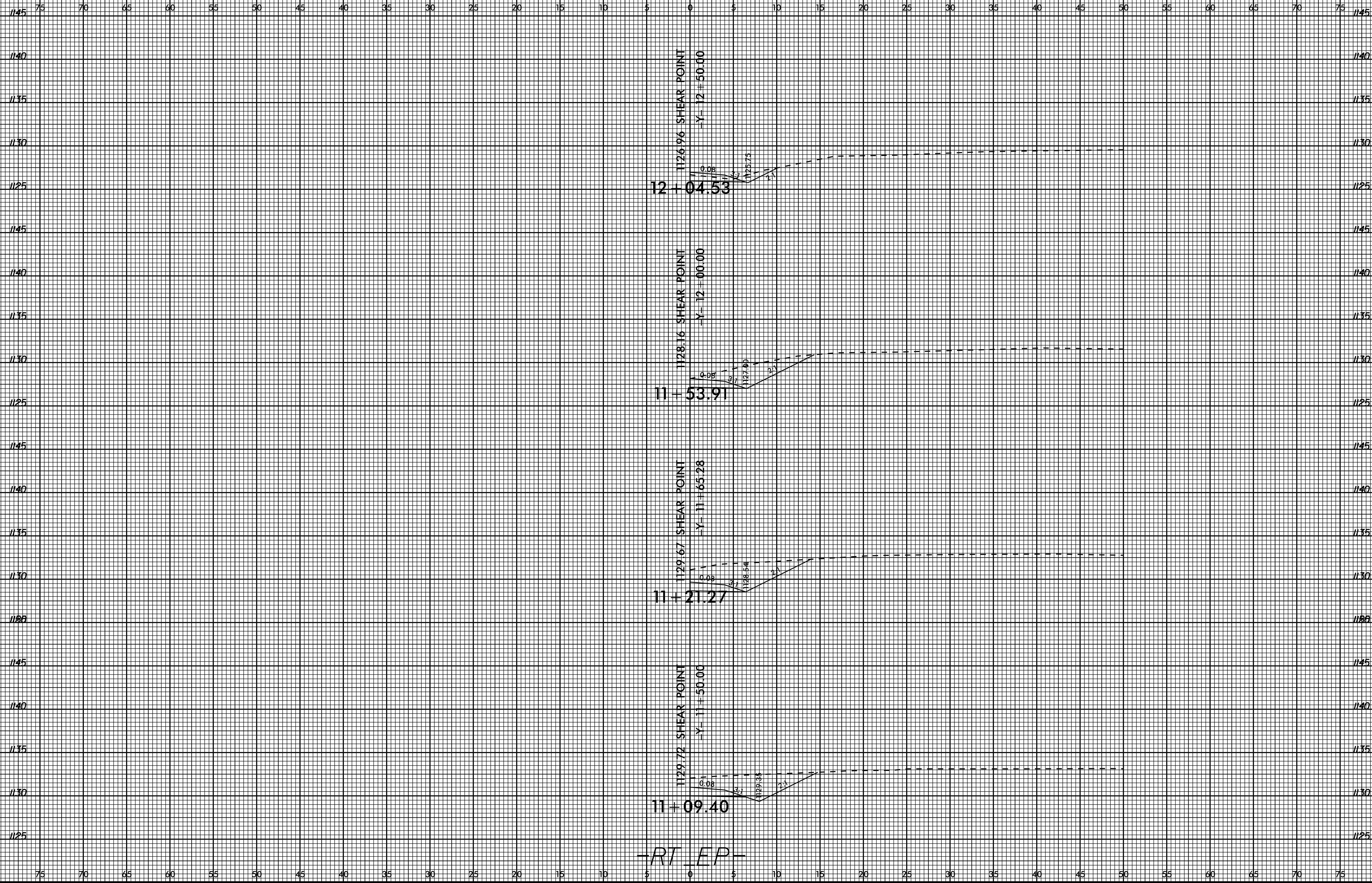
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6/23/16
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SYSTEMS
CONSULTANTS
INCORPORATED

6/23/16



SYSTEMS CONDITION FILE
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