

MAINE TURNPIKE AUTHORITY

ADDENDUM NO. 2

CONTRACT
2019.02

CONTRACT 2019.02
KENNEBUNK TRAVEL PLAZAS
PARKING
EXPANSION MILE 25.5 SB AND NB
AND ROUTE 35 TRAFFIC SIGNALS

The bid opening date is Tuesday November 19, 2019 at 11:00 am.

The following changes are made to the Proposal, Specifications and Plans.

PROPOSAL

Proposal Sheets P-3 shall be deleted and replaced with revised sheets attached hereto.

- Changing Item 643.911 Quantity to 2.
- Changing Item 643.912 Quantity to 2.

PLANS

- Plan Sheets EQ-01 (2 of 158), CD-06 (14 of 158), LGT-02 (88 of 158), SGNL-01 (100 of 158), SGNL-02 (101 of 158), SGNL-04 (103 of 158) are deleted and replaced with the attached.

QUESTIONS

Question 1: How will muck excavating be paid for?

Answer: Muck excavation shall be paid for as common excavation.

Question 2: SP-168 Does the AC pipe need to be removed by a licensed abatement specialist as stated or per DEP requirements?

Answer: AC pipe shall be removed by a licensed abatement specialist.

Question 3: Note 4 in the earthwork section of GN-01 it is required to compact granular borrow, subbase gravel, base gravel to 98%. Is this correct?

Answer: No, Granular borrow, aggregate base, and aggregate subbase shall be compacted to 95%.

Question 4: Is there grading information available for SB STA 375+00 to 380+00?

Answer: No, this work should be constructed based on the typical section on sheet TS-02 and plan sheet SP-04.

Question 5: Is the Maine Turnpike going to provide a virgin letter for the petroleum contaminated soils?

Answer: Yes.

Question 6: Is the scale on Signal Plan 2 is correct at 1"=50' or should it be 1"=40'?

Answer: The scale should be 1"=40'.

Question 7: Can you confirm that the 30' Mast Arm in the North West is 30' and not 25' as measured.

Answer: Mast arm drafting and the equipment and work items list has been updated. The mast arm was labeled correctly.

Question 8: The signal time for Alewife and Alfred road is missing the phase 4 pedestrian timing, can the MTA please provide this timing. Also, the pedestrian clearance timing for phase seem longer than need, can the MTA please confirm.

Answer: Sheet SGNL-04 has been revised.

Question 9: Will the authority require hot rubber on all surface joints for the widening, ramps and parking lots?

Answer: Hot rubber will be required on all joints for the widening and ramps and will not be required for the joints within the parking lots.

Question 10: Can the minimum width for the pipe & conduit trench details located on sheet CD-06 & LGT-02 be confirmed?

Answer: The minimum width on sheet CD-06 has been updated to be $\frac{1}{2}$ ID + 1.5 FT (min. 3 FT). This detail label has also been revised to remove the reference to conduits.

The minimum width on sheet LGT-02 has been updated to be 1.5 FT. This detail label has also been revised to remove the reference to standard pipe.

Question 11: Could we get a list of locations for the Underdrain Delineator Posts (Item 606.356).

Answer: Underdrain Delineator Posts shall be located as noted in the 606.01 including one at every culvert outlet, guardrail terminals/trailing ends, electrical junction boxes, and per Maine DOT standard detail 645(07) for proposed new ramps.

ATTACHMENTS

- Addendum No. 2 (3 pages)
- Revised Proposal Sheet (1 pages)
- Revised Plan sheets (6 pages)

Notes: The above items shall be considered as part of the bid submittal.

The total number of pages included with this addendum is ten pages (10).

All bidders are requested to acknowledge the receipt of the Addendum No. 2 by signing below and faxing this sheet to Nathaniel Carll, Purchasing Department, Maine Turnpike Authority at 207-871-7739. Bidders are also required to acknowledge receipt of this Addendum No. 2 on Page P-16 of the bid package.

Business Name

Print Name and Title

Signature

Date
November 14, 2019

Very truly
yours,

MAINE TURNPIKE AUTHORITY

Nathaniel Carll
Purchasing Department
Maine Turnpike
Authority

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
BROUGHT FORWARD:							
643.911	Mast Arm Pole - 25' Mast Arm	Each	2				
643.912	Mast Arm Pole - 30' Mast Arm	Each	2				
643.913	Mast Arm Pole - 35' Mast Arm	Each	2				
643.914	Mast Arm Pole - 40' Mast Arm	Each	1				
643.92	Pedestal Pole - 8 Foot	Each	1				
643.94	Dual Purpose Pole - 30' Mast Arm and 12' Luminaire Arm	Each	1				
645.105	Remove and Stack Sign	Each	135				
645.109	Remove and Reset Sign	Each	45				
645.1211	Overhead Sign Structure and Guide Sign	Lump Sum	1				
645.161	Breakaway Device Single Pole	Each	10				
645.162	Breakaway Device Multi Pole	Each	13				
645.251	Roadside Guide Signs, Type I	Square Foot	560				

CARRIED FORWARD:

Date: 11/11/2019

ITEM NO.	ITEM DESCRIPTION	UNIT	PLAZA EXPANSION	INTERCHANGE PAVING	SIGNAL IMPROVEMENTS	PROJECT TOTAL
201.11	Clearing	AC	7	0	0	7
201.23	Removing Single Tree Top Only	EA	27	0	0	27
201.24	Removing Stump	EA	27	0	0	27
202.15	Removing Existing Manhole or Catch Basin	EA	6	0	0	6
202.202	Removing Pavement Surface	SY	13000	600	0	13600
202.203	Pavement Butt Joints	SY	0	2400	0	2400
202.22	Removing and Stockpiling Boulders	EA	41	0	0	41
203.20	Common Excavation	CY	55300	0	0	55300
203.2312	Health and Safety Plan	LS	1	0	0	1
203.2333	Disposal/Treatment of Special Excavation	TON	250	0	0	250
203.2334	Disposal/Treatment of Contaminated Groundwater	GAL	100000	0	0	100000
203.25	Granular Borrow	CY	4450	0	0	4450
203.43	Foamed Glass Aggregate Lightweight Fill	CY	1200	0	0	1200
203.45	Clay Borrow	CY	200	0	0	200
304.10	Aggregate Subbase Course - Gravel	CY	29400 30700	0	0	29400 30700
304.14	Aggregate Base Course - Type A	CY	7700	0	0	7700
403.207	Hot Mix Asphalt, 19.0 mm Nominal Maximum Size	TON	9000	0	0	9000
403.208	Hot Mix Asphalt, 12.5 mm - RAP	TON	4300	0	0	4300
403.2081	Hot Mix Asphalt, 12.5 mm (Polymer Modified) - RAP	TON	1650	1250	0	2900
403.2084	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (sidewalks, drives, islands & incidentals)	TON	290	0	0	290
403.212	Hot Mix Asphalt, 4.75 mm Nominal Maximum Size	TON	345	450	0	795
403.213	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (Base and Intermediate Base Course)	TON	5050	0	0	5050
409.15	Bituminous Tack Coat RS-1 or RS 1H - Applied	GAL	5950	1250	0	7200
411.12	Crushed Stone Surface	TON	54	0	0	54
419.30	Sawing Bituminous Pavement	LF	10800	0	0	10800
526.306	Temporary Concrete Barrier, Type I - Supplied by Authority (3520 LF)	LS	1	0	0	1
526.307	Concrete Barrier Type I - Stormwater Filter	LF	100	0	0	100
527.341	Work Zone Crash Cushions - TL-3	UNIT	5	0	0	5
527.342	Work Zone Crash Cushions - TL-2	UNIT	1	0	0	1
602.30	Flowable Concrete Fill	CY	110	0	0	110
603.05	6" PVC Pipe	LF	52	0	0	52
603.155	12 inch Reinforced Concrete Pipe - Class III	LF	1050	0	0	1050
603.1552	12 inch Reinforced Concrete Pipe - Class IV	LF	200	0	0	200
603.165	15 inch Reinforced Concrete Pipe - Class III	LF	130	0	0	130
603.175	18 inch Reinforced Concrete Pipe - Class III	LF	770	0	0	770
603.179	18 Inch Culvert Pipe Option III	LF	50	0	0	50
603.195	24 inch Reinforced Concrete Pipe - Class III	LF	520	0	0	520
603.205	30 inch Reinforced Concrete Pipe - Class III	LF	440	0	0	440
603.215	36 inch Reinforced Concrete Pipe - Class III	LF	300	0	0	300
603.225	42 inch Reinforced Concrete Pipe - Class III	LF	120	0	0	120
603.28	Concrete Collar	EA	4	0	0	4
604.09	Catch Basin Type B1	EA	21	0	0	21
604.093	60" Catch Basin Type B1	EA	3	0	0	3
604.094	72" Catch Basin Type B1	EA	1.5	0	0	1.5
604.11	Catch Basin Type C1	EA	1	0	0	1
604.16	Altering Catch Basin to Manhole	EA	1	0	0	1
604.164	Rebuilding Catch Basin	EA	1	0	0	1
604.18	Adjusting Manhole or Catch Basin To Grade	EA	3	0	0	3
604.182	Cleaning Existing Catch Basin and Manhole	EA	4	0	0	4
604.244	Catch Basin Type F4	EA	2	0	0	2
604.248	Catch Basin Type F6	EA	2	0	0	2
604.30	Oil-Water Separator System	EA	1	0	0	1
605.016	6 Inch PVC Underdrain	LF	1550	0	0	1550
605.018	8 Inch PVC Underdrain	LF	600	0	0	600
605.09	6 Inch Underdrain Type B	LF	810	0	0	810
605.10	6 Inch Underdrain Outlet	LF	23	0	0	23
605.13	18 Inch Underdrain Type C	LF	140	0	0	140
606.1301	31" W-Beam Guardrail - Mid-Way Splice (7' Steel Posts, 8" Offset Blocks, Single Faced)	LF	1850	0	0	1850
606.1307	31" W-Beam Guardrail - Mid-Way Splice Flared Terminal	EA	2	0	0	2
606.1351	Terminal End - Anchored End - 31" W-Beam Guardrail	EA	2	0	0	2
606.356	Underdrain Delineator Post	EA	230	0	0	230
606.3561	Delineator Post - Remove and Reset	EA	58	0	0	58
606.3605	Guardrail - Remove, Modify and Reset Single Rail	LF	190	0.0	0.0	190
606.3606	Guardrail - Remove, Modify and Reset Double Rail	LF	25	0.0	0.0	25
606.79	Guardrail 350 Flared Terminal	EA	2	0	0	2
607.24	Remove and Reset Fence	LF	220	0	0	220
607.44	Safety Fence	LF	4470	0	0	4470
608.08	Reinforced Concrete Sidewalk	SY	220	0	0	220
608.26	Curb Ramp Detectable Warning Field	SF	0	0	48	48
609.12	Vertical Curb Type 1 - Circular	LF	85	0	0	85
609.234	Terminal Curb Type 1 - 4 foot	EA	2	0	0	2
609.238	Terminal Curb Type 1 - 8 foot	EA	1	0	0	1
609.31	Curb Type 3	LF	150	0	0	150
609.34	Curb Type 5	LF	2350	0	0	2350
609.35	Curb - Type 5 - Circular	LF	140	0	0	140
609.38	Reset Curb Type 1	LF	790	0	0	790
610.08	Plain Rrap	CY	180	0	0	180
610.18	Stone Ditch Protection	CY	120	0	0	120
610.181	Temporary Stone Check Dam	CY	47	0	0	47
613.319	Erosion Control Blanket	SY	13800	0	0	13800
615.07	Loam	CY	5400	0	0	5400

ITEM NO.	ITEM DESCRIPTION	UNIT	PLAZA EXPANSION	INTERCHANGE PAVING	SIGNAL IMPROVEMENTS	PROJECT TOTAL
618.13	Seeding Method Number 1	UNIT	15	0	0	15
618.14	Seeding Method Number 2	UNIT	380	0	0	380
618.143	Special Seeding	UNIT	38	0	0	38
619.1201	Mulch - Plan Quantity	UNIT	420	0	0	420
619.1202	Temporary Mulch	LS	1	0	0	1
620.56	Drainage Geotextile	SY	4100	0	0	4100
620.58	Erosion Control Geotextile	SY	950	0	0	950
620.60	Separation Geotextile	SY	2700	0	0	2700
621.037	Evergreen Trees (5'-6'), GP A - Pinus Resinosa (Red Pine)	EA	11	0	0	11
626.121	Quartzite Junction Box (36x24)	EA	0	0	8	8
626.122	Quartzite Junction Box (18x11)	EA	110	0	0	110
626.22	Non-metallic Conduit	LF	24000	0	2300	26300
626.31	18 inch Diameter Foundation	EA	0	0	1	1
626.32	24 inch Diameter Foundation	EA	53	0	0	53
626.33	30 inch Diameter, 8 feet or less Foundation	EA	16	0	0	16
626.332	30-Inch Diameter, Greater than 8-Feet Long. And all 36-Inch and 42-Inch Diameter Foundations	CY	30	0	30	60
626.35	Controller Cabinet Foundation	EA	0	0	2	2
627.712	White or Yellow Pavement Marking Line	LF	56800	8200	0	65000
627.75	White or Yellow Pavement & Curb Marking	SF	400	50	120	570
627.77	Removing Existing Pavement Marking	SF	8350	0	120	8470
627.812	Temporary Raised Pavement Markers	EA	100	0	0	100
627.941	Pavement Marking Tape - Dotted White Lane Line, 6-Inch Width	LF	430	0	0	430
629.05	Hand Labor, Straight Time	HR	40	0	0	40
631.12	All Purpose Excavator (Including Operator)	HR	40	0	0	40
631.13	Bulldozer (Including Operator)	HR	40	0	0	40
631.172	Truck - Large (Including Operator)	HR	80	0	0	80
631.22	Front End Loader (Including Operator)	HR	40	0	0	40
631.32	Culvert Cleaner (Including Operators)	HR	16	0	0	16
631.36	Foreman	HR	40	0	0	40
634.2041	Luminaires	EA	34	0	1	35
634.208	Remove and Reset Light Standard	EA	37	0	0	37
634.210	Conventional Light Standard	EA	16	0	0	16
639.18	Field Office, Type A	EA	1	0	0	1
643.71	Traffic Signal Modifications at: Alewife Road w/ Fletcher Street	LS	0	0	1	1
643.801	Traffic Signal at: I-95 SB w/ Alewife	LS	0	0	1	1
643.802	Traffic Signal at: I-95 NB w/ Fletcher Street	LS	0	0	1	1
643.831	Video Detection System: I-95 SB with Alewife	LS	0	0	1	1
643.832	Video Detection System: I-95 NB with Fletcher Street	LS	0	0	1	1
643.911	Mast Arm Pole - 25' Mast Arm	EA	0	0	2	2
643.912	Mast Arm Pole - 30' Mast Arm	EA	0	0	2	2
643.913	Mast Arm Pole - 35' Mast Arm	EA	0	0	2	2
643.914	Mast Arm Pole - 40' Mast Arm	EA	0	0	1	1
643.92	Pedestal Pole - 8 Foot	EA	0	0	1	1
643.94	Dual Purpose Pole - 30' Mast Arm and 12' Luminaire Arm	EA	0	0	1	1
645.105	Remove and Stack Sign	EA	130	0	5	135
645.109	Remove and Reset Sign	EA	44	0	1	45
645.1211	Overhead Sign Structure and Guide Sign	LS	1	0	0	1
645.161	Breakaway Device Single Pole	EA	10	0	0	10
645.162	Breakaway Device Multi Pole	EA	13	0	0	13
645.251	Roadside Guide Signs, Type I	SF	560	0	0	560
645.252	Roadside Guide Signs, Type I - Supplied by Authority	SF	420	0	0	420
645.271	Regulatory, Warning, Confirmation and Route Assembly Sign, Type 1	SF	420	0	150	570
645.289	Steel H-Beam Poles	LBS	5650	0	0	5650
645.511	Radar Activated Flashing LED Yield Sign	EA	0	0	1	1
652.30	Flashing Arrow	EA	2	0	0	2
652.312	Type III Barricades	EA	4	0	0	4
652.33	Drum	EA	490	0	0	490
652.34	Cone	EA	20	0	0	20
652.35	Construction Signs	SF	1370	0	0	1370
652.361	Maintenance of Traffic Control Devices	LS	1	0	0	1
652.38	Flaggers	HR	540	0	120	660
652.41	Portable-Changeable Message Sign	EA	2	0	0	2
652.45	Truck Mounted Attenuator	CD	12	0	0	12
652.4501	Truck Mounted Attenuator - 24,000 LB	CD	16	0	0	16
652.451	Automated Trailer Mounted Speed Limit Sign	CD	10	0	0	10
655.102	#2 AWG Wire	LF	13150	0	0	13150
655.106	#6 AWG Wire	LF	16700	0	0	16700
655.11	#10 AWG Wire	LF	5850	0	0	5850
656.50	Baled Hay, In Place	EA	20	0	0	20
656.60	Temporary Berms	LF	3000	0	0	3000
656.62	Temporary Slope Drains	LF	500	0	0	500
656.632	30 inch Temporary Silt Fence	LF	2750	0	0	2750
659.10	Mobilization	LS	0.8	0.1	0.1	1
673.01	Stormwater Filter Bed	CY	710	0	0	710
801.1331	6" Sewer Force Main	LS	1	0	0	1
822.3408	8-Inch Ductile Iron Water Pipe	LF	1600	0	0	1600
822.411	8-Inch Ductile Iron Pipe Fittings	LB	1110	0	0	1110
823.325	8-Inch Gate Valve	EA	3	0	0	3
825.411	Food Truck Water Connection	LS	1	0	0	1
827.3641	Remove 8-Inch Asbestos-Cement Pipe	LF	900	0	0	900
830.27	Horizontal Directional Drilling, 3 inch HDPE Conduit	LF	520	0	900	1420

Filename: 00X_Estimate Quantities.dgn

No.	Revision	By	Date
1	UPDATED ITEM 304.10	PEK	11/19
2	UPDATED TRAFFIC ITEMS	BRM	11/19

Designed by:			
HNTB			
HNTB CORPORATION 340 County Road, Suite 6-C Westbrook, ME 04092 TEL (207) 774-5155 FAX (207) 228-0909			
CONSULTANT	PROJECT MANAGER:	Phillip E. Kendall II, P.E.	
By	Date	Checked	Date
PEM	10\19	DSS	10\19
Drawn	Date	In Charge of	Date
PEM	10\19	RAL	10\19



THE GOLD STAR MEMORIAL HIGHWAY

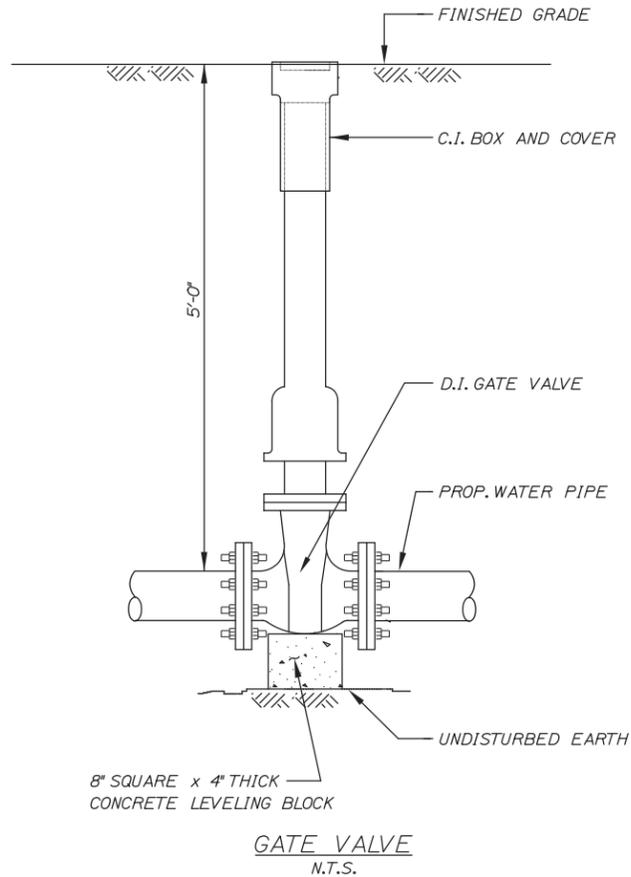
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

KENNEBUNK TRAVEL PLAZAS PARKING EXPANSION MILE 25.5 SB AND NB

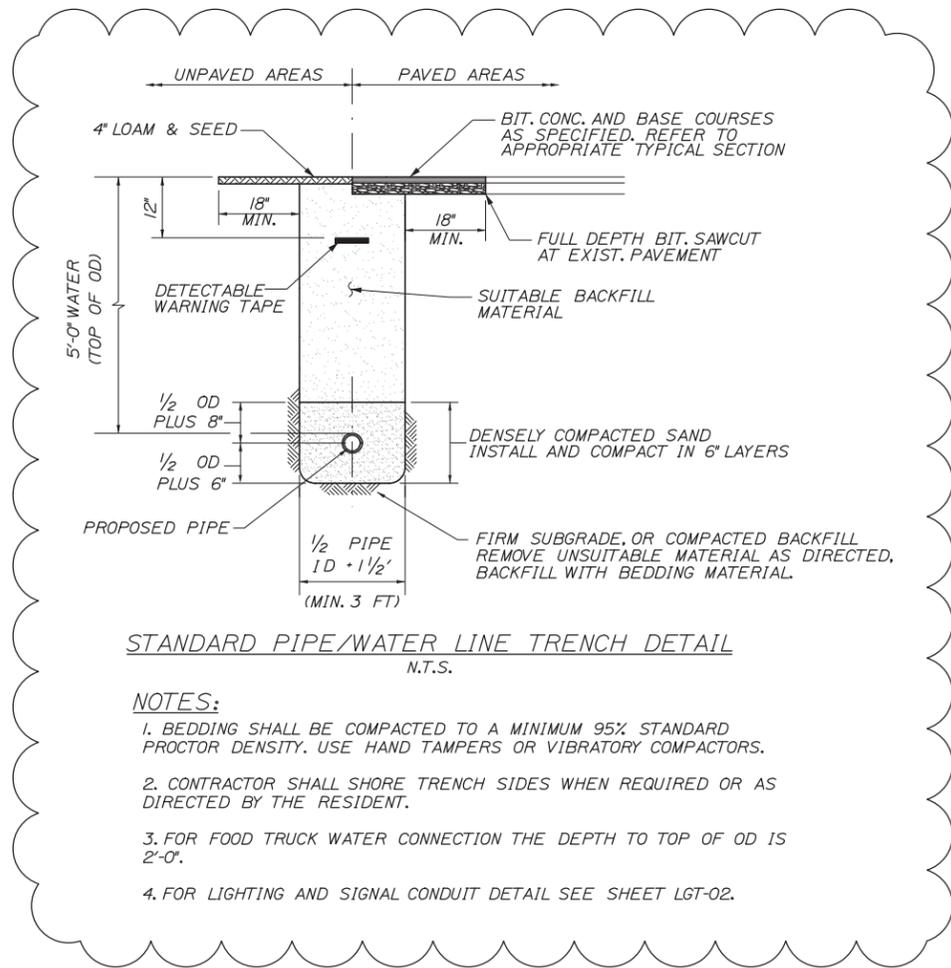
ESTIMATED QUANTITIES

SHEET NUMBER: EQ-01
CONTRACT: 2019.02
2 OF 158

Date: 11/13/2019

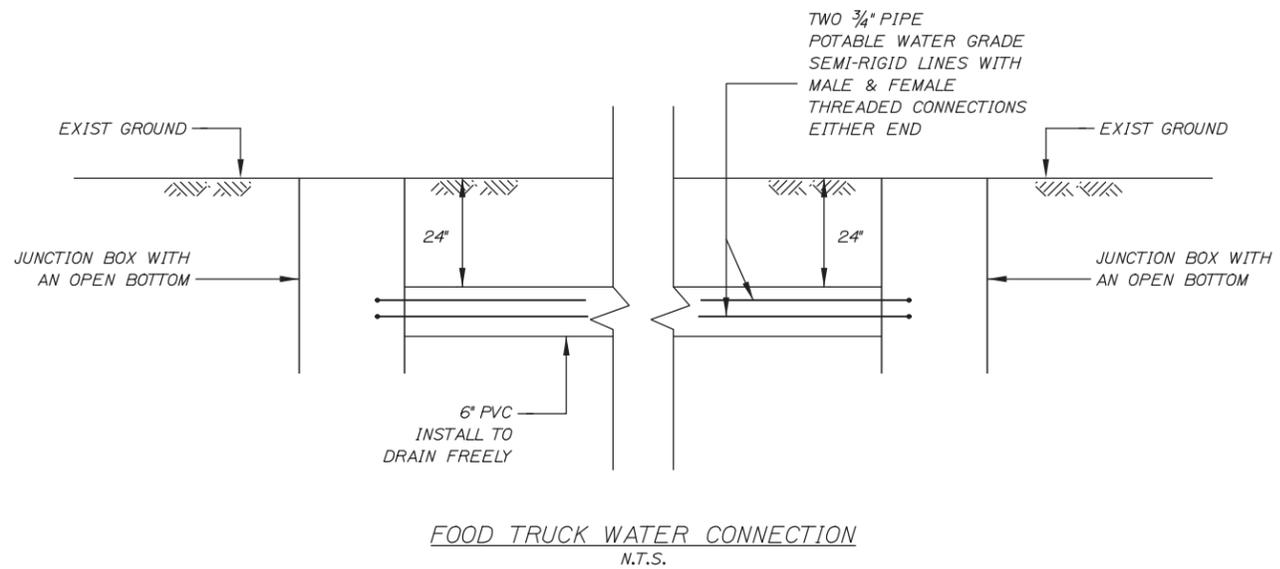


GATE VALVE
N.T.S.



STANDARD PIPE/WATER LINE TRENCH DETAIL
N.T.S.

- NOTES:**
1. BEDDING SHALL BE COMPACTED TO A MINIMUM 95% STANDARD PROCTOR DENSITY. USE HAND TAMPERS OR VIBRATORY COMPACTORS.
 2. CONTRACTOR SHALL SHORE TRENCH SIDES WHEN REQUIRED OR AS DIRECTED BY THE RESIDENT.
 3. FOR FOOD TRUCK WATER CONNECTION THE DEPTH TO TOP OF OD IS 2'-0".
 4. FOR LIGHTING AND SIGNAL CONDUIT DETAIL SEE SHEET LGT-02.



FOOD TRUCK WATER CONNECTION
N.T.S.

Filename: 00X_UTILITY DETAILS.dgn

Scale: **NOT TO SCALE**

No.	Revision	By	Date
1	REVISED TRENCH DETAIL	PEK	11/19

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Phillip E. Kendall II, P.E.

	By	Date	By	Date	
Designed	CDH	10\19	Checked	JRH	10\19
Drawn	PEM	10\19	In Charge of	RAL	10\19

HNTB CORPORATION
340 County Road, Suite 6-C
Westbrook, ME 04092
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

KENNEBUNK TRAVEL PLAZAS PARKING
EXPANSION MILE 25.5 SB AND NB

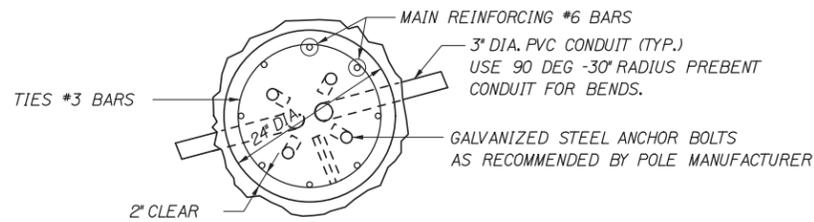
UTILITY DETAILS

SHEET NUMBER: CD-06

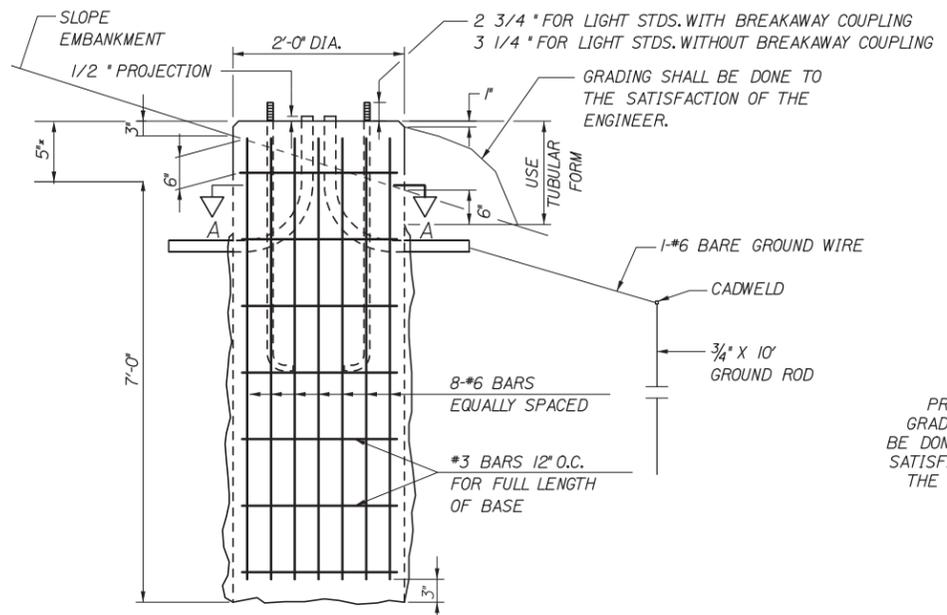
CONTRACT: 2019.02

14 OF 158

Date: 11/13/2019

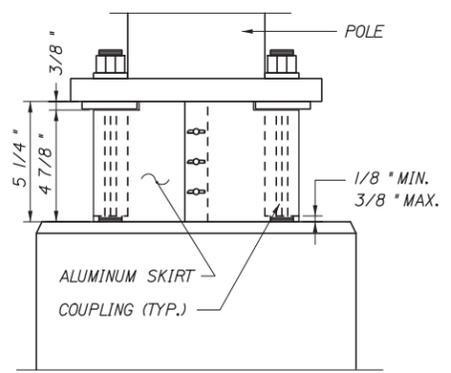


SECTION A-A



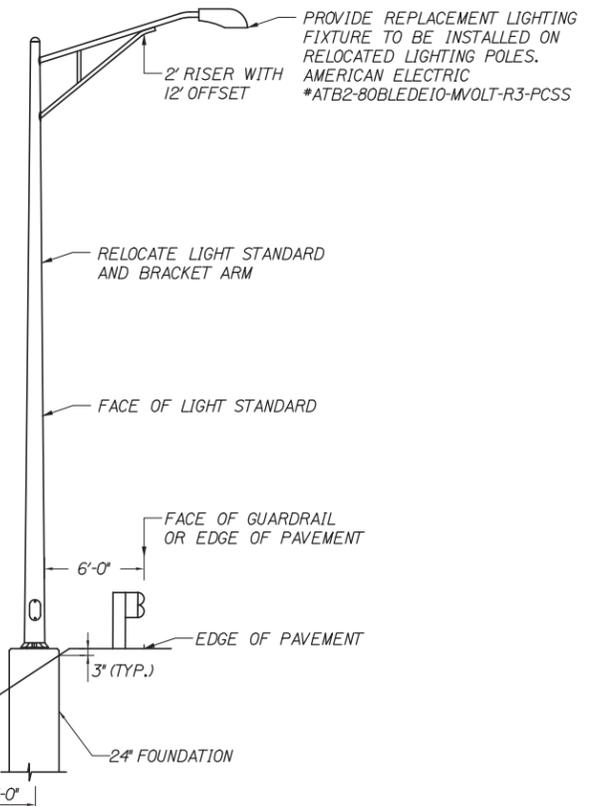
24 INCH FOUNDATION
NOT TO SCALE

NOTE: WHERE SOLID ROCK IS ENCOUNTERED AT LESS THAN THE REQUIRED DISTANCE BELOW GROUND LEVEL, REINFORCING STEEL SHALL BE DOWELED INTO LEDGE AS SHOWN ON MAINE DOT STANDARD DETAIL 626(06). PAYMENT SHALL BE INCIDENTAL TO THE FOUNDATION PAY ITEM.

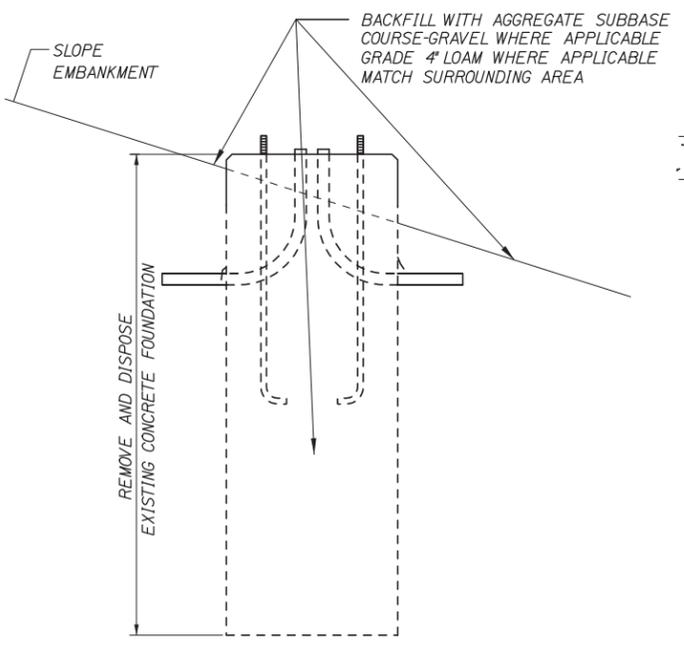


BREAKAWAY COUPLINGS AND SKIRT DETAIL
NOT TO SCALE

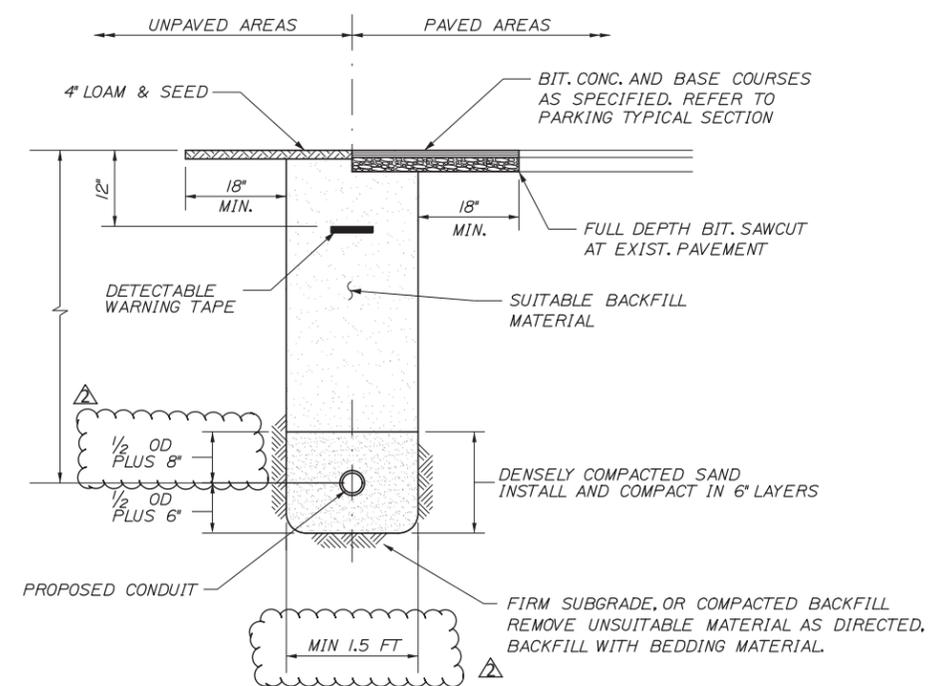
* BREAKAWAY COUPLINGS SHALL BE REQUIRED ON ALL NEW LIGHT STANDARDS



PLACEMENT OF LIGHT STANDARD
NO SCALE

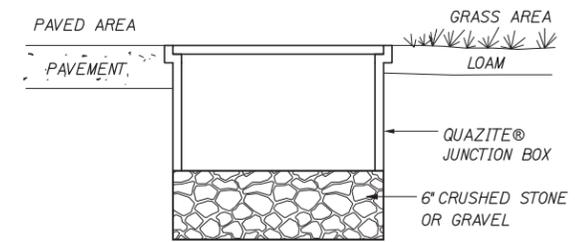


REMOVAL OF CONCRETE FOUNDATION
NOT TO SCALE



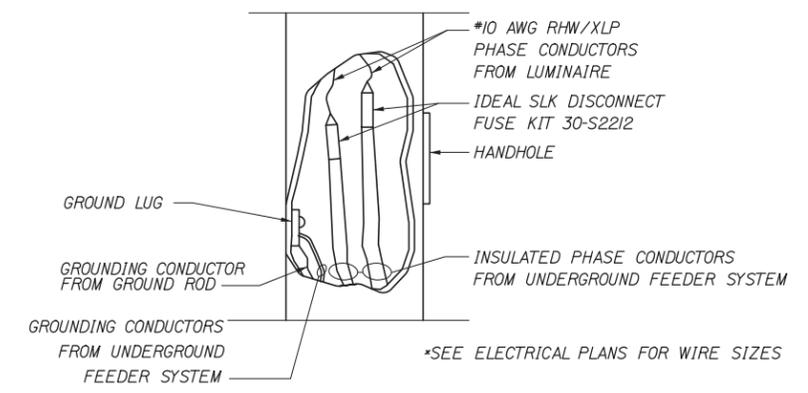
STANDARD CONDUIT TRENCH DETAIL
N.T.S.

NOTES:
1. BEDDING SHALL BE COMPACTED TO A MINIMUM 95% STANDARD PROCTOR DENSITY. USE HAND TAMPERS OR VIBRATORY COMPACTORS.
2. CONTRACTOR SHALL SHORE TRENCH SIDES WHEN REQUIRED OR AS DIRECTED BY THE RESIDENT.



JUNCTION BOX COVER & FRAME

NOTE: INSTALL JUNCTION BOXES ON GRADE



TYPICAL POLE WIRING DETAIL
NOT TO SCALE

NOTES:
1. QUAZITE® JUNCTION BOXES FOR HIGHWAY LIGHTING SHALL BE QUAZITE AND IN ACCORDANCE WITH SPECIAL PROVISION 626.
2. SPLICES IN JUNCTION BOX SHALL BE MADE WITH ILSCO USPA-350-SS-DB SAFETYSUB WATER TIGHT DIRECT BURY SPLICE WIRE RANGE 350MCM-10-STR, ONLY. PROVIDE ENOUGH SLACK IN THE WIRE TO ALLOW REMOVAL OF SPLICES AND NEATLY ARRANGE WIRE IN BOX.
3. SEE NOTE 24 ON LGT-01 FOR FLEXIBLE CONNECTION REQUIREMENT.

Filename: 00X_LightingDets.dgn

Scale: NOT TO SCALE			
No.	Revision	By	Date
1	REVISED TRENCH DETAIL	PEK	11/19

Designed by:			
HNTB			
CONSULTANT PROJECT MANAGER: Phillip E. Kendall II, P.E.			
	By	Date	
Designed	HME	10\19	Checked RBM 10\19
Drawn	MPC	10\19	In Charge of RAL 10\19

HNTB CORPORATION
340 County Road, Suite 6-C
Westbrook, ME 04092
TEL (207) 774-5155
FAX (207) 228-0909



**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

KENNEBUNK TRAVEL PLAZAS PARKING
EXPANSION MILE 25.5 SB AND NB

LIGHTING DETAILS 1

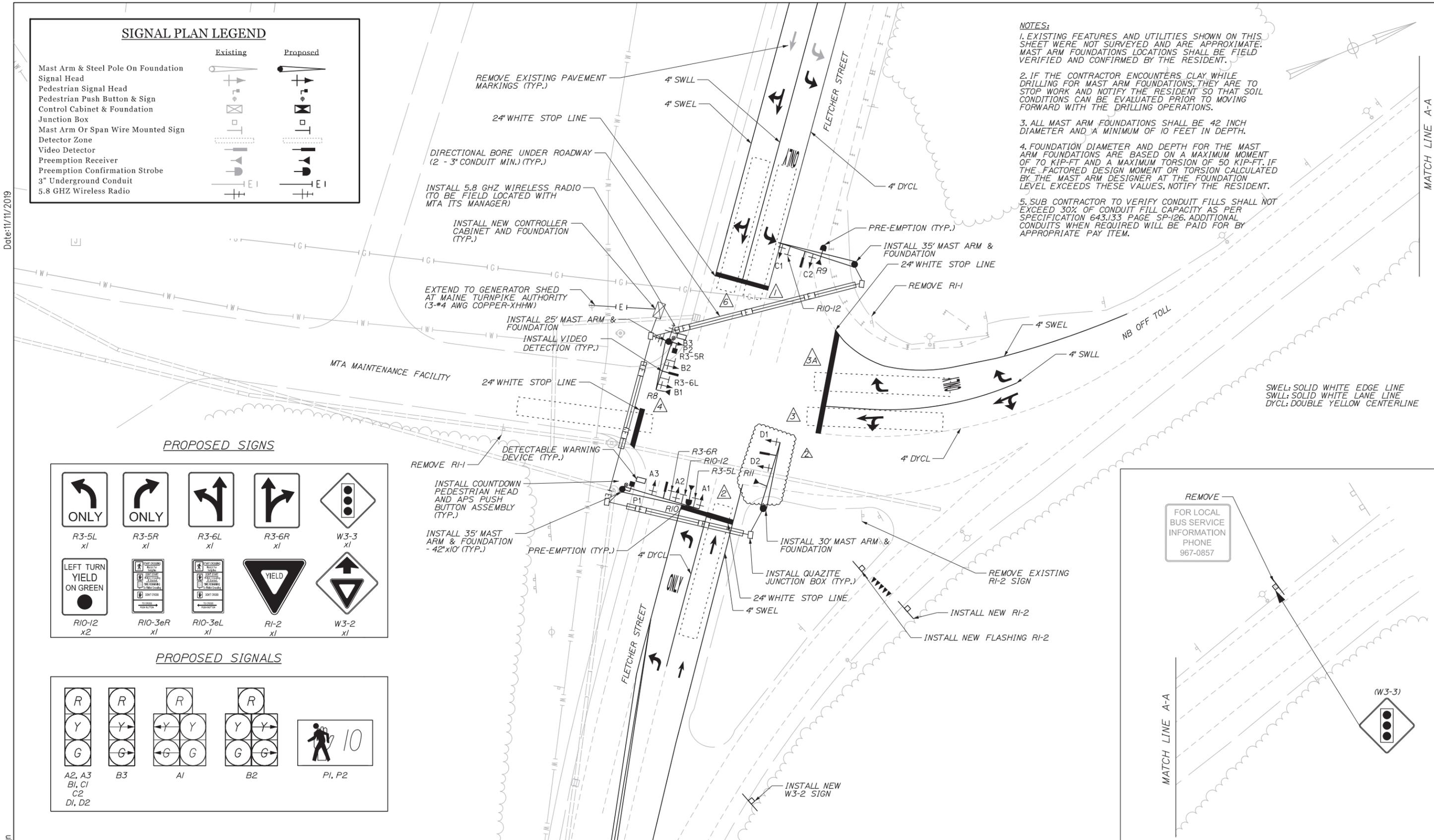
SHEET NUMBER: LGT-02
88 OF 158

CONTRACT: 2019.02

SIGNAL PLAN LEGEND

	Existing	Proposed
Mast Arm & Steel Pole On Foundation		
Signal Head		
Pedestrian Signal Head		
Pedestrian Push Button & Sign		
Control Cabinet & Foundation		
Junction Box		
Mast Arm Or Span Wire Mounted Sign		
Detector Zone		
Video Detector		
Preemption Receiver		
Preemption Confirmation Strobe		
3" Underground Conduit		
5.8 GHZ Wireless Radio		

- NOTES:**
- EXISTING FEATURES AND UTILITIES SHOWN ON THIS SHEET WERE NOT SURVEYED AND ARE APPROXIMATE. MAST ARM FOUNDATIONS LOCATIONS SHALL BE FIELD VERIFIED AND CONFIRMED BY THE RESIDENT.
 - IF THE CONTRACTOR ENCOUNTERS CLAY WHILE DRILLING FOR MAST ARM FOUNDATIONS, THEY ARE TO STOP WORK AND NOTIFY THE RESIDENT SO THAT SOIL CONDITIONS CAN BE EVALUATED PRIOR TO MOVING FORWARD WITH THE DRILLING OPERATIONS.
 - ALL MAST ARM FOUNDATIONS SHALL BE 42 INCH DIAMETER AND A MINIMUM OF 10 FEET IN DEPTH.
 - FOUNDATION DIAMETER AND DEPTH FOR THE MAST ARM FOUNDATIONS ARE BASED ON A MAXIMUM MOMENT OF 70 KIP-FT AND A MAXIMUM TORSION OF 50 KIP-FT. IF THE FACTORED DESIGN MOMENT OR TORSION CALCULATED BY THE MAST ARM DESIGNER AT THE FOUNDATION LEVEL EXCEEDS THESE VALUES, NOTIFY THE RESIDENT.
 - SUB CONTRACTOR TO VERIFY CONDUIT FILLS SHALL NOT EXCEED 30% OF CONDUIT FILL CAPACITY AS PER SPECIFICATION 643.133 PAGE SP-126. ADDITIONAL CONDUITS WHEN REQUIRED WILL BE PAID FOR BY APPROPRIATE PAY ITEM.



PROPOSED SIGNS

PROPOSED SIGNALS

SWEL: SOLID WHITE EDGE LINE
 SWLL: SOLID WHITE LANE LINE
 DYCL: DOUBLE YELLOW CENTERLINE

Date: 11/11/2019

Scale:

No.	Revision	By	Date
1	REVISED MAST ARM LINWORK	BRM	11/19

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Phillip E. Kendall II, P.E.

	By	Date	By	Date	
Designed	ARG	9/19	Checked	RBM	9/19
Drawn	WAD	9/19	In Charge of	RAL	9/19

HNTB CORPORATION
 340 County Road, Suite 6-C
 Westbrook, ME 04092
 TEL (207) 774-5155
 FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

KENNEBUNK TRAVEL PLAZAS PARKING EXPANSION MILE 25.5 SB AND NB

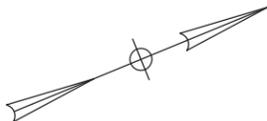
SIGNAL PLAN 1

SHEET NUMBER: SGNL-01
 100 OF 158

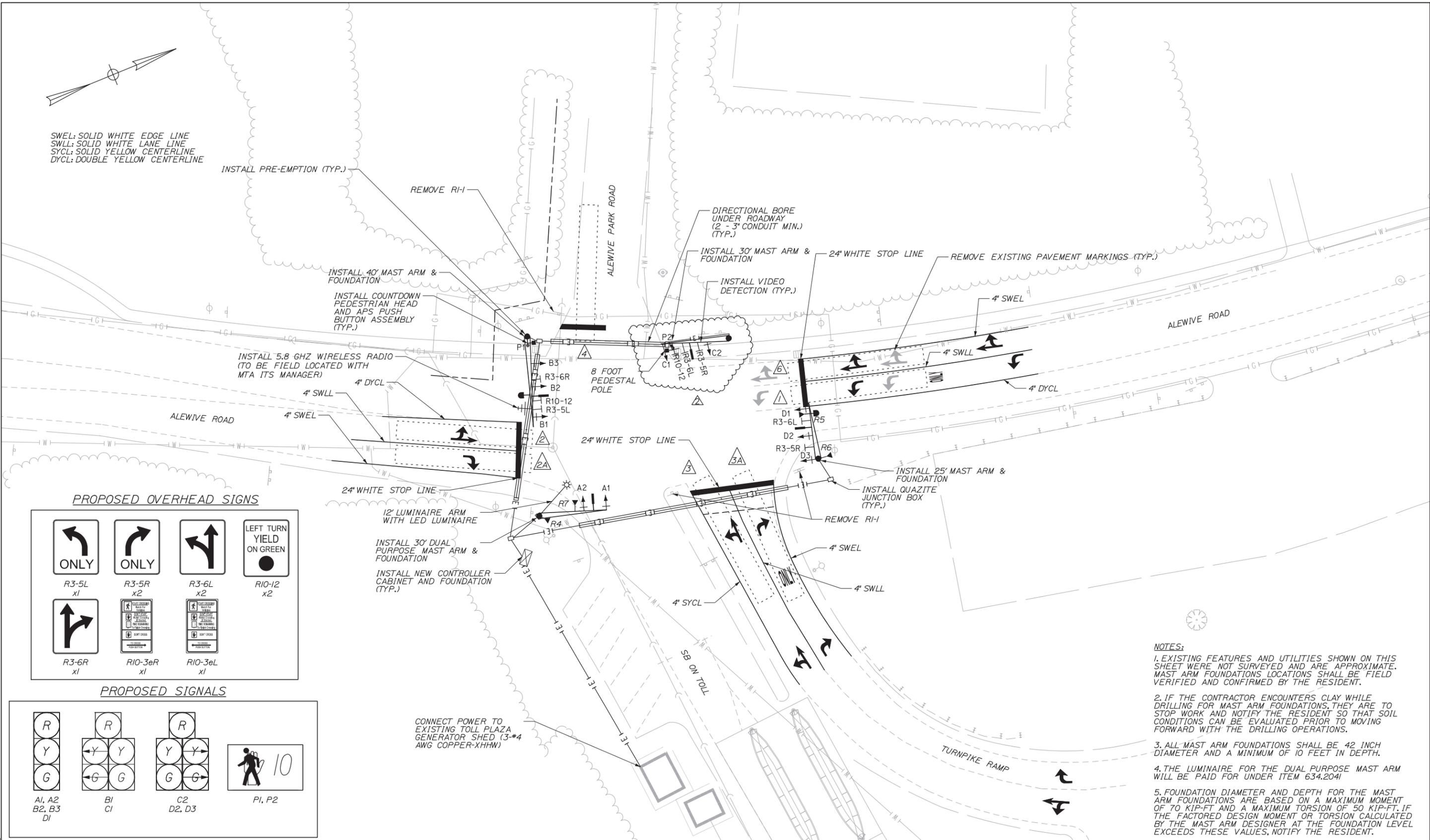
CONTRACT: 2019.02

ADDENDUM 02

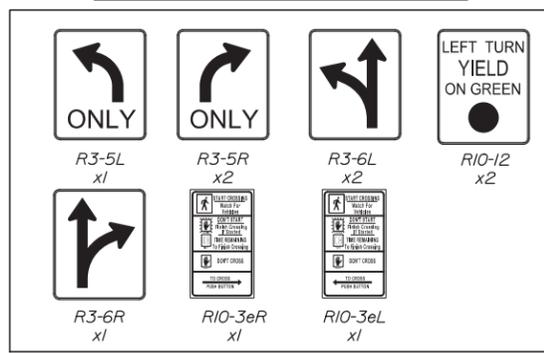
SWEL: SOLID WHITE EDGE LINE
 SWLL: SOLID WHITE LANE LINE
 SYCL: SOLID YELLOW CENTERLINE
 DYCL: DOUBLE YELLOW CENTERLINE



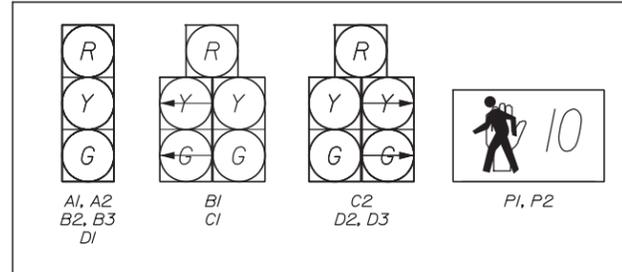
Date: 11/11/2019



PROPOSED OVERHEAD SIGNS



PROPOSED SIGNALS



CONNECT POWER TO EXISTING TOLL PLAZA GENERATOR SHED (3-#4 AWG COPPER-XHHW)

- NOTES:
- EXISTING FEATURES AND UTILITIES SHOWN ON THIS SHEET WERE NOT SURVEYED AND ARE APPROXIMATE. MAST ARM FOUNDATIONS LOCATIONS SHALL BE FIELD VERIFIED AND CONFIRMED BY THE RESIDENT.
 - IF THE CONTRACTOR ENCOUNTERS CLAY WHILE DRILLING FOR MAST ARM FOUNDATIONS, THEY ARE TO STOP WORK AND NOTIFY THE RESIDENT SO THAT SOIL CONDITIONS CAN BE EVALUATED PRIOR TO MOVING FORWARD WITH THE DRILLING OPERATIONS.
 - ALL MAST ARM FOUNDATIONS SHALL BE 42 INCH DIAMETER AND A MINIMUM OF 10 FEET IN DEPTH.
 - THE LUMINAIRE FOR THE DUAL PURPOSE MAST ARM WILL BE PAID FOR UNDER ITEM 634.2041
 - FOUNDATION DIAMETER AND DEPTH FOR THE MAST ARM FOUNDATIONS ARE BASED ON A MAXIMUM MOMENT OF 70 KIP-FT AND A MAXIMUM TORSION OF 50 KIP-FT. IF THE FACTORED DESIGN MOMENT OR TORSION CALCULATED BY THE MAST ARM DESIGNER AT THE FOUNDATION LEVEL EXCEEDS THESE VALUES, NOTIFY THE RESIDENT.

Scale: 20 0 20 40
Scale of Feet

No.	Revision	By	Date
1	REV. MAST ARM LINEWORK/SCALE	BRM	11/19

Designed by:

CONSULTANT PROJECT MANAGER: Phillip E. Kendall II, P.E.

By	Date	By	Date
Designed	ARG 9/19	Checked	RBM 9/19
Drawn	WAD 9/19	In Charge of	RAL 9/19

HNTB CORPORATION
 340 County Road, Suite 6-C
 Westbrook, ME 04092
 TEL (207) 774-5155
 FAX (207) 228-0909

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

KENNEBUNK TRAVEL PLAZAS PARKING EXPANSION MILE 25.5 SB AND NB

SIGNAL PLAN 2

SHEET NUMBER: SGNL-02
101 OF 158

CONTRACT: 2019.02

PROPOSED SIGNAL TIMING TABLES

FREE OPERATIONS-CYCLE LENGTH-80							
	ALEWIVE ROAD SB L	ALEWIVE ROAD NB LTR	I-95 SB RAMP WB TR	ALEWIVE PK ROAD EB LTR		ALEWIVE ROAD SB TR	
PHASE	1	2	3	4		6	7 8
INITIAL INTERVAL	5.0	5.0	5.0	5.0	-	5.0	-
VEHICLE EXTENSION	3.0	3.0	3.0	3.0	-	3.0	-
MAXIMUM 1 AM	8.0	18.0	25.0	5.0	-	32.0	-
MAXIMUM 2 PM	5.0	12.0	34.0	5.0	-	23.0	-
YELLOW	4.0	4.0	4.0	4.0	-	4.0	-
ALL RED	2.0	2.0	2.0	2.0	-	2.0	-
WALK INTERVAL	-	-	-	-	-	7.0	-
PED. CLEARANCE	-	-	-	-	-	15.0	-
RECALL	NONE	S	NONE	NONE	-	S	-
DETECTOR OPERATION	PR	PR	PR	PR	-	PR	-
FLASH	R	Y	R	R	-	Y	-

NOTES:
 S = SOFT RECALL
 MAX = MAX RECALL
 C-MAX = COORDINATED MAX
 O = RECALL OFF
 CONCURRENT PED CLEARANCE SHALL "FLASH" THROUGH YELLOW

PR = PRESENCE
 MAX1 = FREE OPERATION
 MAX2 = UNDER COORDINATION

Y = YELLOW
 R = RED
 D = DARK

FREE OPERATIONS-CYCLE LENGTH-100							
	ALFRED ROAD EB L	ALFRED ROAD WB TR		ALEWIVE ROAD SB LTR	ALFRED ROAD WB L	ALFRED ROAD EB LTR	
PHASE	1	2	3	4	5	6	7 8
INITIAL INTERVAL	5.0	5.0	-	5.0	5.0	5.0	-
VEHICLE EXTENSION	3.0	3.0	-	3.0	3.0	3.0	-
MAXIMUM 1 AM	5.0	31.0	-	46.0	5.0	31.0	-
MAXIMUM 2 PM	5.0	35.0	-	42.0	5.0	35.0	-
YELLOW	4.0	4.0	-	4.0	4.0	4.0	-
ALL RED	2.0	2.0	-	2.0	2.0	2.0	-
WALK INTERVAL	-	-	-	7.0	-	7.0	-
PED. CLEARANCE	-	-	-	15.0	-	19.0	-
RECALL	NONE	S	-	NONE	NONE	S	-
DETECTOR OPERATION	PR	PR	-	PR	PR	PR	-
FLASH	R	Y	-	R	R	Y	-

NOTES:
 CONCURRENT PED CLEARANCE SHALL "FLASH" THROUGH YELLOW

FREE OPERATION-CYCLE LENGTH-90							
	FLETCHER STREET EB L	FLETCHER STREET WB LTR	I-95 NB RAMP SB LTR	MTA MAINT. NB LTR		FLETCHER STREET EB TR	
PHASE	1	2	3	4	5	6	7
INITIAL INTERVAL	5.0	5.0	5.0	5.0	-	5.0	-
VEHICLE EXTENSION	3.0	3.0	3.0	3.0	-	3.0	-
MAXIMUM 1 AM	19.0	34.0	8.0	5.0	-	59.0	-
MAXIMUM 2 PM	11.0	40.0	10.0	5.0	-	57.0	-
YELLOW	4.0	4.0	4.0	4.0	-	4.0	-
ALL RED	2.0	2.0	2.0	2.0	-	2.0	-
WALK INTERVAL	-	-	-	-	-	7.0	-
PED. CLEARANCE	-	-	-	-	-	15.0	-
RECALL	NONE	S	NONE	NONE	-	S	-
DETECTOR OPERATION	PR	PR	PR	PR	-	PR	-
FLASH	R	Y	R	R	-	Y	-

NOTES:
 CONCURRENT PED CLEARANCE SHALL "FLASH" THROUGH YELLOW

EQUIPMENT AND WORK ITEMS

- FURNISH AND INSTALL NEW ATC LOW VOLTAGE CONTROLLER CABINET WITH FOUNDATION AND ALL ANCILLARY EQUIPMENT AND WIRING. ECONOLITE PART *ATCC 1032
- FURNISH AND INSTALL COBALT CONTROLLER.
- FURNISH AND INSTALL 3- AND 5- SECTION 12-INCH YELLOW SIGNAL HEADS WITH LED MODULES, TUNNEL VISORS AND REFLECTORIZED ALUMINUM LOUVERED BACKPLATES MOUNTED ON MAST ARM OR PEDESTAL POST WITH NEW MOUNTING HARDWARE.
- FURNISH AND INSTALL (REPLACE) PEDESTRIAN PUSH BUTTON
- FURNISH AND INSTALL NEW SIGNAL CABLE. SIGNAL HEAD WIRING WILL BE CONTINUOUS WIRING FROM CABINET TO MAST ARMS.
- FURNISH AND INSTALL 3-#4 AWG XHHW CONDUCTOR CABLES FOR SIGNAL POWER AND GROUND.
- FURNISH AND INSTALL NEW VIDEO DETECTION SYSTEM 4-HIGH DEFINITION AUTOSCOPE CAMERAS, CONTROL UNIT WITH VIDEO PROCESSOR CARD AND ANCILLARY EQUIPMENT WITH CAPABILITY FOR REMOTE CONTROL AND DATA COLLECTION (ITEM 643.90X)
- FURNISH AND INSTALL OPTICOM PREEMPTION SYSTEM WITH 2-48V DC CONFIRMATION STROBES AND RECEIVERS.
- FURNISH AND INSTALL 26"x2"x36" QUARTZITE JUNCTION BOX (ITEM 626.12).
- FURNISH AND INSTALL NON-METALLIC CONDUIT (ITEM 626.22).
- FURNISH AND INSTALL NON-METALLIC CONDUIT, HORIZONTAL DIRECTIONAL DRILL (626.211).
- INSTALL MTA PROVIDED RADIO COMMUNICATION EQUIPMENT
- FURNISH AND INSTALL MAST ARM POLE WITH 25' MAST ARM
- FURNISH AND INSTALL MAST ARM POLE WITH 30' MAST ARM
- FURNISH AND INSTALL MAST ARM POLE WITH 35' MAST ARM
- FURNISH AND INSTALL MAST ARM POLE WITH 40' MAST ARM
- FURNISH AND INSTALL DUAL PURPOSE ARM WITH 30' MAST ARM AND 12' LUMINAIRE ARM
- FURNISH AND INSTALL 42" DIAMETER BY 10' DEEP MAST ARM FOUNDATIONS

	FLETCHER AND I-95 NB	ALFRED AND ALEWIVE	ALEWIVE AND I-95 SB
	1	-	1
	-	1	-
3- SECTION:	8	-	5
5- SECTION:	2	-	5
PEDESTRIAN:	2	-	2
	-	4	-
	LS	-	LS
	750 LF	-	600 LF
	1	-	1
	4	-	4
	1150 LF	-	1250 LF
	400 LF	-	500 LF
	1	1	1
	1	-	1
	2	-	-
	-	-	1
	-	-	1
	17 CY	-	17 CY

PREEMPTION ASSIGNMENTS

ID	ALEWIVE AND I-95 SB	ACTIVE PHASE
R4	I-95 SB RAMP	3-8
R5	ALEWIVE RD	2
R6	ALEWIVE RD	1-6
R7	ALEWIVE PARK	4

ID	ALFRED AND ALEWIVE	ACTIVE PHASE
R1	ALFRED RD	1-6
R2	FLETCHER ST	5-2
R3	ALEWIVE RD	4

ID	FLETCHER AND I-95 NB	ACTIVE PHASE
R8	I-95 NB RAMP	3
R9	FLETCHER RD	2
R10	FLETCHER RD	1-6
R11	MTA DRIVE	4

ALL PREEMPTION
 10 SEC MIN
 60 SEC MAX
 10 SEC MIN DWELL

VEHICLE PREEMPTION NOTES:

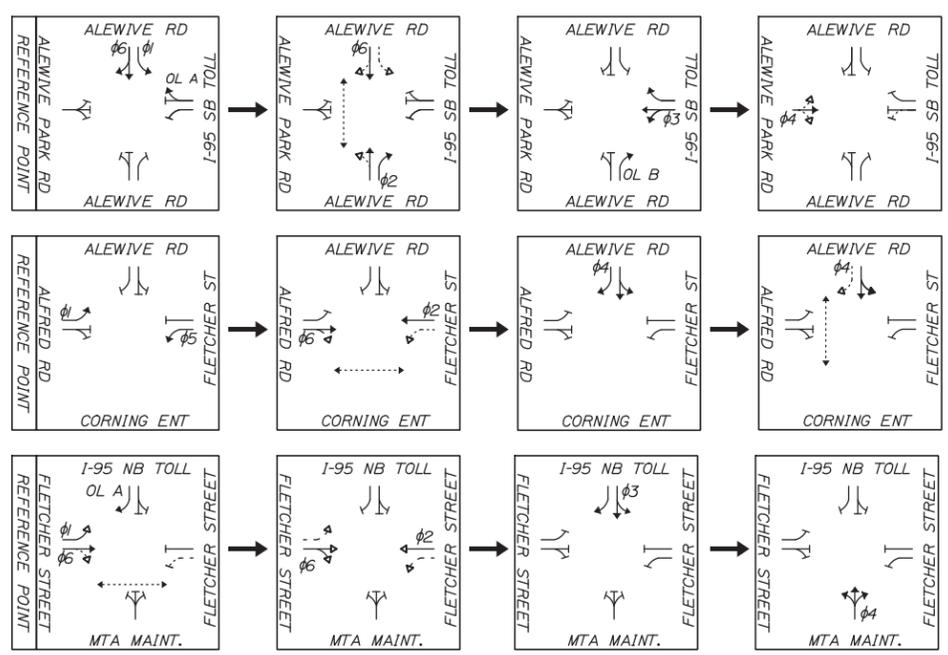
1. IN RESPONSE TO A PREEMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PREEMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PREEMPTION PHASE CLEARANCE (4.0 SECONDS YELLOW AND 2.0 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PREEMPTION CYCLE, THE CONTROLLER SHALL TIME THE PREEMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
2. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PREEMPTION DEMAND.
3. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY EMERGENCY VEHICLE PREEMPTION GREEN DWELL IS ON.
4. PREEMPTION DETECTORS WILL BE FIELD VERIFIED BY A MTA REPRESENTATIVE.
5. PEDESTRIAN CLEARANCE SHALL BE MAINTAINED THROUGH YELLOW AND RED CLEARANCE.

DETECTOR SCHEDULE

DETECTOR			
PLAN ID	STREET	DIRECTION	
I-95 SB & ALEWIVE RD	1	ALEWIVE ROAD	SB L
	2	ALEWIVE RD	NB LT
	2A	ALEWIVE RD	NB R*
	3	I-95 SB	WB L
	4	ALEWIVE PARK RD	EB LTR
	6	ALEWIVE RD	SB TR
	8	I-95 SB	WB LT
	8A	I-95 SB	WB R*
ALFRED RD & ALEWIVE RD	1	ALFRED RD	EB L
	2	FLETCHER ST	WB TR
	4	ALEWIVE RD	SB TL/R
	5	FLETCHER ST	WB L
	6	ALFRED RD	EB TR
	I-95 NB & FLETCHER ST	1	FLETCHER ST
2		FLETCHER ST	WB TR
3		I-95 NB	SB LT
3A		I-95 NB	SB R*
4		MTA MAINT.	NB LTR
6		FLETCHER ST	EB TR

* INDICATE AN 8 SECOND DELAY FOR PHASE ACTIVATION ONLY DUE TO RIGHT TURNING VEHICLES.

SIGNAL PHASING SEQUENCE



COORDINATION CYCLE/SPLIT/OFFSET SCHEDULE AND NOTES:

	ALEWIVE AND I-95 SB		ALFRED AND ALEWIVE		FLETCHER AND I-95 NB		COORDINATION MODE SET TO FIXED FORCE-OFF
	PLAN 1	PLAN 2	PLAN 1	PLAN 2	PLAN 1	PLAN 2	
CYCLE LENGTH	120	110	120	110	120	110	
OFFSET (BEGIN GREEN)	0	0	5	14	15	35	
COORDINATED PHASE	1-6	8	4	4	1-6	1-6	
SPLIT TIME ϕ_1	22	14	12	11	35	22	
SPLIT TIME ϕ_2	36	25	45	45	55	58	
SPLIT TIME ϕ_3	51	56	-	-	19	19	
SPLIT TIME ϕ_4	11	15	63	54	11	11	
SPLIT TIME ϕ_5	-	-	11	11	-	-	
SPLIT TIME ϕ_6	58	39	46	45	90	80	
SPLIT TIME ϕ_7	-	-	-	-	-	-	
SPLIT TIME ϕ_8	-	-	-	-	-	-	

1. OFFSET IS REFERENCED TO THE BEGINNING OF THE COORDINATION PHASE GREEN.
2. COORDINATION TO OPERATE BY SYSTEM CONTROL WITH TIME OF DAY BACKUP.
3. TRAFFIC SIGNAL CONTROLLER SHALL BE SET FOR STOP TIME IN WALK TO OFF.
4. PLAN 1 RUNS FROM 7-9AM WEEKDAYS AND PLAN 2 RUNS FROM 3-6PM WEEKDAYS. OPERATIONS RUN IN FREE MODE FOR ALL OTHER DAYS AND TIMES.
5. MAX 1 RUNS FROM 12:00-7:00AM ON WEEKDAYS, 12:00AM-12:00PM ON WEEKENDS.
6. MAX 2 RUNS FROM 9:00AM-3:00PM AND 6:00PM-12:00AM ON WEEKDAYS, 12:00PM-12:00AM ON WEEKENDS.

SB MTA INTERSECTION IS THE MASTER INTERSECTION

Date: 11/11/2019

Filename: 00X_Signal_Plan4_Phasing.dgn

Scale: NOT TO SCALE			
No.	Revision	By	Date
1	REVISED TABLES	BRM	11/19

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Phillip E. Kendall II, P.E.

	By	Date	By	Date
Designed	ARG	9/19	Checked	RBM
Drawn	WAD	9/19	In Charge of	RAL

HNTB CORPORATION
 340 County Road, Suite 6-C
 Westbrook, ME 04092
 TEL (207) 774-5155
 FAX (207) 228-0909

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

KENNEBUNK TRAVEL PLAZAS PARKING
 EXPANSION MILE 25.5 SB AND NB
 TRAFFIC SIGNAL TIMING & PHASING

SHEET NUMBER: SGNL-04
 103 OF 158

CONTRACT: 2019.02
 Addendum 02