

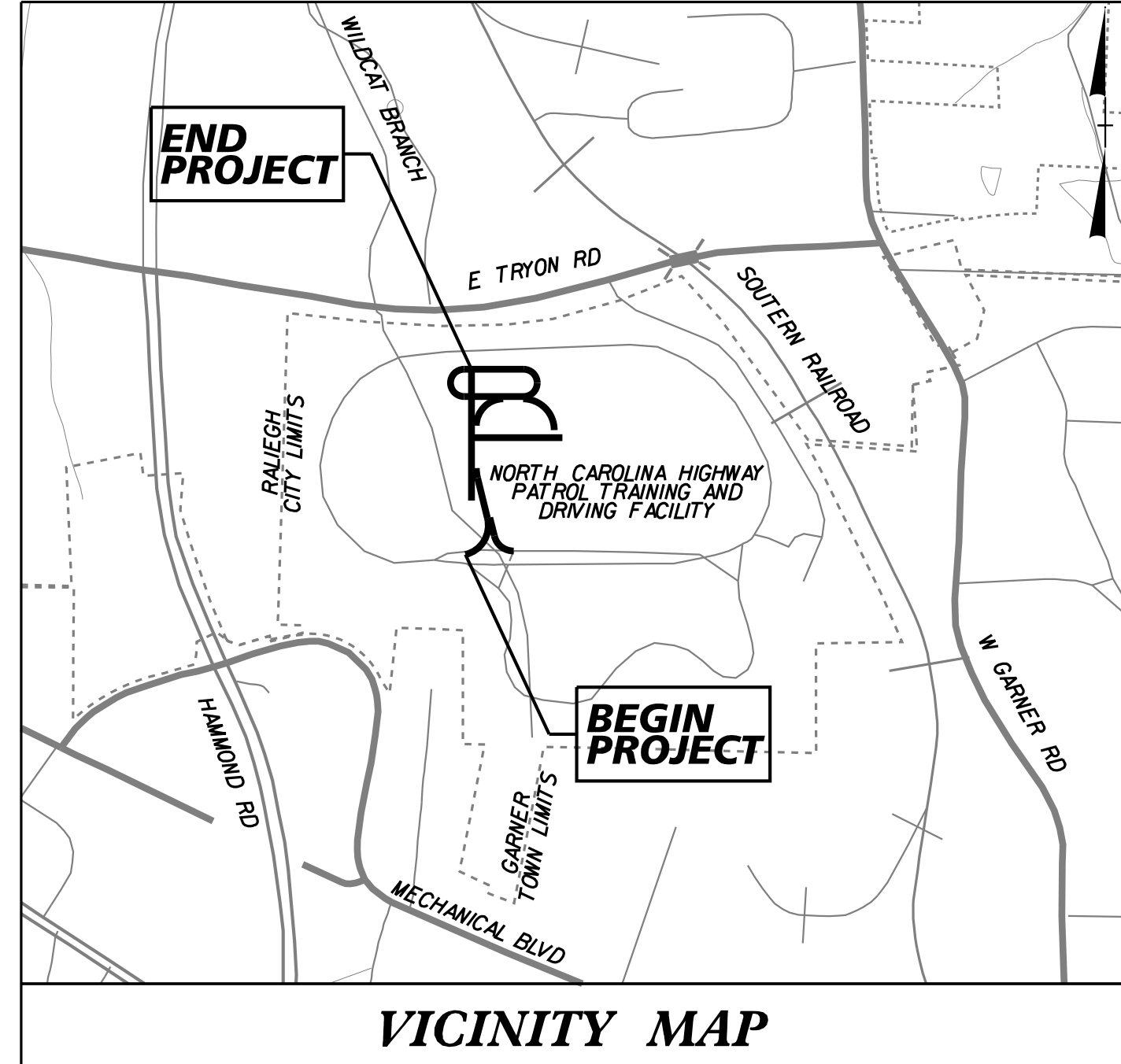
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CONTRACT: DE00285 PROJECT: TIM TRAINING SITE

See Sheet 1-B For Conventional Symbols



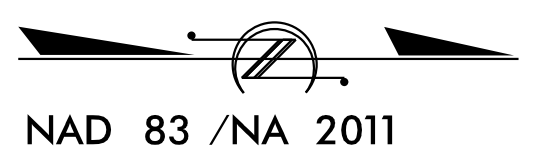
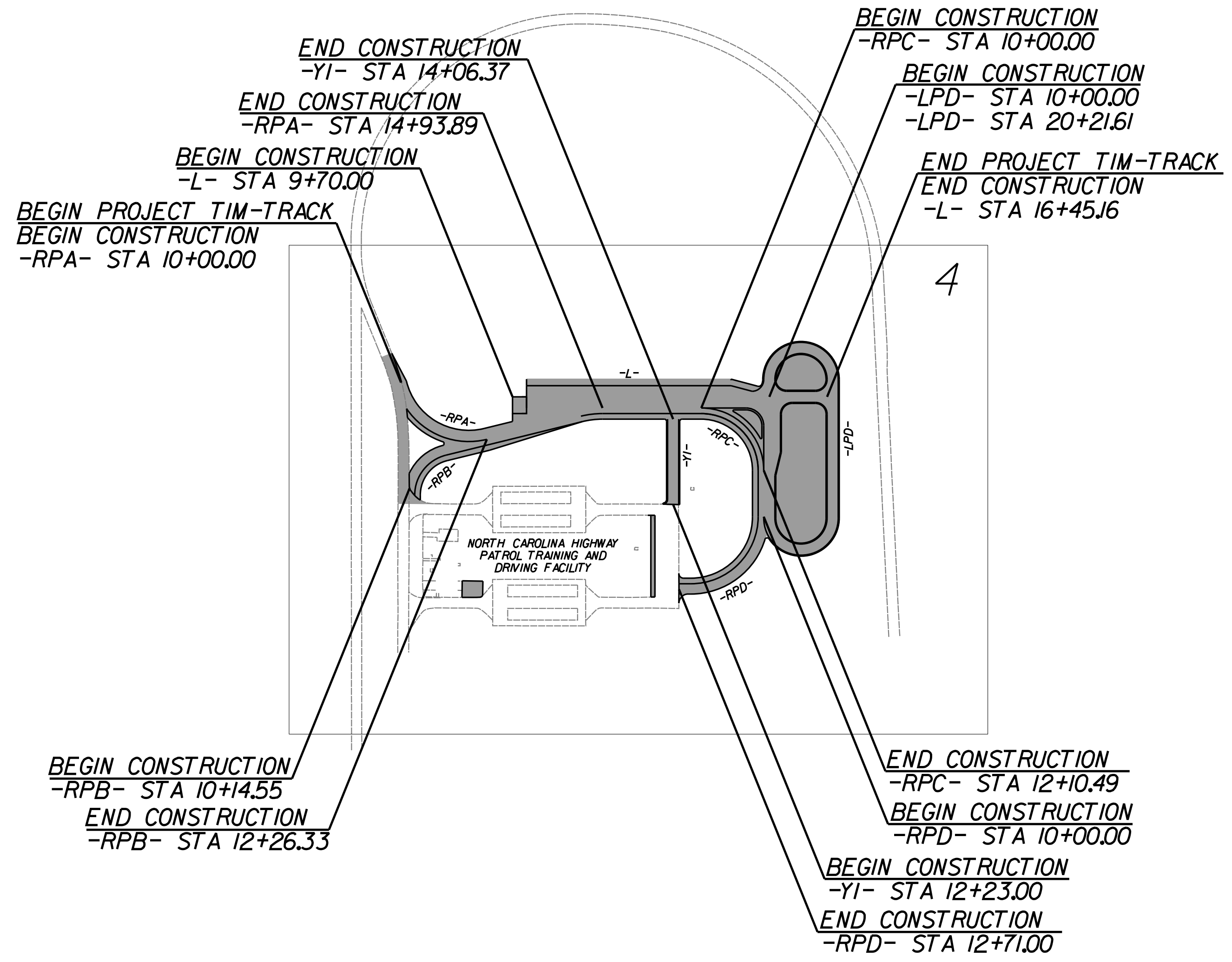
VICINITY MAP

FINAL PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
WAKE COUNTY

**LOCATION: THE NORTH CAROLINA STATE HIGHWAY PATROL DRIVING FACILITY
LOATED ON E TRYON ROAD BETWEEN HAMMOND ROAD AND
GARNER ROAD IN WAKE COUNTY, NC**

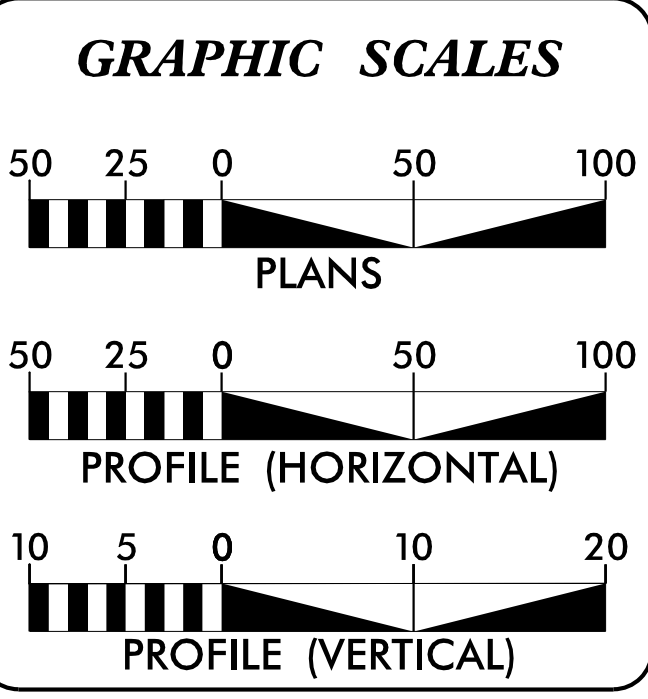
TYPE OF WORK: GRADING, DRAINAGE, PAVING, SIGNING



Kimley»Horn

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	C-5600T	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
21IM.SW		P.E.	
50061.3.19		CONSTRUCTION	

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



PROJECT LENGTH

LENGTH ROADWAY PROJECT TIM-TRACK	=	0.586 MILES
TOTAL LENGTH PROJECT TIM-TRACK	=	0.586 MILES

PLANS PREPARED FOR THE NCDOT BY: **Kimley»Horn**
© 2019 421 FAYETTEVILLE STREET, SUITE 400 RALEIGH, NC 27601

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: NA

LETTING DATE: MARCH 13, 2019

JASON PACE, P.E.
PROJECT ENGINEER

VANCE BLANTON, P.E.
HYDRAULICS ENGINEER

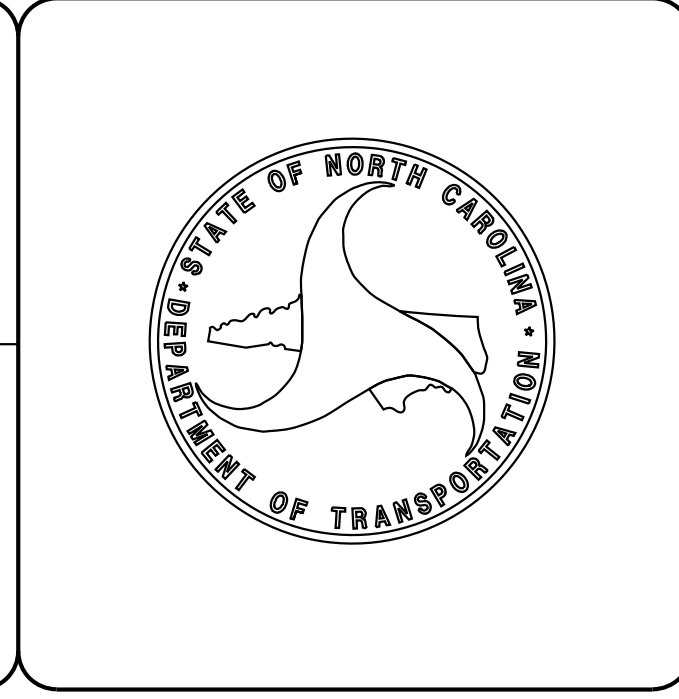
CALEB LOWMAN, E.I.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

JASON PACE, P.E.
1/24/2019
SIGNATURE: [Signature]

ROADWAY DESIGN ENGINEER

CALEB LOWMAN, E.I.
1/24/2019
SIGNATURE: [Signature]



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TIM TRACK
WAKE COUNTY

TRAFFIC MANAGEMENT PLANS GENERAL NOTES

2018 SPECIFICATIONS

EFFECTIVE: 07-01-17

INDEX OF SHEETS	
SHEET NUMBER	SHEET
I	TITLE SHEET
IA	INDEX OF SHEETS, GENERAL NOTES, LIST OF ROADWAY STANDARD DRAWINGS
IB	CONVENTIONAL SYMBOLS SHEET
2A-1 THRU 2A-2	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND MISCELLANEOUS DETAILS
3B-1	SUMMARY OF EARTHWORK, GUARDRAIL, AND SHOULDER BERM GUTTER
3D-1	SUMMARY OF DRAINAGE QUANTITIES
4	PLAN SHEETS
5 THRU 7	PROFILE SHEETS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-10	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-3	SIGNING PLANS
ITS-1 THRU ITS-5	ITS PLANS
X-1A	CROSS-SECTION INDEX
X-1B	CROSS-SECTION SUMMARY SHEETS
X-1 THRU X-24	CROSS-SECTIONS

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.

- 1) THE CONTRACTOR SHALL COORDINATE AND HOLD A PRE-CONSTRUCTION MEETING WITH CONTACTS LISTED BELOW FOR EVENTS OCCURRING ON THE EXISTING TRAINING SITE. WORK ZONE ACCOMMODATIONS MAY BE REQUIRED AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL MINIMIZE IMPACTS TO THE TRAINING SITE ENTRANCES, SKID PAD, AND EXISTING ROADS. MAINTAIN ACCESS AT ALL POSSIBLE TIMES AND COORDINATE ANY ACCESS RESTRICTION WITH THE TRAINING SITE CONTACTS.

CONTACTS:

- Wayne Taylor
wtaylor@ncdot.gov
M: 910-284-4844
O: 919-825-2622
- First Sergeant Joel Creech
Joel.Creech@ncdps.gov
O: 919-948-7974
- Sergeant Curtis Manning
james.manning@ncdps.gov
M: 919-302-7523
- Trooper Shannon Smith
shannon.r.smith@ncdps.gov
M: 910-214-6449

EFF. 01-16-2018

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

STD. NO.	DESCRIPTION
DIVISION 2 - EARTHWORK	
200.02	METHOD OF CLEARING - METHOD II
225.02	GUIDE FOR GRADING SUBGRADE - SECONDARY AND LOCAL
225.04	METHOD OF OBTAINING SUPERELEVATION - TWO LANE PAVEMENT
DIVISION 3 - PIPE CULVERTS	
300.01	METHOD OF PIPE INSTALLATION
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.02	METHOD OF SHOULDER CONSTRUCTION - HIGH SIDE OF SUPERELEVATED CURVE - METHOD II
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	PAVEMENT REPAIRS
DIVISION 7 - CONCRETE PAVEMENTS AND SHOULDERS	
700.05	TYING PROPOSED PAVEMENT TO EXISTING PAVEMENT
DIVISION 8 - INCIDENTALS	
815.02	SUBSURFACE DRAINS
840.00	CONCRETE BASE PAD FOR DRAINAGE STRUCTURES
840.18	CONCRETE GRATED DROP INLET TYPE 'B' - 12" THRU 36" PIPE
840.20	FRAMES AND WIDE SLOT FLAT GRATES
840.22	FRAMES AND WIDE SLOT SAG GRATES
840.27	BRICK GRATED DROP INLET TYPE 'B' - 12" THRU 36" PIPE
840.25	ANCHORAGE FOR FRAMES - BRICK OR CONCRETE OR PRECAST
840.45	PRECAST DRAINAGE STRUCTURE
846.01	CONCRETE CURB, GUTTER AND CURB AND GUTTER
846.04	DROP INLET INSTALLATION IN SHOULDER BERM GUTTER
862.01	GUARDRAIL PLACEMENT
862.02	GUARDRAIL INSTALLATION (USE DETAIL 2C-11N LIEU OF SHEET 6 OF 8)
865.01	CABLE GUIDERAIL
876.02	GUIDE FOR RIP RAP AT PIPE OUTLETS

GENERAL NOTES

2018 SPECIFICATIONS EFFECTIVE: 01-16-18

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. IN AREAS WITH PERMANENT UTILITY EASEMENTS, CLEARING SHALL EXTEND TO THE RIGHT-OF-WAY LIMITS.

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. 560.02.

SUBSURFACE DRAINS:

SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.02 AT LOCATIONS DIRECTED BY THE ENGINEER.

GUARDRAIL:

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

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING".

UTILITIES:

NO RELOCATIONS ARE EXPECTED AS PART OF THIS PROJECT.

PHASE 1:

- 1) CONTRACTOR SHALL INSTALL GATE AND ARM SHOWN ON SHEET ITS-5 AND CALLED FOR IN THE PROJECT SPECIAL PROVISIONS AND INSTALL TEMPORARY GUARDRAIL AS SHOWN ON SHEET 4 BEFORE BEGINNING CONSTRUCTION.

PHASE 2:

- 1) AWAY FROM TRAFFIC, BEGIN CONSTRUCTION OF PROPOSED NEW LOCATION C-5600T (TIM TRAINING SITE).
- 2) AWAY FROM TRAFFIC, COMPLETE ALL NEW LOCATION CONSTRUCTION. PLACE FINAL LAYERS OF ASPHALT AND FINAL PAVEMENT MARKINGS AND MARKERS. COMPLETE THE TIE-INS OF PROPOSED C-5600T (TIM TRAINING SITE) TO EXISTING TRAINING FACILITY. REMOVE ALL TRAFFIC CONTROL DEVICES, AND OPEN ALL LANES TO TRAFFIC.

NOTES:

- CONTRACTOR SHALL STORE ALL EQUIPMENT WITHIN THE WORK AREA, SEE PROJECT SPECIAL PROVISIONS.
- CONTRACTOR TO COORDINATE HAULING OPERATIONS WITH CONTACTS LISTED ABOVE TO MINIMIZE INTERRUPTIONS IN SITE TRAINING AND WORK.
- PROVIDE WEDGING AS NECESSARY TO TIE NEW CONSTRUCTION INTO EXISTING PAVEMENT FOR SMOOTH TRANSITIONS AND POSITIVE DRAINAGE

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	○ EP
Computed Property Corner	→
Property Monument	□ ECM
Parcel/Sequence Number	(23)
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	---MLB---
Proposed Wetland Boundary	---MLB---
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	→ FLOW
False Sump	▽

RAILROADS:

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

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

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	○ RW
New Right of Way Line with Pin and Cap	○ RW ▲
New Right of Way Line with Concrete or Granite RW Marker	▲ RW
New Control of Access Line with Concrete C/A Marker	△ CA
Existing Control of Access	○ CA
New Control of Access	○ CA
Existing Easement Line	---E---
New Temporary Construction Easement	---E---
New Temporary Drainage Easement	---TDE---
New Permanent Drainage Easement	---PDE---
New Permanent Drainage / Utility Easement	---DUE---
New Permanent Utility Easement	---PUE---
New Temporary Utility Easement	---TUE---
New Aerial Utility Easement	---AUE---

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	---T---
Proposed Guardrail	---T---
Existing Cable Guiderail	---T---
Proposed Cable Guiderail	---T---
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	⊙
Storm Sewer	---S---

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊙
Power Line Tower	⊠
Power Transformer	⊠
U/G Power Cable Hand Hole	○
H-Frame Pole	●●
U/G Power Line LOS B (S.U.E.*)	---P---
U/G Power Line LOS C (S.U.E.*)	---P---
U/G Power Line LOS D (S.U.E.*)	---P---

TELEPHONE:

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

WATER:

Water Manhole	⊙
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
U/G Water Line LOS B (S.U.E.*)	---W---
U/G Water Line LOS C (S.U.E.*)	---W---
U/G Water Line LOS D (S.U.E.*)	---W---
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.*)	---TV---
U/G TV Cable LOS C (S.U.E.*)	---TV---
U/G TV Cable LOS D (S.U.E.*)	---TV---
U/G Fiber Optic Cable LOS B (S.U.E.*)	---TV FO---
U/G Fiber Optic Cable LOS C (S.U.E.*)	---TV FO---
U/G Fiber Optic Cable LOS D (S.U.E.*)	---TV FO---

GAS:

Gas Valve	◇
Gas Meter	⊕
U/G Gas Line LOS B (S.U.E.*)	---G---
U/G Gas Line LOS C (S.U.E.*)	---G---
U/G Gas Line LOS D (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---
SS Forced Main Line LOS B (S.U.E.*)	---FSS---
SS Forced Main Line LOS C (S.U.E.*)	---FSS---
SS Forced Main Line LOS D (S.U.E.*)	---FSS---

MISCELLANEOUS:

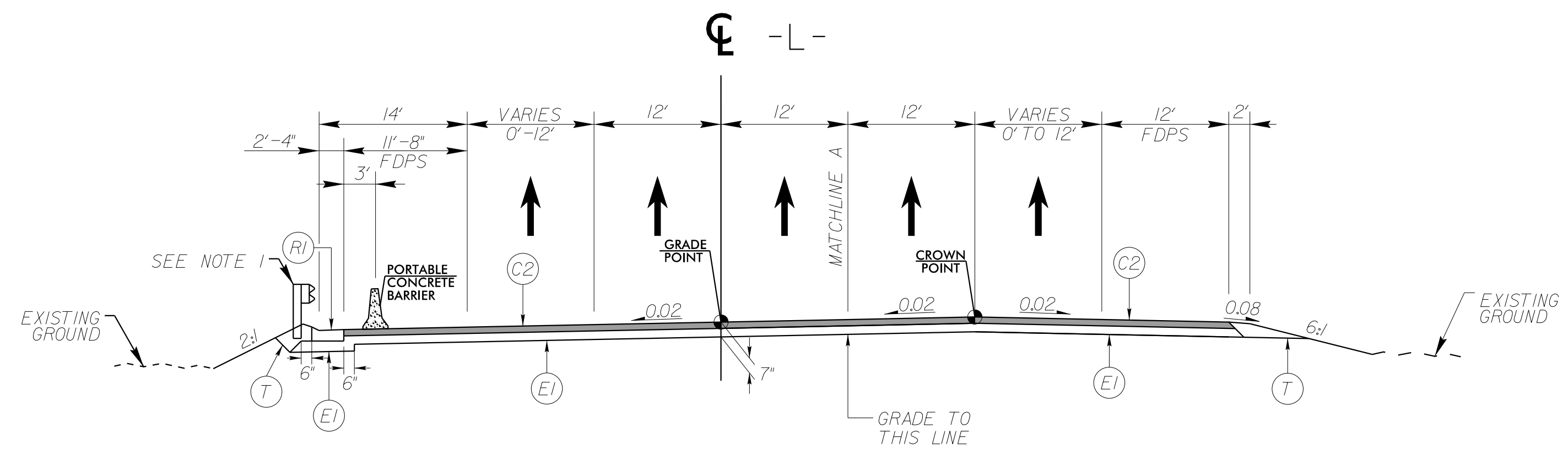
Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊠
Utility Unknown U/G Line LOS B (S.U.E.*)	---UTIL---
U/G Tank; Water, Gas, Oil	□
Underground Storage Tank, Approx. Loc.	⊕
A/G Tank; Water, Gas, Oil	□
Geoenvironmental Boring	⊕
U/G Test Hole LOS A (S.U.E.*)	⊕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

REVISIONS

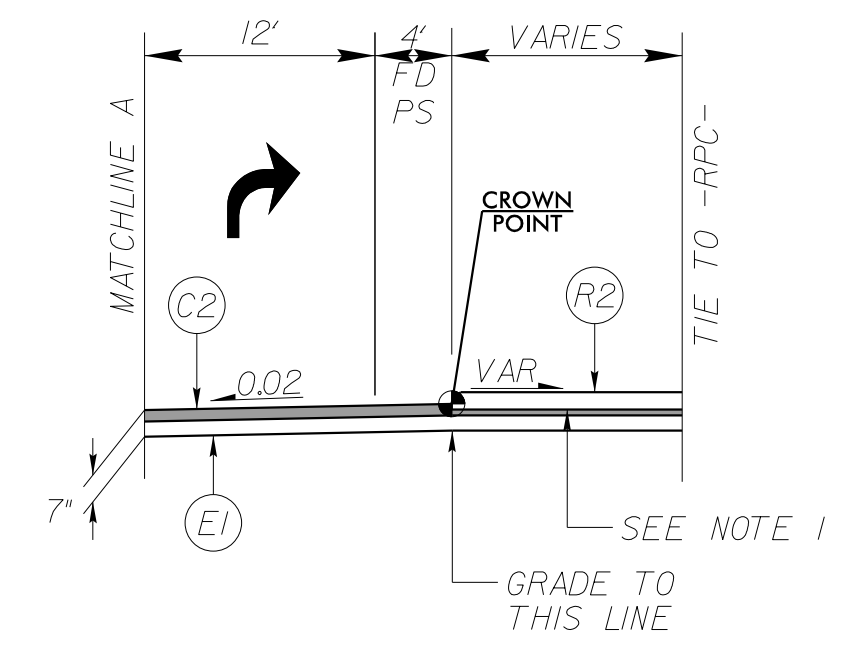
1/14/2009

PROJECT REFERENCE NO. C-5600T	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER Jason Pace 7777-34E089	PAVEMENT DESIGN ENGINEER Clark Morrison 7777-34E089
PROFESSIONAL SEAL 033167 JAMES J. PACE 1/16/2019	PROFESSIONAL SEAL 022896 CLARK S. MORRISON 1/18/2019

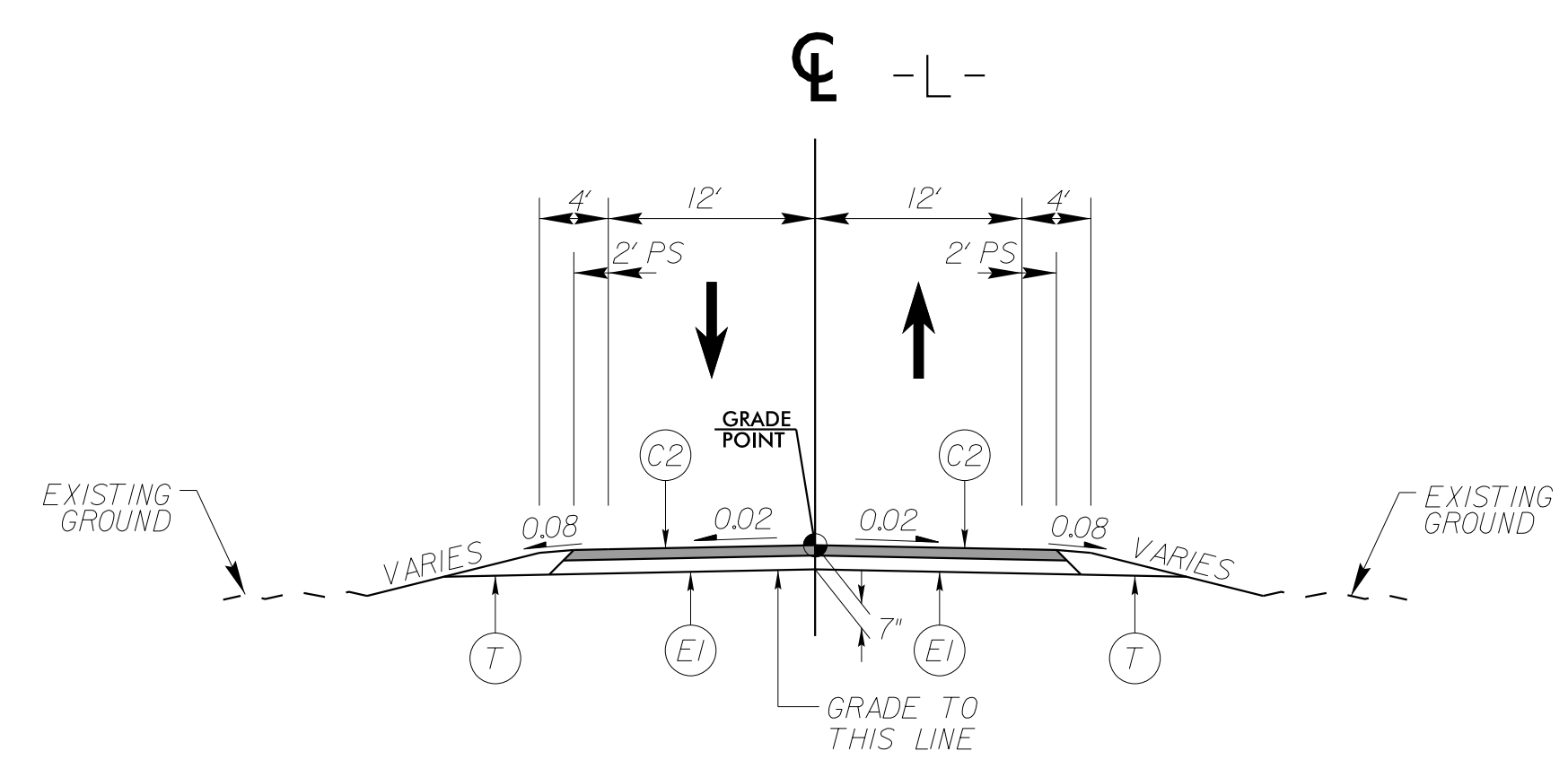
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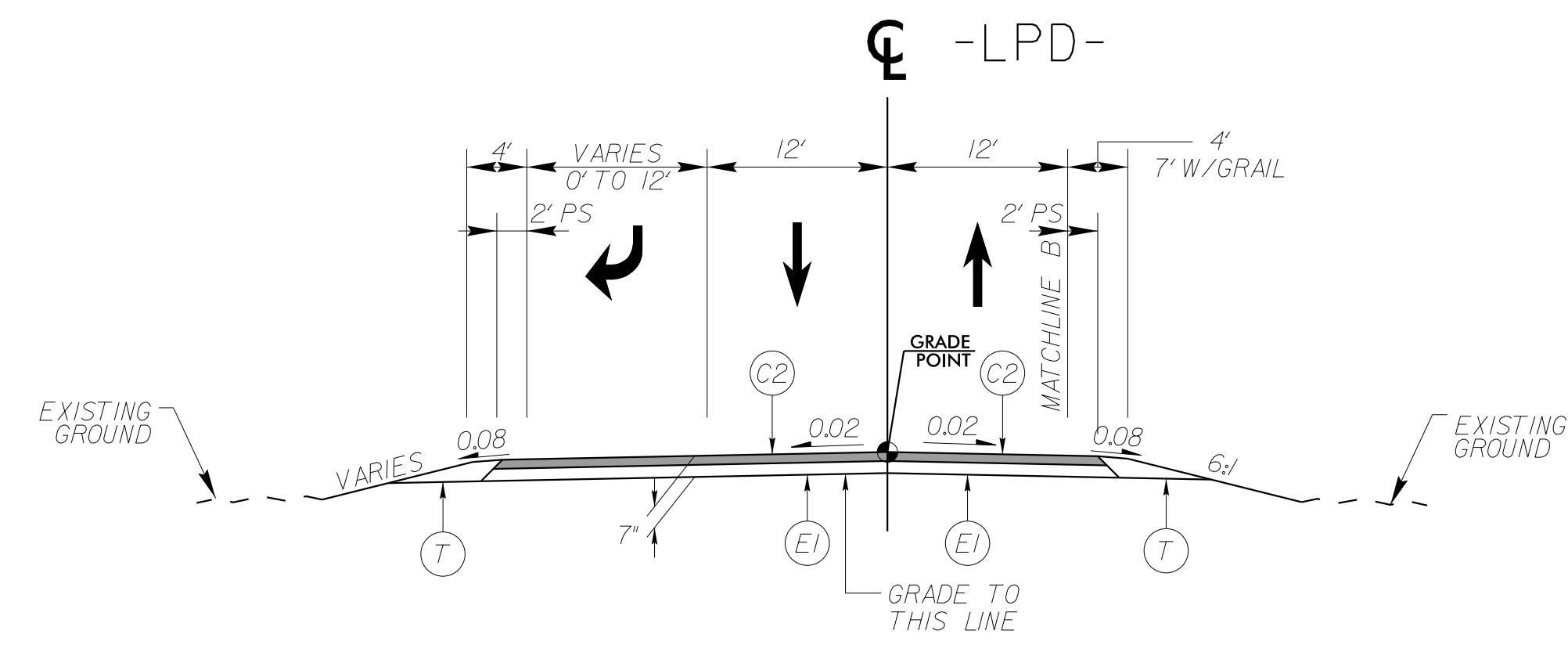
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-L- STA 9+70.00 TO 15+21.6



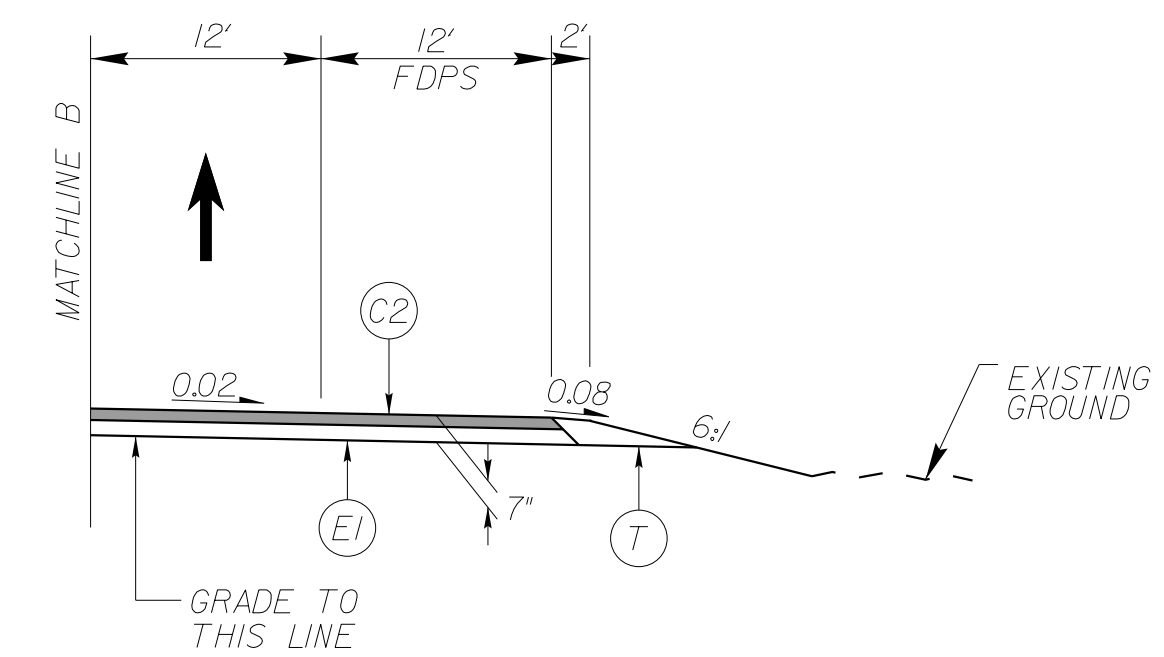
TYPICAL SECTION NO. 1A
-L- STA 13+75.16 TO 15+09.16



TYPICAL SECTION NO. 2
-L- STA 15+21.6 TO 16+45.16



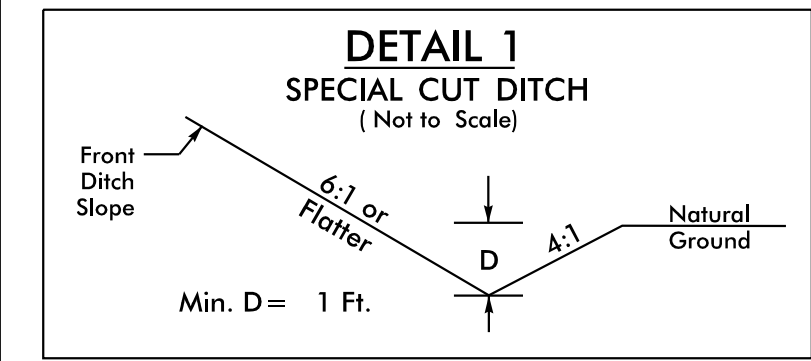
TYPICAL SECTION NO. 3
-LPD- STA 10+00.00 TO 20+21.6



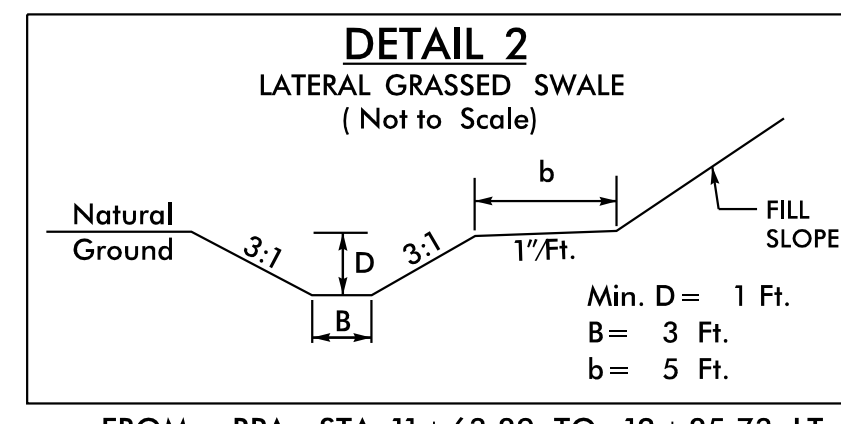
TYPICAL SECTION NO. 3A
-LPD- STA 11+58.00 TO 12+57.46

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	PROPOSED APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN.
C2	PROPOSED APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROPOSED VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 15" IN DEPTH.
E1	PROPOSED APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
R1	PROPOSED SHOULDER BERM GUTTER
R2	5' MONOLITHIC CONCRETE ISLAND (KEYED-IN)
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	INCIDENTAL MILLING (VAR)
W	WEDGING DETAIL FOR RESURFACING

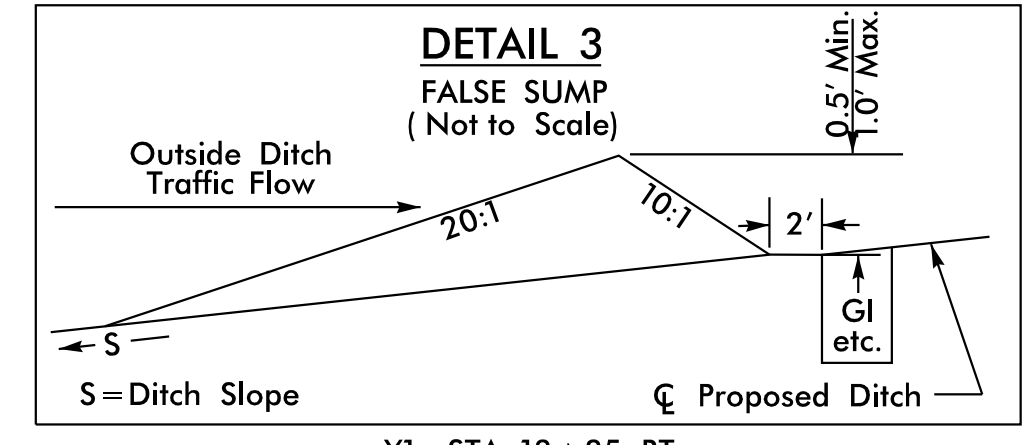
NOTES:
1. SEE PLAN VIEW FOR SPECIFIC LOCATIONS OF PROPOSED SHOULDER BERM GUTTER AND MONOLITHIC ISLAND.
2. PAVEMENT EDGE SLOPES 1:1 UNLESS OTHERWISE INDICATED.



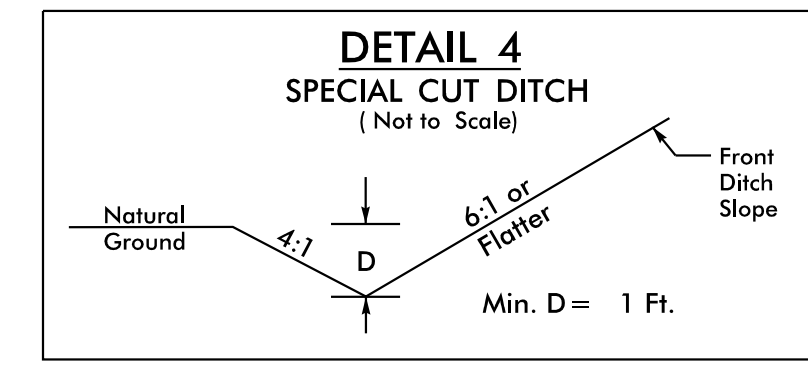
FROM -L- STA. 13+50.00 TO 13+75.16 RT
FROM -L- STA. 11+63.16 TO 12+89.75 RT
FROM -RPA- STA. 12+36.30 TO 14+93.89 RT
FROM -RPB- STA. 11+00.00 TO 12+26.33 RT
FROM -RPC- STA. 10+00.00 TO 12+10.49 RT
FROM -RPD- STA. 10+00.00 TO 12+41.75 RT
FROM -LPD- STA. 11+58.00 TO 12+57.46 RT
FROM -Y1- STA. 12+56.70 TO 13+91.32 RT



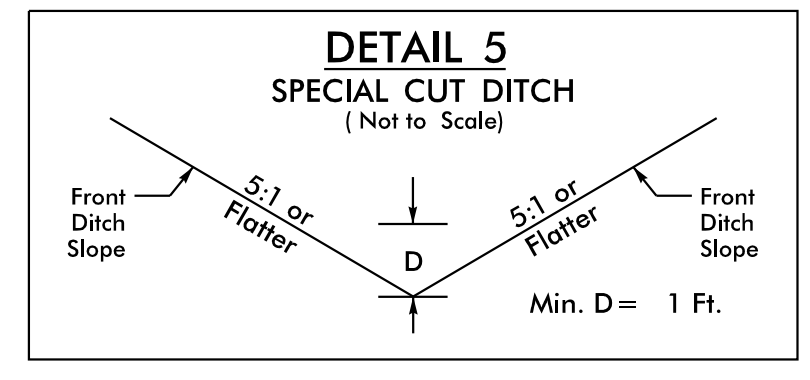
FROM -RPA- STA. 11+63.89 TO 12+85.73 LT



-Y1- STA. 13+85 RT



FROM -Y1- STA. 12+61.00 TO 13+92.60 LT



FROM -LPD- STA. 10+33.98 TO 12+60.18 LT

K:\RAL_Roadway\01036470 - NCSHP Driving Track Design\Roadway\Proj\01036470_rdy_ttyp.dgn 1/14/2019

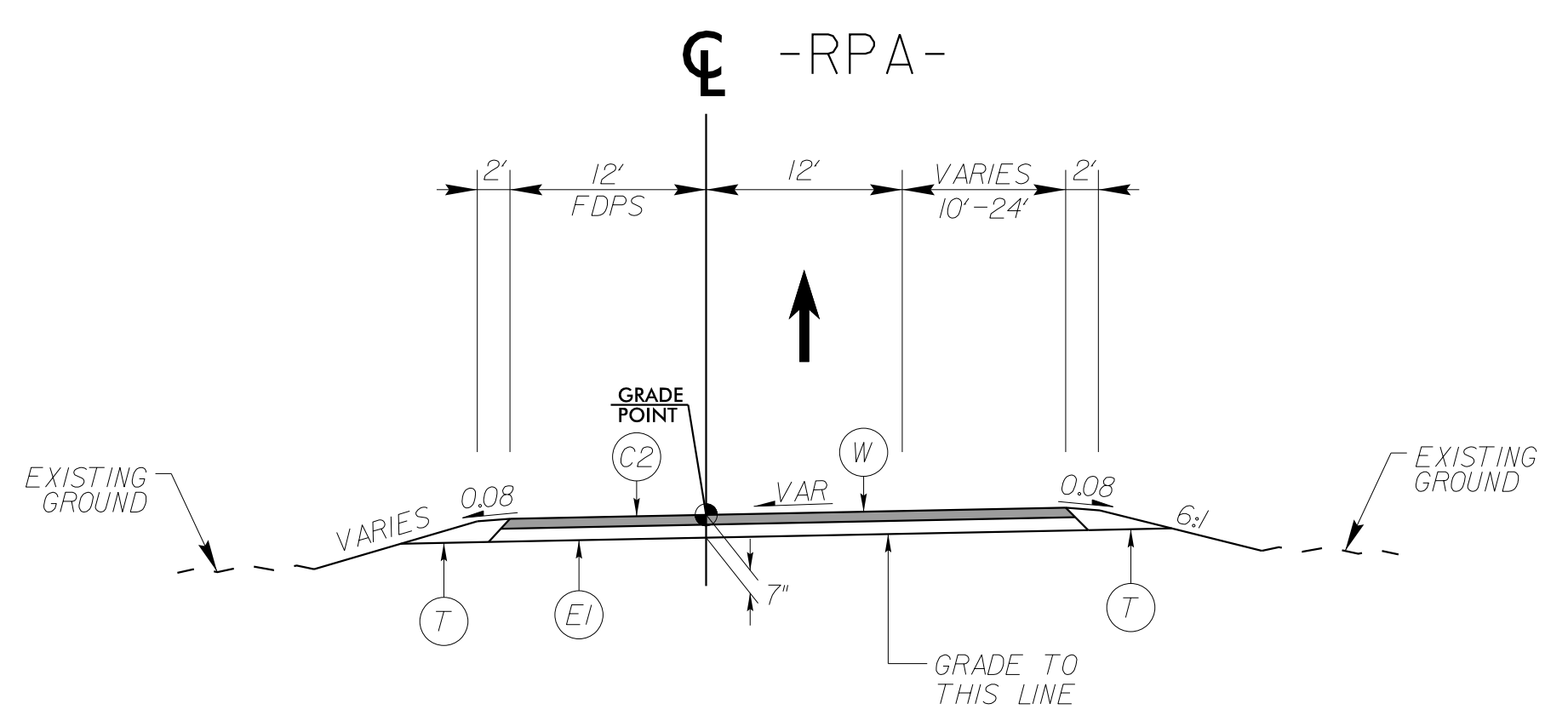
PROJECT REFERENCE NO. C-5600T	SHEET NO. 2A-2
ROADWAY DESIGN ENGINEER Jason Pace SEAL 033167 1/16/2019	PAVEMENT DESIGN ENGINEER Clark Morrison SEAL 022896 1/18/2019

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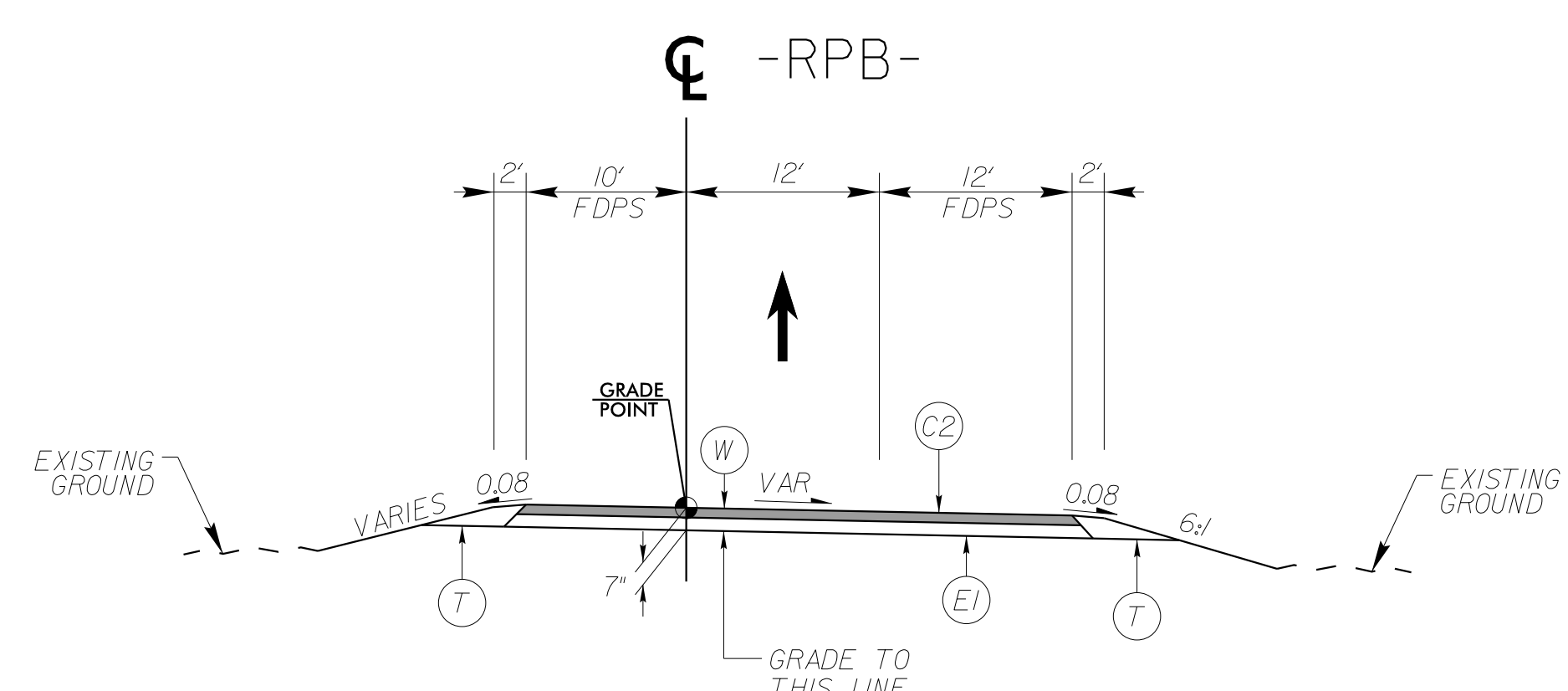


PAVEMENT SCHEDULE (PRELIMINARY PAVEMENT DESIGN)	
C1	1.5' S9.5B
C2	3' S9.5B
C3	VAR. DEPTH S9.5B
E1	4" B25DC
R1	SHOULDER BERM GUTTER
R2	5' MONOLITHIC CONCRETE ISLAND (KEYED-IN)
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	INCIDENTAL MILLING (VAR)
W	WEDGING DETAIL FOR RESURFACING

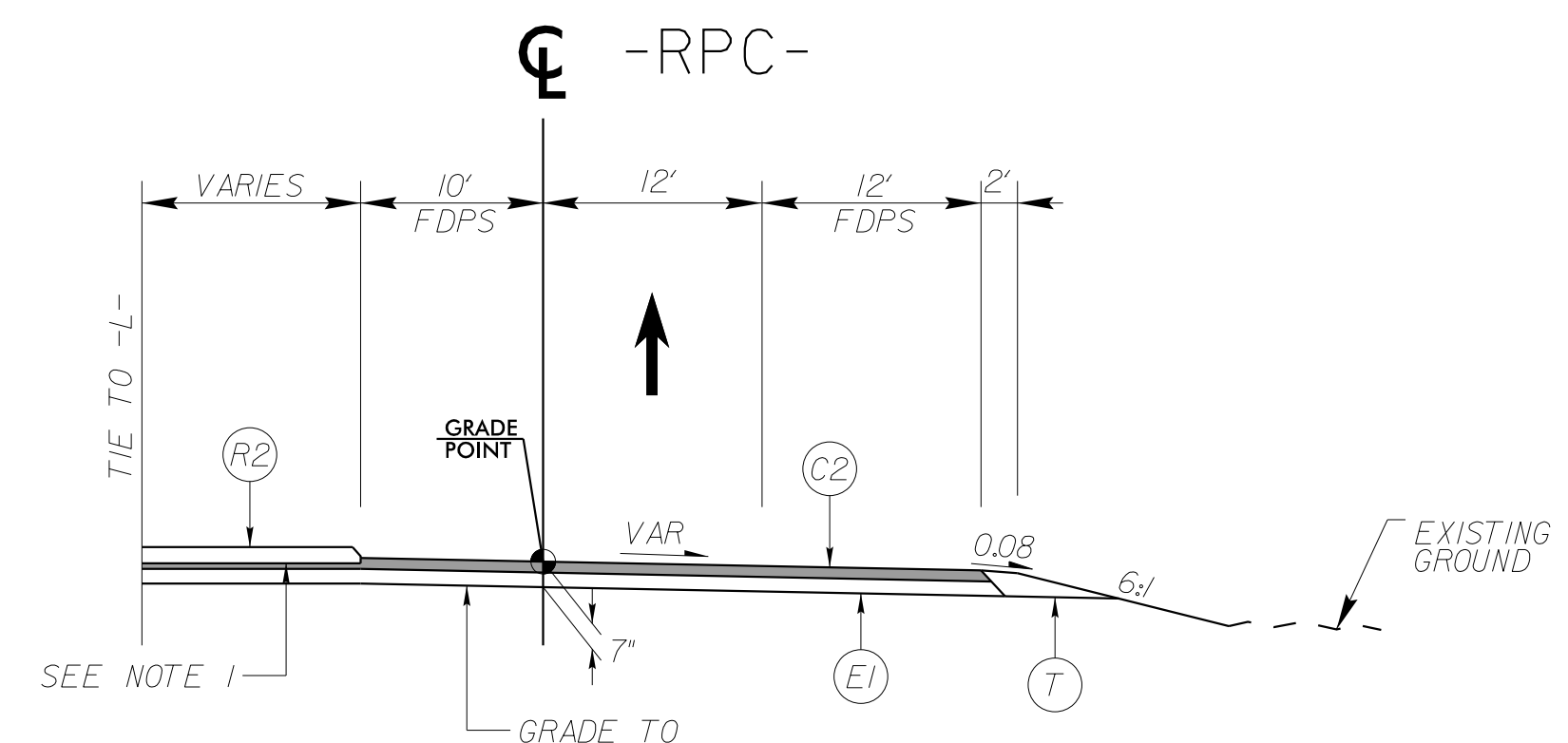
NOTE:
1. PAVEMENT EDGE SLOPES 1:1 UNLESS OTHERWISE INDICATED.



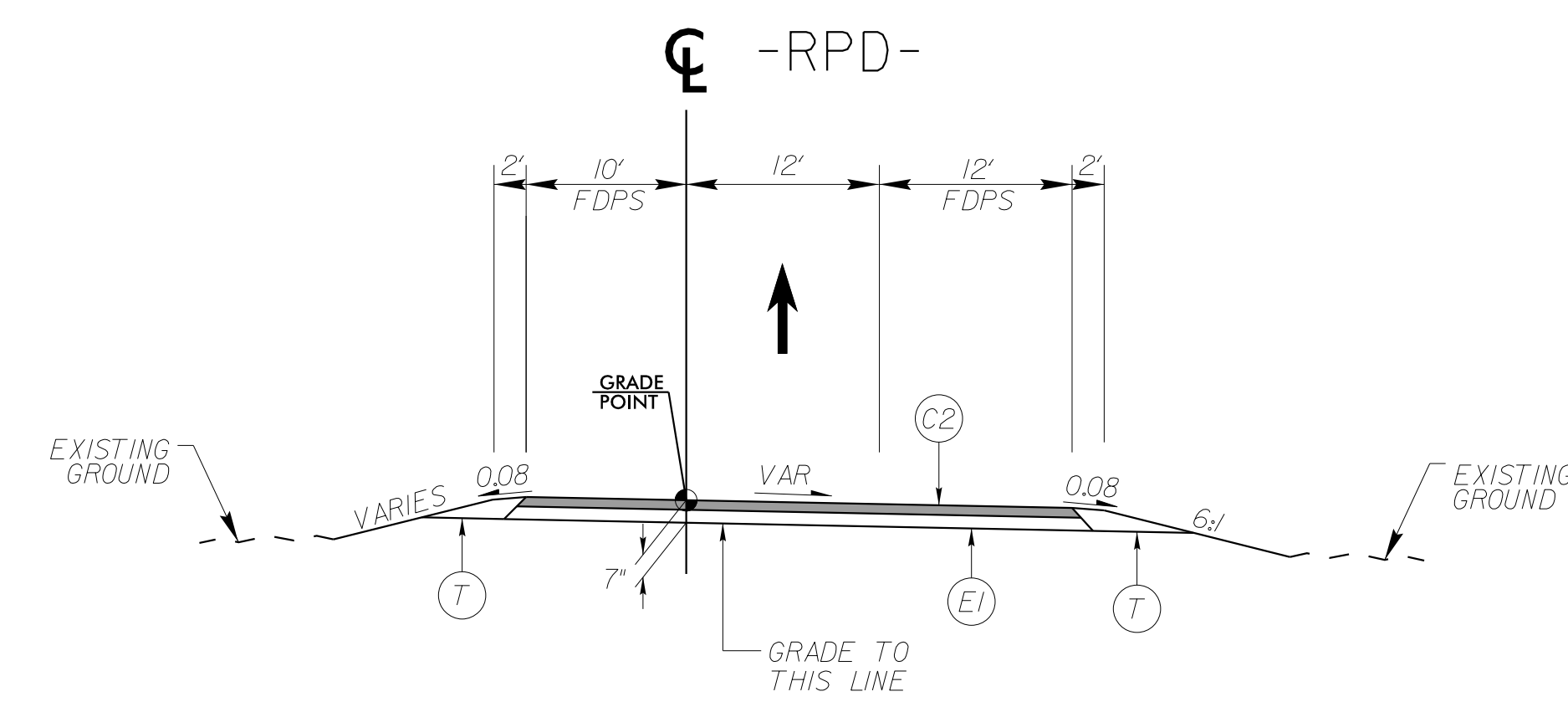
TYPICAL SECTION NO. 4
-RPA- STA 10+00.00 TO 14+93.89



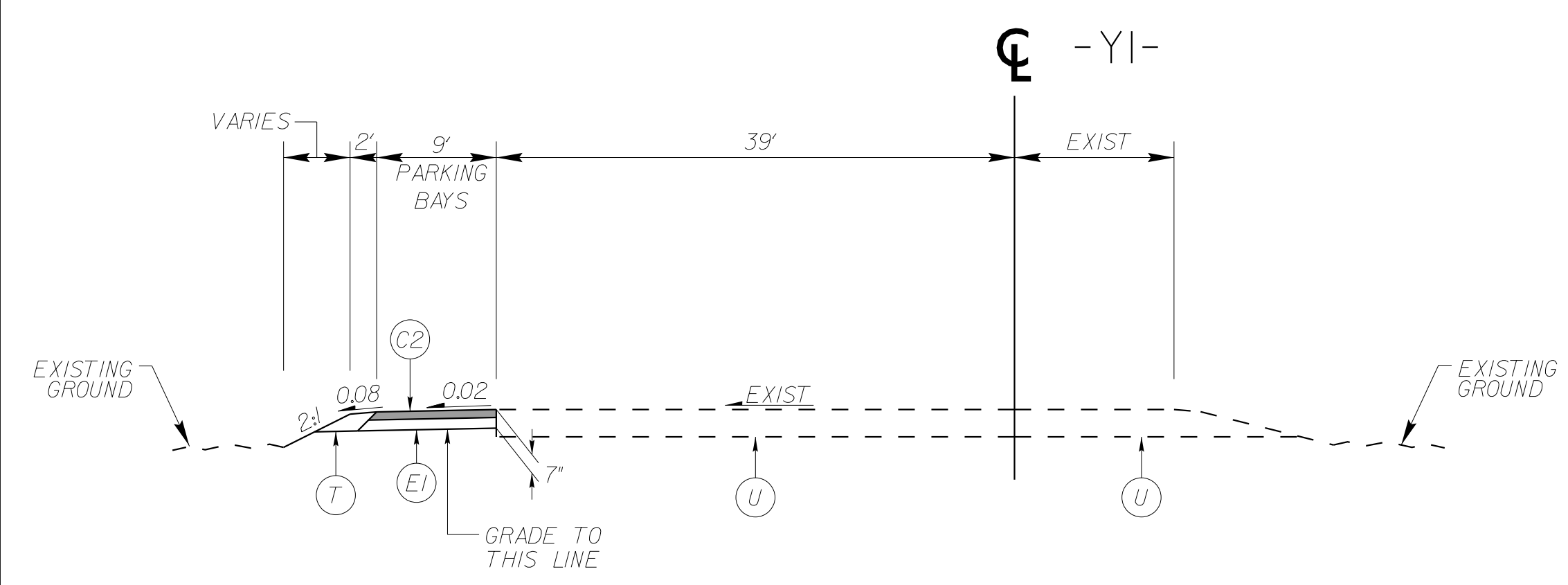
TYPICAL SECTION NO. 5
-RPB- STA 10+14.55 TO 12+26.33



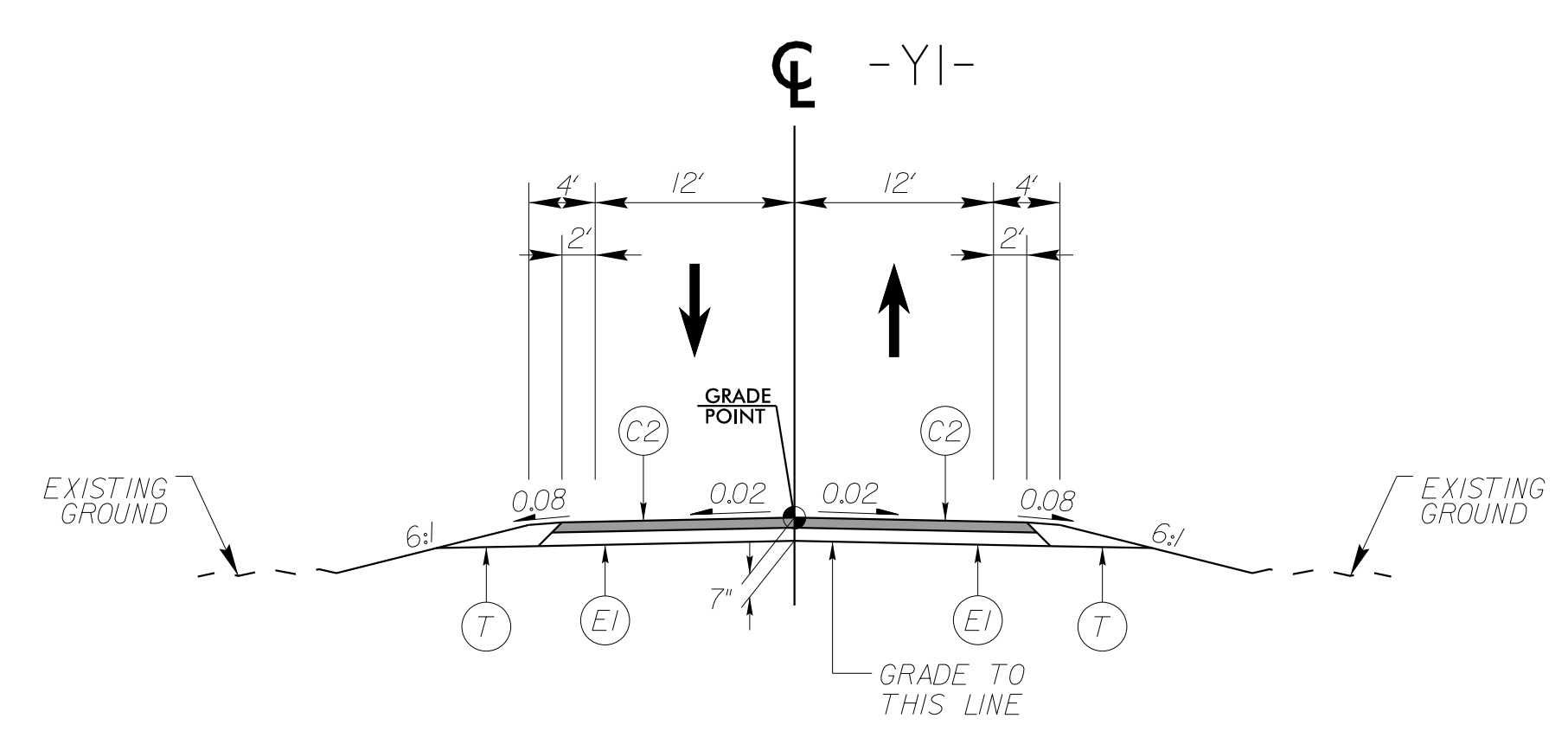
TYPICAL SECTION NO. 6
-RPC- STA 10+00.00 TO 12+10.49



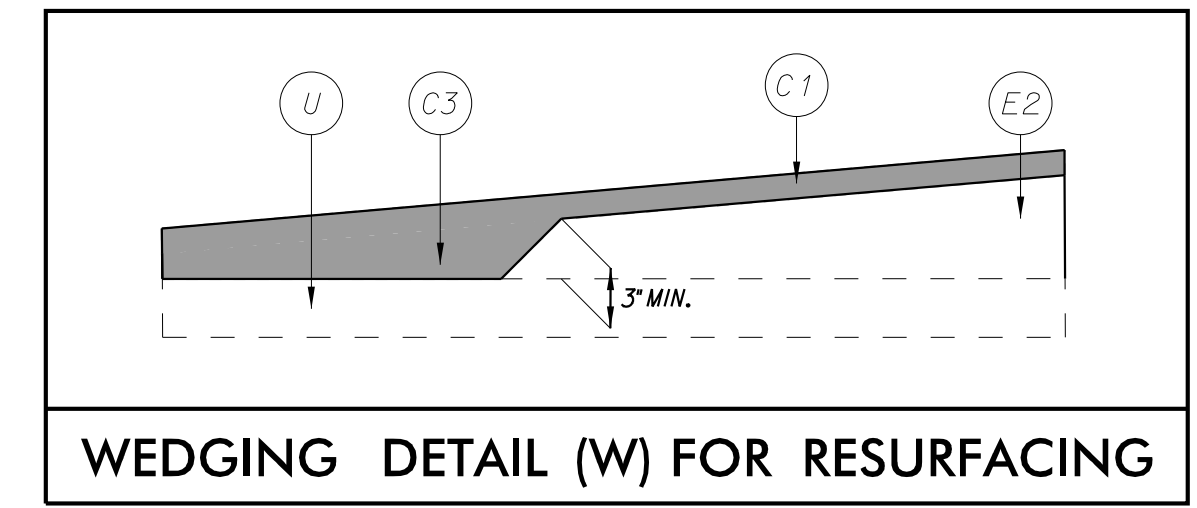
TYPICAL SECTION NO. 7
-RPD- STA 10+00.00 TO 12+71.00



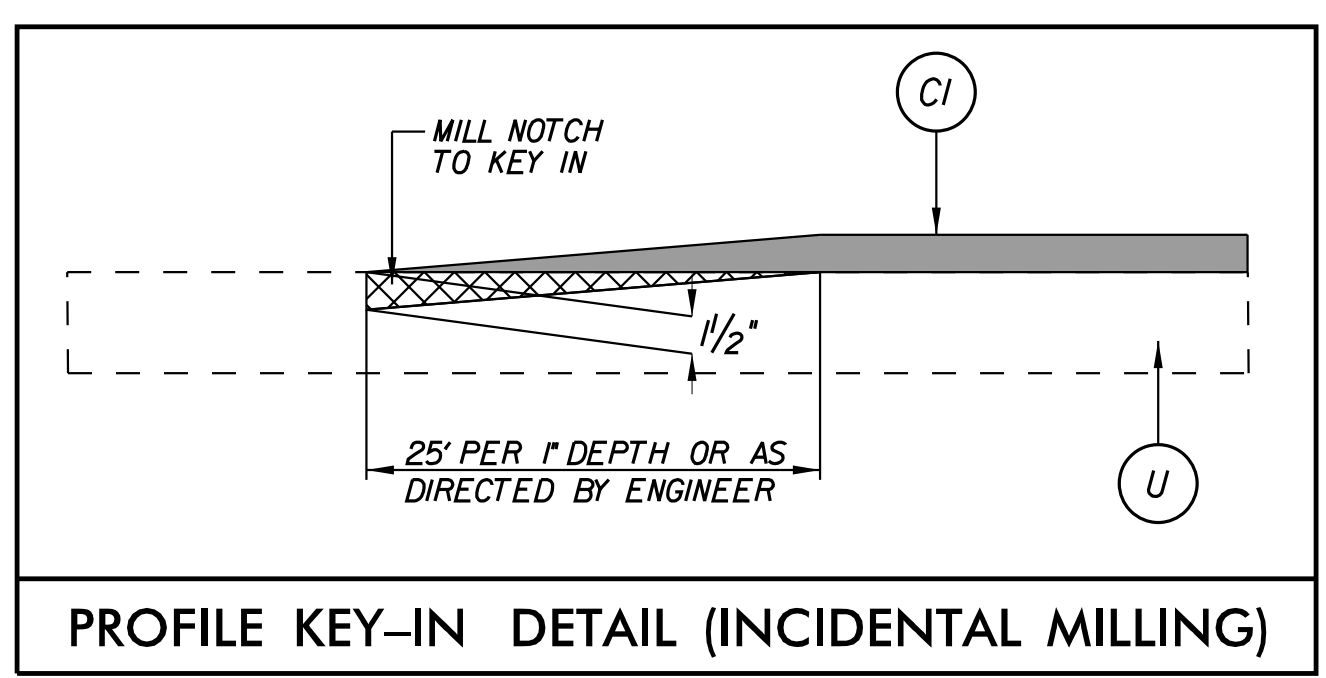
TYPICAL SECTION NO. 8
-YI- STA 10+24.31 TO 12+00.00



TYPICAL SECTION NO. 9
-YI- STA 12+23.00 TO 14+06.37



WEDGING DETAIL (W) FOR RESURFACING



PROFILE KEY-IN DETAIL (INCIDENTAL MILLING)

K:\RAL_Roadway\01036470 - NCSHP Driving Track Design\Roadway\Proj\01036470_rdy_ttyp.dgn 1/14/2019


COMPUTED BY: CDL DATE: 12/17/2018
 CHECKED BY: JJP DATE: 12/17/2018

SUMMARY OF EARTHWORK IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT EXCAVATION	UNSUITABLE EXCAVATION	EMBANKMENT + %	BORROW	TOTAL WASTE
-L- 9+70.00 TO 16+45.16	3789	3697	3651	2680	2542	7348
-RPA- 10+21.00 TO 14+93.89	2854	1153	0	1373	0	2635
-RPB- 10+14.55 TO 12+26.33	170	80	0	883	713	80
-RPC- 10+00.00 TO 12+10.49	3833	49	540	0	0	3882
-RPD- 10+00.00 TO 12+71.00	2917	0	2459	5	0	2912
-LPD- 10+00.00 TO 20+21.61	21093	422	0	2058	0	19457
-YI- 10+24.31 TO 12+00.00	32	0	0	0	0	32
-YI- 12+23.00 TO 14+06.37	2941	0	2249	31	0	2910
TOTALS	37629	5400	8899	7030	3255	39254
MATERIAL FOR SHOULDER CONSTRUCTION						
LOSS DUE TO CLEARING & GRUBBING						
ADDITIONAL UNDERCUT						
ROCK WASTE TO REPLACE BORROW						
ADJUST FOR ROCK WASTE						
WASTE IN LIEU OF BORROW					-3255	-3255
PROJECT TOTALS	37629	5400	9000	7030		36000
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT						
GRAND TOTALS	37629	5400	9000	7030		36000
SAY	37630	6100				

SHOULDER BERM GUTTER SUMMARY

SURVEY LINE	STATION	STATION	LENGTH
-L-	10+00.00	14+39.00	439
		TOTAL:	439
		SAY:	440

PROJECT REFERENCE NO. C-5600T	SHEET NO. 3B-1
	
421 FAYETTEVILLE STREET, SUITE 600 RALEIGH, NC 27601	
RIGHT-OF-WAY REV.	
CONST. REV.	

N = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
 TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
 FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
 W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
 G = GATING IMPACT ATTENUATOR TYPE TL-3
 NG = NON-GATING IMPACT ATTENUATOR TYPE TL-3

GUARDRAIL AND GUIDERAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH	FLARE LENGTH		W		ANCHORS					IMPACT ATTENUATOR TL-3	CABLE GUIDERAIL STRAIGHT	CABLE GUIDERAIL ANCHOR UNIT	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS			
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	GREU TL-2	GREU TL-3	GREU MEDIAN TL-3	TEMP GREU TL-3	CAT-1						EA	G	NG
-L-	10+00.00	12+18.75	LT	218.75					14'	11'-8"	50	6.25	1	1													
-LPD-	13+25.00	19+25.00	RT		300	300			4'	2'	25	25															
			SUBTOTAL	218.75	300	300																					
			LESS ANCHOR DEDUCTIONS																								
			GREU TL-2 2 @ 25'	=	50.00																						
			GREU TL-3 3 @ 50'	=	150.00																						
			CAT-1 1 @ 6.25'	=	6.25																						
			TOTAL	162.5	300	300																					
			SAY	180	300	300																					
-L-	12+29.00	14+39.00	LT						14'	11'-8"	25	25	1	1												CABLE GUIDERAIL	
			(CABLE) SUBTOTAL																								210 2
			LESS ANCHOR DEDUCTIONS																								
			ANCHOR UNIT 2 @ 25'	=	50.00																						
			(CABLE) TOTAL																								160
			(CABLE) SAY																								176
-LPD-	14+32.50	18+35.37	RT	625					4'	2'	50	50														TEMPORARY GUARDRAIL	
			SUBTOTAL	625																							
			LESS ANCHOR DEDUCTIONS																								
			GREU TL-3 2 @ 50'	=	100.00																						
			TOTAL	525																							
			SAY	537.5																							

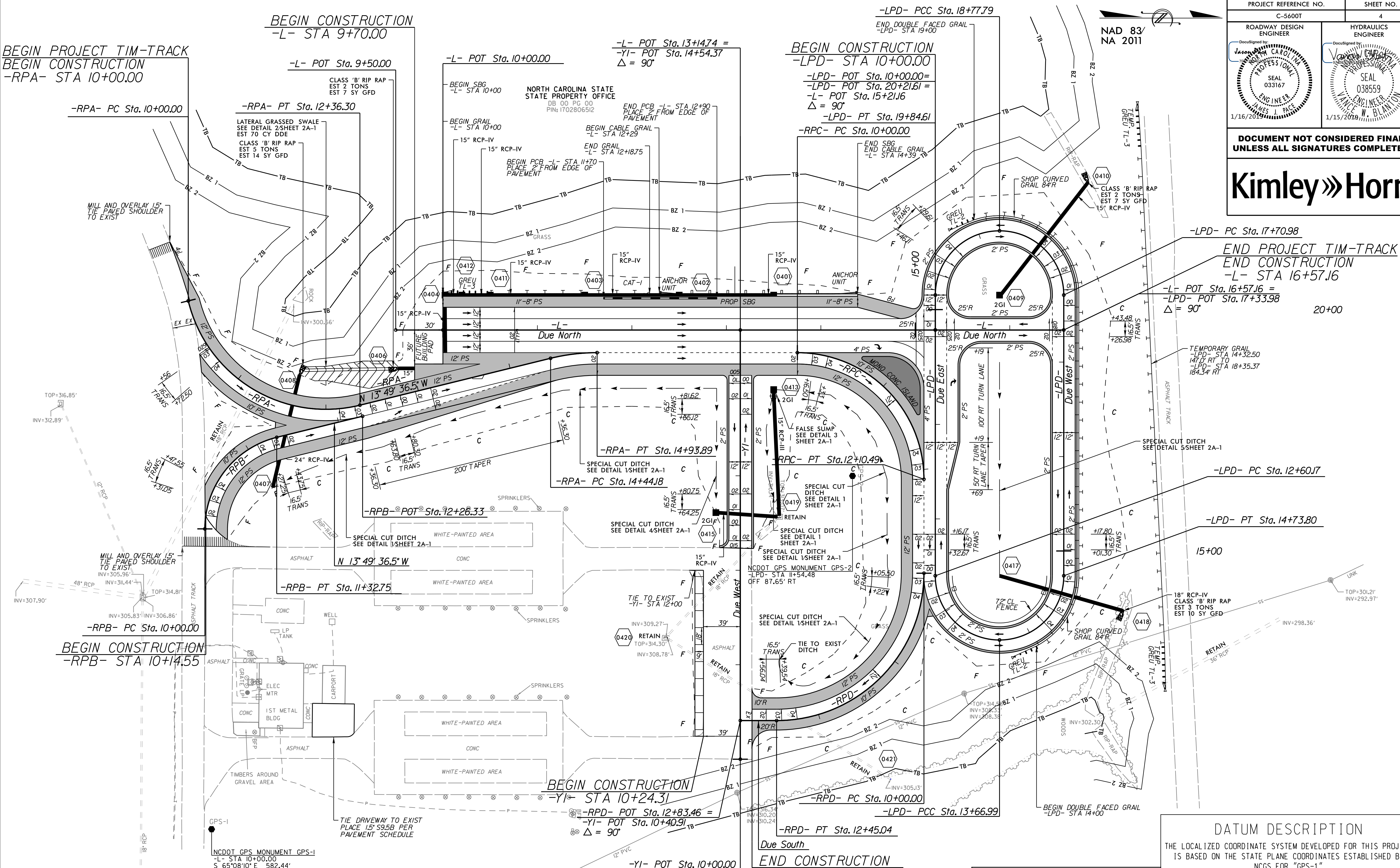
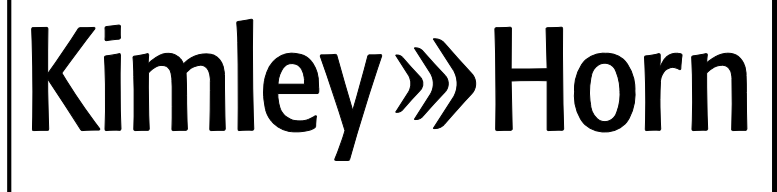
NOTE: APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, FINE GRADING, CLEARING AND GRUBBING, WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING."

NOTE: THESE EARTHWORK QUANTITIES ARE BASED IN PART ON SUBSURFACE DATA PROVIDED BY THE GEOTECHNICAL ENGINEERING UNIT.

1/14/2009

PROJECT REFERENCE NO. C-5600T	SHEET NO. 4
ROADWAY DESIGN ENGINEER James J. Pace	HYDRAULICS ENGINEER James W. Blanton
PROFESSIONAL SEAL 03167	PROFESSIONAL SEAL 038559
1/16/2019	1/15/2019

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



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1/14/2019

SEE SHEETS 5-7 FOR PROFILES

MILL AND TIE TO EXIST

NOTE:
1. RADI DIMENSIONS ARE TO THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED (APPLIES TO ALL SHEETS)

-RPA-	-RPB-	-RPC-	-RPD-	-LPD-
PI Sta 11+50.68	PI Sta 14+69.15	PI Sta 10+78.21	PI Sta 11+56.00	PI Sta 13+28.17
$\Delta = 90^{\circ}15'35.4"$ (LT)	$\Delta = 13^{\circ}49'36.5"$ (RT)	$\Delta = 76^{\circ}03'28.1"$ (RT)	$\Delta = 90^{\circ}00'00.0"$ (RT)	$\Delta = 90^{\circ}00'00.0"$ (LT)
D = 38'11'49.9"	D = 27'48'48.5"	D = 57'17'44.8"	D = 42'45'29.0"	D = 84'15'30.6"
L = 236.30'	L = 49.71'	L = 132.75'	L = 210.49'	L = 106.81'
T = 150.68'	T = 24.98'	T = 78.21'	T = 134.00'	T = 156.00'
R = 150.00'	R = 206.00'	R = 100.00'	R = 156.00'	R = 68.00'
DS = 20 MPH	DS = 25 MPH	DS = 20 MPH	DS = 25 MPH	DS = 15 MPH
SE = 0.04	SE = 0.04	SE = 0.04	SE = 0.04	SE = 0.04
RO = 66	RO = 70	RO = 66	RO = 66	RO = 66

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR "GPS-1"

WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF
 NORTHING: 719684.518(ft) EASTING: 2108890.137(ft)
 ELEVATION: 326.230(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999896470

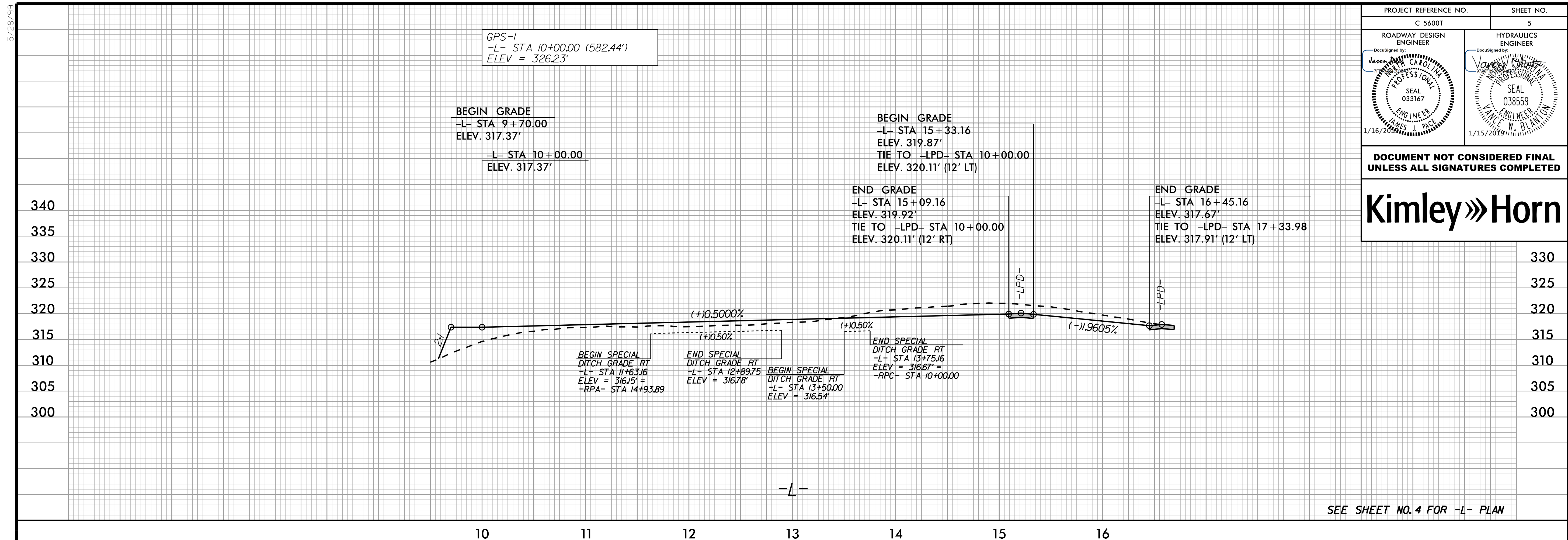
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS-1" TO -L- STATION 10+00.00 IS
 S 65°08'10" E 582.44'

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

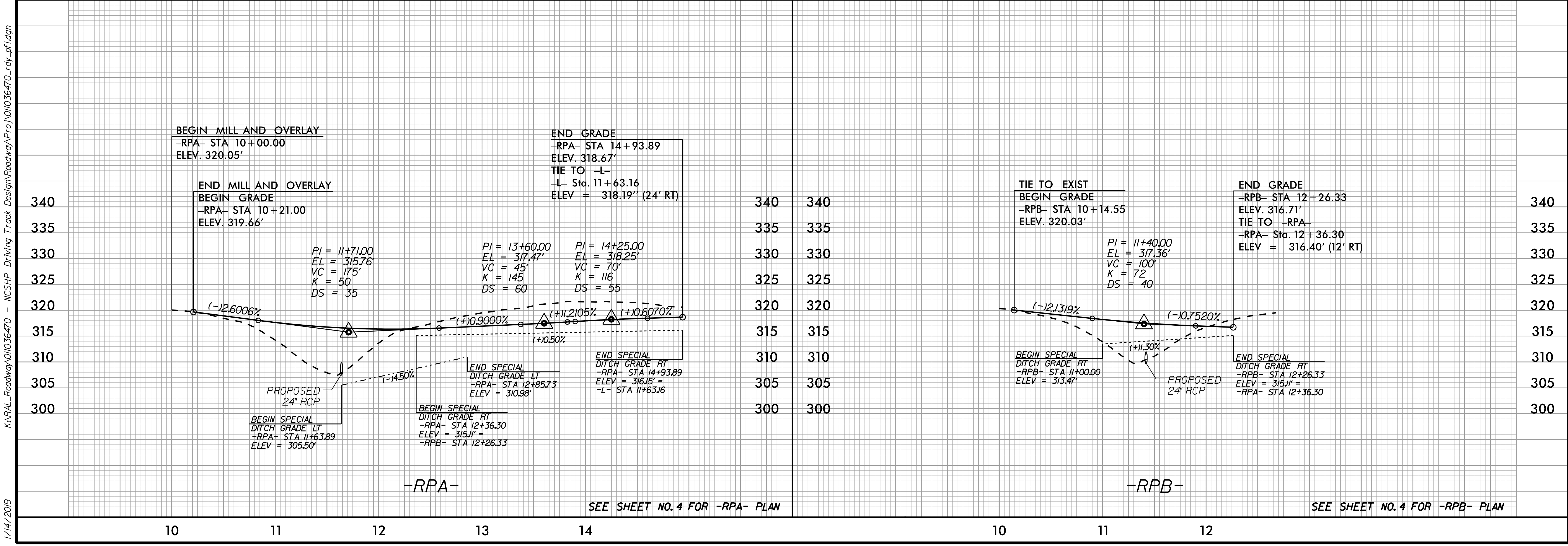
5/28/99

PROJECT REFERENCE NO. C-5600T	SHEET NO. 5
ROADWAY DESIGN ENGINEER DocuSigned by: Jason J. Pace Professional Seal SEAL 033167 ENGINEER JAMES J. PACE 1/16/2019	HYDRAULICS ENGINEER DocuSigned by: Vanessa Blanton Professional Seal SEAL 038559 ENGINEER VANESSA W. BLANTON 1/15/2019

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



SEE SHEET NO. 4 FOR -L- PLAN



SEE SHEET NO. 4 FOR -RPA- PLAN

SEE SHEET NO. 4 FOR -RPB- PLAN

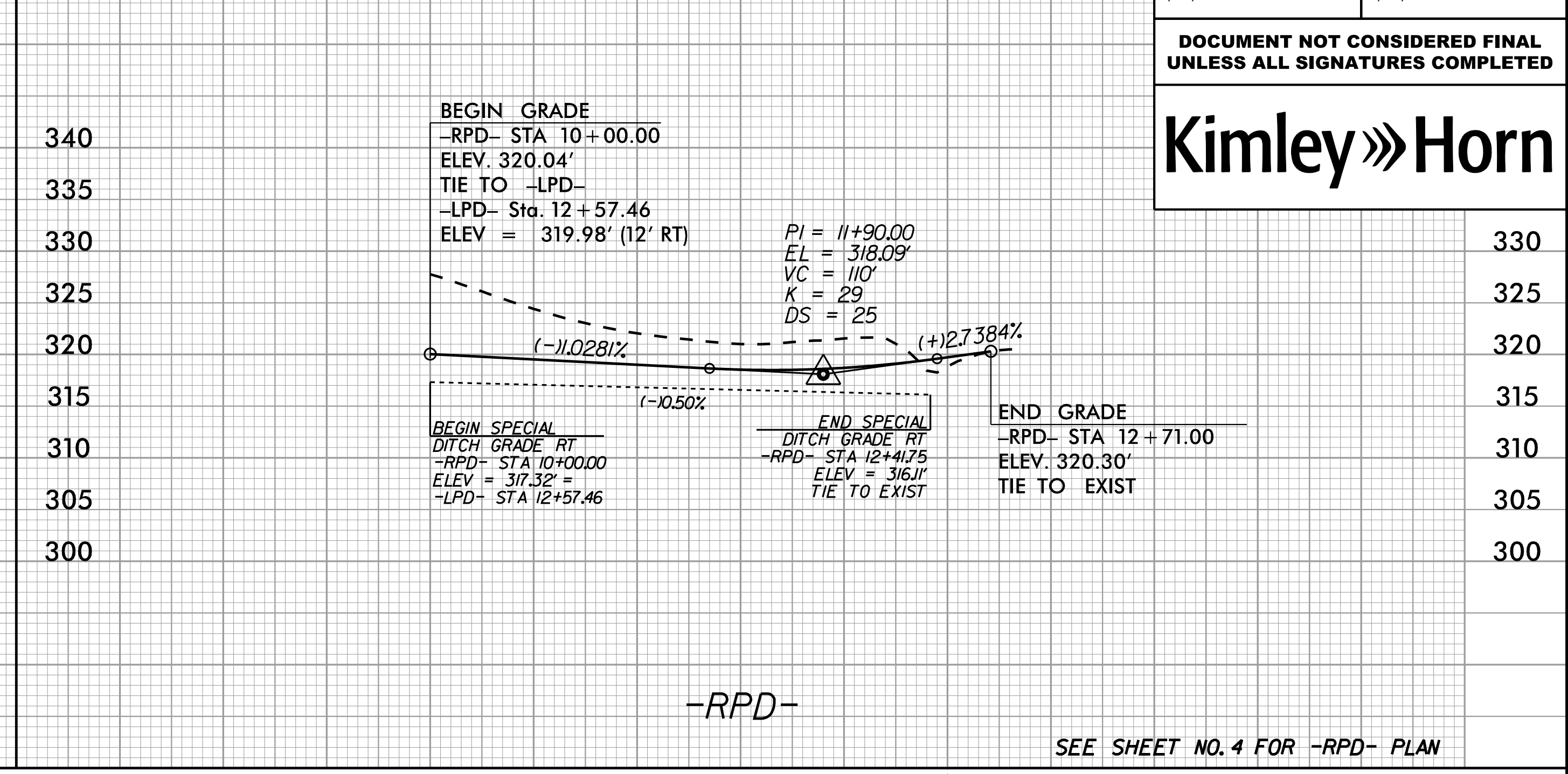
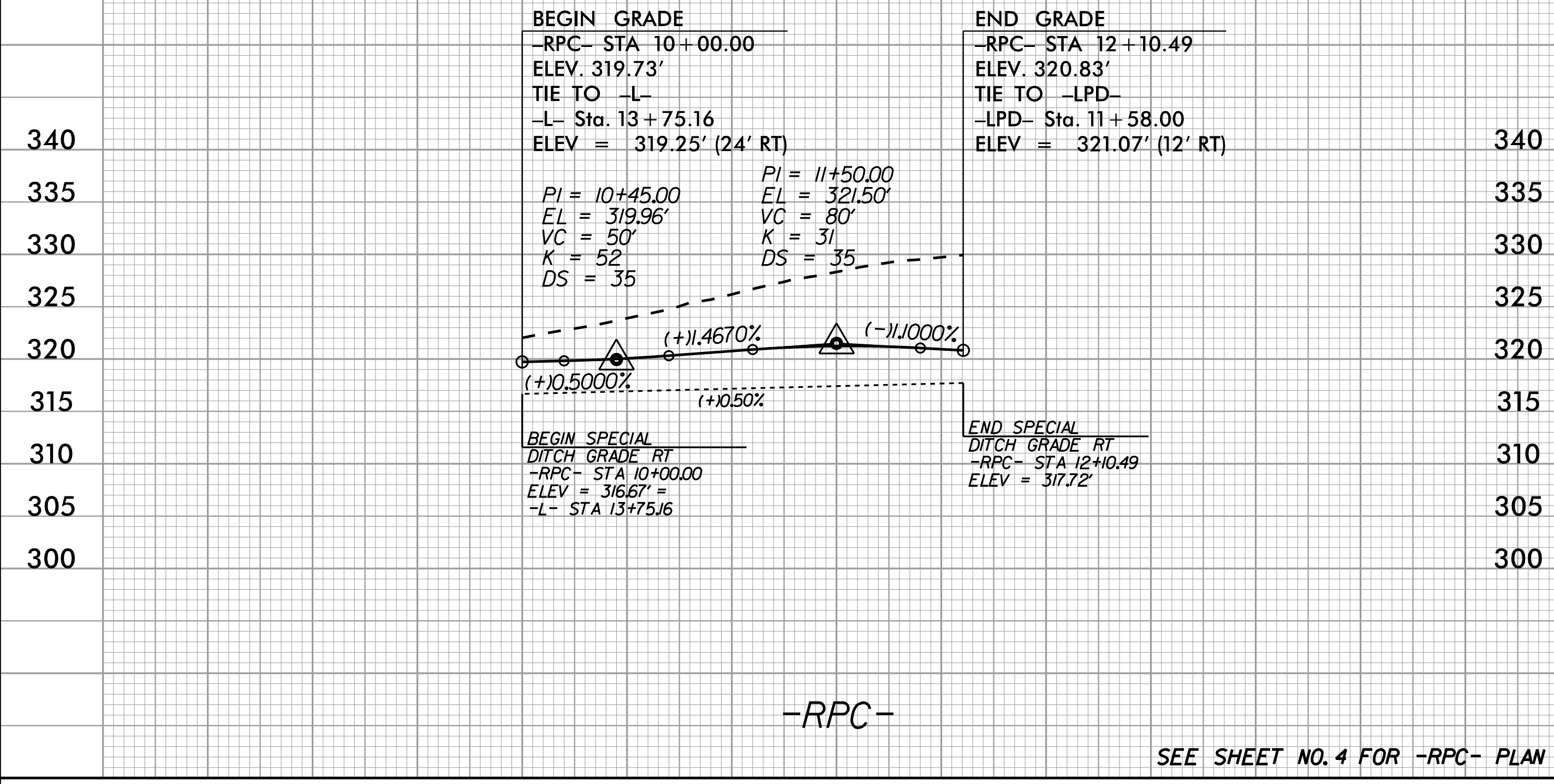
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1/14/2009

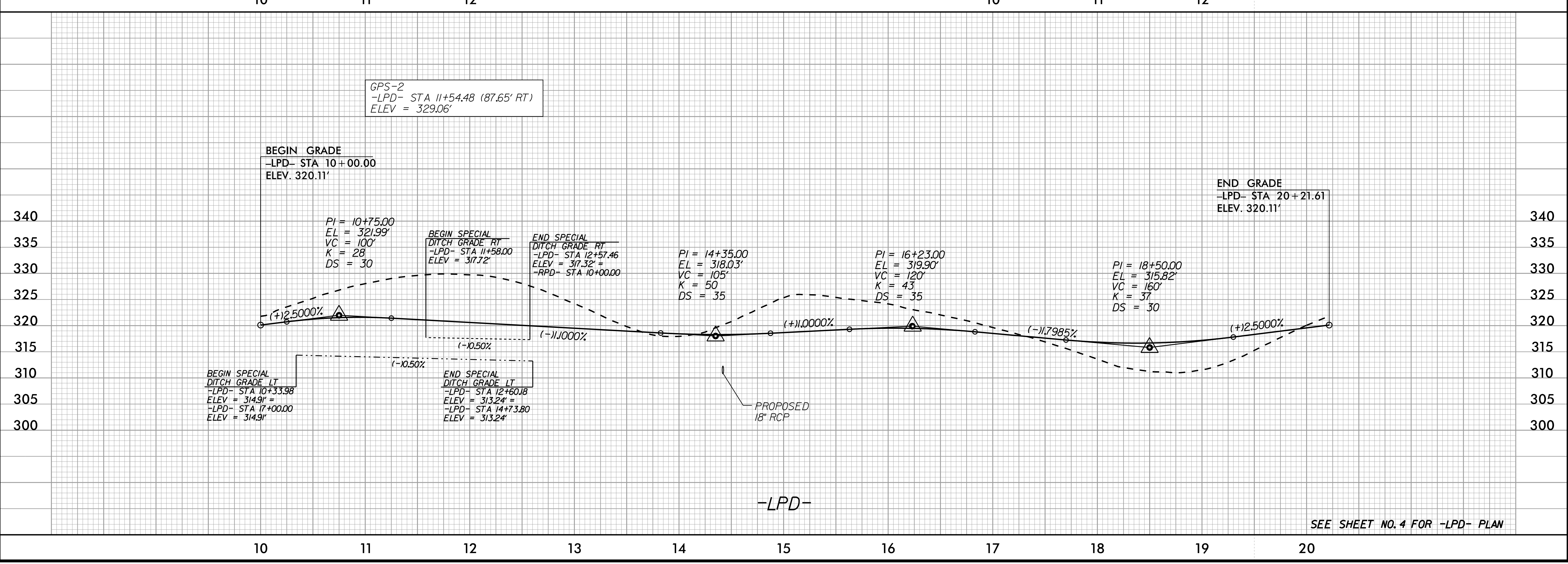
5/28/99

PROJECT REFERENCE NO. C-5600T	SHEET NO. 6
ROADWAY DESIGN ENGINEER Jason W. Blanton Professional Engineer SEAL 033167 1/16/2019	HYDRAULICS ENGINEER James J. Pace Professional Engineer SEAL 038559 1/15/2019

DOCUMENT NOT CONSIDERED FINAL
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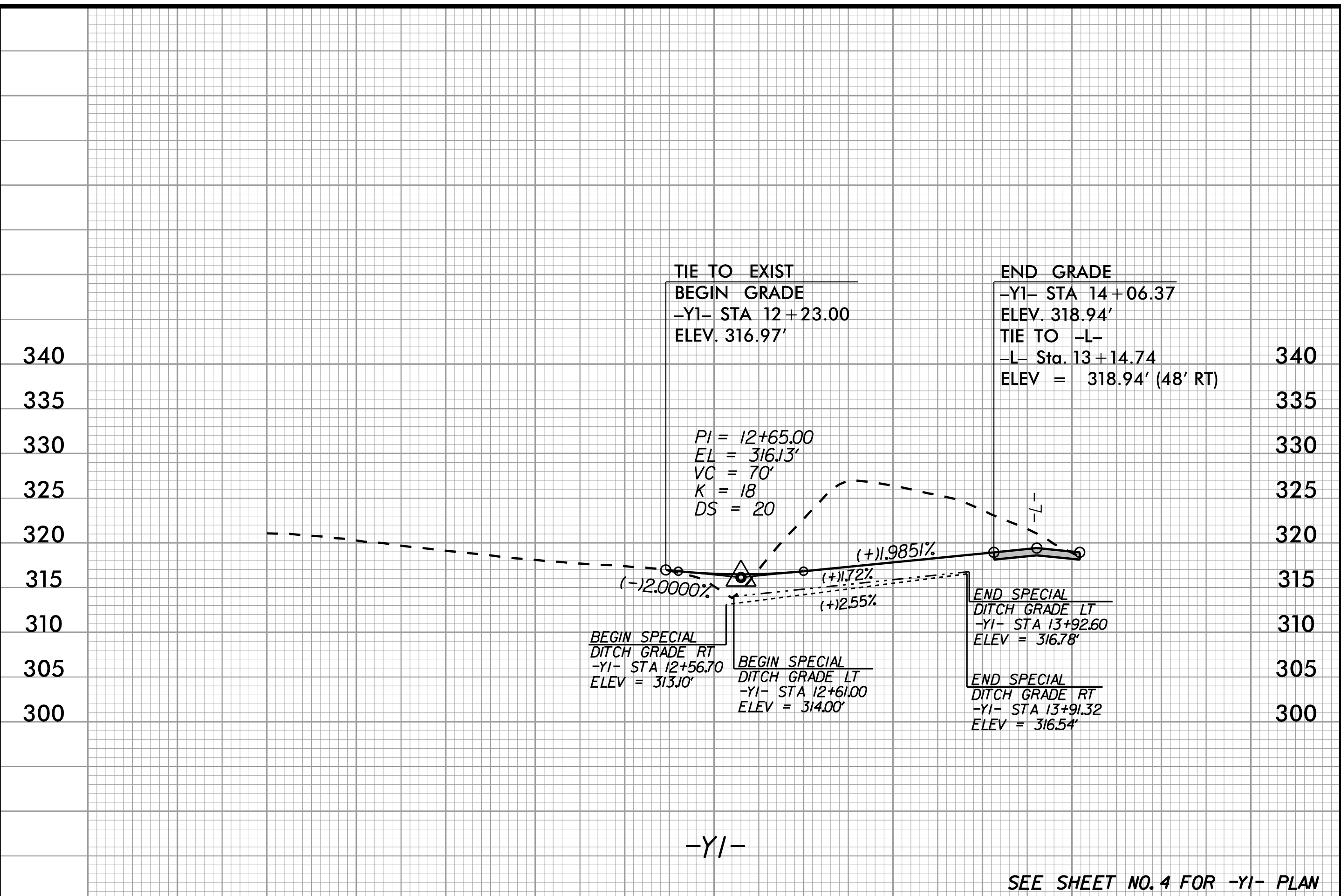


1/14/2009

5/28/99

PROJECT REFERENCE NO. C-5600T	SHEET NO. 7
ROADWAY DESIGN ENGINEER JAMES J. PACE SEAL 033167 1/16/2019	HYDRAULICS ENGINEER JIMMIE W. BLANTON SEAL 038559 1/15/2019

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



SEE SHEET NO. 4 FOR -YI- PLAN

10 11 12 13 14

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1/14/2009

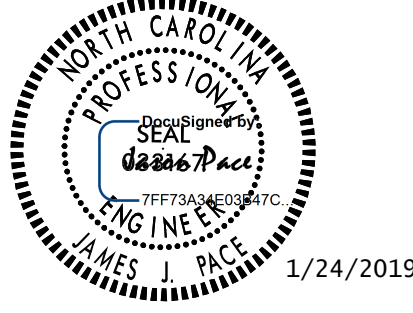
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CONTRACT: DE00285 PROJECT: TIM TRAINING SITE

**STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING PLAN
WAKE COUNTY**

**LOCATION: THE NORTH CAROLINA STATE HIGHWAY PATROL DRIVING FACILITY
LOACTED ON E TRYON ROAD BETWEEN HAMMOND ROAD AND
GARNER ROAD IN WAKE COUNTY, NC**

<small>PROJECT NO.</small> C-5600T	<small>SHEET NO.</small> PMP-1
<small>APPROVED:</small> _____	
<small>DATE:</small> _____	
	
<small>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</small>	

INDEX

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
PMP-1	PAVEMENT MARKING PLAN TITLE AND SCHEDULE
PMP-2	PAVEMENT MARKING DETAIL

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 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 - 2 LANE AND MULTILANE ROADWAYS
1205.03	PAVEMENT MARKINGS - INTERCHANGES
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.08	PAVEMENT MARKINGS - SYMBOL AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY
1261.01	GUARDRAIL AND BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATOR TYPES
1262.01	GUARDRAIL END DELINEATION

**PAVEMENT
MARKING SCHEDULE**

<u>SYMBOL</u>	<u>DESCRIPTION</u>
	FINAL PAVEMENT MARKINGS
	THERMOPLASTIC (4", 90 MILS)
TA	WHITE EDGELINE
TB	YELLOW EDGELINE
	THERMOPLASTIC (4", 120 MILS)
TC	WHITE 10' SKIP
TD	WHITE 3' - 9'/SP MINISKIP
TE	WHITE SOLID LANE LINE
TI	YELLOW 2'-6' MINISKIP
T9	YELLOW DOUBLE CENTER LINE
	THERMOPLASTIC (8", 90 MILS)
TN	WHITE GORELINE
	THERMOPLASTIC (24", 120 MILS)
T2	WHITE STOPBAR
	THERMOPLASTIC SYMBOLS (90 MILS)
UB	RIGHT TURN ARROW
UC	STRAIGHT ARROW
	POLYUREA (4")
VA	WHITE EDGELINE

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:

<u>ROAD NAME</u>	<u>MARKING</u>	<u>MARKER</u>
-L-	THERMOPLASTIC	N/A
-RPA-	THERMOPLASTIC	N/A
-RPB-	THERMOPLASTIC	N/A
-RPC-	THERMOPLASTIC	N/A
-RPD-	THERMOPLASTIC	N/A
-LPD-	THERMOPLASTIC	N/A
-Y1-	THERMOPLASTIC	N/A

B) 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.

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

D) ALL TRAVEL LANES ARE 12' WIDTH UNLESS OTHERWISE NOTED.

PLAN PREPARED BY: Kimley-Horn and Associates

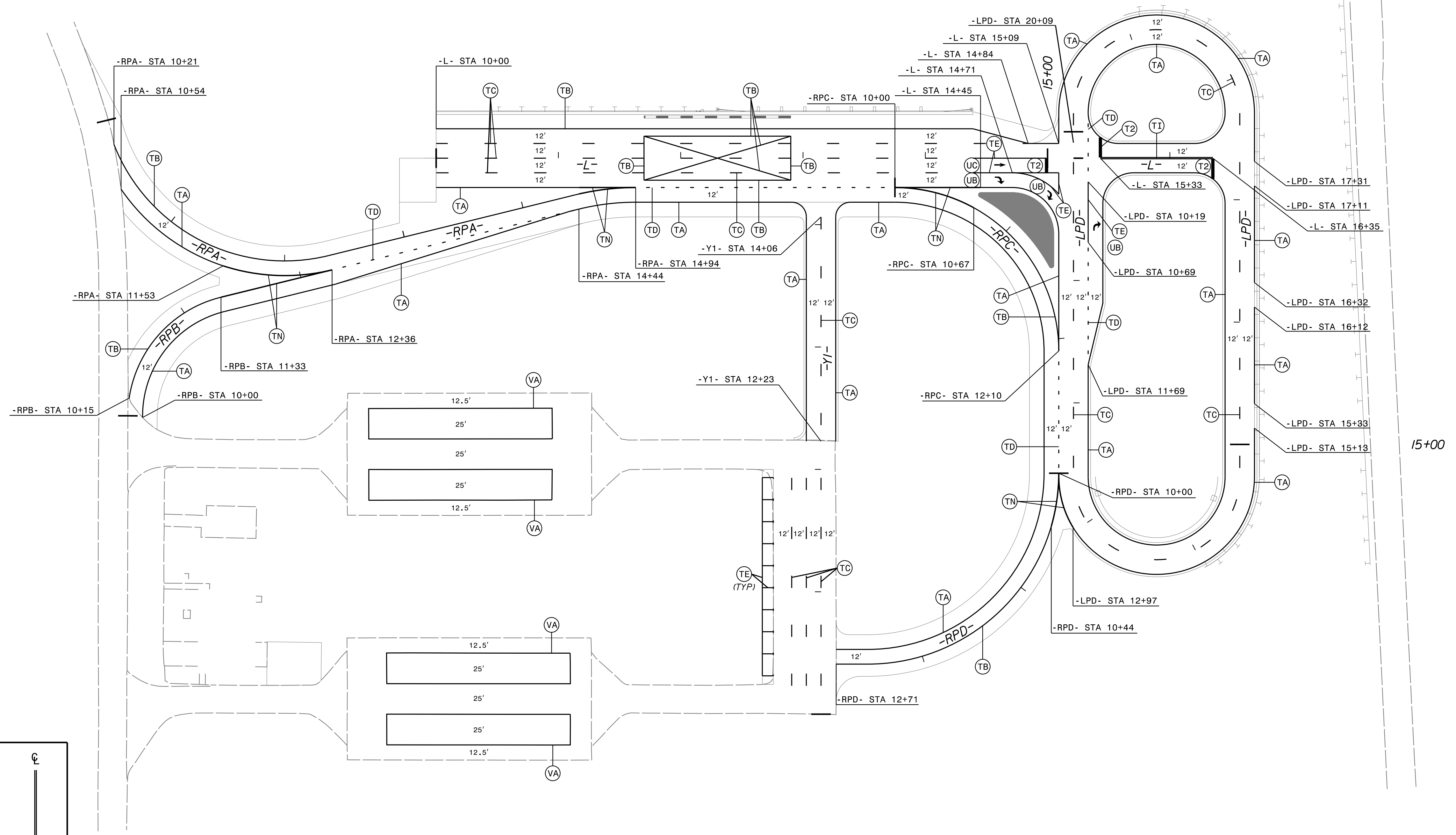
P. O. BOX 3088
RALEIGH, NC 27636
PE NO. F-002

James J. Pace P.E.	PROJECT DESIGN ENGINEER
Caleb D. Lowman E.I.	DESIGNER

Kimley»Horn

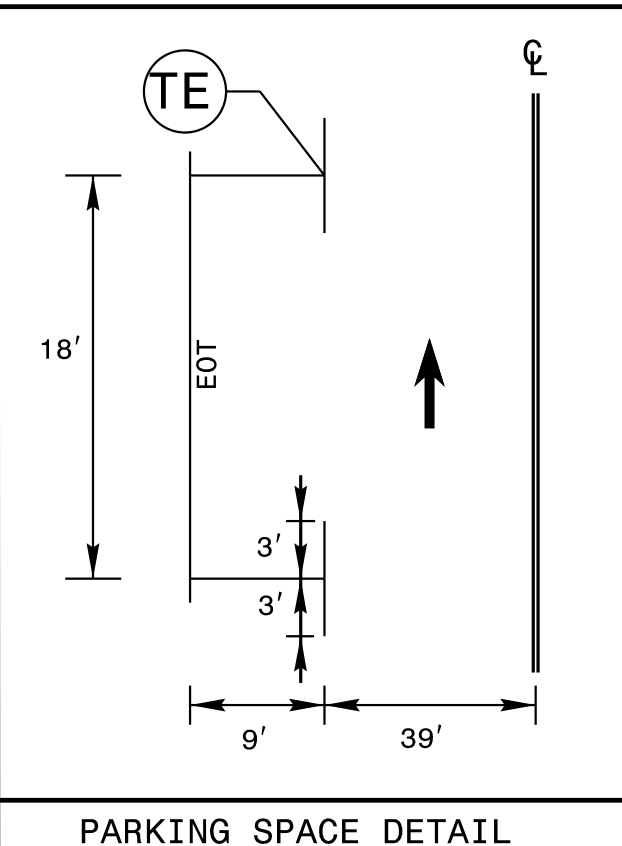
PROJECT NO. C-5600T	SHEET NO. PMP-2
APPROVED: _____	
DATE: _____	
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NAD 83/
NA 2011



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1/14/2019

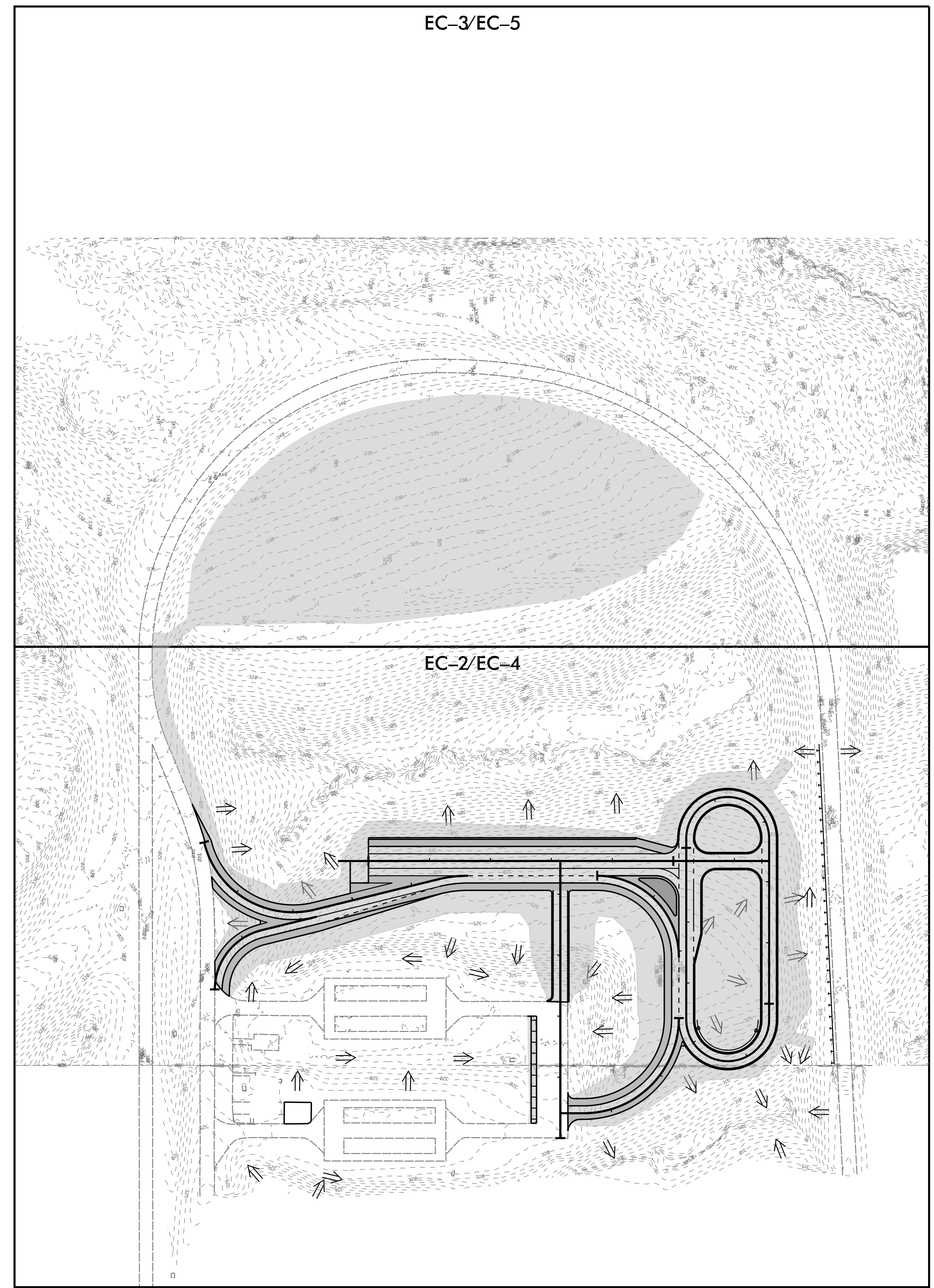


Kimley»Horn

© 2018 Post Office Box 33068
Raleigh, North Carolina 27636
PE NO. F-0102

PAVEMENT MARKING DETAIL
-L- STA. 10+00.00 TO STA 16+57.16

Total Disturbed Area (shaded) = 11.52 acres



NARRATIVE

Project Description

The Traffic Incident Management (TIM) Training Site consists of the addition of approximately 3,100 linear feet of different roadway typical sections that will be designed for the existing NC State Highway Patrol (SHP) Driving Track and will be utilized for various NCDOT and Interagency training courses.

The project is located in Raleigh, Wake County, North Carolina. Approximately 5.88 acres will be disturbed during the construction of the project.

Site Description

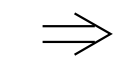
The site is generally rolling. Current land use in the area is primarily underdeveloped. This site has one subwatershed, Wildcat Branch with a first order headwater stream and a small unnamed tributary. This area is located in the larger Neuse River Basin which outlets into Pamlico Sound.

Soils

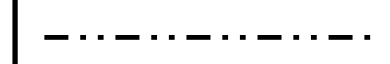
The soil types throughout the project limits generally consist of udorthents loamy and pacolet sandy loam. See the soils map in the map section and the NRCS Soil Report for further details.

IMPERVIOUS AND PERVIOUS SURFACES IN DISTURBED AREAS

PROPOSED IMPERVIOUS SURFACE = 2.77 AC
 PROPOSED PERVIOUS SURFACE = 8.75 AC



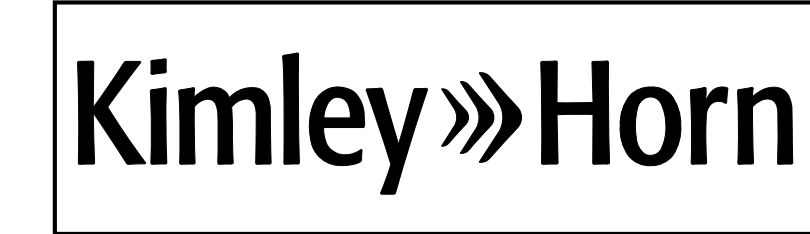
DIRECTION OF FLOW



PROJECT DENUDED AREAS

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1/30/2019



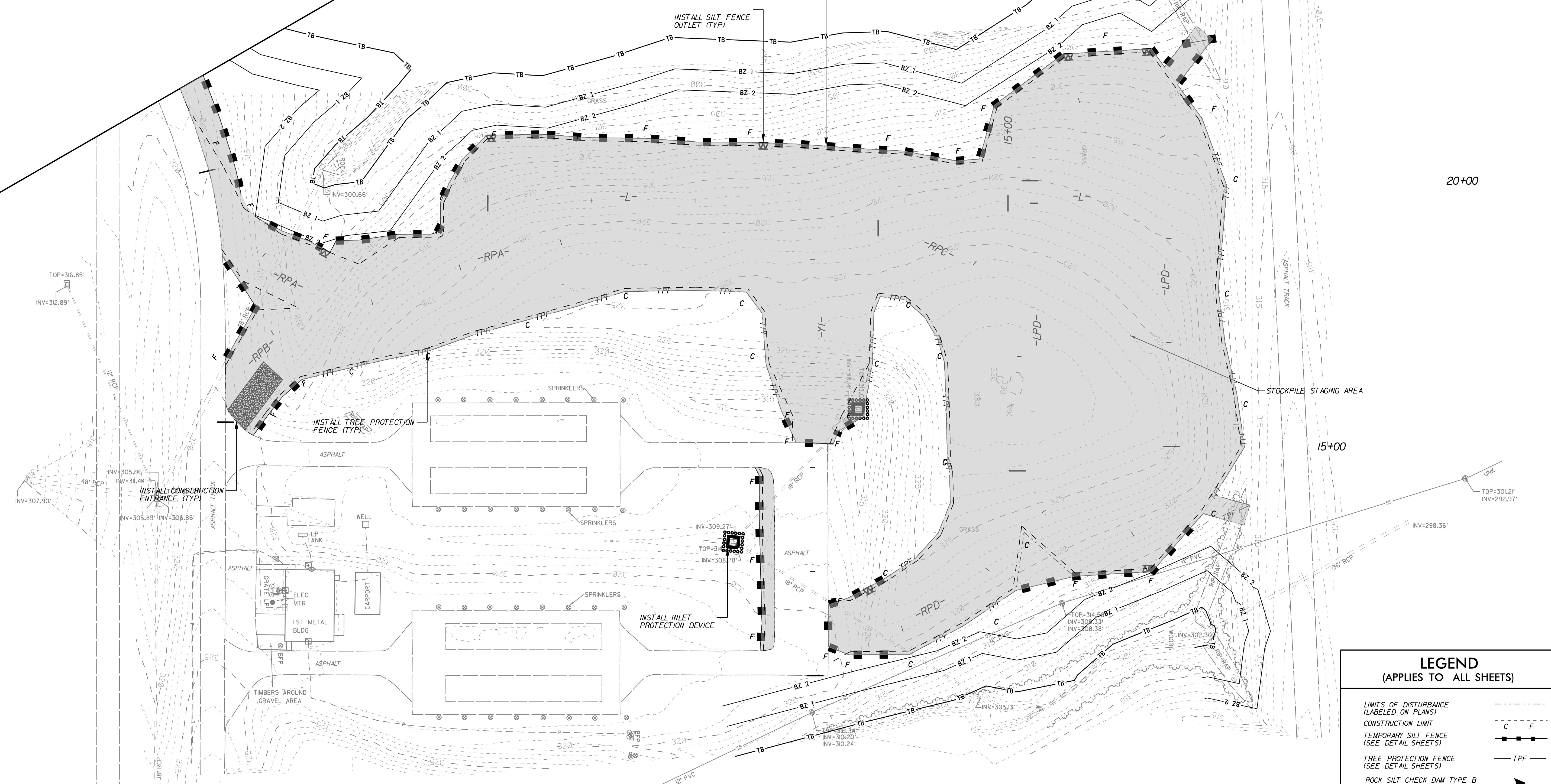
NOTE: SLOPES ON THIS PROJECT ARE PRIMARILY 2:1. CONTRACTOR SHALL PROVIDE SOIL STABILIZATION ON ALL SLOPES WITHIN 7 DAYS OR AS REQUIRED BY NPDES GENERAL STORMWATER PERMIT. REFER TO CROSS SECTIONS AND MATTING SUMMARY SHEET.

LIMITS OF DISTURBANCE SHOWN SHADED ON SHEET EC-1. SYMBOLOGY IS SHOWN IN LEGEND AND IT IS DELINEATED ON THE REMAINING EROSION CONTROL PLAN SHEETS. CONTRACTOR SHALL NOT IMPACT ANY AREA THAT IS WITHIN THE BUFFER ZONES.

MATCH LINE SHEET EC-4

NORTH CAROLINA STATE
STATE PROPERTY OFFICE
DB 00 PG 00
PIN: 1702806512

NAD 83/
NA 2011



**NPDES GENERAL STORMWATER PERMIT
SOIL STABILIZATION TIMEFRAMES**

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HOW) 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 HOW ZONES.

GENERAL NOTES

1) CONTRACTOR TO ENSURE THAT ALL ROADWAYS ADJACENT TO THIS PROJECT ARE FREE OF DEBRIS, DIRT, AND EQUIPMENT DURING THE PROJECT DURATION UNLESS DIRECTED BY THE ENGINEER. ANY DAMAGE TO EXISTING AT CONSTRUCTION ENTRANCES MUST BE REPAIRED AT THE CONTRACTORS EXPENSE.
2) ADDITIONAL MATTING MAY BE USED ON STEEP SLOPES AS DIRECTED BY THE ENGINEER.

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 1, 2016 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

CULVERT EROSION CONTROL PHASING:
1. CONTRACTOR TO INSTALL ALL EROSION CONTROL MEASURES BEFORE ANY CLEARING AND GRUBBING IS PERFORMED.
2. AFTER STORMDRAIN SYSTEMS ARE SET, CONTRACTOR IS TO STABILIZE ALL DISTURBED AREAS AND SLOPES USING EROSION CONTROL MATTING, SEEDING, AND MULCH TO MAINTAIN A VIGOROUS, DENSE, VEGETATIVE COVER.

PIPES SHALL BE INSTALLED IN THE DRY (WITH A MIN. 3 DAYS OF DRY WEATHER DURING INSTALLATION); CONTACT ENGINEER AND INSPECTOR 24 HOURS PRIOR TO INSTALLATION OF STORMDRAIN SYSTEMS.

**LEGEND
(APPLIES TO ALL SHEETS)**

- LIMITS OF DISTURBANCE (LABELED ON PLANS)
- CONSTRUCTION LIMIT
- TEMPORARY SILT FENCE (SEE DETAIL SHEETS)
- TREE PROTECTION FENCE (SEE DETAIL SHEETS)
- ROCK SILT CHECK DAM TYPE B (SEE NCDOT STD 1633.02)
- STORM DRAIN INLET PROTECTION (SEE DETAIL SHEETS)
- SPECIAL SEDIMENT CONTROL FENCE/ SILT FENCE OUTLET (SEE DETAIL SHEETS)
- EXISTING CONTOUR
- STORM DRAIN INLET PROTECTION (SEE DETAIL SHEETS)
- CONCRETE WASHOUT
- TEMPORARY CONSTRUCTION ENTRANCE (SEE DETAIL SHEETS)

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1/30/2019

NOTE: SLOPES ON THIS PROJECT ARE PRIMARILY 2:1. CONTRACTOR SHALL PROVIDE SOIL STABILIZATION ON ALL SLOPES WITHIN 7 DAYS OR AS REQUIRED BY NPDES GENERAL STORMWATER PERMIT. REFER TO CROSS SECTIONS AND MATTING SUMMARY SHEET.

NPDES GENERAL STORMWATER PERMIT SOIL STABILIZATION TIMEFRAMES

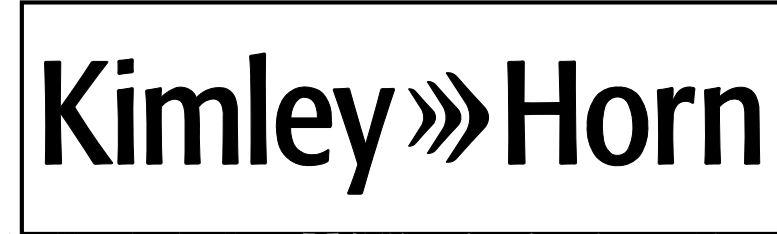
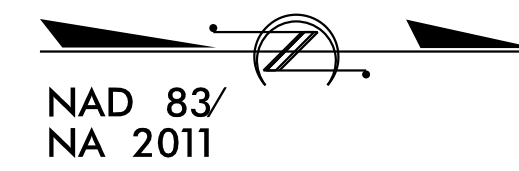
SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HOW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS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

GENERAL NOTES

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 2) ADDITIONAL MATTING MAY BE USED ON STEEP SLOPES AS DIRECTED BY THE ENGINEER.

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PROJECT REFERENCE NO. C-5600T	SHEET NO. EC-3-CLEARING
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LIMITS OF DISTURBANCE SHOWN SHADED ON SHEET EC-1. SYMBOLY IS SHOWN IN LEGEND AND IT IS DELINEATED ON THE REMAINING EROSION CONTROL PLAN SHEETS. CONTRACTOR SHALL NOT IMPACT ANY AREA THAT IS WITHIN THE BUFFER ZONES.

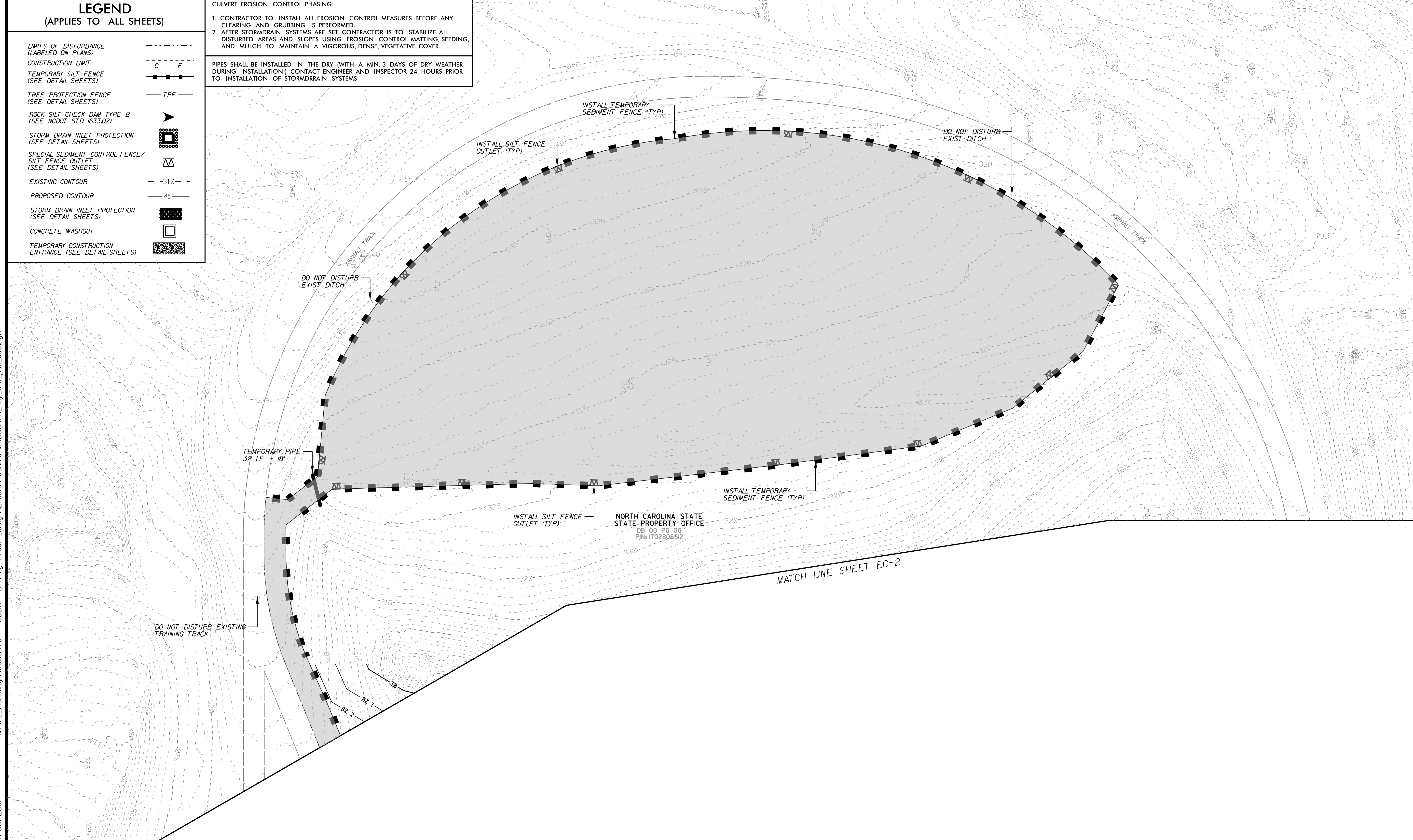
LEGEND (APPLIES TO ALL SHEETS)

- LIMITS OF DISTURBANCE (LABELED ON PLANS)
- CONSTRUCTION LIMIT
- TEMPORARY SILT FENCE (SEE DETAIL SHEETS)
- TREE PROTECTION FENCE (SEE DETAIL SHEETS)
- ROCK SILT CHECK DAM TYPE B (SEE NCDOT STD 1633.02)
- STORM DRAIN INLET PROTECTION (SEE DETAIL SHEETS)
- SPECIAL SEDIMENT CONTROL FENCE/ SILT FENCE OUTLET (SEE DETAIL SHEETS)
- EXISTING CONTOUR
- PROPOSED CONTOUR
- STORM DRAIN INLET PROTECTION (SEE DETAIL SHEETS)
- CONCRETE WASHOUT
- TEMPORARY CONSTRUCTION ENTRANCE (SEE DETAIL SHEETS)

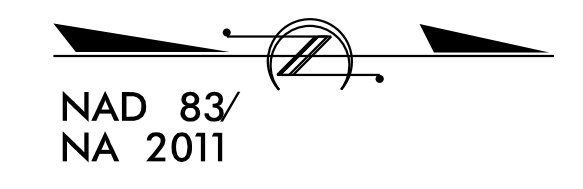
CULVERT EROSION CONTROL PHASING:

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PIPES SHALL BE INSTALLED IN THE DRY (WITH A MIN. 3 DAYS OF DRY WEATHER DURING INSTALLATION.) CONTACT ENGINEER AND INSPECTOR 24 HOURS PRIOR TO INSTALLATION OF STORMDRAIN SYSTEMS.



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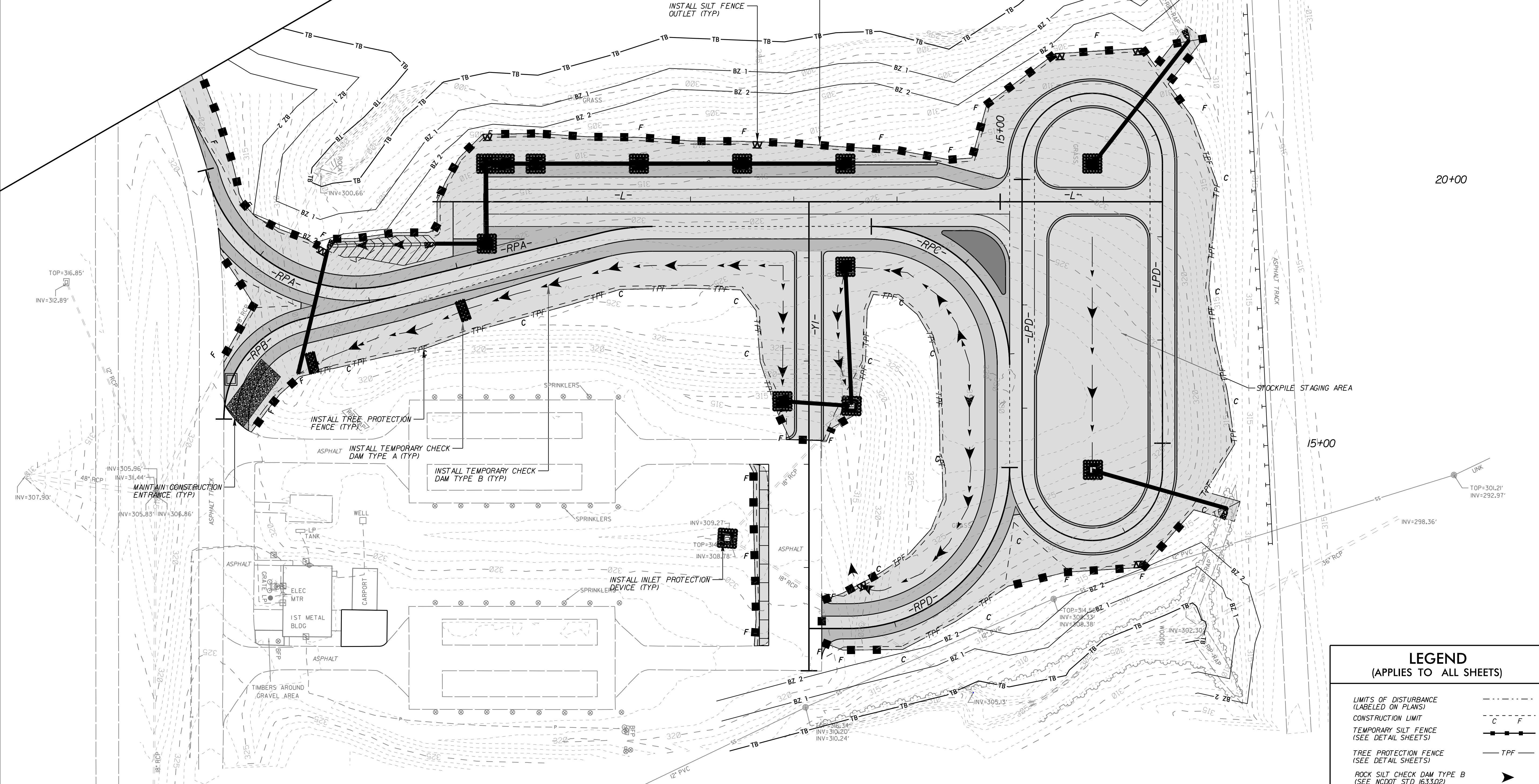


NOTE: SLOPES ON THIS PROJECT ARE PRIMARILY 2:1. CONTRACTOR SHALL PROVIDE SOIL STABILIZATION ON ALL SLOPES WITHIN 7 DAYS OR AS REQUIRED BY NPDES GENERAL STORMWATER PERMIT. REFER TO CROSS SECTIONS AND MATTING SUMMARY SHEET.

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MATCH LINE SHEET EC-5

NORTH CAROLINA STATE
STATE PROPERTY OFFICE
DB 00 PG 00
PIN: 1702806512



**NPDES GENERAL STORMWATER PERMIT
SOIL STABILIZATION TIMEFRAMES**

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HOW) ZONES	7 DAYS	NONE
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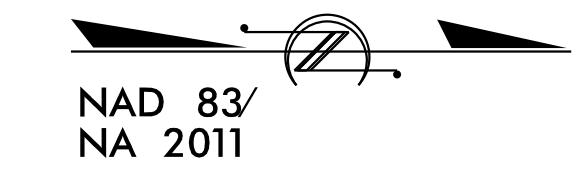
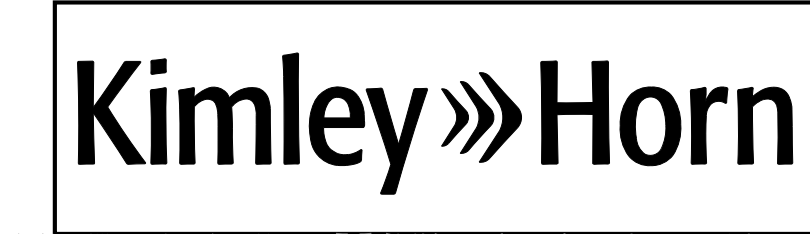
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**LEGEND
(APPLIES TO ALL SHEETS)**

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- CONSTRUCTION LIMIT
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- EXISTING CONTOUR
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- CONCRETE WASHOUT
- TEMPORARY CONSTRUCTION ENTRANCE (SEE DETAIL SHEETS)

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**NPDES GENERAL STORMWATER PERMIT
SOIL STABILIZATION TIMEFRAMES**

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
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**LEGEND
(APPLIES TO ALL SHEETS)**

LIMITS OF DISTURBANCE (LABELED ON PLANS) ————

CONSTRUCTION LIMIT — C — F —

TEMPORARY SILT FENCE (SEE DETAIL SHEETS) ————

TREE PROTECTION FENCE (SEE DETAIL SHEETS) — TPF —

ROCK SILT CHECK DAM TYPE B (SEE NCDOT STD 1633.02) ————

STORM DRAIN INLET PROTECTION (SEE DETAIL SHEETS) ————

SPECIAL SEDIMENT CONTROL FENCE/ SILT FENCE OUTLET (SEE DETAIL SHEETS) ————

EXISTING CONTOUR — -310 - -

PROPOSED CONTOUR — -45 - -

STORM DRAIN INLET PROTECTION (SEE DETAIL SHEETS) ————

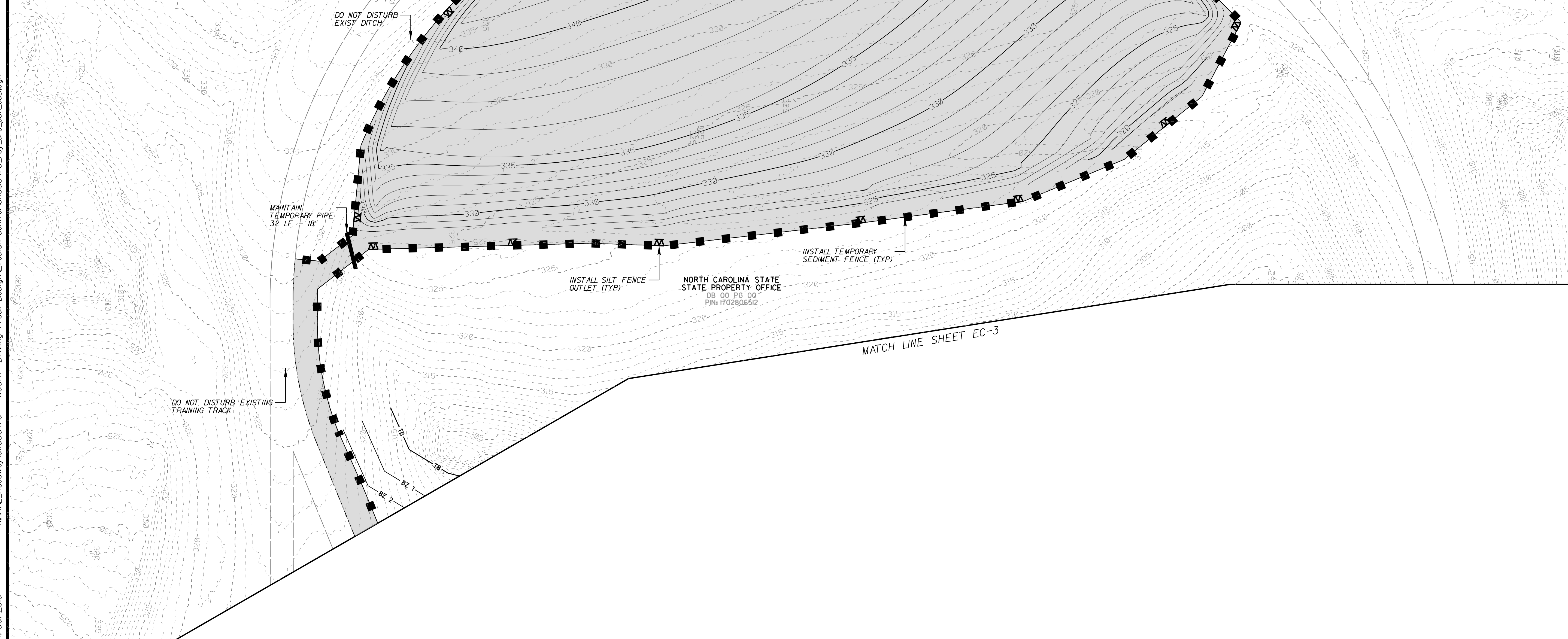
CONCRETE WASHOUT ————

TEMPORARY CONSTRUCTION ENTRANCE (SEE DETAIL SHEETS) ————

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CONSTRUCTION SEQUENCE

CONSTRUCTION SPECIFICATIONS

1. Hold preconstruction conference at least one week prior to starting construction and invite NCDEMLR LOS contact number is (919) 791-4200, in addition, contact the DEMLR Raleigh Regional Office at least 48 hours prior to commencing the land-disturbing activity using the aforementioned contact number.
2. Flag the work limits for protection.
3. Prior to any land disturbing (including demolition) activities, install silt/tree protection fence, construction entrance, place fine layer of sand, screenings, or fines on pavement prior to deposition of any excavated materials, and all other erosion control devices. Maintain all driveways by temporary stone.
4. In accordance with the erosion control plans, grade roadway and sidewalks, install storm drain, and place reinforced silt fence as shown. Stabilize all disturbed areas at the end of each work day. Place additional erosion control matting and stabilize 2:1 slopes as indicated. Modify silt fence placement around driveways and outlets as necessary, place silt fence around all temporary crossings and culverts as needed.
5. Complete final grading for roadway and sidewalk.
6. Finish grading of slopes, topsoil critical areas and permanently vegetate, seed and mulch.
7. All graded areas and bare soils will be seeded, fertilized and mulched according to NCDOT specifications to maintain a vigorous, dense, vegetative cover within 7 to 14 days or sooner of completion of any phase of grading. Refer to the latest NPDES Rules dated August 2011 for more information on ground stabilization requirements. In summary, critical areas should be stabilized by the end of day. Perimeter dikes, swales, ditches, slopes steeper than 3:1, and high quality (HQW) zones should be stabilized within 7 days. All other areas and slopes shall be stabilized within 14 days. If work on the project ceases for more than the above mentioned length of time, all disturbed areas shall have temporary vegetative ground cover established and erosion control devices maintained.
8. All erosion and sediment control practices will be inspected weekly and after rainfall events. Needed repairs will be made immediately.
9. Estimated time before final stabilization is 6 months.
10. Site includes approximately 11.52 acres of permanent vegetation area.
11. AFTER SITE IS STABILIZED, construction entrances and construction staging and material area stockpile areas, and all other erosion control devices shall be removed, restored as existing, and permanently vegetated as described in the maintenance and vegetative plan. Contractor must receive permission by project inspector before any measures are removed.

MAINTENANCE

Follow the construction sequence throughout project development. Adequate erosion and sediment control measures must be installed, maintained and adjusted as needed during the demolition or clearing and grubbing phases as well as throughout the life of and until permanent vegetation on the project is established. When changes in construction activities are needed, amend the sequence schedule in advance to maintain management control.

Notification of Land Resources Sediment and Erosion Control Self-Inspection Program:

The Sedimentation Pollution Control Act was amended in 2006 to require that persons responsible for land-disturbing activities inspect a project after each phase of the project to make sure that the approved erosion and sedimentation control plan is being followed. Rules detailing the documentation of these inspections took effect October 1, 2010. To simplify documentation of Self-Inspection Reports and NPDES Self-Monitoring Reports, a combined form is now available. The new form was developed to satisfy the requirements of the Sedimentation Pollution Control Act and the NPDES Stormwater Permit for Construction Activities, NCG 01000, beginning August 1, 2013. The Division of Energy, Mineral, and Land Resources is responsible for administering both the SPCA and the NPDES Stormwater Permit for Construction Activities, NCG 01000. The combined form should make it easier to comply with self-inspection requirements.

The Combined Self-Monitoring form is available as a PDF and Word document from the Land Quality web site, <http://web.site.htm> about/divisions/energy-mineral-land-sources/erosion-sediment-control/forms

If you have questions, please contact the Land Quality Section at a DENR Regional Office at 919-791-4200.

If the same person conducts the land-disturbing activity & any related borrow or waste activity, the related borrow or waste activity shall constitute part of the land-disturbing activity unless the borrow or waste activity is regulated under the Mining Act of 1971, or is a landfill regulated by the Division of Waste Management. If the land-disturbing activity and any related borrow or waste activity are not conducted by the same person, they shall be considered separate land-disturbing activities and must be permitted either through the Sedimentation Pollution Control Act as a one-use borrow site or through the Mining Act.

MAINTENANCE PLAN

1. The Contractor shall check all erosion and sediment control practices for stability and operation following every runoff producing rainfall but in no case less than once every week. Any needed repairs will be made immediately by the Contractor to maintain all practices as designed. Also per National Pollutant Discharge Elimination System (NPDES) general stormwater permit, a rain gauge must be installed on site. The rain gauge must be kept onsite and inspections by the Contractor must be made and logged after every half inch of rainfall and once a week. The Contractor shall maintain a copy of the approved E&SC plan with approval letter, copies of any 401/404 documents from DWR/USACE, a copy of the NPDES permit with minimum of most recent 30 days if self-inspection records will be kept on project is completed.
2. The Contractor shall remove sediment from erosion control devices when storage capacity has been approximately 50% filled. Gravel will be cleaned or replaced when the sediment pools no longer drains properly.
3. The Contractor shall remove sediment from behind silt fence when it becomes 0.5 feet deep at the fence. Silt fence will be repaired as necessary to maintain a barrier.
4. The Contractor shall fertilize, reseed as necessary, and mulch all seeded areas according to specifications in the vegetative plan to maintain a vigorous, dense vegetative cover.
5. The Contractor shall provide ground cover on exposed slopes or other areas within 7 to 14 days or sooner of completion of any phase of grading. Refer to the latest NPDES Rules dated August 2011 for more information on ground stabilization requirements. Permanent ground cover is to be provided for all disturbed areas within 7 to 14 days or sooner following completion of construction or development.
6. The Contractor shall use a silt bag for dewatering of trenching excavations and sediment containment devices for maintenance or removal purposes.
7. The NC DOT contact is Dominic Claramitara, P.E. Phone (919) 825-2613

VEGETATIVE PLAN (NC DENR 6.11)

SEEDING SCHEDULE

Date	Type	Planting Rate
Aug. 15–Nov. 1	Tall Fescue	250 lbs./acre
Nov. 1–Mar. 1	Tall Fescue & Abruzzi Rye	250 lbs./acre
Mar. 1–Apr. 15	Tall Fescue	250 lbs./acre
Apr. 15–Jun. 15	Hulled Common Bermudagrass	12 lbs./acre
Jun. 15–Aug. 15	Tall Fescue & Browntop Millet ***	250 lbs./acre
	or Sorghum–Sudan Hybrids ***	30 lbs./acre
	Slopes (3:1 to 2:1)	
Mar. 1–Jun. 1	Switchgrass (<i>Panicum virgatum</i>)	
Mar. 1–Jun. 1	Spillbeard Bluestem (<i>Andropogon ternarius</i>)	
Mar. 1–Jun. 1	Partridge Pea (<i>Chamaecrista fasciculata</i>)	
(Mar. 1–Apr. 15)	Add Tall Fescue	50 lbs./acre 250 lbs./acre
(Mar. 1–Jun. 30)	or Add Hulled Common Bermudagrass	8 lbs./acre
Jun. 1–Sep. 1	Tall Fescue ***	250 lbs./acre
	& Browntop Millet ***	35 lbs./acre
	or Sorghum–Sudan Hybrids ***	30 lbs./acre
Sep. 1–Mar. 1	Sericea Lespedeza (unhulled–unscarified) & Tall Fescue	70 lbs./acre 250 lbs./acre
(Nov. 1–Mar. 1)	Add Abruzzi Rye	25 lbs./acre

*** Temporary – Reseed according to optimum season for desired permanent vegetation. Do not allow temporary cover to grow over 12 inches in height before mowing, otherwise, fescue may be shaded out.

Consult Conservation Engineer or Soil Conservation Service for additional information concerning other alternatives for vegetation of denuded areas. The above vegetation rates are those which do well under local conditions; other seeding rate combinations are possible.

*** Temporary – Reseed according to optimum season for desired permanent vegetation. Do not allow temporary cover to grow over 12 inches in height before mowing, otherwise, fescue may be shaded out.

SEEDING SPECIFICATIONS

- 1) After rough grading is completed, till soil in areas to be seeded and planted to a depth of six inches.
 - 2) Apply agricultural lime, fertilizer, and superphosphate to disturbed areas to be vegetated. 135 lbs. limestone/1000 sq.ft. (1.3 tons/acre) or based on soils test 35 lbs. 10–10–10 fertilizer/1000 sq.ft. (1500 lbs/acre) 40 lbs. 50% superphosphate/1000 sq.ft. (1750 lbs/acre)
 - 3) Disk nutrients into soil to a depth of six inches until surface is uniform and free of large dirt clods.
 - 4) Seeding permanent grass. 3.0 lbs. KY–31 tall fescue/1000 sq.ft. (130 lbs./acre) during February 15 through May 15 or August 15 through November 15. –OR– 3.0 lbs. KY–31 tall fescue and 2.0 lbs. annual ryegrass/1000 sq.ft. during November 15 through February 15.
 - 5) Mulch seeded area with small grain straw at 90 lbs./1000 sq.ft. (2 tons/acre). Spread uniformly. Approximately 1/2 of ground surface should be visible to avoid blocking sunlight to seedlings. On areas where the ground surface equals or exceeds a 3:1 slope, and in the inverts of all drainage swales, tack mulch with asphalt emulsion at a rate of 450 gallons emulsion per acre of straw.
 - 6) Mulch around shrubby and trees with pine straw to depth of 3 inches.
 - 7) Temporary cover 1.0 lbs. brown top millet/1000 sq.ft. May through August 25. –OR– 1.0 lbs. annual ryegrass/1000 sq.ft. August 25 through April.
- Maintenance Requirements: Refer/fertilize if growth is not fully adequate. Reseed, refer/fertilize, and mulch immediately following erosion or other damage.

LAND GRADING (6.02)

CONSTRUCTION SPECIFICATIONS

1. Construct and maintain all erosion and sedimentation control practices and measures in accordance with the approved sedimentation control plan and construction schedule.
2. Remove good topsoil from areas to be graded and filled, and preserve it for use in finishing the grading of all critical areas.
3. Scarify areas to be topsoiled to a minimum depth of 2 inches before placing topsoil.
4. Clear and grub areas to be filled to remove trees, vegetation, roots, or other objectionable material that would affect the planned stability of the fill.
5. Ensure that fill material is free of brush, rubbish, rocks, logs, stumps, building debris, and other materials inappropriate for constructing stable fills.
6. Place all fill in layers not to exceed 9 inches in thickness, and compact the layers as required to reduce erosion, slippage, settlement, or other related problems.
7. Do not incorporate frozen material or soft or highly compressible materials into fill slopes.
8. Do not place fill on a frozen foundation, due to possible subsidence and slippage.
9. Keep diversions and other water conveyance measures free of sediment during all phases of development.
10. Handle seeps or springs encountered during construction in accordance with approved methods.
11. Permanently stabilize all graded areas immediately after final grading is completed on each area in the grading plan per NPDES Soil Stabilization Timeframes.
12. Show topsoil stockpiles, borrow areas, and spoil areas on the plans, and make sure they are adequately protected from erosion. Include final stabilization of these areas in the plan.

MAINTENANCE

Periodically check all graded areas and the supporting erosion and sedimentation control practices, especially after heavy rainfalls. Promptly remove all sediment from diversion and other water disposal practices. If washouts or breaks occur, repair them immediately. Prompt maintenance of small eroded areas before they become significant gullies is an essential part of an effective erosion and sedimentation control plan.

Note: Limit disturbances to the length that can be stabilized at the end of the work day.

TOPSOILING (6.04)

CONSTRUCTION SPECIFICATIONS

MATERIALS

Determine whether the quality and quantity of available topsoil justifies selective handling. Quality topsoil has the following characteristics:

Texture – loam, sandy loam, and silt loam are best; sandy clay loam, silty clay loam, clay loam, and loamy sand are fair. Do not use heavy clay and organic soils such as peat or muck as topsoil.

Organic matter content – (sometimes referred to as "humic matter") should be greater than 1.5% by weight.

Acidity – pH should be greater than 3.6 before liming, and liming is required if it is less than 6.0.

Soluble salts – should be less than 500 ppm.

Sodium – sodium adsorption ratio should be less than 12.

The depth of material meeting the above qualifications should be at least 2 inches. Soil factors such as rock fragments, slope, depth to water table, and layer thickness affect the ease of excavation and spreading of topsoil.

Generally, the upper part of the soil, which is richest in organic matter, is most desirable; however, material excavated from deeper layers may be worth storing if it meets the other criteria listed above.

Organic soils such as mucks and peats do not make good topsoil. They can be identified by their extremely light weight when dry.

STRIPPING

Strip topsoil only from those areas that will be disturbed by excavation, filling, roadbuilding, or compaction by equipment. A 4 to 6-inch stripping depth is common, but depth varies depending on the site. Determine depth of stripping by taking soil cores at several locations within each area to be stripped. Topsoil depth generally varies along a gradient from hilltop to toe of the slope. Put sediment basins, diversions, and other controls into place before stripping.

STOCKPILING

Select stockpile location to avoid slopes and natural drainageways, avoiding traffic routes. On large sites, respreading is easier and more economical when topsoil is stockpiled in small piles located near areas where they will be used. All stockpile areas used shall be stabilized with silt fence and seeded per the latest NPDES rules.

Sediment barriers – Use sediment fences or other barriers where necessary to retain sediment.

Temporary seeding – Protect topsoil stockpiles by temporarily seeding per the latest NPDES rules.

Permanent vegetation – If stockpiles will not be used within 12 months they must be stabilized with permanent vegetation to control erosion and weed growth.

SITE PREPARATION

Before spreading topsoil, establish erosion and sedimentation control practices such as diversions, berms, dikes, waterways, and sediment basins.

Grading – Maintain grades on the areas to be topsoiled according to the approved plan and do not alter them by adding topsoil.

Liming of subsoil – Where the pH of the existing subsoil is 6.0 or less, or the soil is composed of heavy clays, incorporate agricultural limestone in amounts recommended by soil tests or specified for the seeding mixture to be used. Incorporate lime to a depth of at least 2 inches by disking.

Roughening – Immediately prior to spreading the topsoil, loosen the subgrade by disking or scarifying to a depth of at least 4 inches, to ensure bonding of the topsoil and subsoil. If no amendments have been incorporated, loosen the soil to a depth of at least 6 inches before spreading topsoil.

SPREADING TOPSOIL

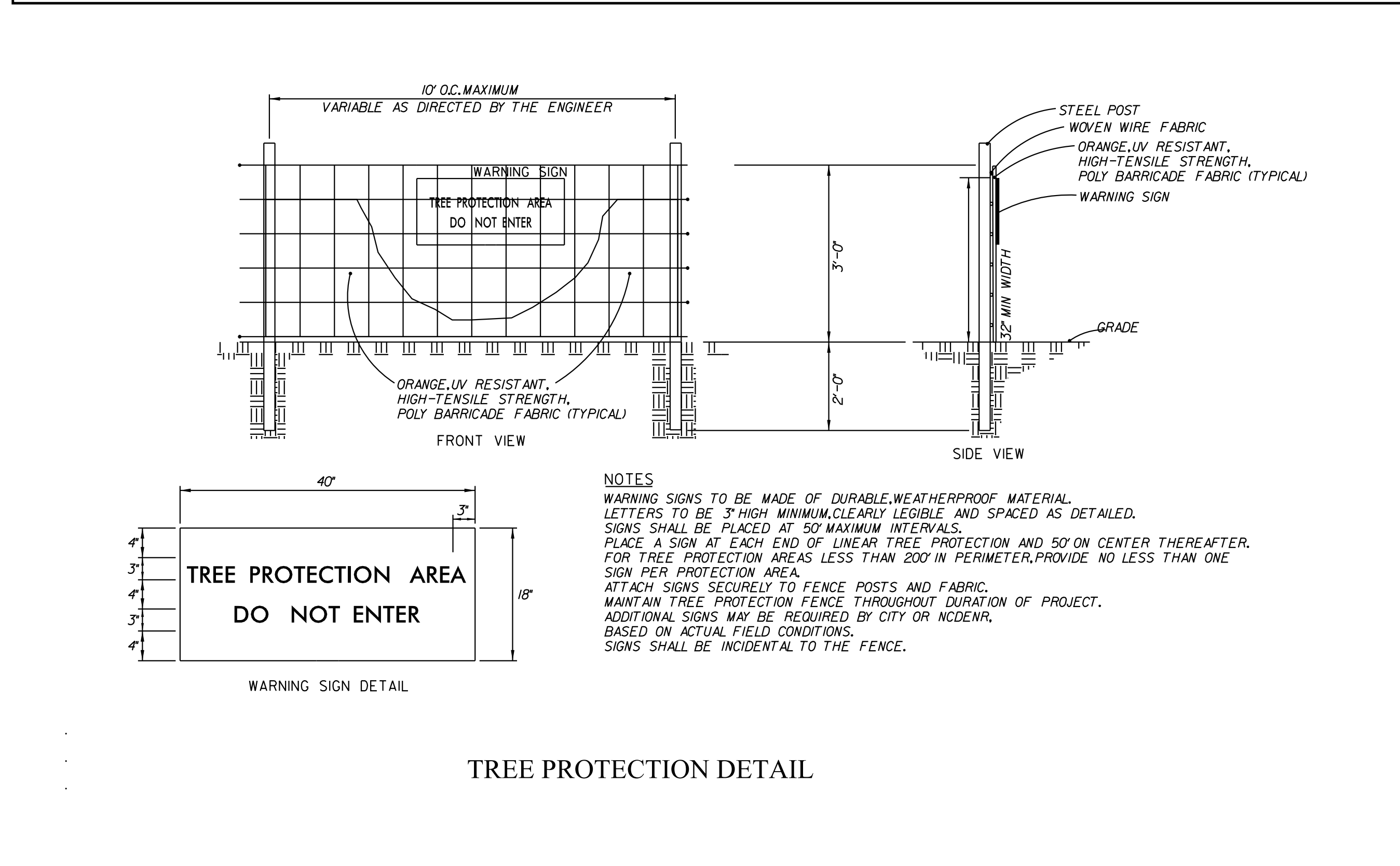
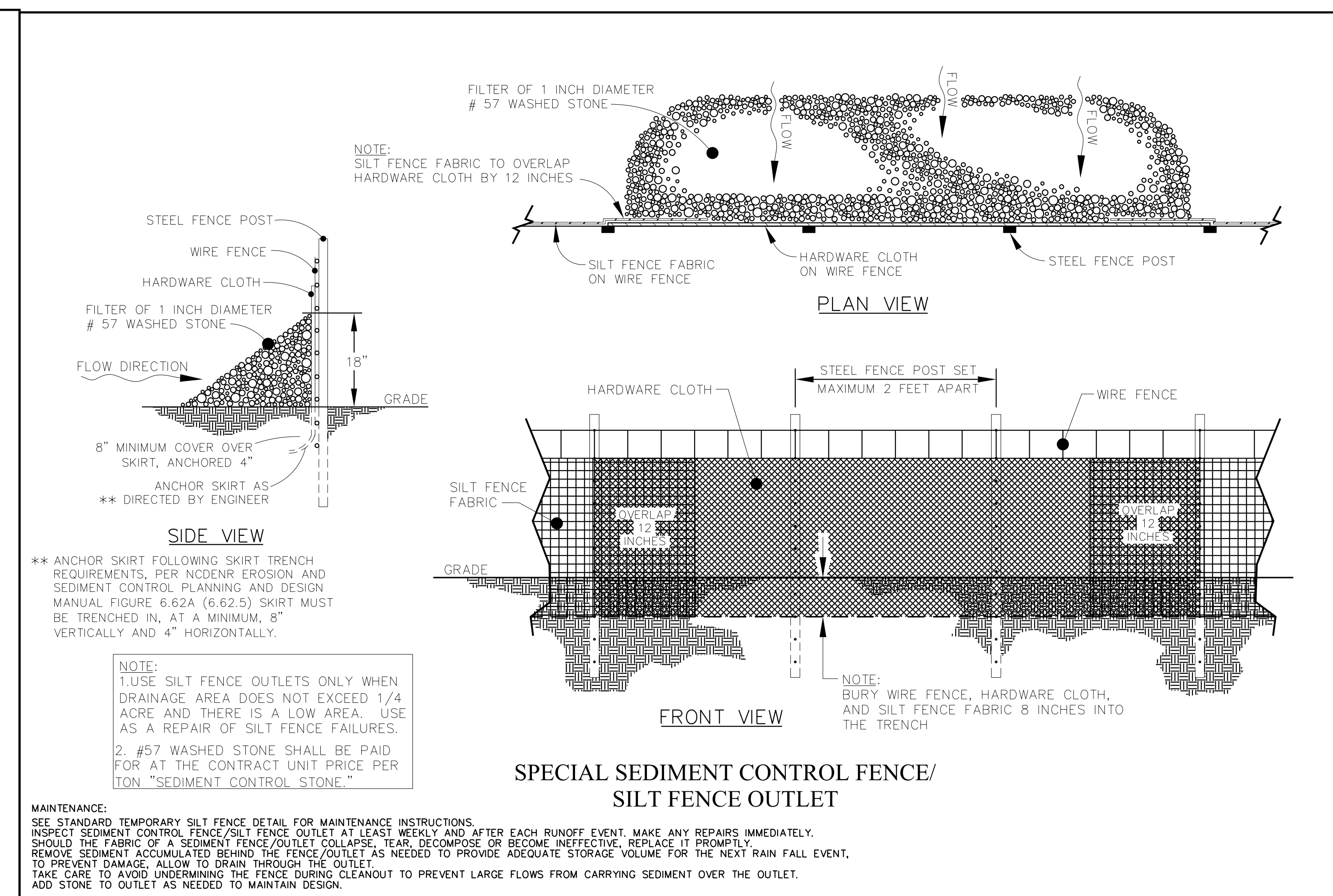
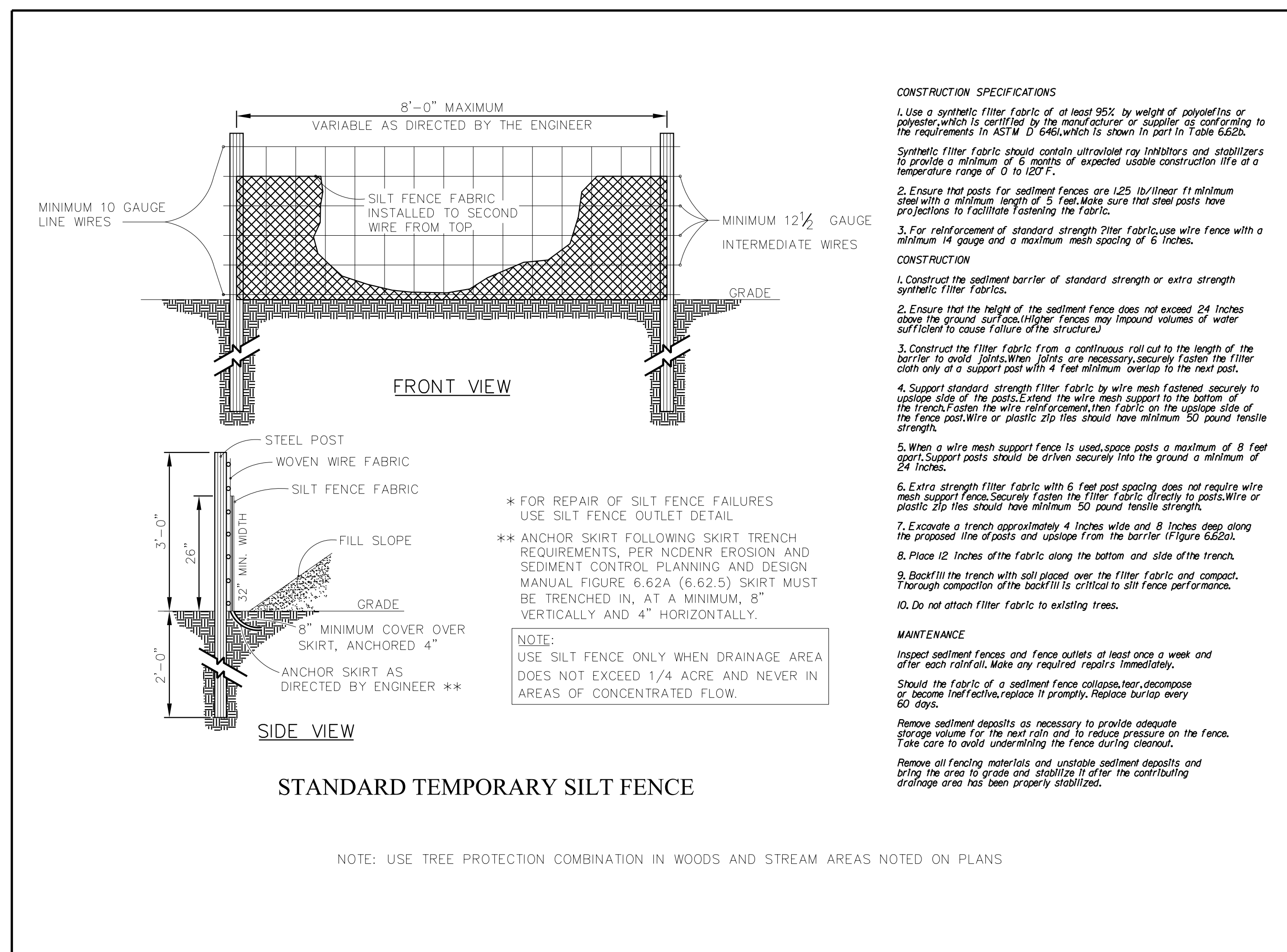
Do not spread topsoil while it is frozen or muddy or when subgrade is wet or frozen. Correct any irregularities in the surface that result from topsoiling or other operations to prevent the formation of depressions or water pockets.

Compact the topsoil enough to ensure good contact with the underlying soil, but avoid excessive compaction, as it increases runoff and inhibits seed germination. Light packing with a roller is recommended where high-maintenance turf is to be established.

On slopes and areas that will not be mowed, the surface may be left rough after spreading topsoil. A disk may be used to promote bonding at the interface between topsoil and subsoil.

After topsoil application, follow procedure for seeded preparation, taking care to avoid excessive mixing of topsoil into the subsoil.

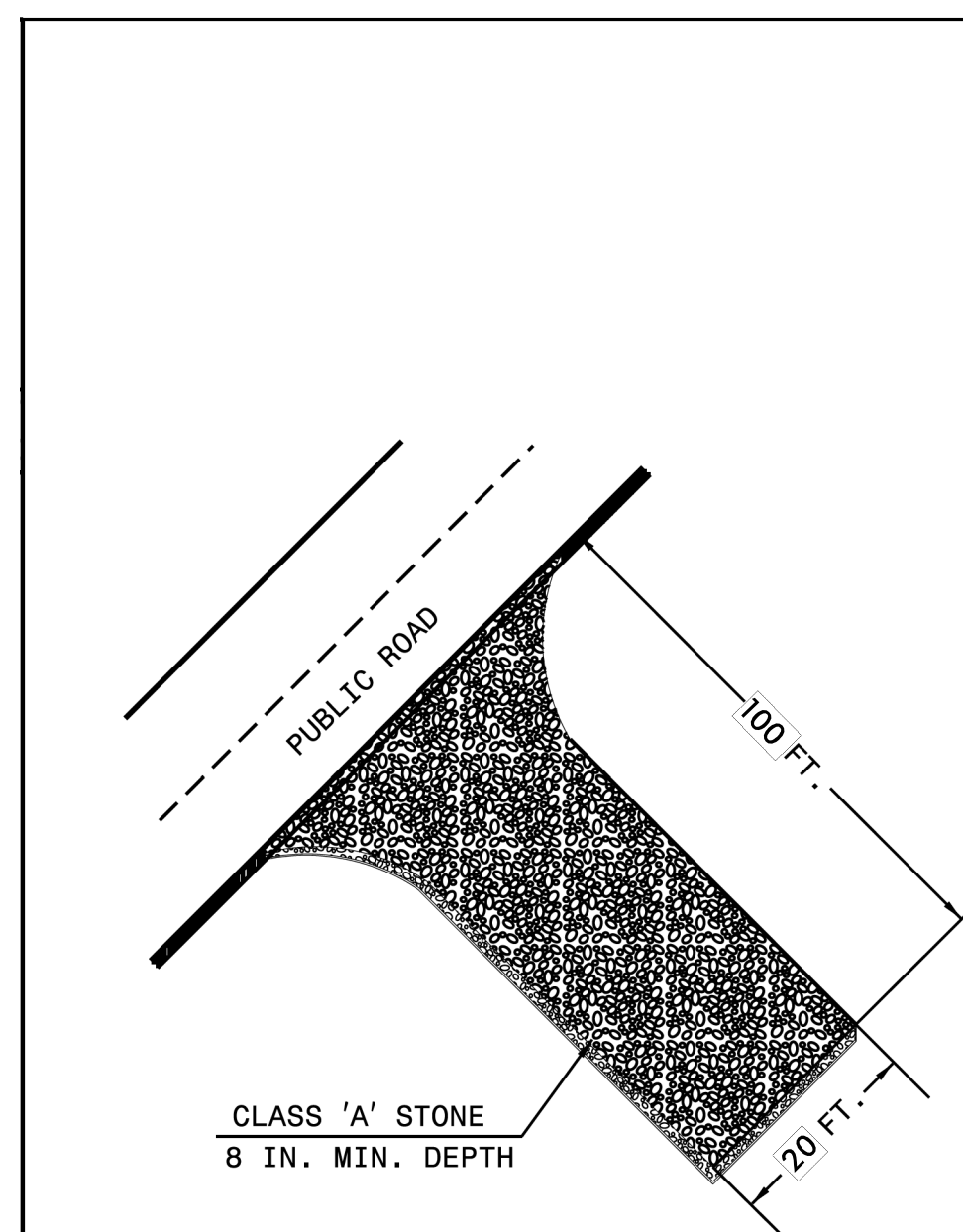
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NPDES GENERAL STORMWATER PERMIT SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
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NOTES

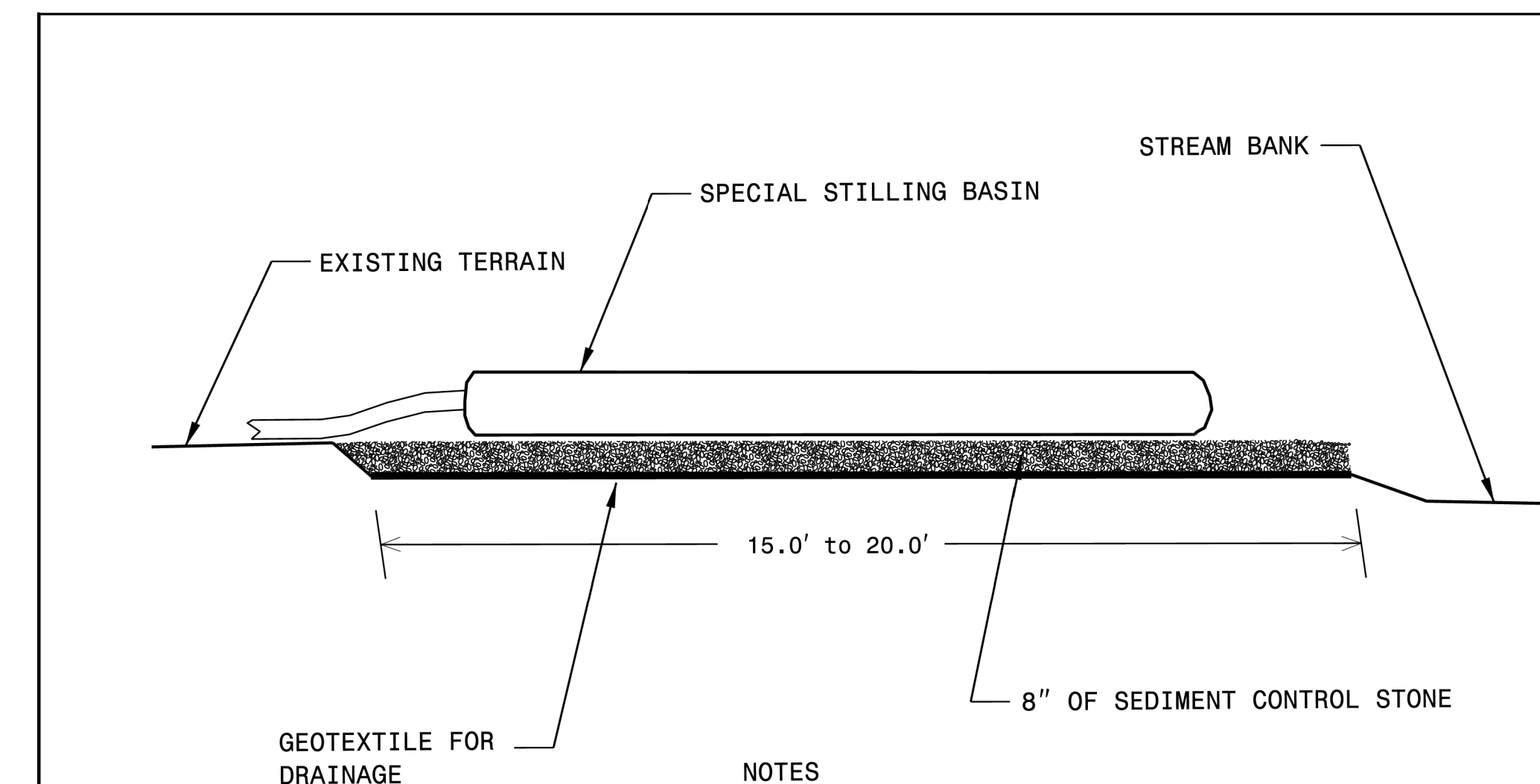
1. PROVIDE TURNING RADIUS SUFFICIENT TO ACCOMMODATE LARGE TRUCKS.
2. LOCATE ENTRANCES TO PROVIDE FOR UTILIZATION BY ALL CONSTRUCTION VEHICLES.
3. MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS. PERIODIC TOPDRESSING WITH STONE WILL BE NECESSARY.
4. ANY MATERIAL TRACKED ONTO THE ROADWAY MUST BE CLEANED UP IMMEDIATELY.
5. LOCATE GRAVEL CONSTRUCTION ENTRANCE AT ALL POINTS OF INGRESS AND EGRESS UNTIL SITE IS STABILIZED. PROVIDE FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE.
6. NUMBER AND LOCATION OF CONSTRUCTION ENTRANCES TO BE DETERMINED BY THE ENGINEER.
7. USE CLASS 'A' STONE OR OTHER COARSE AGGREGATE APPROVED BY THE ENGINEER.
8. INSTALL CONSTRUCTION ENTRANCES IN A WAY TO PREVENT VEHICLES FROM BYPASSING CONSTRUCTION ENTRANCE LEAVING PROJECT SITE.

NOTE: PLACE GEOTEXTILE FOR DRAINAGE BENEATH STONE

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

ROADWAY STANDARD DRAWING FOR
GRAVEL CONSTRUCTION ENTRANCE

SHEET 1 OF 1
1607.01



NOTES

- USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL STONE.
- PROVIDE STABILIZED OUTLET TO STREAM BANK.
- WOOD PALLETS MAY BE USED IN LIEU OF STONE AND GEOTEXTILE AS DIRECTED. A SUFFICIENT NUMBER OF PALLETS MUST BE PROVIDED TO ELEVATE THE ENTIRE SPECIAL STILLING BASIN ABOVE NATURAL GROUND.

NOT TO SCALE

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

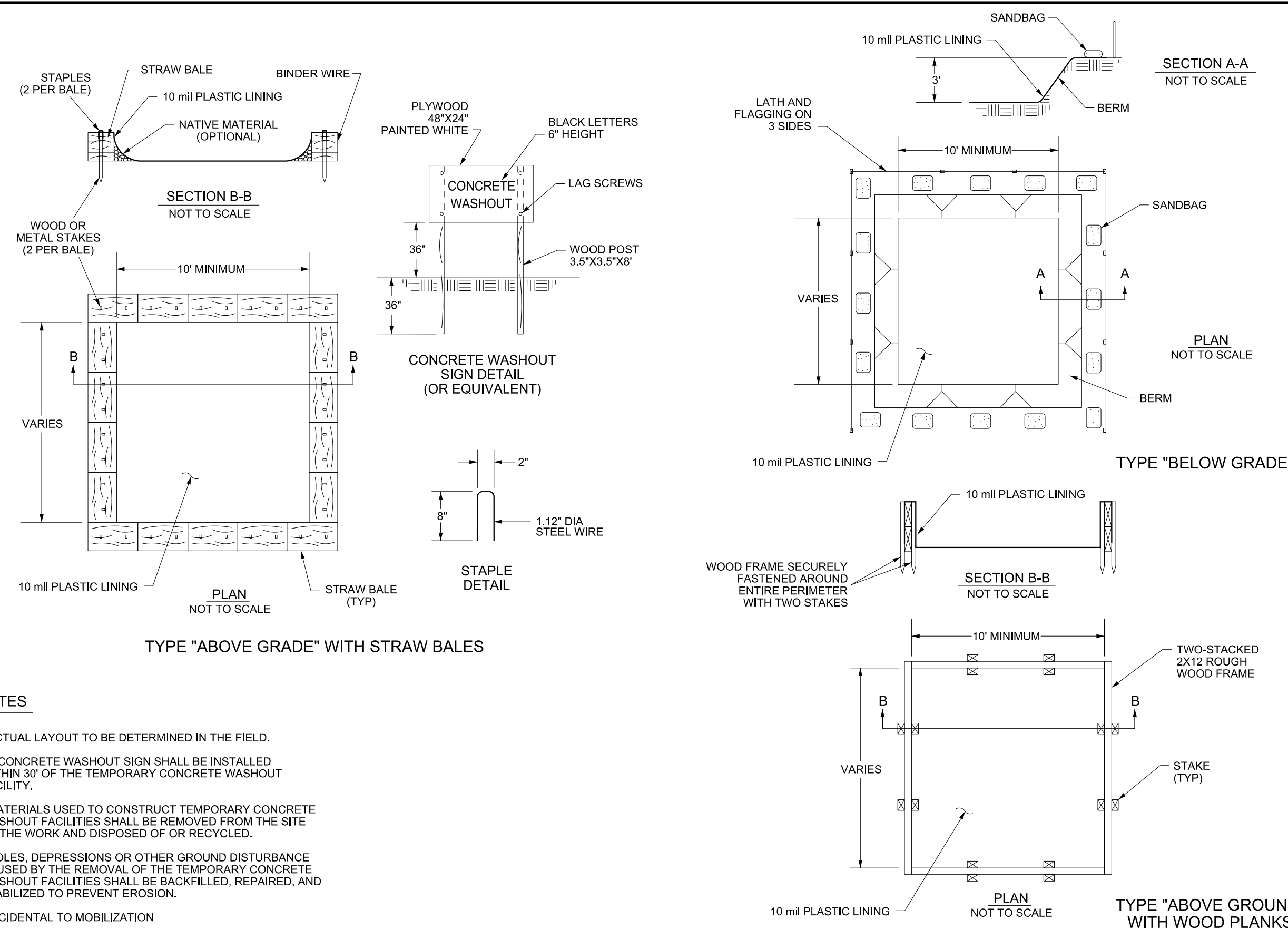
ROADWAY STANDARD DRAWING FOR
SPECIAL STILLING BASIN

SHEET 1 OF 1
1630.06

MAINTENANCE:

MAINTAIN THE STONE PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH 2-INCH STONE. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT OUT AS NECESSARY. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS.

NOTES:
USE SPECIAL STILLING BASINS/SILT BAGS TO DEWATER TRENCHES AS NEEDED.
IF PALLETS ARE TO BE USED IN LIEU OF STONE UNDER SILT BAGS, THEY MUST BE NEW, CLEAN, UN-USED PALLETS.
MAINTENANCE:
INSPECT INLET PIPE AND BAG FOR DAMAGE AND BLOCKAGE. REPLACE BAG WHEN ¼ OF SEDIMENT. PROVIDE A SUFFICIENT QUANTITY OF BAGS TO CONTAIN SILT FROM PUMPED EFFLUENT DURING CONSTRUCTION.



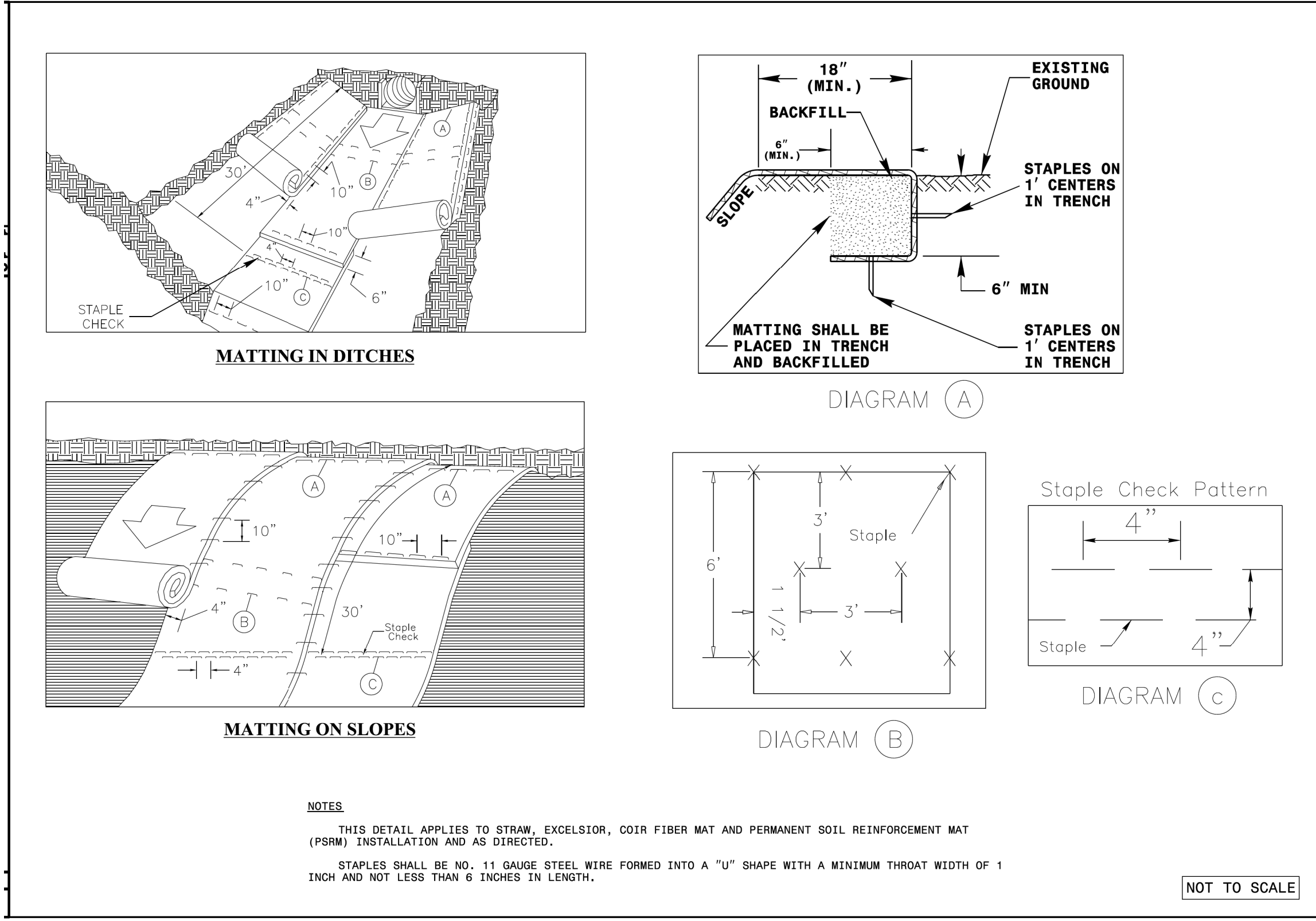
NOTES

1. ACTUAL LAYOUT TO BE DETERMINED IN THE FIELD.
2. A CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
3. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF OR RECYCLED.
4. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE BACKFILLED, REPAIRED, AND STABILIZED TO PREVENT EROSION.
5. INCIDENTAL TO MOBILIZATION
6. MAINTENANCE: THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES' CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM OF 12" OF FREEBOARD.

STANDARD CONCRETE WASHOUT

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1/30/2019



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

ROADWAY STANDARD DRAWING FOR MATTING INSTALLATION

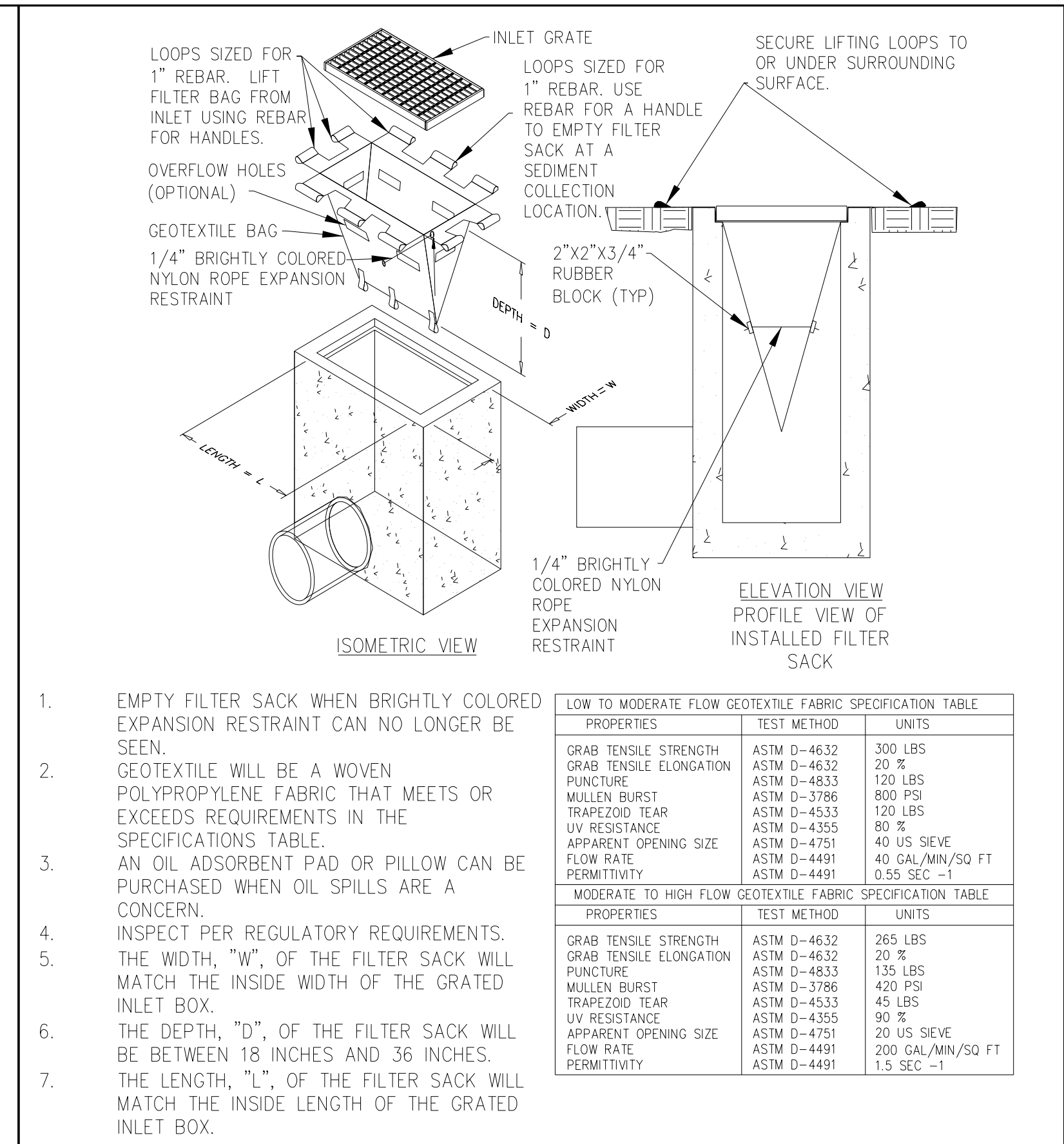
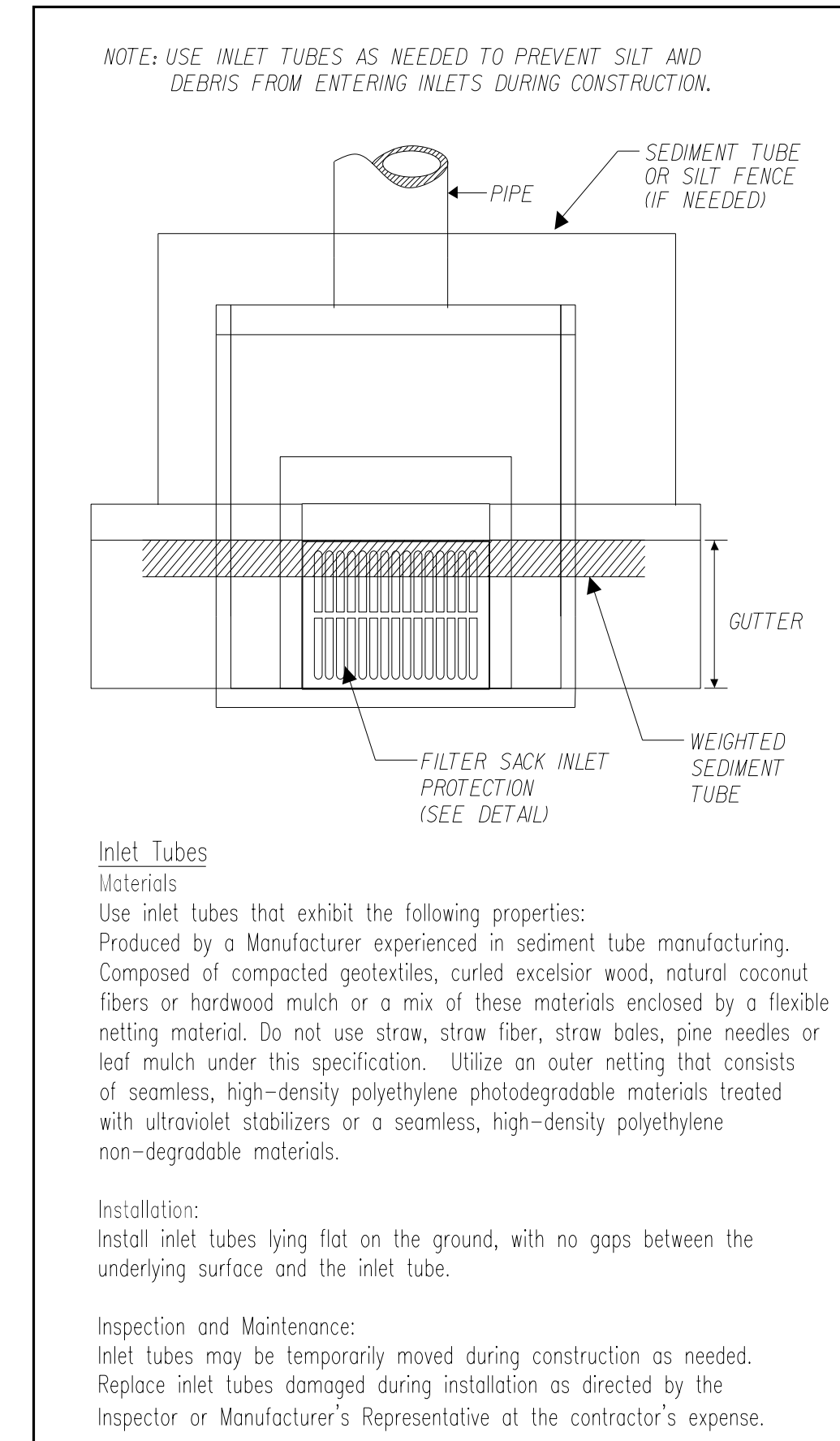
SHEET 1 OF 1

1631.01

TEMPORARY LINERS

MAINTENANCE:

1. Inspect Rolled Erosion Control Products (RECP) at least weekly and after each significant (1/2 inch or greater) rain fall event repair immediately.
2. Good contact with the ground must be maintained, and erosion must not occur beneath the RECP.
3. Any areas of the RECP that are damaged or not in close contact with the ground shall be repaired and stapled.
4. If erosion occurs due to poorly controlled drainage, the problem shall be fixed and the eroded area protected.
5. Monitor and repair the RECP as necessary until ground cover is established.



SPECIAL INLET PROTECTION

NOT TO SCALE

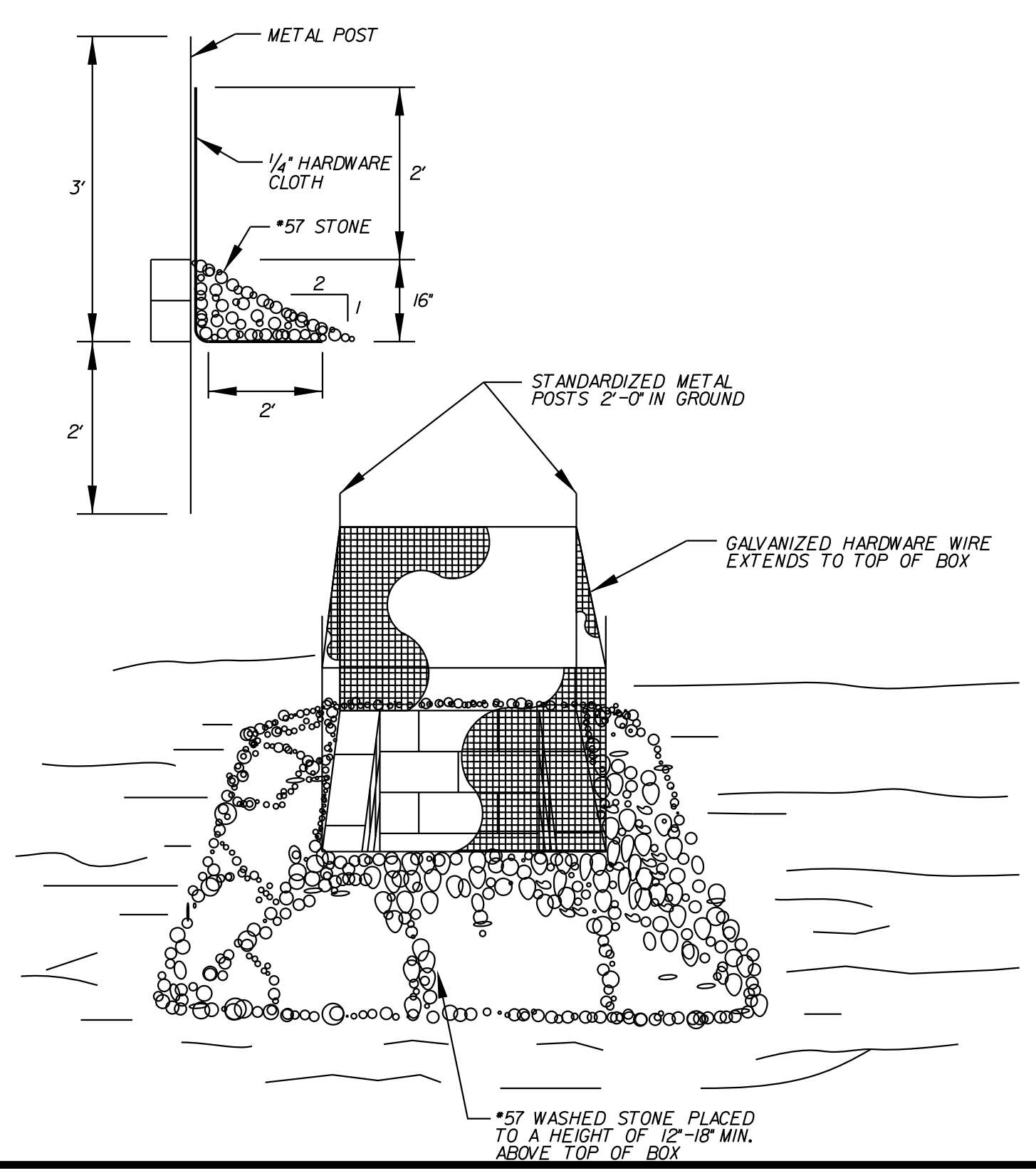
STANDARD INLET PROTECTION

- CONSTRUCTION SPECIFICATIONS**
1. As synthetic fabric, use a previous steel of nylon, polyester, or ethylene yarn - extra strength (50 lb/1 inch minimum) - that contains ultraviolet ray inhibitors and stabilizers. Fabric should be sufficiently porous to provide adequate drainage of the temporary sediment pool. Burlap may be used for short-term applications. It must be replaced every 60 days.
 2. Cut fabric from a continuous roll to eliminate joints.
 3. For stakes, use 5-foot steel posts.
 4. Space stakes evenly around the perimeter of the Inlet a maximum of 4 ft apart, and securely drive them into the ground, approximately 24 inches deep.
 5. Place a 2 foot flap of wire mesh under the gravel for anchoring.
 6. Fasten fabric securely to the stakes and frame. Joints must be overlapped to the next stake.
 7. The top of the frame and fabric must be well below the ground elevation downslope from the drop inlet to keep runoff from bypassing the Inlet. It may be necessary to build a temporary dike on the down slope side of the structure to prevent bypass flow. Material from within the sediment pool may be used for diking.
 8. *57 washed stone shall be incidental to Inlet Protection.

MAINTENANCE

Inspect the fabric barrier after each rain and make repairs as needed.

Remove sediment from the pool area as necessary to provide adequate storage volume for the next rain. Take care not to damage or undercut the fabric during sediment removal.



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1/30/2019

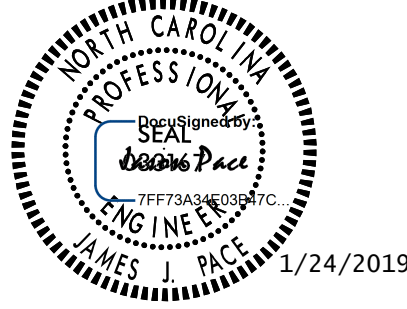
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CONTRACT: DE00285 PROJECT: TIM TRAINING SITE

**STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION**

**SIGNING PLAN
WAKE COUNTY**

**LOCATION: THE NORTH CAROLINA STATE HIGHWAY PATROL DRIVING FACILITY
LOATED ON E TRYON ROAD BETWEEN HAMMOND ROAD AND
GARNER ROAD IN WAKE COUNTY, NC**

<small>PROJECT NO.</small> C-5600T	<small>SHEET NO.</small> SIGN - 1
<small>APPROVED:</small> _____	
<small>DATE:</small> _____	
	
<small>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</small>	

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>
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.30	SUPPLEMENTAL SIGN MOUNTING
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

GENERAL NOTES

- WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER.
- THE BACKGROUND FOR TYPE E SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.
- SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.

INDEX

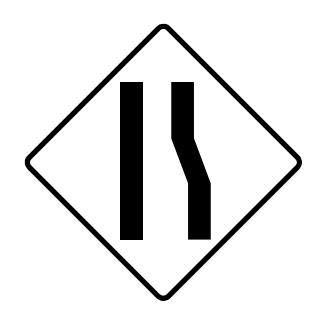
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SIGN-1	TITLE SHEET
SIGN-2	N/A
SIGN-3	TYPE E SHEET
SIGN-4	N/A
SIGN-5	SIGNING DETAILS

PLAN PREPARED BY: KIMLEY-HORN AND ASSOCIATES, INC.

James J. Pace P.E. _____ PROJECT DESIGN ENGINEER
Caleb D. Lowman E.I. _____ DESIGNER



401 QUANTITY REQ'D _1_



36" X 36"
W4-2R

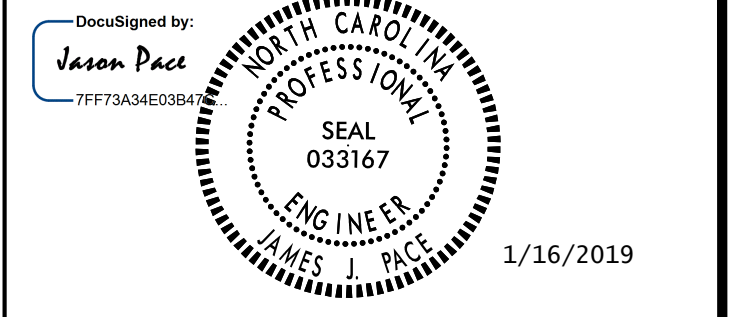
ONE "U" POST PER SIGN

PROJECT NO. SHEET NO.
C-5600T SIGN-3

APPROVED: _____

DATE: _____

SEAL

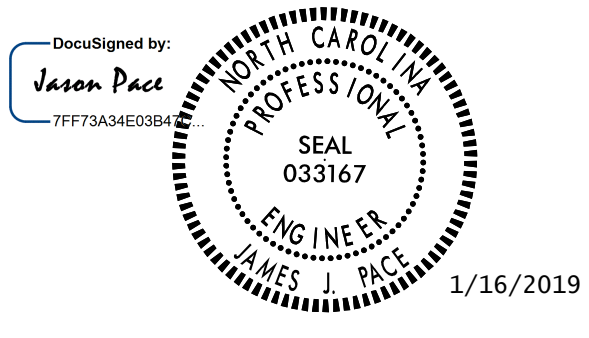


**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**


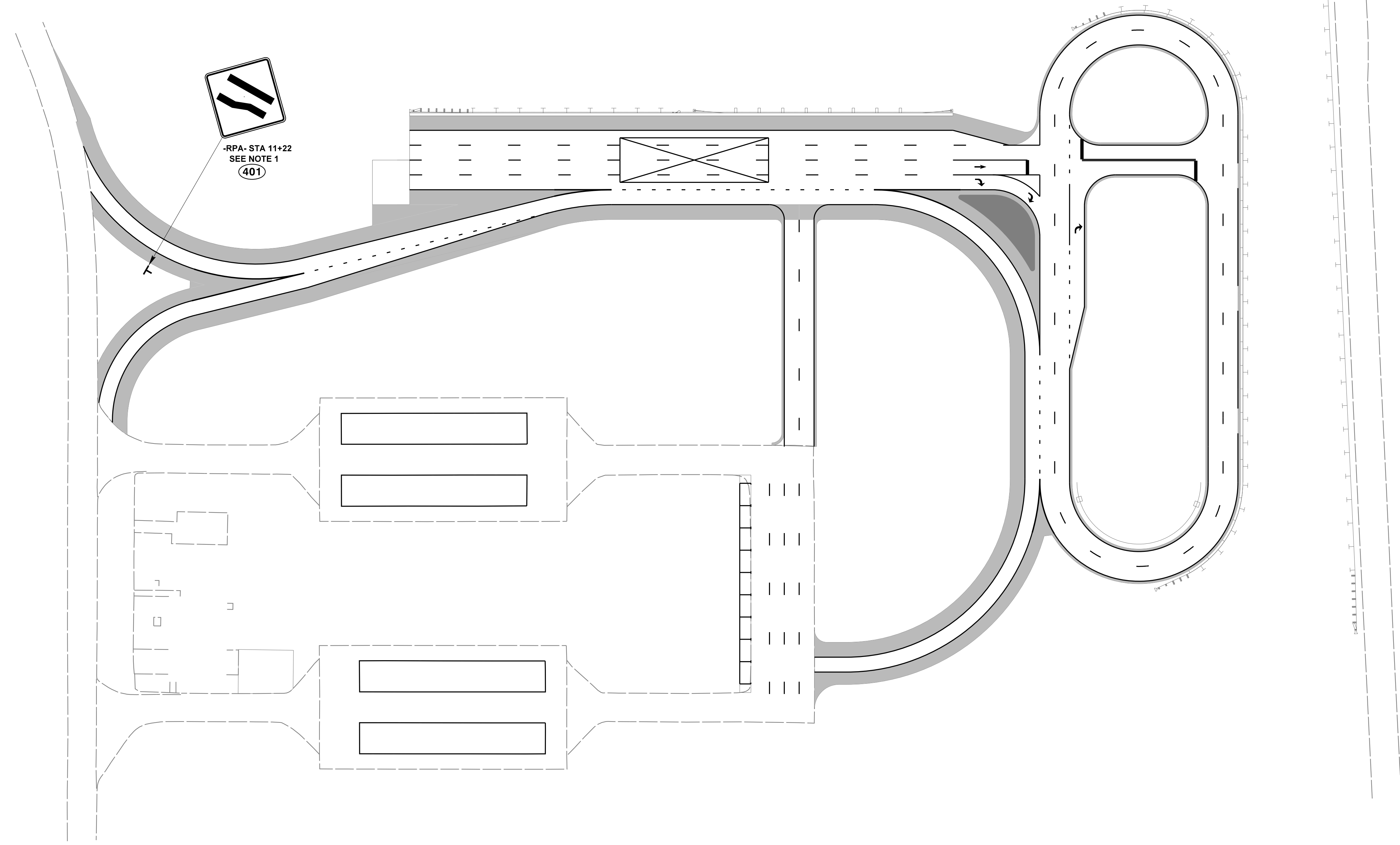
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1/14/2019

Kimley»Horn

TYPE "E" SIGNS

PROJECT NO. C-5600T	SHEET NO. SIGN-5
APPROVED: _____	
DATE: _____	
SEAL	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

NAD 83/
NA 2011

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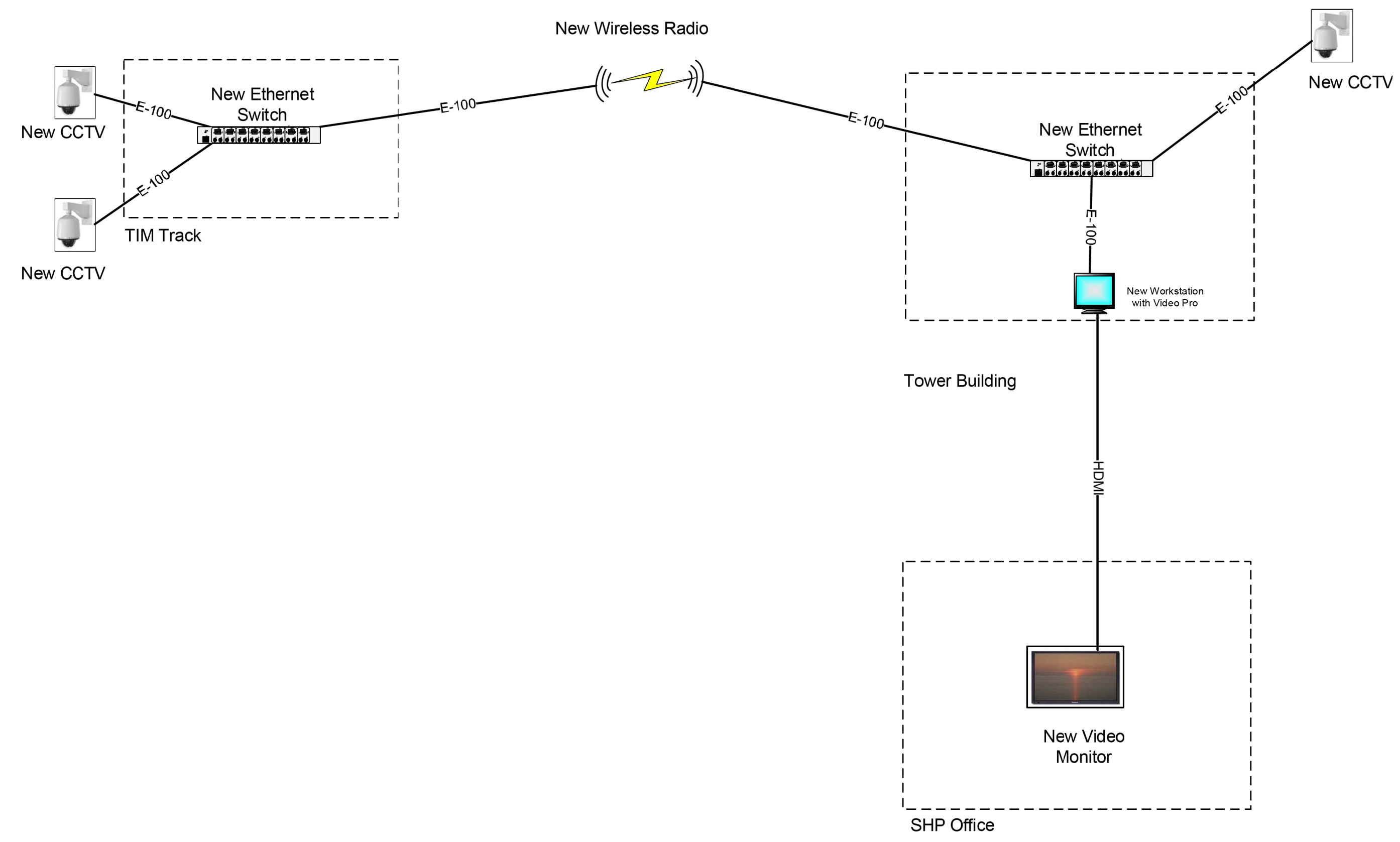
PROJECT NOTES	
1	SIGN ERECTION, TYPE D, E, OR F

Kimley»Horn

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Raleigh, North Carolina 27636
PE NO. F-0102

SIGNING DETAIL

-L- STA. 10+00.00 TO STA 16+57.16



LEGEND

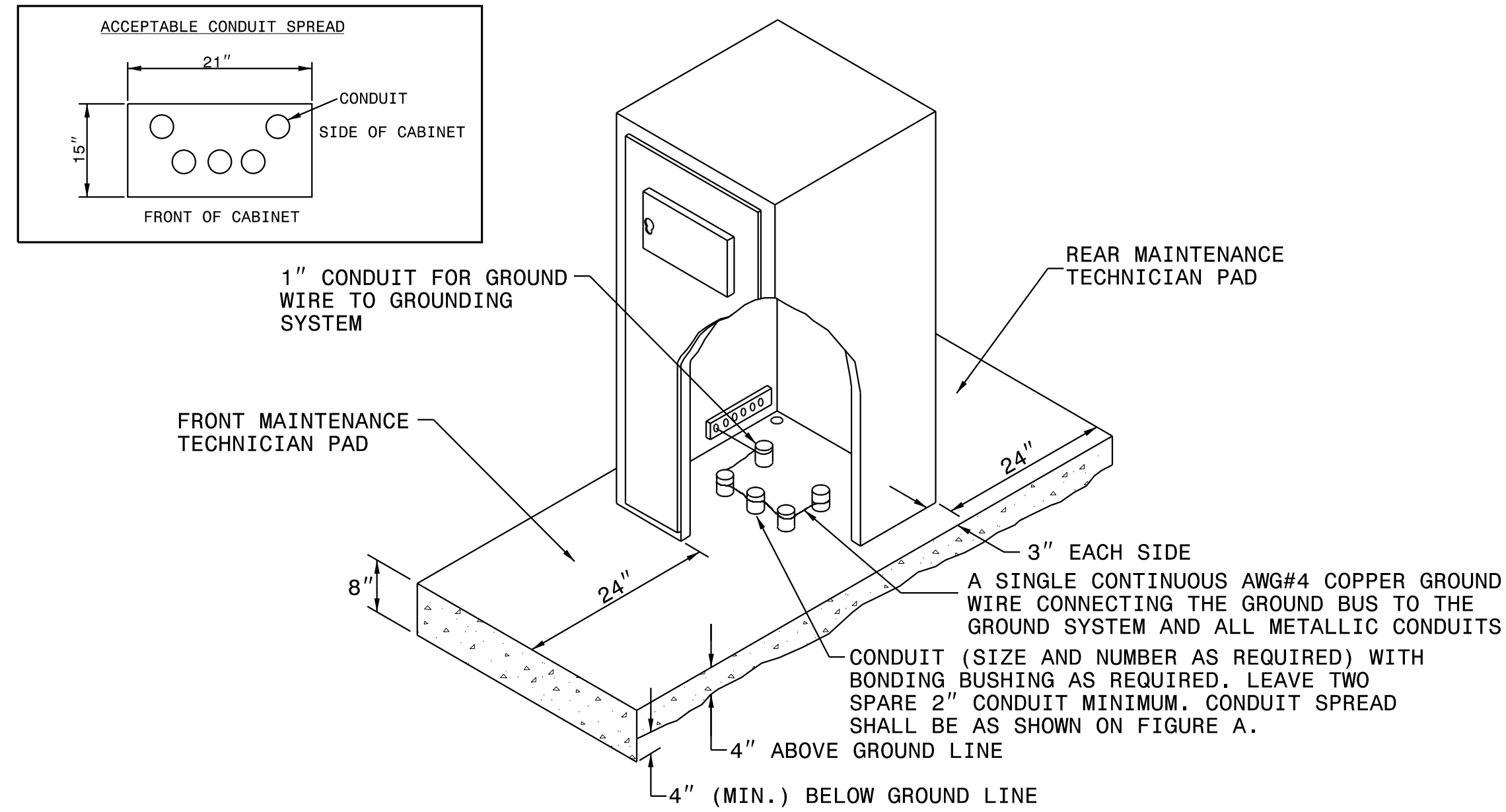
	CCTV	Closed-Circuit Television Camera
	E-100	100 Megabit Ethernet
	HDMI	High-Definition Multimedia Interface
		CCTV Camera
		Antenna

1/17/2019 K:\ARL_TPTD_ITS\01036470 NCSHP Driving Track Design\6 Tasks\7 ITS Equipment\Detail Drawings\SHP_CCTV_psh.dgn

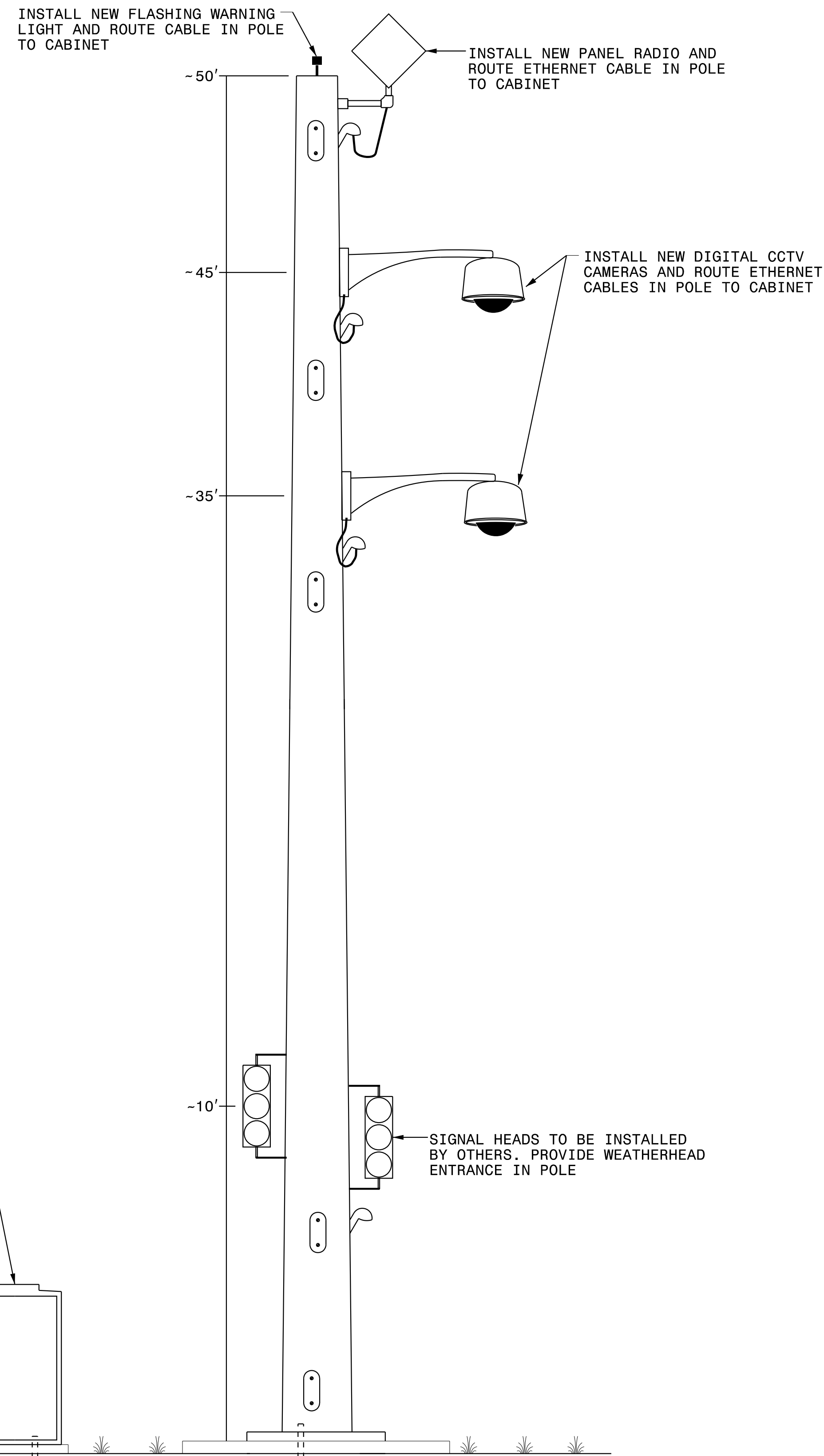
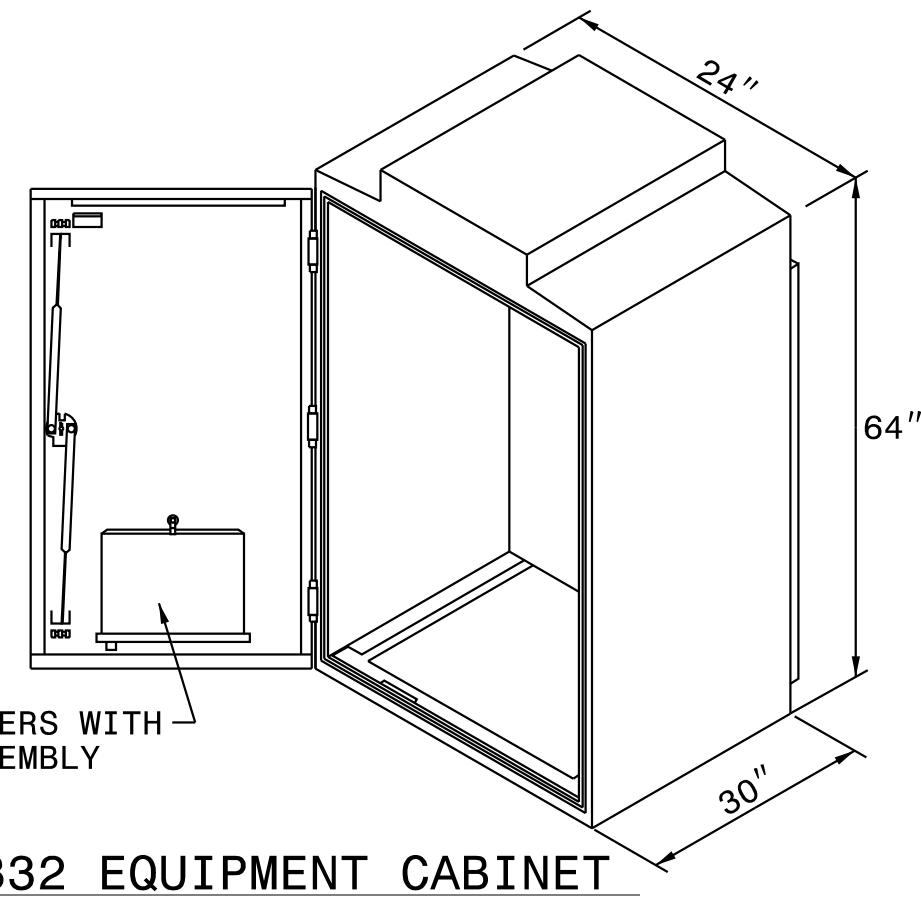
Kimley»Horn
 NC License #F-0102
 421 Fayetteville St., Suite 600
 Raleigh, NC 27636
 Tel: (919) 677-2000
 Fax: (919) 677-2050

 Plans Prepared For: Transportation Mobility and Safety Division DEPARTMENT OF TRANSPORTATION 250 N. Greenfield Place, Garner, NC 27529	NCSHP TRAINING TRACK ITS INSTALLATION SYSTEM BLOCK DIAGRAM		SEAL KEVIN W. SMITH ENGINEER
	DIVISION 05 WAKE COUNTY		
PLAN DATE: JAN 2019 PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH		Documented by: KEVIN SMITH 1/17/2019 SIGNATURE DATE CADD Filename:
SCALE 0	REVISIONS _____	INIT. DATE _____	

FIGURE A



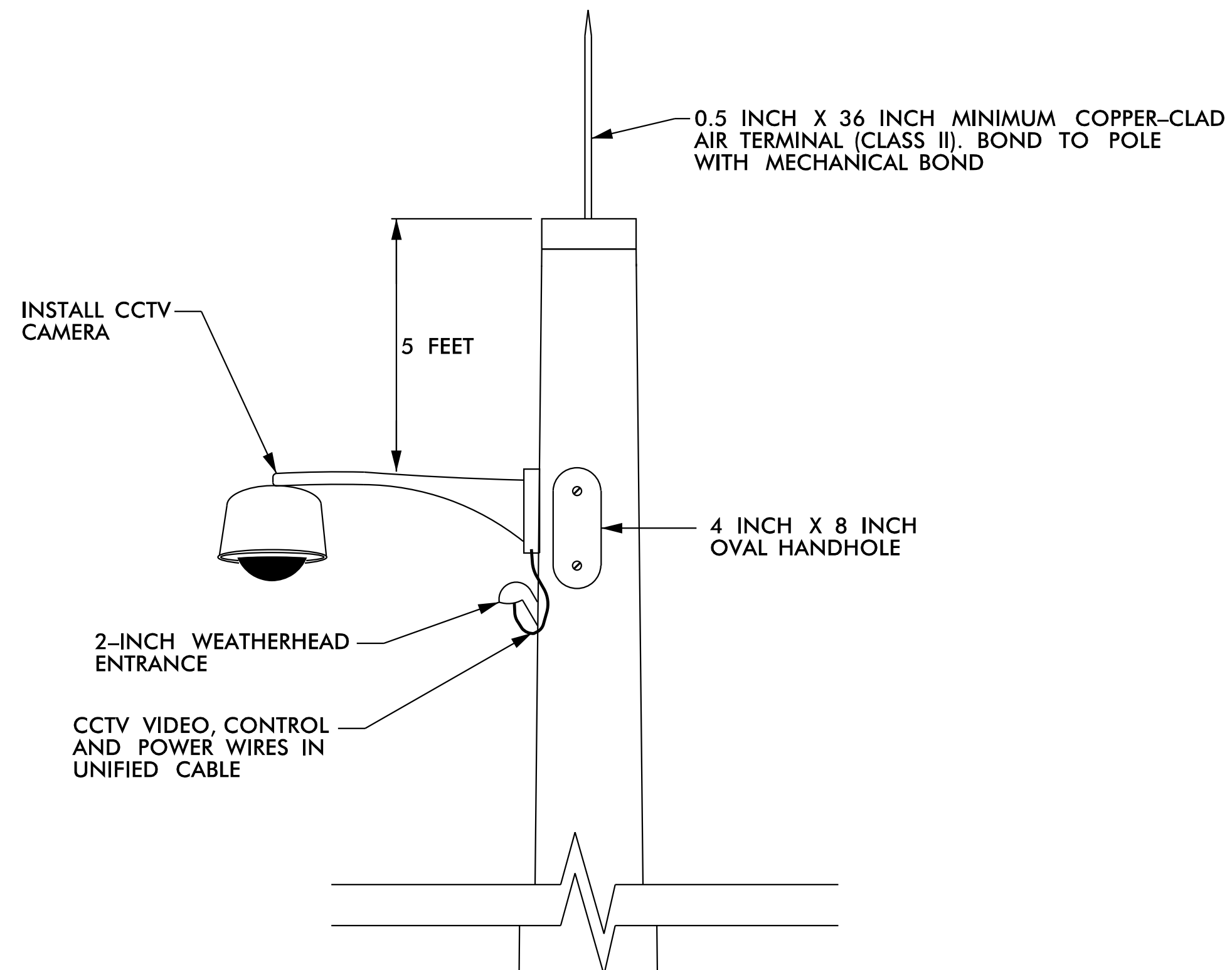
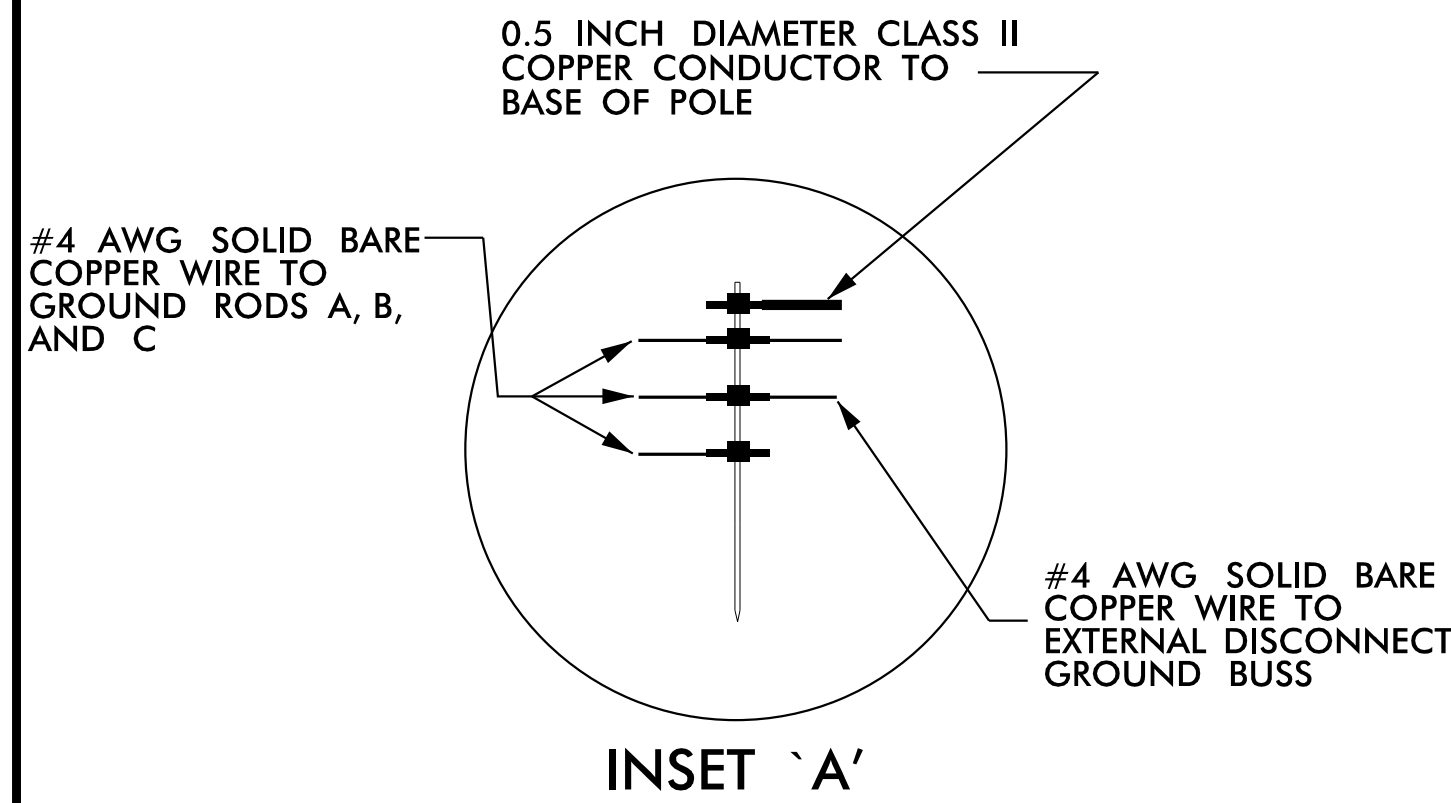
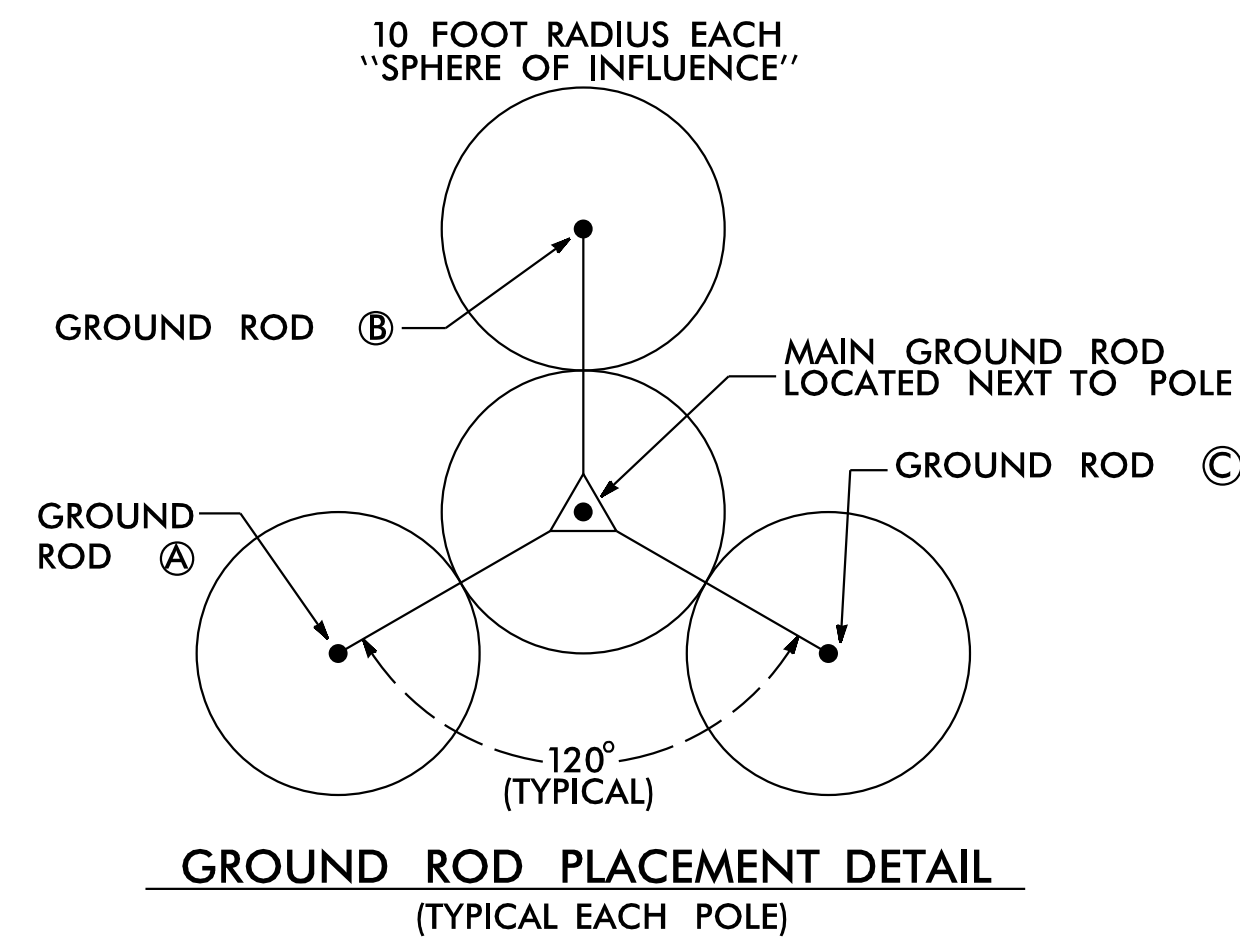
TYPICAL BASE MOUNTED CABINET
(NEW STANDARD FOUNDATION)



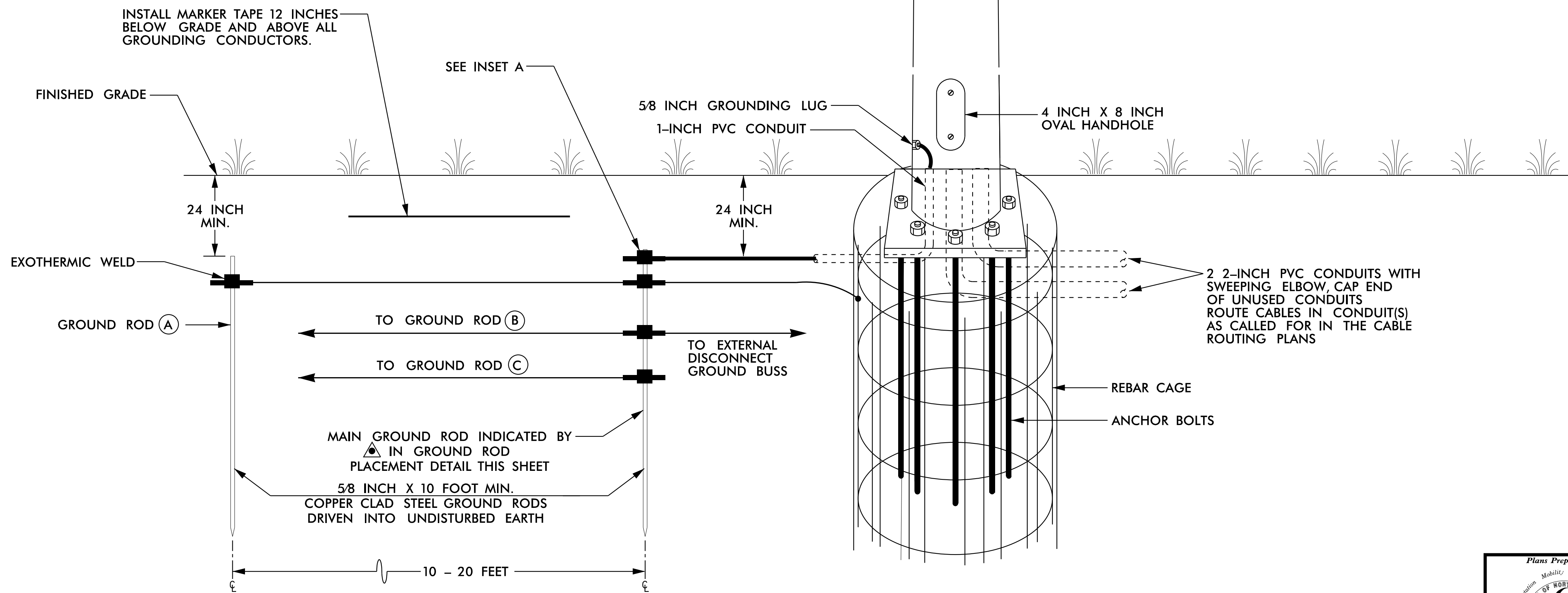
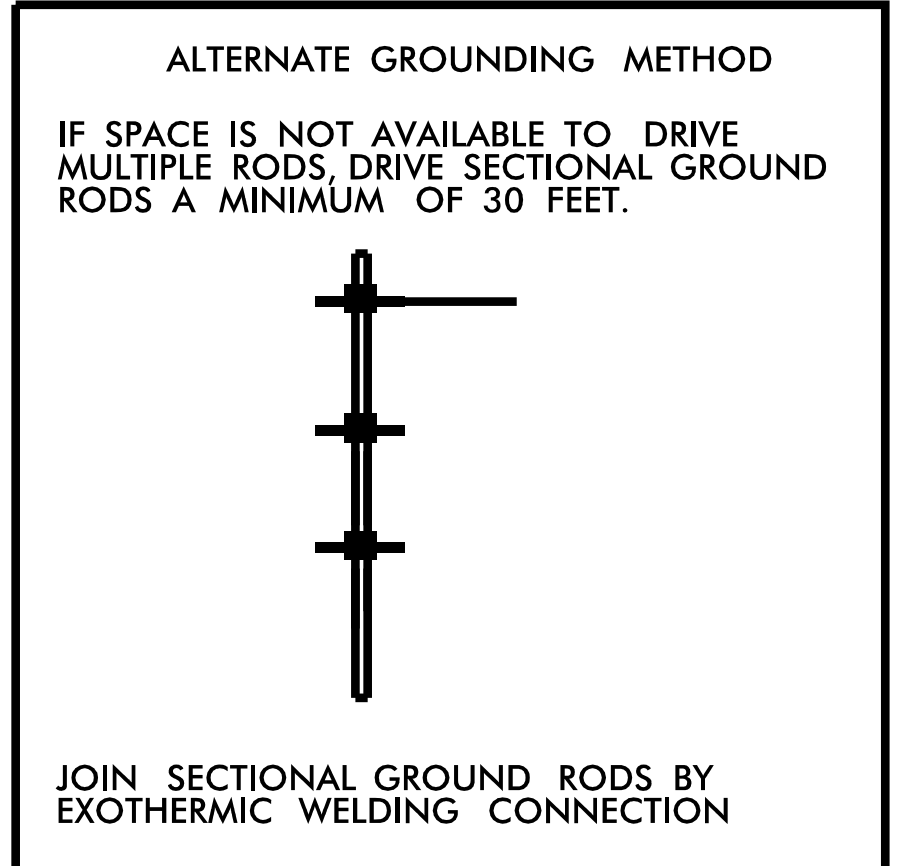
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 Raleigh, NC 27636
 Tel: (919) 677-2000
 Fax: (919) 677-2050

	NCSHP TRAINING TRACK ITS INSTALLATION CCTV DETAIL		SEAL
	DIVISION 05 WAKE COUNTY		
PLAN DATE: JAN 2019	REVIEWED BY:		Documented by: <u>Kevin W. Smith</u> 1/17/2019 SIGNATURE DATE CADD Filename:
PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH		
REVISIONS	INIT.	DATE	



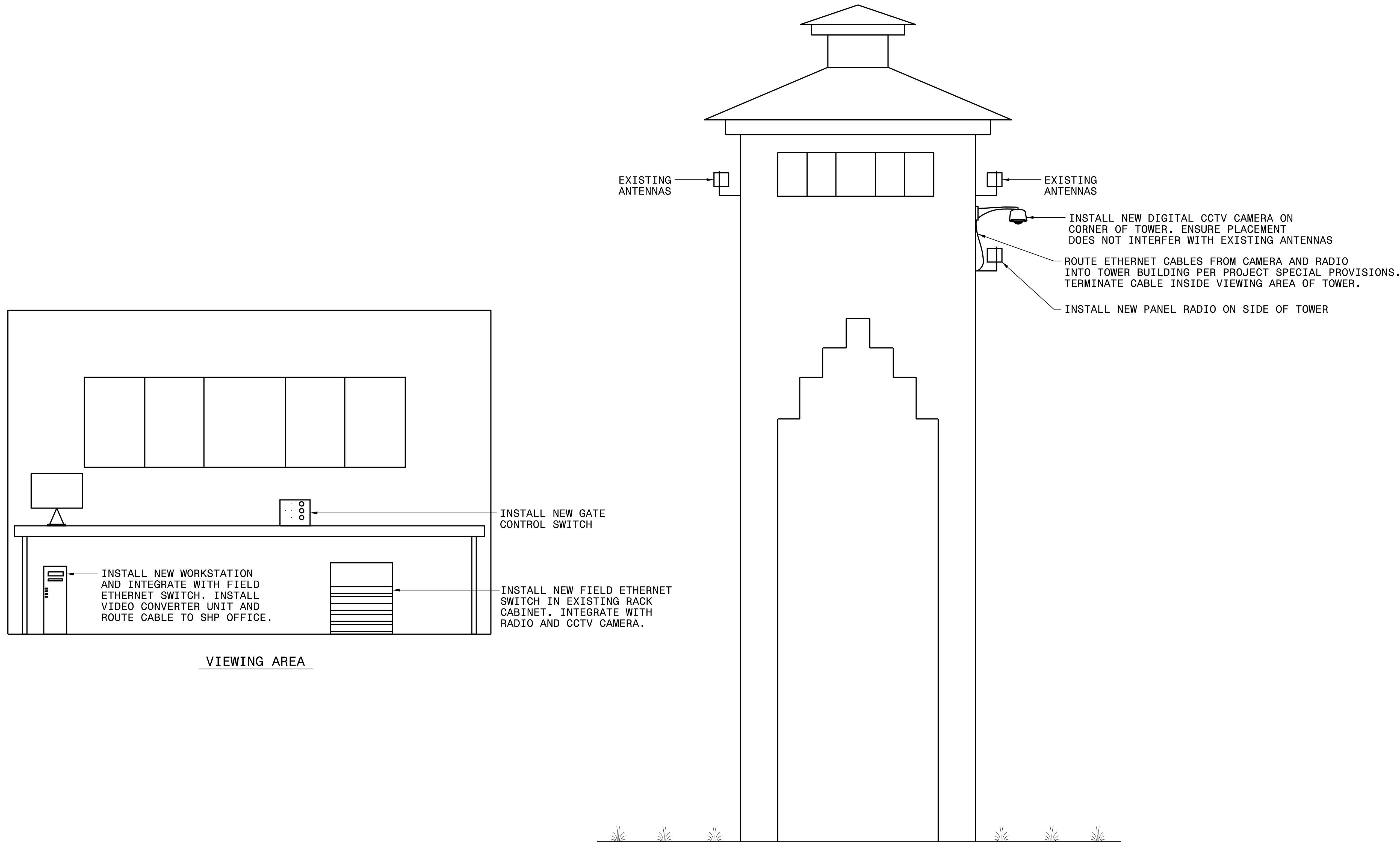
- NOTES**
1. BOND 0.5 INCH DIAMETER, 28 STRAND (MINIMUM) CLASS II COPPER CONDUCTOR TO THE MAIN GROUND ROD BY AN EXOTHERMIC WELD METHOD.
 2. EXOTHERMICALLY WELD ALL CONNECTIONS TO GROUND RODS.
 3. BOND #4 AWG SOLID BARE COPPER WIRE TO REBAR CAGE AND THE MAIN GROUND ROD BY AN EXOTHERMIC WELD METHOD.
 4. ENSURE CAMERA HOUSING, CAMERA, AND PAN -TILT UNIT ARE BONDED TO POLE.
 5. REMOVE BONDING JUMPER BETWEEN EQUIPMENT CABINET GROUND BUSS AND NEUTRAL BUSS.
 6. THE CONTRACTOR MAY, UPON APPROVAL OF THE ENGINEER, INSTALL A 30-FOOT SECTIONAL GROUND ROD WHEN CONDITIONS WILL NOT ALLOW FOR THE INSTALLATION OF THE 3 - RADIAL GROUND RODS.
 7. INSTALL MARKER TAPE DIRECTLY ABOVE ALL GROUNDING ELECTRODES AND CONDUCTORS AT A DEPTH OF 12 INCHES.



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 Raleigh, NC 27636
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 Fax: (919) 677-2050

	NCSHP TRAINING TRACK ITS INSTALLATION		SEAL
	CCTV METAL POLE GROUNDING DETAIL		
DIVISION 05		WAKE COUNTY	
PLAN DATE: JAN 2019	REVIEWED BY:		DATE
PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH		DATE
REVISIONS		INIT.	DATE
Documented by:		1/17/2019	
Signature:		DATE	
CADD Filename:			



EXISTING ANTENNAS

EXISTING ANTENNAS

INSTALL NEW DIGITAL CCTV CAMERA ON CORNER OF TOWER. ENSURE PLACEMENT DOES NOT INTERFERE WITH EXISTING ANTENNAS

ROUTE ETHERNET CABLES FROM CAMERA AND RADIO INTO TOWER BUILDING PER PROJECT SPECIAL PROVISIONS. TERMINATE CABLE INSIDE VIEWING AREA OF TOWER.

INSTALL NEW PANEL RADIO ON SIDE OF TOWER

INSTALL NEW GATE CONTROL SWITCH

INSTALL NEW WORKSTATION AND INTEGRATE WITH FIELD ETHERNET SWITCH. INSTALL VIDEO CONVERTER UNIT AND ROUTE CABLE TO SHP OFFICE.

INSTALL NEW FIELD ETHERNET SWITCH IN EXISTING RACK CABINET. INTEGRATE WITH RADIO AND CCTV CAMERA.

VIEWING AREA

NORTHWEST FACE OF TOWER

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 Fax: (919) 677-2050

	NCSHP TRAINING TRACK ITS INSTALLATION TOWER INSTALLATION DETAIL		SEAL
	DIVISION 05 WAKE COUNTY		
PLAN DATE: JAN 2019	REVIEWED BY: K. SMITH		DocuSigned by: 1/17/2019
PREPARED BY: J. CROSS	REVIEWED BY: K. SMITH		
REVISIONS	INIT.	DATE	CADD Filename:

LEGEND	
-----	EXISTING CONDUIT
- - - - -	NEW CONDUIT
DD	NEW DIRECTIONAL DRILLED CONDUIT
□	NEW JUNCTION BOX
■	EXISTING JUNCTION BOX

INSTALL NEW UNDERGROUND CONDUIT AND NEW JUNCTION BOXES TO ROUTE GATE CABLES TO EXISTING SIGNAL HEADS

INSTALL NEW BARRIER GATE ASSEMBLY

EXISTING SIGNAL HEADS

INSTALL NEW JUNCTION BOX AND BREAK INTO EXISTING CONDUIT

INSTALL NEW BARRIER GATE ASSEMBLY

REMOVE EXISTING SIGNAL HEAD CABLES AND INSTALL NEW GATE CABLES IN EXISTING CONDUIT INTO TOWER VIEWING AREA

TOWER

OFFICES

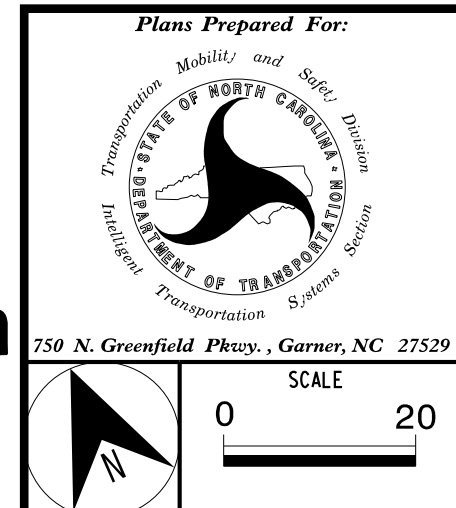
INSTALL ETHERNET CABLE FROM TOWER VIEWING AREA TO OFFICE ELECTRICAL ROOM IN EXISTING CONDUIT

INSTALL ETHERNET CABLE FROM ELECTRICAL ROOM TO OFFICE IN DROP CEILING

INSTALL NEW VIDEO MONITOR AND VIDEO CONVERTER UNIT ON WALL AS DIRECTED BY ENGINEER

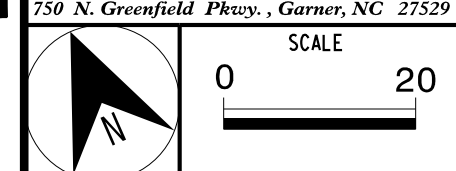
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Plans Prepared For:		NCSHP TRAINING TRACK ITS INSTALLATION CABLE ROUTING PLAN	
Division 05		WAKE COUNTY	
PLAN DATE:	JAN 2019	REVIEWED BY:	
PREPARED BY:	J. CROSS	REVIEWED BY:	K. SMITH
REVISIONS	INIT.	DATE	

SEAL	DATE
	1/17/2019
DocuSigned by:	
KEVIN W. SMITH	
SIGNATURE	DATE
CADD Filename:	



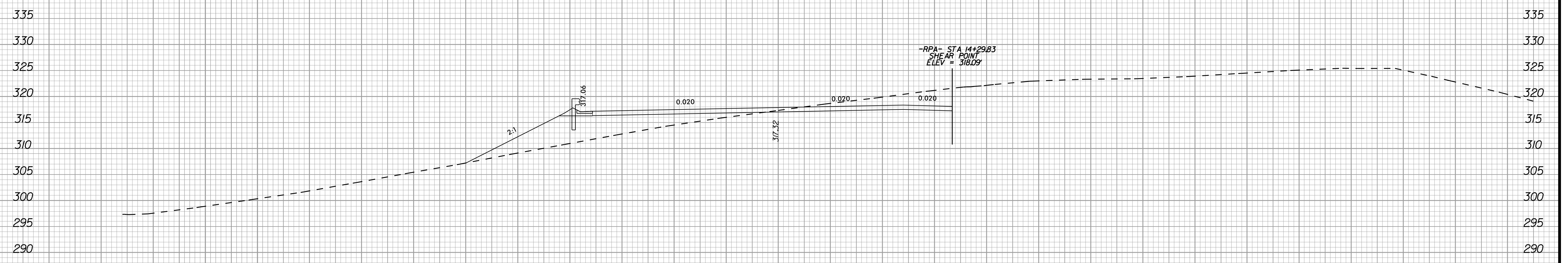
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CROSS SECTION INDEX

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-RPA-
-RPB-
-RPC-
-RPD-
-LPD-
-YI-

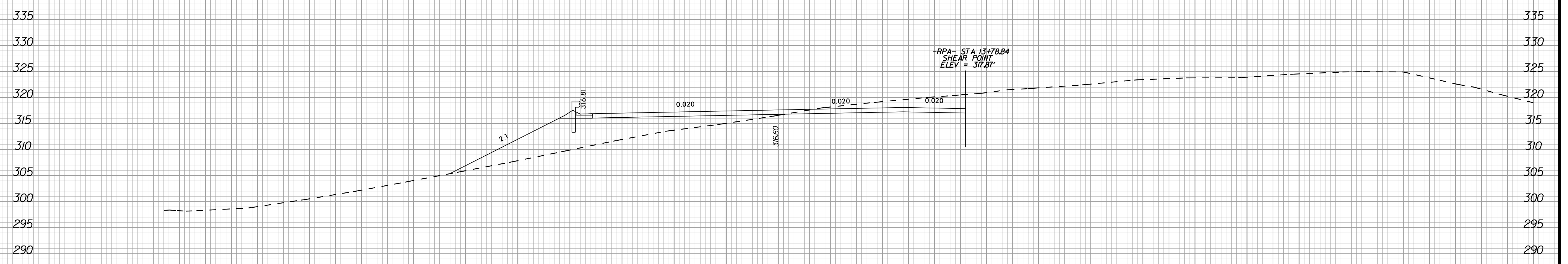
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X-9 THRU X-10
X-11 THRU X-12
X-13 THRU X-14
X-15 THRU X-21
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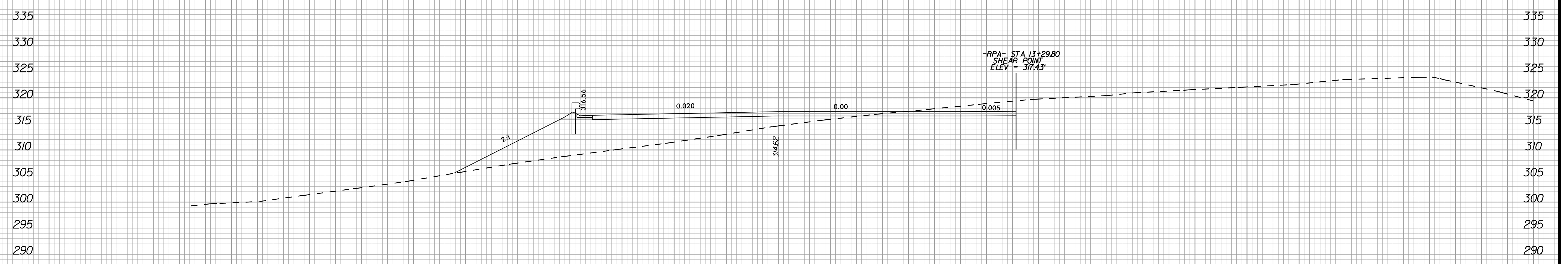
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10 + 50.00

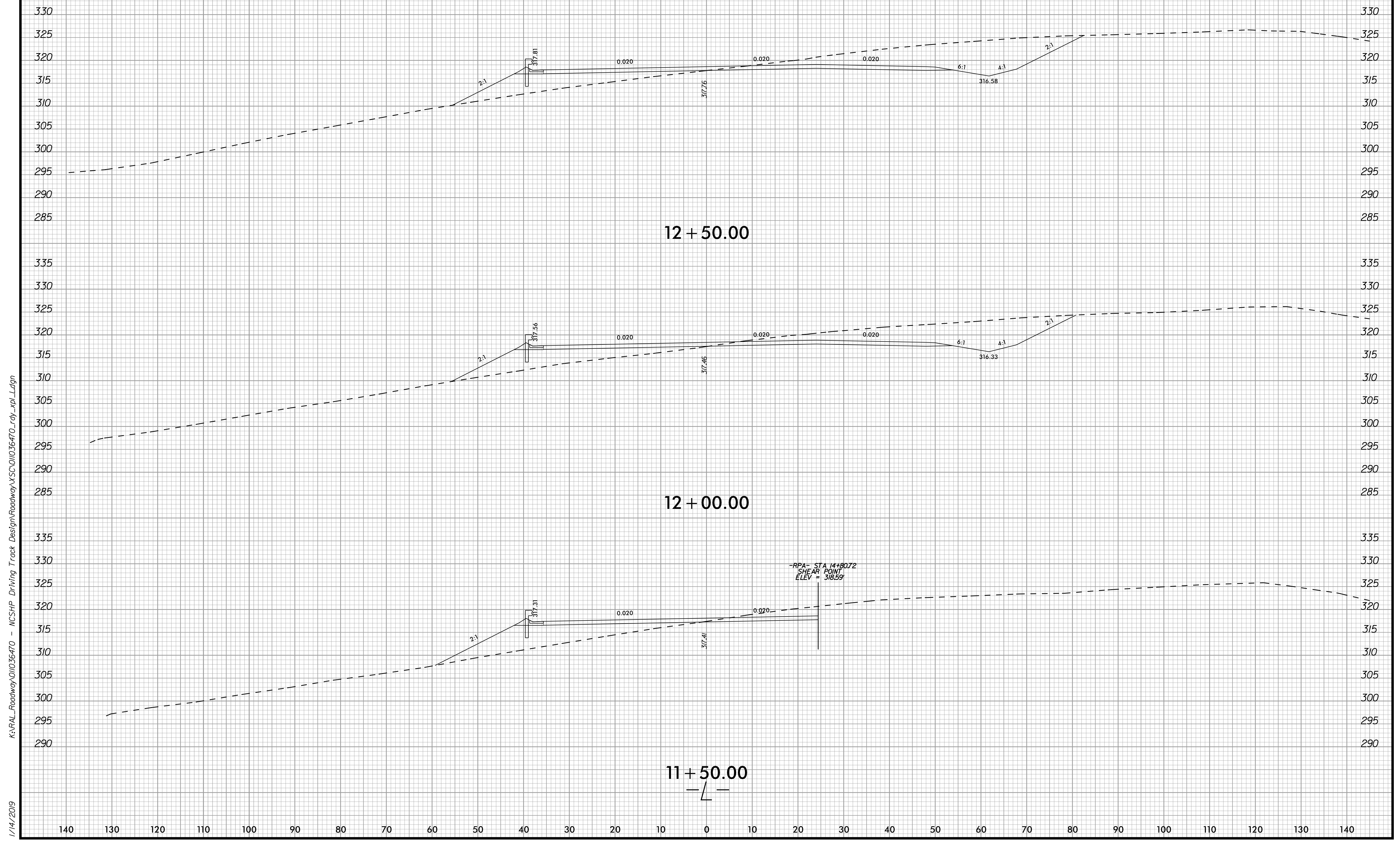


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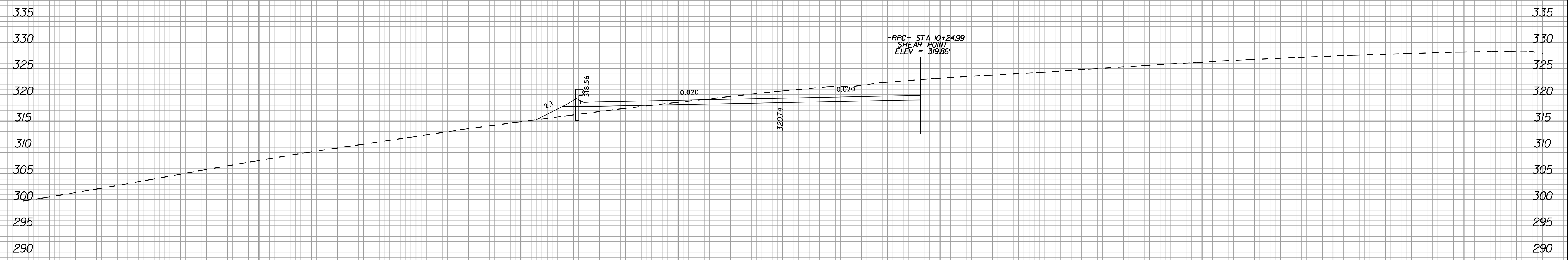
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1/14/2019

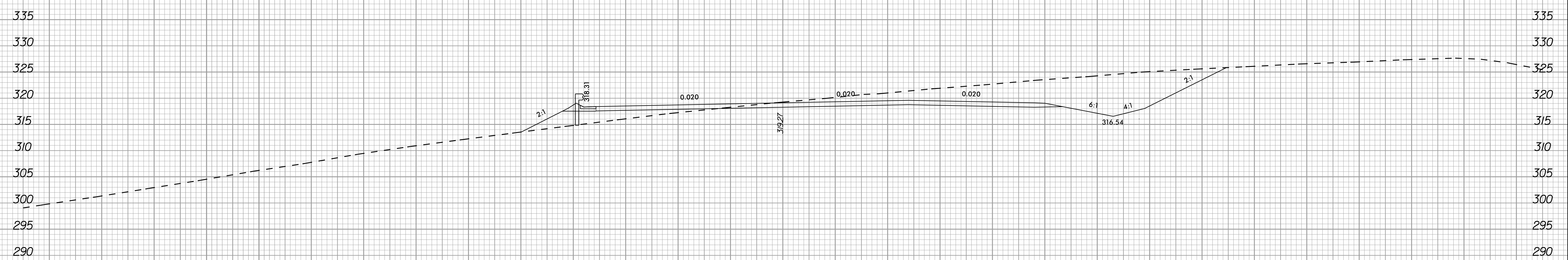
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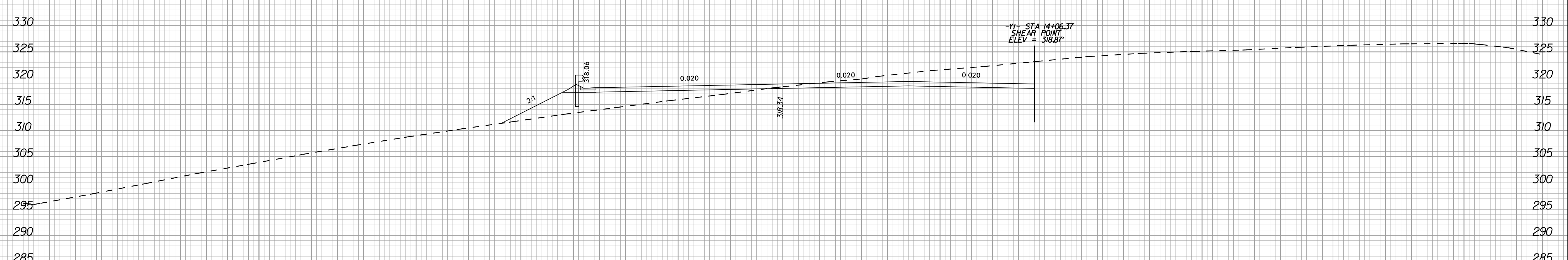
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1/14/2019



14 + 00.00



13 + 50.00

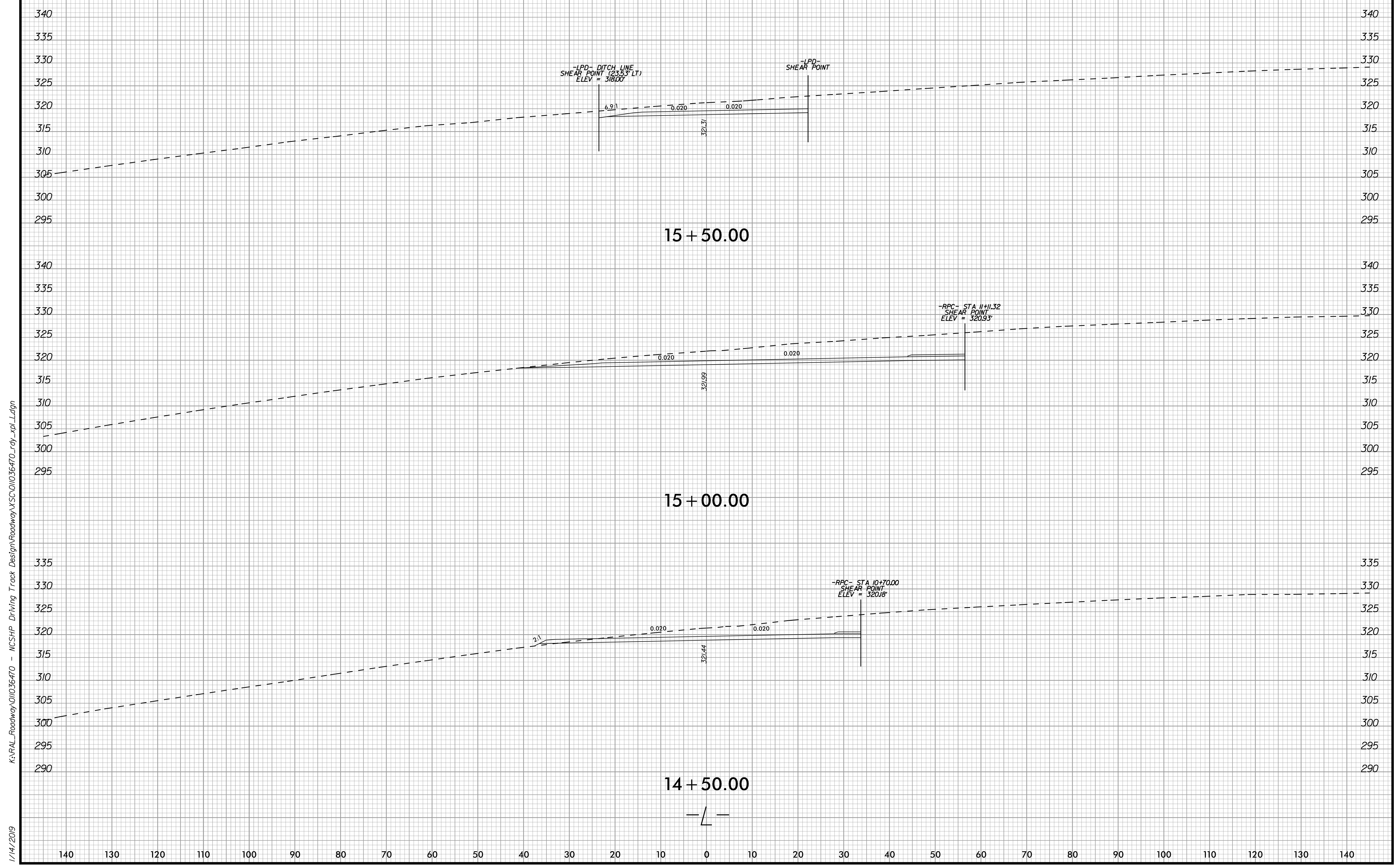


13 + 00.00

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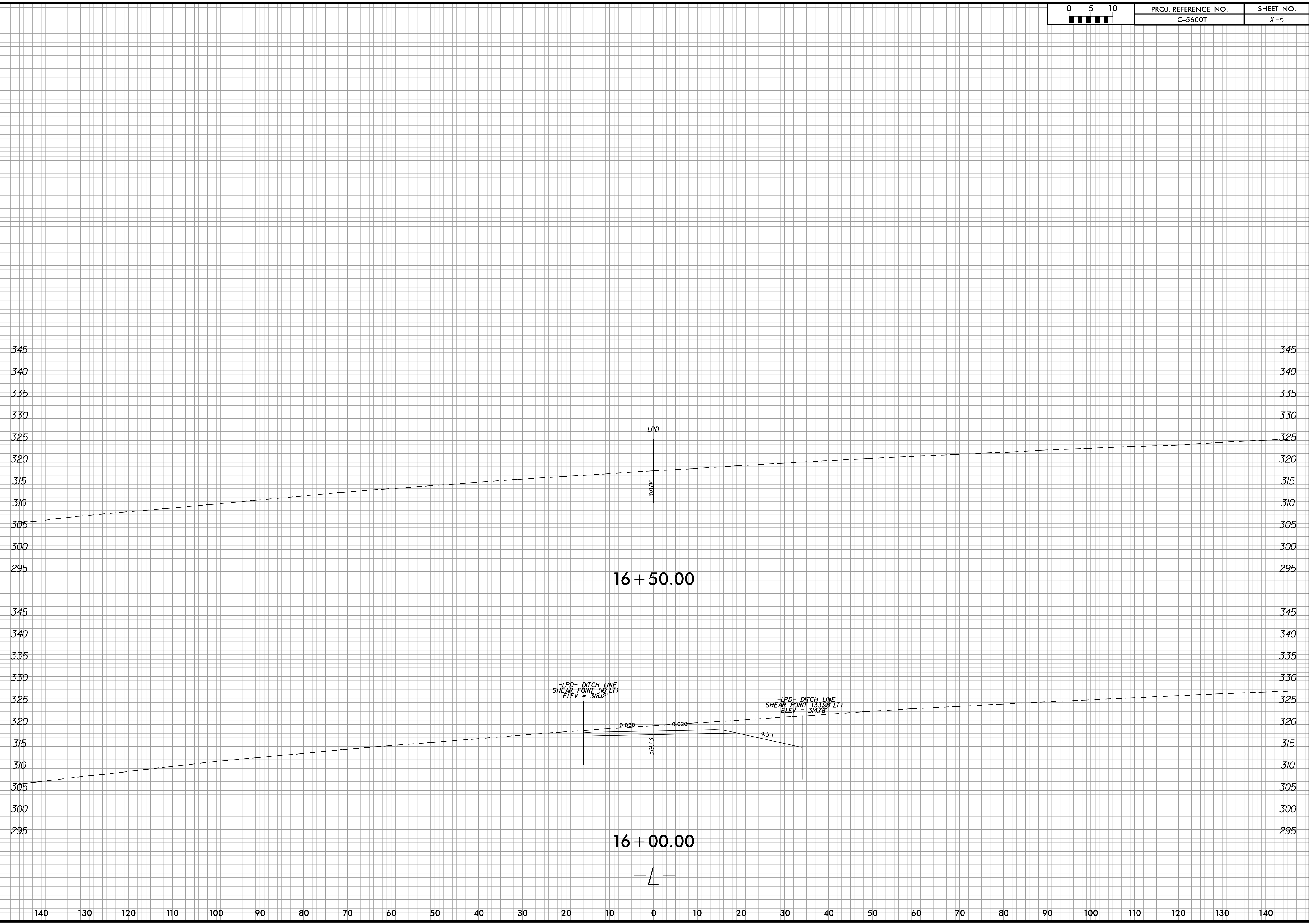
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1/14/2019

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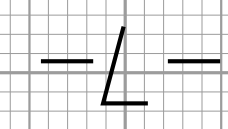
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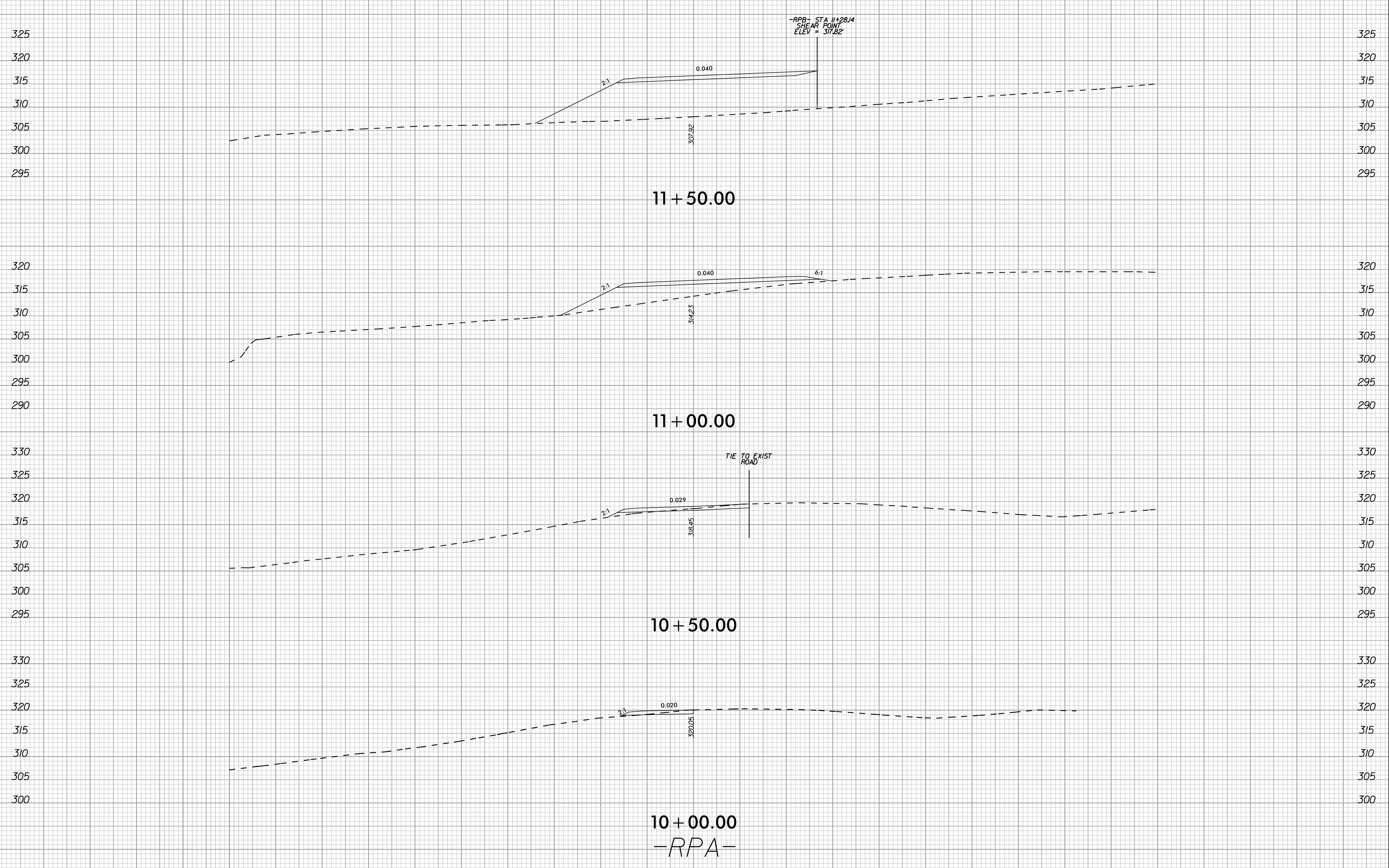
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1/14/2019



16 + 50.00

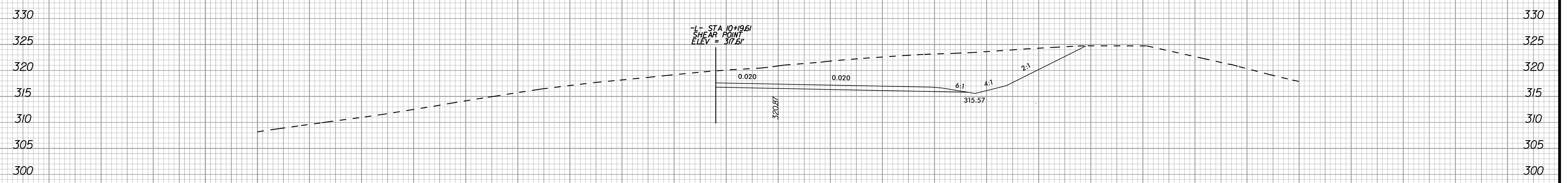
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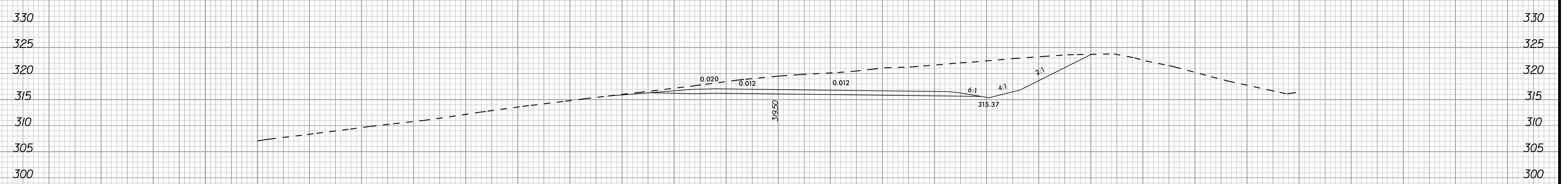


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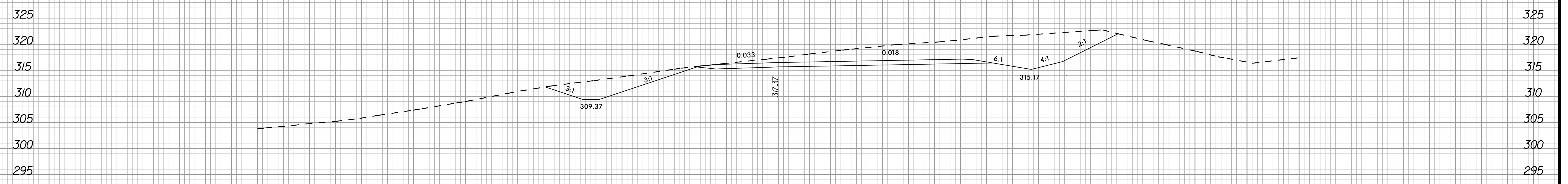
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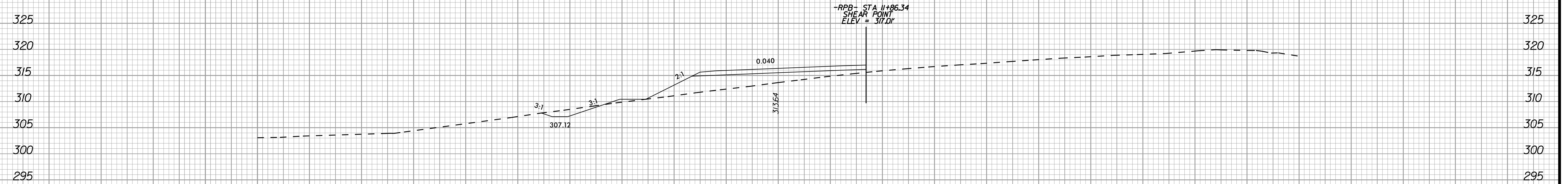
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13+00.00



12+50.00

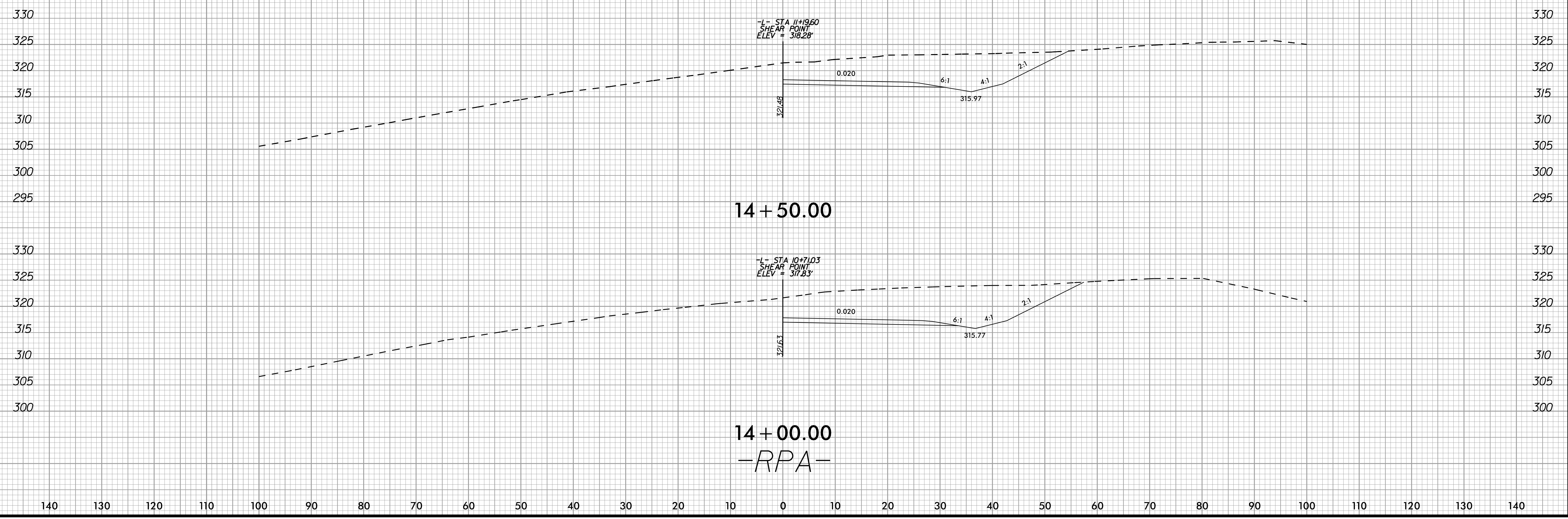


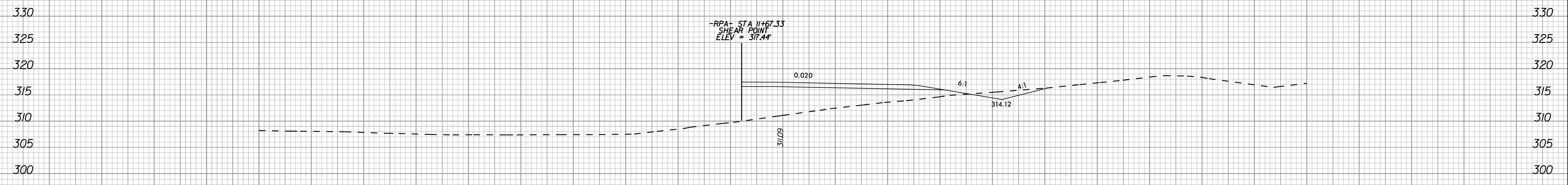
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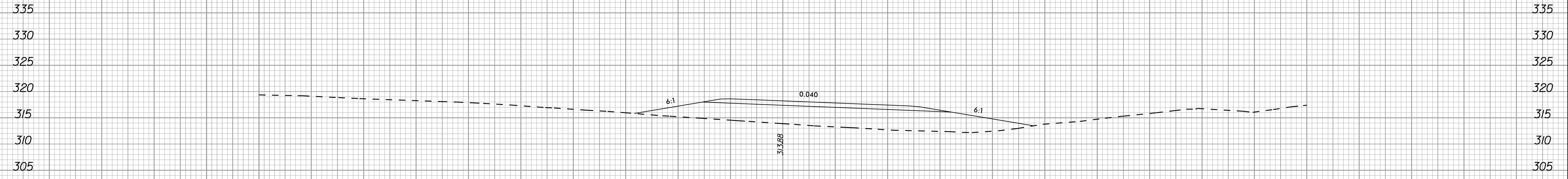
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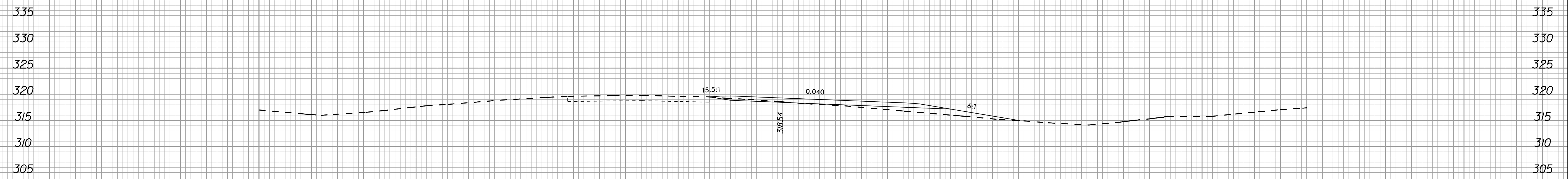




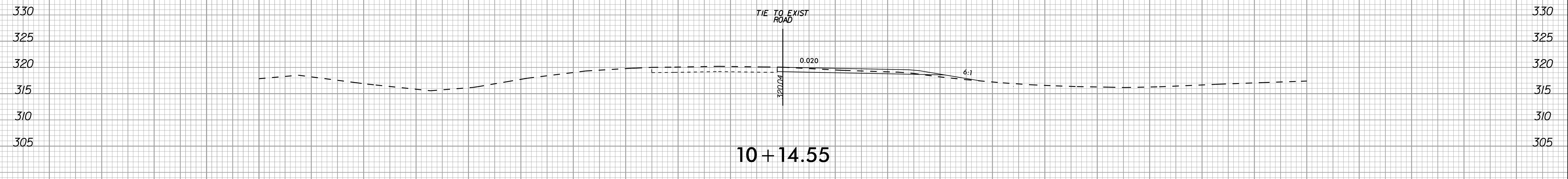
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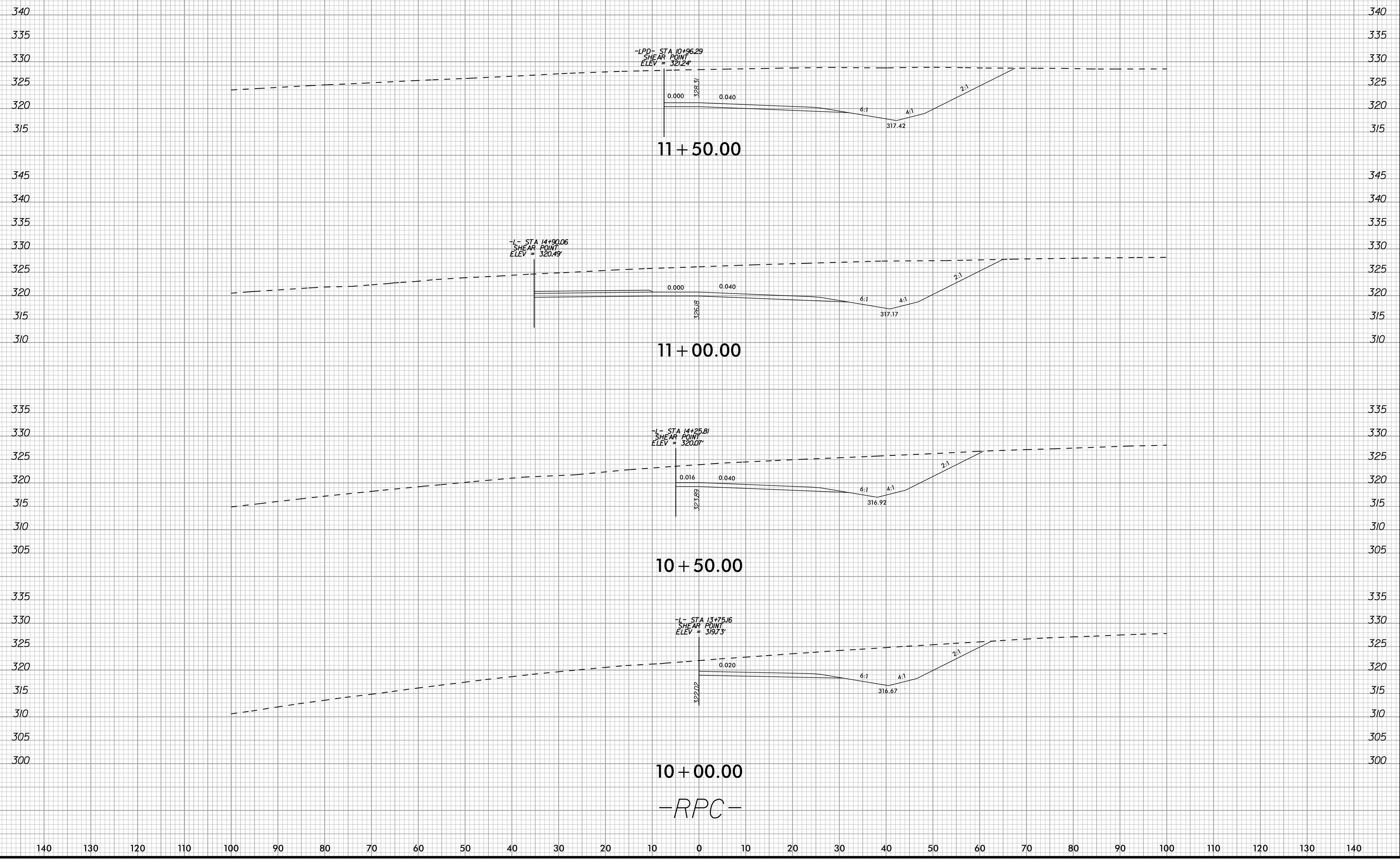
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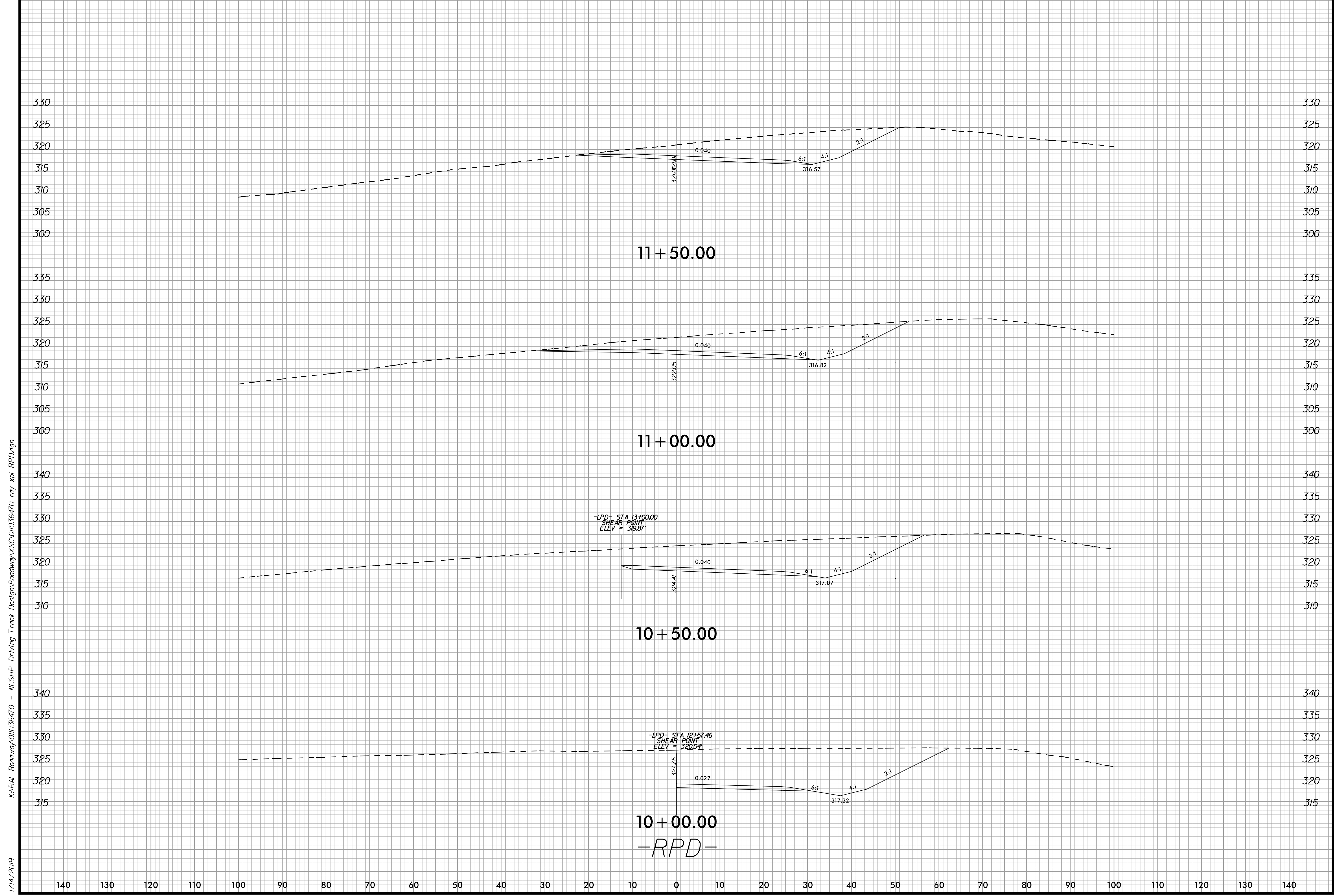




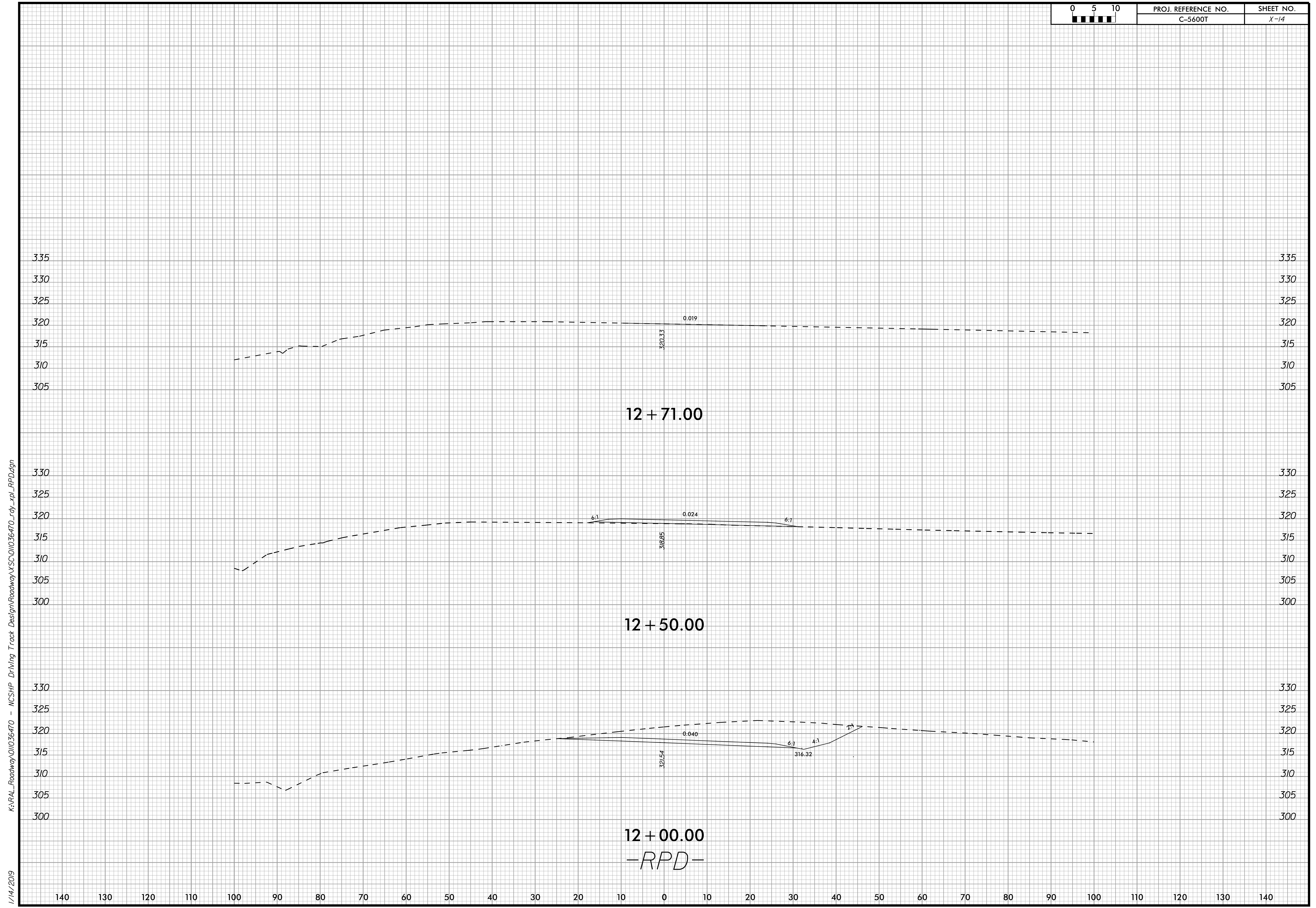
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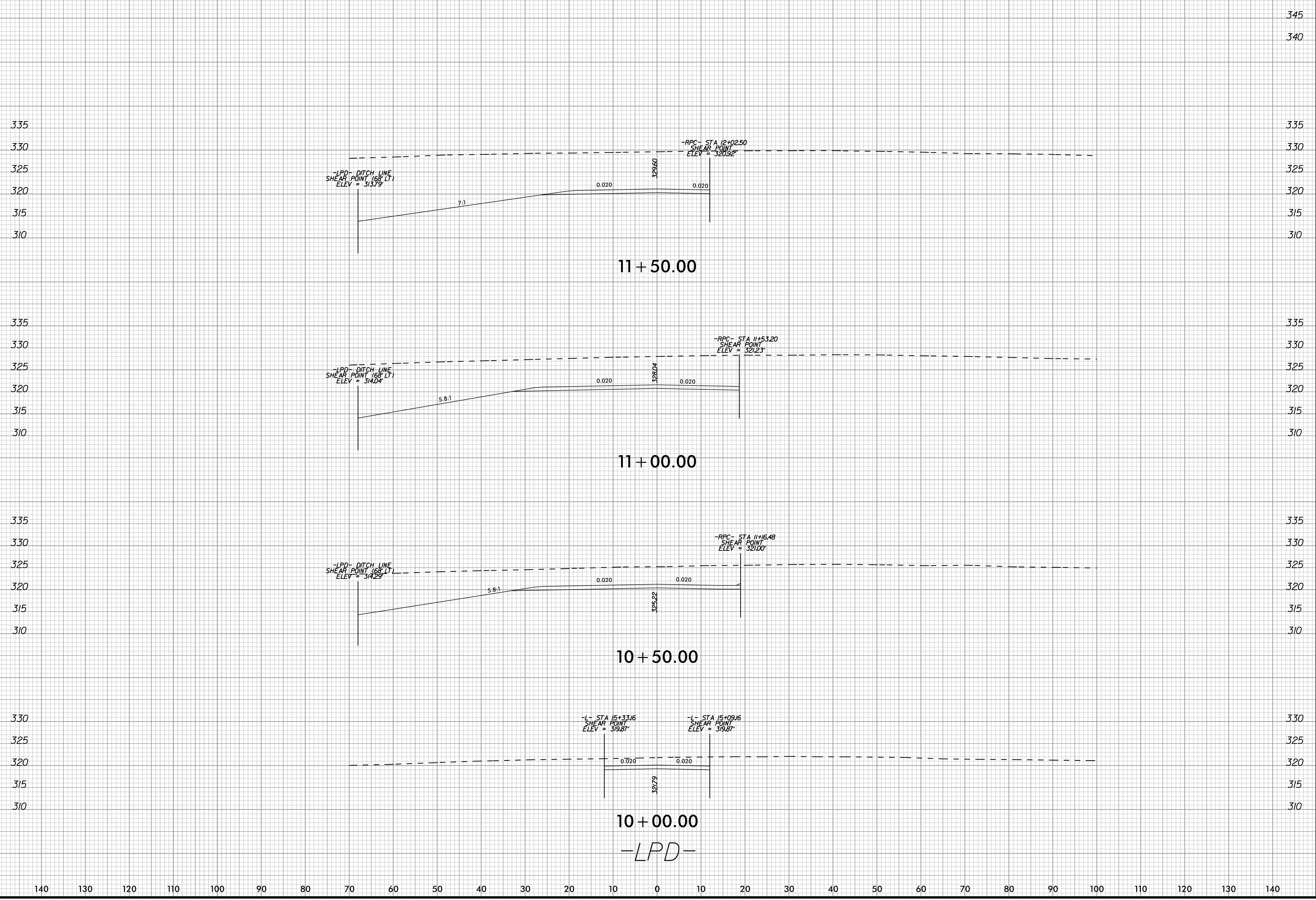


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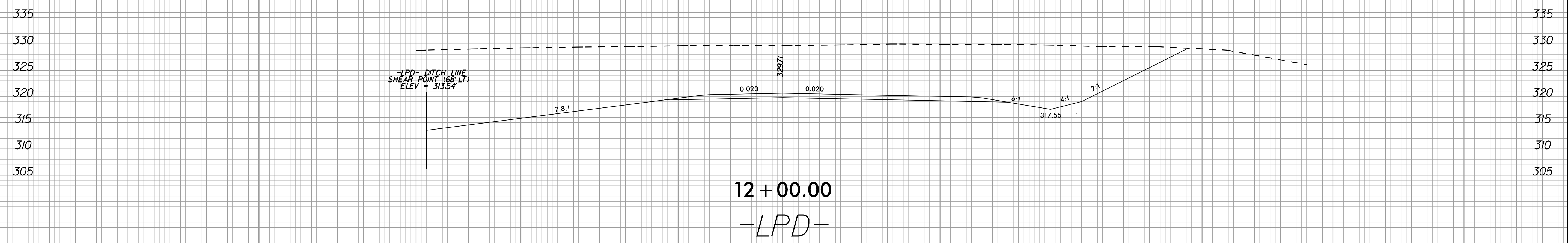
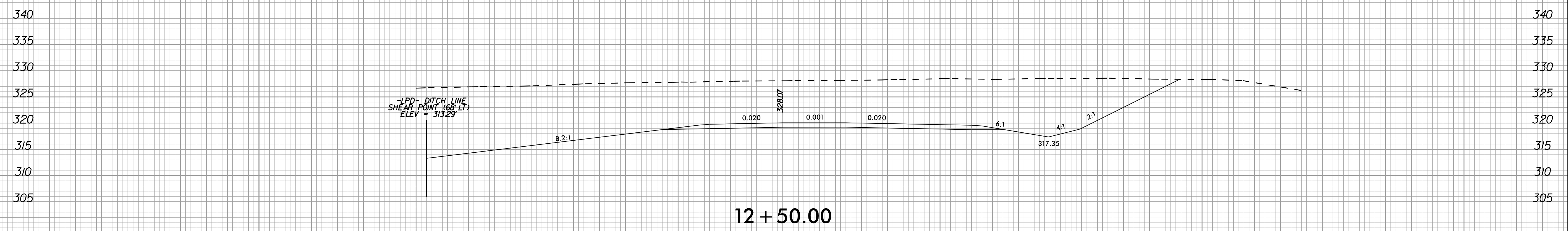
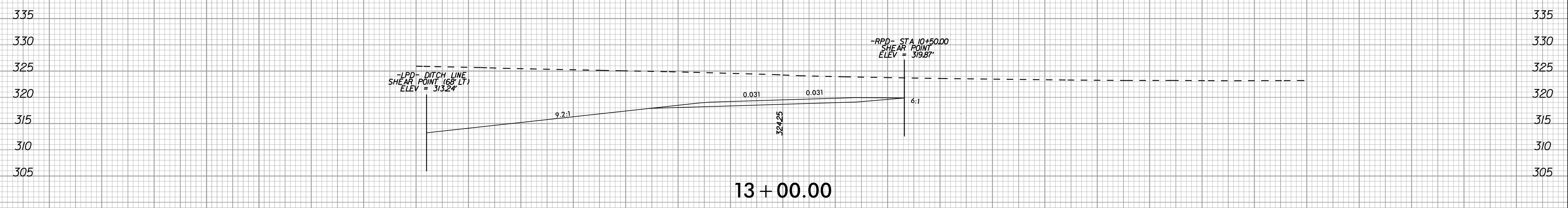
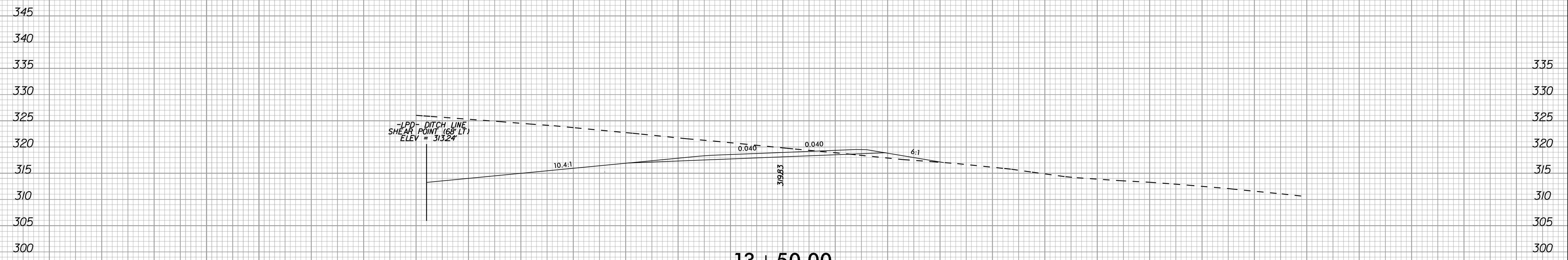


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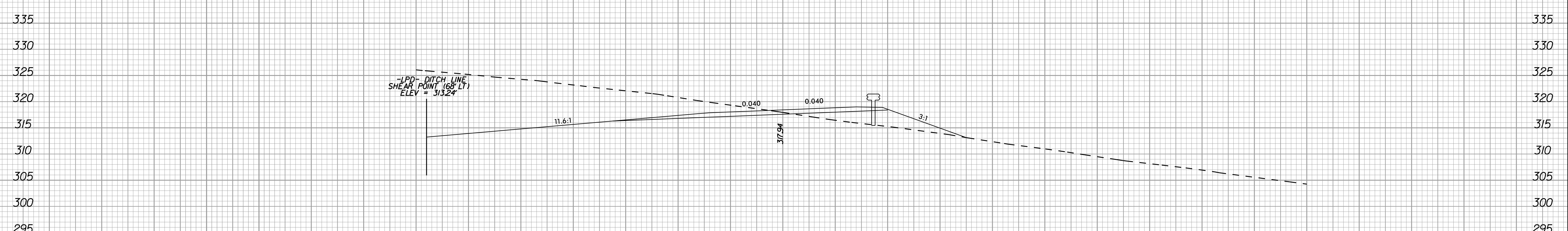
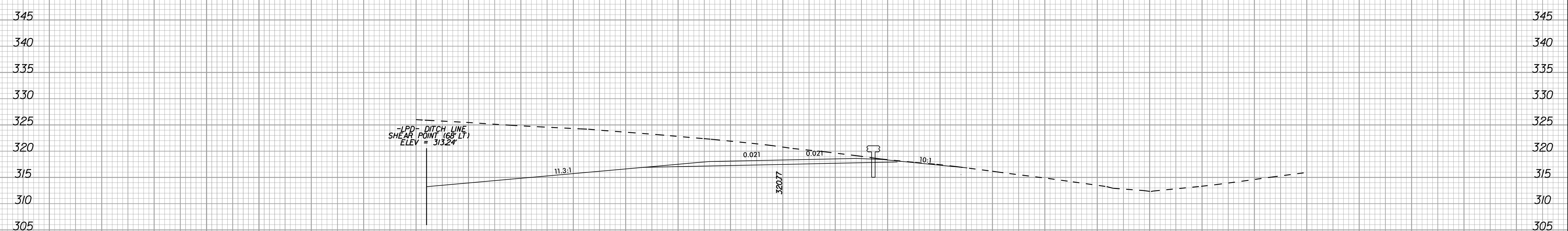
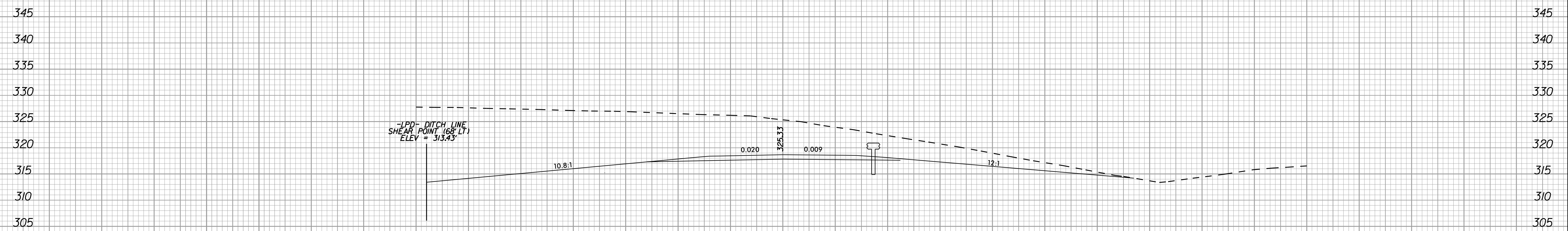
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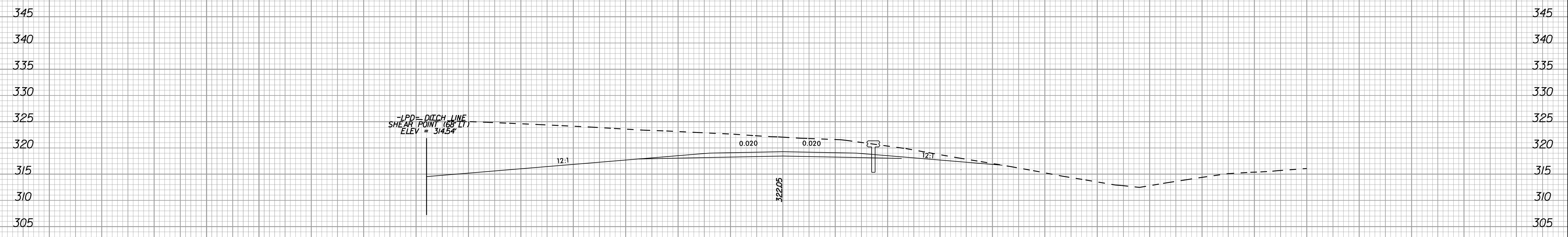
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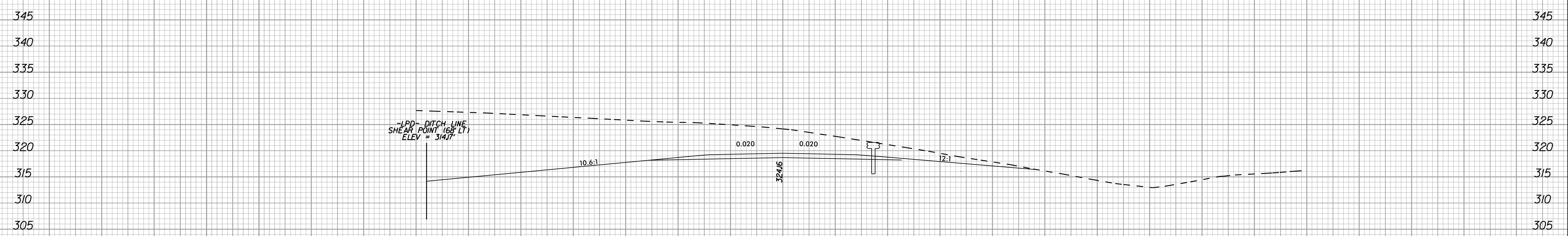
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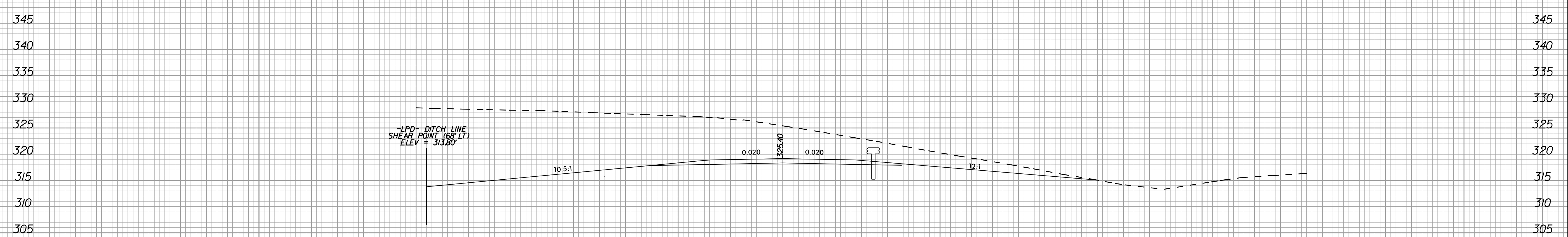
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1/14/2019



16 + 50.00



16 + 00.00



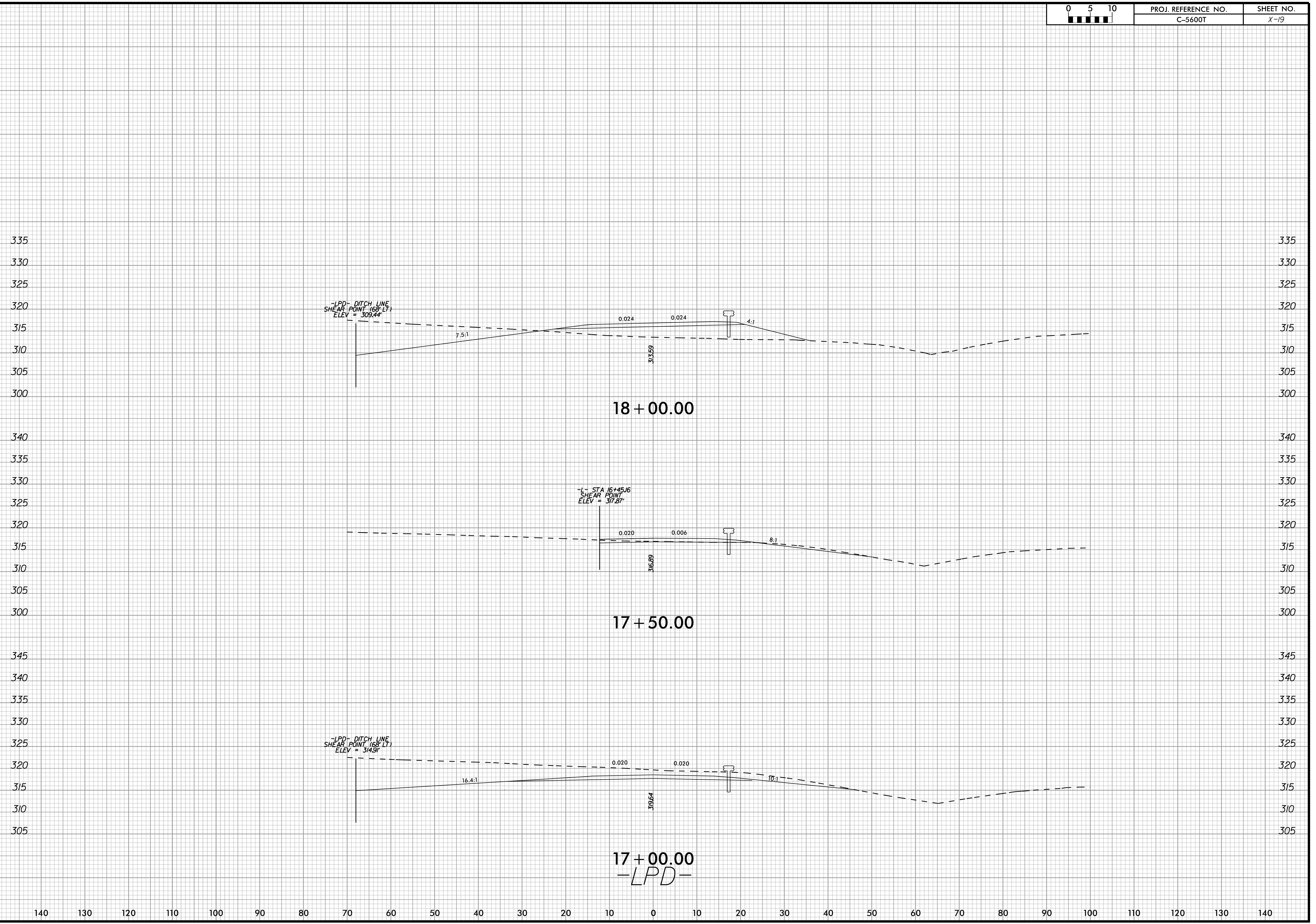
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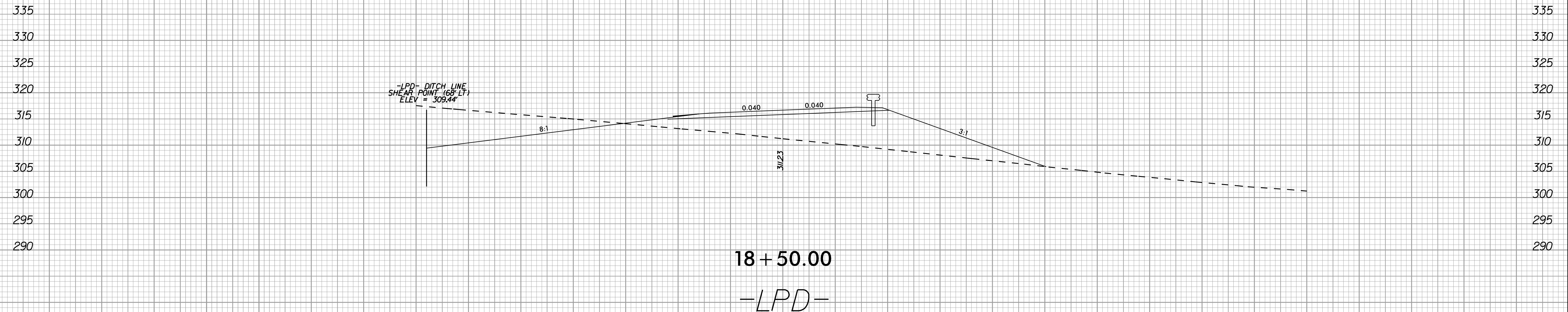
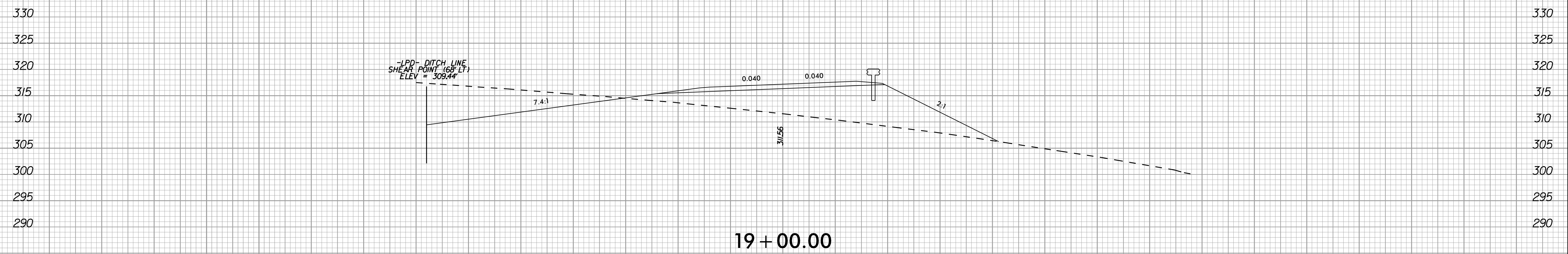
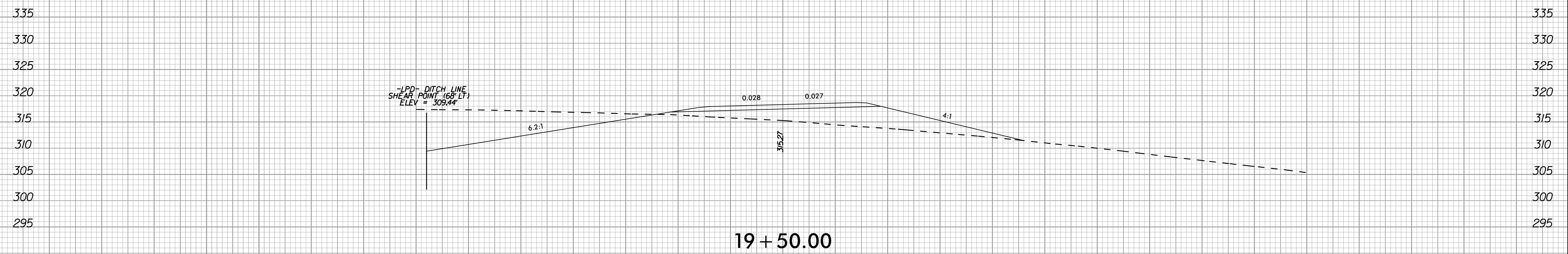
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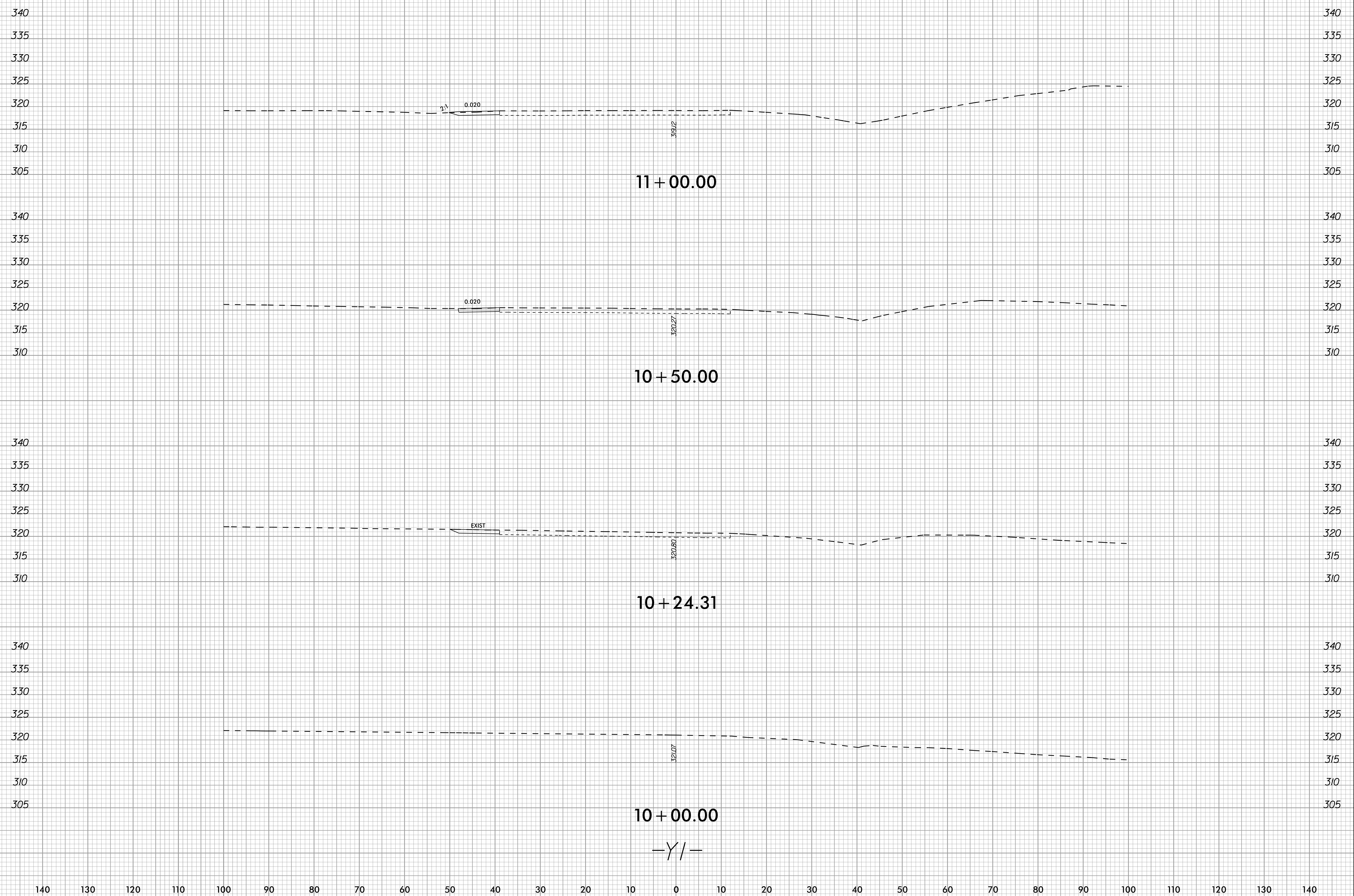




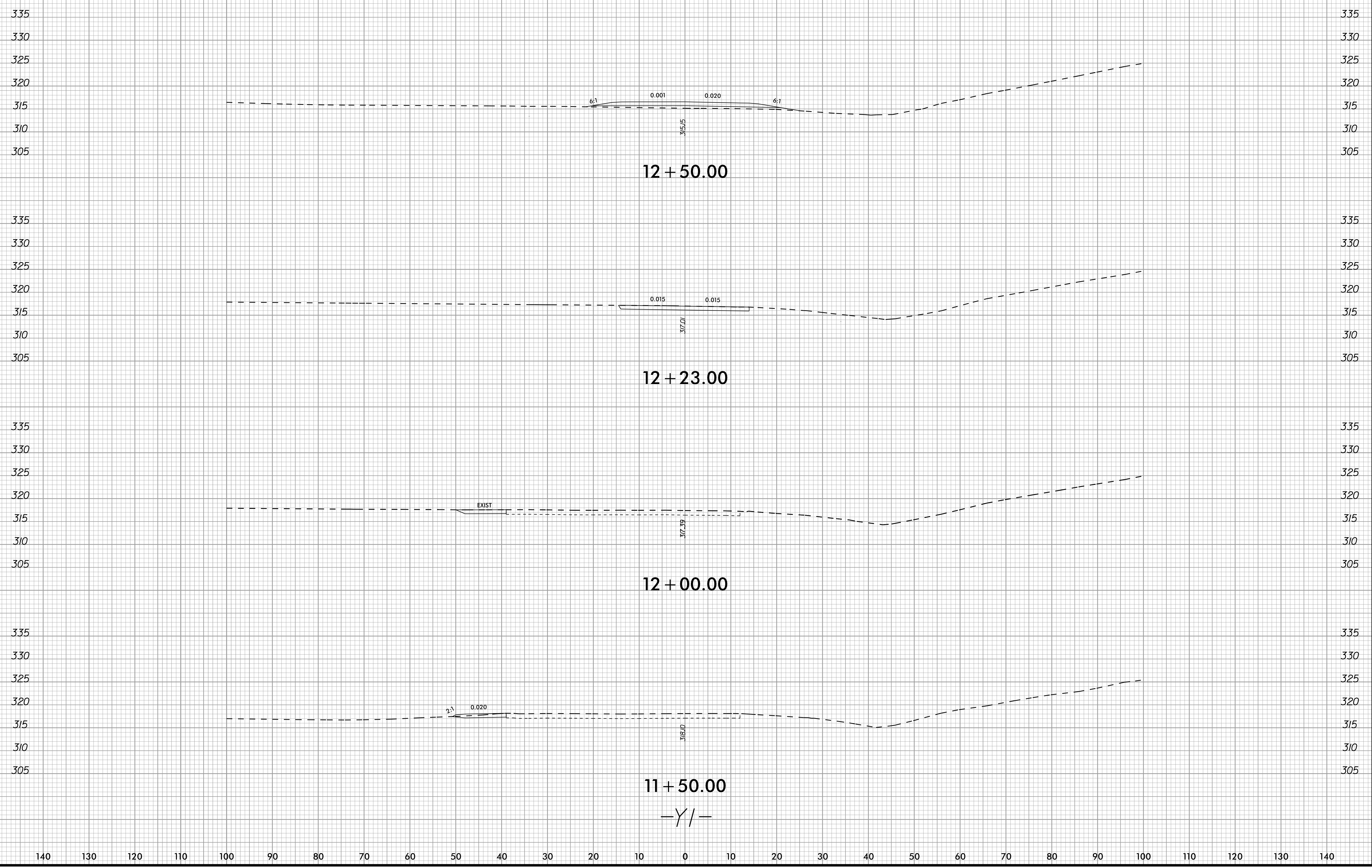
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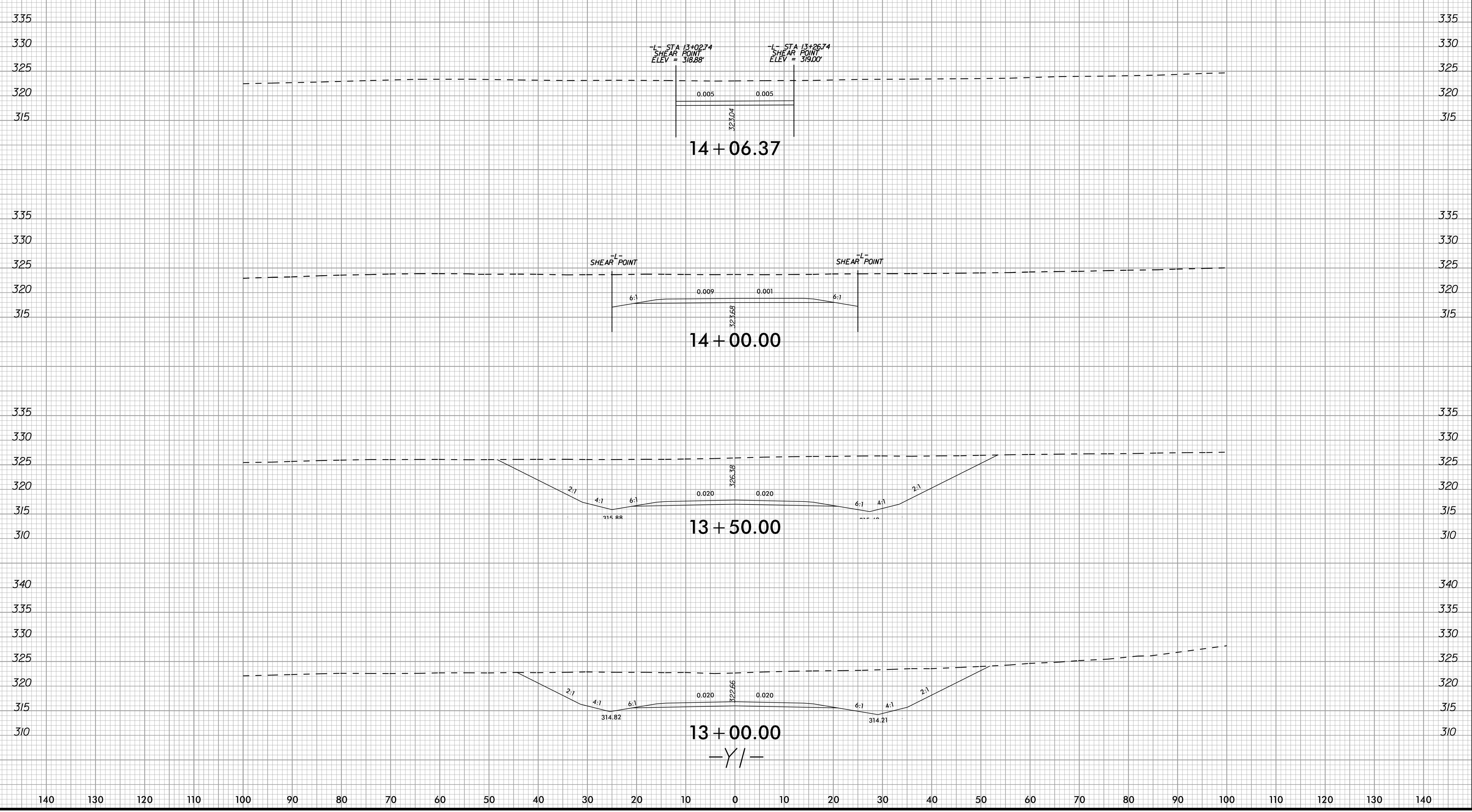




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