

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



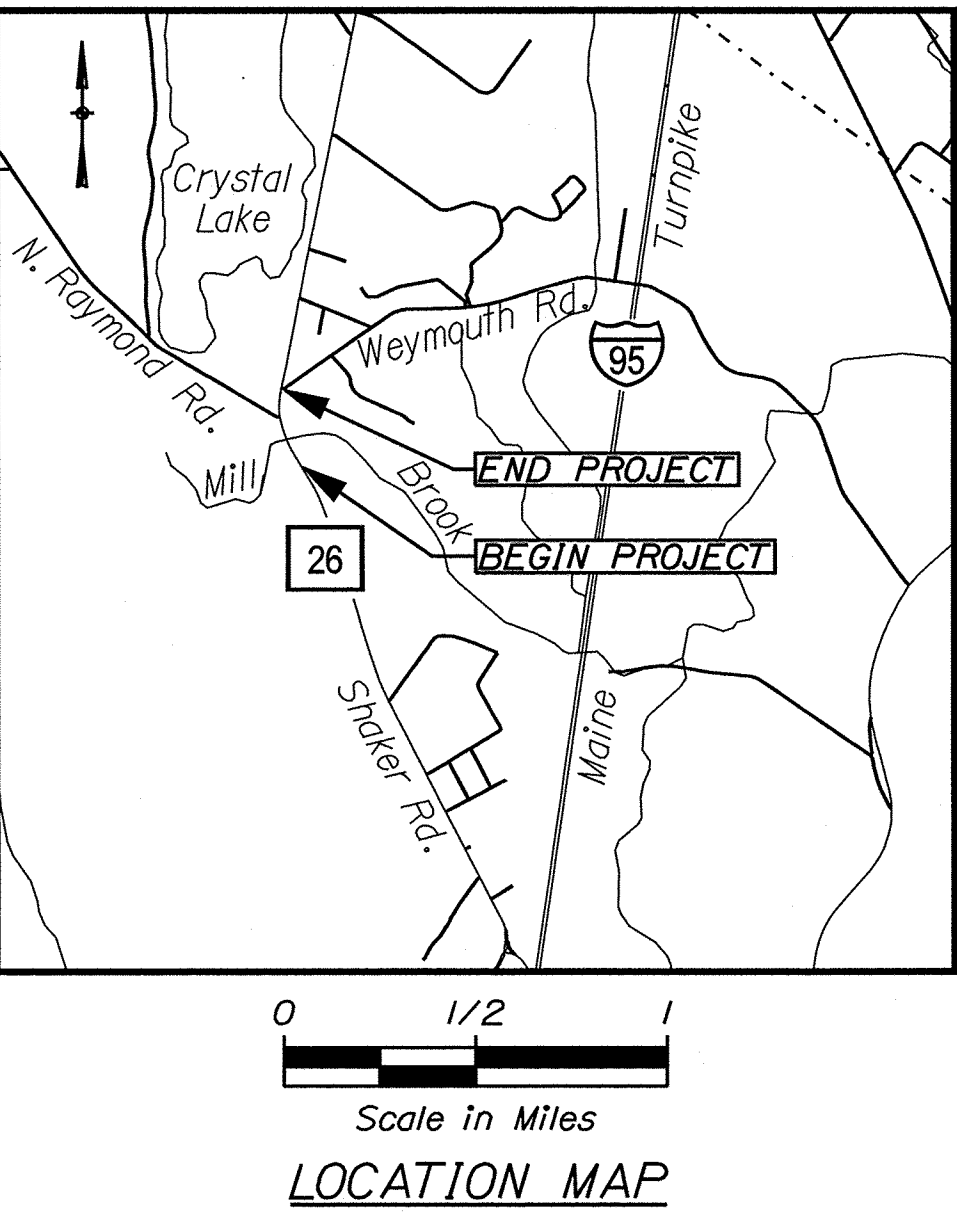
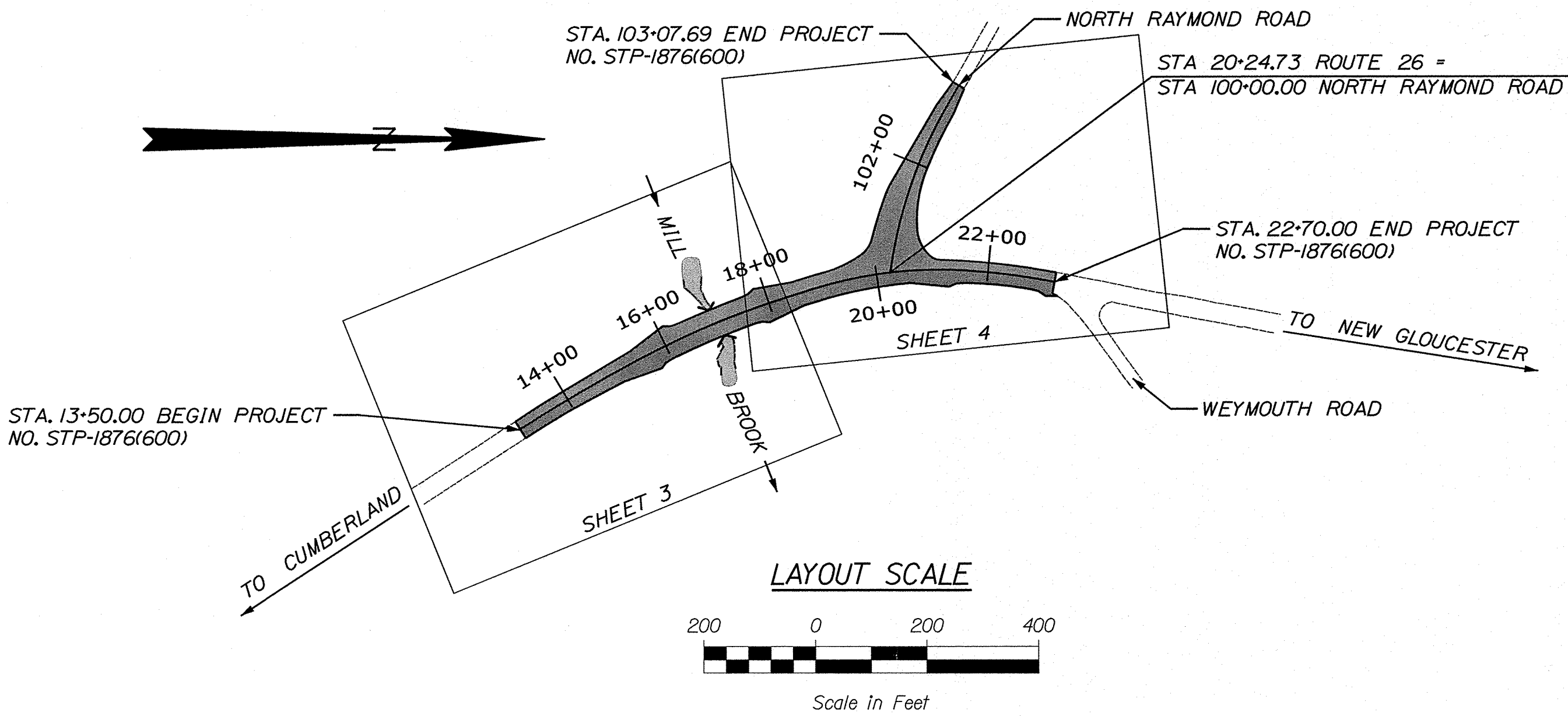
GRAY
CUMBERLAND COUNTY
ROUTE 26 / NORTH RAYMOND ROAD
STP-1876(600)
PROJECT LENGTH : 0.17 MILES

PLAN LEGEND

Town, County, State	Centerline-Existing	
Property Lines	Centerline-Proposed	18+00
R/W Lines-Existing	Travelway-Existing	
R/W Lines-Proposed	Travelway-Proposed	
Culvert-Existing	Railroad	
Culvert Proposed	Catch Basins	Existing Proposed
Curbing	Manholes	Existing Proposed
Type 1	Proposed Underdrain	
Type 3	Proposed Ditch	
Type 5	Existing Ditch	
Outline of Bodies of Water	Utility Poles	Existing Proposed
Boring	Fire Hydrants	Existing Proposed
Pavement Core	Existing Water Line	
Test Pit	Existing San. Sewer	
Probe	Existing San. Sewer Manhole	
#, # = Depth	Guardrail-Existing	
X = W (Weathered Rock)	Guardrail-Proposed	
R (Refusal)	Guardrail-Cable, Other	
NR (No Refusal)	Exposed Bedrock	
	Buildings	
	Trees	Conifer Deciduous
	Tree Line	
	Clearing Limit Line	

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TRAFFIC DATA

	State Rte. 26 North of N. Raymond Rd.	State Rte. 26 South of N. Raymond Rd.	N. Raymond Rd. without State Rte. 26
Current (2018) AADT	11,360	14,640	5,900
Future (2038) AADT	12,500	16,100	6,490
DHV - % of AADT	11	11	13
Design Hour Volume	1,303	1,798	861
% Heavy Trucks (AADT)	11	10	5
Directional Distribution (DHV)	60%	67%	71%
Design Speed (mph)	40	40	30
Functional Class	Principal Arterial	Principal Arterial	Minor Collector
Corridor Priority	1	1	4

PROJECT LOCATION:

ROUTE 26 BEGINNING APPROXIMATELY 1.81 MILES SOUTHERLY OF THE GRAY/NEW GLOUCESTER TOWN LINE, AND PROCEEDING NORTHERLY ALONG ROUTE 26 TO THE SOUTHERLY SIDE OF THE ROUTE 26/WEYMOUTH ROAD INTERSECTION.

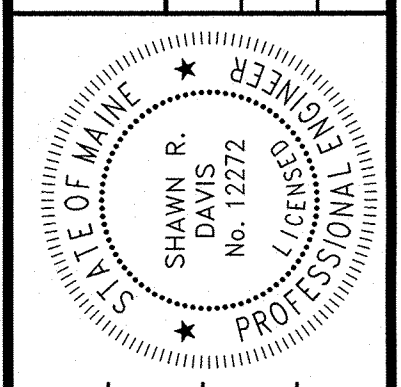
PROGRAM AREA:

MULTIMODAL PROGRAM

SCOPE OF WORK:

INTERSECTION WORK INCLUDING NEW SIGNALIZATION, WIDENING, ADDING TURN LANES AND ISLAND, AND RE-ALIGNMENT OF INTERSECTION.

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	APPROVED	DATE
	COMMISSIONER: <i>[Signature]</i>	9-18-19
	CHIEF ENGINEER: <i>[Signature]</i>	9-18-19



PROJECT INFORMATION	TRAFFIC
PROGRAM	PROJECT MANAGER
DESIGNER	DESIGNER
CONSULTANT	PROJECT RESIDENT
CONTRACTOR	PROJECT COMPLETION DATE

PROJECT INFORMATION	TRAFFIC
PROGRAM	PROJECT MANAGER
DESIGNER	DESIGNER
CONSULTANT	PROJECT RESIDENT
CONTRACTOR	PROJECT COMPLETION DATE

GRAY RTE. 26/N. RAYMOND RD.	TITLE SHEET
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SHEET NUMBER	1
OF 38	

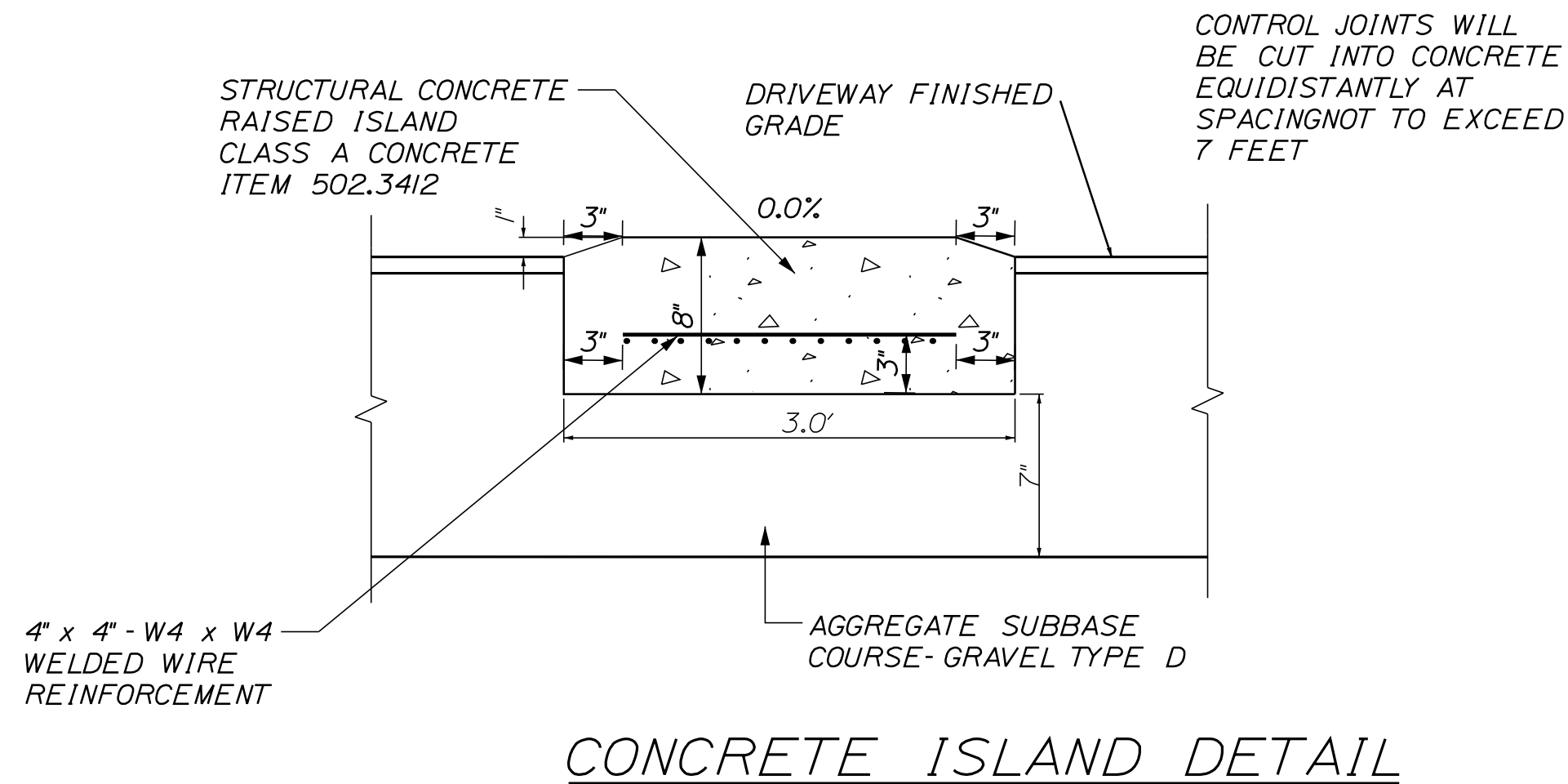
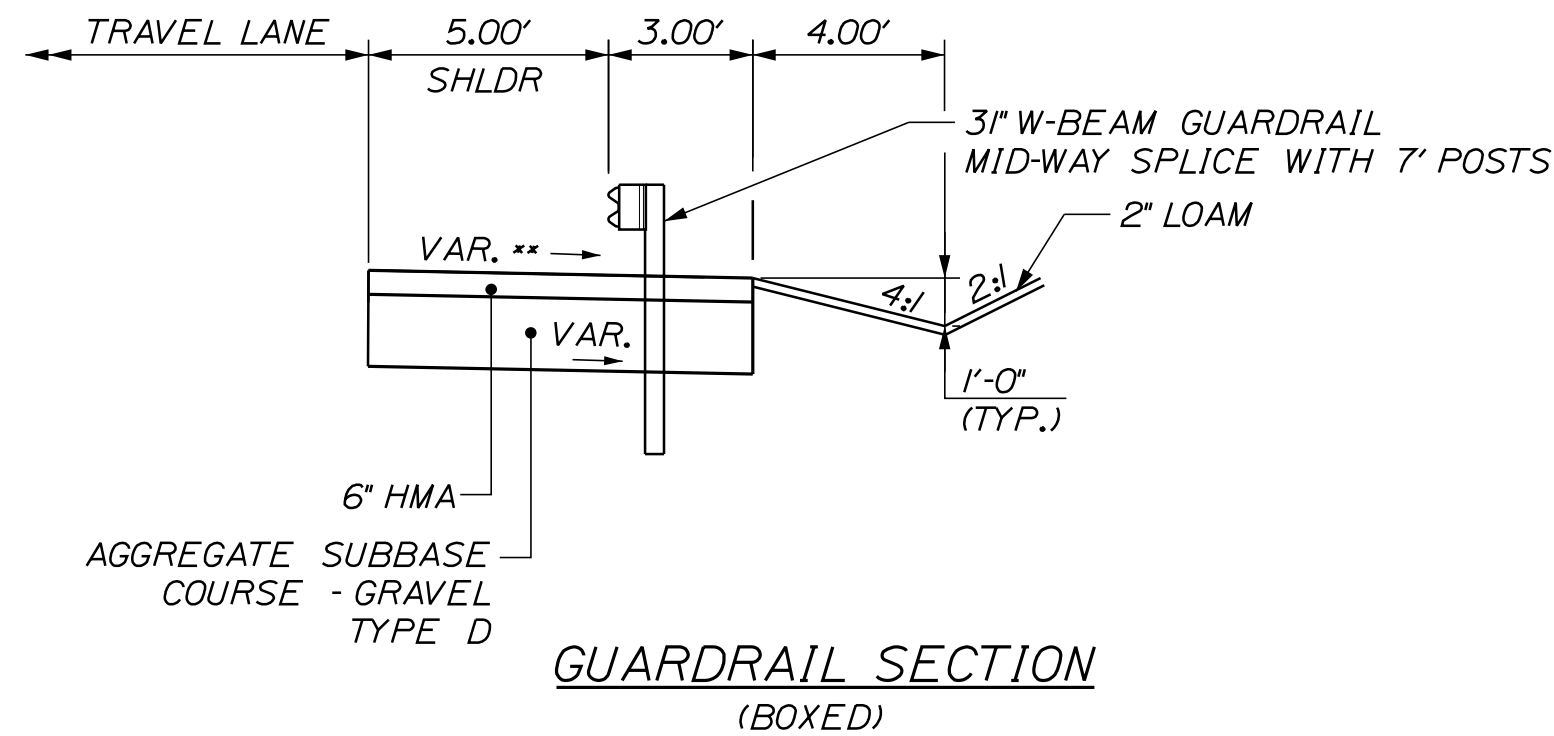
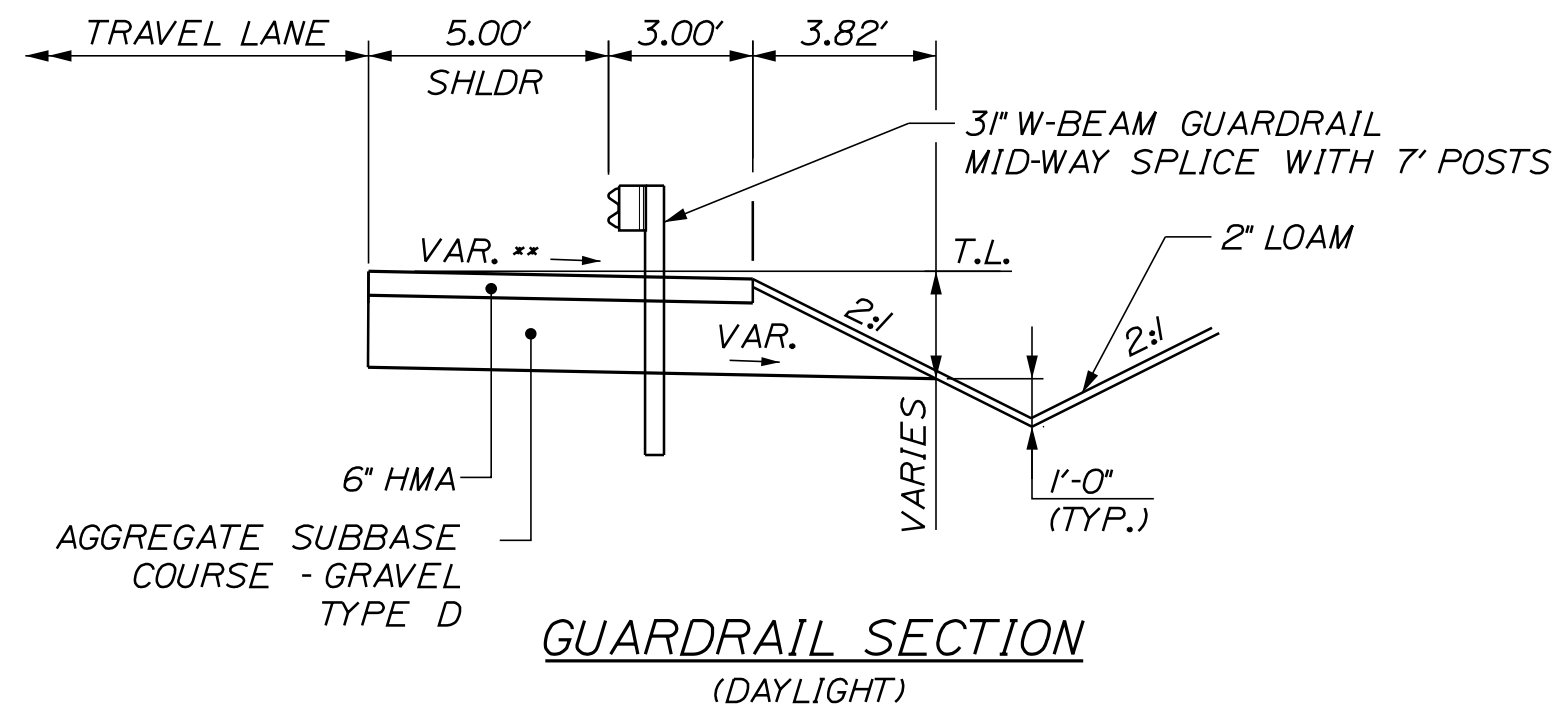
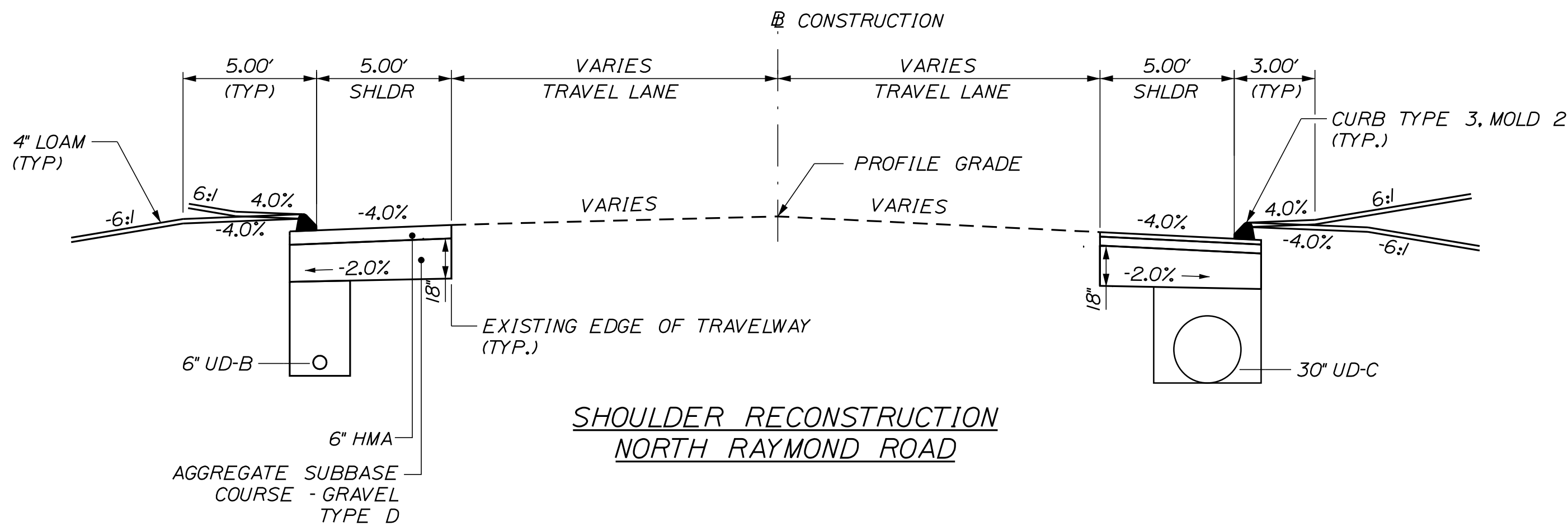
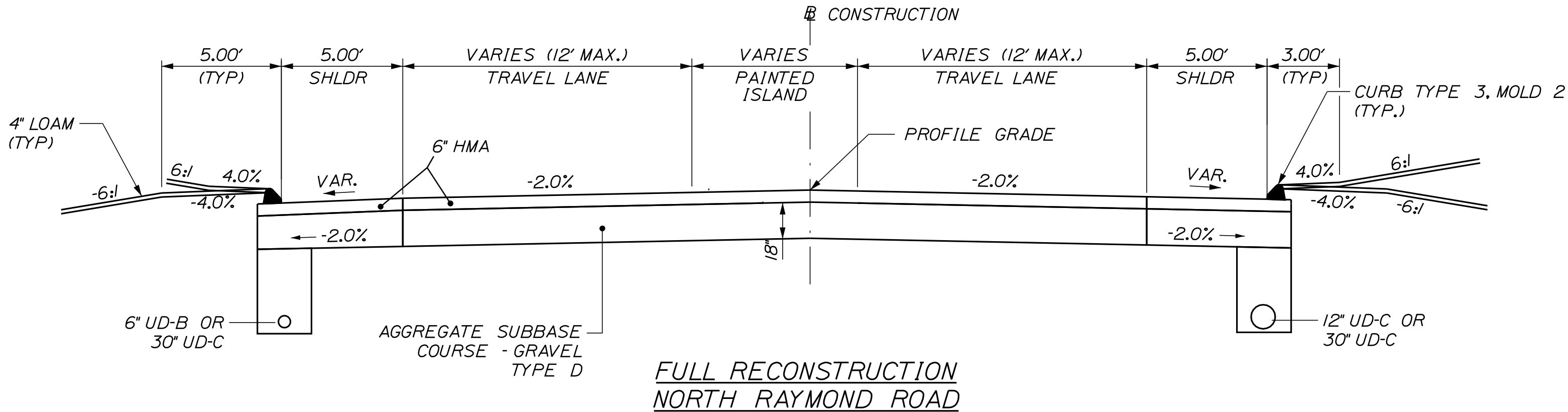
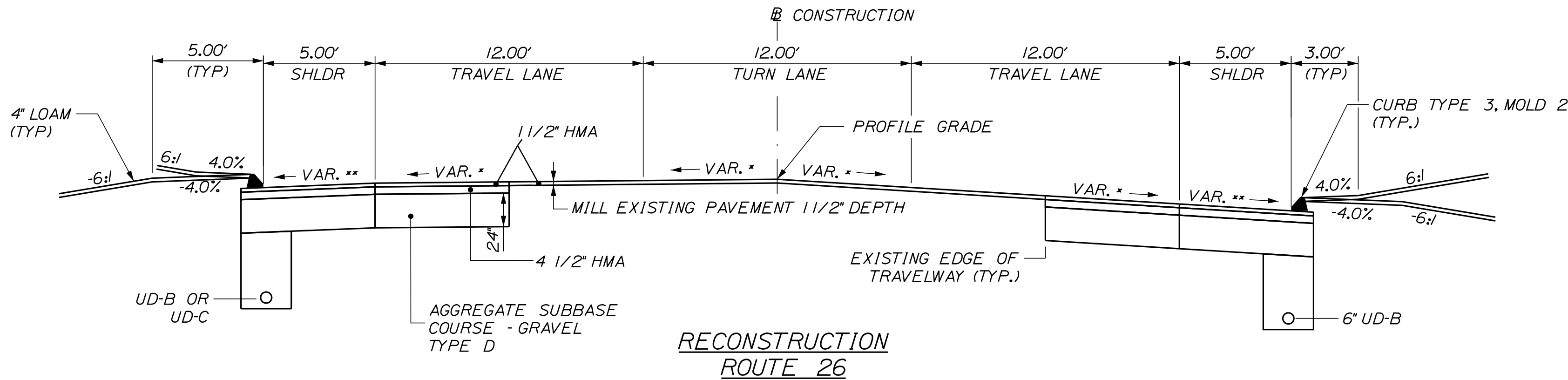
Date: 9/16/2019

Username:

Division: HIGHWAY

Filename: ... \HIGHWAY\MSTAV01_Title_01.dgn

WIN 18766.00 STP-1876(600)

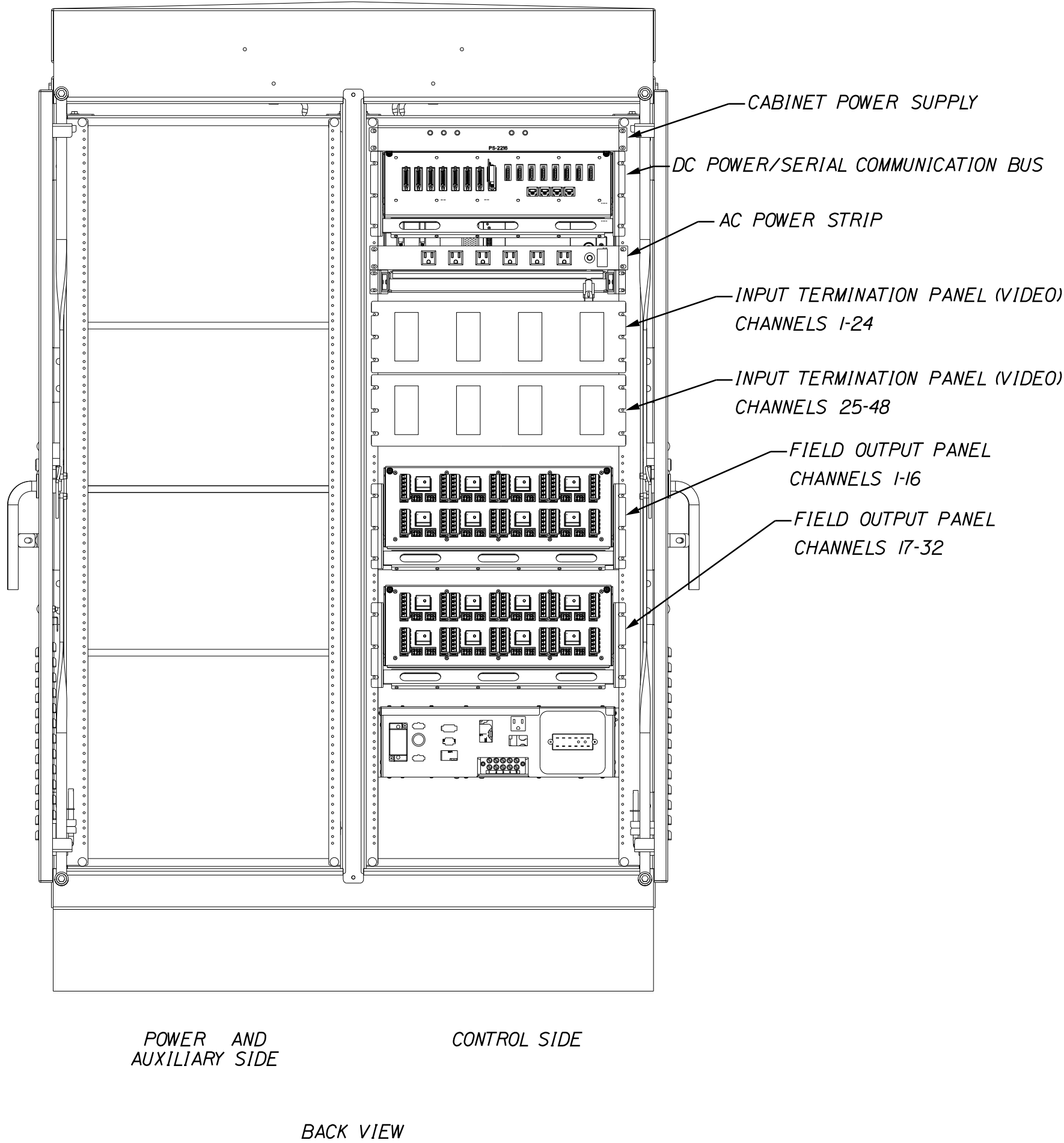
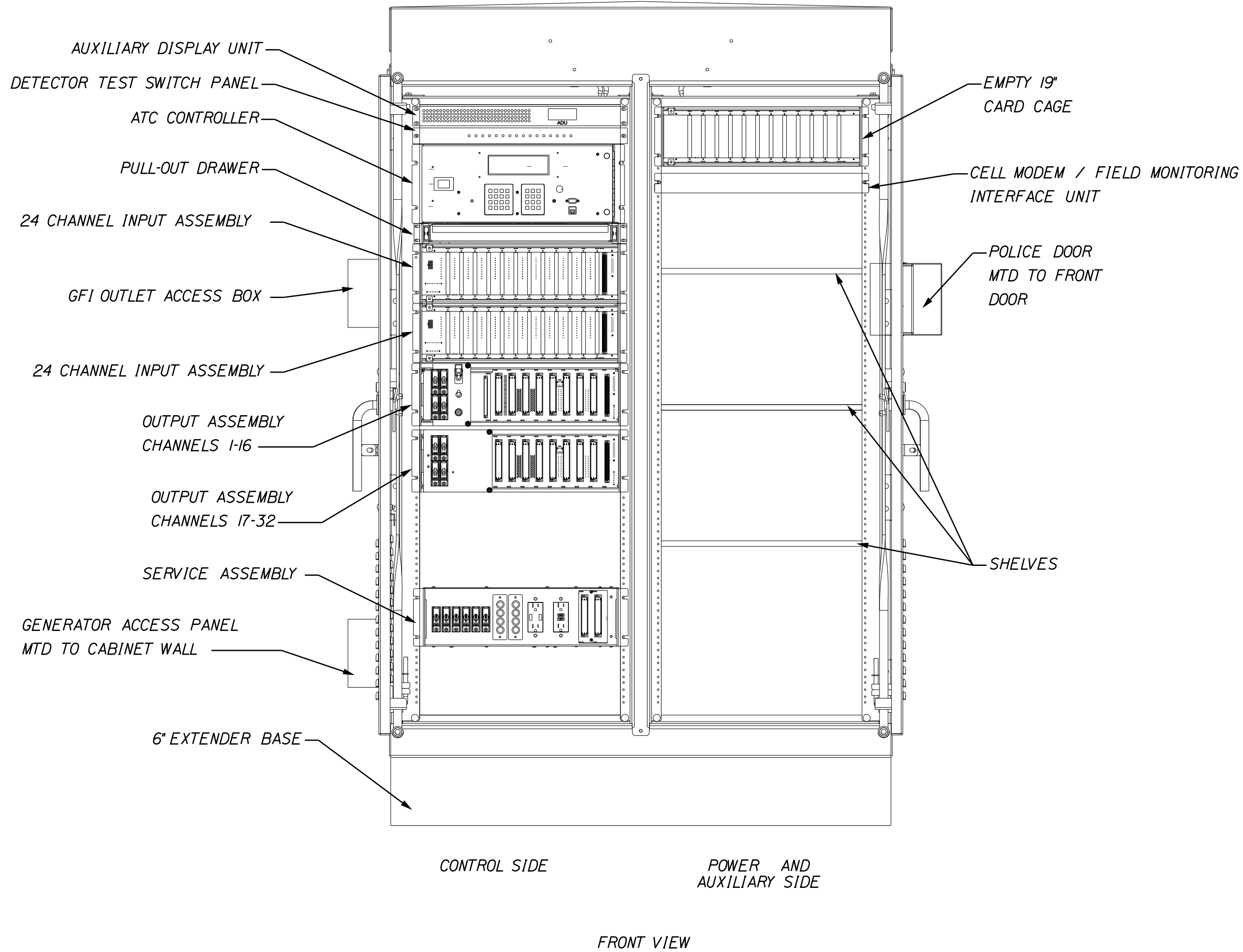


NOTES:

1. THE PAVEMENT, BASE, AND SUBBASE DEPTHS AS SHOWN ON THE PLANS ARE INTENDED TO BE NOMINAL.
2. WHEN THE SUPERELEVATION EXCEEDS THE SLOPE OF THE LOW SIDE SHOULDER, THE LOW SIDE SHOULDER SHALL HAVE THE SAME SLOPE AS THE TRAVEL LANE.
3. CROWNS FOR BOTH NORMAL AND SUPERELEVATION SECTIONS FOR ALL COURSES OF SUBBASE AND PAVEMENT SHALL BE STRAIGHT.
4. THE GRAVEL QUANTITY CALCULATION IS BASED ON A 2 INCH LOAM DEPTH. THE ACTUAL DEPTH MAY VARY. SEE THE GENERAL NOTES.
5. THE ALGEBRAIC DIFFERENCE BETWEEN THE SHOULDER AND THE TRAVEL LANE CROSS SLOPES "ROLLOVER" SHALL NOT EXCEED 8 PERCENT.
6. THE STATIONING UNDER EACH TYPICAL IS APPROXIMATE.
7. CURB TYPE 3 - MOLD 2 (MODIFIED) SHALL BE INSTALLED WHERE GUARDRAIL IS LOCATED ALONG LOW SIDE SHOULDERS OF SUPERELEVATED ROADWAY.
8. SEE GEOMETRIC LAYOUT SHEET FOR ADDITIONAL INFORMATION.

* MATCH EXISTING TRAVEL LANE CROSS SLOPE
** MATCH EXISTING TRAVEL LANE CROSS SLOPE OR -4.0% MIN. (SEE NOTE 2)

OF 38		SHEET NUMBER		GRAY ROUTE 26/N. RAYMOND RD.		TYPICAL SECTIONS	
		PROJ. MANAGER		T. ERRICO		BY	
		DESIGN-DETAILED		T. KELLEY		DATE	
		CHECKED-REVIEWED				04/2018	
		DESIGN2-DETAILED2					
		DESIGN3-DETAILED3					
		REVISIONS 1				P.E. NUMBER	
		REVISIONS 2					
		REVISIONS 3					
		REVISIONS 4				DATE	
		FIELD CHANGES					



MaineDOT 32/48 ATC CABINET
NOT TO SCALE

- NOTES:
- DRAWING SHOWN IS A SCHEMATIC REPRESENTATION OF THE ATC CABINET DEPICTING THE RELATIVE LOCATION OF VARIOUS IN-CABINET DEVICES AND SUBASSEMBLIES. THE EXACT SIZE OF VARIOUS ELEMENTS MAY VARY PER MANUFACTURER.
 - INPUT TERMINATION PANEL SHOWN IS FOR VIDEO BASED INPUTS.
 - DRAWING DEPICTS TWO INPUT PANELS AND TWO OUTPUT PANELS. THIS QUANTITY MAY BE REDUCED DEPENDING ON APPLICATION; SEE SPECIAL PROVISIONS FOR NUMBER OF PANELS TO BE SUPPLIED.
 - FAN AND THERMOSTAT SHALL BE INSTALLED ON CABINET FRAME ABOVE THE DOOR.
 - LED LIGHT STRIPS SHALL BE INSTALLED ON CABINET FRAME ABOVE THE DOOR AND ON THE UNDERSIDE OF THE LOWER SHELF.

NOMINAL TERMINAL PANEL SIZE
PER 24 INPUT RACK:
LOOP = 6U HIGH (10.5")
VIDEO = 3U HIGH (5.25")

PROJ. MANAGER	DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN-DETAILED	DESIGN-DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES
T. ERICO	T. KELLEY	T. KELLEY	T. KELLEY	T. KELLEY					
DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE
04/2018	04/2018	04/2018	04/2018	04/2018	04/2018	04/2018	04/2018	04/2018	04/2018
SIGNATURE	SIGNATURE	SIGNATURE	SIGNATURE	SIGNATURE	SIGNATURE	SIGNATURE	SIGNATURE	SIGNATURE	SIGNATURE
P.E. NUMBER	P.E. NUMBER	P.E. NUMBER	P.E. NUMBER	P.E. NUMBER	P.E. NUMBER	P.E. NUMBER	P.E. NUMBER	P.E. NUMBER	P.E. NUMBER
DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE

STATION	CULVERT PIPE												CATCH BASIN				PIPE ARCH				MH	UNDERDRAIN				ELBOWS, TEES, WYES AND INLET GRATE UNITS		REMARKS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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EARTHWORK SUMMARY:

<u>COMMON EXCAVATION FOR ESTIMATE</u>			
COMMON EXCAVATION (FROM MODEL OR PLANS)	4142.7		
EARTH FROM DRIVES, OLD ROAD, ETC.	432.0		
GRUBBING IN FILL			
LOAM SALVAGE IN FILL			
TOTAL COMMON EXCAVATION			4574.7
<u>FILL FOR BORROW CALCULATIONS</u>			
COMMON FILL (FROM MODEL OR PLANS)	152.4		
COMMON FILL (FROM BRIDGE)			
FILL FOR DRIVES			
GRUBBING IN FILL			
TOTAL FILL			152.4
<u>ROCK EXCAVATION FOR ESTIMATE</u>			
ROCK EXCAVATION (FROM CROSS SECTIONS)			
ROCK EXCAVATION (BOULDERS)			
TOTAL ROCK EXCAVATION			0
<u>AVAILABLE COMMON EXCAVATION FOR BORROW CALCULATIONS</u>			
ALL DEDUCTIONS:			
GRUBBING IN CUT			531.3
GRUBBING IN FILL			
PAVEMENT SALVAGE (CUT & FILL)			2779.8
TOTAL DEDUCTIONS			3311.1
TOTAL AVAILABLE COMMON EXCAVATION (-) TOTAL DEDUCTIONS			1263.6
TOTAL AVAILABLE STRUCTURAL EXCAVATION (UNDERDRAIN ONLY)			716.2
TOTAL AVAILABLE STRUCTURAL EXCAVATIONS (BRIDGE)			215
RIPRAP EXCAVATION			294.7
TOTAL AVAILABLE NON-ROCK EXCAVATION			2489.5

EARTHWORK SUMMARY (CONTINUED):

COMPUTATION OF WASTE STORAGE & WASTE MATERIAL					
TOTAL AVAILABLE WASTE STORAGE AREA (FROM CROSS SECTIONS)					
GRUBBING IN CUT					
GRUBBING IN FILL					
RIPRAP EXCAVATION					294.7
UNDERCUT					
TOTAL WASTE MATERIAL					294.7
TOTAL WASTE MATERIAL TO BE UTILIZED					
TOTAL WASTE MATERIAL TO BE WASTED					294.7
COMPUTATION FOR GRANULAR BORROW FOR ESTIMATE					
GRANULAR BORROW FOR EMBANKMENT CONSTRUCTION NEAR BOX CULVERTS					
GRANULAR BORROW FOR UNDERCUTTING					
TOTAL GRANULAR BORROW					0
COMPUTATION FOR SURPLUS MATERIAL OR COMMON BORROW FOR ESTIMATE					
TOTAL AVAILABLE NON-ROCK EXCAVATION	2489.5	x	0.90	=	2240.5
TOTAL AVAILABLE ROCK EXCAVATION	0.0	x	1.30	=	0.0
TOTAL AVAILABLE STRUCTURAL ROCK EXCAVATION		x	1.30	=	0.0
TOTAL WASTE MATERIAL TO BE UTILIZED	0.0	x	0.90	=	0.0
TOTAL AVAILABLE EXCAVATION					2240.5
BORROW NEEDED = TOTAL FILL (-) TOTAL AVAILABLE EXCAVATION					0
IF NO BORROW IS NEEDED, SURPLUS MATERIAL = AVAILABLE EXCAVATION (-) TOTAL FILL, (+) TOTAL WASTE MATERIAL TO BE WASTED					2382.8
SURPLUS MATERIAL					2383 CY

4 OF 38	SHEET NUMBER	GRAY ROUTE 26/N. RAYMOND RD.		PROJ. MANAGER DESIGN-DETAILED CHECKED-REVIEWED DESIGN2-DETAILED2 DESIGN3-DETAILED3 REVISIONS 1 REVISIONS 2 REVISIONS 3 REVISIONS 4 FIELD CHANGES		T. ERRICO T. KELLY		BY	DATE	STATE OF MAINE DEPARTMENT OF TRANSPORTATION INTERSECTION GEOMETRIC DESIGN MULTIMODAL WIN 18766.00 PROGRAM

1. CLEARING LIMITS SHALL BE 10' BEYOND AND EXCEED THE CONSTRUCTION SLOPE LINES OR AS SHOWN ON THE PLANS UNLESS OTHERWISE AUTHORIZED BY THE RESIDENT.
2. ALL CLEARING SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO SEPARATE PAYMENT WILL BE MADE. THE ACTUAL LINES FOR CLEARING SHALL BE ESTABLISHED IN THE FIELD BY THE CONTRACTOR AS INDICATED ON THE PLANS AND APPROVED BY THE RESIDENT.
3. ALL WASTE MATERIAL NOT USED ON THE PROJECT SHALL BE DISPOSED OFF THE PROJECT IN ACCEPTABLE WASTE AREAS REVIEWED BY THE RESIDENT. GRADING, SEEDING AND MULCHING OF WASTE AREAS SHALL BE CONSIDERED INCIDENTAL.
4. REQUIRED DITCH PROTECTION SHOWN ON THE PLANS OR IN THE CONSTRUCTION NOTES IS FOR ESTIMATING PURPOSES ONLY. THE ACTUAL TYPE AND LOCATION OF DITCH PROTECTION MAY BE ALTERED BY THE RESIDENT.
5. RESIDENTIAL PAVED ENTRANCES SHALL BE CONSTRUCTED WITH: 2 INCHES HOT MIX ASPHALT AND 12 INCHES AGGREGATE SUBBASE COURSE - GRAVEL.
6. COMMERCIAL PAVED ENTRANCES SHALL BE CONSTRUCTED WITH: 3 INCHES HOT MIX ASPHALT AND 11 INCHES AGGREGATE SUBBASE COURSE - GRAVEL.
7. GRAVEL ENTRANCES SHALL BE CONSTRUCTED WITH 14 INCHES AGGREGATE SUBBASE COURSE - GRAVEL OR 11 INCHES AGGREGATE SUBBASE COURSE - GRAVEL AND 3 INCHES UNTREATED AGGREGATE SURFACE COURSE UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE RESIDENT.
8. A 3 FOOT PAVED LIP SHALL BE PLACED AT ALL UNPAVED ENTRANCES UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE RESIDENT.
9. ANY NECESSARY CLEANING OF EXISTING PAVEMENT PRIOR TO PAVING (OR MILLING) SHALL BE INCIDENTAL TO THE RELATED PAVING (OR MILLING) ITEMS. THIS INCLUDES KILLING AND REMOVAL OF ALL VEGETATIVE MATTER.
10. NO EXISTING DRAINAGE SHALL BE ABANDONED, REMOVED OR PLUGGED WITHOUT PRIOR APPROVAL OF THE RESIDENT.
11. ALL EXISTING GUARDRAIL SHALL BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR. REMOVAL AND DISPOSAL SHALL BE CONSIDERED INCIDENTAL TO THE GUARDRAIL ITEMS.
12. BACKING UP BITUMINOUS OR CONCRETE SLIPFORM CURB IS INCIDENTAL TO THE CURB ITEMS. IN AREAS WHERE NEW BITUMINOUS OR CONCRETE SLIPFORM CURB IS DESIGNATED TO REPLACE EXISTING, THE REMOVAL OF THE OLD BITUMINOUS OR CONCRETE SLIPFORM CURB SHALL BE INCIDENTAL TO THE NEW CURB. IF CALLED FOR ON THE PLANS OR DIRECTED BY THE RESIDENT, LOAM OR DIRTY BORROW WILL BE PAID FOR SEPARATELY.
13. LOAM SHALL BE PLACED TO A NOMINAL DEPTH OF 4 INCHES IN LAWN AREAS AND 2 INCHES IN ALL OTHER AREAS UNLESS OTHERWISE NOTED OR DIRECTED.
14. UNLESS OTHERWISE NOTED SEEDING METHOD NO. 1 SHALL BE UTILIZED ON ALL LAWNS AND DEVELOPED AREAS; SEEDING METHOD NO. 2 SHALL BE UTILIZED ON ALL OTHER AREAS.
15. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING ALL EXISTING MAILBOXES TO ENSURE THAT THE MAIL WILL BE DELIVERABLE. PAYMENT FOR THIS WORK WILL BE MADE UNDER THE APPROPRIATE RENTAL ITEMS.
16. NO SEPARATE PAYMENT FOR SUPERINTENDENT OR FOREMAN WILL BE MADE FOR THE SUPERVISION OF EQUIPMENT AND LAYOUT OF WORK BEING PAID FOR UNDER THE EQUIPMENT RENTAL ITEMS.
17. A MAINE DEPARTMENT OF TRANSPORTATION (MAINEDOT) ENVIRONMENTAL OFFICE INVESTIGATION SPECIFIC WITH THIS PROJECT ENCOUNTERED DATA SUGGESTING PETROLEUM RELATED CONTAMINATION WAS PRESENT AT ROUGHLY MAINEDOT STATION 18+00 TO ROUGHLY MAINEDOT STATION 21+50 LEFT OF CENTER AND ROUGHLY MAINEDOT STATION 100+00 TO ROUGHLY MAINEDOT STATION 101+00 RIGHT AND LEFT OF CENTER. SUBSEQUENT ON-SITE WORK FAILED TO UNEARTH ANY ISSUES WITHIN THESE AREAS. HOWEVER, IN LIGHT OF THE AVAILABLE ENVIRONMENTAL DATA, THE CONTRACTOR SHALL EMPLOY APPROPRIATE HEALTH AND SAFETY MEASURES TO PROTECT ITS WORKERS AGAINST HAZARDS ASSOCIATED WITH WORKING NEAR PETROLEUM IMPACTED SOILS. FURTHERMORE, THE CONTRACTOR SHALL REMAIN ALERT FOR ANY ADDITIONAL EVIDENCE OF CONTAMINATION. IF THE CONTRACTOR ENCOUNTERS EVIDENCE OF SOIL OR GROUNDWATER CONTAMINATION, THE CONTRACTOR SHALL SECURE THE EXCAVATION, STOP WORK IN THE CONTAMINATED AREA, AND IMMEDIATELY NOTIFY THE RESIDENT. THE RESIDENT SHALL CONTACT THE SENIOR GEOLOGIST IN MAINEDOT'S ENVIRONMENTAL OFFICE AT 207-624-3100 AND THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION (MDEP) AT 800-482-0777. WORK MAY ONLY CONTINUE WITH AUTHORIZATION FROM THE RESIDENT.

STATION	TYPE	WIDTH
14+00 RT	FIELD ENT.	26.0'
15+00 LT	PAVED	162.3'
15+50 RT	PAVED	36.3'
18+00 LT	PAVED	79.1'
20+20 RT	GRAVEL	52.9'
21+86 LT	PAVED	26.0'
100+82 LT	PAVED	34.0'
101+28 LT	PAVED	26.1'
102+00 RT	GRAVEL	26.0'
103+05 LT	GRAVEL	27.0'

<u>STATION</u>	<u>OFFSET</u>	<u>TO</u>	<u>STATION</u>	<u>OFFSET</u>	<u>LENGTH</u>
16+12.7	23.00' RT		17+35.0	23.00' RT	120.50'
16+46.5	22.91' LT		17+69.7	23.00' LT	125.03'
20+57.5	22.11' RT		22+94.9	18.30' RT	232.81'

<u>STATION</u>	<u>OFFSET</u>	<u>TO</u>	<u>STATION</u>	<u>OFFSET</u>	<u>RADIUS</u>	<u>LENGTH</u>
17+69.7	23.00' LT		17+84.3	39.51' LT	15.00'	25.00'
20+42.1	38.72' RT		20+57.5	22.11' RT	15.00'	25.00'

<u>STATION</u>	<u>OFFSET</u>
16+12.7	23.00' RT
16+46.5	22.91' LT
17+35.0	23.00' RT
22+94.9	18.30' RT

<u>STATION</u>	<u>OFFSET</u>
17+84.3	39.51' LT
20+42.1	38.72' RT

<i>STATION</i>	<i>OFFSET</i>	<i>TO</i>	<i>STATION</i>	<i>OFFSET</i>	<i>LENGTH</i>
13-00.0	18.51' RT		13-89.9	18.57' RT	89.36'
13-04.3	16.29' LT		14-49.0	17.36' LT	145.52'
14-16.1	19.52' RT		15-04.2	22.38' RT	87.50'
17-72.8	32.94' RT		19-83.0	22.97' RT	206.77'
18-27.7	39.60' LT		18-52.1	23.00' LT	37.13'
18-96.0	23.00' LT		100-65.8	41.78' LT	137.54'
21-97.8	17.00' LT		22-76.0	16.91' LT	79.23'
21-72.2	17.00' LT		101-85.7	17.03' RT	229.84'
100-39.0	ISLAND		100-98.1	ISLAND	126.59'
100-98.2	39.92' LT		101-15.6	38.92' LT	18.29'
101-40.4	37.11' LT		102-88.3	17.52' LT	153.92'
102-12.3	17.00' RT		103-07.7	17.00' RT	93.40'

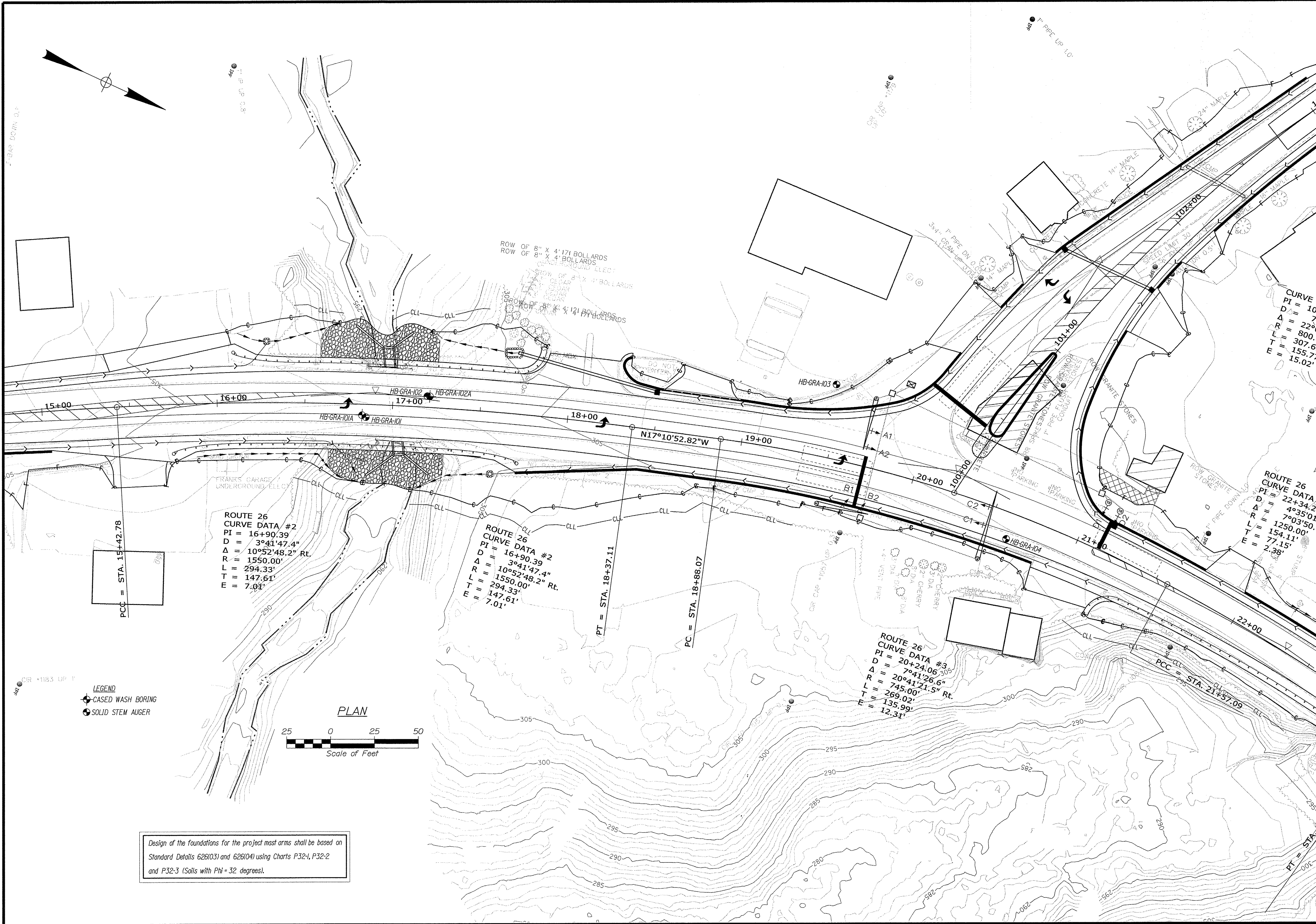
<u>STATION</u>	<u>OFFSET</u>	<u>TO</u>	<u>STATION</u>	<u>OFFSET</u>	<u>LENGTH</u>
18+52.1	23.00' LT		18+96.0	23.00' LT	44.16'

<u>STATION</u>	<u>TO</u>	<u>STATION</u>	
16+25.1	LT	16+28.8	LT
16+55.2	LT	17+36.4	LT
16+53.3	RT	17+43.9	RT
17+56.6	RT	17+60.5	RT
17+61.4	LT	17+71.8	LT

SEEDLING METHOD NO. 1	
STATION	TO STATION
13-04 LT	13-75 LT
14-62 RT	15-39 RT
18-28 LT	18-63 LT
18-90 LT	100-66 LT
19-81 RT	19-99 RT
21-79 LT	101-91 RT
21-94 LT	22-76 LT
100-98 LT	101-26 LT
101-34 LT	103-58 LT
102-07 RT	103-58 RT

<u>SEEDING METHOD NO. 2</u>	
<u>STATION</u>	<u>TO STATION</u>
13:75 LT	14:54 LT
13:00 RT	13:93 RT
14:10 RT	14:62 RT
15:76 RT	16:64 RT
16:06 LT	16:66 LT
17:23 LT	17:85 LT
17:28 RT	19:81 RT
20:41 RT	23:50 RT

OF 38



STATE OF MAINE DEPARTMENT OF TRANSPORTATION		STP-1876(600)		WIN 18766.00		HIGHWAY PLANS	
PROJECT: GRAY ROUTE 26 \ N. RAYMOND RD.		BORING LOCATION PLAN WITH FOUNDATION DESIGN REQUIREMENTS		SHEET NUMBER 6		OF 38	
PROJ. MANAGER: [Signature] CHECKED/REVIEWED: [Signature] DESIGN/DETAILS: [Signature] DESIGN/DETAILS: [Signature]		DATE: NOV 2018 DATE: NOV 2018 DATE: NOV 2018 DATE: NOV 2018		SIGNATURE: [Signature] P.E. NUMBER: 7120 DATE: 9/17/2019		DATE: 9/17/2019	

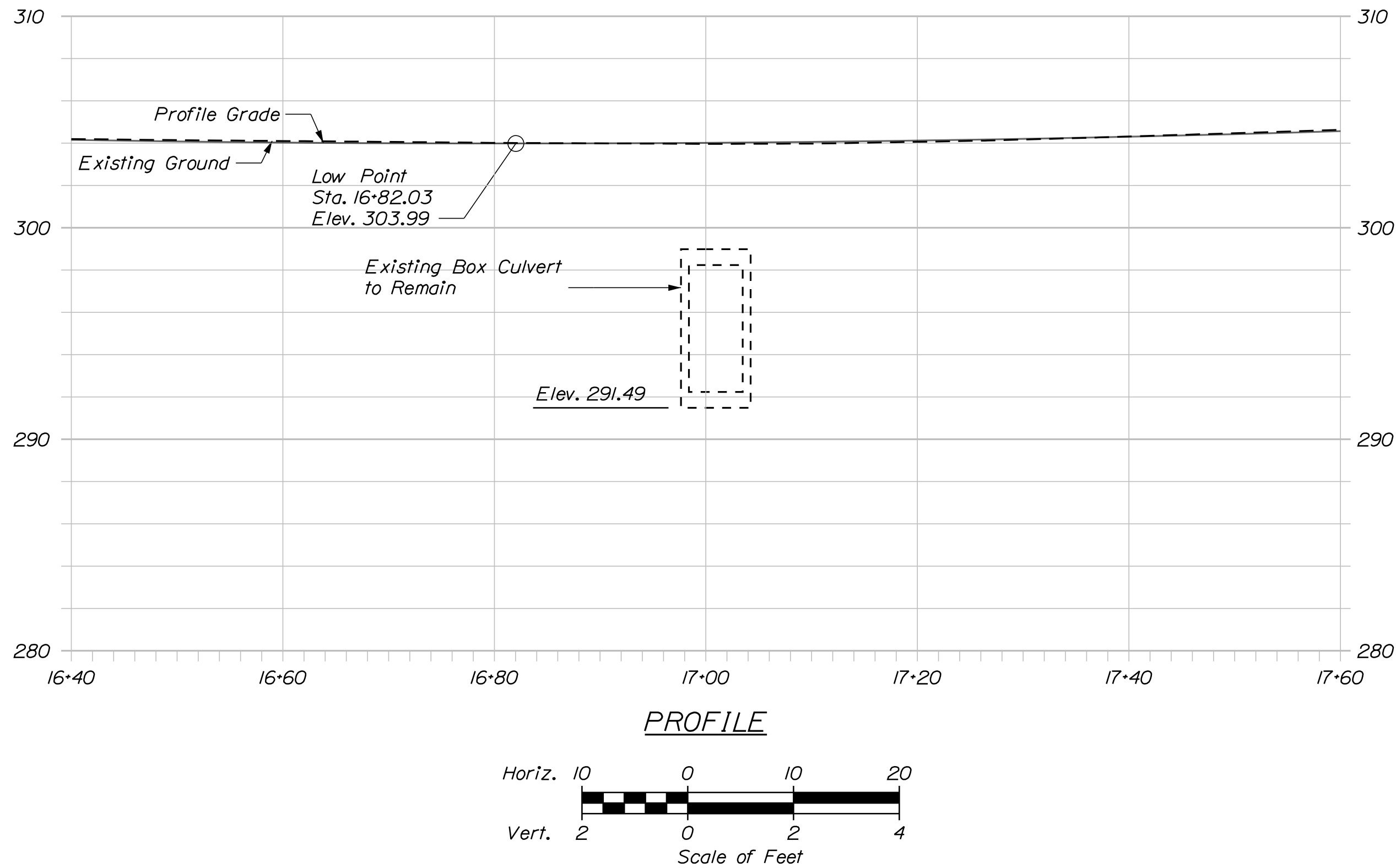
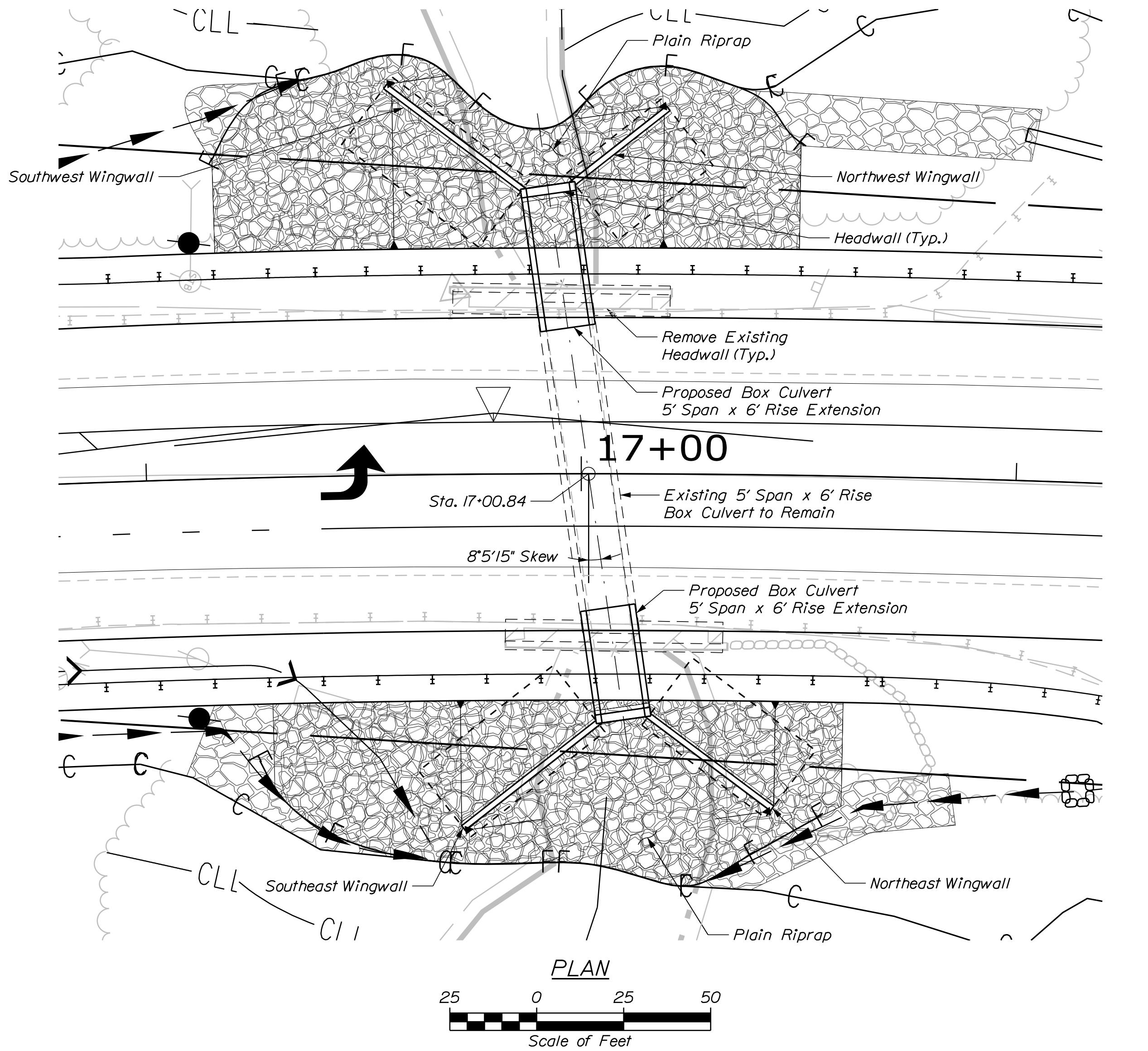
CULVERT EXTENSION BORINGS

ring No.: HB-GRA-102

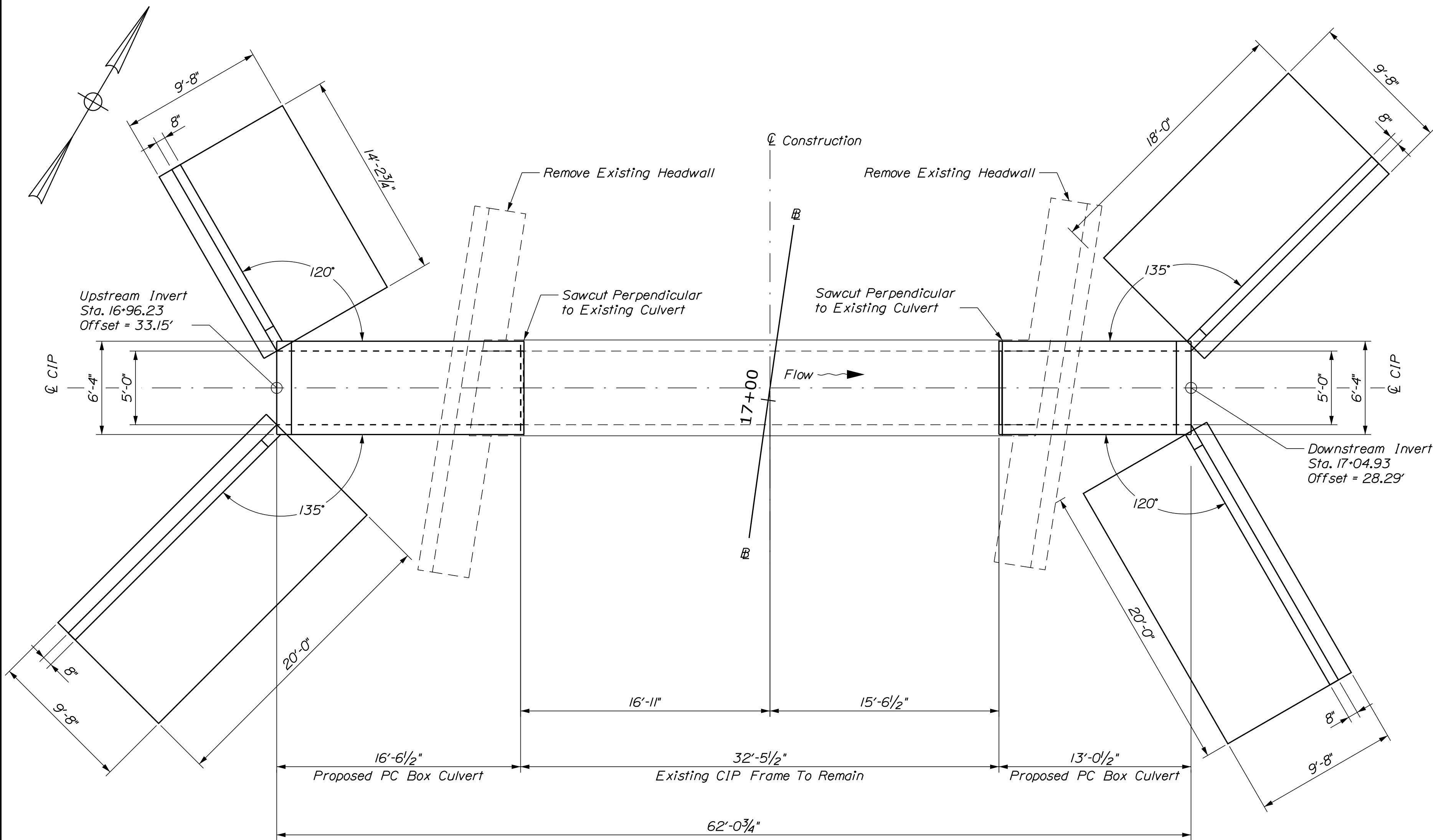
Boring No.: HB-GRA-102A

INTERSECTION BORINGS

and mode.



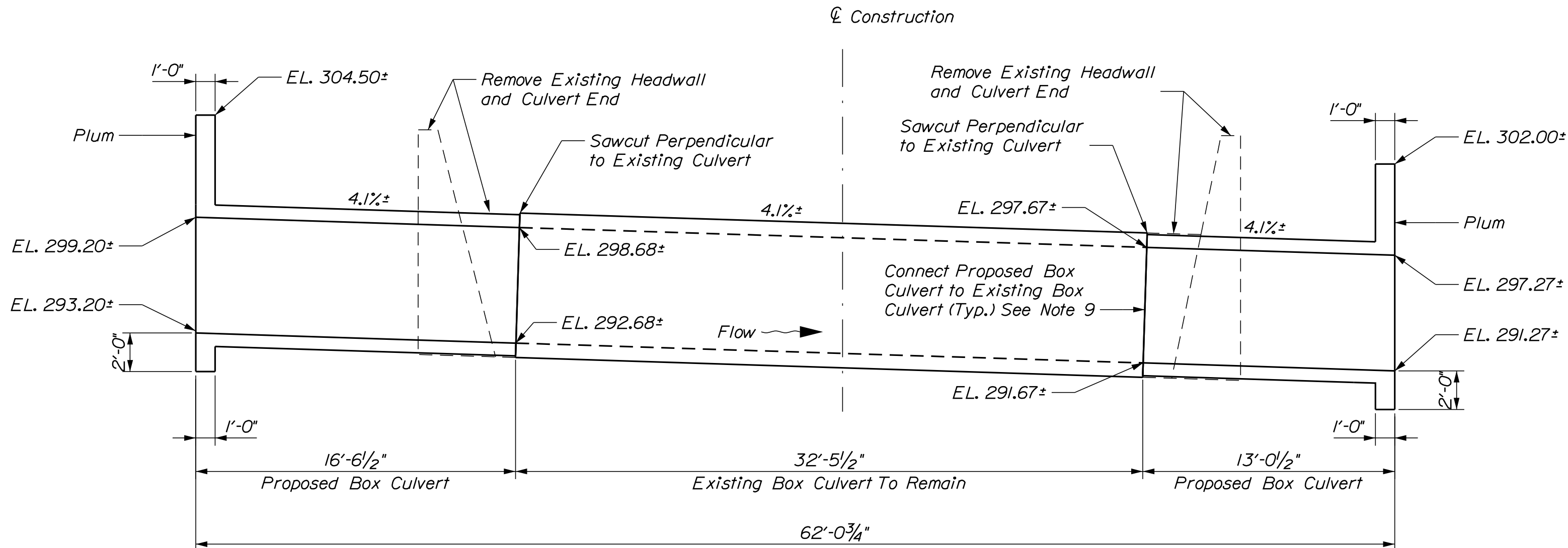
PROJ. MANAGER	T. ERICO	BY	DATE
CHECKED-REVIEWED	T. KELLEY	T. KELLEY	04/2018
DESIGNED-DETAILED			SIGNATURE
DESIGNED-DETAILED			P.E. NUMBER
REVISIONS 1			DATE
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			



BOX CULVERT PLAN

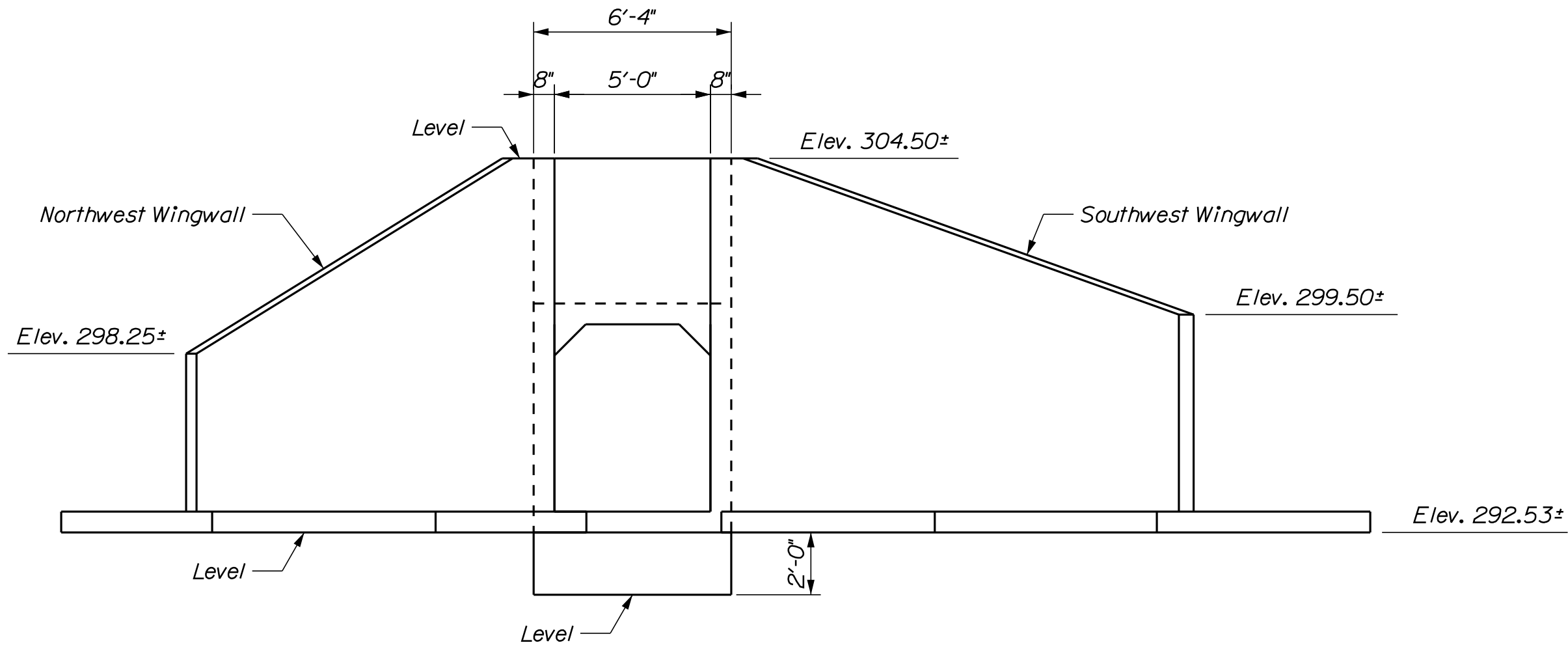
BOX CULVERT NOTES

- The precast concrete box culvert shall be designed to carry:
1. Construction loads with a minimum of 18" of fill on top of the entire structure.
 2. Structural precast concrete units shall match existing inside dimensions of existing box culvert. Inside dimensions of the existing box culvert shall be field verified.
 3. All joints seals, embedded dowel bar splicers, and permanent closure hardware for precast box culverts shall be incidental to Item 534.71, Precast Concrete Box Culvert.
 4. The design, construction, handling, and assembly of precast units shall be in accordance with Standard Specification, Section 534 - Precast Structural Concrete, and with the Manufacturer's Specifications as applicable.
 5. Install membrane waterproofing over the entire top surface of the Precast Box Culvert and 1 ft down the exterior sides. Install with a minimum of 1 ft wide over all outside vertical joints.
 6. Existing upstream and downstream headwall shall be removed in its entirety. Contractor shall saw cut the existing CIP Frame to remove portion of frame. Sawcut shall be perpendicular to the existing CIP Culvert. Payment shall be made under Item 202.17 - Removing Existing Structural Concrete.
 7. Protective Coating for Concrete Surfaces shall be applied to:
All exposed faces of concrete headwalls and wingwalls.
 8. Cofferdams are to be placed at both the downstream and upstream ends of the stream channel to allow work to be completed in the dry.
 9. Positively connect the proposed box culvert to the existing box culvert. Provision shall be made to prevent seepage through the joints. Connection concepts shall be submitted to the department for review. All costs for design for construction of connection shall be incidental to Item 534.71, Precast Concrete Box Culvert.

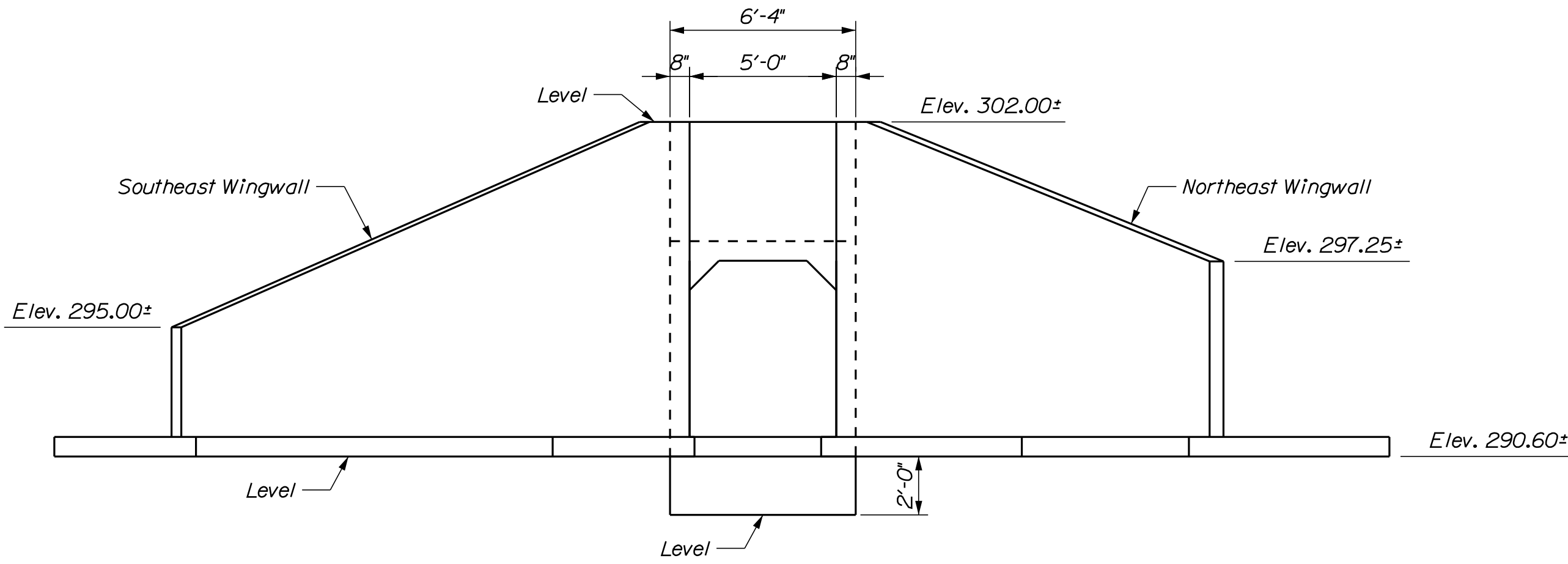


BOX CULVERT SIDE ELEVATION

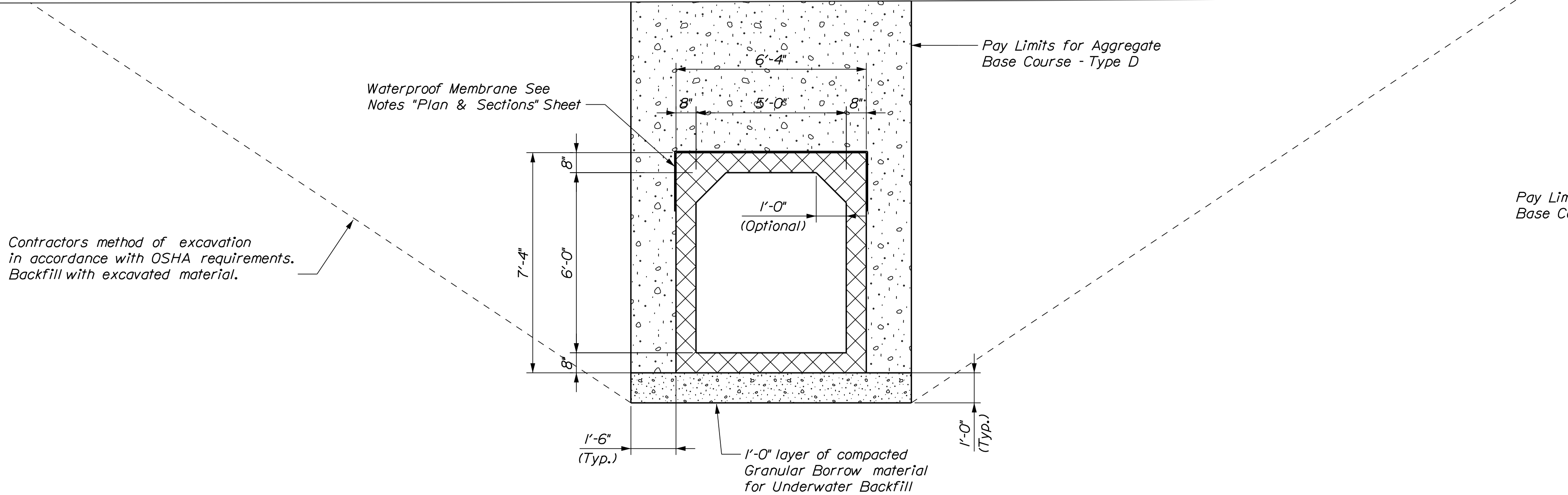
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CHECKED-DETAILED	T. KELLEY	T. KELLEY	04/2018			
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DESIGN-DETAILED						
REVISIONS 1						
REVISIONS 2						
REVISIONS 3						
REVISIONS 4						
FIELD CHANGES						



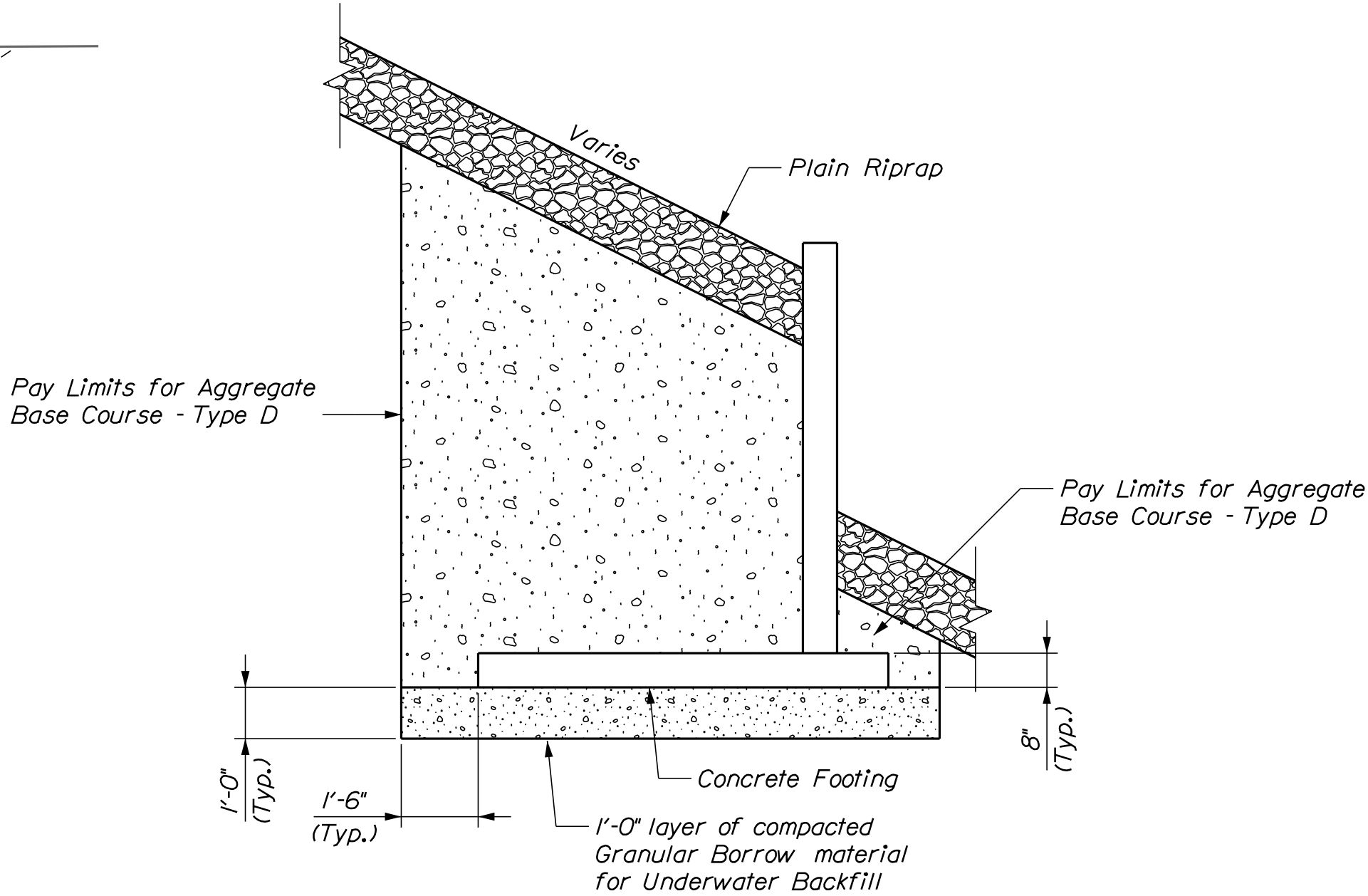
ELEVATION - UPSTREAM



ELEVATION - DOWNSTREAM



BOX CULVERT - SECTION



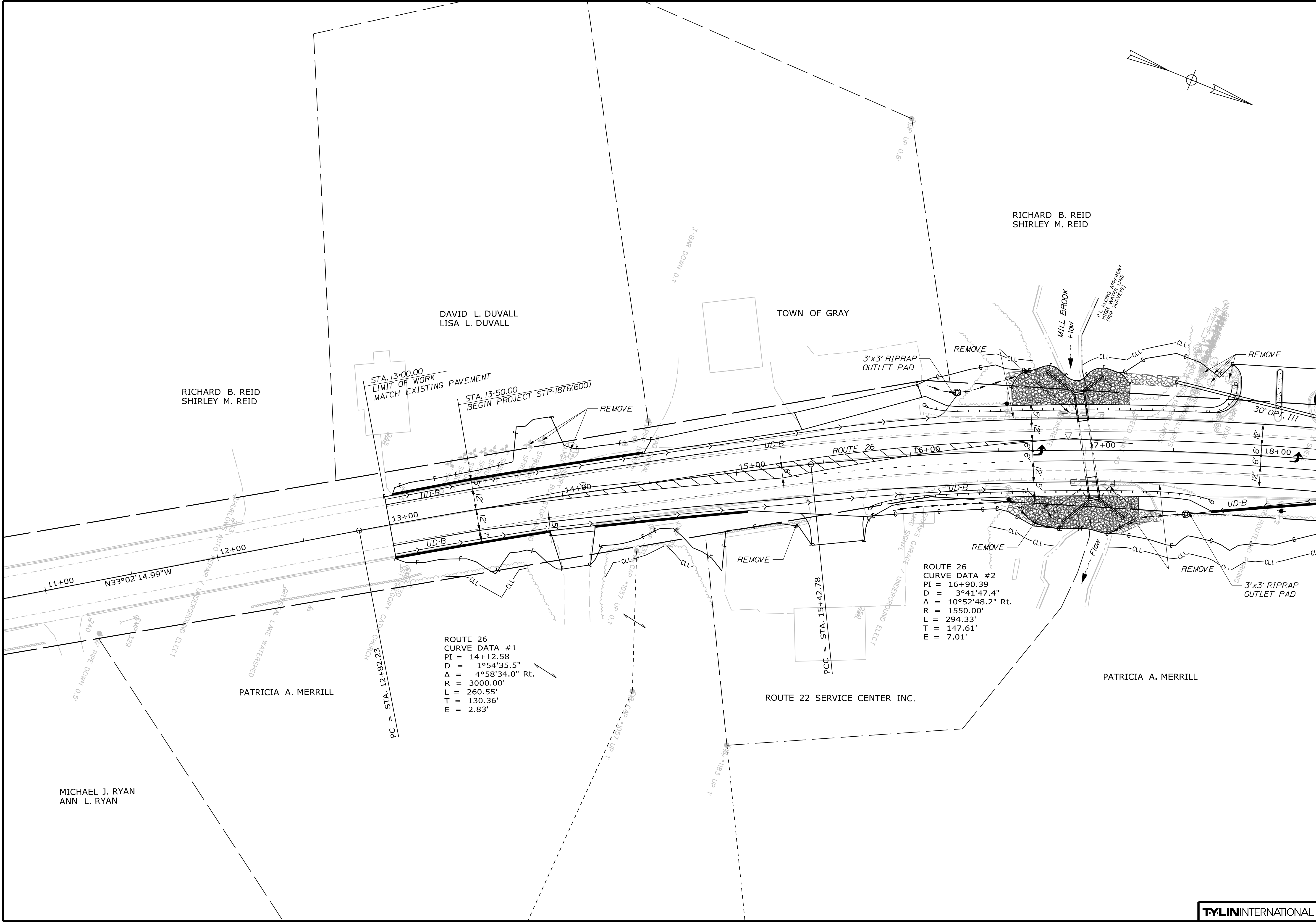
WINGWALL - SECTION

STATE OF MAINE	
DEPARTMENT OF TRANSPORTATION	
INTERSECTION GEOMETRIC DESIGN	
MULTIMODAL	WIN
18766.00	PROGRAM

PROJ. MANAGER	T. ERICO	BY	T. KELLEY	DATE	04/2018
CHECKED-REVIEWED					
DESIGN-DETAILED					
REVISIONS 1					
REVISIONS 2					
REVISIONS 3					
REVISIONS 4					
FIELD CHANGES					

GRAY	
ROUTE 26/N. RAYMOND RD.	
WINGWALL ELEVATIONS & SECTIONS	

SHEET NUMBER	
10	
OF 38	



MICHAEL J. RYAN
ANN L. RYAN

PATRICIA A. MERRILL

ROUTE 26
CURVE DATA #1
PI = 14+12.58
D = 1°54'35.5"
Δ = 4°58'34.0" Rt.
R = 3000.00'
L = 260.55'
T = 130.36'
E = 2.83'

ROUTE 22 SERVICE CENTER INC.

PCC = STA. 15+42.78

ROUTE 26
CURVE DATA #2
PI = 16+90.39
D = 3°41'47.4"
Δ = 10°52'48.2" Rt.
R = 1550.00'
L = 294.33'
T = 147.61'
E = 7.01'

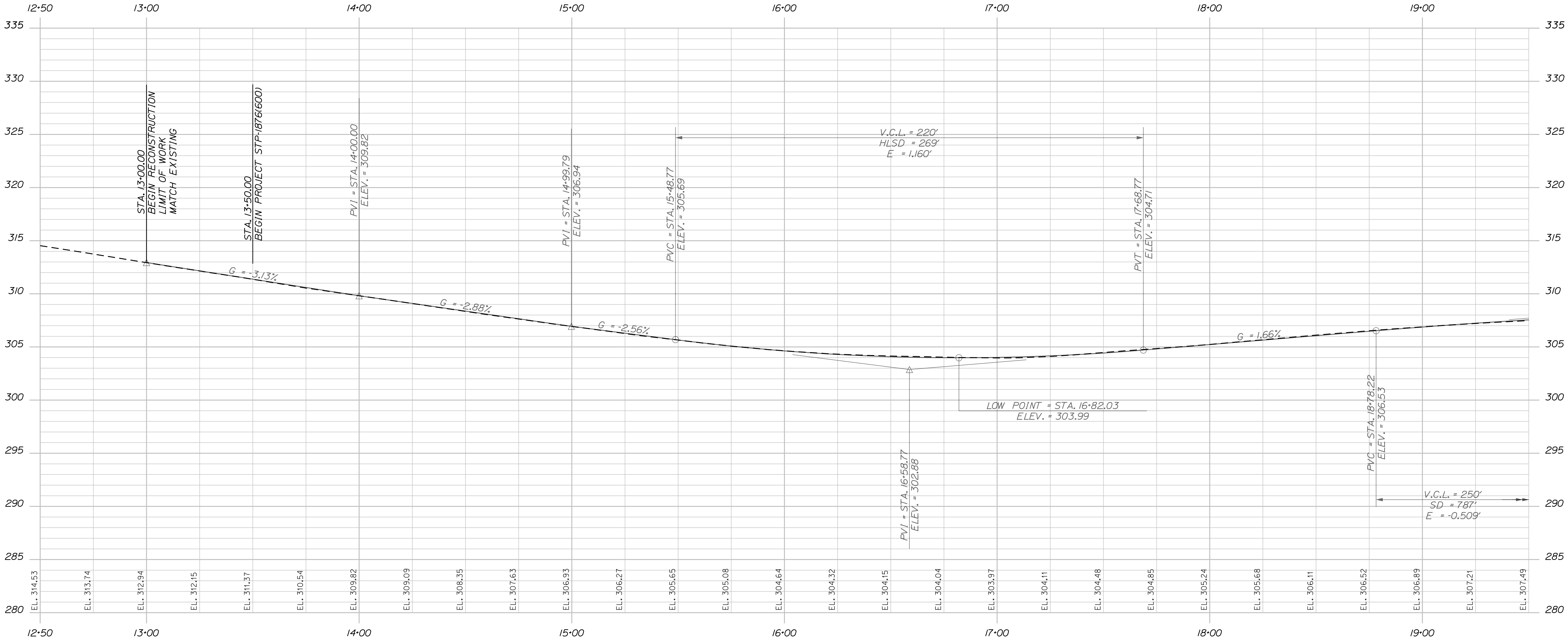
RICHARD B. REID
SHIRLEY M. REID

PATRICIA A. MERRILL

DAVID L. DUVALL
LISA L. DUVALL

TOWN OF GRAY

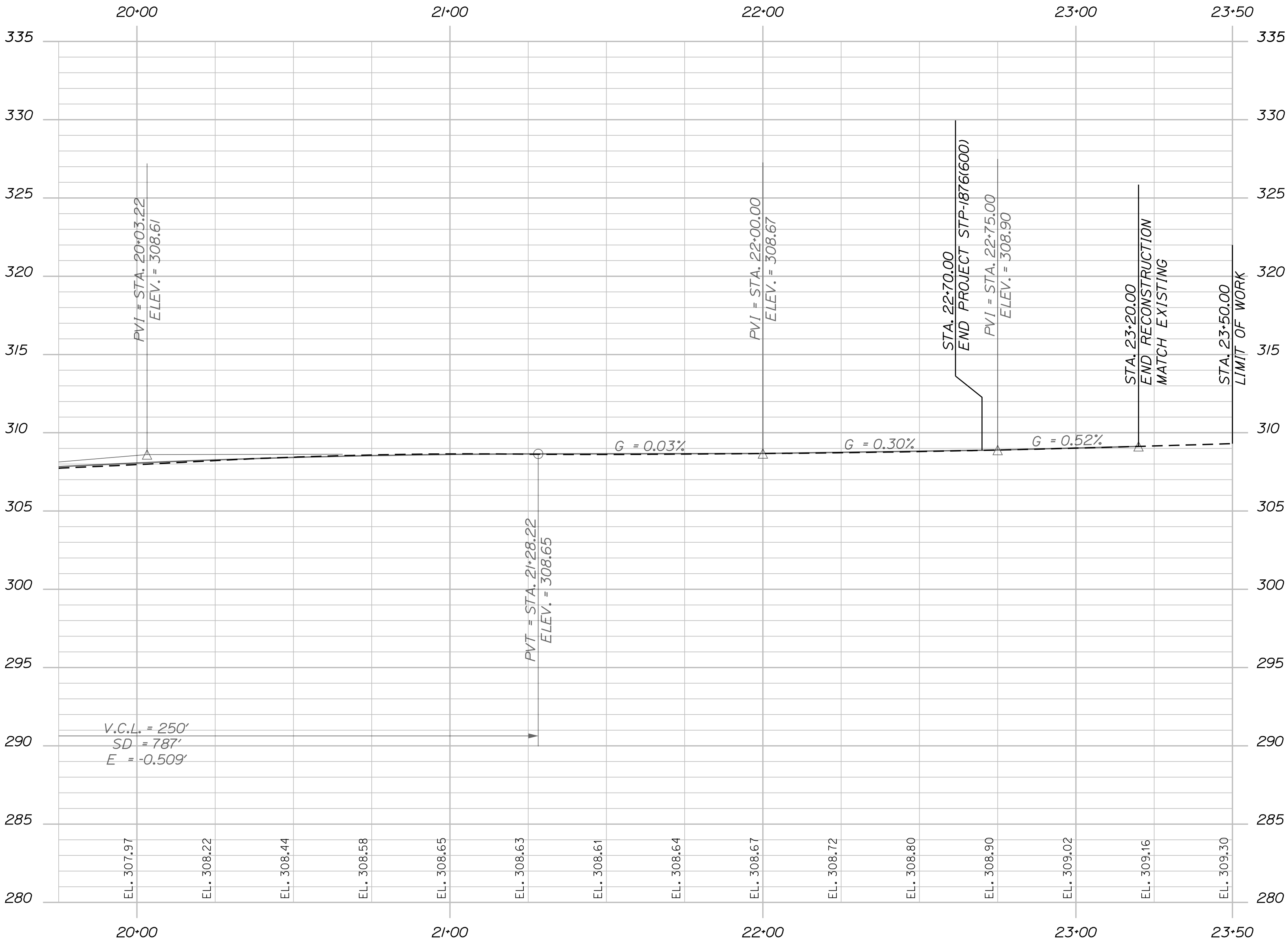
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INTERSECTION GEOMETRIC DESIGN		MULTIMODAL	
WIN		18766.00	
PROGRAM			
SHEET NUMBER		11	
OF 38			
PLAN - 1 of 2			
GRAY ROUTE 26/N. RAYMOND RD.			
PROJ. MANAGER	T. ERICO	BY	T. KELLEY
CHECKED-REVIEWED	T. KELLEY	DATE	04/2018
DESIGNS-DETAILED		SIGNATURE	
DESIGNS-DETAILED		P.E. NUMBER	
REVISIONS 1		DATE	
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			



PROFILE - ROUTE 26

NOTE:
PROPOSED VERTICAL ALIGNMENT AND ASSOCIATED INFORMATION
IS FOR GRAPHICAL DESIGN PURPOSES ONLY. NO MODIFICATIONS ARE
PROPOSED FOR THE EXISTING VERITAL ALIGNMENT.

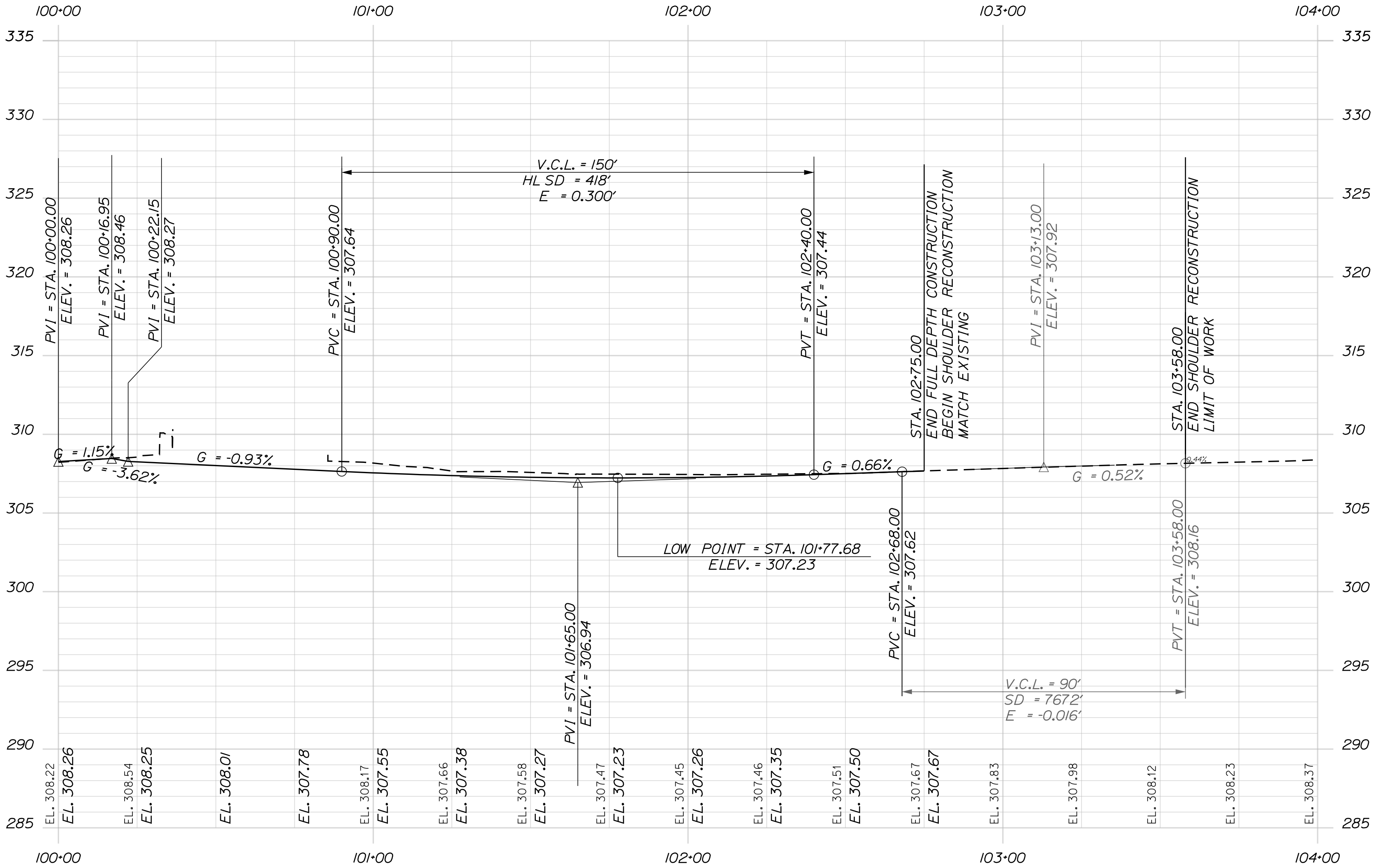
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	DESIGN-DETAILED CHECKED-REVIEWED		SIGNATURE	
	DESIGN-DETAILED REVISIONS 1 REVISIONS 2 REVISIONS 3 REVISIONS 4 FIELD CHANGES		P.E. NUMBER DATE	
ROUTE 26/N. RAYMOND RD. PROFILE - ROUTE 26 1 of 2				
SHEET NUMBER 13 OF 38				
MULTIMODAL WIN 18766.00 PROGRAM				



PROFILE - ROUTE 26

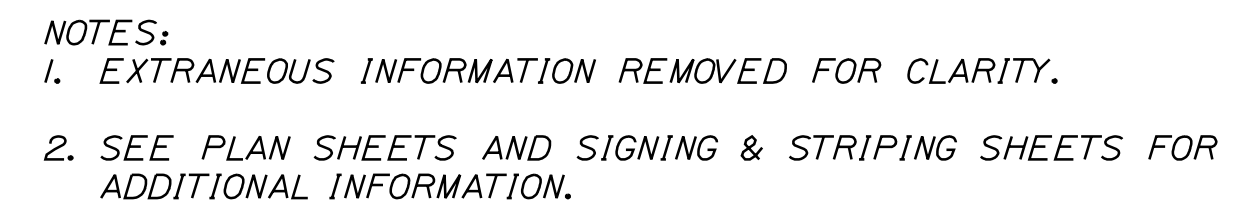
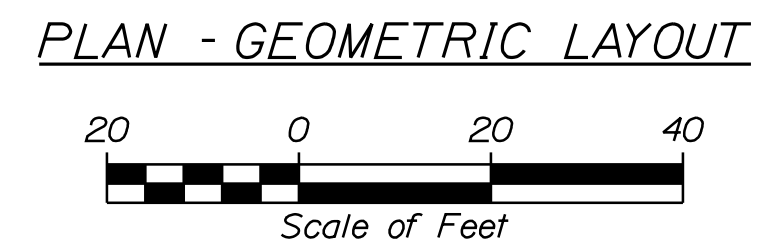
NOTE:
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IS FOR GRAPHICAL DESIGN PURPOSES ONLY. NO MODIFICATIONS ARE
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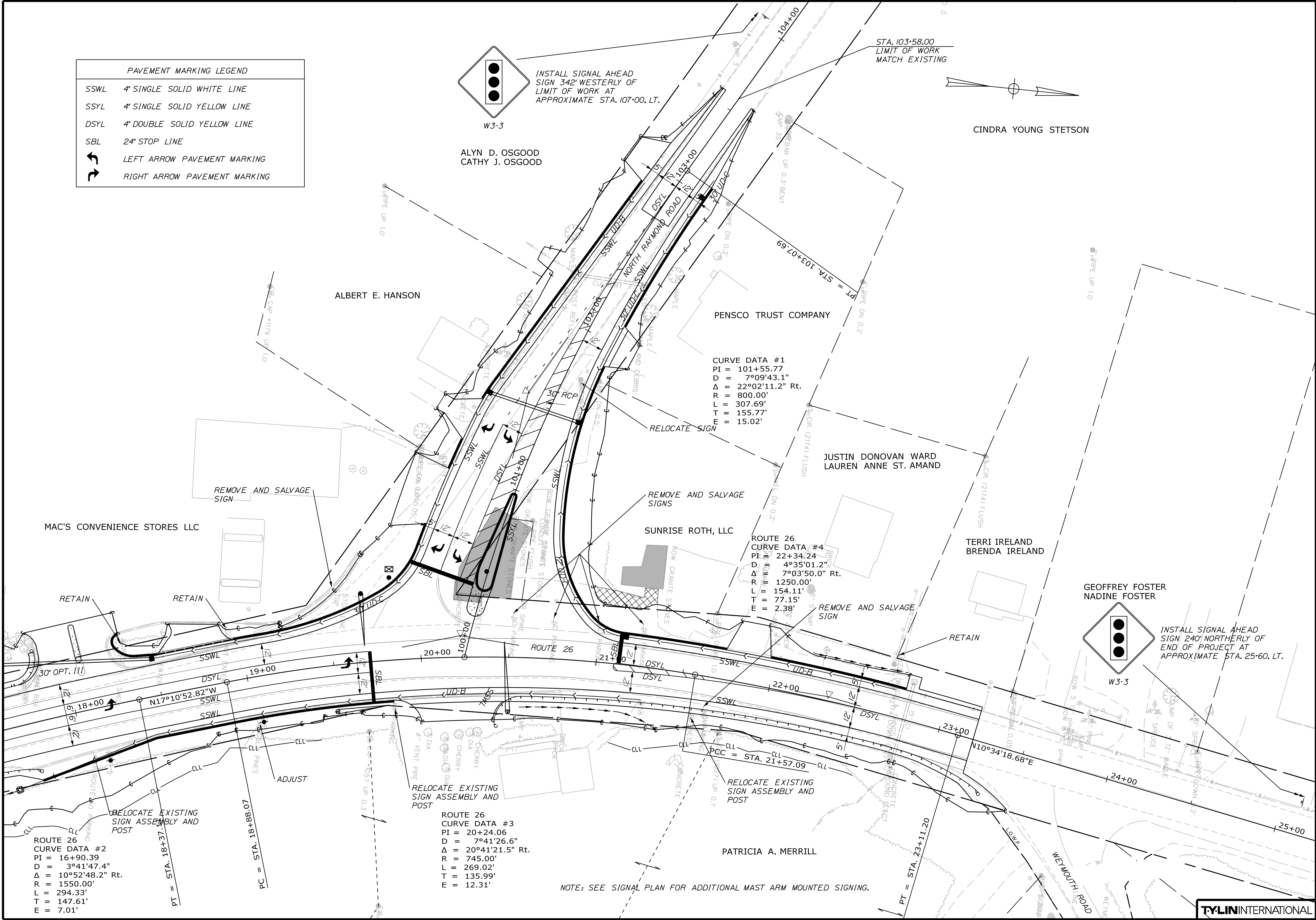
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ROUTE 26/N. RAYMOND RD.		PROJ. MANAGER	T. ERICO	BY
PROFILE - ROUTE 26		CHECKED-REVIEWED	T. KELLEY	T. KELLEY
2 of 2		DESIGNS-DETAILED		
		DESIGNS-DETAILED		
		REVISIONS 1		
		REVISIONS 2		
		REVISIONS 3		
		REVISIONS 4		
		FIELD CHANGES		
		DATE		
		P.E. NUMBER		
		SIGNATURE		
		MULTIMODAL	WIN	PROGRAM
		18766.00		



PROFILE - NORTH RAYMOND ROAD

STATE OF MAINE DEPARTMENT OF TRANSPORTATION				
	INTERSECTION GEOMETRIC DESIGN			
	MULTIMODAL	WIN	18766.00	PROGRAM
SHEET NUMBER				
15				
OF 38				
ROUTE 26/N. RAYMOND RD.		PROJ. MANAGER	T. ERICO	BY
PROFILE - NORTH RAYMOND ROAD		CHECKED-REVIEWED	T. KELLEY	DATE
		DESIGN-DETAILED		04/2018
		DESIGN-REVIEWED		SIGNATURE
		DESIGN-DETAILED		
		REVISIONS 1		P.E. NUMBER
		REVISIONS 2		
		REVISIONS 3		DATE
		REVISIONS 4		
		FIELD CHANGES		





STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		INTERSECTION GEOMETRIC DESIGN		MULTIMODAL		WIN 18766.00		PROGRAM	
PROJECT MANAGER		BY		DATE		DESIGN-REVIEWED		SIGNATURE		P.E. NUMBER	
T. KELLEY		T. KELLEY		04/2018							
DESIGN-DETAILED		DESIGN-DETAILED		DESIGN-DETAILED		DESIGN-DETAILED		DESIGN-DETAILED		DESIGN-DETAILED	
REVISIONS 1		REVISIONS 2		REVISIONS 3		REVISIONS 4		REVISIONS 5		REVISIONS 6	
FIELD CHANGES		FIELD CHANGES		FIELD CHANGES		FIELD CHANGES		FIELD CHANGES		FIELD CHANGES	
GRAY ROUTE 26/N. RAYMOND RD. SIGNING & STRIPING PLAN SHEET NUMBER 18 OF 38											

SIGNAL PLAN NOTES:

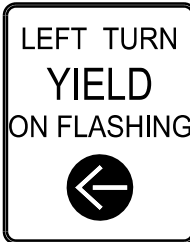
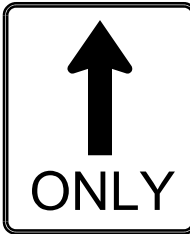
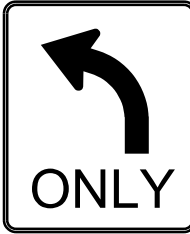
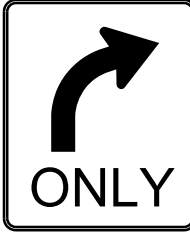
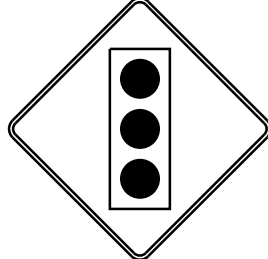
1. WHERE NOTED ON THE PLANS, ALL NEW VEHICULAR SIGNAL HEADS SHALL BE EQUIPPED WITH NEW LED LENSES 12 INCHES IN DIAMETER AND EQUIPPED WITH NEW 5 INCH LOUVERED BACK PLATES, INCLUDING RETROREFLECTIVITY.
2. ALL NEW SIGNAL HEADS SHALL BE MOUNTED TO MAST ARMS WITH ASTROBRACKETS, OR MOUNTED TO MAST ARM POLE UPRIGHTS WITH BRACKET ARMS AS INDICATED ON PLANS.
3. THE BOTTOM OF THE HOUSING OF NEW SIGNAL FACES SHALL BE AT LEAST 17 FEET BUT NOT MORE THAN 19 FEET ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY. FOR POLE MOUNTED SIGNAL HEADS, THE BOTTOM OF THE HOUSING SHALL BE MOUNTED AT LEAST 8 FEET BUT NO MORE THAN 19 FEET ABOVE THE PAVEMENT GRADE AT THE HIGH POINT OF THE ROAD.
4. TWO COPIES OF AS-BUILT PLANS, WIRING DIAGRAMS, BOX PRINTS, AND EQUIPMENT MANUALS SHALL BE PROVIDED IN THE CONTROLLER CABINET.
5. THE CONTRACTOR IS RESPONSIBLE FOR FINDING EXACT LOCATIONS OF EXISTING UTILITES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT DIG-SAFE AND APPROPRIATE AUTHORITIES PRIOR TO ANY SUB SURFACE ACTIVITIES.
6. TRAFFIC SIGNAL WORK SHALL BE COMPLETED IN A MANNER AND ORDER THAT WILL CAUSE THE MINIMUM DISRUPTION TO TRAFFIC.
7. THE ENGINEER AND MAINEDOT SHALL HAVE THE RIGHT AND AUTHORITY TO DETERMINE THE ACCEPTABILITY OF WORK AND MATERIAL IN PROGRESS OR COMPLETED AND SHALL HAVE THE RIGHT TO REJECT ANY WORK OR MATERIALS WHICH DO NOT CONFORM, IN IT'S SOLE OPINION, TO THE PLANS OR SPECIFICATIONS.
8. ALL SIGN, SIGNAL AND STRIPING MATERIALS AND PLACEMENT SHALL CONFORM TO THE MAINEDOT STANDARD SPECIFICATIONS SUPPLEMENTAL SPECIFICATIONS AND STANDARD DETAILS AND WITH THE FEDERAL HIGHWAY ADMINISTRATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) DATED 2009, AS AMENDED.
9. ANY RELOCATION OR ADJUSTMENTS OF EXISTING UTILITY FACILITIES WILL BE MADE BY THE RESPECTIVE UTILITIES IN COORDINATION WITH THE WORK OF THE CONTRACTOR.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY NECESSARY OPENING PERMITS.
11. ALL EXISTING DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES.
12. THE CONTRACTOR SHALL PROVIDE A SCHEDULE OF WORK FOR CONSTRUCTING THE TRAFFIC IMPROVEMENTS AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF WORK.
13. ALL MATERIALS SCHEDULES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL PREPARE HIS OWN MATERIAL SCHEDULES BASED UPON THE PLAN REVIEW. ALL SCHEDULES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS OR PERFORMING WORK.
14. FOUNDATIONS FOR CONTROL CABINETS, PROPOSED MAST ARMS, OR PROPOSED TRAFFIC SIGNAL POSTS ARE SHOWN IN THE PLANS TO BE WITHIN THE EXISTING RIGHT OF WAY (ROW) AND TO AVOID UNDERGROUND CONFLICTS WITH INFORMATION PROVIDED DURING DESIGN. HOWEVER, THE CONTRACTOR MAY UPON CONSULTATION WITH APPROVAL FROM THE RESIDENT ENGINEER, RELOCATE CABINETS, MAST ARMS, AND TRAFFIC SIGNAL POSTS AS NEEDED TO AVOID UNANTICIPATED CONFLICTS AS LONG AS THE FINAL LOCATION MEETS THE GUIDELINES IN SECTION 4E.08 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND THE STRUCTURE IS INSTALLED COMPLETELY WITHIN THE EXISTING ROW.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING RED-LINE AS-BUILT DRAWINGS OF THE FINAL WORK TO THE ENGINEER. THOSE DRAWINGS SHALL BE ON A CLEAN SET OF PLANS SHOWING ALL CHANGES OR MODIFICATIONS TO THE BID PLANS.
16. ROUTE 26 DETECTION SHALL HAVE ADVANCED DETECTION WITH DILEMMA ZONE PROTECTION.

VEHICLE PRE-EMPTION NOTES:

1. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 4 = LOWEST).
2. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION PHASE CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE PER THE CALLED PHASE AS INSTRUCTED IN THE SIGNAL TIMING SCHEDULE AND SEVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
3. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
4. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY EMERGENCY VEHICLE PRE-EMPTION GREEN IN ON.
5. ALL PRE-EMPTION EQUIPMENT SHALL BE COMPATIBLE WITH THE TOWN'S EXISTING EQUIPMENT. COORDINATE WITH RESIDENT ENGINEER AND TOWN OFFICIALS.

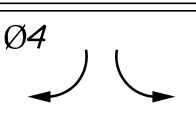
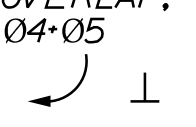
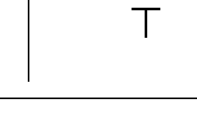
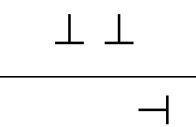
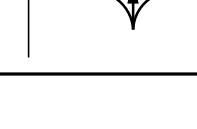
EMERGENCY VEHICLE
PRE-EMPTION OPERATION

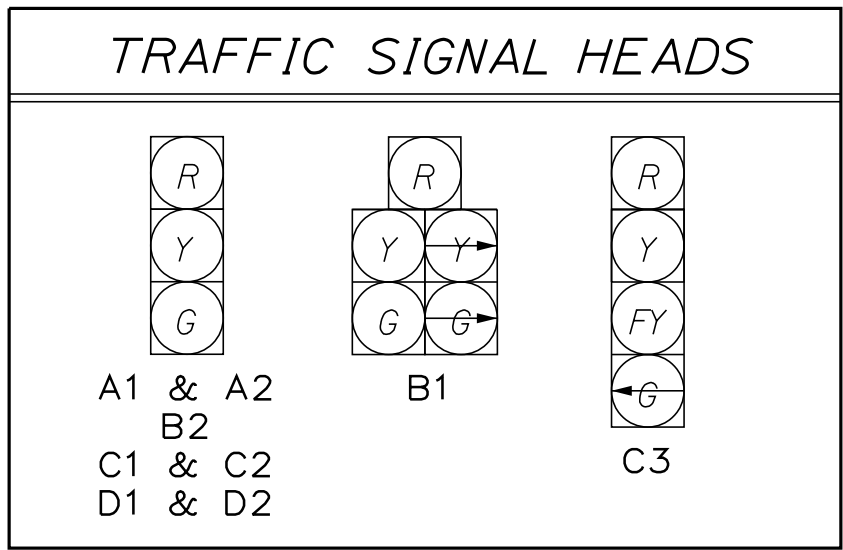
ID	PRE-EMPTION ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	1	02 & 05
R2	2	2	06
R3	3	3	04

IDENTIFI- CATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)						NUMBER OF SIGNS REQUIRED	COLOR		BORDER RADIUS	AREA IN SQUARE FEET	NOTES
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.			BACK- GROUND		LEGEND BORDER				
R10-12 (modified)	30"	36"		TEXT DIMENSIONS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS" - 2009 & 2012 SUPPLEMENT						1	WHITE	BLACK		7.50 (7.5)	
R3-5A	30"	36"								1	WHITE	BLACK		7.50 (7.5)	
R3-5L	30"	36"								2	WHITE	BLACK		7.50 (15)	
R3-5R	30"	36"								1	WHITE	BLACK		7.50 (7.5)	
W3-3	36"	36"								3	YELLOW	BLACK		9.00 (27)	

LIST OF MAJOR ITEMS

EQUIPMENT	QUANTITY	EQUIPMENT (CONTINUED)	QUANTITY
FURNISH AND INSTALL NEW P-TYPE BASE MOUNTED ATC TS2, TYPE 1 MAINEDOT SPEC CABINET PAINTED GLOSS BLACK COMPLETE WITH GENERATOR TRANSFER SWITCH AND ALL ANCILLARY EQUIPMENT AND WIRING	1	FURNISH AND INSTALL 4-CHANNEL PRE-EMPTION PHASE SELECTOR WITH SYSTEM CHASSIS	1
FURNISH AND INSTALL NEW 16-CHANNEL ETHERNET EQUIPPED ENHANCED MALFUNCTION MANAGEMENT UNIT (MMU)	1	FURNISH AND INSTALL PRE-EMPTION CONFIRMATION RED STROBE WITH CABLE	1
FURNISH AND INSTALL ONE-WAY, 3-SECTION, 12-INCH BLACK WITH BLACK DOOR TRAFFIC SIGNAL HEADS WITH BLACK TUNNEL VISORS AND RETROREFLECTIVE BACKPLATES MOUNTED ON MAST ARMS	7	INSTALL MAST ARM FOUNDATION	3
FURNISH AND INSTALL ONE-WAY, 4-SECTION, 12-INCH BLACK WITH BLACK DOOR TRAFFIC SIGNAL HEADS WITH BLACK TUNNEL VISORS AND RETROREFLECTIVE BACKPLATES MOUNTED ON MAST ARMS	1	INSTALL POLE AND 30 FOOT PAINTED GLOSS BLACK MAST ARM	2
FURNISH AND INSTALL ONE-WAY, 5 SECTION, 12-INCH BLACK WITH BLACK DOOR TRAFFIC SIGNAL HEADS WITH BLACK TUNNEL VISORS AND RETROREFLECTIVE BACKPLATES MOUNTED ON MAST ARMS	1	INSTALL POLE AND 40 FOOT PAINTED GLOSS BLACK MAST ARM	1
		FURNISH AND INSTALL MAST ARM MOUNTED REGULATORY SIGNS	5
		INSTALL PEDESTAL POLE FOUNDATION	2
		INSTALL 10-FOOT PEDESTAL POLE	2
		VIDEO DETECTION SYSTEM	1
		FURNISH AND INSTALL EMERGENCY VEHICLE PRE-EMPTION RECEIVERS - EMTRAC ST-9730 OPTICAL SENSOR	4

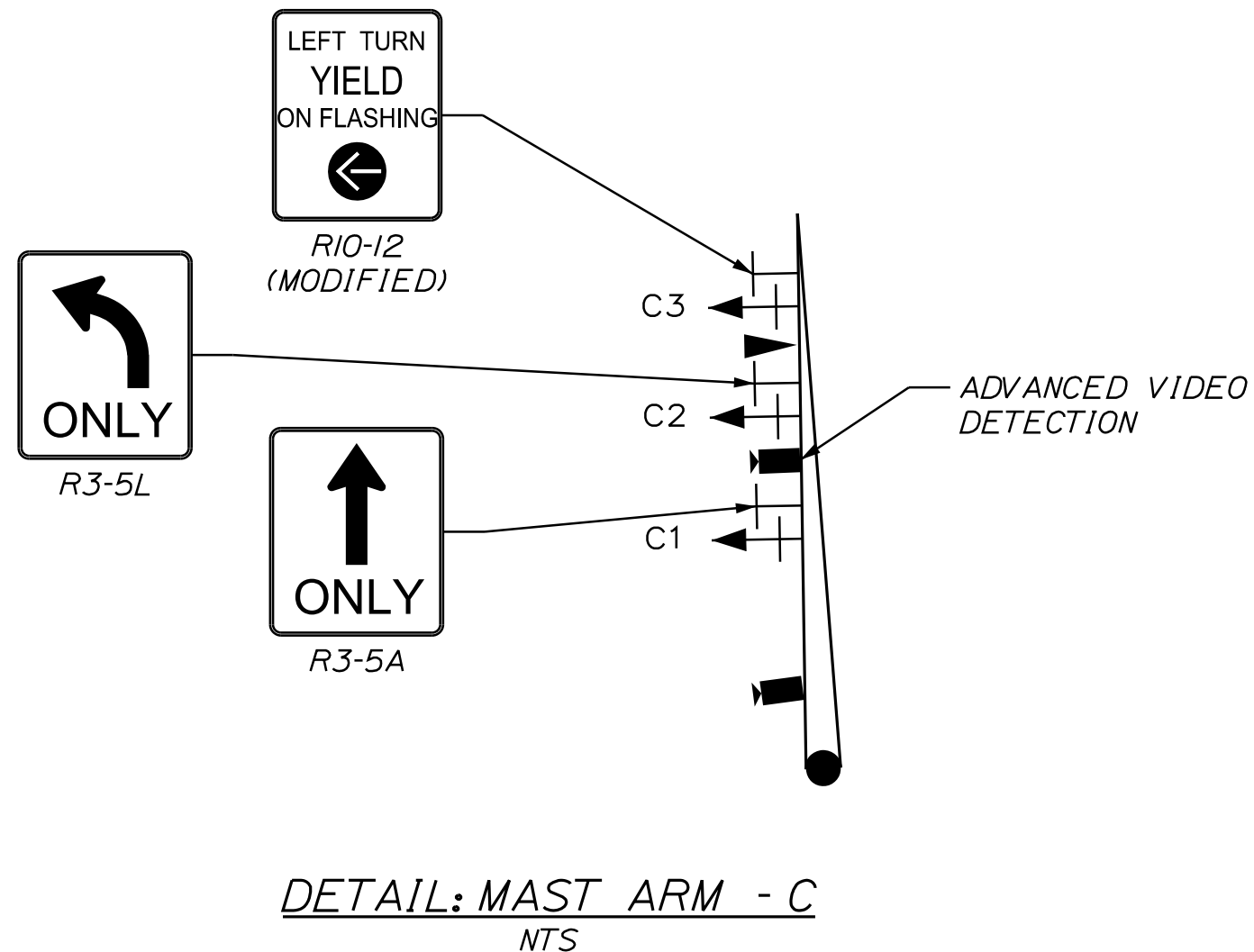
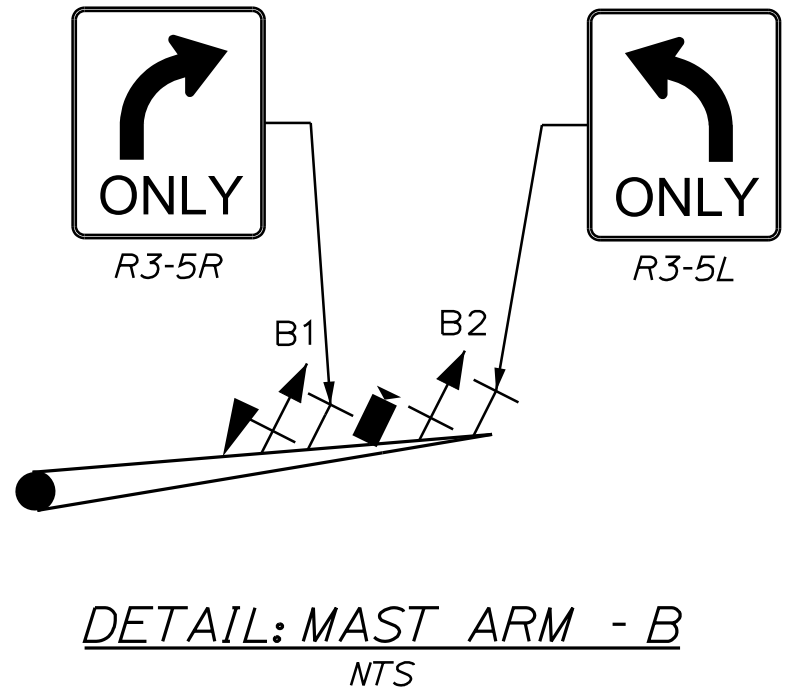
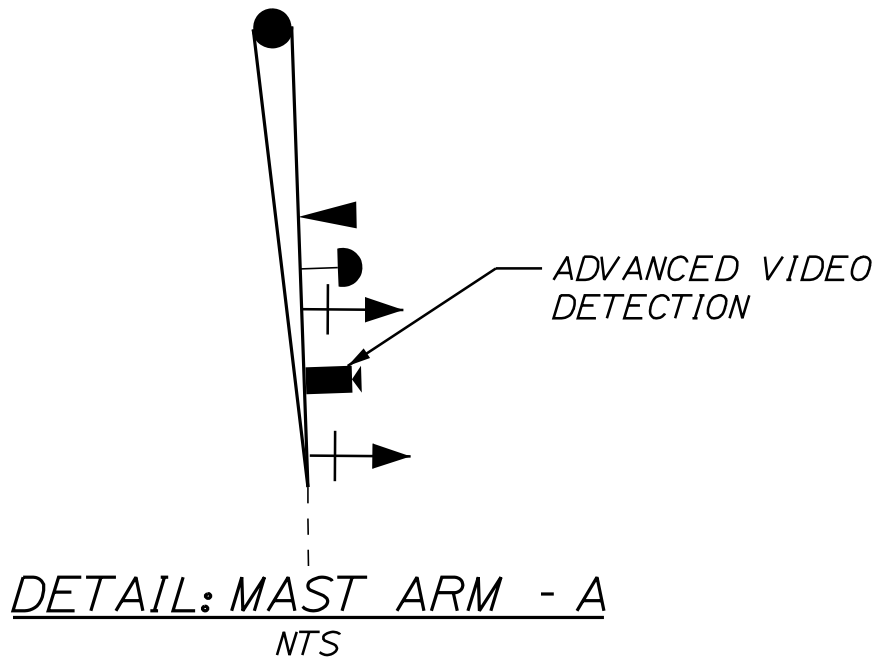
TYPICAL PHASE SEQUENCE	
04 	T
	T
OVERLAP, 04-05 	T
02-05 	T
	06 T
02 	T
	T
	03 T



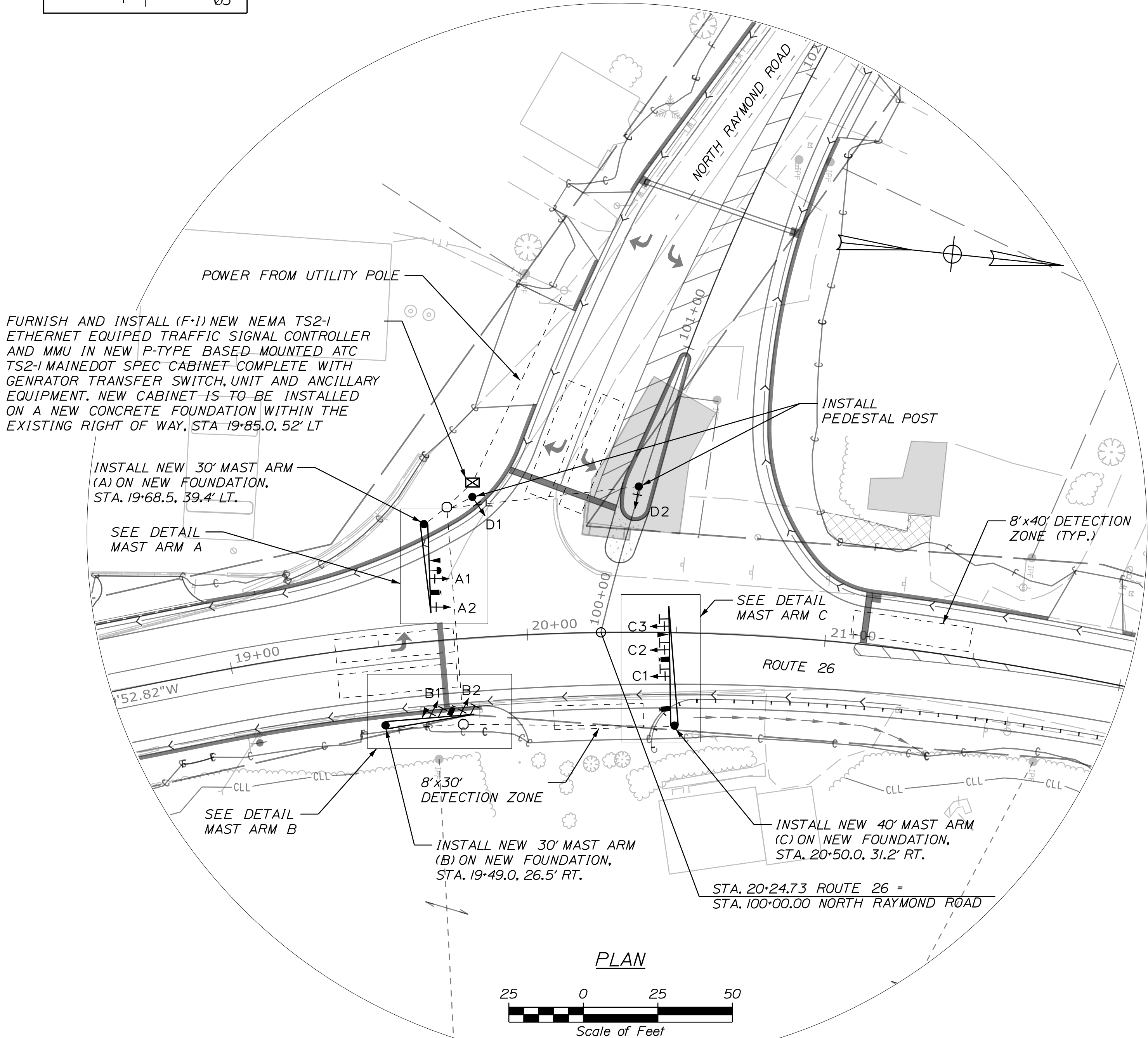
SIGNAL TIMING								
	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Min Green	-	10	5	5	5	10	-	-
Extension	-	3	3	3	3	3	-	-
Max I	-	30	10	25	30	30	-	-
Max II	-	30	10	35	35	30	-	-
Veh Yellow	-	3	3	3	3	3	-	-
Red Clear	-	2.5	2.5	2.5	5	3	-	-
Walk	-	-	-	-	-	-	-	-
Ped Clear	-	-	-	-	-	-	-	-
Recall	-	5	-	-	-	5	-	-
Walk	-	-	-	-	-	-	-	-
Ped Clear	-	-	-	-	-	-	-	-
Recall	-	-	-	-	-	-	-	-

S-SOFT

MAX I - ALL DAY
MAX II - 3-6PM



- LEGEND
- PEDESTAL POST
 - + VEHICULAR SIGNAL HEAD
 - ⊠ CONTROLLER WITH CABINET
 - VIDEO DETECTION CAMERA
 - JUNCTION BOX
 - MAST ARM WITH STEEL POLE
 - ▲ EMERGENCY VEHICLE PRE-EMPTION RECIEVER
 - ◀ EMERGENCY PREEMPTION CONFIRMATION STROBE
 - - - SIGNALIZATION CONDUIT
 - ▭ DETECTION ZONE LOOP

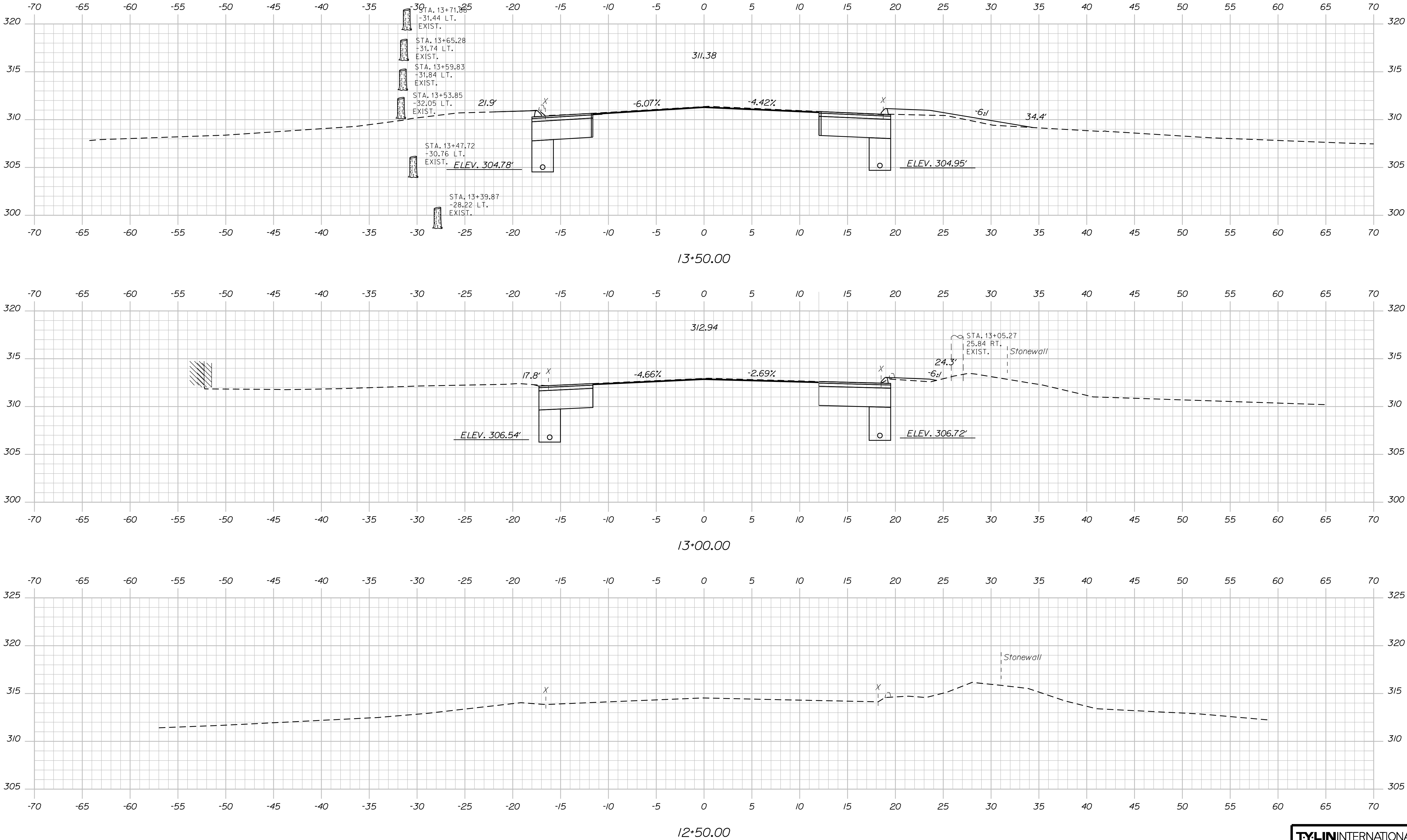


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Division: HIGHWAY

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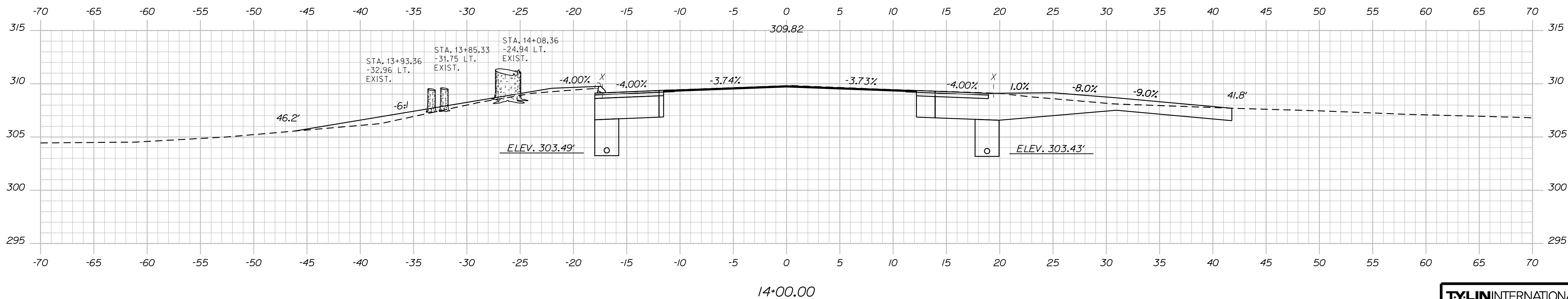
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DEPARTMENT OF TRANSPORTATION
INTERSECTION GEOMETRIC DESIGN
MULTIMODAL
WIN
18766.00
PROGRAM

PROJ. MANAGER	T. ERICO	BY	T. KELLEY	DATE	04/2018
CHECKED-REVIEWED				SIGNATURE	
DESIGN-DETAILED				P.E. NUMBER	
REVISIONS 1				DATE	
REVISIONS 2					
REVISIONS 3					
REVISIONS 4					
FIELD CHANGES					

GRAY
ROUTE 26/N. RAYMOND RD.
CROSS SECTIONS
ROUTE 26

SHEET NUMBER
21
OF 38

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Sta. 14+00.00 to Sta. 15+00.00

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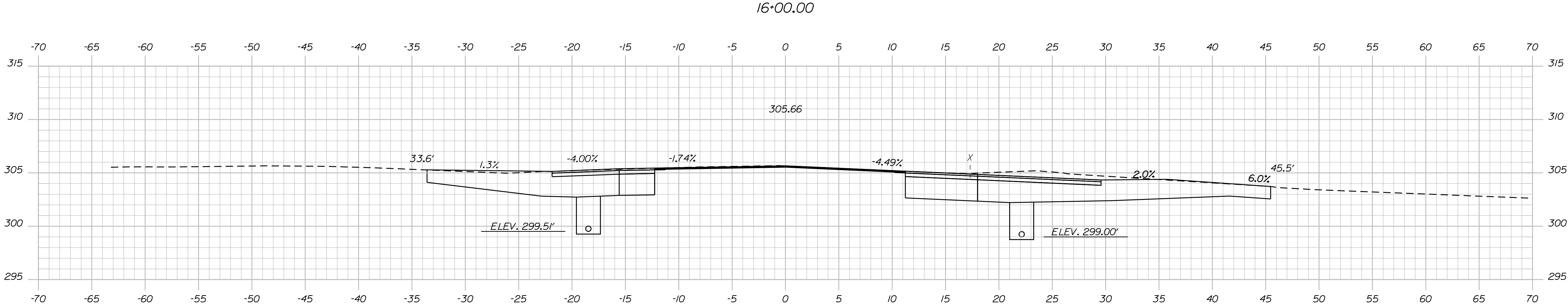
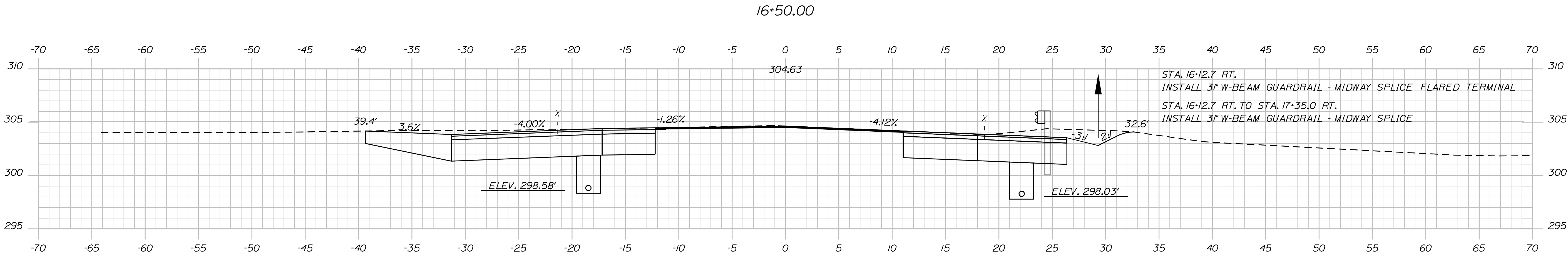
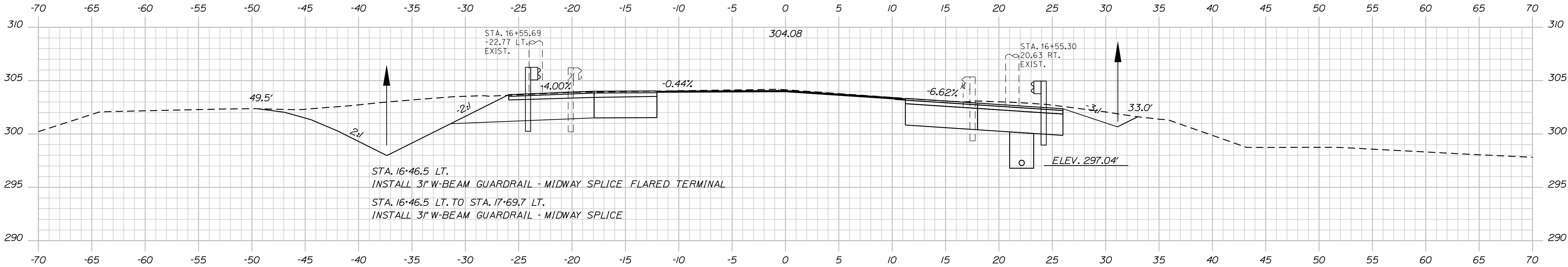
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Date:9/16/2019

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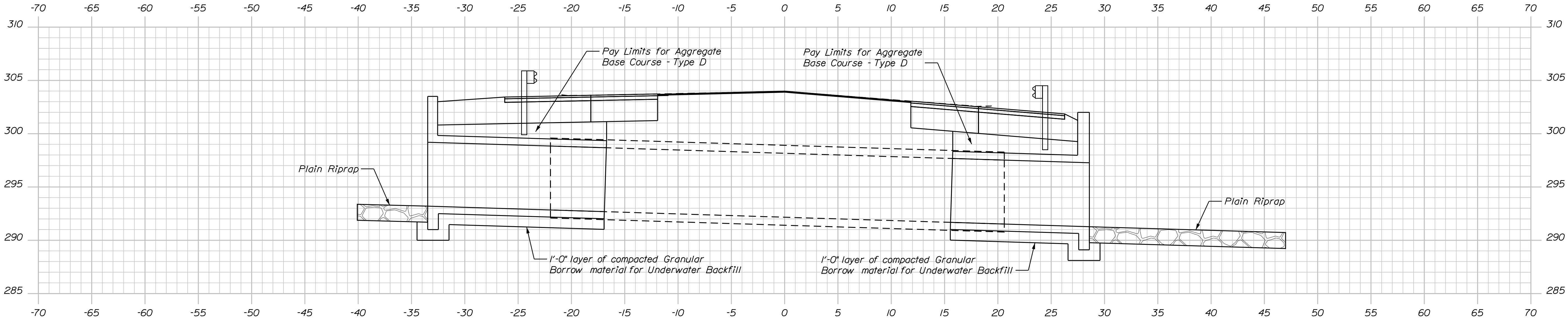
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REVISIONS 3	REVISIONS 4		
FIELD CHANGES			

Date:9/16/2019

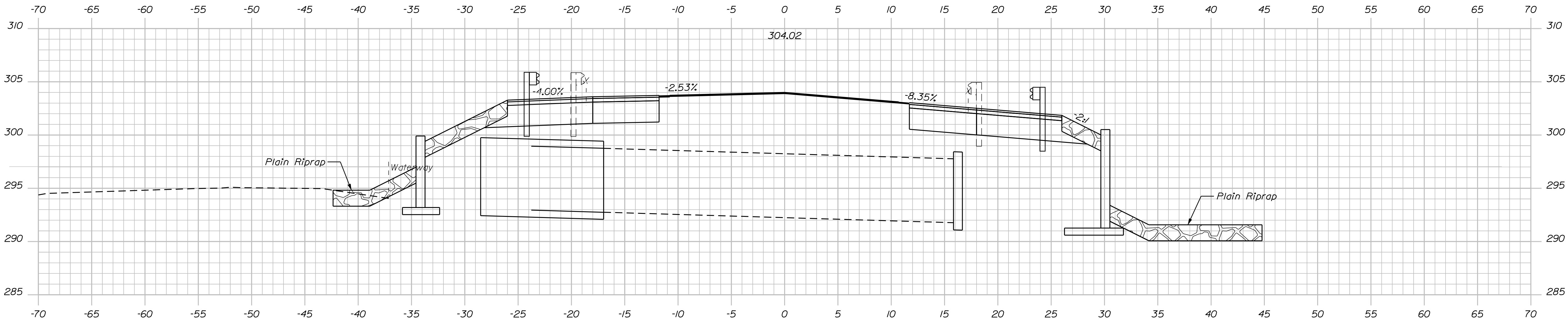
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STATE OF MAINE	DEPARTMENT OF TRANSPORTATION	INTERSECTION GEOMETRIC DESIGN	WIN	PROGRAM
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PROJ. MANAGER	T. ERICO	BY	T. KELLEY	DATE	04/2018
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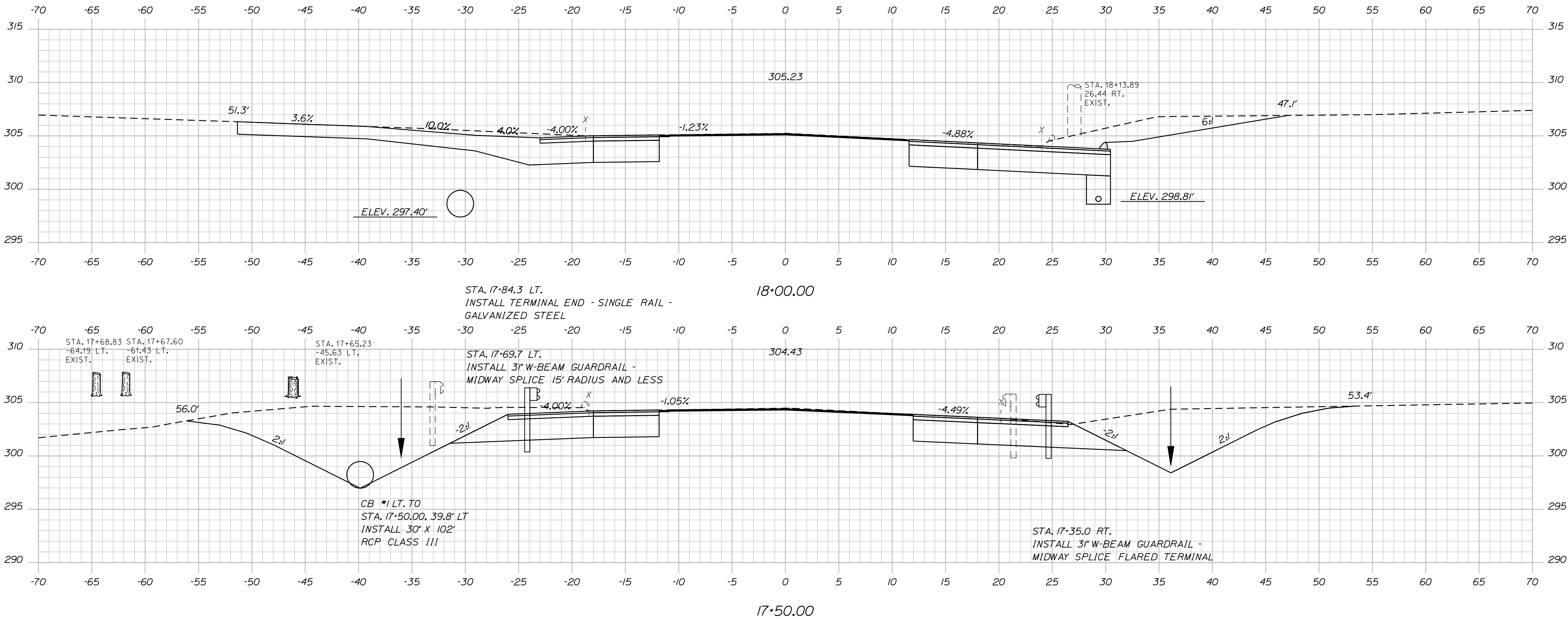
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CROSS SECTIONS	ROUTE 26

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OF 38	

Username: Date:9/16/2019

Division: HIGHWAY

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PROJ. MANAGER	BY	DATE	SIGNATURE
T. ERICO	T. KELLEY	04/2018	
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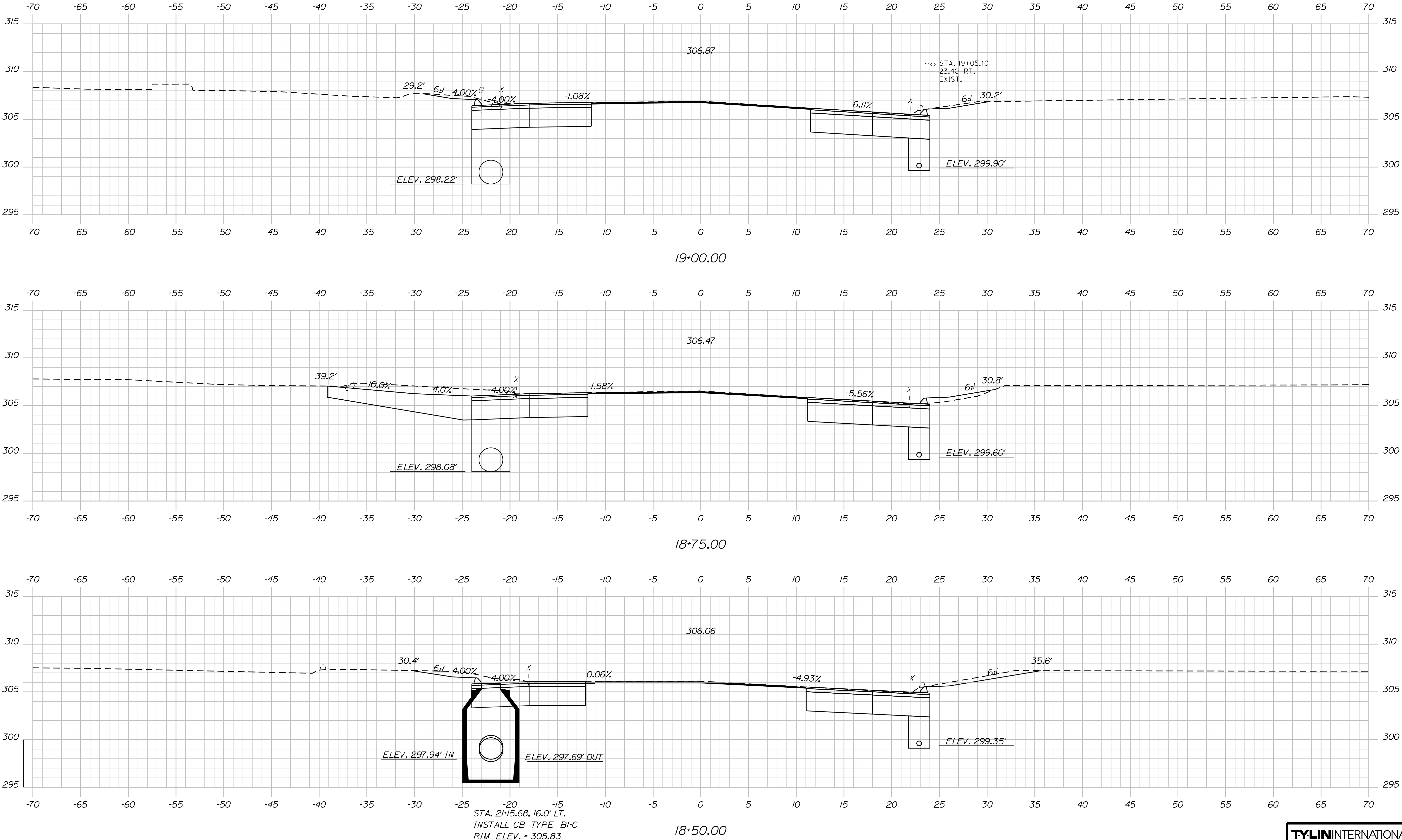
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CROSS SECTIONS
ROUTE 26

Date:9/16/2019

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Division: HIGHWAY

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TYLIN INTERNATIONAL

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
INTERSECTION GEOMETRIC DESIGN

SIGNATURE
P.E. NUMBER
DATE

PROJ. MANAGER
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DESIGN-DETAILED
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GRAY
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CROSS SECTIONS
ROUTE 26

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18766.00
PROGRAM

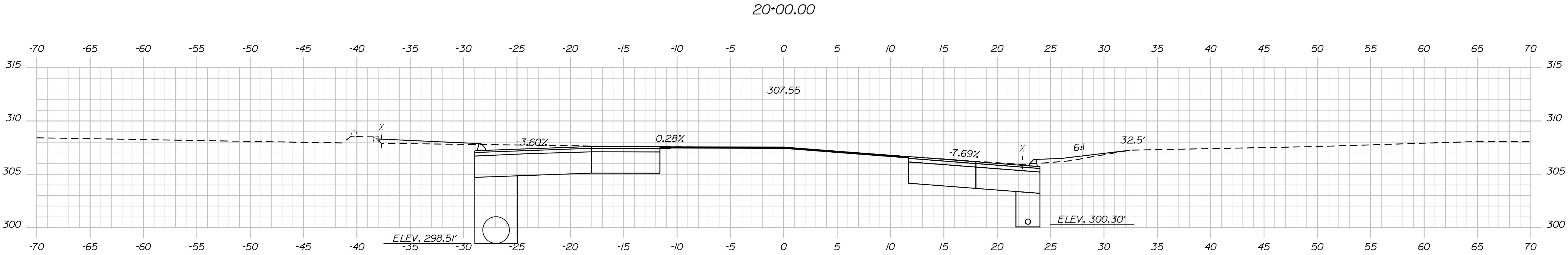
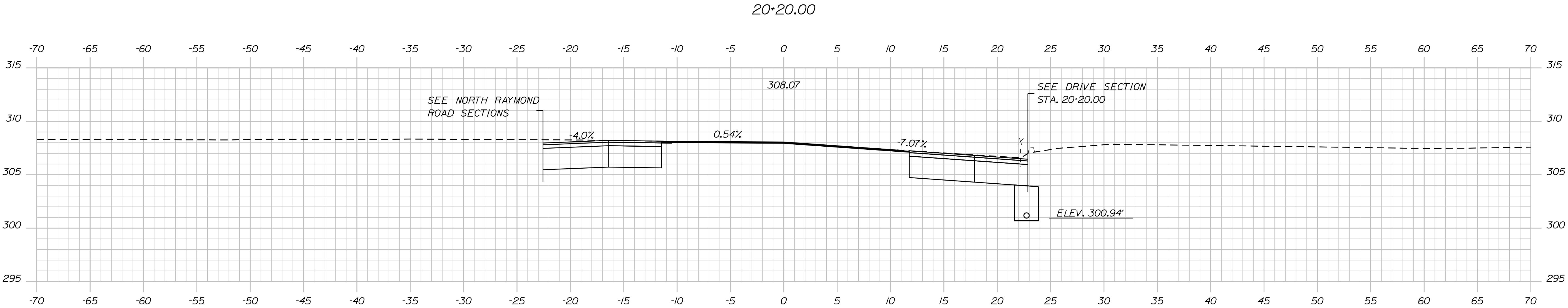
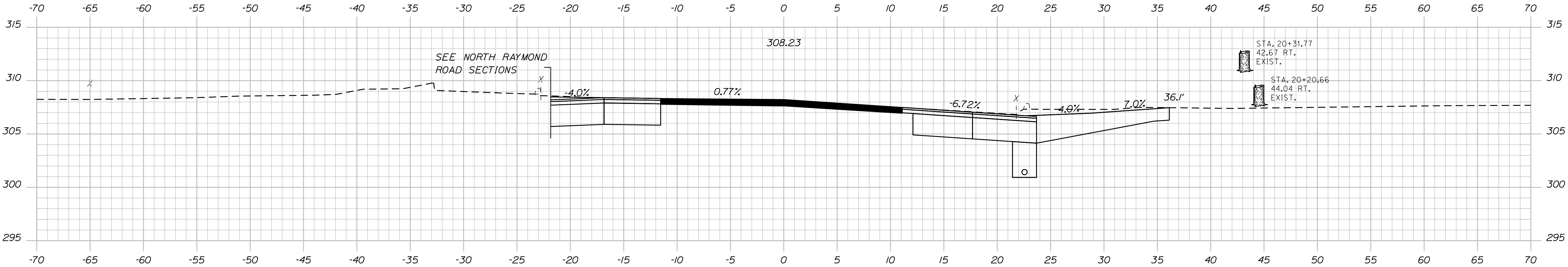
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Date:9/16/2019

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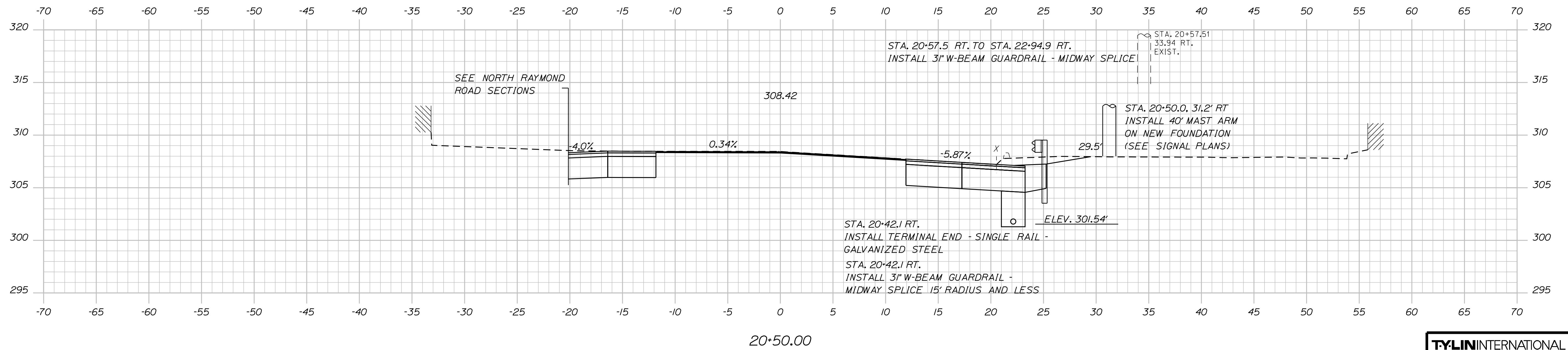
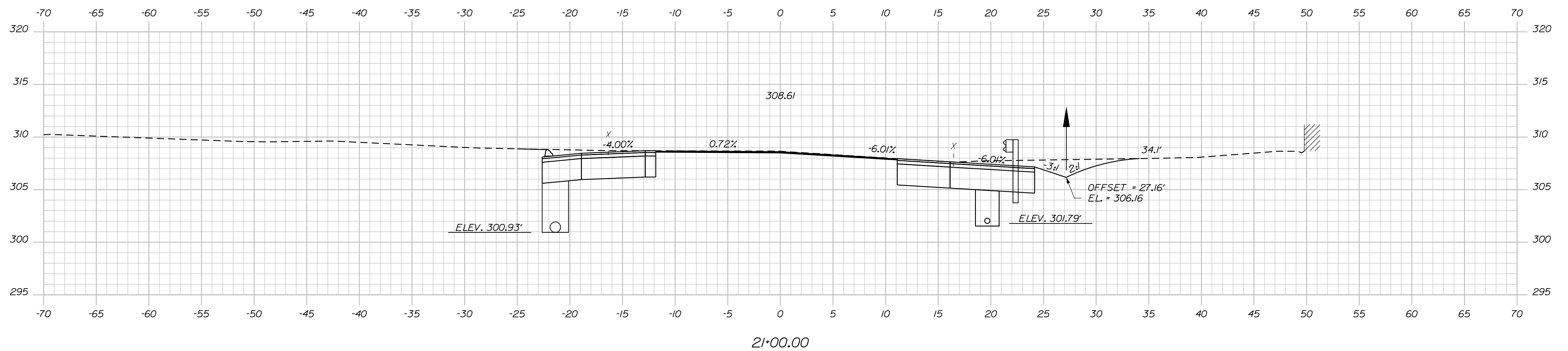
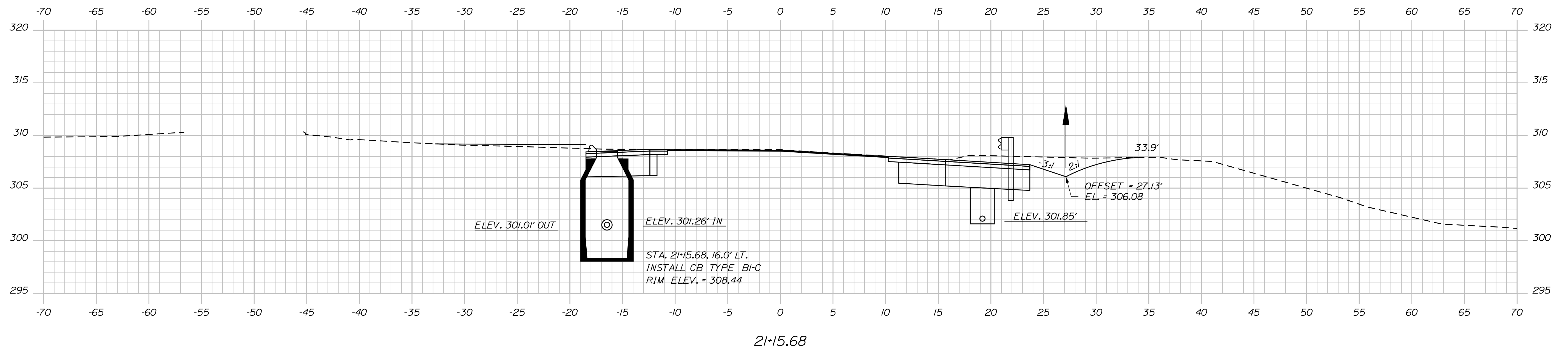
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
INTERSECTION GEOMETRIC DESIGN
MULTIMODAL
WIN
18766.00
PROGRAM

PROJ. MANAGER	DATE	BY	DATE
T. KELLEY	04/2018	T. KELLEY	04/2018
CHECKED-REVIEWED			
DESIGN-REVIEWED			
DESIGN-REVIEWED			
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REVISIONS 4			
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Sta. 19+50.00 to Sta. 20+30.00



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OFFICE OF THE DEPARTMENT OF TRANSPORTATION	
INTERSECTION GEOMETRIC DESIGN	
MULTIMODAL	WIN 18766.00
PROGRAM	

DESIGN-DETAILED	T. KELLEY	T. KELLEY	04/2018
CHECKED/REVIEWED			SIGNATURE
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DESIGNZ-DETAILED03			P.E. NUMBER
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REVISIONS 2			
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GRAY ROUTE 26/N. RAYMOND RD. CROSS SECTIONS ROUTE 26

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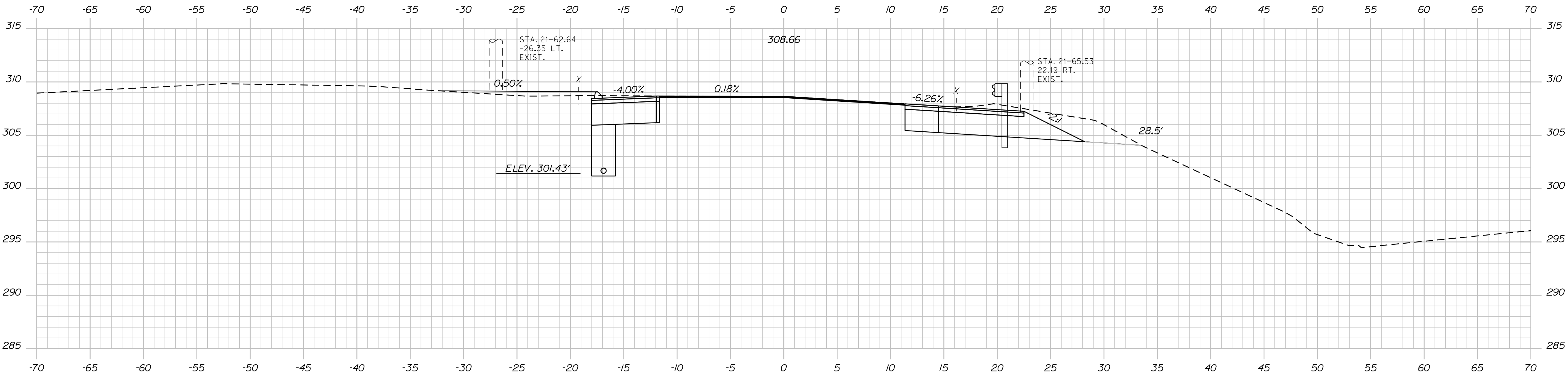
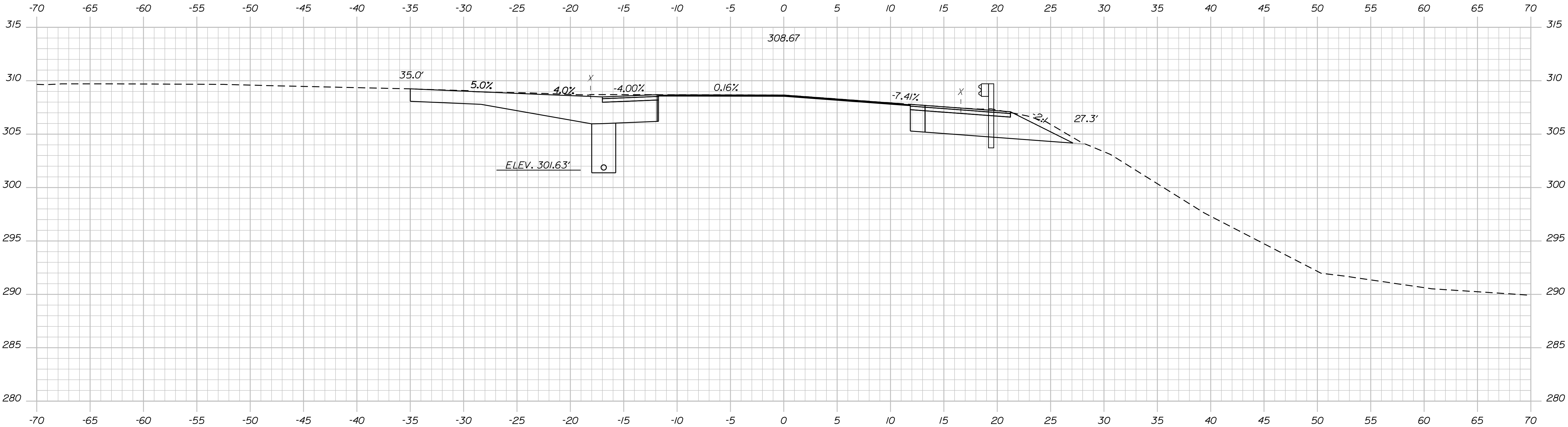
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Division: HIGHWAY

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Date: 9/16/2019



TYLIN INTERNATIONAL

STATE OF MAINE	
DEPARTMENT OF TRANSPORTATION	
INTERSECTION GEOMETRIC DESIGN	
MULTIMODAL	WIN
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PROGRAM	

PROJ. MANAGER	T. ERICO	BY	T. KELLEY	DATE	04/2018
CHECKED-REVIEWED	T. KELLEY	SIGNATURE			
DESIGN-REVIEWED		P.E. NUMBER			
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ROUTE 26	

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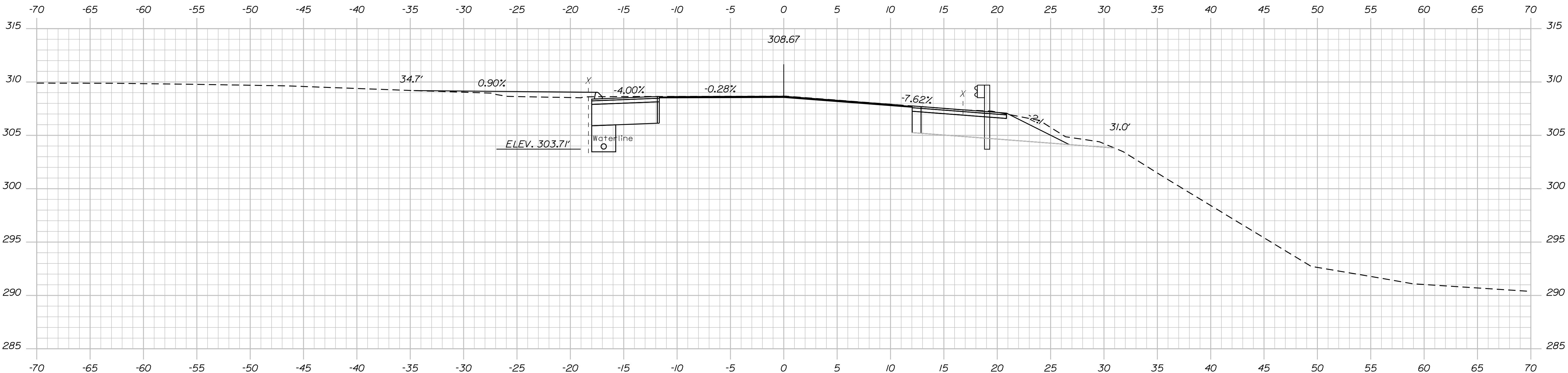
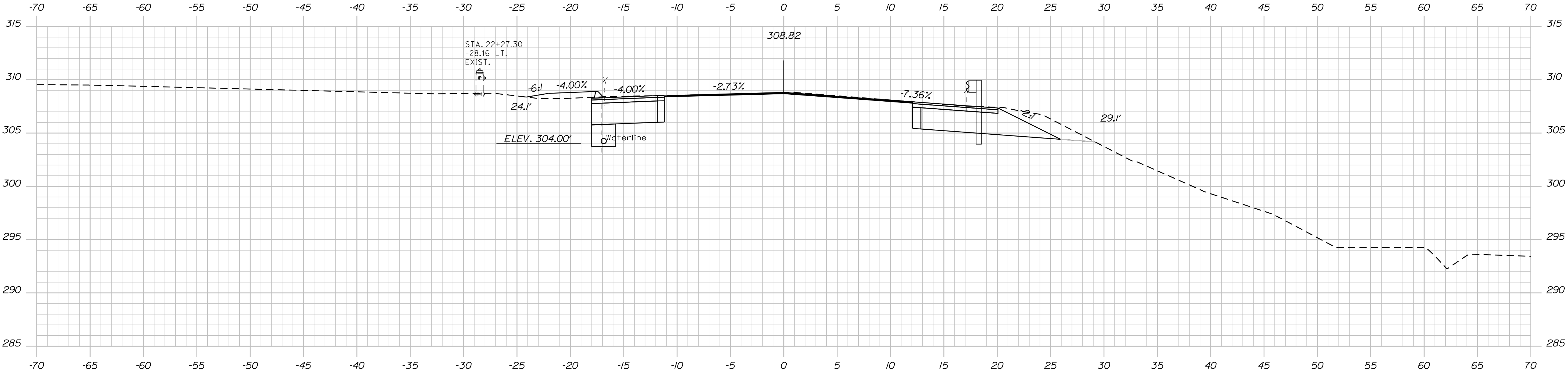
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Division: HIGHWAY

Username:

Date:9/16/2019



TYLIN INTERNATIONAL

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
INTERSECTION GEOMETRIC DESIGN
MULTIMODAL
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18766.00
PROGRAM

PROJ. MANAGER	T. ERICO	BY	T. KELLEY	DATE	04/2018
CHECKED-REVIEWED	T. KELLEY				SIGNATURE
DESIGN-DETAILED					P.E. NUMBER
REVISIONS 1					DATE
REVISIONS 2					
REVISIONS 3					
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FIELD CHANGES					

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ROUTE 26/N. RAYMOND RD.
CROSS SECTIONS
ROUTE 26

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OF 38

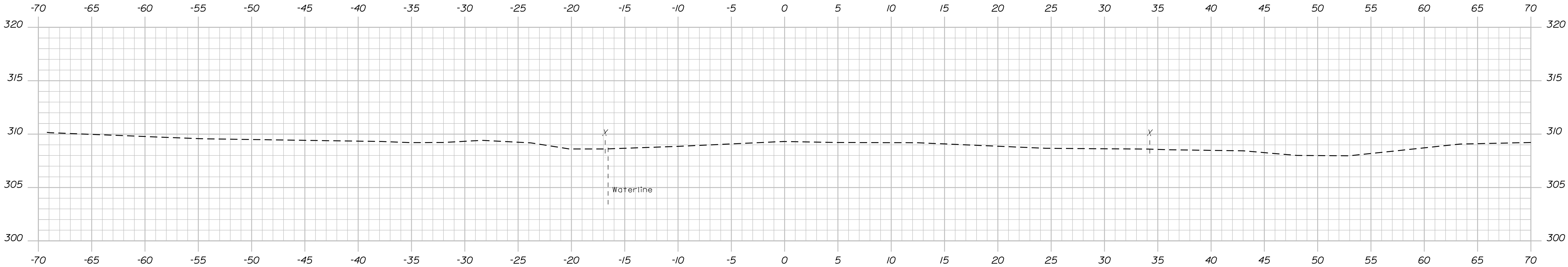
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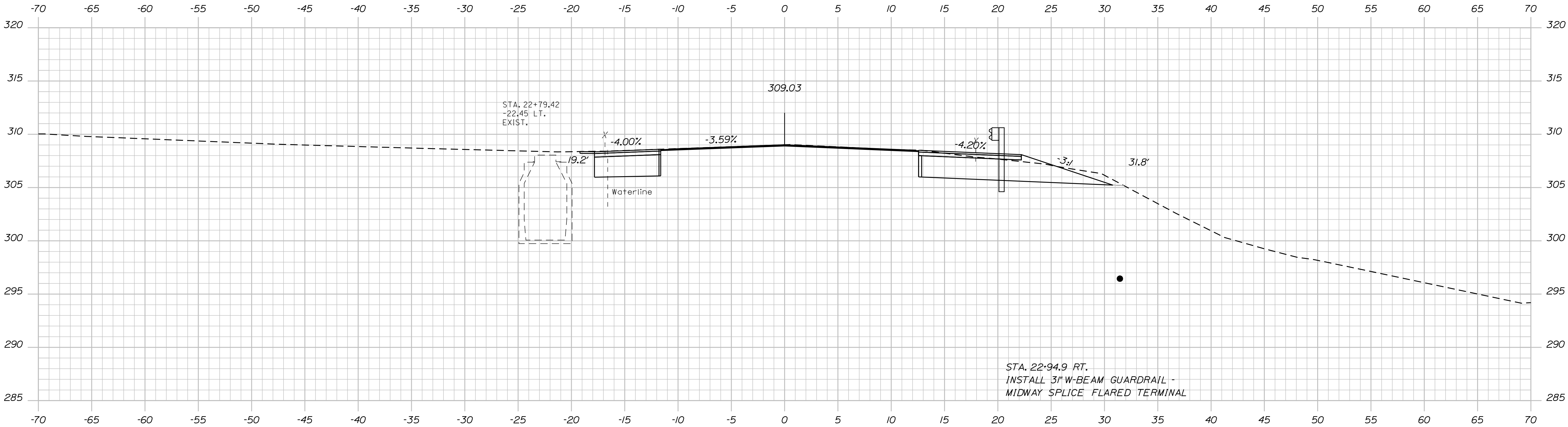
Division: HIGHWAY

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Date: 9/16/2019



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STATE OF MAINE	
DEPARTMENT OF TRANSPORTATION	
INTERSECTION GEOMETRIC DESIGN	
MULTIMODAL	WIN
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PROJ. MANAGER	BY	DATE
T. KELLEY	T. KELLEY	04/2018
CHECKED-REVIEWED	SIGNATURE	
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FIELD CHANGES		

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ROUTE 26/N. RAYMOND RD.	
CROSS SECTIONS	
ROUTE 26	

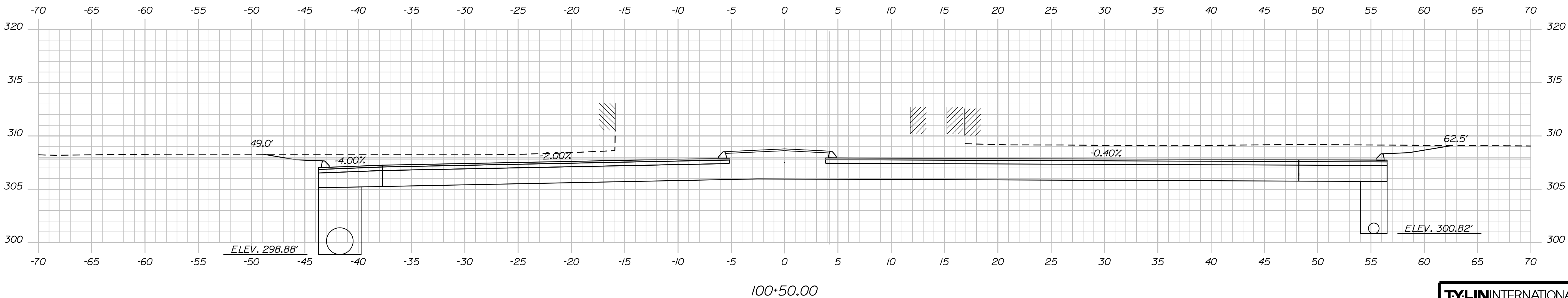
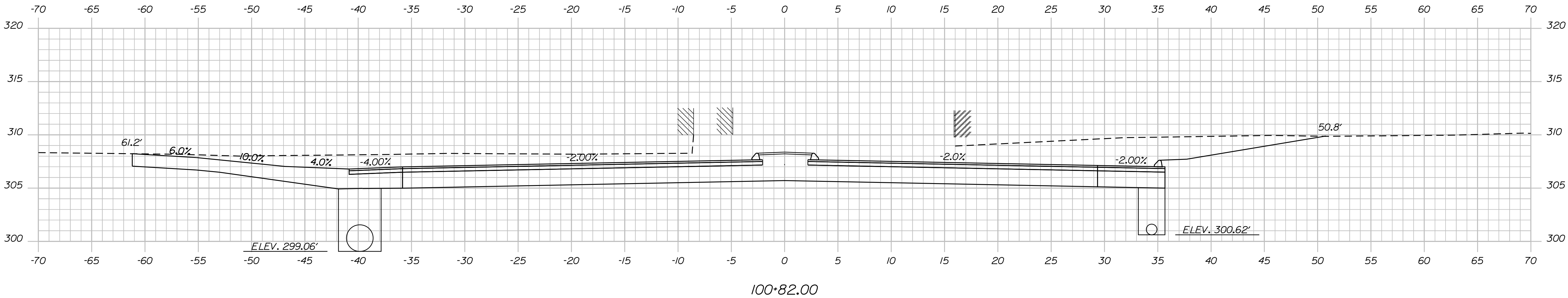
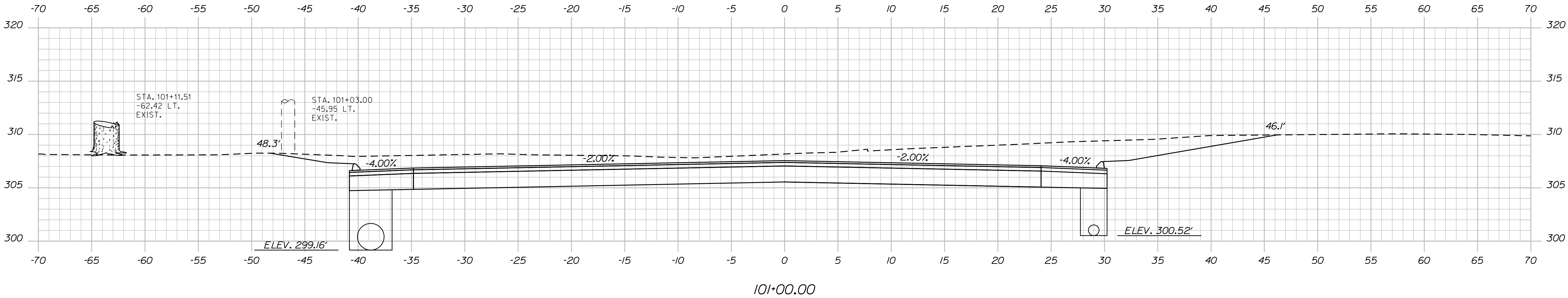
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31	
OF 38	

Date: 9/16/2019

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Division: HIGHWAY

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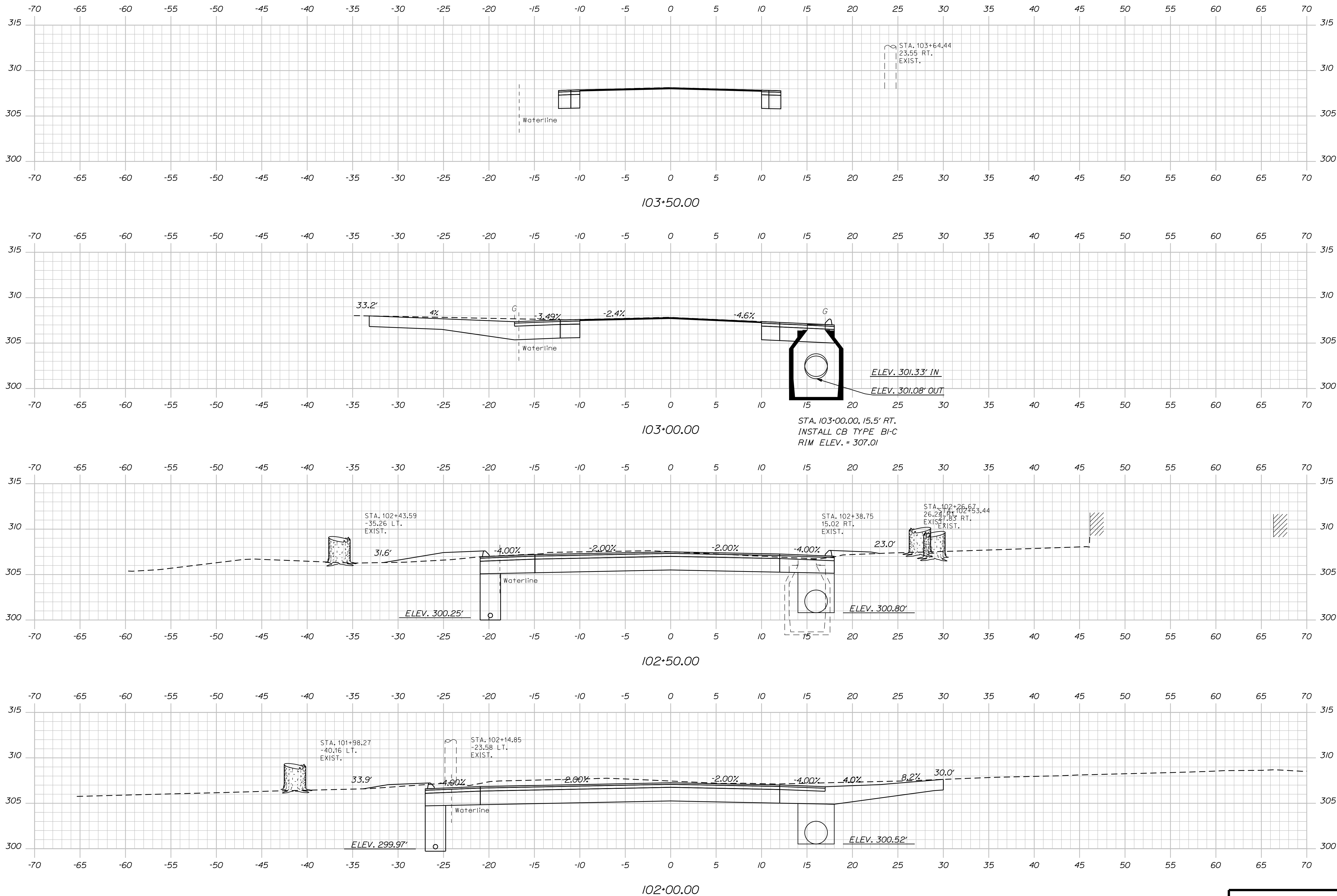
TYLIN INTERNATIONAL

PROJ. MANAGER	BY	DATE	SIGNATURE
T. ERICO	T. KELLEY	04/2018	
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REVISIONS 4			
FIELD CHANGES			

Username: Date:9/16/2019

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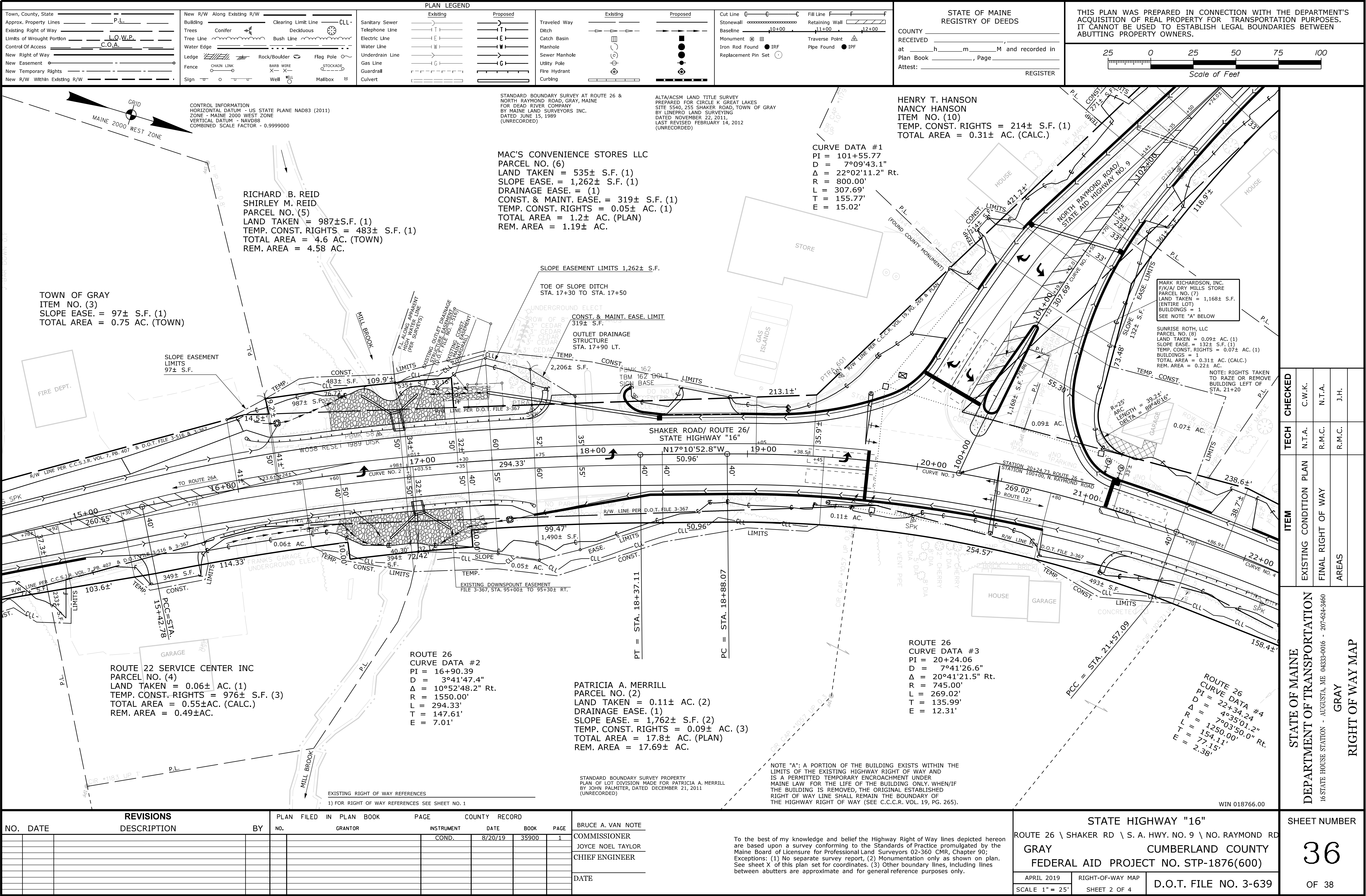
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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
INTERSECTION GEOMETRIC DESIGN
MULTIMODAL
WIN
18766.00
PROGRAM

PROJ. MANAGER	BY	DATE	SIGNATURE
T. ERICO	T. KELLEY	04/2018	
CHECKED-REVIEWED			
DESIGN-DETAILED			
DESIGN-DETAILED			
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REVISIONS 3			
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FIELD CHANGES			

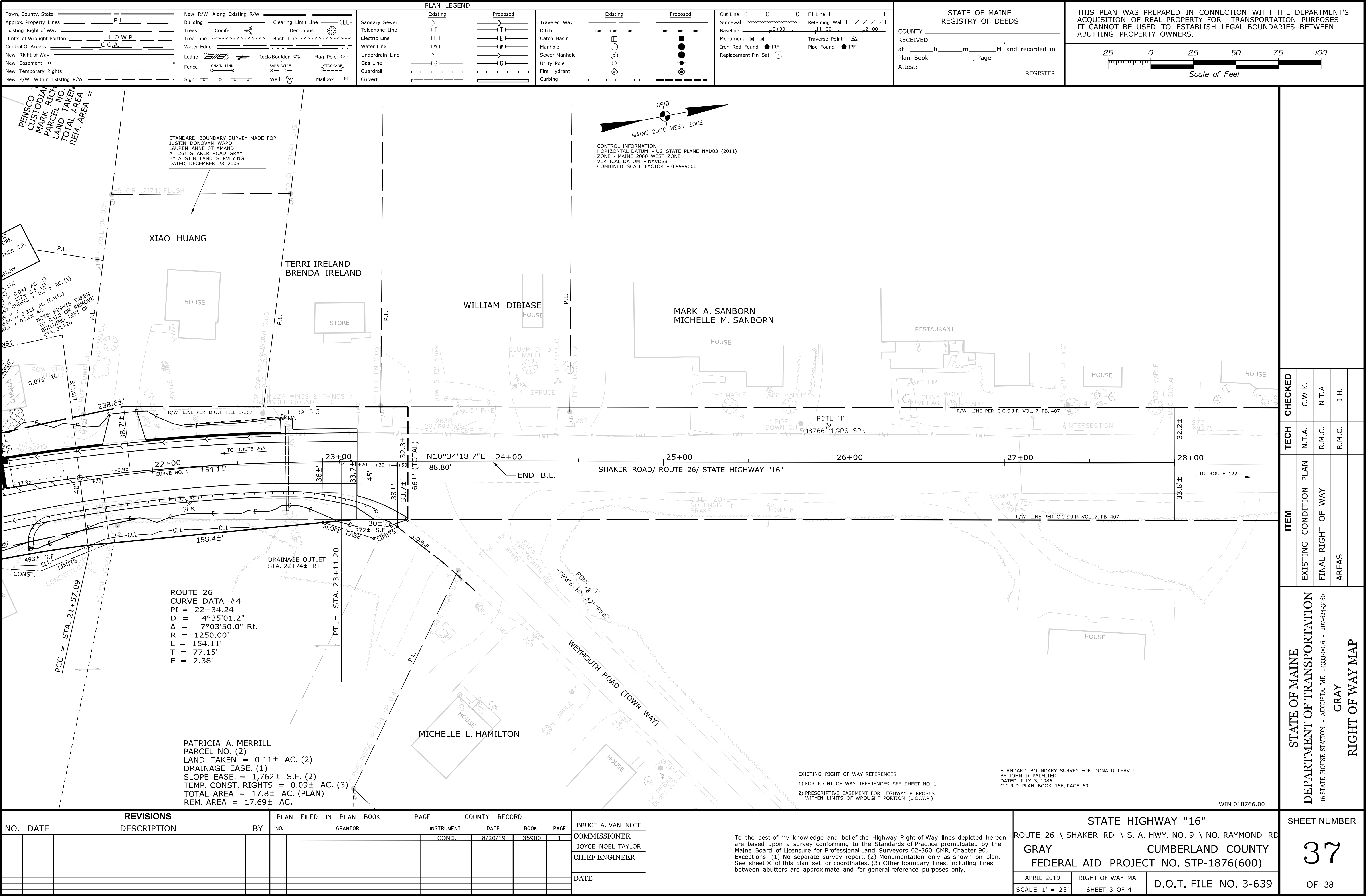
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ROUTE 26/N. RAYMOND RD.
CROSS SECTIONS
NORTH RAYMOND RD.

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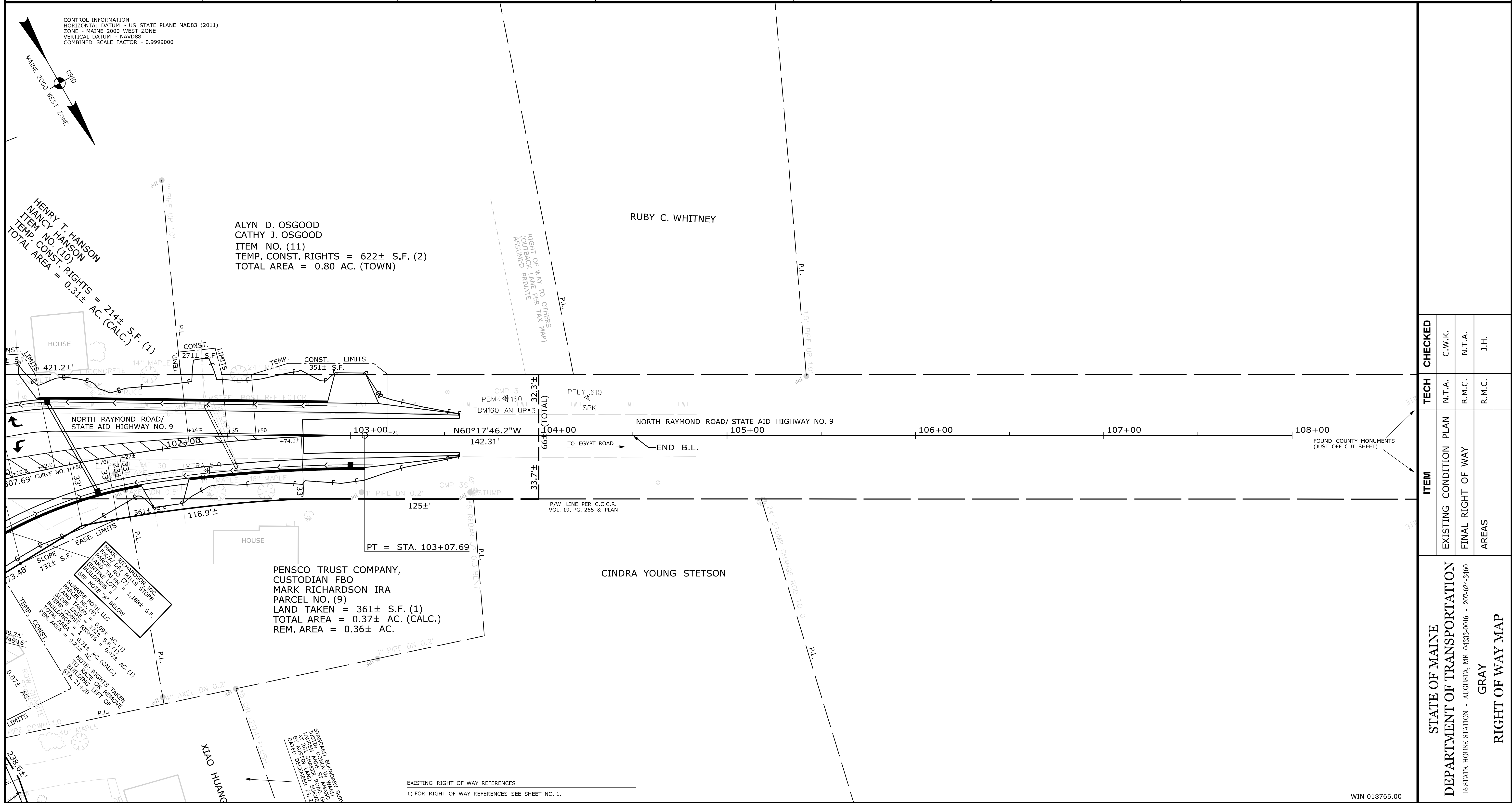


Username: Rondal M. Carpentier Date: 9/17/2019

File: ...\\00\\ROW\\MSTA\\037_R\\PLAN3.dgn Division: ROW



Town, County, State _____ Approx. Property Lines _____ P.L. _____ Existing Right of Way _____ Limits of Wrought Portion _____ L.O.W.P. _____ Control Of Access _____ C.O.A. _____ New Right of Way _____ New Easement _____ New Temporary Rights _____ New R/W Within Existing R/W _____	New R/W Along Existing R/W _____ Building _____ Clearing Limit Line _____ CL-L _____ Trees Conifer _____ Deciduous _____ Tree Line _____ Water Edge _____ Ledge _____ Fence _____ Sign _____ Rock/Boulder _____ Flag Pole _____ Barb Wire _____ Stockade _____ Well _____ Mailbox _____	PLAN LEGEND Existing _____ Proposed _____ Sanitary Sewer _____ Telephone Line _____ T _____ Electric Line _____ E _____ Water Line _____ W _____ Underdrain Line _____ Gas Line _____ G _____ Guardrail _____ Culvert _____	Traveled Way _____ Ditch _____ Catch Basin _____ Manhole _____ Sewer Manhole _____ Utility Pole _____ Fire Hydrant _____ Curbing _____	Cut Line _____ Stonewall _____ Baseline _____ 10+00 _____ Monument _____ Iron Rod Found _____ IRF _____ Replacement Pin Set _____ Fill Line _____ Retaining Wall _____ Traverse Point _____ Pipe Found _____ IPF _____	STATE OF MAINE REGISTRY OF DEEDS COUNTY _____ RECEIVED _____ at _____ h _____ m _____ M and recorded in Plan Book _____, Page _____ Attest: _____ REGISTER	THIS PLAN WAS PREPARED IN CONNECTION WITH THE DEPARTMENT'S ACQUISITION OF REAL PROPERTY FOR TRANSPORTATION PURPOSES. IT CANNOT BE USED TO ESTABLISH LEGAL BOUNDARIES BETWEEN ABUTTING PROPERTY OWNERS. 25 0 25 50 75 100 Scale of Feet
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REVISIONS				PLAN FILED IN PLAN BOOK PAGE COUNTY RECORD						BRUCE A. VAN NOTE COMMISSIONER JOYCE NOEL TAYLOR CHIEF ENGINEER DATE	To the best of my knowledge and belief the Highway Right of Way lines depicted hereon are based upon a survey conforming to the Standards of Practice promulgated by the Maine Board of Licensure for Professional Land Surveyors 02-360 CMR, Chapter 90; Exceptions: (1) No separate survey report, (2) Monumentation only as shown on plan. See sheet X of this plan set for coordinates. (3) Other boundary lines, including lines between abutters are approximate and for general reference purposes only.	STATE HIGHWAY "16"			SHEET NUMBER
NO.	DATE	DESCRIPTION	BY	NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE			ROUTE 26 \ SHAKER RD \ S. A. HWY. NO. 9 \ NO. RAYMOND RD			
						COND.	8/20/19	35900	1			GRAY CUMBERLAND COUNTY			
												FEDERAL AID PROJECT NO. STP-1876(600)			
												APRIL 2019	RIGHT-OF-WAY MAP	D.O.T. FILE NO. 3-639	
												SCALE 1" = 25'	SHEET 4 OF 4	OF 38	

U:\303.38 GMD North Raymond Road - WM Renew\Z - CAD\DWG\303-38-COVER.dwg 9/19/2019 11:27 AM

LEGEND

EXISTING	DESCRIPTION	PROPOSED
	BUILDING	
	RIGHT OF WAY	
	PROPERTY LINE	
	GUIDE RAIL	
	CURB	
	EDGE OF PAVEMENT	
	EDGE OF GRAVEL DRIVE	
	GRADING CONTOUR LINE	
	SPOT ELEVATION	
	TREELINE	
	TREES & HEDGES	
	UTILITY POLE	
	FREESTANDING SIGN	
	PAINTED DIRECTIONAL TRAFFIC ARROW	
	OVERHEAD ELECTRIC/TELEPHONE	
	UNDERGROUND ELECTRIC/TELEPHONE	
	WATER LINE	
	STORM DRAIN LINE	
	CULVERT	
	HYDRANT	
	WATER GATE VALVE	
	WATER SHUT OFF VALVE	
	MANHOLE	
	CATCH BASIN	
	TEST PIT	
	IRON ROD (FOUND)	
	MONUMENT	
	RIPRAP	

GENERAL NOTES

GENERAL NOTES

- EXISTING CONDITIONS FROM MAINE DOT PLANS.
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR THE ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AND DIG SAFE AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
- MAINTENANCE OF EROSION CONTROL MEASURES IS OF PARAMOUNT IMPORTANCE TO THE OWNER AND THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY BY ON-SITE INSPECTIONS OF THE OWNER, THE TOWN OF GRAY OR THEIR REPRESENTATIVES AT NO ADDITIONAL COST TO THE OWNER.
- ALL MATERIAL SCHEDULES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL PREPARE HIS OWN MATERIAL SCHEDULES BASED UPON HIS PLAN REVIEW. ALL SCHEDULES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS OR PERFORMING WORK.
- ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO MAINE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, AND/OR GRAY WATER DISTRICT SPECIFICATIONS.

UTILITY NOTES

- ALL WATER UTILITY MATERIALS AND INSTALLATION METHODS SHALL CONFORM TO GRAY WATER DISTRICT STANDARDS. WATER DISTRIBUTION PIPING SHALL BE CLASS 52 DUCTILE IRON PIPE, DOUBLE CEMENT LINED AND BITUMINOUS COATED CONFORMING TO AWWA/ANSI C104/A21.4 OR HDPE SDR11 CONFORMING TO AWWA C906. DISINFECTION OF WATER LINES SHALL CONFORM TO AWWA STANDARD C651, LATEST REVISION.
- THRUST BLOCKS OR LOCKING RETAINER GLANDS SHALL BE PLACED ON THE WATER DISTRIBUTION LINES AT ALL BENDS, TEES, VALVES, CHANGES IN DIRECTION, ETC. THE THRUST BLOCKS OR LOCKING RETAINER GLANDS SHALL MEET THE REQUIREMENTS OF GRAY WATER DISTRICT STANDARDS.
- TEST PITS AT ALL UTILITY CROSSINGS SHALL BE COMPLETED TWO WEEKS IN ADVANCE OF THE START OF CONSTRUCTION OR ORDERING OF MATERIALS. TEST PIT INFORMATION SHALL BE PROMPTLY PROVIDED TO ENGINEER FOR REVIEW.
- CONTRACTOR SHALL NOTIFY GRAY WATER DISTRICT A MINIMUM OF 48 HOURS BEFORE SHUTTING DOWN WATER SERVICE.
- MAINTAIN WATER SERVICE TO HYDRANTS AT ALL TIMES UNLESS APPROVAL TO TAKE HYDRANT OUT OF SERVICE IS RECEIVED BY THE TOWN OF GRAY FIRE CHIEF AND GRAY WATER DISTRICT.
- MAINTAIN ACTIVE WATER SERVICES UNLESS A WATER SHUTDOWN IS APPROVED BY THE GRAY WATER DISTRICT.
- ALL CUT ENDS OF ABANDONED WATER MAIN SHALL BE CAPPED.

EROSION CONTROL NOTES

- LAND DISTURBING ACTIVITIES SHALL BE ACCOMPLISHED IN A MANNER AND SEQUENCE THAT CAUSES THE LEAST PRACTICAL DISTURBANCE OF THE SITE.
- WATER MAIN CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF AREA OUTSIDE THE MAINEDOT LIMIT OF WORK AS REQUIRED BY SPECIFICATION SECTION 31 23 23.

CONSTRUCTION SEQUENCE

THE FOLLOWING CONSTRUCTION SEQUENCE SHALL BE FOLLOWED TO THE EXTENT PRACTICABLE UNLESS CHANGES ARE APPROVED BY THE GRAY WATER DISTRICT. WATER MAIN CONSTRUCTION SHALL BE COORDINATED WITH MAINEDOT CONSTRUCTION OF ROUTE 26 AND NORTH RAYMOND ROAD.

- CONSTRUCT WATER SERVICE FROM EXISTING MAIN TO TAX MAP/LOT 13/101-5 AS SHOWN ON PLAN SHEET C103.
- PROVIDE TEMPORARY WATER SERVICE TO TAX MAP 13/101-1 (MAC'S CONVENIENCE STORES) AS NECESSARY AND AS DIRECTED BY GRAY WATER DISTRICT.
- INSTALL 8" INSERTION VALVE AT APPROXIMATELY STATION 14+50, 15' LT.
- INSTALL 8" INSERTION VALVE AT APPROXIMATELY STATION 19+65, 15' LT
- INSTALL 8" INSERTION VALVE AT APPROXIMATELY STATION 19+75, 46' LT.
- INSTALL 10" INSERTION VALVE AT APPROXIMATELY STATION 105+30, 14' RT.
- COORDINATE WITH GRAY WATER DISTRICT FOR OPERATION OF ALL WATER VALVES DURING CONSTRUCTION.
- CONSTRUCT NEW MAIN USING DIRECTIONAL DRILL METHODS FROM APPROXIMATELY STATION 15+10, 28' LT TO APPROXIMATELY STATION 21+00, 21' LT.
- CONSTRUCT CONNECTIONS TO EXISTING MAIN SOUTH OF STATION 15+00 AND NORTH OF STATION 21+00 ALONG ROUTE 26. CONSTRUCTION METHOD TO BE CONTRACTOR'S OPTION.
- CONSTRUCT MAIN FROM NEW ROUTE 26 MAIN TO CONNECTION WITH EXISTING MAIN ON NORTH RAYMOND ROAD. CONSTRUCTION METHOD TO BE CONTRACTOR'S OPTION.
- DISINFECT NEW MAINS AND TEST PURSUANT TO GRAY WATER DISTRICT STANDARDS.
- UPON APPROVAL OF NEW MAIN BY GRAY WATER DISTRICT, REMOVE TEMPORARY WATER SERVICES.
- SHUT ALL VALVES TO BE ABANDONED, REMOVE TOP SECTION OF ABANDONED VALVE BOXES AND FILL WITH SAND.
- RESTORE DISTURBED AREAS IN COORDINATION WITH MAINEDOT.

UTILITIES

WATER:

GRAY WATER DISTRICT
80 SHAKER ROAD
GRAY, MAINE 04039
(207) 657-3277
CONTACT: JIM FOSTER
jfooster@securespeed.net

MAINE DOT:

24 CHILD STREET
AUGUSTA, MAINE
(207) 592-3132
CONTACT: RICK PARASCHAK
rick.paraschak@maine.gov

GORRILL PALMER:

PROJECT MANAGER:
DOUG REYNOLDS
(207) 772-2515
dreynolds@gorrillpalmer.com

INDEX

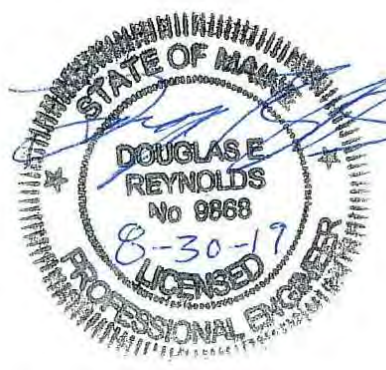
C001	GENERAL NOTES, & LEGEND
C101	WATER MAIN PLAN AND PROFILE
C102	WATER MAIN PLAN AND PROFILE
C103	WATER MAIN PLAN AND PROFILE
C401	WATER DETAILS 1
C402	WATER DETAILS 2

QUANTITY TABLE:

Item	Description	Pay Unit	QUANTITY
304.1	AGGREGATE SUBBASE COURSE	CY	100
403.2081	12.5 mm HMA	T	12
822.36	12" DI WATER MAIN	LF	500
822.3611	12" DIPS SDR 11 WATER MAIN	LF	550
822.3410	8" DI WATER MAIN	EA	15
822.354	10" INSERTION VALVE	EA	1
822.355	10" MJ SOLID SLEEVE DI TO DI ADAPTER	EA	1
823.31	12" GATE VALVE	EA	5
823.312	12" BEND	EA	5
823.3132	12"x12"x8" TEE	EA	2
823.3134	12"x12"x12" TEE	EA	1
823.3144	12"x10" REDUCER	EA	1
823.316	12" CAP	EA	2
823.317	12"x12"x6" SWIVEL TEE	EA	1
823.325	8" GATE VALVE	EA	1
823.3252	8" TAPPING SLEEVE AND VALVE	EA	1
823.3254	8" INSERTION VALVE	EA	3
823.3255	8"x6" SWIVEL TEE	EA	1
823.3256	8" BEND	EA	2
823.3257	8" CAP	EA	2
823.3258	8" AC TO DI ADAPTER	EA	2
823.341	2" BLOW OFF WITH VALVE BOX	EA	3
824.30	HYDRANT ASSEMBLY	EA	2
825.434	1" SERVICE	LF	150

CALL BEFORE YOU DIG
1-888-344-7233

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Design: MYR	Draft: CG	Date: MARCH 2019
Checked: DER	Scale: NTS	Job No.: 303.38
File Name: 303-38-COVER.dwg		
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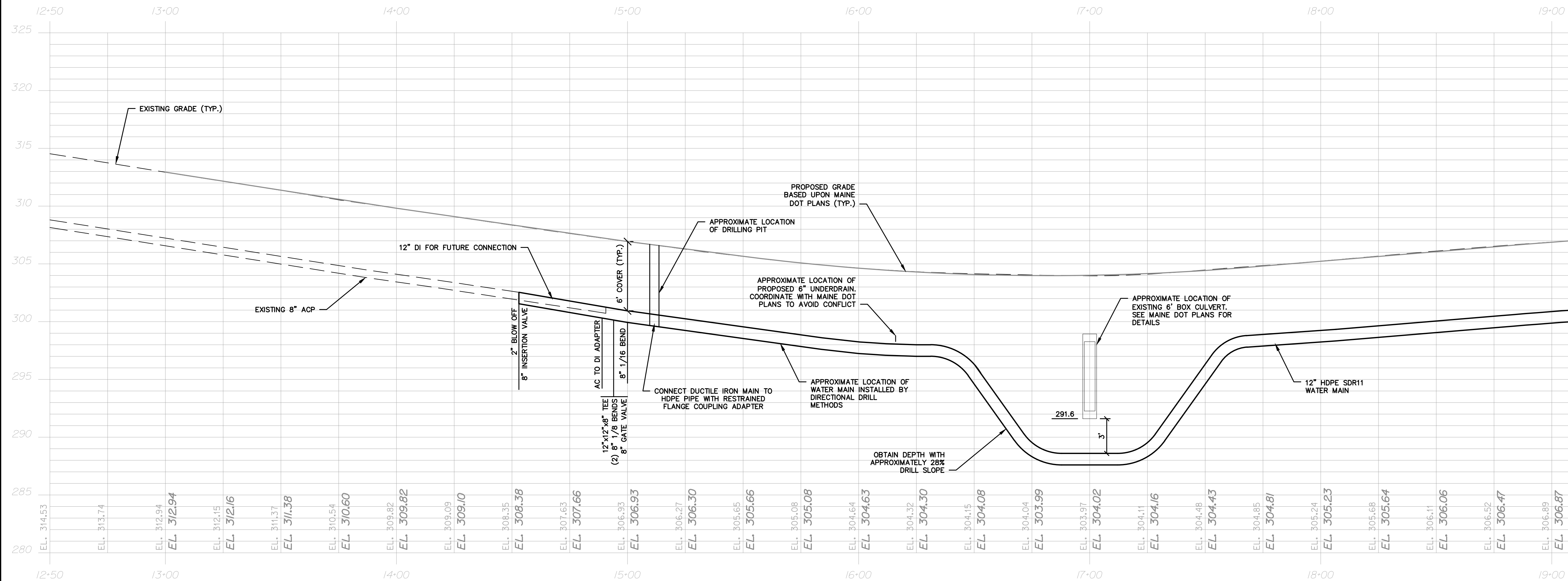
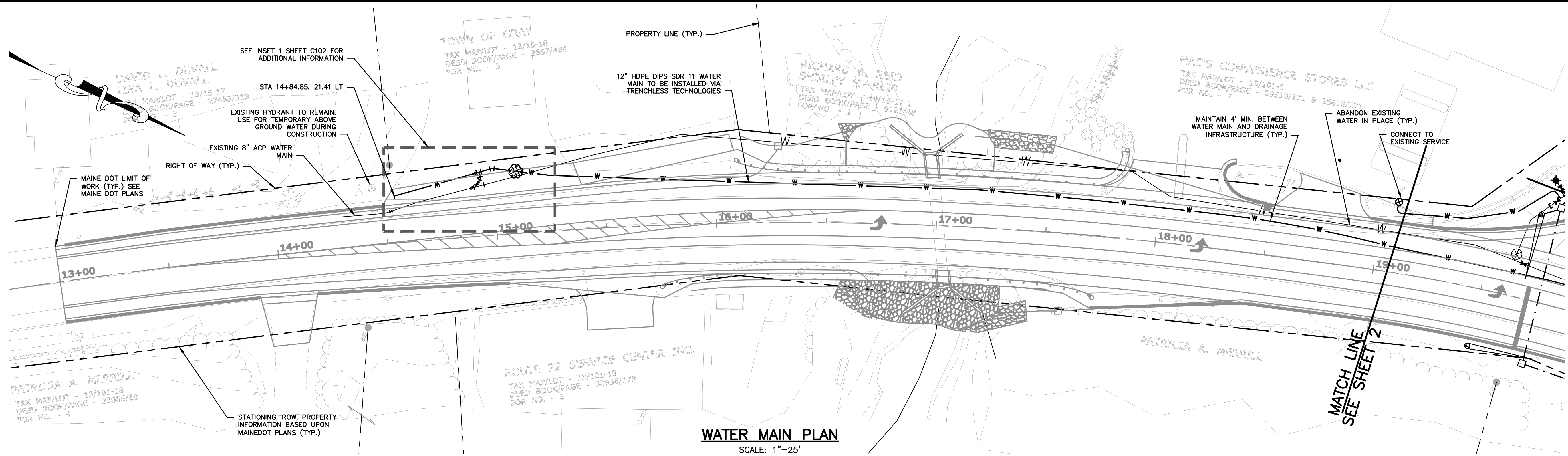
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Drawing Name:	General Notes and Legend
Project:	North Raymond Road/Route 26 Water Main Replacement North Raymond Road, Gray, Maine
Client:	Gray Water District 80 Shaker Road, Gray, Maine 04039

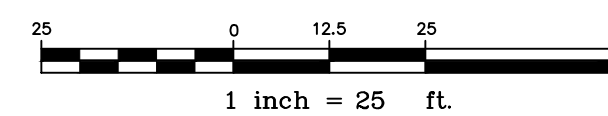
Drawing No.

C001

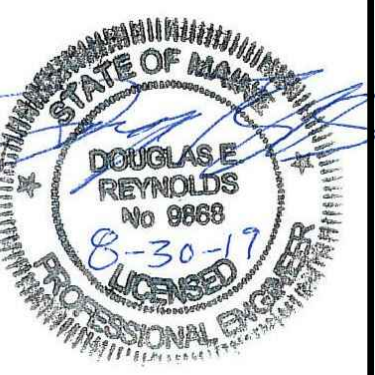
U:\303.38 GMD North Raymond Road - WM Renew\303-38-WATER MAIN.dwg 8/30/2019 10:08 AM



WATER MAIN PROFILE
SCALE: 1"=25' HORIZ.
1"=5' VERT.



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Rev.	Date	Revision

BIDDING	8/30/19	DER
Issued For	Date	By

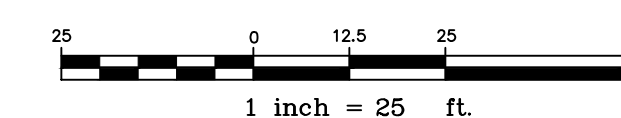
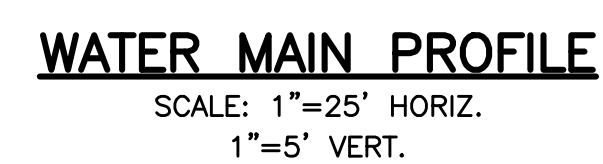
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Checked: DER	Scale: 1"=25'	Job No.: 303.38
File Name: 303-38-WATER MAIN.dwg		
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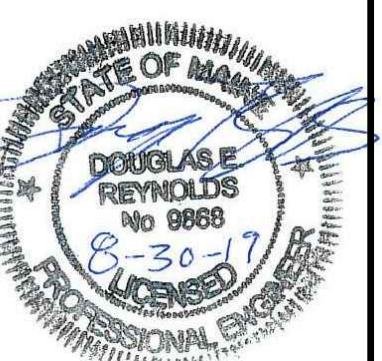
Drawing Name:	Water Main Plan and Profile
Project:	North Raymond Road/Route 26 Water Main Replacement North Raymond Road, Gray, Maine
Client:	Gray Water District 80 Shaker Road, Gray, Maine 04039

Drawing No.
C101



50

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Design: MYR	Draft: CG	Date: MARCH 201
Checked: DER	Scale: 1"=25'	Job No.: 303.38
File Name: 303-38-WATER MAIN.dwg		

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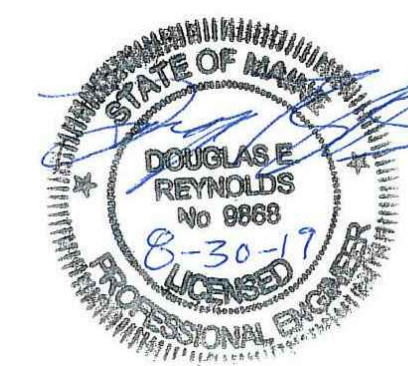
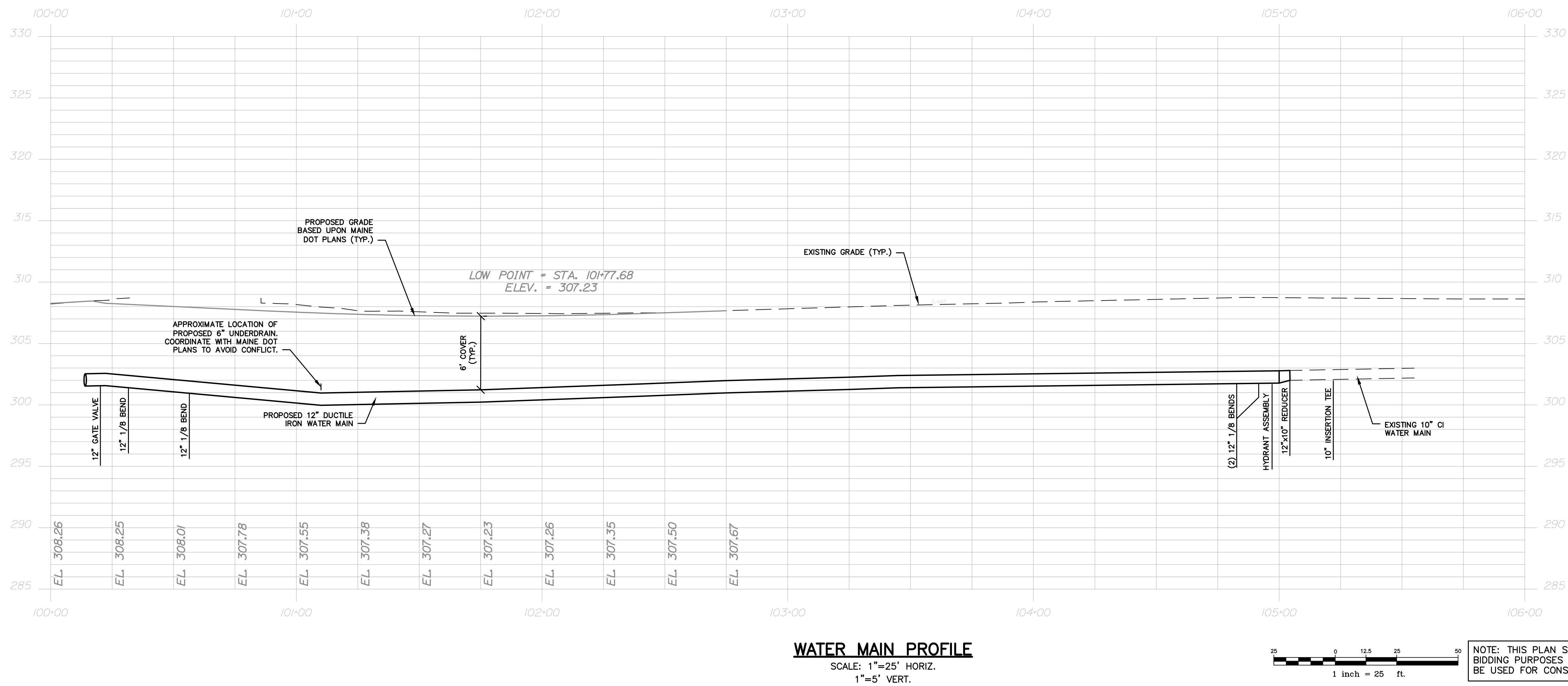
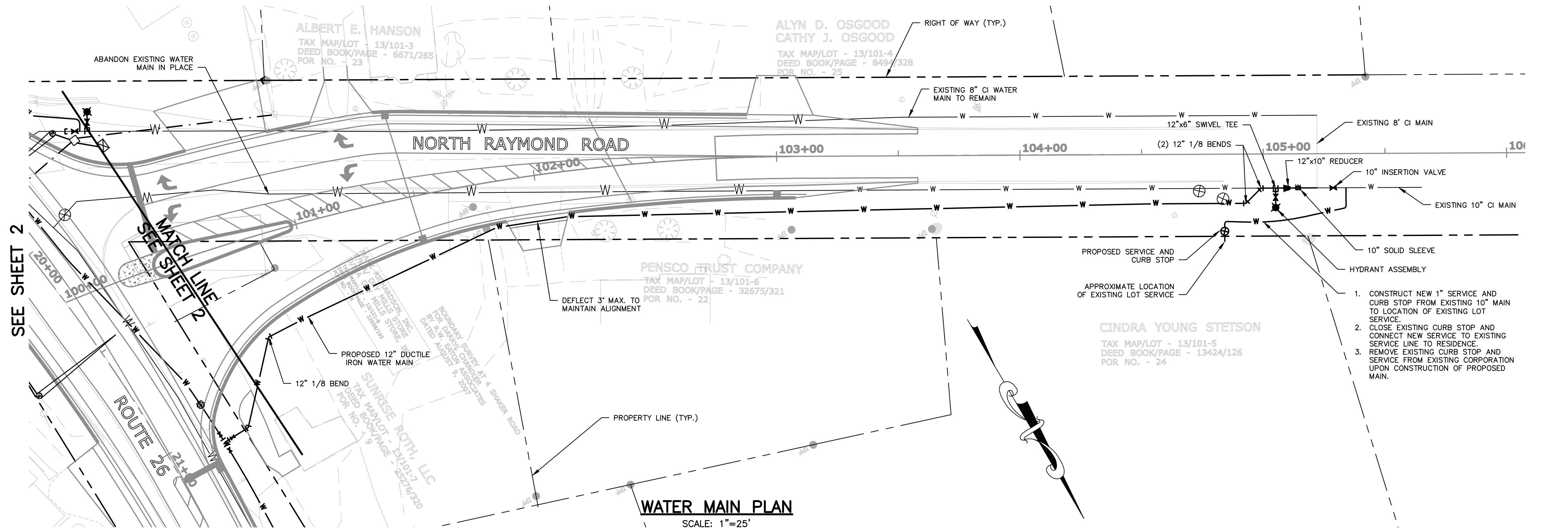
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Drawing Name:	Water Main Plan and Profile
Project:	North Raymond Road/Route 26 Water Main Replacement North Raymond Road, Gray, Maine
Client:	Gray Water District 80 Shaker Road, Gray, Maine 04039

Drawing No.

C102

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Rev.	Date	Revision

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Design: MYR	Draft: CG	Date: MARCH 2019
Checked: DER	Scale: 1"=25'	Job No.: 303.38
File Name: 303-38-WATER MAIN.dwg		
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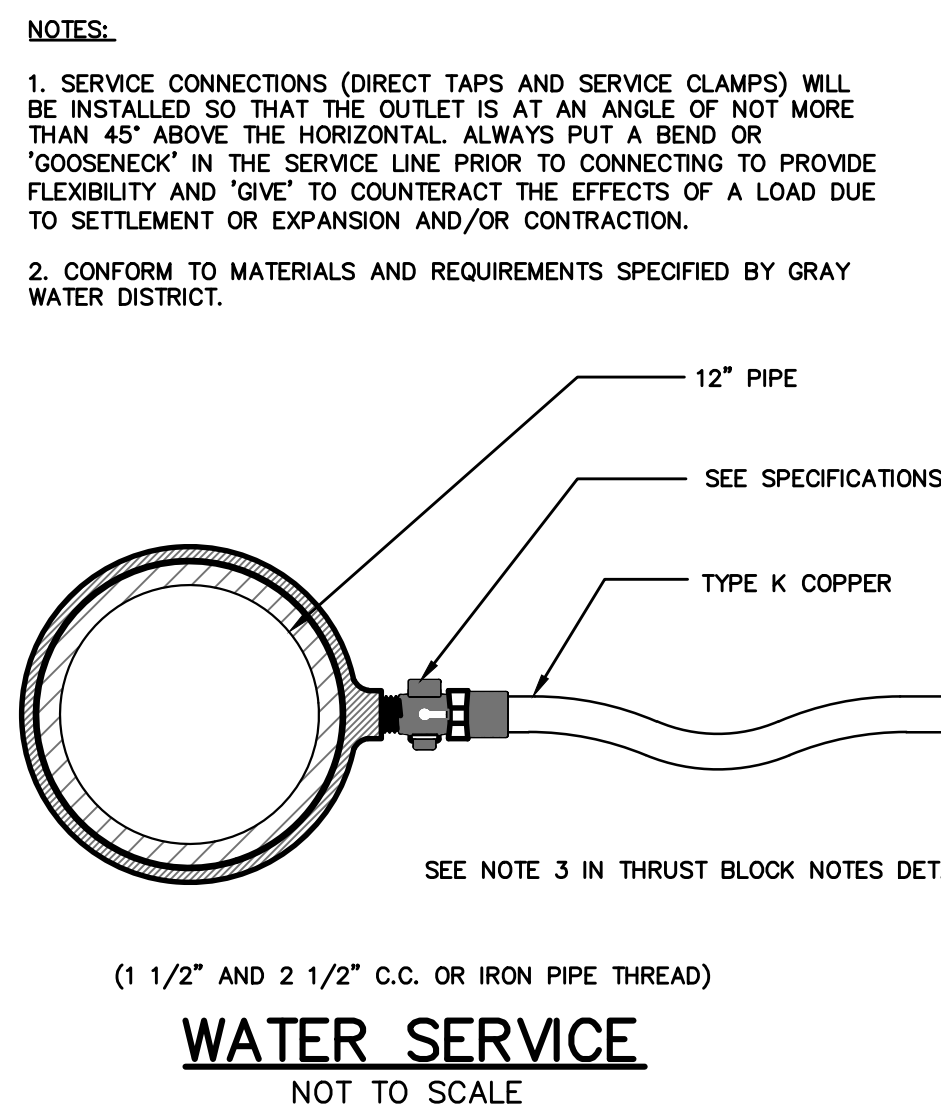
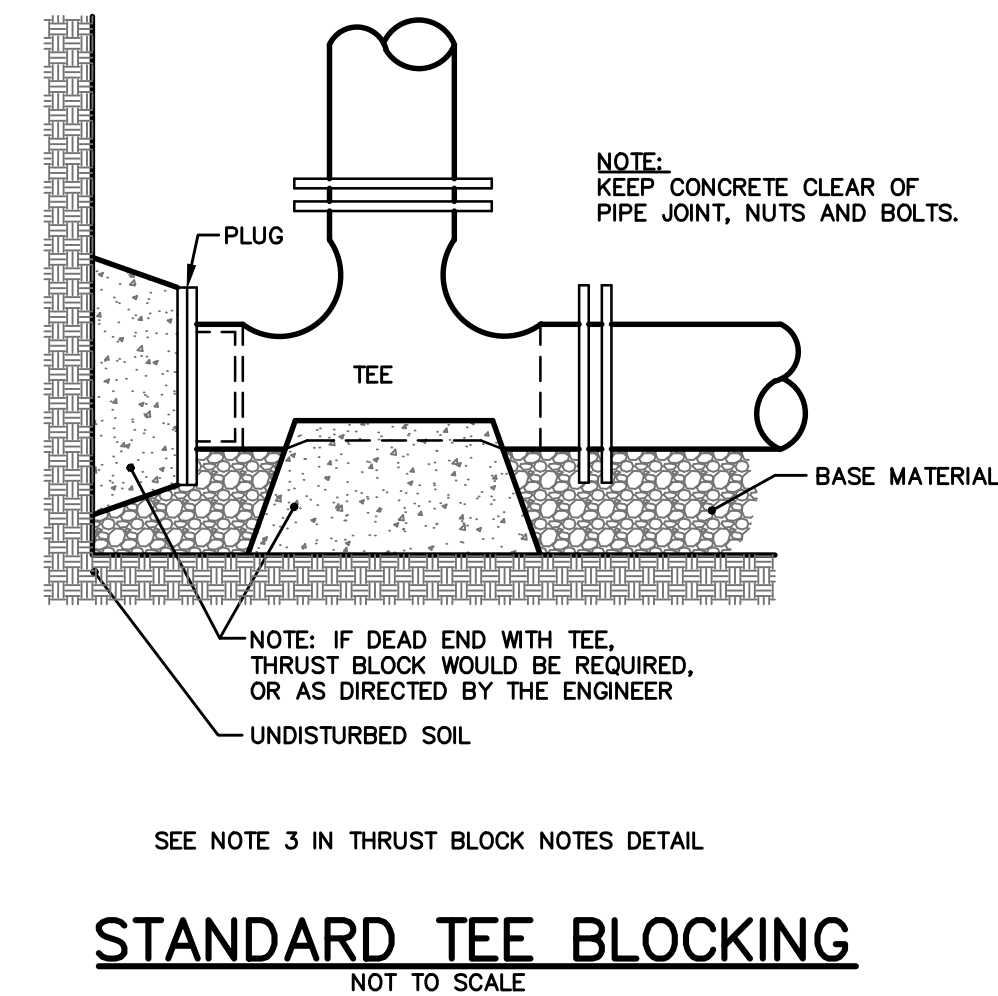
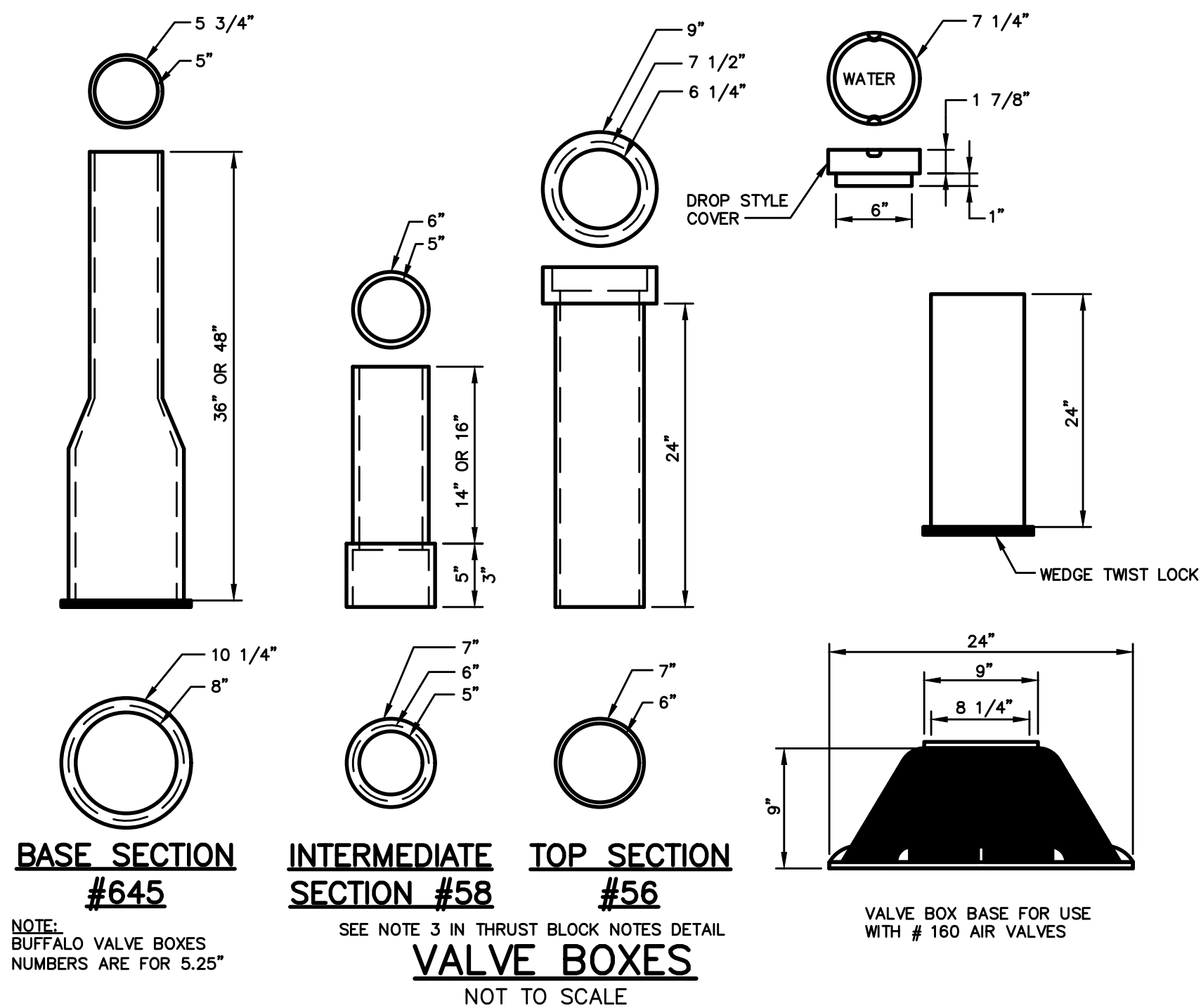


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207.772.2515

Drawing Name:	Water Main Plan and Profile
Project:	North Raymond Road/Route 26 Water Main Replacement North Raymond Road, Gray, Maine
Client:	Gray Water District 80 Shaker Road, Gray, Maine 04039

Drawing No.	C103
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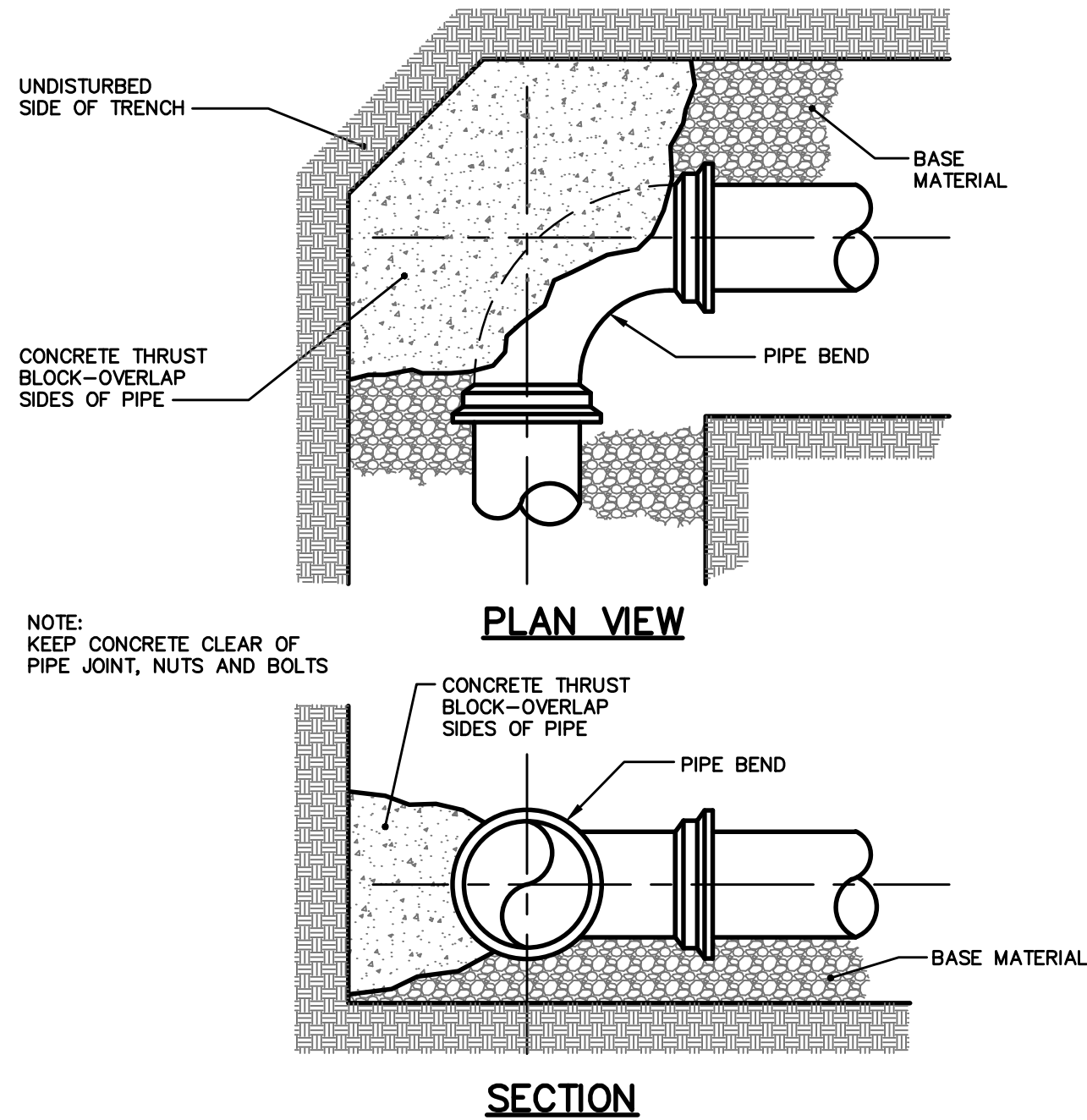
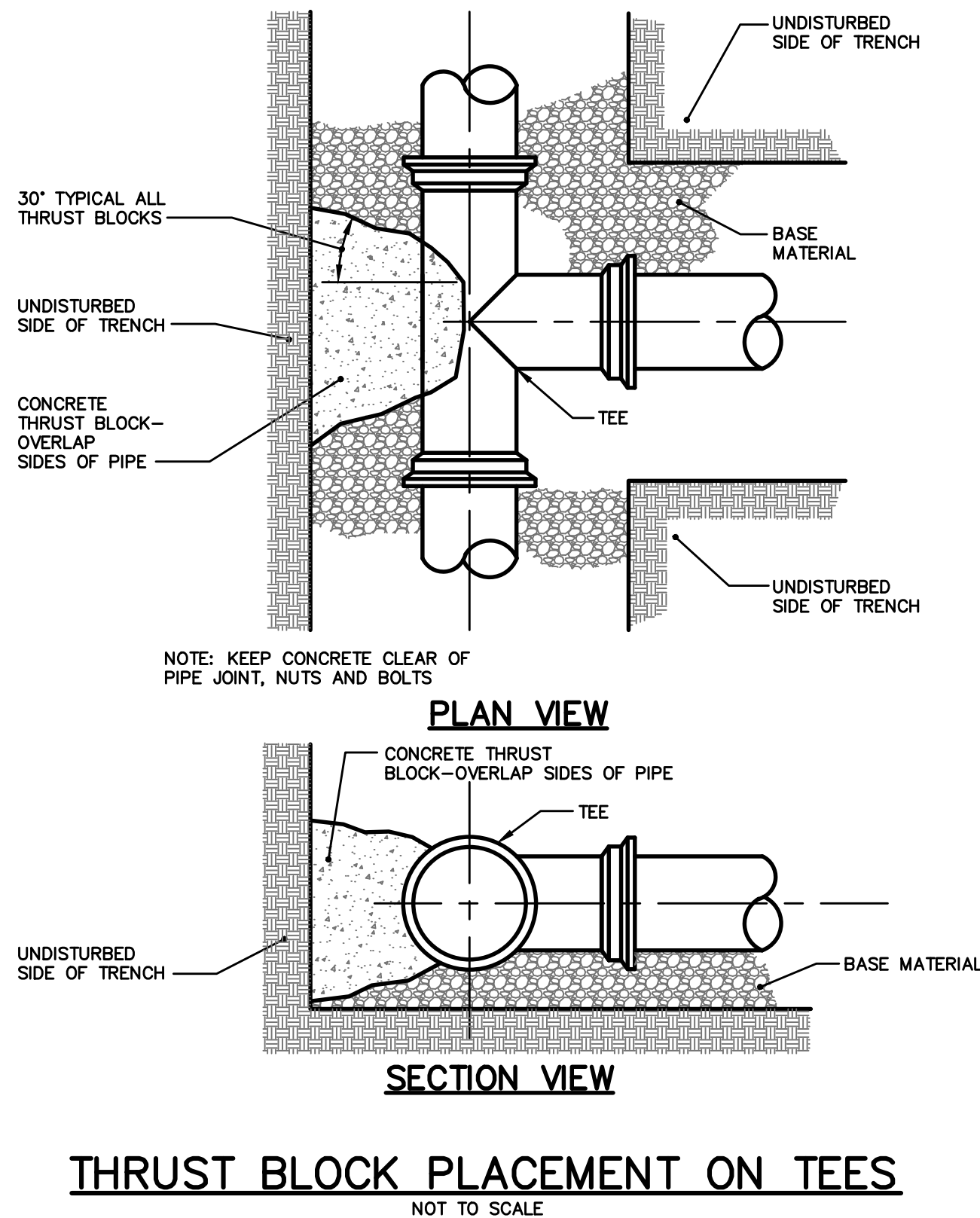


THRUST BLOCK NOTES

1. INSTALL POLY BARRIER BETWEEN PIPE AND ALL THRUST BLOCKS.
2. ANY MODIFICATION TO THRUST BLOCK SIZING OR PIPE RESTRAINT REVISIONS SHALL BE APPROVED IN WRITING BY THE ENGINEER PRIOR TO IMPLEMENTATION IN THE FIELD.
3. ANY WORK RELATING TO WATER PIPING OR DETAILS SHALL BE IN ACCORDANCE WITH THE GRAY WATER DISTRICT SPECIFICATIONS.
4. KEEP CONCRETE CLEAR OF PIPE JOINT, NUTS AND BOLTS.

PIPE SIZE	PASSIVE EARTH PRESSURE	WATER PRESSURE	1/32 BEND	1/16 BEND	1/8 BEND	1/4 BEND	TEES/ CAPS
6"	1000 LB/SF	150 PSI	1.7	3.3	6.5	11.9	8.5
8"	1000 LB/SF	150 PSI	2.9	5.7	11.1	20.5	14.5
12"	1000 LB/SF	150 PSI	6.1	12	23.6	43.6	30.8
16"	1000 LB/SF	150 PSI	9.6	19	37.3	68.9	48.7

BEARING SURFACE REQUIRED IN SQUARE FEET



THRUST/RETAINER GLAND SCHEDULE		
1/8 BEND	(45°)	THRUST BLOCK W/ RETAINERS
1/16 BEND	(22 1/2°)	THRUST BLOCK W/ RETAINERS
1/32 BEND	(11 1/4°)	THRUST BLOCK W/ RETAINERS

THE ABOVE SCHEDULE IS SUBJECT TO THE APPROVAL OF THE ON-SITE INSPECTOR DUE TO SOILS AND WORKING PRESSURES IN THE AREA.

SEE NOTE 3 IN THRUST BLOCK NOTES DETAIL

THRUST BLOCK PLACEMENT ON BENDS

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Design: MYR	Draft: CG	Date: MARCH 2019
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File Name: 303-38-DETAILS.dwg		
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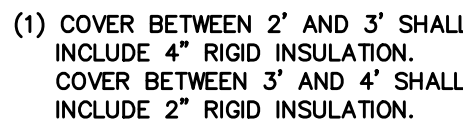


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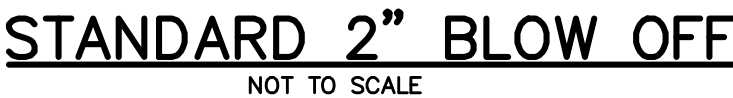
Drawing Name:	Water Details 1
Project:	North Raymond Road/Route 26 Water Main Replacement North Raymond Road, Gray, Maine
Client:	Gray Water District 80 Shaker Road, Gray, Maine 04039

Drawing No.

C401



TRENCH SECTION
N.T.S.



A circular professional engineer seal for the State of Maine. The outer ring contains the text "STATE OF MAINE" at the top and "PROFESSIONAL ENGINEER" at the bottom, separated by two stars. Inside the ring, the name "DOUGLAS E. REYNOLDS" is printed, followed by "No. 8868". Below this, the license expiration date "8-30-17" is handwritten in blue ink. The word "LICENSED" is printed at the bottom of the inner circle. A blue ink signature is written across the top half of the seal.

C402