

STATE OF MAINE DEPARTMENT OF TRANSPORTATION



PORTLAND CUMBERLAND COUNTY CONGRESS STREET SIGNAL IMPROVEMENTS FEDERAL PROJECT 2213200 5 INTERSECTIONS OPERATIONAL & SAFETY IMPROVEMENTS

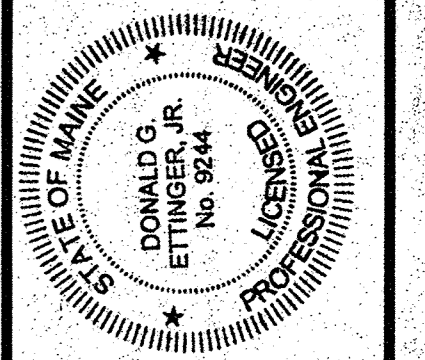
PLAN LEGEND

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

INDEX OF SHEETS

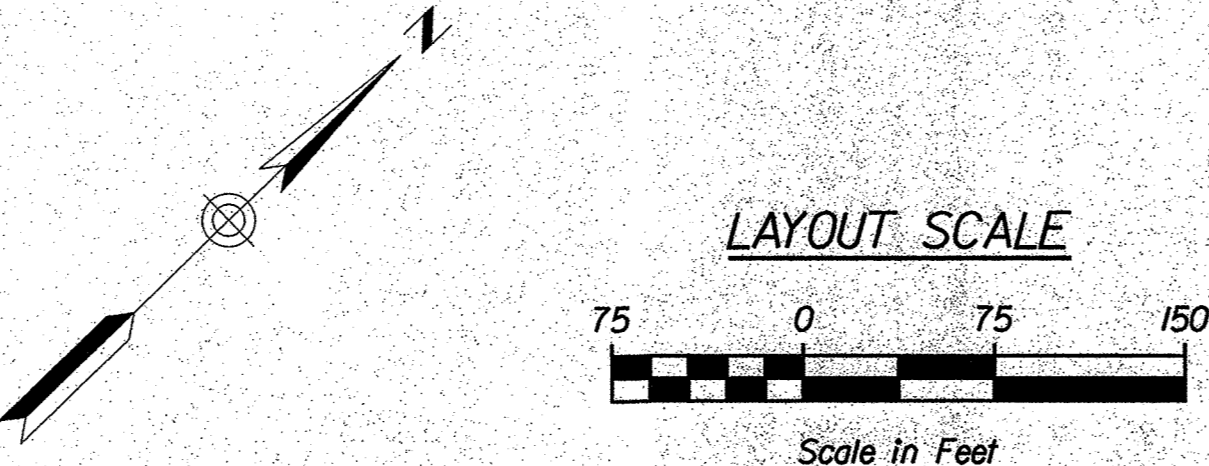
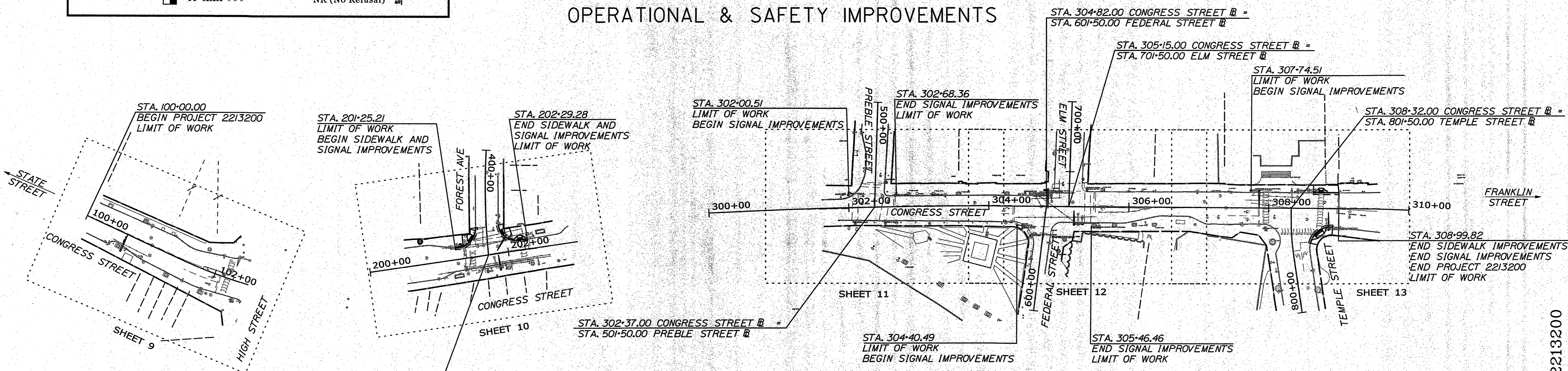
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STATE OF MAINE DEPARTMENT OF TRANSPORTATION	APPROVED	DATE
COMMISSIONER: <i>[Signature]</i>		2-18-2020
CHIEF ENGINEER: <i>[Signature]</i>		2-18-2020



PROGRAM	HIGHWAY
PROJECT MANAGER	LARRY HAMILTON
DESIGNER	DON ETTINGER
CONSULTANT	GORRILL PALMER
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

Filename: ...100\Highway\001_Title.dgn
 Division: HIGHWAY
 Username: Mike.Cundiff
 Date: 2/5/2020



PROJECT LOCATION:	FIVE INTERSECTIONS ALONG CONGRESS STREET, INCLUDING HIGH STREET, FOREST AVE, PREBLE STREET, FEDERAL/ELM STREET AND TEMPLE STREET.
PROGRAM AREA:	HIGHWAY PROGRAM
SCOPE OF WORK:	SIGNAL IMPROVEMENTS AND SIDEWALK RAMP RECONSTRUCTION

WIN 22132.00 2213200

PORTLAND - CONGRESS STREET
 SIGNAL IMPROVEMENTS
 TITLE SHEET

SHEET NUMBER



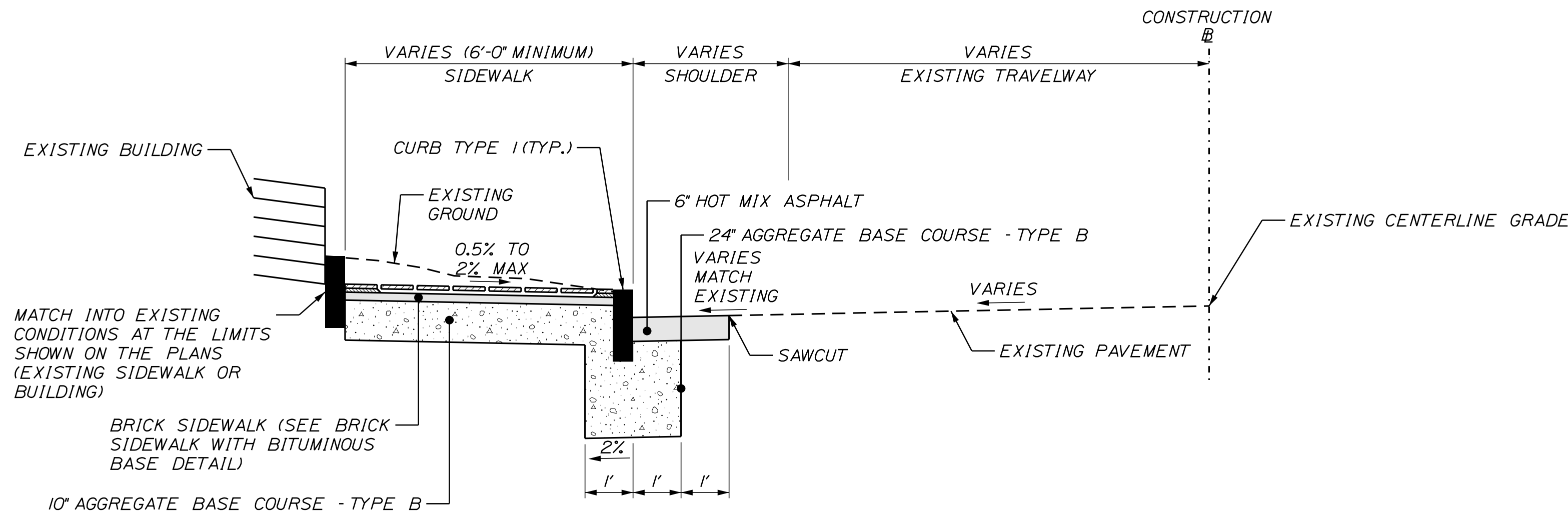
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Date: 2/5/2020

Username: Mike.Cundiff

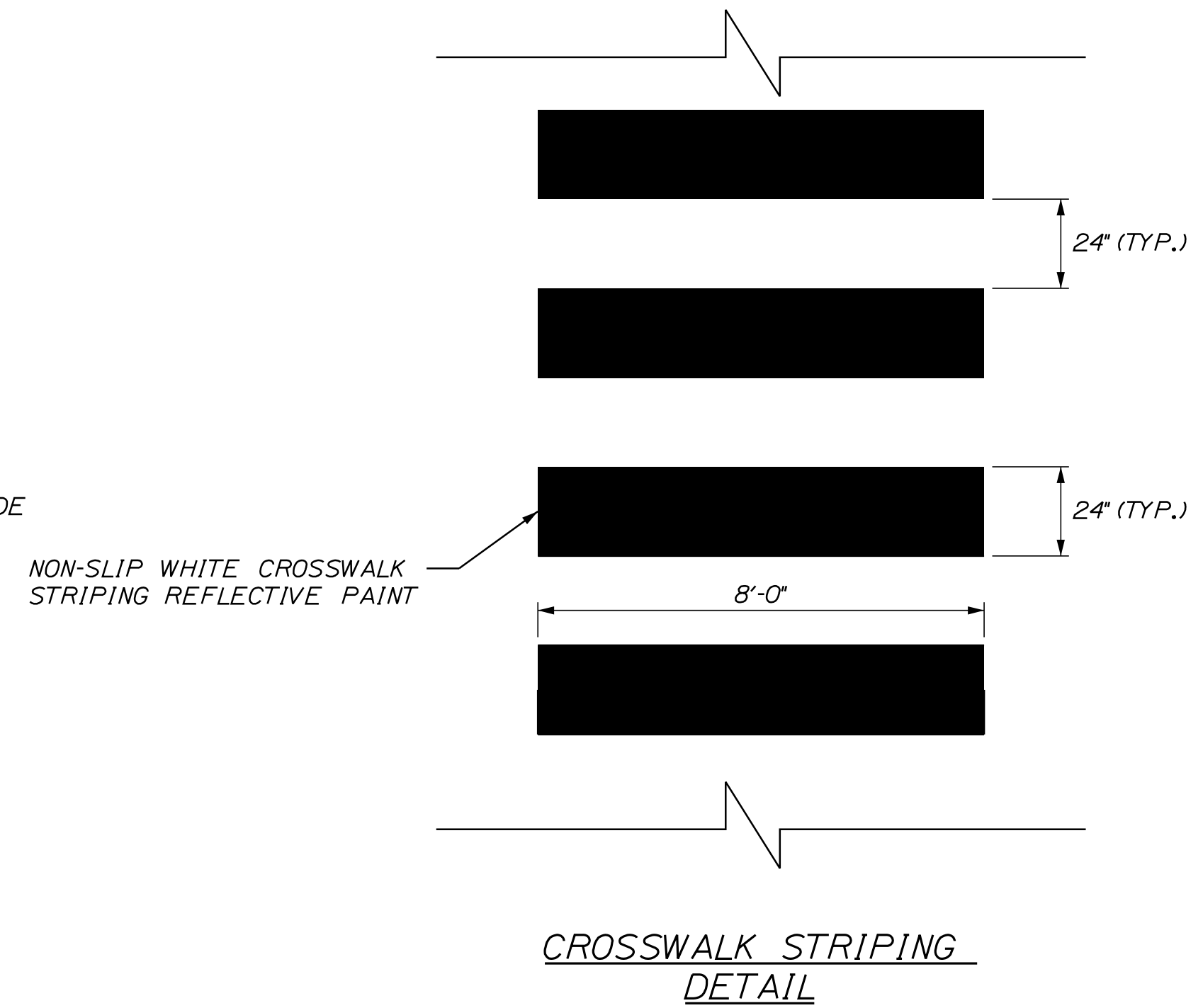
Division: HIGHWAY

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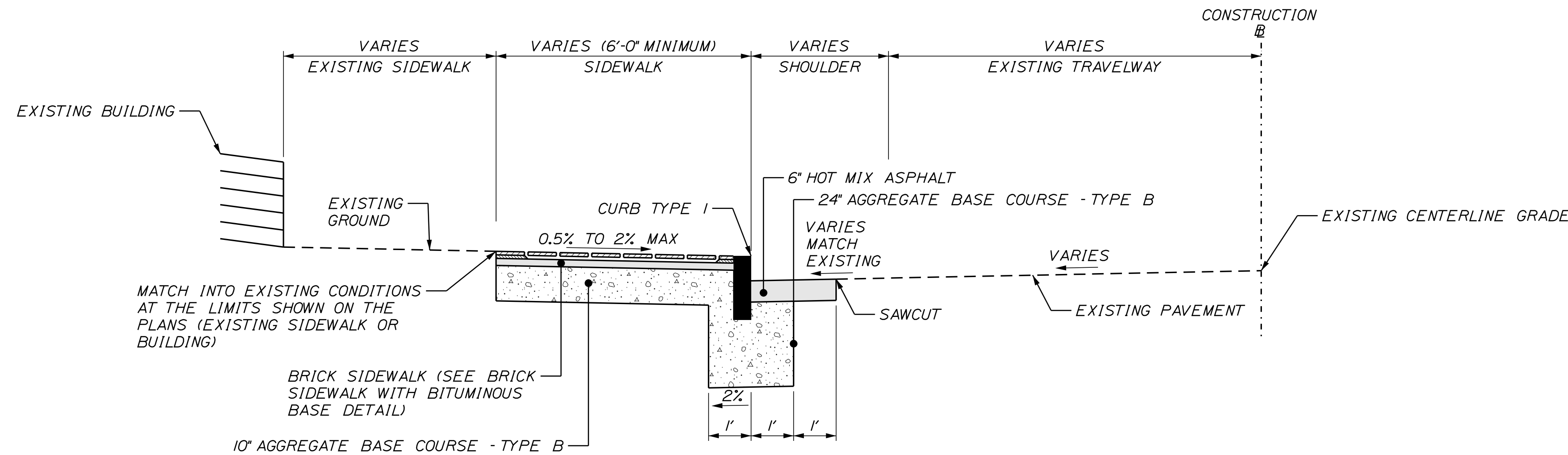


**TYPICAL SECTION
BRICK SIDEWALK WITH CURB AND
BACKCURB AGAINST BUILDING**

STA. 201+38 LT. TO STA. 401+11 RT.
STA. 401+06 LT. TO STA. 202+06 LT.

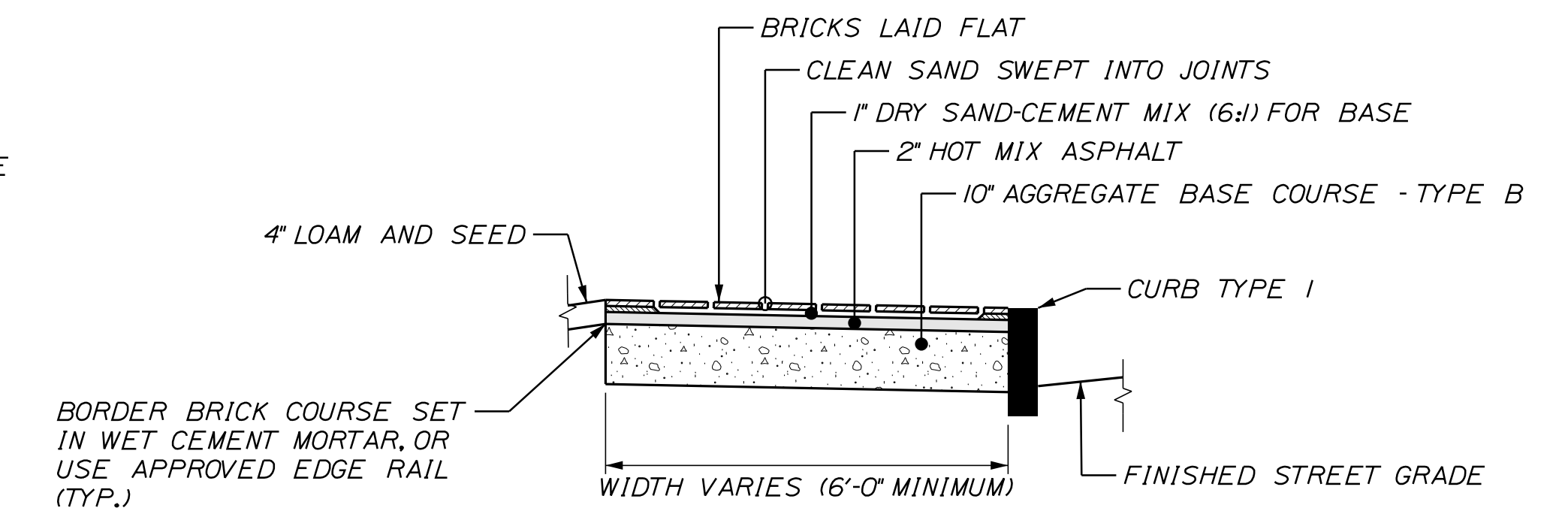


**CROSSWALK STRIPING
DETAIL**



**TYPICAL SECTION
BRICK SIDEWALK WITH CURB**

STA. 201+25 LT. TO STA. 201+61 LT.
STA. 201+89 LT. TO STA. 202+29 LT.
STA. 308+57 RT. TO STA. 309+92 RT.
STA. 308+64 LT. TO STA. 309+00 LT.



**BRICK SIDEWALK WITH
BITUMINOUS BASE DETAIL**

NOTES:

1. THE PAVEMENT, BASE AND SUBBASE DEPTHS AS SHOWN ON THE PLANS ARE INTENDED TO BE NOMINAL.
2. CROWNS FOR BOTH NORMAL AND SUPERELEVATION SECTIONS FOR ALL COURSES OF SUBBASE AND PAVEMENT SHALL BE STRAIGHT.
3. ALL DETECTABLE WARNING PLATES SHALL BE CAST IRON.
4. FULL DEPTH PAVEMENT (6") SHALL BE PROVIDED IN SHOULDERS WITHIN LIMITS OF WORK.
5. DO NOT EXCAVATE FOR AGGREGATE SUBBASE COURSE GRAVEL WHERE EXISTING MATERIAL IS SUITABLE AS DETERMINED BY THE RESIDENT.
6. THE STATIONING SHOWN UNDER EACH TYPICAL IS APPROXIMATE.

NOT TO SCALE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
2213200
WIN
22132.00
HIGHWAY PLANS

DESIGN	DATE	SIGNATURE
CHECKED-REVIEWED	02/20	
DESIGN DETAILED	02/20	
REVISIONS 1		P.E. NUMBER
REVISIONS 2		DATE
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

PROJ. MANAGER	BY	DATE
L. HAMILTON	T. WARREN	02/20
DESIGN DETAILED	T. LANDRY	
CHECKED-REVIEWED	D. ETINGER	
DESIGN DETAILED		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

PORTLAND - CONGRESS STREET
SIGNAL IMPROVEMENTS
TYPICAL SECTIONS & DETAILS

SHEET NUMBER

2

OF 21



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ITEM NO.	DESCRIPTION	INTERSECTION WITH CONGRESS STREET:							TOTAL	UNIT
		HIGH ST.	FOREST AVE.	PREBLE ST.	ELM ST./ FEDERAL ST.	TEMPLE ST.				
* 203.20	COMMON EXCAVATION	0	45	0	0	51		96	CY	
203.21	ROCK EXCAVATION	-	-	-	-	-		10	CY	
304.15	AGGREGATE BASE COURSE - TYPE B	0	32	0	0	36		68	CY	
403.210	HOT MIX ASPHALT 9.5 mm NOMINAL MAXIMUM SIZE	0	8	0	0	6		14	T	
604.182	CLEAN EXISTING CB AND MANHOLE	0	1	0	0	1		2	EA	
608.15	BRICK SIDEWALK WITH BITUMINOUS BASE	0	69	0	0	92		161	SY	
608.26	CURB RAMP DETECTABLE WARNING FIELD	0	50	0	0	42		92	SF	
609.11	VERTICAL CURB TYPE I	0	40	0	0	21		61	LF	
609.12	VERTICAL CURB TYPE I - CIRCULAR	0	47	0	0	29		76	LF	
609.221	TERMINAL CURB TYPE I	0	7	0	0	16		23	LF	
609.222	TERMINAL CURB TYPE I - CIRCULAR	0	40	0	0	16		56	LF	
626.11	PRECAST CONCRETE JUNCTION BOX	0	4	0	4	1		9	EA	
626.22	NON-METALLIC CONDUIT	0	130	0	130	50		310	LF	
626.35	CONTROLLER CABINET FOUNDATION	0	1	0	1	1		3	EA	
626.421	24 INCH DIAMETER FOUNDATION	0	21	0	28	7		56	LF	
626.451	42 INCH DIAMETER FOUNDATION	0	0	0	22	10		32	LF	
626.46	48 INCH DIAMETER FOUNDATION	0	0	0	0	10		10	LF	
626.47	54 INCH DIAMETER FOUNDATION	8	0	0	0	0		8	LF	
626.501	SPREAD FOOTING FOUNDATION	0	8	0	0	0		8	CY	
627.733	4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	-	-	-	-	-		100	LF	
* 627.75	WHITE OR YELLOW PAVEMENT & CURB MARKING	0	410	415	600	610		2035	SF	
627.77	REMOVING EXISTING PAVEMENT MARKING	0	410	415	600	610		2035	SF	
629.05	HAND LABOR, STRAIGHT TIME	-	-	-	-	-		8	HR	
* 631.10	AIR COMPRESSOR (INCLUDING OPERATOR)	-	-	-	-	-		8	HR	
* 631.11	AIR TOOL (INCLUDING OPERATOR)	-	-	-	-	-		8	HR	
* 631.122	MINI ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	-	-	-	-	-		8	HR	
* 631.171	TRUCK - SMALL (INCLUDING OPERATOR)	-	-	-	-	-		8	HR	
* 643.80	TRAFFIC SIGNALS AT CONGRESS STREET AND FOREST AVENUE	0	1	0	0	0		1	LS	
643.80	TRAFFIC SIGNALS AT CONGRESS STREET AND PREBLE STREET	0	0	1	0	0		1	LS	
643.80	TRAFFIC SIGNALS AT CONGRESS STREET AND FEDERAL/ELM STREET	0	0	0	1	0		1	LS	
643.80	TRAFFIC SIGNALS AT CONGRESS STREET AND TEMPLE STREET	0	0	0	0	1		1	LS	
643.83	VIDEO DETECTION SYSTEM AT CONGRESS STREET AND FOREST AVENUE	0	1	0	0	0		1	LS	
643.83	VIDEO DETECTION SYSTEM AT CONGRESS STREET AND PREBLE STREET	0	0	1	0	0		1	LS	
643.83	VIDEO DETECTION SYSTEM AT CONGRESS STREET AND FEDERAL/ELM ST	0	0	0	1	0		1	LS	
643.83	VIDEO DETECTION SYSTEM AT CONGRESS STREET AND TEMPLE STREET	0	0	0	0	1		1	LS	
643.91	MAST ARM POLE WITH 20' MAST ARM	0	0	0	1	0		1	EA	
643.91	MAST ARM POLE WITH 21' MAST ARM	0	1	0	0	0		1	EA	
643.91	MAST ARM POLE WITH 25' MAST ARM	1	0	0	0	2		3	EA	
643.91	MAST ARM POLE WITH 26' MAST ARM	0	1	0	0	0		1	EA	
643.91	MAST ARM POLE WITH 27' MAST ARM	0	0	0	1	0		1	EA	
643.92	PEDESTAL POLE	0	4	4	5	4		17	EA	
645.271	REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGNS TYPE I	32	23	8	15	0		78	SF	
652.312	TYPE III BARRICADES	-	-	-	-	-		4	EA	
* 652.33	DRUM	-	-	-	-	-		50	EA	
* 652.34	CONE	-	-	-	-	-		50	EA	
* 652.35	CONSTRUCTION SIGNS	-	-	-	-	-		300	SF	
* 652.36	MAINTENANCE OF TRAFFIC CONTROL DEVICES	-	-	-	-	-		90	CD	
* 652.38	FLAGGERS	-	-	-	-	-		750	HR	
* 652.381	TRAFFIC OFFICERS	-	-	-	-	-		120	HR	
* 656.75	TEMP SOIL EROSION AND WATER POLLUTION CONTROL	-	-	-	-	-		1	LS	
659.10	MOBILIZATION	-	-	-	-	-		1	LS	
801.03	TEST PITS	1	2	0	2	2		7	EA	

* UNDETERMINED LOCATIONS

STATE OF MAINE DEPARTMENT OF TRANSPORTATION 2213200 WIN 22132.00 HIGHWAY PLANS	PORTLAND - CONGRESS STREET SIGNAL IMPROVEMENTS ESTIMATED QUANTITIES	SHEET NUMBER 3 OF 21
PROJ. MANAGER: L. HAMILTON DESIGN-DETAILED: T. LANDRY CHECKED-REVIEWED: D. ETINGER DESIGN-DETAILED: _____ REVISIONS 1: _____ REVISIONS 2: _____ REVISIONS 3: _____ REVISIONS 4: _____ FIELD CHANGES: _____	BY: T. WARREN DATE: 02/20 SIGNATURE: _____ P.E. NUMBER: _____ DATE: _____	



Date: 2/13/2020

Username: Mike.Cundiff

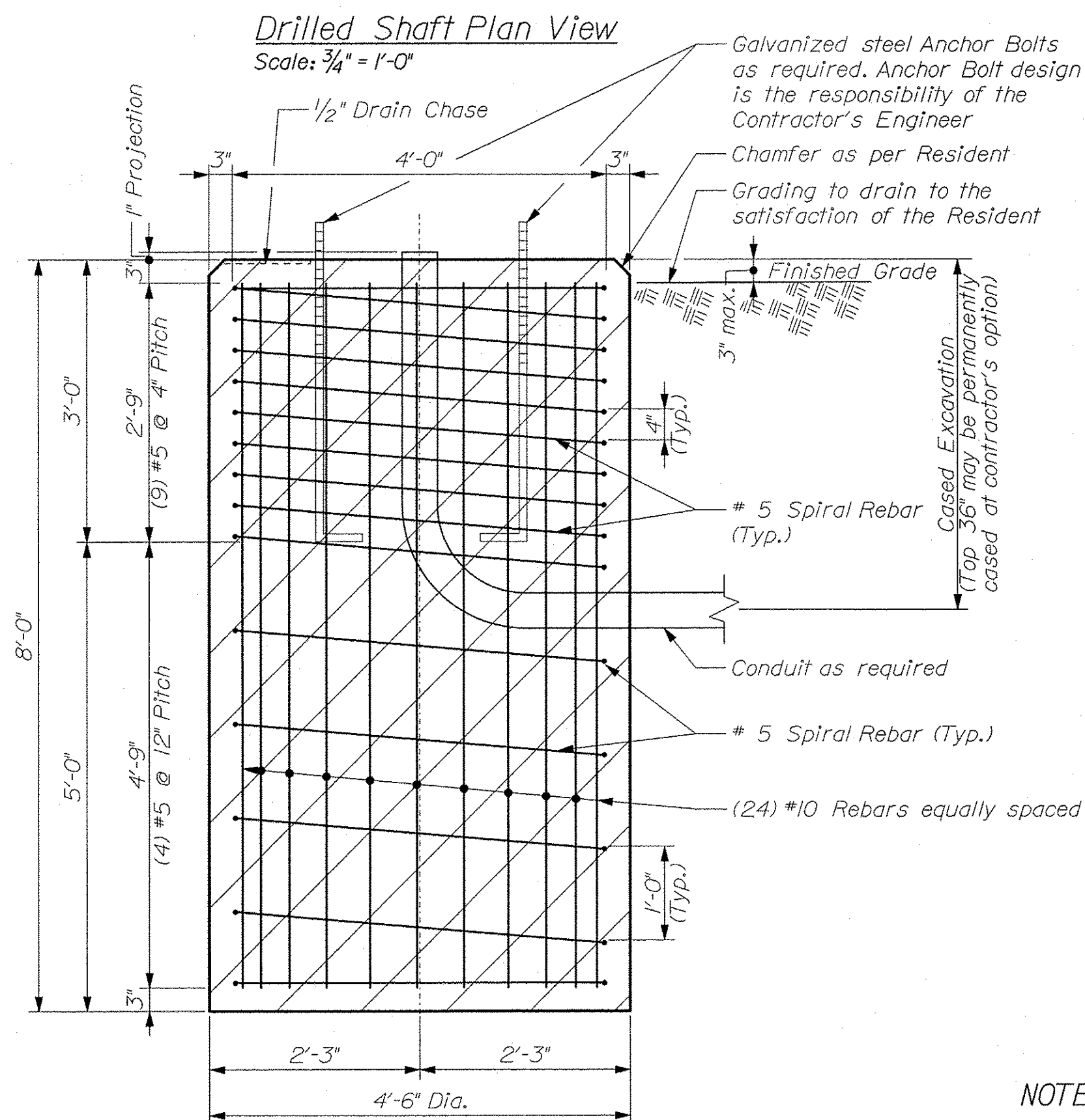
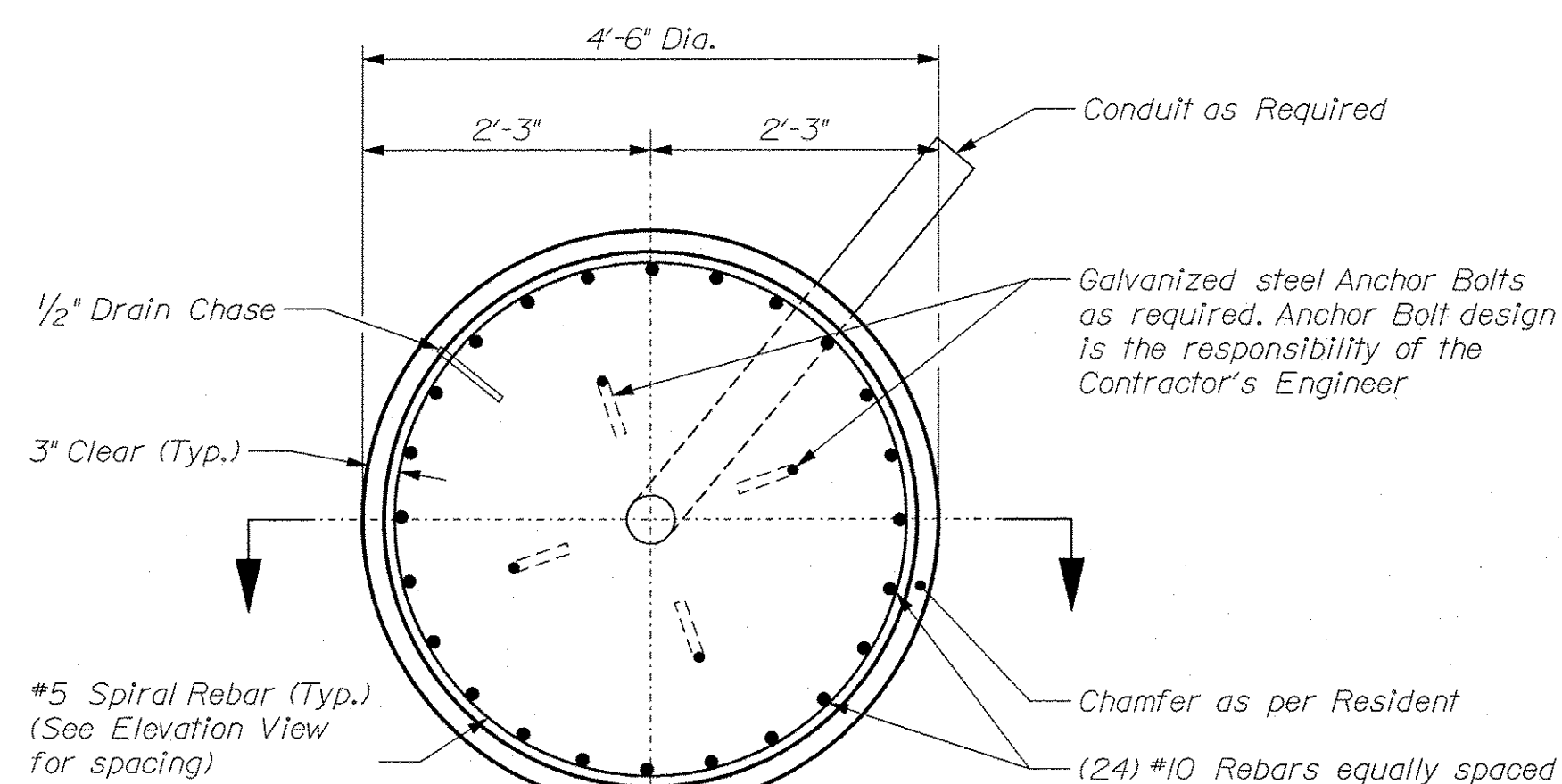
Division: HIGHWAY

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1. THE UTILITIES INVOLVED IN THIS CONTRACT ARE NOTED IN SPECIAL PROVISION 104.
2. ALL UTILITY FACILITIES SHALL BE ADJUSTED BY THE RESPECTIVE UTILITIES UNLESS OTHERWISE NOTED.
3. THE LOCATION OF THE EXISTING UTILITIES AND DRAINAGE SHOWN ON THE PLANS WERE COMPILED FROM FIELD SURVEY AND OTHER SOURCES. LOCATIONS ARE APPROXIMATE AND NOT GUARANTEED TO BE ACCURATE, NOR IS IT GUARANTEED THAT ALL UTILITIES ARE SHOWN. NO SEPARATE OR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR DUE TO ANY VARIANCE BETWEEN THE DATA SHOWN ON THE PLANS AND THE ACTUAL FIELD CONDITIONS ENCOUNTERED.
4. ANY NECESSARY FINE GRADING OR RECOMPACTION OF EXISTING GRAVEL SHALL NOT BE PAID FOR DIRECTLY AND SHALL BE CONSIDERED INCIDENTAL TO ITEM 304.15.
5. PAVEMENT CUT LINES SHALL BE NEAT, CLEAN AND STRAIGHT AS DIRECTED BY THE RESIDENT. PAYMENT FOR CUTTING OF EXISTING PAVEMENT SHALL BE INCIDENTAL TO 403 ITEMS.
6. SIGNING AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAY" U.S.D.O.T. F.H.W.A. LATEST EDITION.
7. ANY DAMAGE TO EXISTING CONDITIONS CAUSED BY THE CONTRACTOR'S EQUIPMENT, PERSONNEL, OR OPERATION SHALL BE REPAIRED TO THE SATISFACTION OF THE RESIDENT. ALL WORK, EQUIPMENT, AND MATERIALS REQUIRED TO MAKE REPAIRS SHALL BE AT THE CONTRACTOR'S EXPENSE.
8. "UNDETERMINED LOCATIONS" SHALL BE DETERMINED BY THE RESIDENT.
9. STATIONS REFERENCED ARE APPROXIMATE.
10. REMOVAL OF EXISTING ROADSIDE SIGNS AND RELOCATION OF ROADSIDE SIGNS/POSTS AS NOTED ON THE SIGNING PLANS OR AS DIRECTED BY THE RESIDENT, SHALL BE CONSIDERED INCIDENTAL TO THE 645 PAY ITEMS.
11. DO NOT EXCAVATE FOR AGGREGATE BASE COURSE WHERE EXISTING MATERIAL IS SUITABLE AS DETERMINED BY THE RESIDENT.
12. IN AREAS WHERE THE RESIDENT DIRECTS THE CONTRACTOR NOT TO EXCAVATE TO THE SUBGRADE LINE SHOWN ON THE PLANS, PAYMENT FOR REMOVING EXISTING PAVEMENT, GRUBBING, SHAPING, DITCHING, AND COMPACTING THE EXISTING SUBBASE AND LAYERS OF NEW SUBBASE 6 INCHES OR LESS THICK WILL BE MADE UNDER APPROPRIATE EQUIPMENT RENTAL ITEMS.
13. ALL WASTE MATERIAL NOT USED ON THE PROJECT SHALL BE DISPOSED OF OFF THE PROJECT IN ACCEPTABLE WASTE AREAS REVIEWED BY THE RESIDENT. GRADING, SEEDING AND MULCHING OF WASTE AREAS SHALL BE CONSIDERED INCIDENTAL.
14. ANY NECESSARY CLEANING OF EXISTING PAVEMENT PRIOR TO PAVING SHALL BE INCIDENTAL TO THE RELATED PAVING ITEMS.
15. EXISTING CATCH BASINS WILL BE CLEANED AS DIRECTED BY THE RESIDENT UNDER THE APPROPRIATE PAY ITEMS.
16. NO EXISTING DRAINAGE SHALL BE ABANDONED, REMOVED OR PLUGGED WITHOUT PRIOR APPROVAL OF THE RESIDENT.
17. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE MAINE DEPARTMENT OF TRANSPORTATION'S BEST MANAGEMENT PRACTICES FOR EROSION CONTROL & SEDIMENT CONTROL, FEBRUARY, 2008.
18. NO SEPARATE PAYMENT FOR SUPERINTENDENT OR FOREMAN WILL BE MADE FOR THE SUPERVISION OF EQUIPMENT BEING PAID FOR UNDER THE EQUIPMENT RENTAL ITEMS.
19. ALL JOINTS BETWEEN EXISTING AND PROPOSED HOT BITUMINOUS PAVEMENT SHALL BE SAWCUT AND VERTICAL. IF ANY EXISTING PAVEMENT IS REQUIRED TO BE REMOVED, PAYMENT FOR SAWCUTTING AND REMOVAL WILL BE INCIDENTAL TO PAVING ITEMS.
20. ALL PEDESTRIAN RAMPS SHALL BE 6 FT. WIDE MINIMUM OR AS SHOWN ON PLANS.
21. REMOVAL OF EXISTING CURBING SHALL BE CONSIDERED INCIDENTAL TO ITEM 203.20 COMMON EXCAVATION.
22. ALL GRANITE CURBING THAT IS REMOVED AND STACKED AND NOT REUSED ON THE PROJECT SHALL BE TURNED OVER TO THE CITY. PAYMENT FOR WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 203.20 COMMON EXCAVATION.
23. THE CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED OR DAMAGED BY CONSTRUCTION ACTIVITIES TO ORIGINAL FINISH SURFACE (ROADWAY, SIDEWALK, ETC.) UNLESS NOTED OTHERWISE ON PLANS. RESTORATION OF PAVED SURFACES, SIDEWALKS AND OTHER AREAS SHALL BE INCIDENTAL TO THE PROJECT. ALL CURB DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED IN KIND AND SHALL CONFORM TO MAINEDOT STANDARDS. COST SHALL BE INCIDENTAL TO THE PROJECT.

24. ALL WORK TO CONFORM TO CURRENT MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, STANDARD DETAILS, AND CITY OF PORTLAND REQUIREMENTS.
25. THE CONTRACTOR SHALL REMOVE ALL EXISTING PAVEMENT MARKINGS THAT CONFLICT WITH PROPOSED MARKINGS, BY MEANS APPROVED BY THE RESIDENT.
26. DETECTABLE WARNING FIELDS SHALL BE INSTALLED AT EACH CURB RAMP ADJACENT TO A MARKED CROSSWALK. ACTUAL PLACEMENT SHALL BE AS REQUIRED BY THE DETAILS AND DIRECTED BY THE RESIDENT. PAYMENT FOR ITEM 608.26 SHALL INCLUDE ALL CONCRETE AND WORK REQUIRED BY THE DETAILS.
27. CONTRACTOR SHALL CONSTRUCT ALL SIDEWALKS, RAMPS AND LANDINGS TO BE ADA COMPLIANT IN ACCORDANCE WITH THE MAINEDOT'S LATEST STANDARD DETAILS AND RELATED NOTES. THESE STANDARD DETAILS AND NOTES APPLY TO ALL SIDEWALK TYPES (BITUMINOUS, CONCRETE, BRICK, ETC). CONTRACTOR SHALL VERIFY THAT ALL GRADES AND SLOPES ARE ADA COMPLIANT PRIOR TO PLACEMENT OF THE SURFACE MATERIAL AND SHALL COORDINATE WITH THE RESIDENT AND MAINEDOT ON ANY NON-COMPLIANT LOCATIONS (PRIOR TO PLACEMENT OF SURFACE MATERIAL). CONTRACTOR SHALL ALSO VERIFY THAT ALL GRADES AND SLOPES ARE ADA COMPLIANT AFTER PLACEMENT OF THE SURFACE MATERIAL. FAILURE TO CONSTRUCT SIDEWALKS, RAMPS AND LANDINGS TO BE ADA COMPLIANT MAY RESULT IN REJECTION OF WORK BY THE RESIDENT AND/OR MAINEDOT. CONTRACTOR SHALL REBUILD ALL REJECTED WORK AREAS AT NO ADDITIONAL COST TO THE PROJECT. CONTRACTOR SHALL PLAN THE WORK ACCORDINGLY. IF THERE IS A CONDITION THAT DOES NOT ALLOW FOR FULL ADA COMPLIANCE, THEN THE CONTRACTOR SHOULD WORK WITH THE RESIDENT TO FILL OUT AND SUBMIT FOR APPROVAL, A TECHNICAL INFEASIBILITY FORM TO DOCUMENT THE REASONS FOR NON-COMPLIANCE.
28. TEST PITS SHALL BE COMPLETED AT LOCATIONS WHERE PROPOSED SIGNAL EQUIPMENT MAY CONFLICT WITH EXISTING UTILITIES. PAYMENT FOR TEST PITS SHALL BE UNDER ITEM 803.01 TEST PITS.
29. CROSS SLOPES FOR SIDEWALKS AND SHOULDER SECTIONS WILL BE STRAIGHT UNLESS OTHERWISE DIRECTED BY THE RESIDENT.
30. EXISTING ABANDONED WATER MAINS BROKEN BY THE CONTRACTOR DURING CONSTRUCTION SHALL HAVE THE ENDS PLUGGED WITH BRICK AND MORTAR. COST FOR ALL LABOR AND MATERIAL WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO DIRECT PAYMENT WILL BE MADE.
31. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING ALL EXISTING OPERATIONAL BUSINESS DIRECTIONAL SIGNS (OBDS) TO ENSURE THAT THEY ARE VISIBLE TO THE TRAVELING PUBLIC. PAYMENT FOR THIS WORK WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
32. GEOTECHNICAL INFORMATION FURNISHED OR REFERRED TO IN THE BID DOCUMENTS IS FOR THE USE OF THE BIDDERS. NO ASSURANCE IS GIVEN THAT THE INFORMATION OR INTERPRETATIONS WILL BE REPRESENTATIVE OF THE ACTUAL SUBSURFACE CONDITIONS THROUGHOUT THE CONSTRUCTION SITE. MAINEDOT WILL NOT BE RESPONSIBLE FOR ANY INTERPRETATIONS OR CONCLUSIONS DRAWN FROM THE GEOTECHNICAL INFORMATION. THE BORING LOGS PROVIDED IN THE BID DOCUMENTS (IF ANY) PRESENT FACTUAL AND INTERPRETIVE SUBSURFACE INFORMATION COLLECTED AT DISCRETE LOCATIONS. DATA PROVIDED MAY NOT BE REPRESENTATIVE OF THE SUBSURFACE CONDITIONS BETWEEN BORING LOCATIONS.
33. FINAL STRIPING FOR THE PROJECT SHALL BE DONE BY THE CONTRACTOR PER THE STRIPING LAYOUT IN THE CONTRACT DOCUMENTS OR AS DIRECTED BY THE RESIDENT. PAYMENT SHALL BE MADE UNDER APPROPRIATE CONTRACT ITEMS.
34. REMOVAL OF EXISTING BRICK SIDEWALKS REQUIRED FOR PROPOSED SIDEWALK AND SIGNAL WORK WILL BE CONSIDERED INCIDENTAL TO IEM 203.20 COMMON EXCAVATION. NO SEPARATE PAYMENT SHALL BE MADE.
35. REPAIR OF EXISTING BRICK SIDEWALKS MAY BE REQUIRED FOR THE SIGNAL WORK. PAYMENT FOR REPAIR OF SIDEWALKS SHALL BE UNDER 608.15.
36. EXISTING SIGNAGE LOCATED ON MAST ARMS/POLES THAT ARE DESIGNATED TO BE REMOVED SHALL BE RESET OR REPLACED AS DIRECTED BY THE RESIDENT. PAYMENT FOR REMOVAL, RESET, REPLACEMENT AND/OR DISPOSAL SHALL BE CONSIDERED INCIDENTAL TO ITEM 643.80.
37. THE SIZE AND TYPE OF MAST ARM FOUNDATIONS ARE SHOWN ON THE GEOTECHNICAL SHEETS.
38. THE PROPOSED SPREAD FOOTING FOUNDATIONS AT THE CONGRESS STREET/FOREST AVENUE INTERSECTION ARE LOCATED IN CLOSE PROXIMITY TO EXISTING UTILITIES. MINOR ADJUSTMENT OF FOUNDATION LOCATIONS OR UTILITY RELOCATIONS MAY BE REQUIRED. TEST PITS ARE REQUIRED. COORDINATE WORK WITH RESIDENT.

STATE OF MAINE DEPARTMENT OF TRANSPORTATION		2213200		WIN 22132.00		HIGHWAY PLANS	

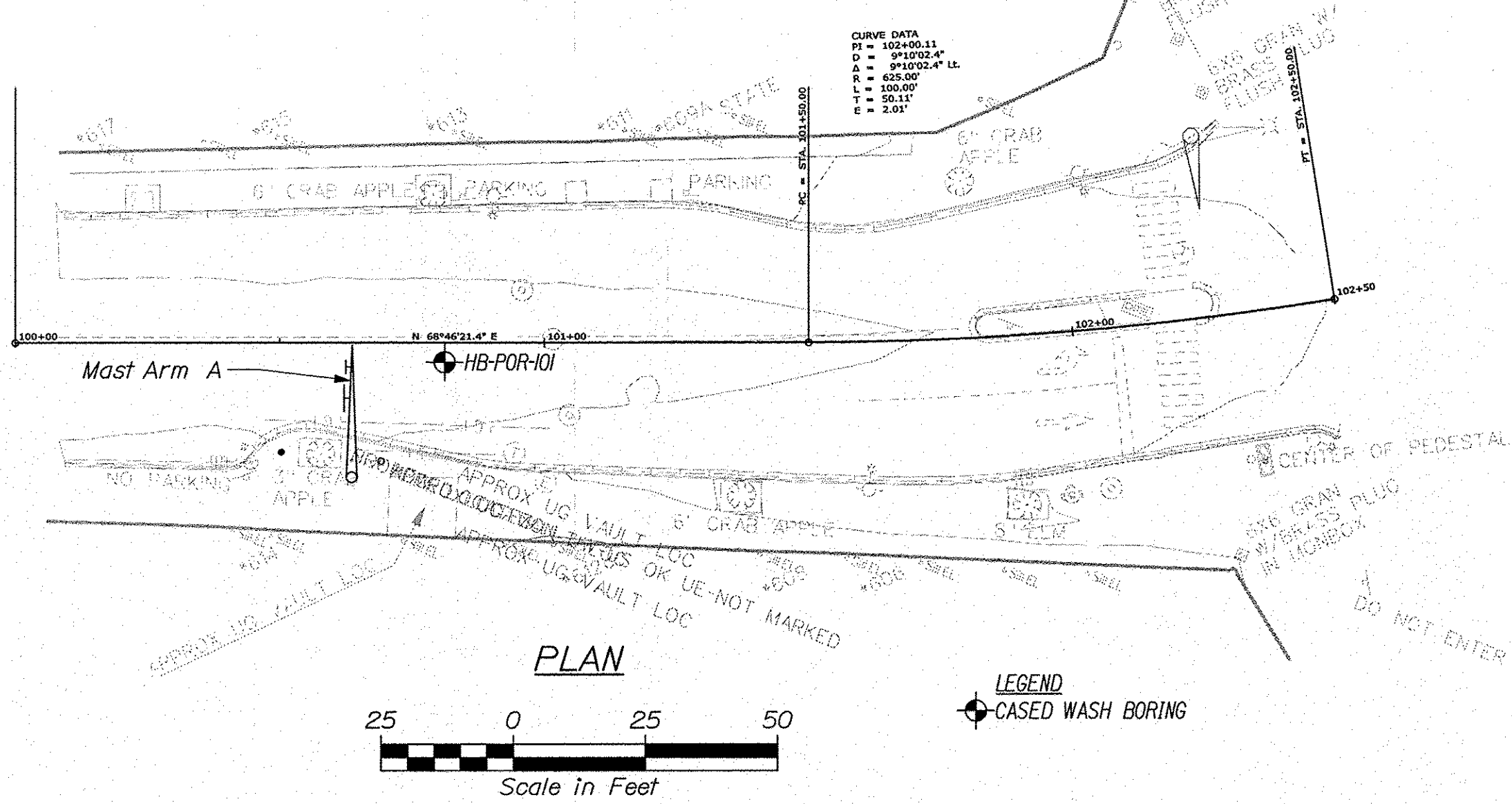
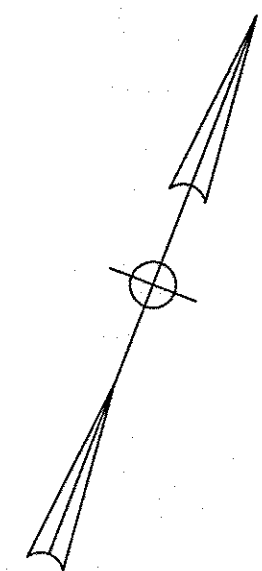


Drilled Shaft Elevation View
Scale: 3/4" = 1'-0"

MAST ARM A
Sta. 100+63.56, 25.45' Rt.

NOTES:

1. All reinforcing steel is to be grade 60 and conform to MaineDOT Standard Specification requirements along with any project specific Supplementals or Special Provisions.
2. All rebar shall have 3" cover unless otherwise noted.
3. Should there be a discrepancy between these Details and actual observed field conditions report it to the Resident immediately.
4. Do not proceed with dependent work until any such discrepancy is resolved to the satisfaction of the Resident.
5. Concrete to be Class LP with $f'c = 5,000$ PSI.



Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Congress St. Traffic Signal Improvements Location: Portland, Maine		Boring No.: HB-POR-101	
Driller: MainDOT		Elevation (ft.): 114.3		Auger ID/OD: 5" Solid Stem		WIN: 22132.00	
Operator: Daggatt/NT/tes		Datum: NAVD83		Sampler: Standard Split Spoon			
Logged By: B. Wilbur		Rig Type: ONE 45C		Hammer Wt./Fall: 140W/30"			
Date Start/Finish: 12/18/2018: 17:30-23:00		Drilling Method: Cased Wash Boring		Core Barrel: ND-2"			
Boring Location: 100+63.2, 3.7 ft Rt.		Casing ID/OD: HW-3"		Water Level: None Observed			
Hammer Efficiency Factor: 0.928		Hammer Type: Automatic <input checked="" type="checkbox"/> Hydraulic <input type="checkbox"/> Rope & Cathead <input type="checkbox"/>					
<small> Definitions: S = Split Spoon Sample MC = Unsuccessful Split Spoon Sample Attempt L = Thin Wall Tube Sample Y = Field Vane Shear Test MU = Unsuccessful Thin Wall Tube Sample Attempt UN = Unsuccessful Field Vane Shear Test Attempt R = Rock Core Sample SA = Solid Stem Auger HSA = Hollow Stem Auger IC = Collar Core WH = Weight of 140lb. Hammer HSE = Height of Rod or Casing WSE = Weight of the Rammer HSEF = Hammer Efficiency Factor (200lb/Unrestricted) </small>		<small> Test Methods: S_u = Peak/Retained Field Vane Undrained Shear Strength (psf) S_u = Lab Vane Undrained Shear Strength (psf) C_u = Shear Compressive Strength (psf) C_u = Shear Compressive Strength (ksi) C_u = Unconfined Compressive Strength (ksi) HSEF = Specific Annot. Calibration Value (PI = Piezometric Index) HSEF = 97% Unrestricted Corrected for Hammer Efficiency HSEF = Unrestricted Corrected for Hammer Efficiency HSEF = Unrestricted Corrected for Hammer Efficiency HSEF = Unrestricted Corrected for Hammer Efficiency </small>		<small> Symbols: S_u = Peak/Retained Field Vane Undrained Shear Strength (psf) S_u = Lab Vane Undrained Shear Strength (psf) C_u = Shear Compressive Strength (psf) C_u = Shear Compressive Strength (ksi) HSEF = Specific Annot. Calibration Value (PI = Piezometric Index) HSEF = 97% Unrestricted Corrected for Hammer Efficiency HSEF = Unrestricted Corrected for Hammer Efficiency HSEF = Unrestricted Corrected for Hammer Efficiency HSEF = Unrestricted Corrected for Hammer Efficiency </small>		<small> Symbols: S_u = Peak/Retained Field Vane Undrained Shear Strength (psf) S_u = Lab Vane Undrained Shear Strength (psf) C_u = Shear Compressive Strength (psf) C_u = Shear Compressive Strength (ksi) HSEF = Specific Annot. Calibration Value (PI = Piezometric Index) HSEF = 97% Unrestricted Corrected for Hammer Efficiency HSEF = Unrestricted Corrected for Hammer Efficiency HSEF = Unrestricted Corrected for Hammer Efficiency HSEF = Unrestricted Corrected for Hammer Efficiency </small>	
Sample Information							
Depth (ft.)	Sample No.	Ham. (lb)	Sample Depth (ft.)	Blows (1/4 in. Shear Cup) or (10 lb) of Rod (ft)	W-uncorrected	H _{se}	Casing Blows
0	10	24/17	1.50 - 3.50	5/17/17	16	25	SEA
5	20	24/13	5.00 - 7.00	5/6/5/5	11	17	SEA
10	R1	60/60	8.10 - 13.10	ROD = 60%			SEA
15							SEA
20							SEA
25							SEA
Visual Description and Remarks							
0-7' 3" NMA							
7-10' Brown, damp, medium dense, fine to coarse SAND, some gravel, little silt, (FILL).							
10-13.1' Brown, moist, medium dense, fine to coarse SAND, some gravel, little silt, brick pieces, (FILL).							
13.1-106.2' 1025 blows for 0.1 ft. Top of Bedrock at Elev. 106.2 ft. R1: Bedrock: SCHIST, Spring Point Formation. Rock Mass Quality = Fair. R1: Core Times (minutes): 8.1-9.1 ft (1:50) 9.1-10.1 ft (1:58) 10.1-11.1 ft (1:28) no water return 11.1-12.1 ft (2:02) no water return 12.1-13.1 ft (1:58) no water return 100% Recovery							
106.2-101.2' Bottom of Exploration at 13.1 feet below ground surface.							
101.2-13.1' Bottom of Exploration at 13.1 feet below ground surface.							

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
2213200
WIN 022132.00
HIGHWAY PLANS

PROJ. MANAGER: [Signature]
DATE: JAN 2020
BY: T. WHITE
CHECKED/REVIEWED: [Signature]
DESIGN/DETAILS: [Signature]
REVISIONS: 1
REVISIONS: 2
REVISIONS: 3
REVISIONS: 4
FIELD CHANGES

PROFESSIONAL ENGINEER
Kathleen McGuire
7120
1/31/2020
DATE

PORTLAND - CONGRESS STREET
SIGNAL IMPROVEMENTS
MAST ARM FOUNDATION
& BORING LOCATION PLAN
WITH BORING LOGS

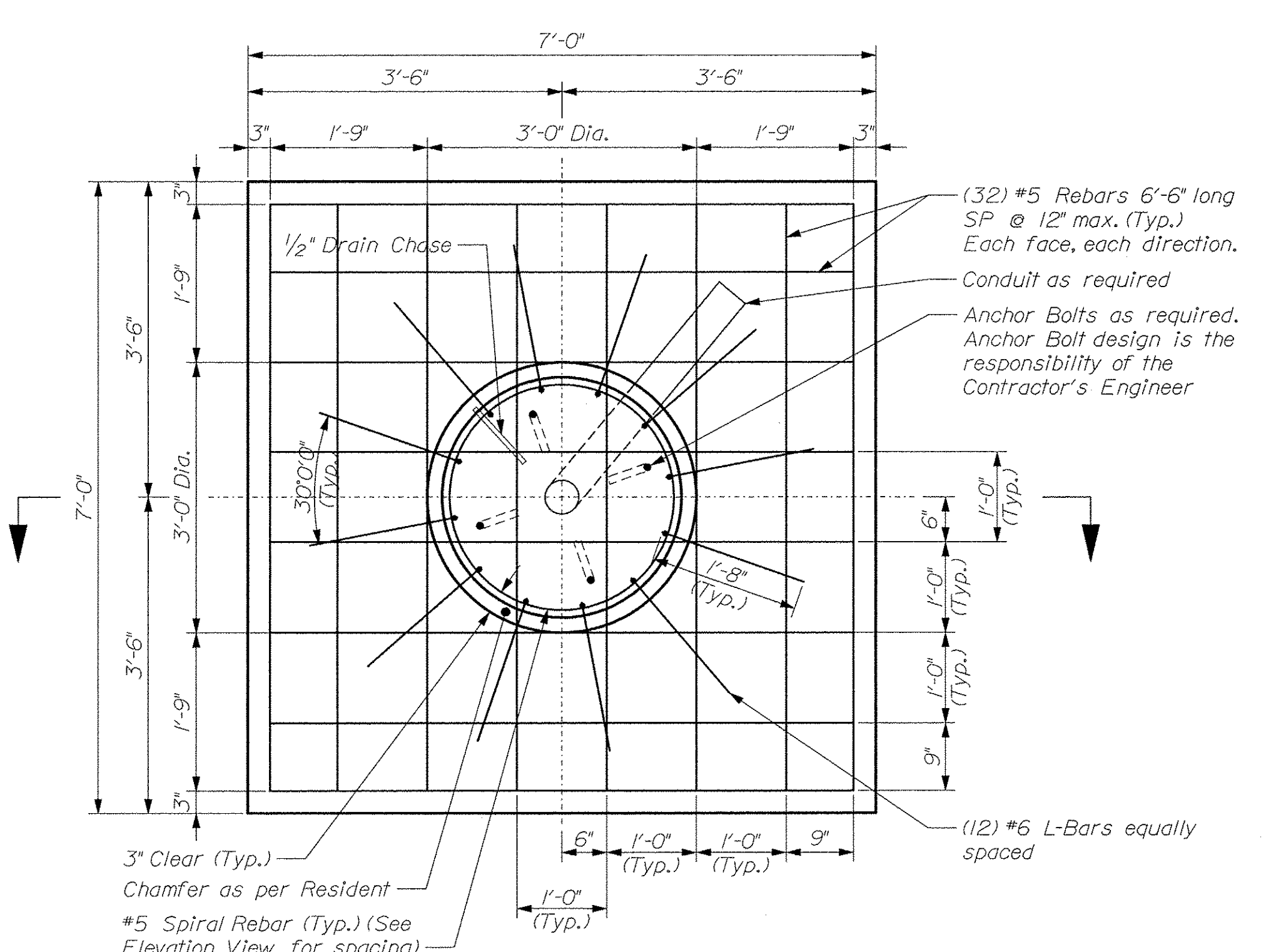
SHEET NUMBER
5
OF 21

Date: 1/31/2020

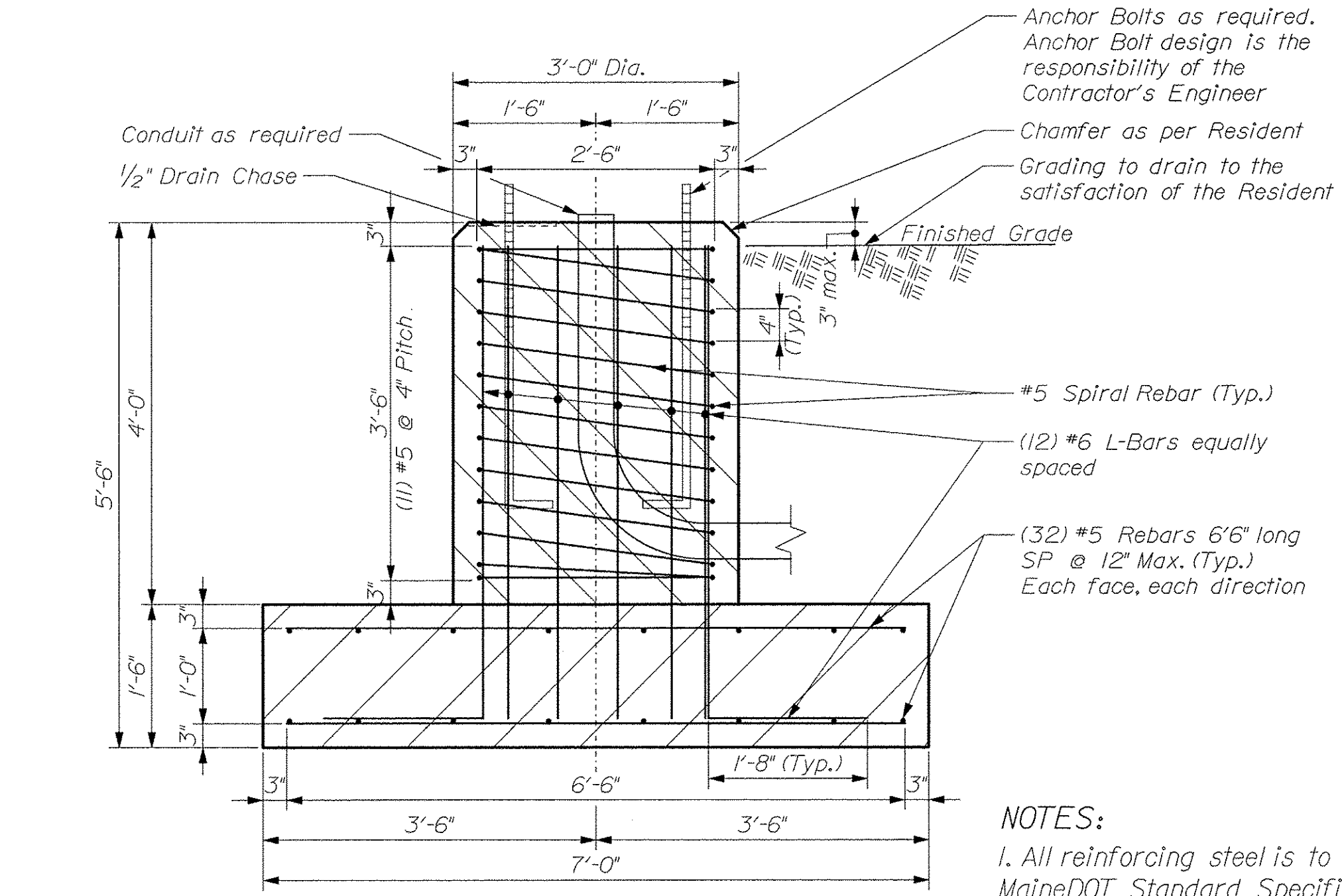
Username: Kate.Maguire

Division: GEOTECH

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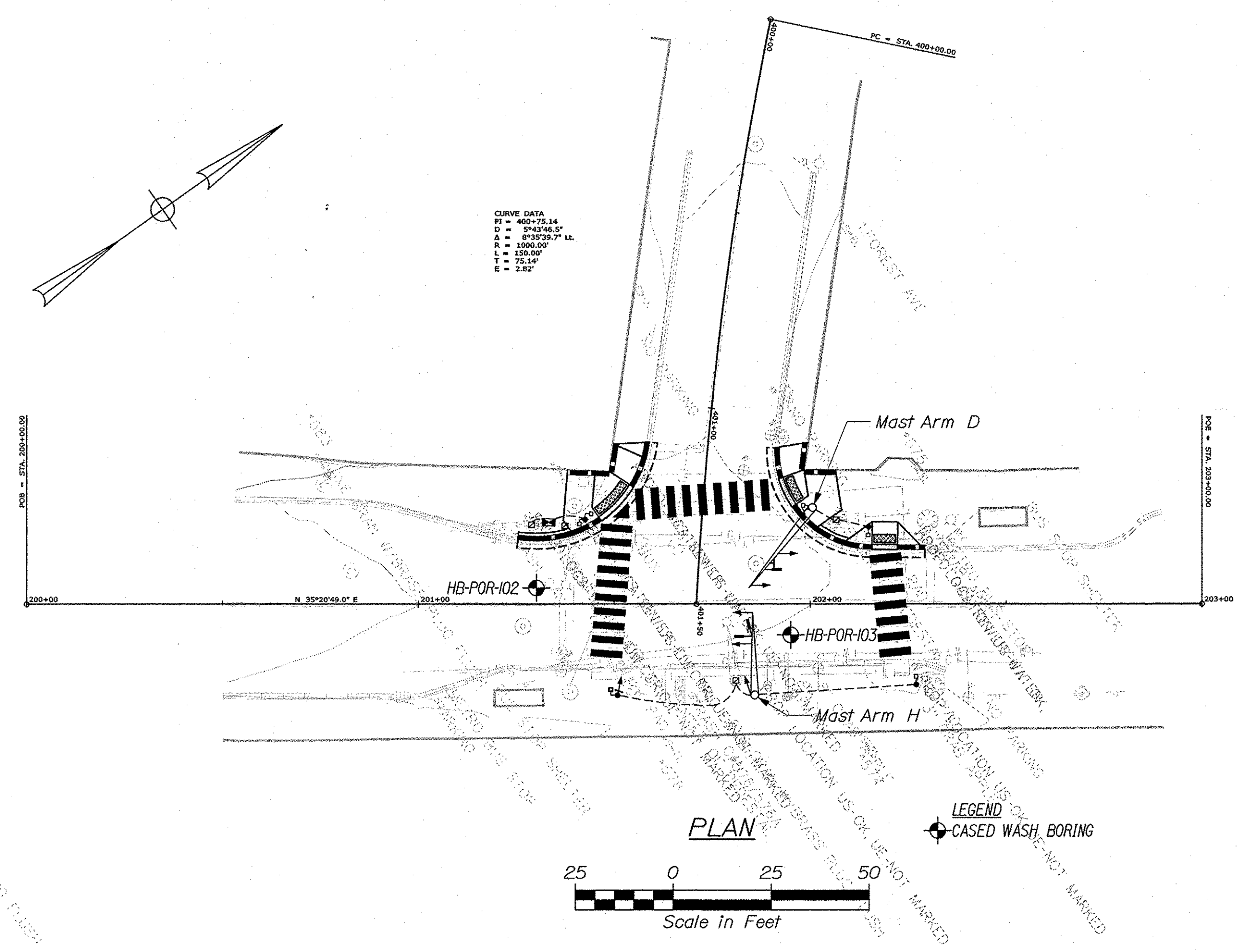
Spread Footing Plan View
Scale: 3/4" = 1'-0"



Drilled Shaft Elevation View
Scale: 3/4" = 1'-0"

MAST ARMS D & H
(D) Sta. 202+00.57, 24.52' Lt.
(H) Sta. 201+85.79, 23.06' Rt.

- NOTES:**
1. All reinforcing steel is to be grade 60 and conform to MaineDOT Standard Specification requirements along with any project specific Supplementals or Special Provisions.
 2. All rebar shall have 3" cover unless otherwise noted.
 3. For spread footing, L-Bars shall have a Min. 1'-8" Leg.
 4. Should there be a discrepancy between these Details and actual observed field conditions report it to the Resident immediately.
 5. Do not proceed with dependent work until any such discrepancy is resolved to the satisfaction of the Resident.
 6. Concrete to be Class LP with f'c = 5,000 PSI.



Maine Department of Transportation Soil/Book Exploration Log US CUSTOMARY UNITS		Project: Congress St., Traffic Signal Improvements Location: Portland, Maine		Boring No.: HB-POR-102 WIN: 22132.00																													
Driller: Malm007	Elevation (ft.): 108.5	Auger ID/OD: 5" Solid Stem																															
Operator: Daggitt/Niles	Date: NAV08	Sampler: Standard Split Spoon																															
Logged By: B. Wilder	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"																															
Date Start/Finish: 12/18/2018; 23:00-01:30	Drilling Method: Cased Wash Boring	Core Barrel: NQ-2"																															
Boring Location: 201+85.79, 4.2 ft Lt.	Casing ID/OD: NW-3"	Water Level: None Observed																															
Hammer Efficiency Factor: 0.928	Hammer Type: Automatic Hydraulic	Rope & Cathead: None																															
<p>Definitions: B = Split Spoon Sample BS = Standard Split Spoon Sample Attempt U = Thin Wall Tube Sample US = Unconsolidated Thin Wall Tube Sample Attempt V = Field Vane Shear Test W = Penetration Test X = Blow Count Y = Standard Penetration Test (SPT) Z = Standard Penetration Test (SPT) - Blows per Foot</p>																																	
<p>Sample Information</p> <table border="1"> <thead> <tr> <th>Depth (ft.)</th> <th>Sample No.</th> <th>Depth (ft.)</th> <th>Sample No.</th> <th>Depth (ft.)</th> <th>Sample No.</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>24/18</td> <td>1.00 - 3.00</td> <td>12/17/11/10</td> <td>28</td> <td>43</td> <td>SSA 107.5</td> </tr> <tr> <td>20</td> <td>24/16</td> <td>5.00 - 7.00</td> <td>8/7/5/5</td> <td>12</td> <td>19</td> <td></td> </tr> <tr> <td>R1</td> <td>60/45</td> <td>9.10 - 14.10</td> <td>ROO = 0%</td> <td>56</td> <td>80</td> <td></td> </tr> </tbody> </table>						Depth (ft.)	Sample No.	Depth (ft.)	Sample No.	Depth (ft.)	Sample No.	Notes	10	24/18	1.00 - 3.00	12/17/11/10	28	43	SSA 107.5	20	24/16	5.00 - 7.00	8/7/5/5	12	19		R1	60/45	9.10 - 14.10	ROO = 0%	56	80	
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R1	60/45	9.10 - 14.10	ROO = 0%	56	80																												
<p>Visual Description and Remarks</p> <p>0-6' Brown, damp, dense, fine to coarse SAND, some gravel, trace silt, (f111).</p> <p>6-7' Brown, med. damp, dense, fine to coarse SAND, (f111) silt, brick pieces, (f111).</p> <p>7-9.4' 050 Stone for 0.1 ft. Top of Bedrock at Elev. 99.4 ft. R1: Bedrock: SCHIST, Spring Point Formation. Rock Mass Quality = Very Poor. R1: Core Times (min/sec): 9.1-10.1 ft (1:55) 10.1-11.1 ft (1:37) 11-12.1 ft (2:08) 12.1-13.1 ft (1:56) no water return 13.1-14.1 ft (1:48) no water return 75% Recovery</p> <p>9.4-14.1' Bottom of Exploration at 14.1 feet below ground surface.</p>																																	
<p>Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.</p>																																	

Maine Department of Transportation Soil/Book Exploration Log US CUSTOMARY UNITS		Project: Congress St., Traffic Signal Improvements Location: Portland, Maine		Boring No.: HB-POR-103 WIN: 22132.00																													
Driller: Malm007	Elevation (ft.): 107.9	Auger ID/OD: 5" Solid Stem																															
Operator: Daggitt/Niles	Date: NAV08	Sampler: Standard Split Spoon																															
Logged By: B. Wilder	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"																															
Date Start/Finish: 12/18/2018; 00:30-02:00	Drilling Method: Cased Wash Boring	Core Barrel: NQ-2"																															
Boring Location: 201+85.79, 7.8 ft Rt.	Casing ID/OD: NW-3"	Water Level: None Observed																															
Hammer Efficiency Factor: 0.928	Hammer Type: Automatic Hydraulic	Rope & Cathead: None																															
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R1	60/56	9.10 - 14.10	ROO = 18%	56	80																												
<p>Visual Description and Remarks</p> <p>0-7' Brown, damp, dense, fine to coarse SAND, some gravel, trace silt.</p> <p>7-9.7' 025 blow for 0.3 ft. 01ive, damp, dense, fine to coarse SAND, some gravel, trace silt. Top of Bedrock at Elev. 102.2 ft. R1: Bedrock: SCHIST, Spring Point Formation. Rock Mass Quality = Very Poor. R1: Core Times (min/sec): 6.7-7.7 ft (2:01) 7.7-8.7 ft (1:55) 8.7-9.7 ft (1:46) no water return 9.7-10.7 ft (1:52) no water return 93% Recovery</p> <p>9.7-14.1' Bottom of Exploration at 10.7 feet below ground surface.</p>																																	
<p>Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.</p>																																	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
2213200
WIN 022132.00
HIGHWAY PLANS

STATE OF MAINE
Kathleen Maguire
7120
LICENSED PROFESSIONAL ENGINEER

PROJECT: CONGRESS STREET SIGNAL IMPROVEMENTS
MAST ARM FOUNDATION PLAN & BORING LOCATION PLAN WITH BORING LOGS

DATE: 1/31/2020
BY: T. WHITE
CHECKED: T. WHITE
DESIGNED: K. MAGUIRE
REVISIONS: 1
REVISIONS: 2
REVISIONS: 3
REVISIONS: 4
FIELD CHANGES

SHEET NUMBER
6
OF 21

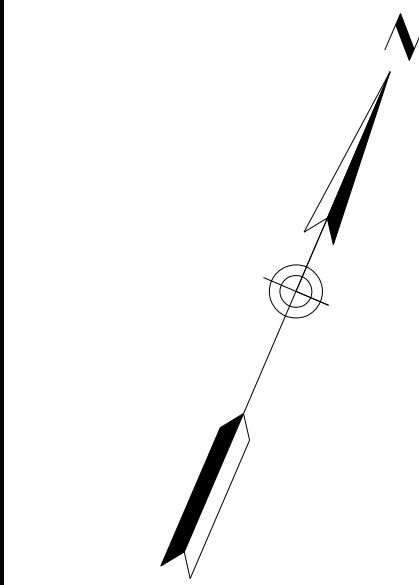
EQUIPMENT SCHEDULE

DESIGNATION	ITEM	DESCRIPTION	LOCATION *
A	MAST POLE W/ 25' MAST ARM AND FOUNDATION	OVERHEAD SIGNS AND NEW FOUNDATION (DESIGNED IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 626.034).	STA. 100+63.56, 25.45' RT.
B	EXISTING BIKE RACK	REMOVE AND RESET BIKE RACK POLE.	STA. 100+50.27, 20.71' RT.

* STATION AND OFFSET INFORMATION IS APPROXIMATE, EQUIPMENT TO BE ADJUSTED AS NEEDED BY RESIDENT, MAINEDOT, OR CITY.

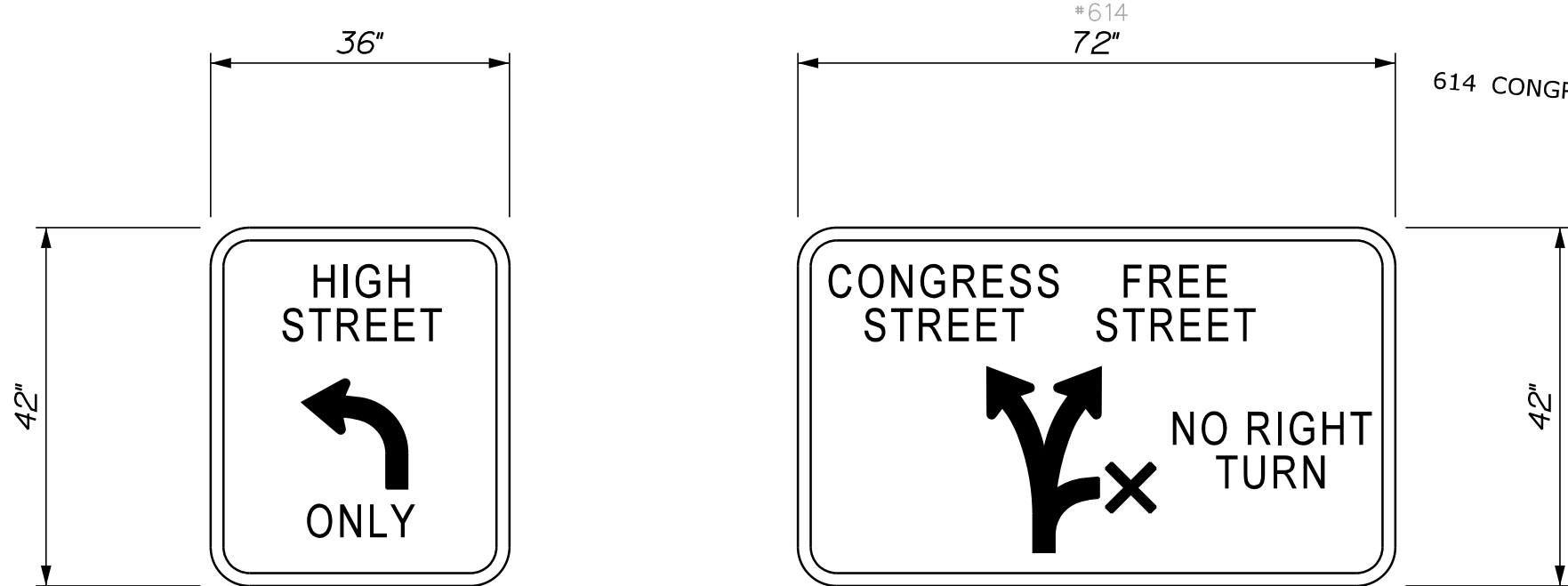
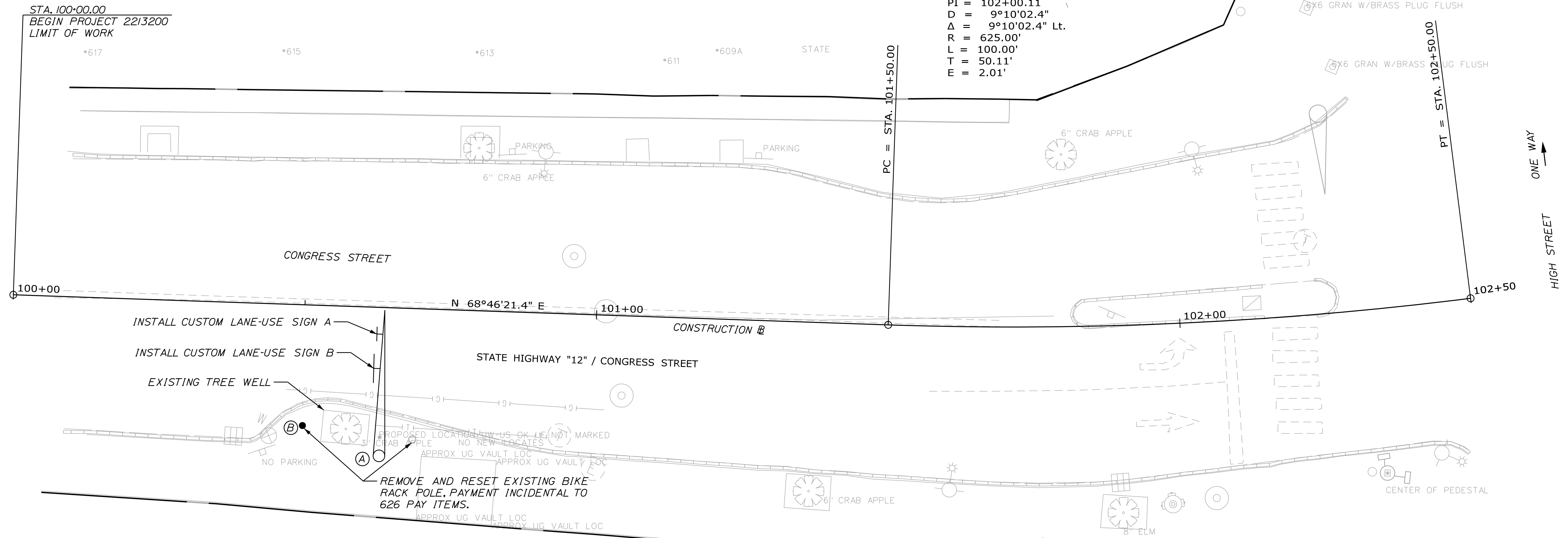
NOTES:

- 1) CONSTRUCTION BASELINE TO MATCH EXISTING ROADWAY CENTERLINE.
- 2) ALL EXISTING BRICK SIDEWALKS THAT ARE DISTURBED BY THE INSTALLATION OR REMOVAL OF FOUNDATIONS IN AREAS WHERE NEW SIDEWALK IS NOT PROPOSED SHALL BE REPAIRED/REPLACED TO THE SATISFACTION OF THE RESIDENT.
- 3) FONT FOR THE PROPOSED GUIDE SIGNS SHALL BE A SANS SERIF FONT SUCH AS CLEARVIEW, PER CITY REQUEST.
- 4) CONTRACTOR SHALL AVOID IMPACTS TO BASEMENT VAULT LOCATED UNDER SIDEWALK NEAR STA. 100+75, RT.



STA. 100+00.00
BEGIN PROJECT 2213200
LIMIT OF WORK

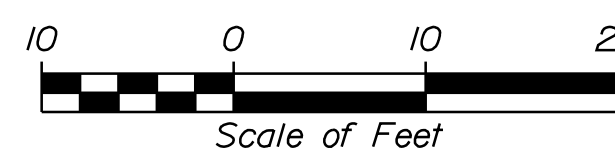
CURVE DATA
PI = 102+00.11
D = 9°10'02.4"
Δ = 9°10'02.4" Lt.
R = 625.00'
L = 100.00'
T = 50.11'
E = 2.01'



CUSTOM LANE USE SIGN A* CUSTOM LANE USE SIGN B*

* SIZING OF SIGNS IS APPROXIMATE. CONTRACTOR SHALL SUBMIT SIGN SHOP DRAWINGS FOR APPROVAL PRIOR TO ORDERING MATERIALS. SIGNS TO BE PAID FOR UNDER ITEM 645.271.

LAYOUT SCALE



PROJ. MANAGER	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
L. HAMILTON	T. WARREN	02/20			
DESIGN DETAILED	L. LANDRY	02/20			
CHECKED/REVIEWED	D. ETINGER				
DESIGN DETAILED					
REVISIONS 1					
REVISIONS 2					
REVISIONS 3					
REVISIONS 4					
FIELD CHANGES					

PORTLAND - CONGRESS STREET
SIGNAL IMPROVEMENTS
GENERAL PLANS

SHEET NUMBER

9

OF 21



Relationships. Responsiveness. Results.
www.gorillpalmer.com
207.772.2515

Filename: ...\\000\\Highway\\009_Plant.dgn
Division: HIGHWAY
Username: Mike.Cundiff
Date: 2/5/2020

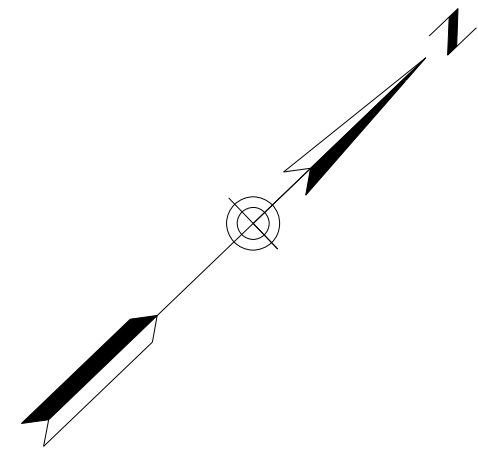
Date: 2/5/2020

Username: Mike.Cundiff

Division: HIGHWAY

Filename: ... \00\Highway\012_Plan4.dgn

CITY OF PORTLAND



CURVE DATA A
 PI = 302+28.72
 D = 0°44'04.4"
 Δ = 3°21'33.2" Rt.
 R = 7800.00'
 L = 457.31'
 T = 228.72'
 E = 3.35'

REMOVE EXISTING MAST ARM POLE AND FOUNDATION, INSTALL JUNCTION BOX, REPAIR SIDEWALK

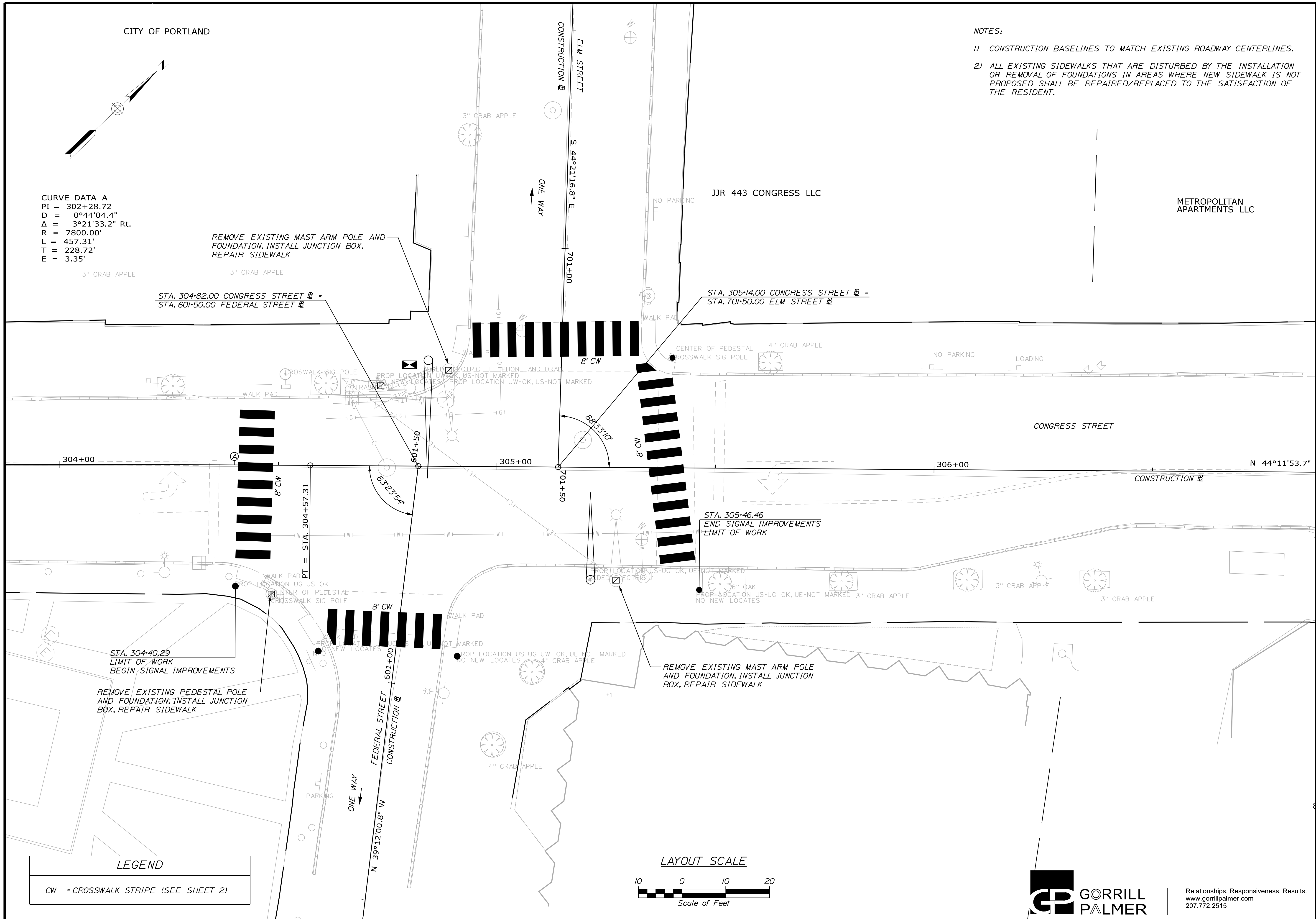
STA. 304+82.00 CONGRESS STREET @ =
 STA. 601+50.00 FEDERAL STREET @

JJR 443 CONGRESS LLC

METROPOLITAN APARTMENTS LLC

NOTES:

- 1) CONSTRUCTION BASELINES TO MATCH EXISTING ROADWAY CENTERLINES.
- 2) ALL EXISTING SIDEWALKS THAT ARE DISTURBED BY THE INSTALLATION OR REMOVAL OF FOUNDATIONS IN AREAS WHERE NEW SIDEWALK IS NOT PROPOSED SHALL BE REPAIRED/REPLACED TO THE SATISFACTION OF THE RESIDENT.



STA. 304+40.29
 LIMIT OF WORK
 BEGIN SIGNAL IMPROVEMENTS

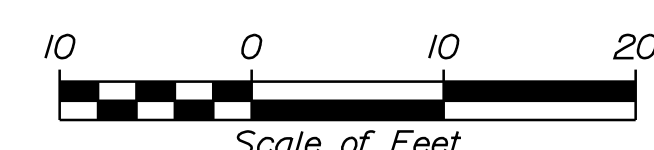
REMOVE EXISTING PEDESTAL POLE AND FOUNDATION, INSTALL JUNCTION BOX, REPAIR SIDEWALK

REMOVE EXISTING MAST ARM POLE AND FOUNDATION, INSTALL JUNCTION BOX, REPAIR SIDEWALK

LEGEND

CW = CROSSWALK STRIPE (SEE SHEET 2)

LAYOUT SCALE



STATE OF MAINE
 DEPARTMENT OF TRANSPORTATION
 2213200
 WIN
 22132.00
 HIGHWAY PLANS

PROJ. MANAGER	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
L. HAMILTON	T. WARREN	02/20			
DESIGN DETAILED	T. LANDRY	02/20			
CHECKED/REVIEWED	D. ETINGER				
DESIGN DETAILED					
REVISIONS 1					
REVISIONS 2					
REVISIONS 3					
REVISIONS 4					
FIELD CHANGES					

PORTLAND - CONGRESS STREET
 SIGNAL IMPROVEMENTS
 GENERAL PLANS

SHEET NUMBER

12

OF 21



Relationships. Responsiveness. Results.
 www.gorillpalmer.com
 207.772.2515

Date: 2/13/2020

Username: Mike.Cundiff

Division: HIGHWAY

Filename: ... \00\Highway\013_Plan5.dgn

ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD SF
STA. 308+71. RT. 30.0
STA. 308+74. LT. 12.0

NOTES:

- 1) CONSTRUCTION BASELINES TO MATCH EXISTING ROADWAY CENTERLINES.
- 2) ALL EXISTING BRICK SIDEWALKS DISTURBED BY THE INSTALLATION OR REMOVAL OF FOUNDATIONS IN AREAS WHERE NEW SIDEWALK IS NOT PROPOSED SHALL BE REPAIRED/REPLACED TO THE SATISFACTION OF THE RESIDENT.
- 3) SEE CURBING PLANS FOR SPOT GRADES.

ASHBY TEAM LLC

STA. 307+74.51
LIMIT OF WORK
BEGIN SIGNAL IMPROVEMENTS

STA. 308+99.82
END SIDEWALK IMPROVEMENTS
END SIGNAL IMPROVEMENTS
END PROJECT 2213200
LIMIT OF WORK

CONSTRUCT NEW PEDESTRIAN RAMP.
REMOVE EXISTING RAMP AND
RECONSTRUCT BRICK SIDEWALK

INSTALL FLUSH
CURB TYPE I (TYP.)

CONSTRUCT NEW PEDESTRIAN RAMP
AND RECONSTRUCT BRICK SIDEWALK

REMOVE EXISTING MAST ARM POLE AND
FOUNDATION, INSTALL JUNCTION BOX,
REPAIR SIDEWALK

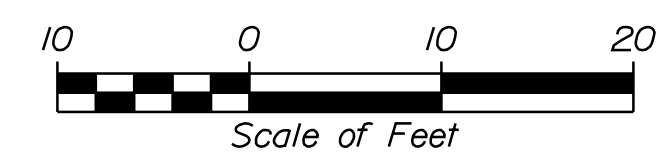
STA. 308+32.00 CONGRESS STREET =
STA. 801+50.00 TEMPLE STREET

STA. 800+93.64
BEGIN SIDEWALK IMPROVEMENTS

CURVE DATA TEMPLE STREET
 PI = 801+09.02
 D = 18°11'20.9"
 Δ = 8°41'59.6" Rt.
 R = 315.00'
 L = 47.83'
 T = 23.96'
 E = 0.91'

CURVE DATA B
 PI = 309+47.29
 D = 2°17'30.6"
 Δ = 2°24'59.7" Rt.
 R = 2500.00'
 L = 105.44'
 T = 52.73'
 E = 0.56'

LAYOUT SCALE



A & M PARTNERS, LLC

800 NORTHERN CORP

LEGEND

CW = CROSSWALK STRIPE (SEE SHEET 2)

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2213200

WIN
22132.00

HIGHWAY PLANS

DATE
02/20

BY
T. WARREN

DESIGNED BY
L. HAMILTON

CHECKED BY
T. LANDRY

DESIGNED BY
D. ETINGER

DESIGNED BY
D. ETINGER

REVISIONS 1

REVISIONS 2

REVISIONS 3

REVISIONS 4

FIELD CHANGES

SIGNATURE

P.E. NUMBER

DATE

PORTLAND - CONGRESS STREET
SIGNAL IMPROVEMENTS

GENERAL PLANS

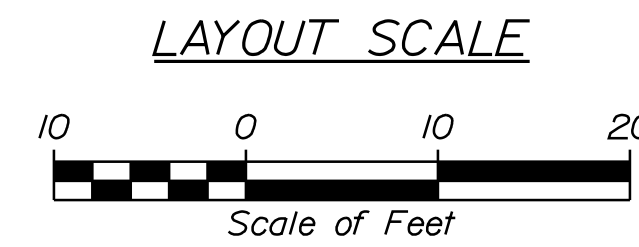
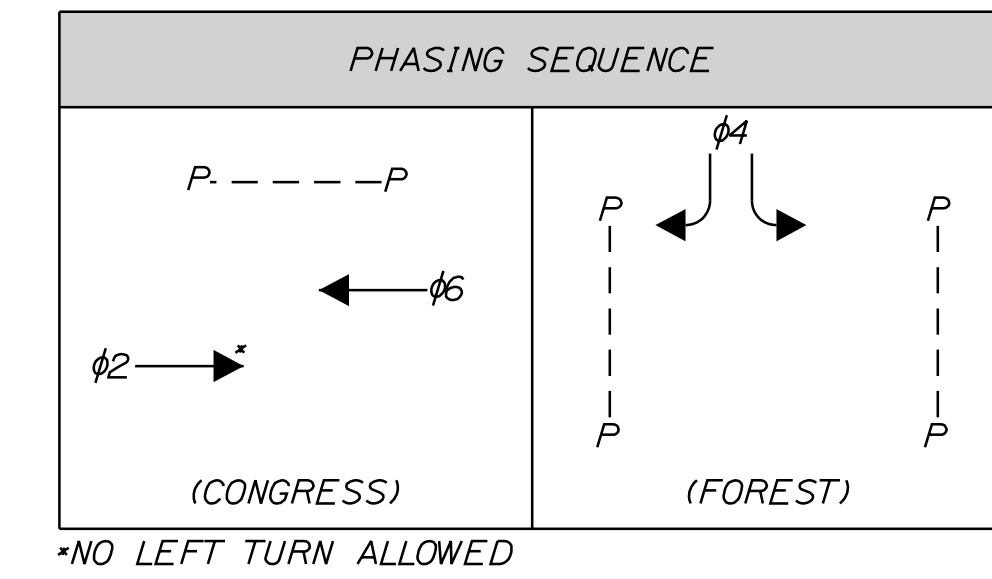
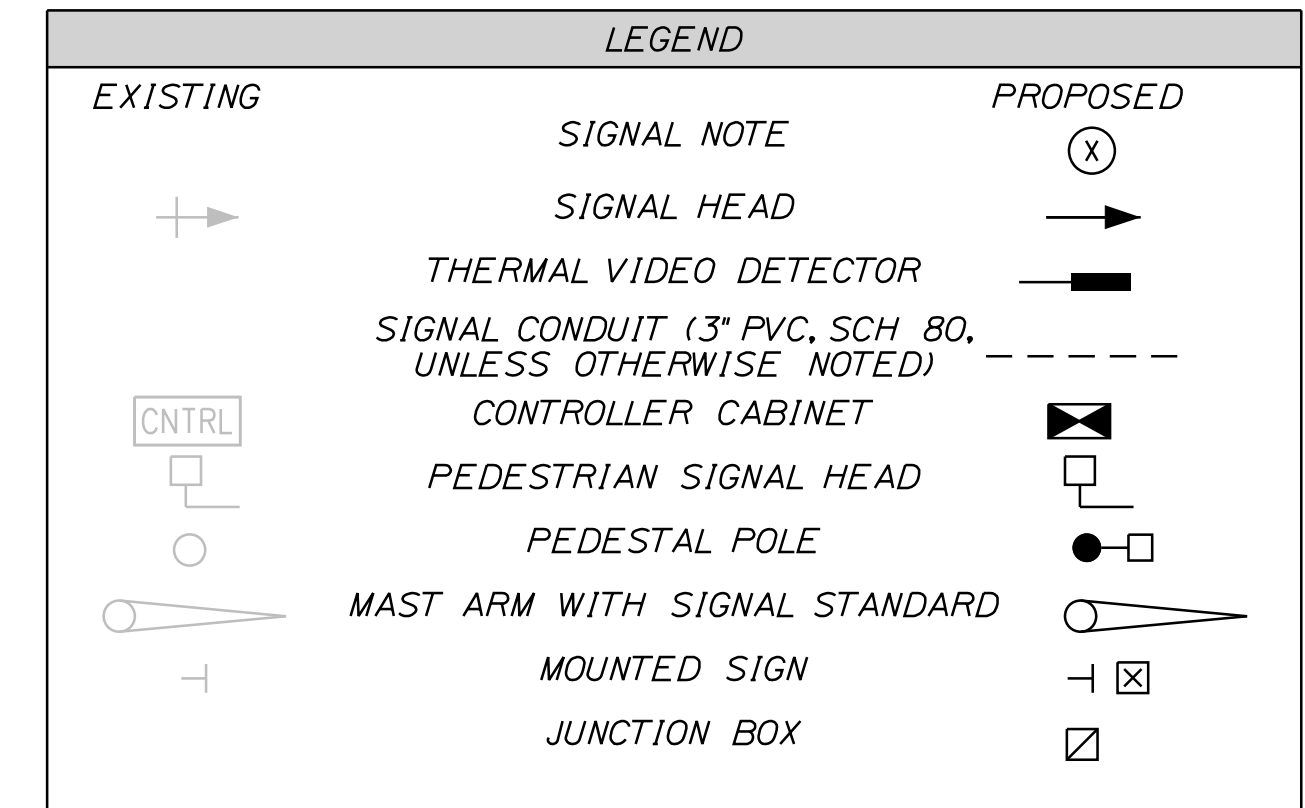
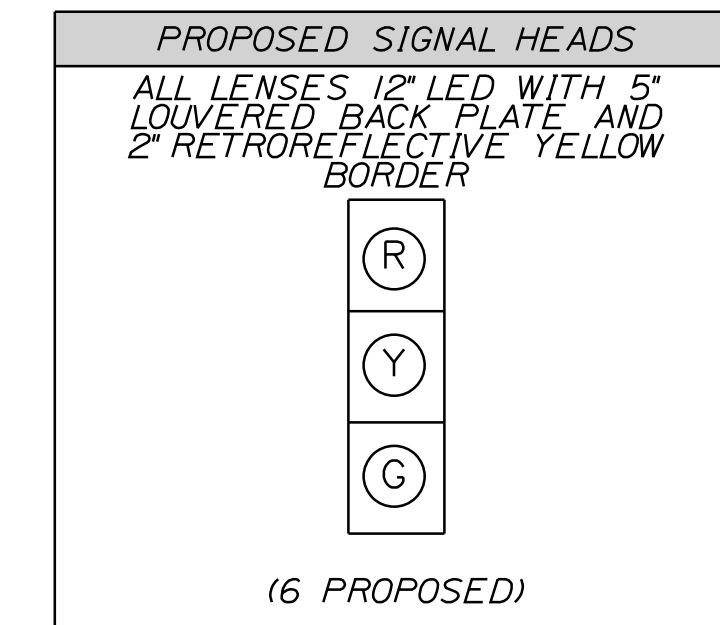
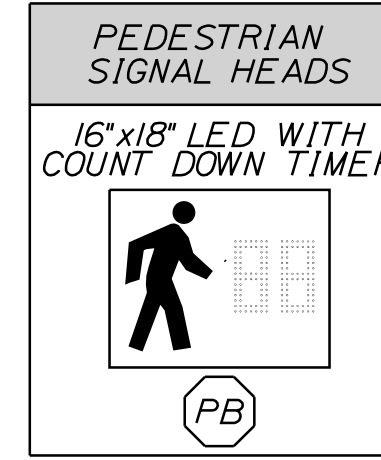
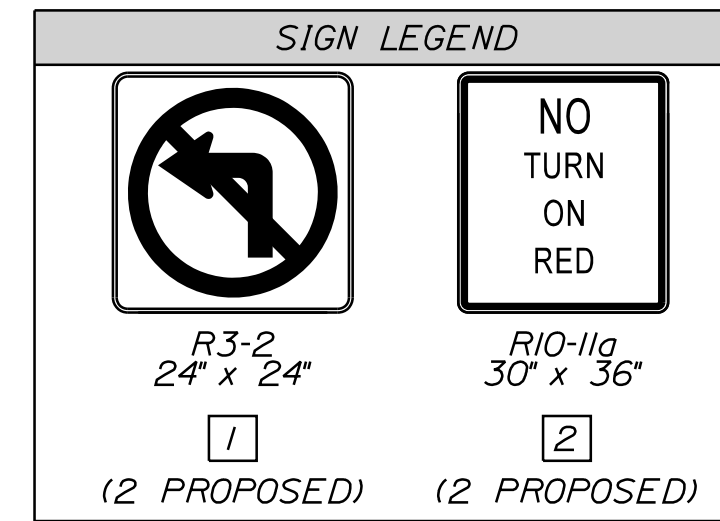
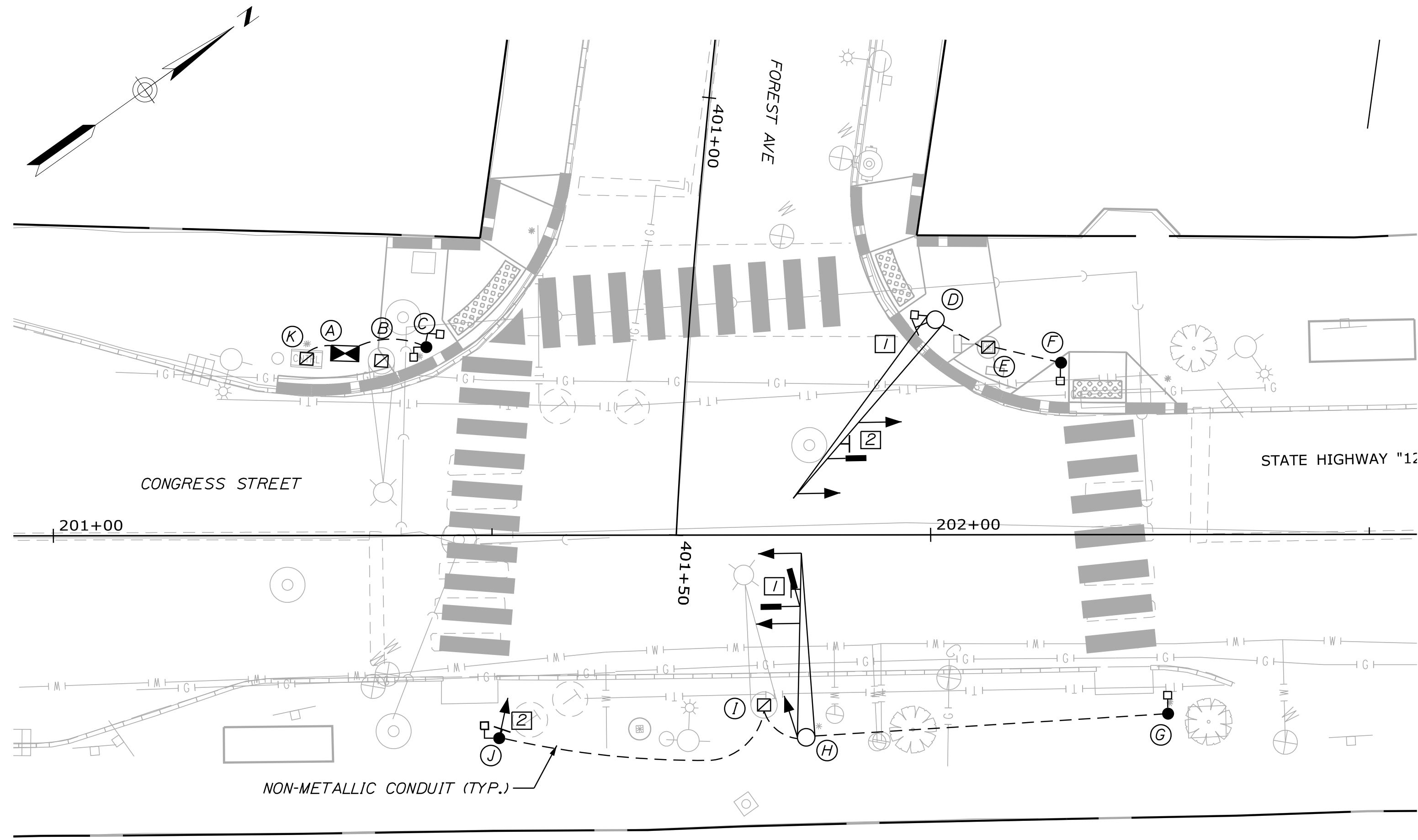
SHEET NUMBER

13

OF 21



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	1	2	3	4	5	6	7	8
MINIMUM INITIAL		5		5		5		
VEHICLE EXTENSION		3		3		3		
MAX I*		21		19		21		
MAX II**		28		12		28		
YELLOW		3		3		3		
ALL RED (SEE LPI NOTE)		2.5		2		2.5		
WALK / DON'T WALK		5		5		5		
PEDESTRIAN CLEARANCE		12		9		12		
FLASH		R		R		R		
PHASE RECALL		SOFT				SOFT		
MEMORY								
DETECTOR		PR				PR		

MAX I = 6:00-9:00 AM (WEEKDAYS)
MAX II = ALL OTHER TIMES

NOTES:

1) LPI (LEADING PEDESTRIAN INTERVAL) = $\phi 2, \phi 4, \phi 6$ SHALL HAVE A 5 SECOND LPI WHEN PEDESTRIAN BUTTON IS ACTUATED FOR THAT RELATED CROSSING.

Y=YELLOW R=RED PR=PRESENCE

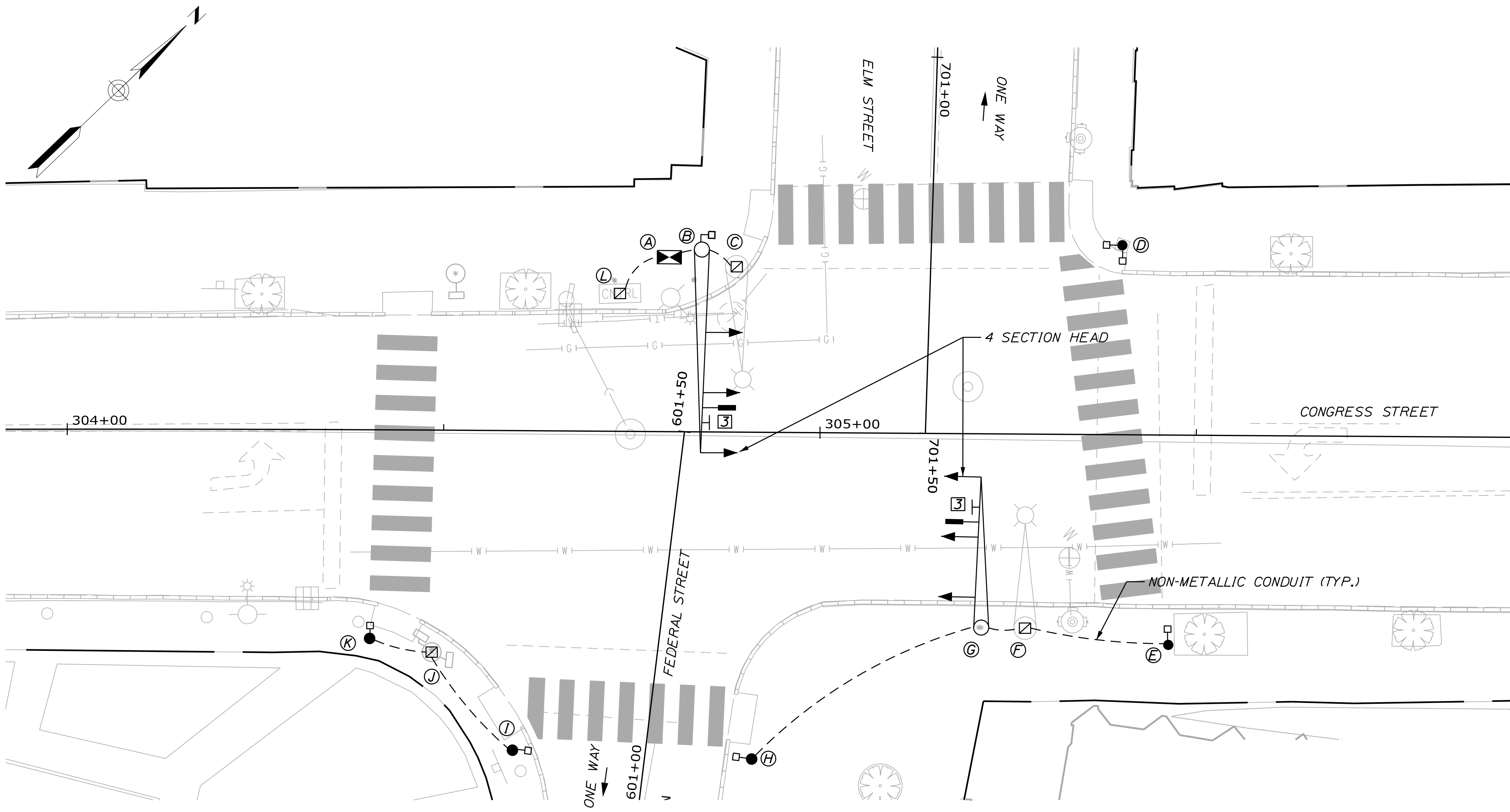
DESIGNATION	ITEM	DESCRIPTION	LOCATION *
A	NEW CONTROLLER AND CABINET	INSTALL NEW ATC CONTROLLER AND CONTROLLER CABINET ON NEW FOUNDATION.	STA. 201+33.26, 20.75' LT.
B	EXISTING MAST ARM WITH POLE AND FOUNDATION	TO BE REMOVED, INSTALL JUNCTION BOX.	STA. 201+37.42, 19.91' LT.
C	PEDESTAL POLE	INSTALL NEW 10' PEDESTAL POLE, PEDESTRIAN COUNTDOWN HEADS, SIGNS AND PUSH BUTTONS ON NEW FOUNDATION.	STA. 201+42.54, 21.46' LT.
D	MAST POLE W/ 26' MAST ARM AND FOUNDATION	VIDEO DETECTION, OVERHEAD SIGNS, SIGNAL HEADS, PEDESTRIAN COUNTDOWN HEAD, PUSH BUTTON AND SIGN ON NEW FOUNDATION (DESIGNED IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 626.034).	STA. 202+00.57, 24.52' LT.
E	EXISTING PEDESTAL POLE	REMOVE EXISTING PEDESTAL POLE AND FOUNDATION, INSTALL JUNCTION BOX.	STA. 202+06.59, 21.37' LT.
F	PEDESTAL POLE	INSTALL NEW 10' PEDESTAL POLE, PEDESTRIAN COUNTDOWN HEAD, SIGN AND PUSH BUTTON ON NEW FOUNDATION.	STA. 202+14.89, 19.61' LT.
G	PEDESTAL POLE	INSTALL NEW 10' PEDESTAL POLE, PEDESTRIAN COUNTDOWN HEAD, SIGN AND PUSH BUTTON ON NEW FOUNDATION.	STA. 202+27.04, 20.41' RT.
H	MAST POLE W/ 21' MAST ARM AND FOUNDATION	VIDEO DETECTION, OVERHEAD SIGN, SIGNAL HEADS ON NEW FOUNDATION (DESIGNED IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 626.034).	STA. 201+85.79, 23.06' RT.
I	EXISTING MAST ARM WITH POLE AND FOUNDATION	TO BE REMOVED, INSTALL JUNCTION BOX.	STA. 201+80.99, 19.37' RT.
J	PEDESTAL/SIGNAL POLE	INSTALL NEW 12' PEDESTAL POLE, SIGNAL HEAD, VEHICLE SIGN, PEDESTRIAN COUNTDOWN HEAD, SIGN AND PUSH BUTTON ON EXISTING FOUNDATION.**	STA. 201+50.80, 23.12' RT. *
K	EXISTING CONTROLLER CABINET AND FOUNDATION	TO BE REMOVED, INSTALL JUNCTION BOX.	STA. 201+28.89, 20.15' LT.

* STATION AND OFFSET INFORMATION IS APPROXIMATE. EQUIPMENT TO BE ADJUSTED AS NEEDED BY RESIDENT, MAINEDOT, OR CITY.

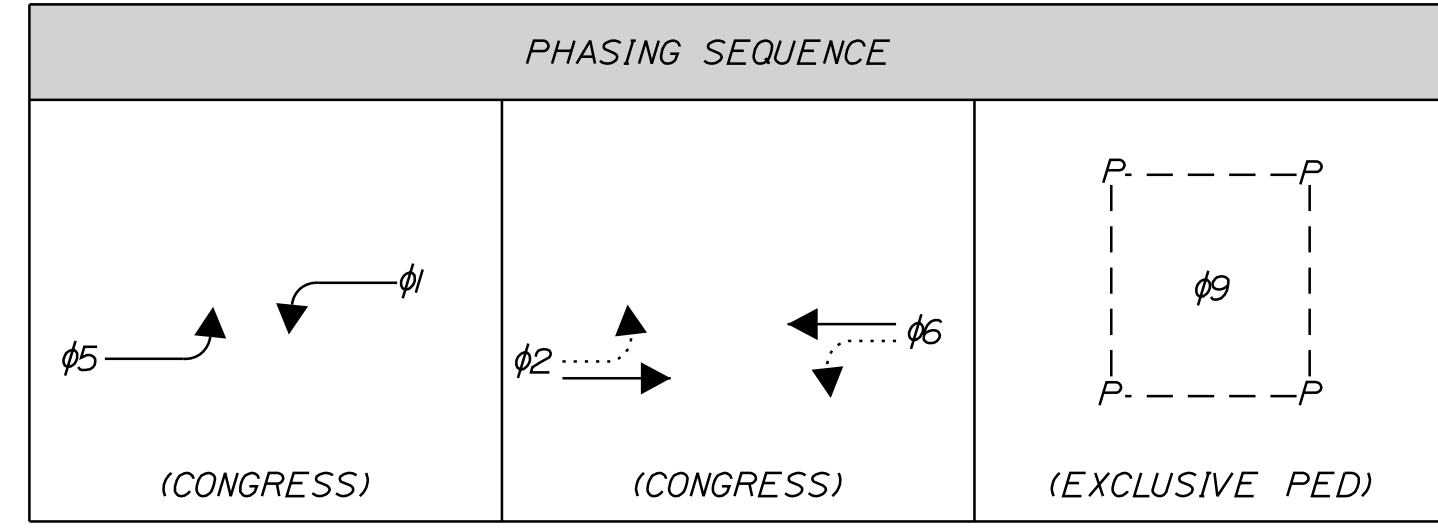
** EXISTING FOUNDATIONS, AS NOTED, TO BE EVALUATED IN THE FIELD PRIOR TO BIDDING OR ORDERING OF MATERIALS. IF FOUNDATIONS ARE NOT COMPATIBLE WITH THE NEW PEDESTAL POLES, THE EXISTING FOUNDATION SHALL BE REMOVED AND A NEW FOUNDATION INSTALLED. THIS DOES NOT APPLY TO THE MAST ARM FOUNDATIONS WHICH WILL BE REPLACED IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 626.034. MODIFYING EXISTING FOUNDATIONS IS CONSIDERED INCIDENTAL TO PAY ITEM 643.80 COORDINATE WORK WITH RESIDENT.

PROJ. MANAGER	DATE	BY	DATE	SIGNATURE
L. HAMILTON	02/20	T. WARREN	02/20	
R. DUNTON		D. LETTINGER		
R. DUNTON				
DESIGN DETAILED				
DESIGN REVIEWED				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

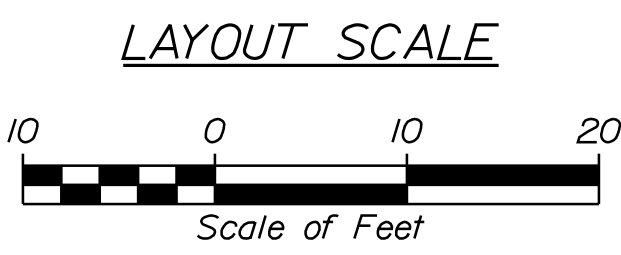
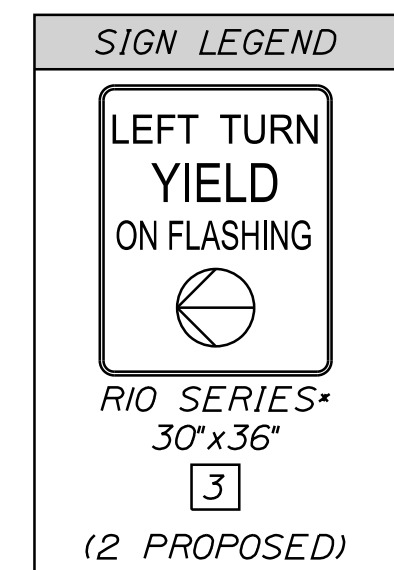
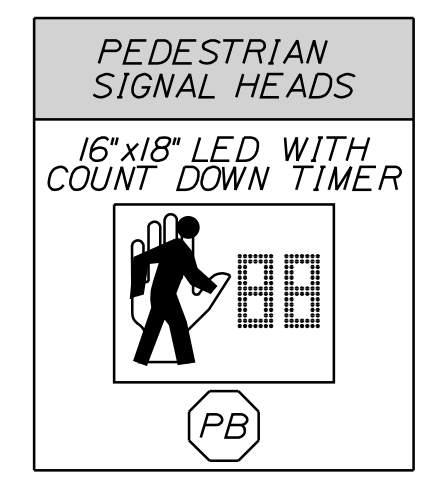
PORTLAND - CONGRESS STREET
SIGNAL IMPROVEMENTS
SIGNAL PLANS



LEGEND	
EXISTING	PROPOSED
	SIGNAL NOTE
	SIGNAL HEAD
	THERMAL VIDEO DETECTOR
	SIGNAL CONDUIT (3" PVC, SCH 80, UNLESS OTHERWISE NOTED)
CNTRL	CONTROLLER CABINET
	PEDESTRIAN SIGNAL HEAD
	PEDESTAL POLE
	MAST ARM WITH SIGNAL STANDARD
	MOUNTED SIGN
	JUNCTION BOX



PROPOSED SIGNAL HEADS	
ALL LENSES 12" LED WITH 5" LOUVERED BACK PLATE AND 2" RETROREFLECTIVE YELLOW BORDER	
R	(R)
SY	(Y)
FY*	(G)
G	(4 PROPOSED)
(2 PROPOSED)	
SY = SOLID YELLOW FY = FLASH YELLOW	



EQUIPMENT SCHEDULE			
DESIGNATION	ITEM	DESCRIPTION	LOCATION *
A	NEW CONTROLLER CABINET	INSTALL NEW ATC CONTROLLER AND CABINET ON NEW FOUNDATION.	STA. 304+79.83, 23.17' LT.
B	MAST POLE W/ 27' MAST ARM AND FOUNDATION	VIDEO DETECTION, SIGNAL HEADS, OVERHEAD SIGN, PEDESTRIAN COUNTDOWN HEAD, SIGN AND PUSH BUTTON ON NEW FOUNDATION (DESIGNED IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 626.034).	STA. 304+84.14, 24.22' LT.
C	EXISTING MAST ARM WITH POLE AND FOUNDATION	TO BE REMOVED, INSTALL JUNCTION BOX.	STA. 304+88.79, 21.97' LT.
D	PEDESTAL POLE	REMOVE EXISTING PEDESTAL POLE. INSTALL NEW 10' PEDESTAL POLE, PEDESTRIAN COUNTDOWN HEADS, SIGNS AND PUSH BUTTONS ON EXISTING FOUNDATION.**	STA. 305+40.00, 25.17' LT.
E	PEDESTAL POLE	INSTALL NEW 10' PEDESTAL POLE, PEDESTRIAN COUNTDOWN HEAD, SIGN AND PUSH BUTTON ON NEW FOUNDATION.	STA. 305+46.46, 27.88' RT.
F	EXISTING MAST ARM WITH POLE AND FOUNDATION	TO BE REMOVED, INSTALL JUNCTION BOX.	STA. 305+27.42, 25.79' RT.
G	MAST POLE W/ 20' MAST ARM AND FOUNDATION	VIDEO DETECTION, SIGNAL HEADS AND OVERHEAD SIGN ON NEW FOUNDATION (DESIGNED IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 626.034).	STA. 305+21.59, 25.75' RT.
H	PEDESTAL POLE	INSTALL NEW 10' PEDESTAL POLE, PEDESTRIAN COUNTDOWN HEAD, SIGN AND PUSH BUTTON ON NEW FOUNDATION.	STA. 601+07.93, 14.15' RT.
I	PEDESTAL POLE	INSTALL NEW 10' PEDESTAL POLE, PEDESTRIAN COUNTDOWN HEAD, SIGN AND PUSH BUTTON ON NEW FOUNDATION.	STA. 601+05.22, 17.54' LT.
J	EXISTING PEDESTAL POLE	REMOVE EXISTING PEDESTAL POLE AND FOUNDATION, INSTALL JUNCTION BOX.	STA. 304+48.57, 29.50' RT.
K	PEDESTAL POLE	INSTALL NEW 10' PEDESTAL POLE, PEDESTRIAN COUNTDOWN HEAD, SIGN AND PUSH BUTTON ON NEW FOUNDATION.	STA. 304+40.29, 27.72' RT.
L	EXISTING CONTROLLER CABINET AND FOUNDATION	TO BE REMOVED, INSTALL JUNCTION BOX.	STA. 304+73.30, 18.31' LT.

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SIGNAL TIMING SCHEDULE - FREE PLAN									
	1	2	3	4	5	6	7	8	9
MINIMUM INITIAL	4	5			5	5			
VEHICLE EXTENSION	3	3			3	3			
MAX I*	10	34			10	34			
MAX II**	10	64			10	64			
YELLOW	3	3			3	3			
ALL RED	3	2			3	2			
WALK / DON'T WALK									5
PEDESTRIAN CLEARANCE									16
FLASH	R	R			R	R			
PHASE RECALL		SOFT				SOFT			
MEMORY									
DETECTOR	PR	PR			PR	PR			

MAX I = 6:00-9:00 AM (WEEKDAYS)
MAX II = ALL OTHER TIMES

Y=YELLOW R=RED PR=PRESENCE

PROJ. MANAGER	BY	DATE
L. HAMILTON	T. WARREN	02/20
DESIGN-DETAILED	R. DUNTON	02/20
CHECKED-REVIEWED	D. ETTINGER	02/20
DESIGN-DETAILED		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

PORTLAND - CONGRESS STREET
SIGNAL IMPROVEMENTS
SIGNAL PLANS

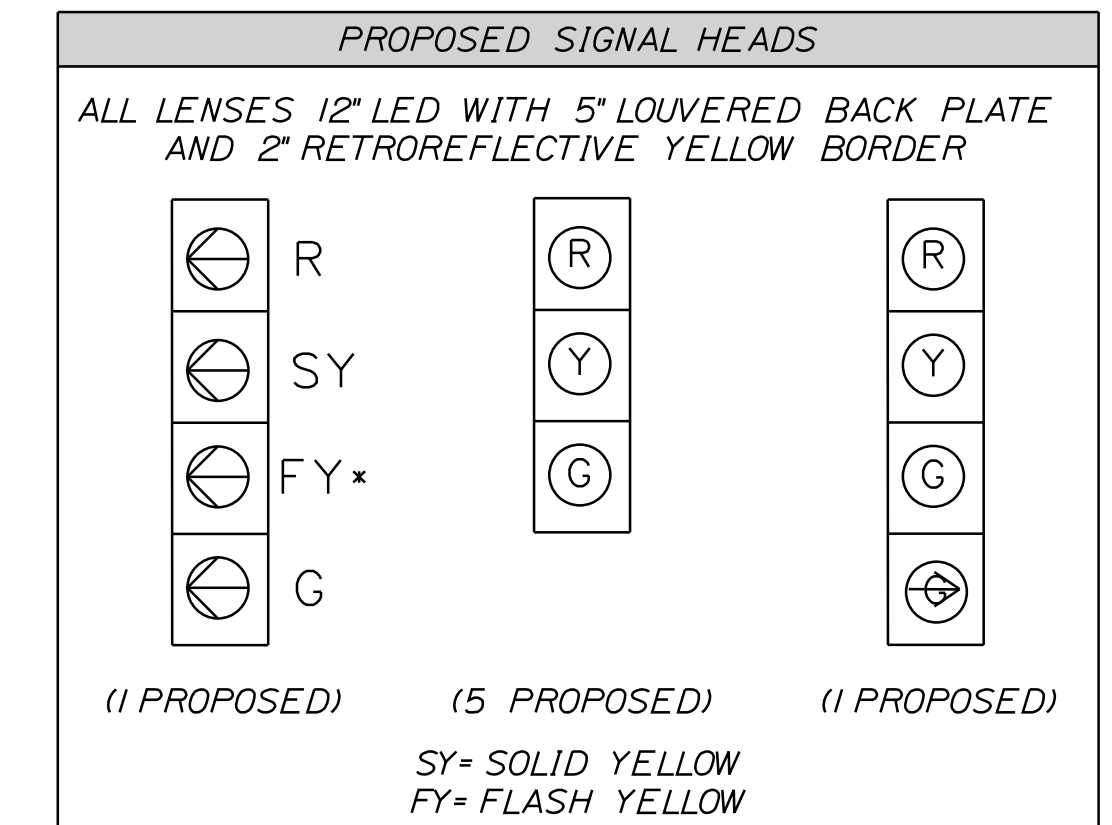
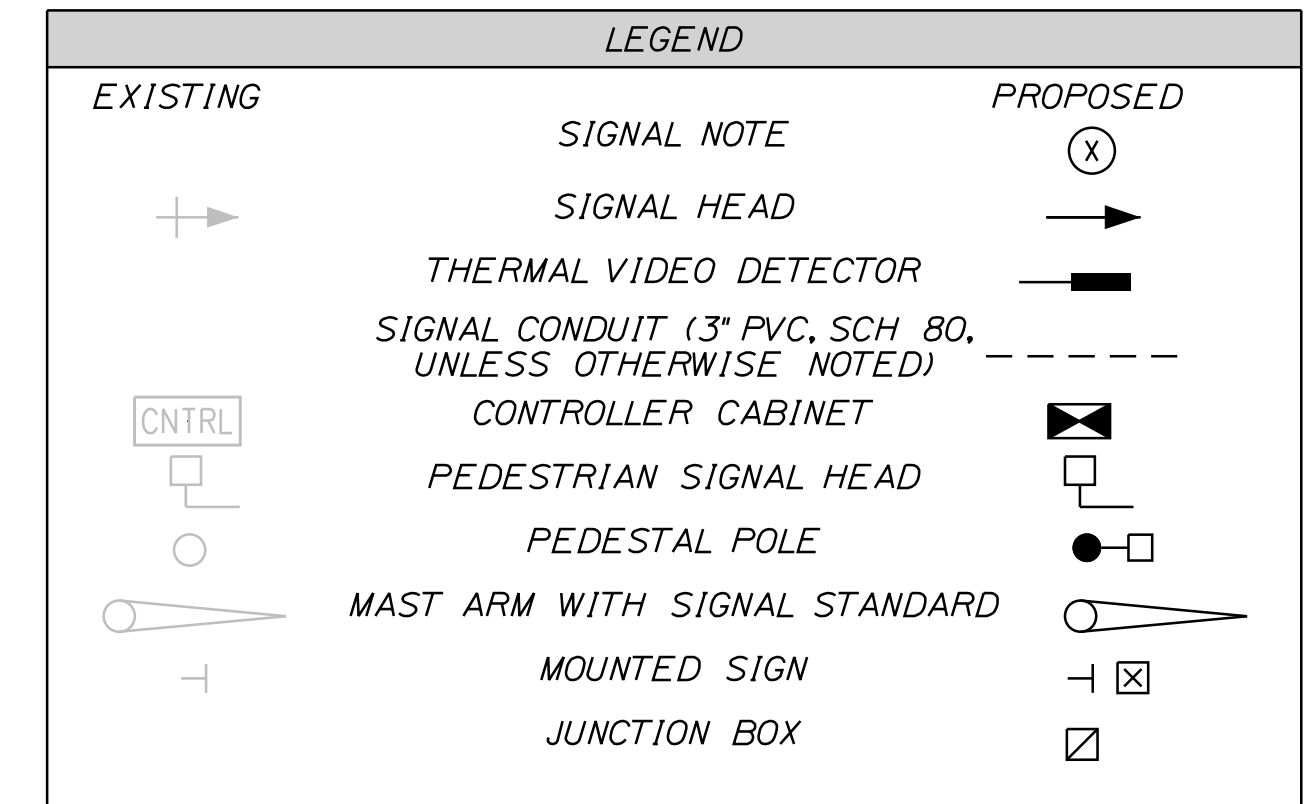
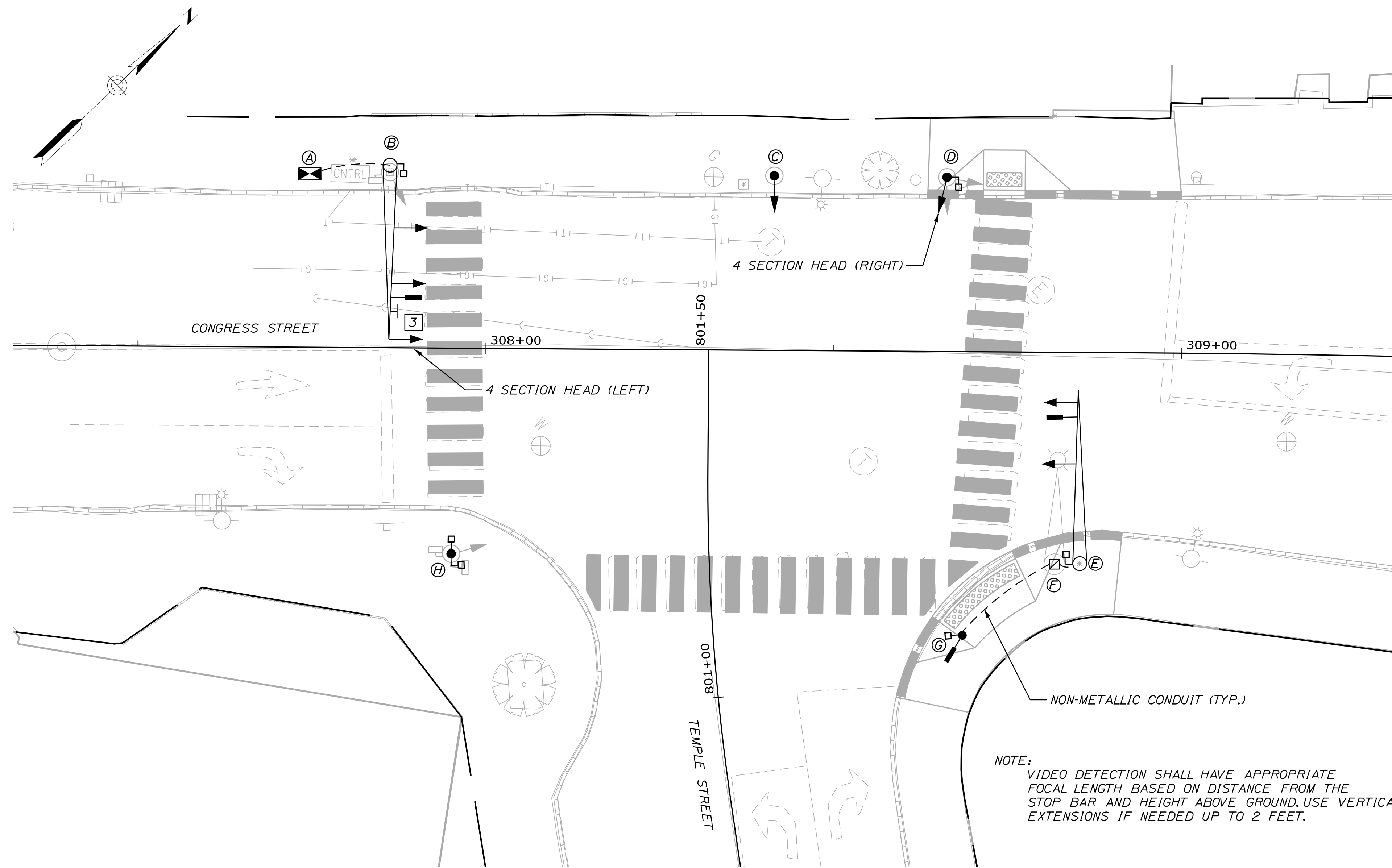
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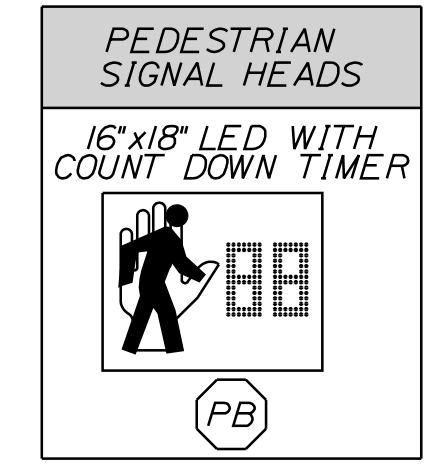
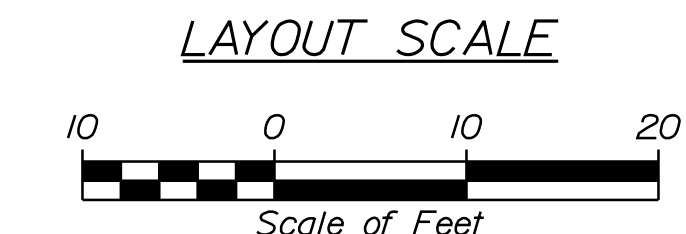
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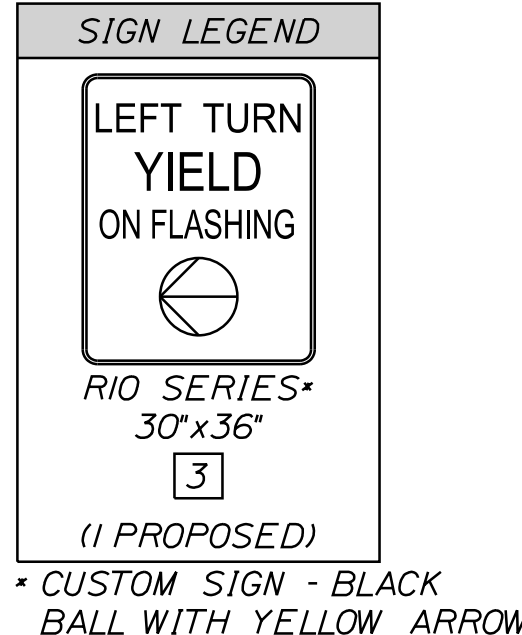
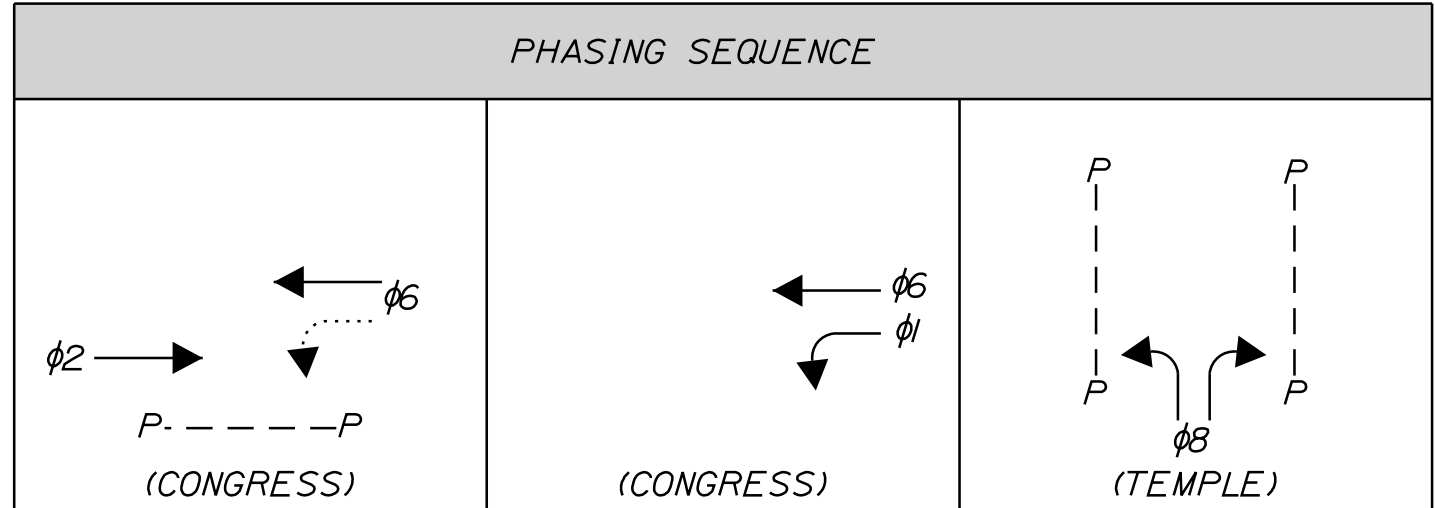
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*SHALL NOT BE DISPLAYED WHEN OPERATING IN THE PROTECTED ONLY PHASE



NOTE: VIDEO DETECTION SHALL HAVE APPROPRIATE FOCAL LENGTH BASED ON DISTANCE FROM THE STOP BAR AND HEIGHT ABOVE GROUND. USE VERTICAL EXTENSIONS IF NEEDED UP TO 2 FEET.



EQUIPMENT SCHEDULE			
DESIGNATION	ITEM	DESCRIPTION	LOCATION *
A	NEW CONTROLLER CABINET	REMOVE EXISTING CONTROLLER CABINET AND FOUNDATION, INSTALL NEW ATC CONTROLLER AND CONTROLLER CABINET ON NEW FOUNDATION.	STA. 307-74.51, 24.93' LT.
B	MAST POLE WITH 25' MAST ARM AND FOUNDATION	VIDEO DETECTION, SIGNAL HEADS, OVERHEAD SIGN, PEDESTRIAN COUNTDOWN HEAD, SIGN AND PUSH BUTTON ON NEW FOUNDATION (DESIGNED IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 626.034). REMOVE EXISTING PEDESTAL POLE AND FOUNDATION.	STA. 307-86.04, 26.24' LT.
C	PEDESTAL/SIGNAL POLE	REMOVE EXISTING PEDESTAL POLE. INSTALL 12' PEDESTAL POLE AND SIGNAL HEAD ON EXISTING FOUNDATION. **	STA. 308-41.28, 25.09' LT.
D	PEDESTAL/SIGNAL POLE	REMOVE EXISTING PEDESTAL POLE. INSTALL 12' PEDESTAL POLE, SIGNAL HEAD, PEDESTRIAN COUNTDOWN HEAD, SIGN AND PUSH BUTTON ON EXISTING FOUNDATION. **	STA. 308-66.09, 25.04' LT.
E	MAST POLE W/ 25' MAST ARM AND FOUNDATION	VIDEO DETECTION, SIGNAL HEADS, PEDESTRIAN COUNTDOWN HEAD, SIGN AND PUSH BUTTON ON NEW FOUNDATION (DESIGNED IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 626.034).	STA. 308-85.54, 30.36' RT.
F	EXISTING MAST ARM WITH POLE AND FOUNDATION	TO BE REMOVED, INSTALL JUNCTION BOX.	STA. 308-81.90, 30.47' RT.
G	PEDESTAL/SIGNAL POLE	INSTALL NEW 12' PEDESTAL POLE, VIDEO DETECTION, PEDESTRIAN COUNTDOWN HEAD, SIGN AND PUSH BUTTON ON NEW FOUNDATION.	STA. 308-68.73, 40.78' RT.
H	PEDESTAL/SIGNAL POLE	INSTALL NEW 10' PEDESTAL POLE, PEDESTRIAN COUNTDOWN HEADS, SIGNS AND PUSH BUTTONS ON EXISTING FOUNDATION. **	STA. 307-95.20, 29.54' RT.

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SIGNAL TIMING SCHEDULE - FREE PLAN								
	1	2	3	4	5	6	7	8
MINIMUM INITIAL	5	5				5		5
VEHICLE EXTENSION	3	3				3		3
MAX I*	10	29				44		15
MAX II**	10	16				31		23
YELLOW	3	3				3		3
ALL RED (SEE LPI NOTE)	2.5	2				2.5		2
WALK / DON'T WALK		5						5
PEDESTRIAN CLEARANCE		16						15
FLASH	R	R				R		R
PHASE RECALL		SOFT				SOFT		
MEMORY								
DETECTOR	PR	PR				PR		PR

MAX I = 6:00-9:00 AM (WEEKDAYS)
 MAX II = ALL OTHER TIMES

Y-YELLOW R-RED PR-PRESENCE

PROJ. MANAGER	DATE	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
L. HAMILTON	02/20	I. WARREN	02/20			
R. DUNTON		D. ETINGER				
CHECKED-REVIEWED						
DESIGN-DETAILED						
DESIGNS DETAILED						
REVISIONS 1						
REVISIONS 2						
REVISIONS 3						
REVISIONS 4						
FIELD CHANGES						

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 SIGNAL IMPROVEMENTS
 SIGNAL PLANS

SHEET NUMBER

17

OF 21



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SIGNAL NOTES

1. ALL MATERIALS AND WORK SHALL CONFORM TO THE CITY OF PORTLAND AND MAINE DOT STANDARD SPECIFICATIONS AND BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", U.S.D.O.T., F.H.W.A., LATEST EDITION.
2. ALL SIGNAL AND SIGNAL RELATED EQUIPMENT SHALL MEET OR EXCEED THE CITY OF PORTLAND TRAFFIC SIGNAL STANDARDS.
3. IT IS THE INTENT OF THIS WORK TO HAVE A COMPLETE OPERATIONAL, TESTED AND ACCEPTED TRAFFIC SIGNAL UPON COMPLETION OF THIS CONTRACT.
4. TRAFFIC SIGNAL WORK SHALL BE COMPLETED IN A MANNER AND ORDER THAT WILL CAUSE THE MINIMUM DISRUPTION TO TRAFFIC.
5. THE RESIDENT, CITY AND MAINE DOT SHALL HAVE THE RIGHT AND AUTHORITY TO DETERMINE THE ACCEPTABILITY OF WORK AND MATERIALS IN PROGRESS OR COMPLETED AND SHALL HAVE THE RIGHT TO REJECT ANY WORK OR MATERIALS WHICH DO NOT CONFORM, IN ITS SOLE OPINION, TO THE PLANS OR SPECIFICATIONS.
6. THE LOCATIONS OF SIGNAL EQUIPMENT AND POLES INCLUDING THE MOUNTED TRAFFIC DEVICES AND SIGNS ARE APPROXIMATE. FINAL LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE RESIDENT, MAINE DOT OR CITY REPRESENTATIVE.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY TRAFFIC SIGNALS AND ASSOCIATED WORK IF REQUIRED. CONTRACTOR SHALL REMOVE THE TEMPORARY TRAFFIC SIGNAL ONCE NEW SIGNAL IS OPERATIONAL. ALL COSTS ASSOCIATED WITH TEMPORARY SIGNALS SHALL BE INCIDENTAL TO THE 643 ITEMS.
8. THE PROPOSED TRAFFIC SIGNAL TIMING AND PHASING PLAN SHALL BE INPUT BY THE CONTRACTOR UNDER OBSERVATIONS BY THE RESIDENT OR MAINE DOT REPRESENTATIVE. THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE TO THE RESIDENT.
9. CONTRACTOR IS RESPONSIBLE FOR FIELD ADJUSTING TIMING FOR EACH TIMING PLAN UNDER THE DIRECTION OF THE RESIDENT AND MAINE DOT REPRESENTATIVE. TIMING SHALL BE ADJUSTED WITHIN TWO WEEKS OF INITIAL START UP.
10. TWO COPIES OF AS-BUILT PLANS, SIGNAL TIMING, WIRING DIAGRAMS, BOX PRINTS AND EQUIPMENT MANUALS SHALL BE LEFT IN THE CONTROLLER CABINET. ONE ELECTRONIC COPY OF EACH SHALL BE PROVIDED TO THE CITY ENGINEER/PUBLIC WORKS DIRECTOR.
11. CONTRACTOR SHALL PROVIDE AND INSTALL ALL JUNCTION BOXES PER MAINE DOT STANDARDS AT A MINIMUM.
12. THE CONTRACTOR SHALL PREPARE A MATERIAL SCHEDULE BASED UPON THEIR PLAN REVIEW. ALL SCHEDULES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS OR PERFORMING WORK.
13. UTILITIES THAT HAVE FACILITIES IN THE GENERAL PROJECT ARE LISTED IN SPECIAL PROVISION 104.
14. UTILITY LOCATIONS SHOWN ARE APPROXIMATE ONLY AND THE CONTRACTOR IS RESPONSIBLE FOR FINDING EXACT LOCATIONS OF UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CONTACT DIG SAFE AT 1-888-DIG-SAFE AND APPROPRIATE AUTHORITIES PRIOR TO ANY SUBSURFACE ACTIVITIES.
15. THE CONTRACTOR SHALL MEET ALL REQUIREMENTS OF THE UTILITY COMPANIES WHEN MODIFYING THE EXISTING SERVICE CONNECTIONS AND WHEN INSTALLING EQUIPMENT ON THEIR POLES OR NEAR THEIR WIRES.
16. THE CONTRACTOR IS RESPONSIBLE FOR THE RELOCATION AND/OR INSTALLATION OF POWER METERS IF REQUIRED AND ASSURING THE POWER METER LOCATION AND INSTALLATION CONFORMS TO THE LOCAL UTILITY REQUIREMENTS. THIS WORK WILL BE INCIDENTAL TO ITEM 643.80.
17. ALL CONDUIT CROSSING AREAS OF EXISTING PAVEMENT SHALL BE INSTALLED USING TRENCHLESS TECHNOLOGIES, UNLESS OTHERWISE APPROVED.
18. ALL NEW SIGNAL SECTIONS SHALL HAVE LED LENSES 12 INCHES IN DIAMETER, AND SHALL HAVE 5 INCH LOUVERED BACK PLATES WITH 2" YELLOW RETROREFLECTIVE STRIP AROUND BORDER OF BACK PLATES.
19. ALL SPLICES WILL BE MADE IN THE CABINETS OR POLES MEETING MAINE DOT SPECIFICATIONS.
20. THE CONTRACTOR SHALL PROVIDE MAST ARM DESIGN IN ACCORDANCE WITH SECTION 643.023.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL STRUCTURAL DESIGN OF THE SIGNAL SUPPORT STRUCTURES AND THE CONNECTION OF THE SUPPORT STRUCTURES TO THEIR FOUNDATIONS. ALL DESIGNS SHALL BE PREPARED AND STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MAINE. DESIGN COMPUTATIONS, INCLUDING DESIGN LOADS (OVERTURNING MOMENT, TORSION, SHEAR FORCE, AND AXIAL LOAD) AT THE TOP OF THE FOUNDATIONS, AND SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL BY THE DEPARTMENT. NO MATERIALS SHALL BE ORDERED, FABRICATED, OR INSTALLED UNTIL THE DESIGN HAS BEEN APPROVED.

22. SIGNAL AND SIGN MAST ARM FOUNDATIONS SHALL CONSIST OF CAST-IN-PLACE REINFORCED CONCRETE DRILLED SHAFTS OR SPREAD FOOTINGS, WHERE NOTED ON THE PLANS. ONE NEW DRILLED SHAFT PER MAST ARM AS SET FORTH IN STANDARD SPECIFICATIONS 643, 645 AND 626. PRELIMINARY FOUNDATION SIZES ARE PROVIDED WITH THESE PLANS. MAINE DOT WILL PROVIDE THE CONTRACTOR WITH FINAL FOUNDATION DESIGN RECOMMENDATIONS DURING CONSTRUCTION ONCE FINAL STRUCTURAL DESIGN INFORMATION AND DESIGN LOADS FOR THE SIGNAL SUPPORTS ARE PROVIDED BY THE CONTRACTOR. DRILLED SHAFTS SHALL NOT BE PERMANENTLY CASED EXCEPT FOR THE TOP 3 FEET. CONCRETE SHALL BE CAST DIRECTLY AGAINST THE SURROUNDING SOIL. PRECAST FOUNDATIONS WILL NOT BE PERMITTED.
23. ANY DAMAGE TO SLOPES, NON-BRICK SIDEWALKS OR PAVEMENT RESULTING FROM INSTALLATION OF MAST ARM POLES AND FOUNDATIONS, SHALL BE REPAIRED BY THE CONTRACTOR AS DIRECTED BY THE RESIDENT. COSTS OF REPAIRS SHALL BE INCIDENTAL TO PAYMENT UNDER SECTION 643.
24. PAYMENT FOR MAST ARM POLES AND FOUNDATIONS SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS 643, 645 AND 626 AND WILL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT AND MATERIALS FOR THE ACCEPTED SIGNAL OR SIGN INSTALLATION INCLUDING BUT NOT LIMITED TO SIGNS, SIGNALS, SUPPORT STRUCTURES AND FOUNDATIONS, EXCAVATION, EXCAVATION STABILIZATION, BACKFILL, REPLACEMENT OF SUBBASE GRAVEL, REPLACEMENT OR REPAIR OF HIGHWAY PAVEMENT, SIDEWALK, SLOPE REGRADING, AND PLACEMENT OF LOAM, SEED AND MULCH ON DISTURBED SLOPES. PAYMENT FOR CONSTRUCTION TRAFFIC CONTROL WILL BE MADE UNDER APPLICABLE PAY ITEMS OF SECTION 652.
25. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY NECESSARY STREET/SIDEWALK OCCUPANCY OR OPENING PERMITS.
26. ALL SIGNAL HEADS AND SIGNS SHALL BE MOUNTED TO MAST ARMS WITH ASTROBRACKETS.
27. ALL CONFLICTING SIGNS AND PAVEMENT MARKINGS SHALL BE PERMANENTLY REMOVED.
28. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING RED-LINE AS-BUILT DRAWINGS OF THE FINAL WORK TO THE RESIDENT. THOSE DRAWINGS SHALL BE A CLEAN SET OF PLANS SHOWING ALL CHANGES, MODIFICATIONS, AND ELEVATIONS TO THE BID PLANS.
29. COUNTDOWN PEDESTRIAN HEADS SHALL HAVE AUDIBLE/TACTILE FEATURES AND SHALL BE INCIDENTAL TO ITEM 643.80. IF PUSH BUTTONS ARE LOCATED LESS THAN 10 FEET APART OR ON THE SAME POLE, EACH PUSH BUTTON SHALL PROVIDE THE FOLLOWING FEATURES: PUSH BUTTON LOCATOR TONE, TACTILE ARROW, SPEECH WALK MESSAGE FOR THE WALKING PERSON INDICATION, SPEECH PUSH BUTTON INFORMATION MESSAGE. IF FROM WHERE A PEDESTRIAN ENTERS THE CROSSWALK TO THE PEDESTRIAN HEAD ON THE OPPOSITE SIDE IS MORE THAN 100 FEET, THE NUMBERS SHALL BE AT LEAST 9 INCHES HIGH.

ADDITIONAL SIGNAL NOTES

1. ALL SIGNAL EQUIPMENT INCLUDING CONTROLLER CABINET, UPRIGHTS, AND MAST ARMS SHALL BE POWDER COAT BLACK IN COLOR. UPRIGHTS AND MAST ARMS SHALL BE GALVANIZED.
2. ALL SIGNAL HEADS SHALL BE HEAVY DUTY POLYCARBONATE.
3. VIDEO DETECTION SHALL BE FLIR TRAFISENSE2 (THERMO BASED SYSTEM) WITH COUNTING CAPABILITIES ENABLED AND IP ACCESSIBLE VIEWING AND CONFIGURATION.
4. CONTRACTOR TO SET UP DETECTION CAPABLE OF FUTURE ACCESS FOR DATA COLLECTION AND REMOTE VIEWING THROUGH THE PORTLAND ATMS.NOW SERVER.
5. ALL EXISTING SIGNAL EQUIPMENT THAT IS REMOVED SHALL BE RETURNED TO THE CITY.
6. THE NEW CONTROLLER CABINET SHALL BE EQUIPPED FOR A MINIMUM OF 16 PHASES.
7. CITY TO MAKE AND SUPPLY MAST ARM SUPPORTED STREET NAME SIGNS AND CONTRACTOR WILL ERECT. THIS ITEM SHALL BE INCIDENTAL TO 645 ITEMS.
8. PAYMENT FOR REMOVAL OF EXISTING SIGNS SHALL BE INCIDENTAL TO OTHER 645 ITEMS.
9. ALL NEW CONTROLLERS AND CABINETS SHALL BE TRANSIT SIGNAL PRIORITY (TSP) CAPABLE/READY AND AUTOMATIC VEHICLE LOCATION (AVL) CAPABLE.
10. SEE SIGNAL CABINET DETAIL SHEET AND SPECIFICATIONS FOR CONTROLLER EQUIPMENT REQUIREMENTS.
11. SIGNAL EQUIPMENT:
 - SIGNAL HOUSINGS SHALL BE MCCAIN MODEL MTSTA OR MTSTP SERIES ONLY
 - LED MODULES FOR VEHICLE INDICATIONS SHALL BE GELCORE MODEL DR6 SERIES ONLY
 - LED MODULES FOR PEDESTRIAN INDICATIONS SHALL BE GELCORE MODEL PS7 SERIES ONLY
 - PEDESTRIAN PUSH BUTTON ASSEMBLIES SHALL BE POLARA IN3 NAVIGATOR-3 WIRE AUDIBLE-TACTILE PEDESTRIAN SIGNAL SYSTEM.
12. TRAFFIC STRUCTURES:
 - MAST ARMS SHALL BE VALMONT SM16 OR CB16 SERIES ONLY (GALVANIZED AND POWDER COAT BLACK)
 - ALL MAST POLES SHALL HAVE VALMONT ENDURO DECROTIVE BASES, HUNTINGTON STYLE, THAT MATCHES THE POLE IN COLOR.
 - STRAIN POLES SHALL BE VALMONT SW56 SERIES ONLY.
 - PEDESTAL POLES SHALL BE ONE PIECE WELDED CONFIGURATION.
13. PROPOSED SIGNS ON SIGNAL MAST ARMS AND POLES SHALL BE INCIDENTAL TO ITEM 643.80.
14. REMOVAL OF THE EXISTING SIGNAL SYSTEM SHALL BE INCIDENTAL TO PAY ITEM 643.80.
15. ALL INTERSECTIONS IN THIS PROJECT SHALL BE INTERCONNECTED VIA 12 STRAND FIBER. CONTRACTOR SHALL REUSE EXISTING SUBSURFACE CONDUIT CURRENTLY USED FOR COPPER IF STANDARDS ARE MET. COPPER WIRE SHALL BE REMOVED. IF STANDARDS CANNOT BE MAINTAINED, NEW CONDUIT SHALL BE INSTALLED.
16. REMOVE EXISTING PEDESTAL POLE FOUNDATIONS NOT BEING REUSED AND EXISTING MAST ARM FOUNDATIONS TO A MINIMUM OF TWO FEET BELOW GRADE. FILL IN HOLE, RESURFACE TO MATCH SURROUNDING AREA. PAYMENT INCIDENTAL TO ITEM 643.80.
17. REMOVE EXISTING CONTROLLER CABINET FOUNDATIONS THAT ARE NOT BEING REUSED. RESURFACE TO MATCH SURROUNDING AREA. PAYMENT INCIDENTAL TO 643.80.
18. THE BOTTOM OF THE HOUSING OF NEW SIGNAL FACES SHALL BE AT LEAST 16 FEET BUT NOT MORE THAN 19 FEET ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY UNLESS OTHERWISE SPECIFIED.
19. THE CONTRACTOR IS DIRECTED TO PROJECT SPECIAL PROVISION 718 FOR ADDITIONAL INFORMATION RELATED TO THE CONTROLLER AND CONTROLLER CABINET. SPECIAL PROVISION 718 EXPANDS UPON THE INFORMATION FOUND IN THESE NOTES. AS SUCH, THE MORE RESTRICTIVE LANGUAGE BETWEEN THESE NOTES AND SPECIAL PROVISION 718 SHALL GOVERN THE WORK TO BE PERFORMED UNDER THIS PROJECT.
20. THE SIGNAL SYSTEM MUST BE FULLY FUNCTIONAL AND FREE OF COMMUNICATIONS OR EQUIPMENT FAILURES FOR A PERIOD OF SEVEN (7) DAYS. IF PROBLEMS OCCUR, THEY SHALL BE RECTIFIED BY THE CONTRACTOR AND THE START UP PERIOD RESTARTED FOR ANOTHER SEVEN (7) DAYS.
21. UPON DEMONSTRATING A SUCCESSFUL 7 DAY START UP TEST, THE CITY AND MAINE DOT SHALL EVALUATE THE OPERATION OF THE SYSTEM FOR A PERIOD OF 30 DAYS. SHOULD THE SYSTEM MALFUNCTION DURING THIS PERIOD THE CONTRACTOR SHALL MAKE ANY REPAIRS OR CORRECTIONS AND THE ACCEPTANCE TEST PERIOD WILL START OVER AGAIN. ACCEPTANCE TESTING MUST DEMONSTRATE TO THE CITY AND MAINE DOT THAT ALL HARDWARE AND EQUIPMENT FUNCTION IN ACCORDANCE WITH THESE SPECIFICATIONS, REQUIREMENTS, THROUGH-PUTS AND FUNCTIONALITY.
22. THE CONTRACTOR SHALL WARRANTY ALL WORK AND EQUIPMENT FOR A PERIOD OF ONE YEAR AFTER INSTALLATION AND ACCEPTANCE.

Date: 2/13/2020

Username: Mike.Cundiff

Division: HIGHWAY

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2213200

WIN
22132.00

HIGHWAY PLANS

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PORTLAND - CONGRESS STREET
SIGNAL IMPROVEMENTS

SIGNAL NOTES

18

OF 21

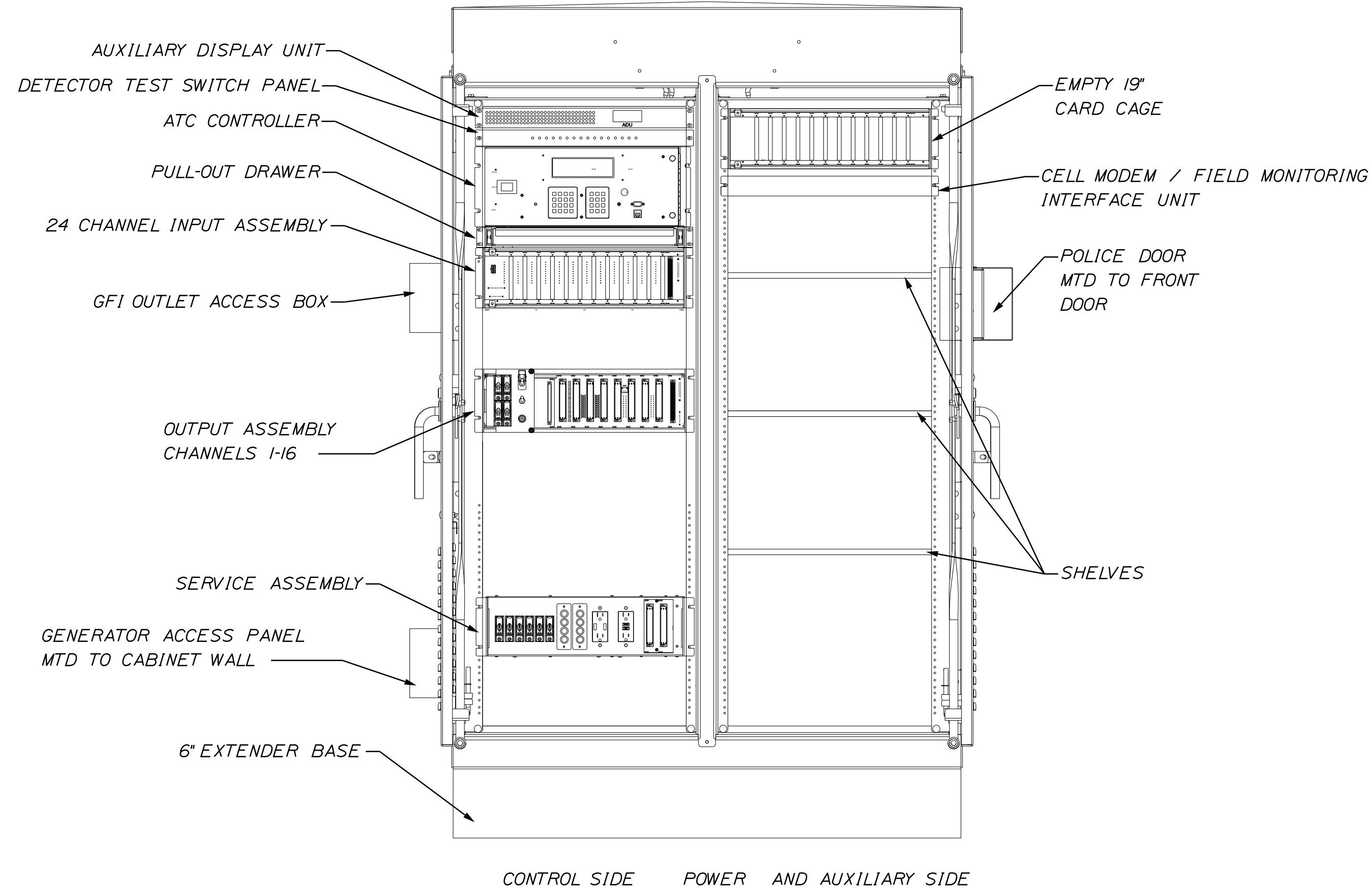


Date: 2/5/2020

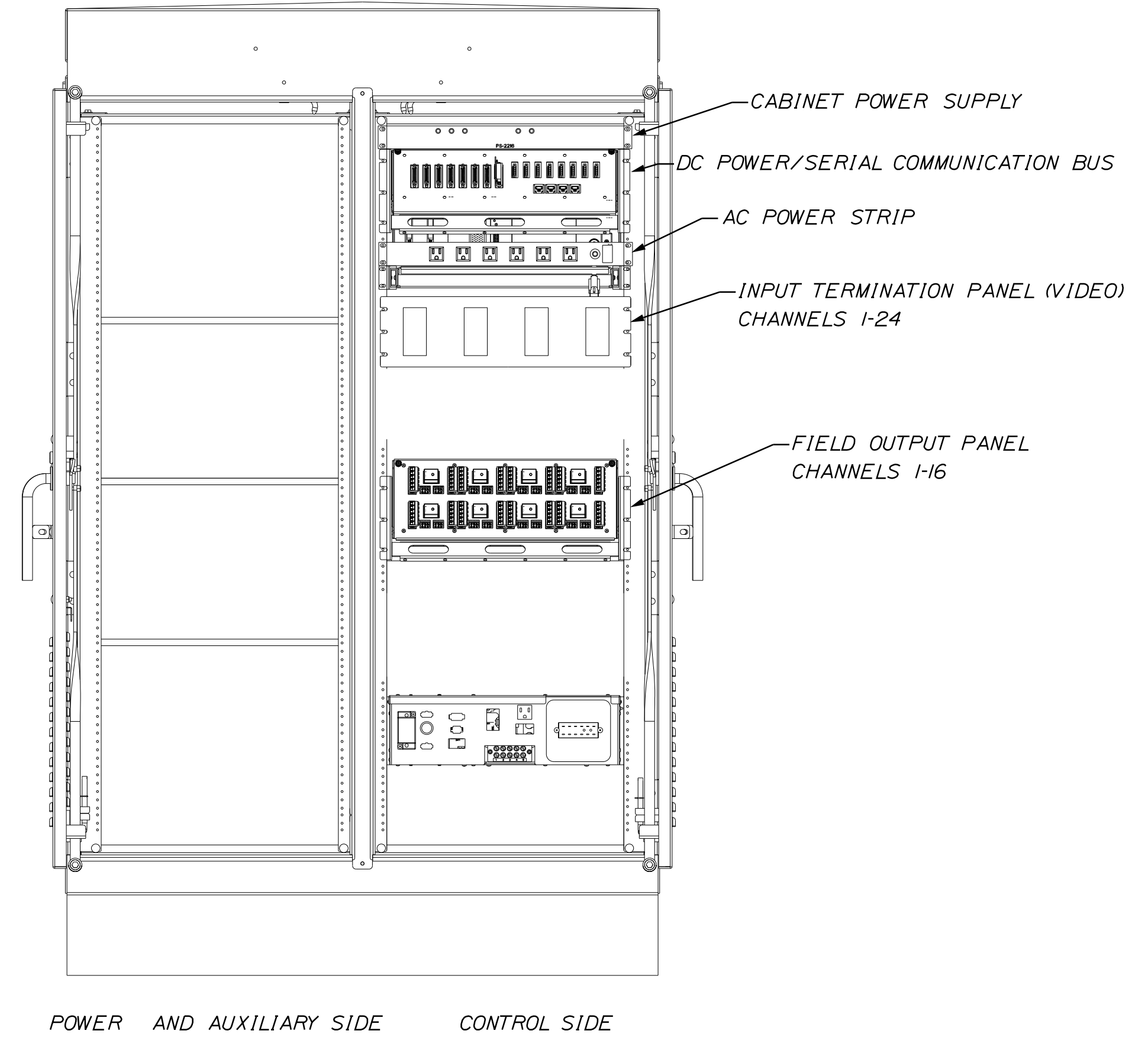
Username: Mike.Cundiff

Division: HIGHWAY

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FRONT VIEW



BACK VIEW

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.
- 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.
- TRAFFIC SIGNAL CONTROLLER SHALL BE A RACK MOUNTED TRAFFICWARE COMMANDER ATC TRAFFIC SIGNAL CONTROLLER WITH LATEST FIRMWARE INSTALLED.
- TRAFFIC SIGNAL CONTROLLER CABINET SHALL BE AN ALUMINUM MAINE DOT SPEC ATC CABINET WITH POWDER COATED BLACK FINISH.
- ALL CONDUIT OPENINGS IN CABINET SHALL BE PROPERLY SEALED WITH REMOVABLE SEALING COMPOUND.
- CABINET FOUNDATION SHALL BE IN ACCORDANCE WITH MAINE DOT STANDARD DETAIL NO. 626(05).
- CABINET SHALL BE CONFIGURED AND PROVIDED WITH ALL EQUIPMENT NECESSARY TO ACCEPT FIBER INTERCONNECT TO THE CITY OF PORTLAND'S TMC.

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

MaineDOT 32/48 ATC CABINET
 NOT TO SCALE

STATE OF MAINE
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HIGHWAY PLANS

SIGNATURE

DATE

BY

L. HAMILTON

T. L. LANDRY

D. ETINGER

DESIGN-DETAILED

REVISIONS 1

REVISIONS 2

REVISIONS 3

REVISIONS 4

FIELD CHANGES

P.E. NUMBER

DATE

SHEET NUMBER

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PORTLAND - CONGRESS STREET
SIGNAL IMPROVEMENTS
SIGNAL CABINET DETAIL

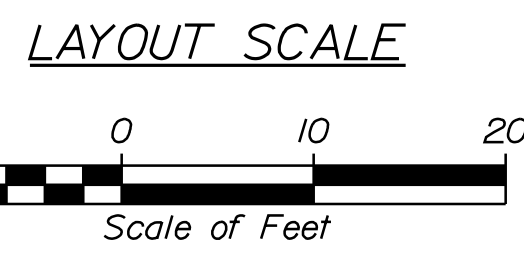
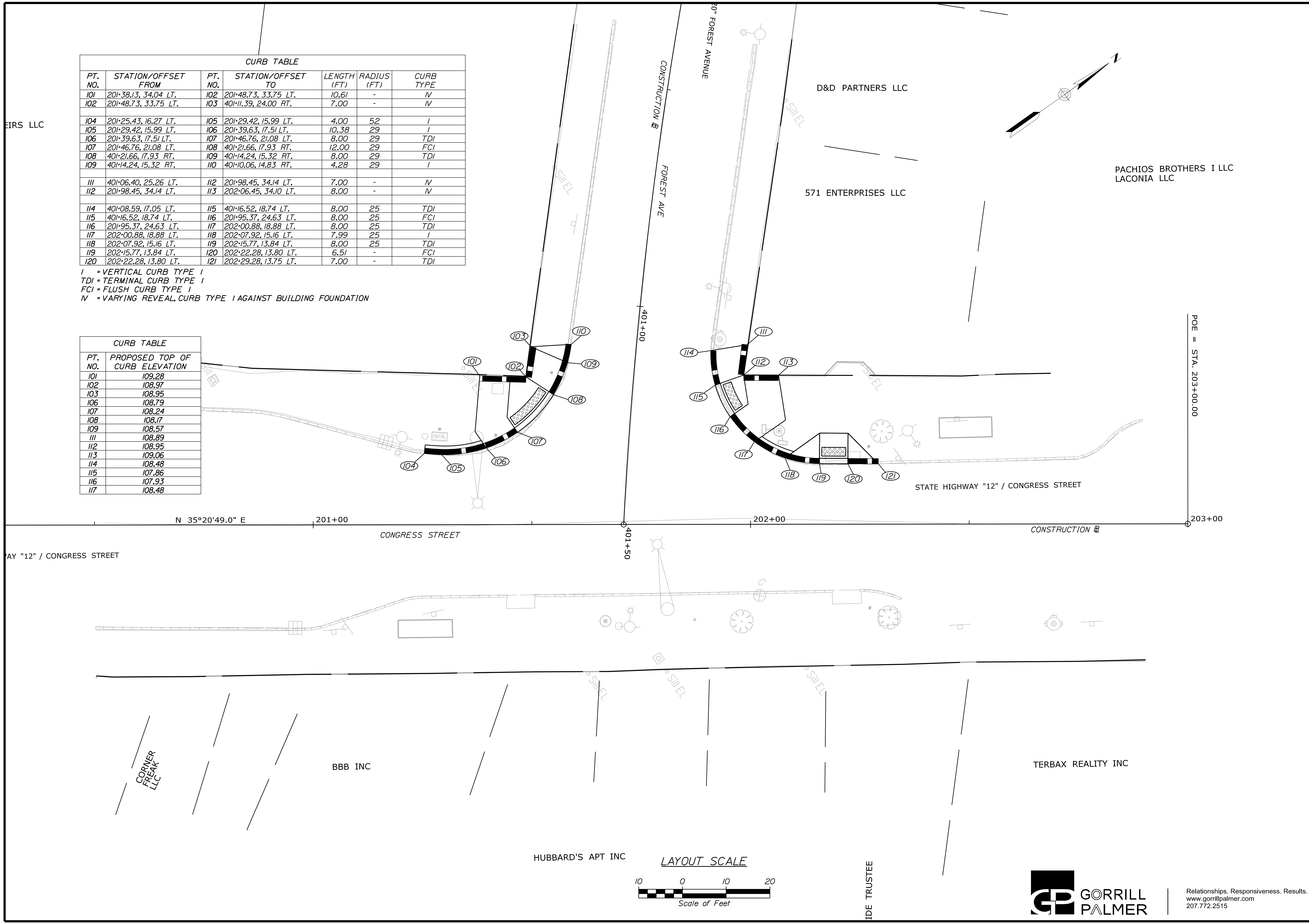


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CURB TABLE						
PT. NO.	STATION/OFFSET FROM	PT. NO.	STATION/OFFSET TO	LENGTH (FT)	RADIUS (FT)	CURB TYPE
101	201+38.13, 34.04 LT.	102	201+48.73, 33.75 LT.	10.61	-	IV
102	201+48.73, 33.75 LT.	103	401+11.39, 24.00 RT.	7.00	-	IV
104	201+25.43, 16.27 LT.	105	201+29.42, 15.99 LT.	4.00	52	I
105	201+29.42, 15.99 LT.	106	201+39.63, 17.51 LT.	10.38	29	I
106	201+39.63, 17.51 LT.	107	201+46.76, 21.08 LT.	8.00	29	TDI
107	201+46.76, 21.08 LT.	108	401+21.66, 17.93 RT.	12.00	29	FCI
108	401+21.66, 17.93 RT.	109	401+14.24, 15.32 RT.	8.00	29	TDI
109	401+14.24, 15.32 RT.	110	401+10.06, 14.83 RT.	4.28	29	I
111	401+06.40, 25.26 LT.	112	201+98.45, 34.14 LT.	7.00	-	IV
112	201+98.45, 34.14 LT.	113	202+06.45, 34.10 LT.	8.00	-	IV
114	401+08.59, 17.05 LT.	115	401+16.52, 18.74 LT.	8.00	25	TDI
115	401+16.52, 18.74 LT.	116	201+95.37, 24.63 LT.	8.00	25	FCI
116	201+95.37, 24.63 LT.	117	202+00.88, 18.88 LT.	8.00	25	TDI
117	202+00.88, 18.88 LT.	118	202+07.92, 15.16 LT.	7.99	25	I
118	202+07.92, 15.16 LT.	119	202+15.77, 13.84 LT.	8.00	25	TDI
119	202+15.77, 13.84 LT.	120	202+22.28, 13.80 LT.	6.51	-	FCI
120	202+22.28, 13.80 LT.	121	202+29.28, 13.75 LT.	7.00	-	TDI

I = VERTICAL CURB TYPE I
 TDI = TERMINAL CURB TYPE I
 FCI = FLUSH CURB TYPE I
 IV = VARYING REVEAL CURB TYPE I AGAINST BUILDING FOUNDATION

CURB TABLE	
PT. NO.	PROPOSED TOP OF CURB ELEVATION
101	109.28
102	108.97
103	108.95
106	108.79
107	108.24
108	108.17
109	108.57
111	108.89
112	108.95
113	109.06
114	108.48
115	107.86
116	107.93
117	108.48



STATE OF MAINE
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PROJ. MANAGER	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
L. HAMILTON	T. WARREN	02/20			
DESIGN-DETAILED	T. LANDRY	02/20			
CHECKED-REVIEWED	D. ETINGER				
DESIGN-DETAILED					
DESIGN-DETAILED					
REVISIONS 1					
REVISIONS 2					
REVISIONS 3					
REVISIONS 4					
FIELD CHANGES					

PORTLAND - CONGRESS STREET
 SIGNAL IMPROVEMENTS
 CURBING PLANS

SHEET NUMBER
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Username: Mike.Cundiff

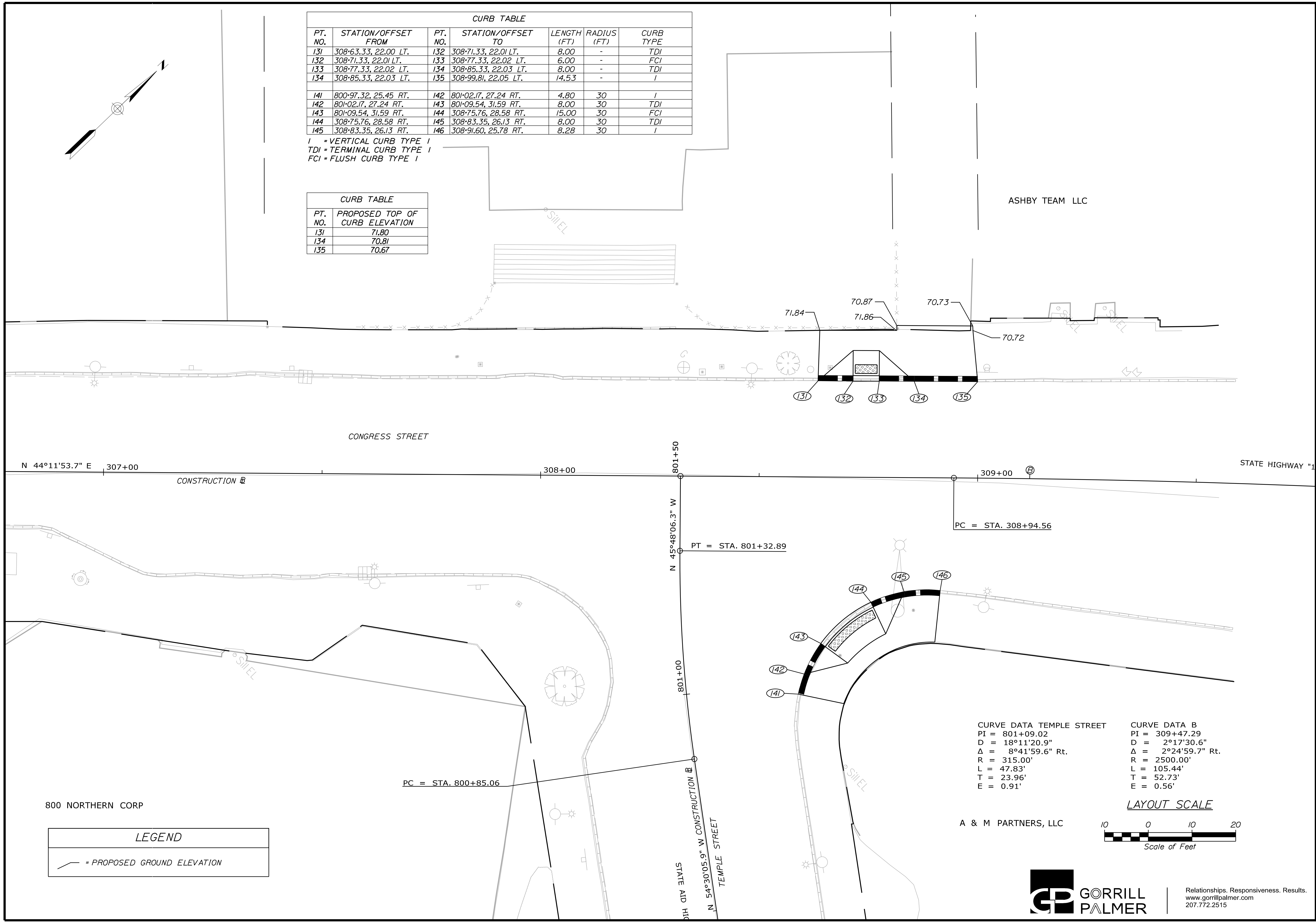
Division: HIGHWAY

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CURB TABLE						
PT. NO.	STATION/OFFSET FROM	PT. NO.	STATION/OFFSET TO	LENGTH (FT)	RADIUS (FT)	CURB TYPE
131	308+63.33, 22.00 LT.	132	308+71.33, 22.01 LT.	8.00	-	TDI
132	308+71.33, 22.01 LT.	133	308+77.33, 22.02 LT.	6.00	-	FCI
133	308+77.33, 22.02 LT.	134	308+85.33, 22.03 LT.	8.00	-	TDI
134	308+85.33, 22.03 LT.	135	308+99.81, 22.05 LT.	14.53	-	I
141	800+97.32, 25.45 RT.	142	801+02.17, 27.24 RT.	4.80	30	I
142	801+02.17, 27.24 RT.	143	801+09.54, 31.59 RT.	8.00	30	TDI
143	801+09.54, 31.59 RT.	144	308+75.76, 28.58 RT.	15.00	30	FCI
144	308+75.76, 28.58 RT.	145	308+83.35, 26.13 RT.	8.00	30	TDI
145	308+83.35, 26.13 RT.	146	308+91.60, 25.78 RT.	8.28	30	I

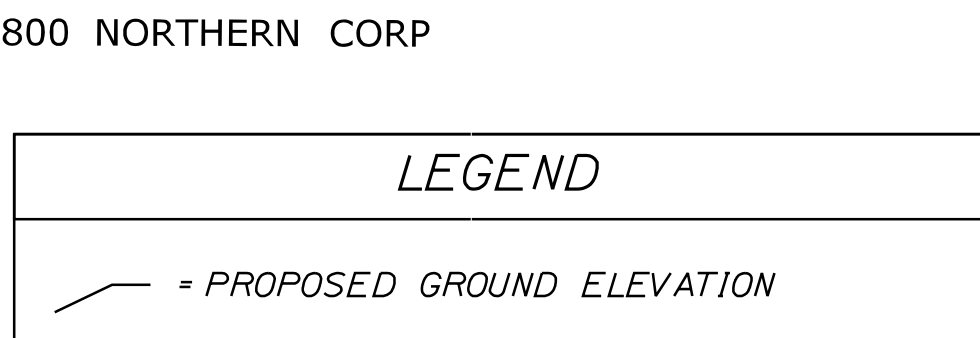
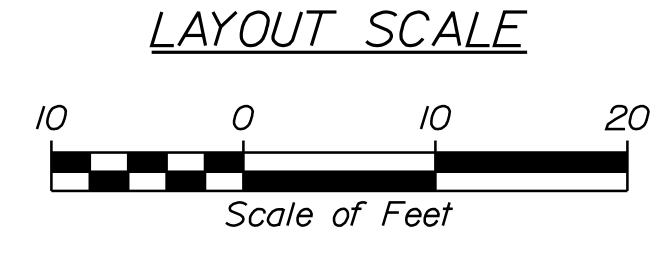
I = VERTICAL CURB TYPE I
 TDI = TERMINAL CURB TYPE I
 FCI = FLUSH CURB TYPE I

CURB TABLE	
PT. NO.	PROPOSED TOP OF CURB ELEVATION
131	71.80
134	70.81
135	70.67



CURVE DATA TEMPLE STREET
 PI = 801+09.02
 D = 18°11'20.9"
 Δ = 8°41'59.6" Rt.
 R = 315.00'
 L = 47.83'
 T = 23.96'
 E = 0.91'

CURVE DATA B
 PI = 309+47.29
 D = 2°17'30.6"
 Δ = 2°24'59.7" Rt.
 R = 2500.00'
 L = 105.44'
 T = 52.73'
 E = 0.56'



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PROJ. MANAGER	BY	DATE
L. HAMILTON	T. WARREN	02/20
DESIGN-DETAILED	T. LANDRY	02/20
CHECKED-REVIEWED	D. ETINGER	
DESIGN-DETAILED		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

PORTLAND - CONGRESS STREET
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