LIST OF WORK ITEMS

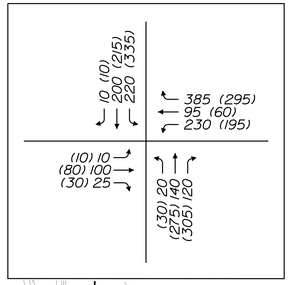
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING CELL MODEM / FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED MONITORING SYSTEM	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	5
FURNISH AND INSTALL ONE-WAY 4-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	3
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARM UPRIGHTS WITH BRACKET	3
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON TOP OF POST	1
FURNISH AND INSTALL ONE-WAY, 16 X 18-INCH LED SIDE OF POLE MOUNTED COUNTDOWN PEDESTRIAN SIGNAL HEAD	4
FURNISH AND INSTALL ONE-WAY, 16 X 18-INCH LED TOP OF POST MOUNTED COUNTDOWN PEDESTRIAN SIGNAL HEAD	4
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3e INFORMATIONAL SIGN	8
FURNISH AND INSTALL 4-CHANNEL PREEMPTION PHASE SELECTOR	1
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	4
FURNISH AND INSTALL PREEMPTION CONFIRMATION RED STROBE WITH CABLE	1
FURNISH AND INSTALL MAST ARM MOUNTED SIGNS	1
FURNISH AND INSTALL SIGNAL POST/POLE MOUNTED SIGNS	3
FURNISH AND INSTALL NEW SIGNAL CABLE	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.21)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

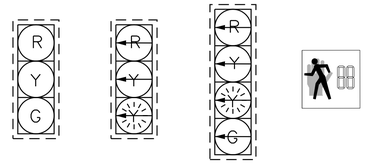
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"
A-P1	10' PEDESTAL POLE	24" DIAMETER
A-P2	8' PEDESTAL POLE	24" DIAMETER
B-P1	8' PEDESTAL POLE	24" DIAMETER
D-P1	8' PEDESTAL POLE	24" DIAMETER

SYSTEM DESIGN VOLUMES AM (PM)

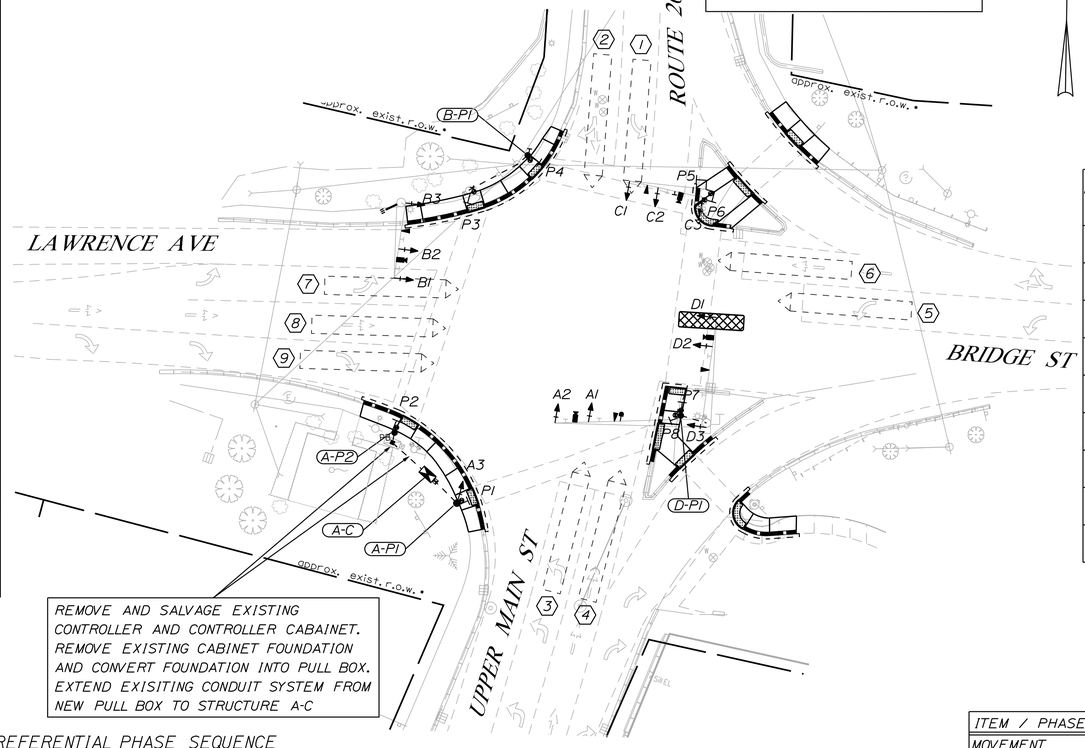


PROPOSED INDICATIONS



A2,A3,B2,B3 C2,C3,D2,D3 | D1 | A1,B1,C1 | P1-P8

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES



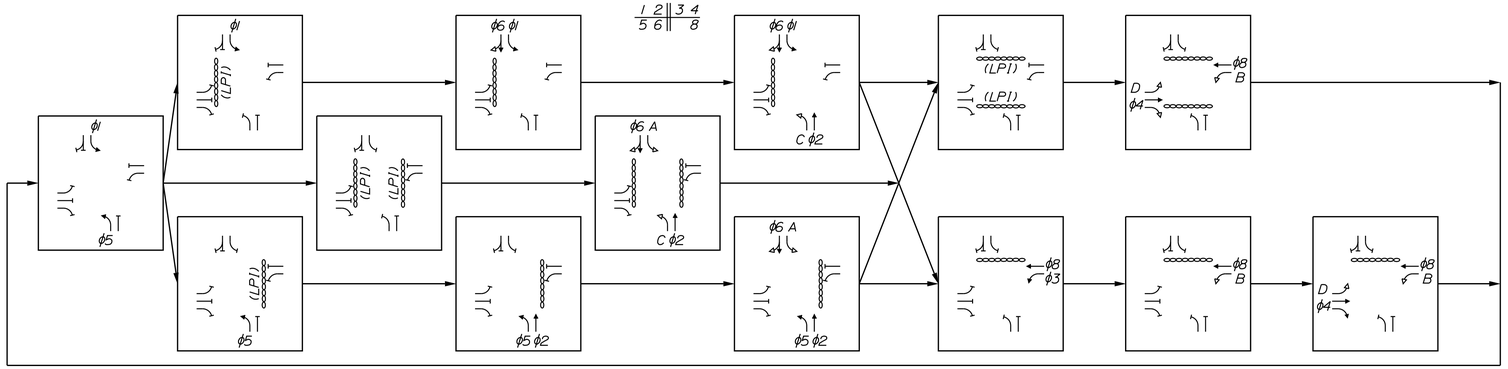
REMOVE AND SALVAGE EXISTING CONTROLLER AND CONTROLLER CABAINET. REMOVE EXISTING CABINET FOUNDATION AND CONVERT FOUNDATION INTO PULL BOX. EXTEND EXISITING CONDUIT SYSTEM FROM NEW PULL BOX TO STRUCTURE A-C

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	ϕ CALLED	ϕ EXT.	MODE A=ADVANCE B=STOPLINE	DELAY TIME	EXT. TIME
1	UPPER MAIN ST SB LEFT	1	1	B	-	-
2	UPPER MAIN ST SB THRU-RIGHT	6	6	B	-	-
3	UPPER MAIN ST NB LEFT	5	5	B	-	-
4	UPPER MAIN ST NB THROUGH	2	2	B	-	-
5	BRIDGE ST WB LEFT	8	8	B	-	-
6	BRIDGE ST WB THROUGH	8	8	B	-	-
7	LAWERENCE AVE EB LEFT	4	4	B	-	-
8	LAWERENCE AVE EB THROUGH	4	4	B	-	-
9	LAWERENCE AVE EB RIGHT	4	4	B	5	-

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM



OVERLAP PHASING:
OVL A = 1(PROT) • 2 (PERM)
OVL B = 3 (PROT) • 4 (PERM)
OVL C = 5 (PROT) • 6 (PERM)
OVL D = 4

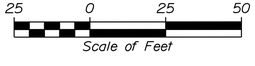
PHASING NOTES:
1. EACH PEDESTRIAN PHASE SHALL HAVE A MINIMUM OF A 4 SECOND LEADING PEDESTRIAN INTERVAL (LPI).
2. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY.
3. OVERLAP A,B,C, AND D SHALL BE PROGRAMMED FOR FLASHING YELLOW ARROWS.

SIGNAL TIMING SCHEDULE

ITEM / PHASE	ϕ 1	ϕ 2	ϕ 3	ϕ 4	ϕ 5	ϕ 6	ϕ 7	ϕ 8
MOVEMENT	A (LT)	C	B (LT)	D	C (LT)	A	-	B
MINIMUM INITIAL	5	10	5	7	5	10	-	7
PASSAGE TIME	3.0	3.0	3.0	3.0	3.0	3.0	-	3.0
MAXIMUM 1	20	25	15	15	25	25	-	15
MAXIMUM 2	21	24	16	16	27	24	-	16
YELLOW	3.0	3.5	3.0	3.5	3.0	3.5	-	3.5
ALL RED	3.0	2.5	3.0	2.5	3.0	2.5	-	2.5
PED WALK	-	5	-	5	-	5	-	5
PED CLEAR	-	14	-	16	-	18	-	14
DYN MAX LIMIT	-	-	-	-	-	-	-	-
DYN MAX STEP	-	-	-	-	-	-	-	-
RECALL	OFF	SOFT	OFF	OFF	OFF	SOFT	-	OFF
DETECTOR	PR	PR	PR	PR	PR	PR	-	PR
PRE-EMPT PRIORITY	3	4	5	6	4	3	-	5
FLASH	R	Y	R	R	R	Y	-	R
DUAL ENTRY	OFF	ON	OFF	ON	OFF	ON	-	ON

NOTES: S = SOFT RECALLY = YELLOW
O = RECALL OFF R = RED
PR = PRESENCE D = DARK
IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONTRACT AWARD.

PLAN



* - RIGHT-OF-WAY INFORMATION FROM MAINE OFFICE OF GEOGRAPHIC INFORMATION SYSTEMS - AUGUST 7, 2018

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

	B. KEEZER	DATE
PROJ. MANAGER		BY
DESIGN-DETAILED	MLG	JAR 07/20
CHECKED-REVIEWED	CMB	CMB 07/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

FAIRFIELD
ROUTE 201/11(UPPER MAIN ST) AND BRIDGE ST / LAWRENCE AVE

TRAFFIC SIGNAL PLAN

SHEET NUMBER
46
OF 358

Filename: 046_Signal_46.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

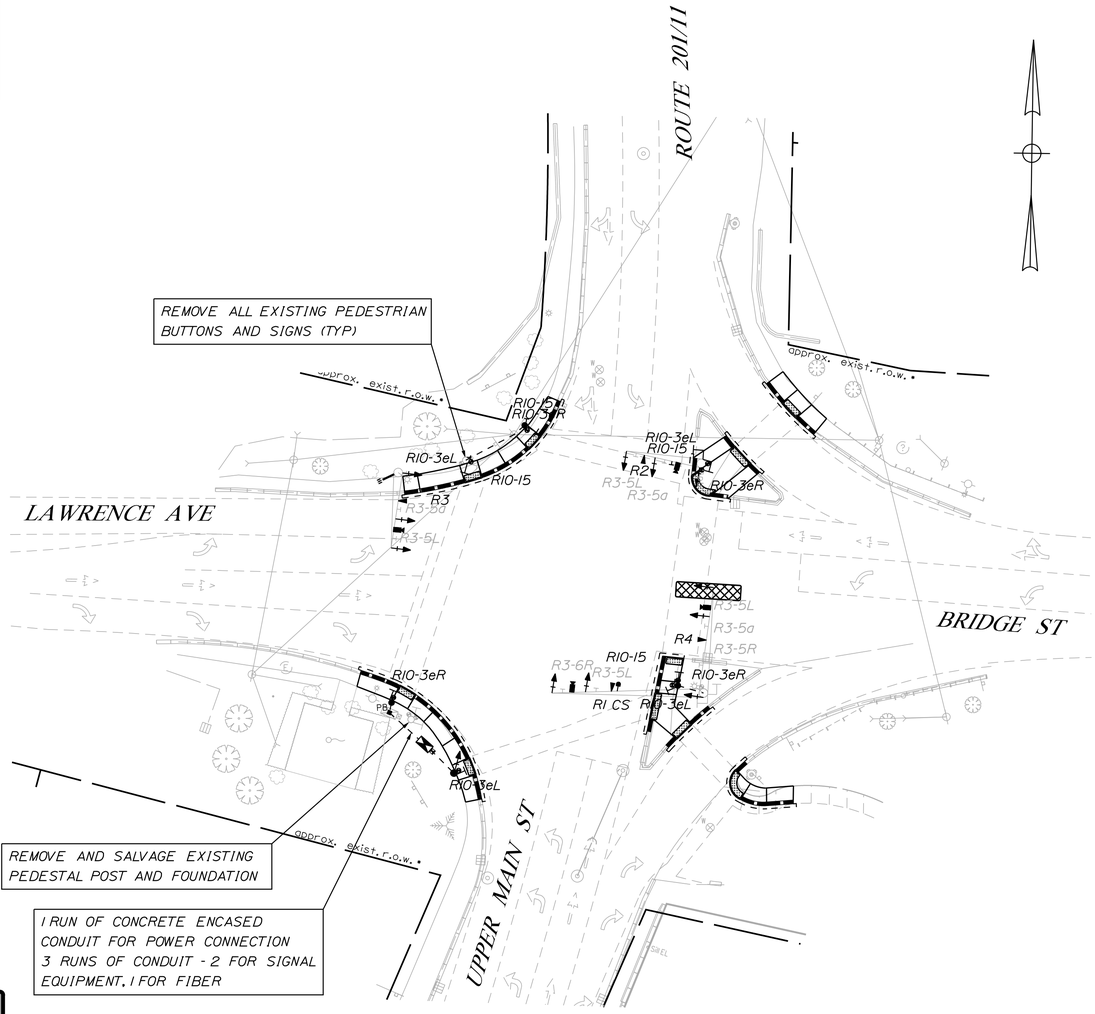
Filename: 046_Signal_46a.dgn Division: HIGHWAY Username: jarobert Date:11/24/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
FURNISH AND INSTALL PRECAST JUNCTION BOX (ITEM 626.11)	1 EA
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	100 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	15 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL 24-INCH DIAMETER FOUNDATION (ITEM 626.421)*	28 LF
FURNISH AND INSTALL 8-FOOT PEDESTAL POLE (ITEM 643.92)	3 EA
FURNISH AND INSTALL 10-FOOT PEDESTAL POLE (ITEM 643.92)	1 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

* REMOVAL OF EXISTING PEDESTAL POLE FOUNDATION SHALL BE SUBSIDIARY TO ITEM 626.421

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PROPOSED SIGNS



R10-3eL 9"x15" 4-PROPOSED

R10-3eR 9"x15" 4-PROPOSED

R10-15 30"x30" 4-PROPOSED

EXISTING SIGNS



R3-5L 4-RETAINED

R3-5a 3-RETAINED

R3-5R 1-RETAINED

R3-6R 1-RETAINED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
	1	NOT USE/RESERVED	
	2	NOT USE/RESERVED	
R1	3	1	ϕ1&ϕ6
R2	4	2	ϕ2&ϕ5
R3	5	3	ϕ3&ϕ8
R4	6	4	ϕ4

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.

2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 4 = LOWEST)

3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR AND/OR RSU , THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 3.0 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.

4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.

5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

PLAN

25 0 25 50

Scale of Feet

* - RIGHT-OF-WAY INFORMATION FROM MAINE OFFICE OF GEOGRAPHIC INFORMATION SYSTEMS - AUGUST 7, 2018

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER		
DESIGN-DETAILED	MLG	JAR	07/20
CHECKED-REVIEWED	CMB	CMB	07/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

FAIRFIELD
ROUTE 201/11(UPPER MAIN ST)
AND BRIDGE ST / LAWRENCE AVE

TRAFFIC SIGNAL PLAN

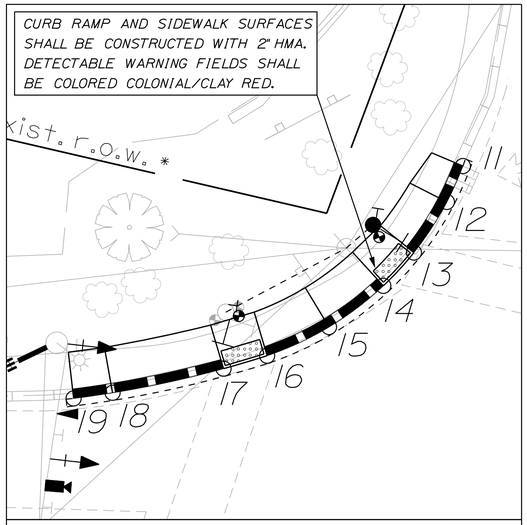
SHEET NUMBER

46A

OF 358

Filename: 046_Signal_46c.dgn Username: jarobert Division: HIGHWAY Date:11/24/2020

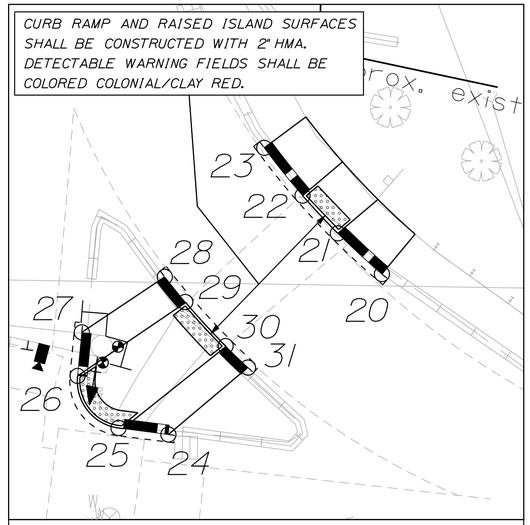
B CORNER - NW DETAIL



RECONSTRUCT CURB RAMPS AND LANDINGS IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(16).
TRANSITION LENGTH REQUIRED FOR THE WESTERN CURB RAMP SHALL BE 15.0'. SEE MAINEDOT STANDARD DETAIL 801(13).

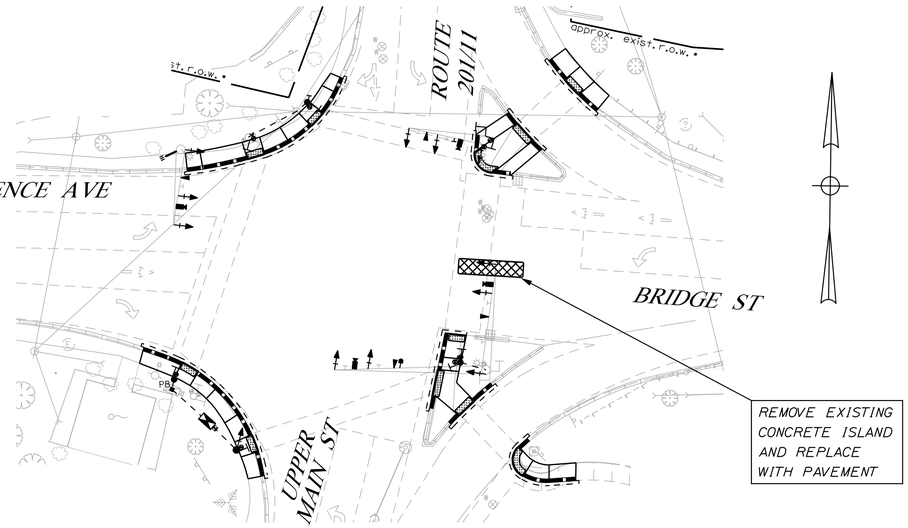
10 0 10 20
Scale of Feet

C CORNER - NE DETAIL



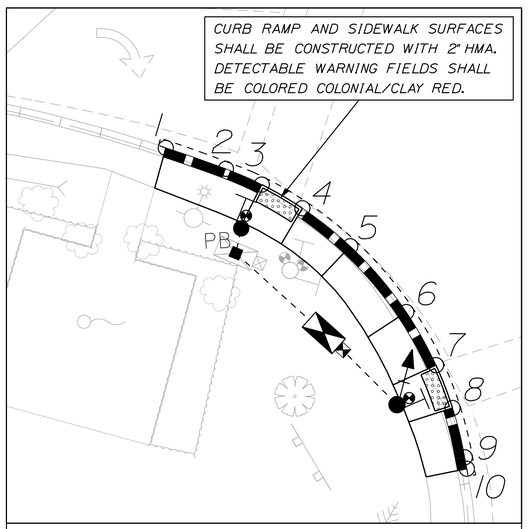
RECONSTRUCT CURB RAMPS AND LANDINGS IN ACCORDANCE WITH MAINEDOT STANDARD DETAILS 801(14) AND 801(20).

10 0 10 20
Scale of Feet



ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED. AS WELL AS DETAILS PROVIDED ON SHEET H.

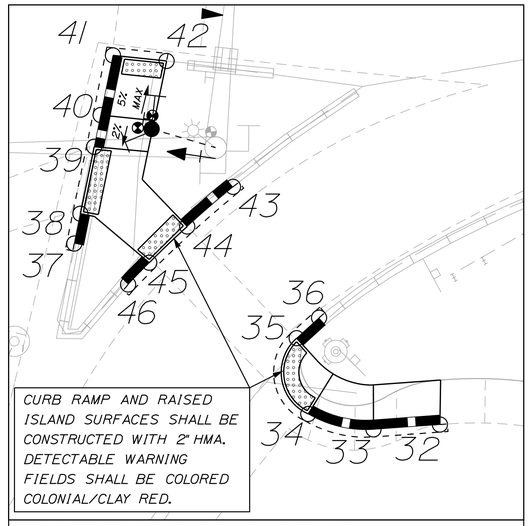
A CORNER - SW DETAIL



RECONSTRUCT CURB RAMPS AND LANDINGS IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).
TRANSITION LENGTH REQUIRED FOR THE WESTERN CURB RAMP SHALL BE 13.5'. SEE MAINEDOT STANDARD DETAIL 801(13).

10 0 10 20
Scale of Feet

D CORNER - SE DETAIL



RECONSTRUCT CURB RAMPS AND LANDINGS IN ACCORDANCE WIH MAINEDOT STANDARD DETAILS 801(14) AND 801(20).

10 0 10 20
Scale of Feet

PLAN

25 0 25 50
Scale of Feet

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER	BY	DATE
DESIGN-DETAILED	MLG	JAR	07/20
CHECKED-REVIEWED	CMB	CMB	07/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

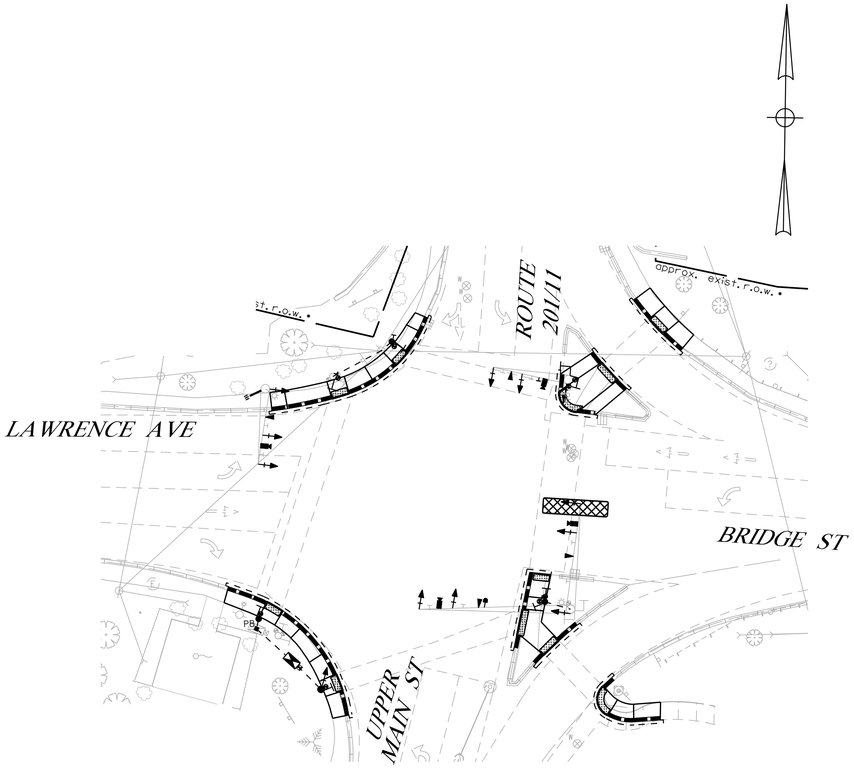
FAIRFIELD
ROUTE 201/11(UPPER MAIN ST)
AND BRIDGE ST / LAWRENCE AVE

CURB RAMP LAYOUT AND DETAIL PLAN

SHEET NUMBER
46C
OF 358

PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD		ITEM 609.11 - VERTICAL CURB TYPE I (LF)	ITEM 609.12 - VERTICAL CURB TYPE I - CIRCULAR (LF)	ITEM 609.221 - TERMINAL CURB TYPE I (LF)	ITEM 609.222 - TERMINAL CURB TYPE I - CIRCULAR (LF)	ITEM 609.34 - CURB TYPE 5 (LF)	COMMENT
		LENGTH (FT)	QTY (SF)						
* 1 TO 2	199.8					8.4			10.0% RUNNING SLOPE
2 TO 3	50.0						5.1		
3 TO 4	50.0	6.2	10.9						
4 TO 5	50.0						8.0		
5 TO 6	50.0				11.5				
6 TO 7	50.0						8.0		
7 TO 8	50.0	6.1	10.5						
8 TO 9	50.0						6.7		
9 TO 10	-					1.5			
11 TO 12	42.0				5.2				
12 TO 13	42.0						8.0		
13 TO 14	42.0	6.0	10.2						
14 TO 15	42.0						9.0		
15 TO 16	42.0						9.0		
16 TO 17	140.0	6.0	10.7						
17 TO 18	140.0					15.0			
18 TO 19	140.0			5.2					
20 TO 21	100.0					8.0			
21 TO 22	100.0	6.8	12.3						
22 TO 23	100.0					8.0			
24 TO 25	-							6.0	
25 TO 26	6.3	10.3	19.3						
26 TO 27	-							5.8	
28 TO 29	100.0							4.4	
29 TO 30	100.0	7.9	14.5						
30 TO 31	100.0							4.0	
32 TO 33	-					8.7			
33 TO 34	15.0						9.1		
34 TO 35	6.0	11.9	17.8						
35 TO 36	-					4.0			
37 TO 38	-							4.0	
38 TO 39	-	9.0	17.0						
39 TO 40	-							4.3	
40 TO 41	-							8.0	
* 41 TO 42	-	7.1	10.4						3.5% CROSS SLOPE
43 TO 44	150.0							8.0	
44 TO 45	150.0	6.9	12.9						
45 TO 46	150.0							4.0	

* NON-COMPLIANT CURB RAMP ELEMENT - THE EXISTING GUTTER LINE PROFILE IS GREATER THAN 2%. THEREFORE THE LEVEL LANDING CROSS SLOPE AND/OR RUNNING SLOPE WILL BE GREATER THAN THE 2% AND 8.33% MAXIMUM ALLOWABLE, RESPECTIVELY. THE COMMENT IS THE MAXIMUM VALUE FOR PROPOSED LEVEL OF COMPLIANCE.



ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED, AS WELL AS DETAILS PROVIDED ON SHEET H.

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
COMMON EXCAVATION (ITEM 203.20)	23.8 CY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	28.6 TONS
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	146.5 SF
CONSTRUCT SIDEWALK (ITEM 608.45)	9.4 SY
REGRADING SIDEWALK (ITEM 608.46)	139.8 SY

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
VERTICAL CURB TYPE I (ITEM 609.11)	5.2 LF
VERTICAL CURB TYPE I - CIRCULAR (ITEM 609.12)	16.7 LF
TERMINAL CURB TYPE I (ITEM 609.221)	53.6 LF
TERMINAL CURB TYPE I - CIRCULAR (ITEM 609.222)	62.9 LF
CURB TYPE 5 (ITEM 609.34)	48.5 LF

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PLAN

25 0 25 50
Scale of Feet

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER	DATE
DESIGN-DETAILED	MLG	JAR 07/20
CHECKED-REVIEWED	CMB	CMB 07/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

FAIRFIELD
ROUTE 201/11(UPPER MAIN ST)
AND BRIDGE ST / LAWRENCE AVE

CURB RAMP LAYOUT
AND DETAIL PLAN

SHEET NUMBER

46D

OF 358

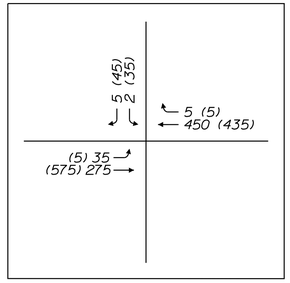
Filename: 046_Signal_46d.dgn Date:11/24/2020
Division: HIGHWAY Username: jorobert

LIST OF WORK ITEMS

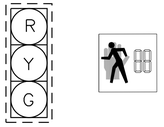
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING CELL MODEM / FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED MONITORING SYSTEM	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SPAN AND TETHER WIRE	6
FURNISH AND INSTALL ONE-WAY, 16 X 18-INCH LED TOP OF POST MOUNTED COUNTDOWN PEDESTRIAN SIGNAL HEAD	2
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3e INFORMATIONAL SIGN	2
FURNISH AND INSTALL 4-CHANNEL PREEMPTION PHASE SELECTOR	1
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	2
FURNISH AND INSTALL PREEMPTION CONFIRMATION RED STROBE WITH CABLE	1
FURNISH AND INSTALL SPAN WIRE MOUNTED SIGNS	6
REMOVE EXISTING SPAN WIRE MOUNTED SIGNS	2
RESET POST MOUNTED SIGN	1
FURNISH AND INSTALL NEW SIGNAL CABLE	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 3 APPROACHES, COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 2 APPROACHES, COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

SYSTEM DESIGN VOLUMES AM (PM)



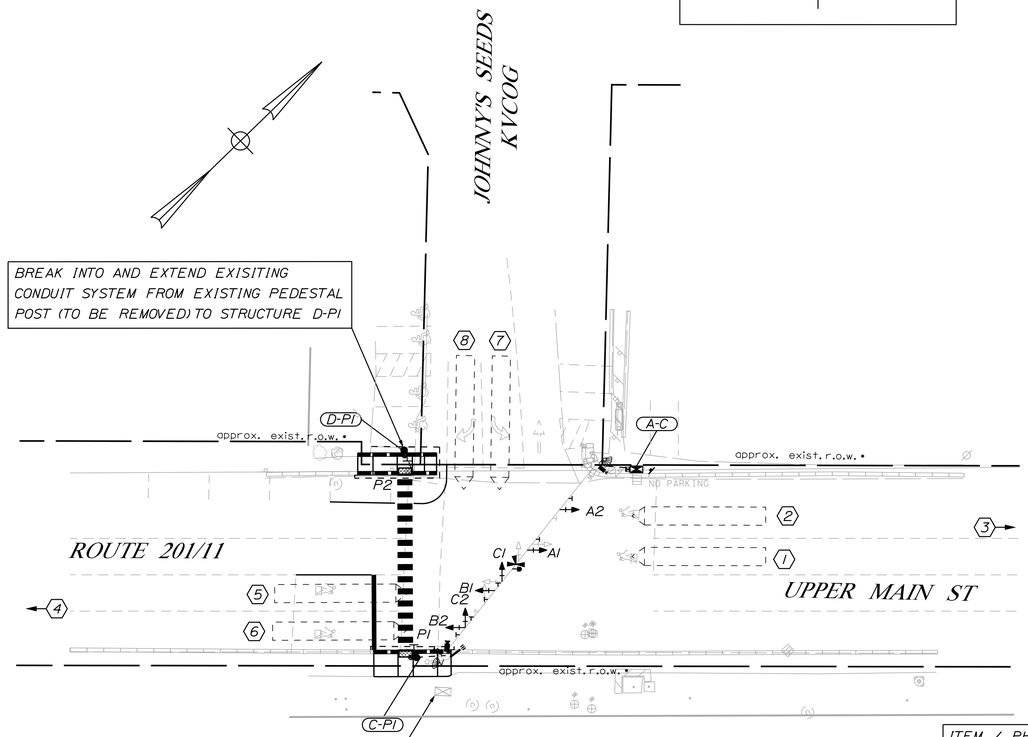
PROPOSED INDICATIONS



A1, A2, B1
B2, C1, C2

P1-P2

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES



DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADVANCE B=STOPLINE	DELAY TIME	EXT. TIME
1	UPPER MAIN ST SB THROUGH	6	6	B	-	-
2	UPPER MAIN ST SB THRU-RIGHT	6	6	B	-	-
3*	UPPER MAIN ST SB ADVANCE	6	6	A	-	-
4*	UPPER MAIN ST NB ADVANCE	2	2	A	-	-
5	UPPER MAIN ST NB LEFT-THRU	2	2	B	-	-
6	UPPER MAIN ST NB THROUGH	2	2	B	-	-
7	JOHNNY'S SEEDS/KVCOG EB LEFT	4	4	B	-	-
8	JOHNNY'S SEEDS/KVCOG EB RIGHT	4	4	B	5	-

* SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)

STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"
C-P1	8' PEDESTAL POLE	24" DIAMETER
D-P1	8' PEDESTAL POLE	24" DIAMETER

SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ1	φ2	φ3	φ4	φ5	φ6	φ7	φ8
MOVEMENT	-	B	EX. PED.	C	-	A	-	-
MINIMUM INITIAL	-	10	-	7	-	10	-	-
PASSAGE TIME	-	3.5	-	3.0	-	3.5	-	-
MAXIMUM 1	-	35	-	20	-	35	-	-
MAXIMUM 2	-	50	-	30	-	50	-	-
YELLOW	-	4.0	3.0	3.0	-	4.0	-	-
ALL RED	-	2.0	0.0	2.0	-	2.0	-	-
PED WALK	-	-	5	-	-	-	-	-
PED CLEAR	-	-	15	-	-	-	-	-
DYN MAX LIMIT	-	-	-	-	-	-	-	-
DYN MAX STEP	-	-	-	-	-	-	-	-
RECALL	-	SOFT	-	OFF	-	SOFT	-	-
DETECTOR	-	PR	-	PR	-	PR	-	-
PRE-EMPT PRIORITY	-	4	-	5	-	3	-	-
FLASH	-	Y	DARK	R	-	Y	-	-
DUAL ENTRY	-	ON	-	OFF	-	ON	-	-

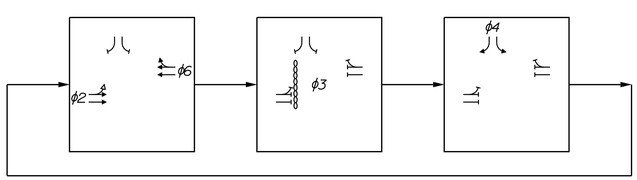
NOTES: S = SOFT RECALLY = YELLOW
O = RECALL OFF R = RED
PR = PRESENCE D = DARK

IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONTRACT AWARD.

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

2 | 3 4
6 | 5



PHASING NOTES:
1. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY INFORMATION FROM MAINE OFFICE OF GEOGRAPHIC INFORMATION SYSTEMS - AUGUST 7, 2018

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER		
DESIGN-DETAILED	M.LG	JAR	07/20
CHECKED-REVIEWED	CMB	CMB	07/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

FAIRFIELD
ROUTE 201/11(UPPER MAIN ST)
AND JOHNNY'S SEEDS/KVCOG

TRAFFIC SIGNAL PLAN

SHEET NUMBER
47
OF 358

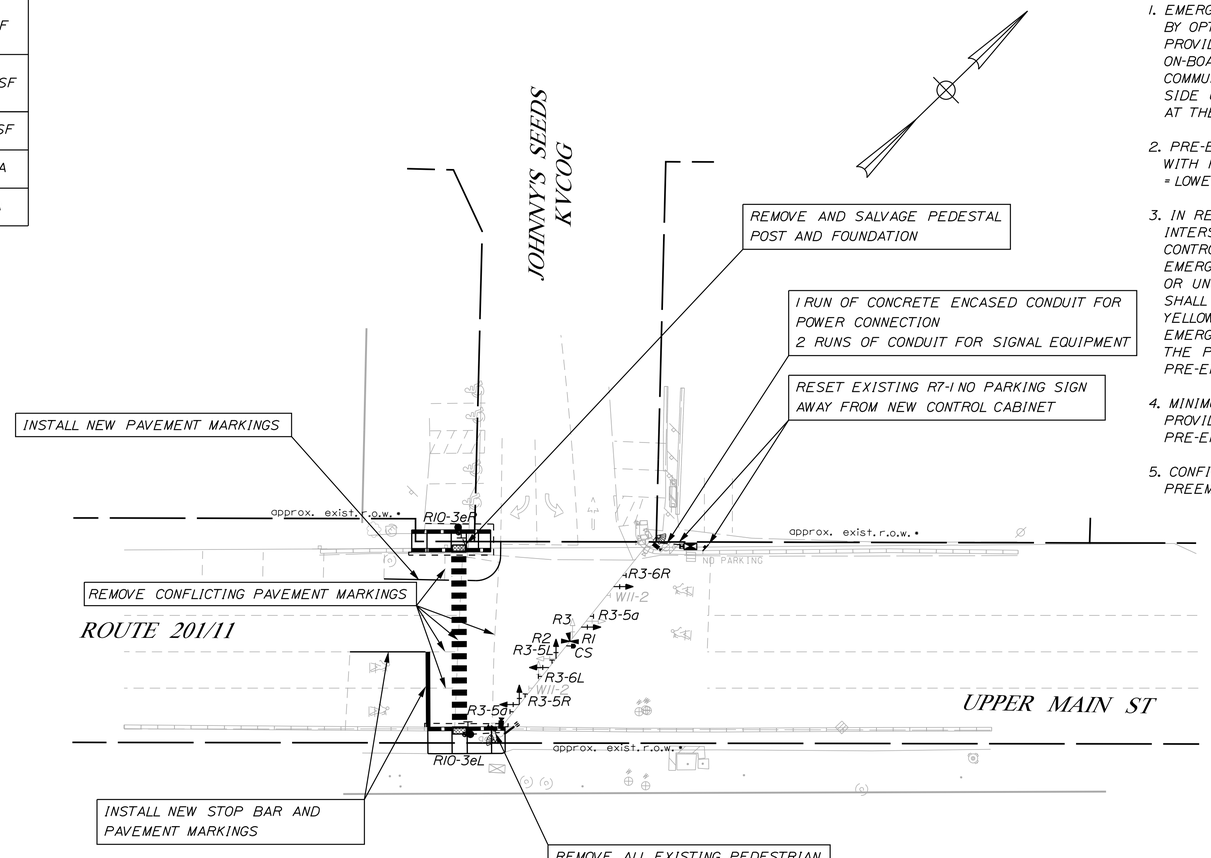
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Filename: 047_SignoL_47a.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	40 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	10 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL 24-INCH DIAMETER FOUNDATION (ITEM 626.421)	14 LF
FURNISH AND INSTALL 4" WHITE OR YELLOW PAVEMENT MARKING LINE (ITEM 627.733)	68 LF
FURNISH AND INSTALL WHITE PAVEMENT AND CURB MARKINGS (ITEM 627.75)	276 SF
REMOVE EXISTING PAVEMENT MARKING (ITEM 627.77)	163 SF
FURNISH AND INSTALL 8-FOOT PEDESTAL POLE (ITEM 643.92)	2 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351 - BID ALTERNATIVE 2)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



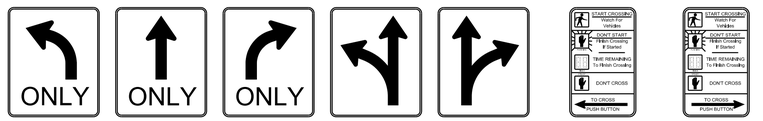
EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
	1	NOT USE/RESERVED	
	2	NOT USE/RESERVED	
R1	3	1	ϕ6
R2	4	2	ϕ2
R3	5	3	ϕ4
	6	NOT USED	

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 3 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR AND/OR RSU , THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION 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 PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

PROPOSED SIGNS



R3-5L	R3-5a	R3-5R	R3-6L	R3-6R	R10-3eL	R10-3eR
30"x36"	30"x36"	30"x36"	30"x36"	30"x36"	9"x15"	9"x15"
1-PROPOSED	2-PROPOSED	1-PROPOSED	1-PROPOSED	1-PROPOSED	1-PROPOSED	1-PROPOSED

EXISTING SIGNS



W11-2	R7-1
2-REMOVED	1-RELOCATED

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY INFORMATION FROM MAINE OFFICE OF GEOGRAPHIC INFORMATION SYSTEMS - AUGUST 7, 2018

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

	B. KEEZER	DATE
PROJ. MANAGER		
DESIGN-DETAILED	MLG	07/20
CHECKED-REVIEWED	CMB	07/20
DESIGN2-DETAILED2	CMB	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

FAIRFIELD
ROUTE 201/11(UPPER MAIN ST)
AND JOHNNY'S SEEDS/KVCOG

TRAFFIC SIGNAL PLAN

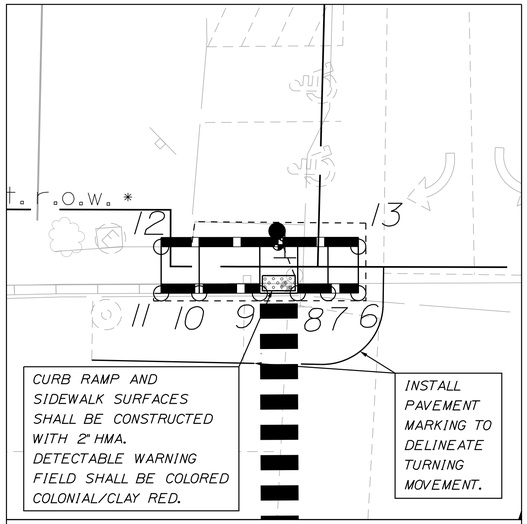
SHEET NUMBER

47A

OF 358

Usernam: jorobert Date:11/24/2020
Division: HIGHWAY
Filename: 047_SignoL_47c.dgn

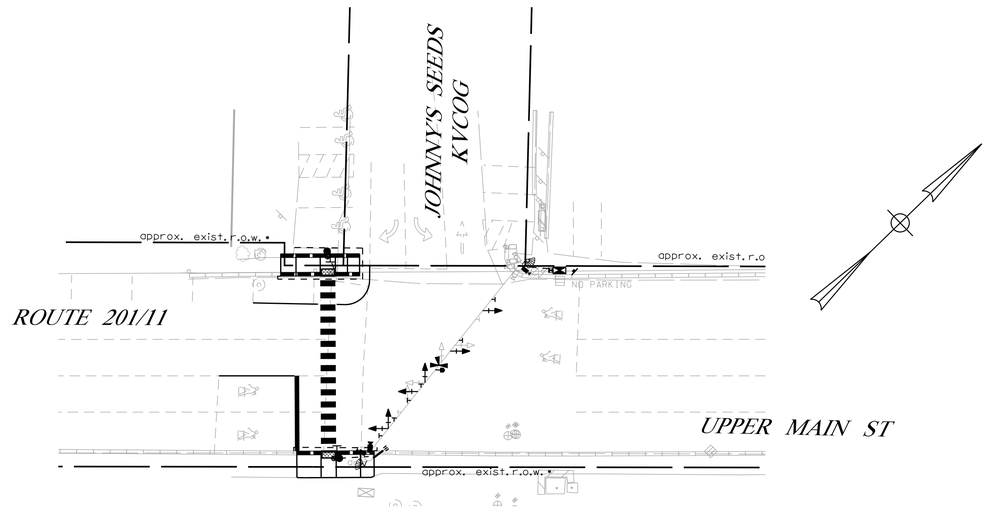
D CORNER - NW DETAIL



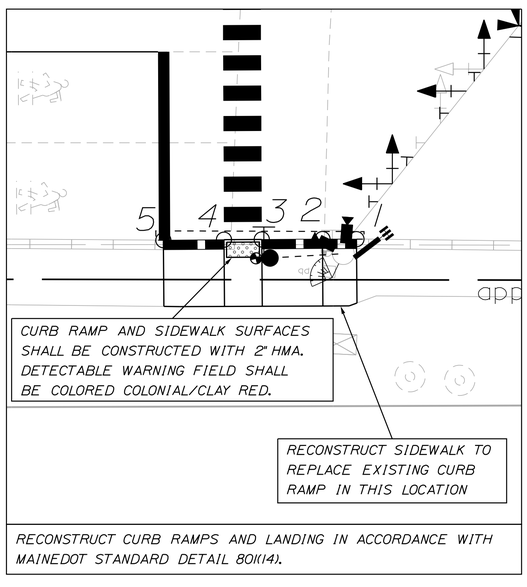
RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).
CONSTRUCT BACK CURB ALONG CURB RAMPS AND LANDING.

10 0 10 20
Scale of Feet

PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD		ITEM 609.11 - VERTICAL CURB TYPE I (LF)	ITEM 609.221 - TERMINAL CURB TYPE I (LF)	COMMENT
		LENGTH (FT)	QTY (SF)			
1 TO 2	-			4.5		
2 TO 3	-				8.0	
3 TO 4	-	5.0	8.7			
4 TO 5	-				8.0	
6 TO 7	-				4.0	
7 TO 8	-				4.0	
8 TO 9	-	5.0	8.7			
9 TO 10	-				8.0	
10 TO 11	-			5.0		
12 TO 13	-			26.0		



C CORNER - SW DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

10 0 10 20
Scale of Feet

ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED. AS WELL AS DETAILS PROVIDED ON SHEET H.

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
HOT MIX ASPHALT. 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	9.1 TONS
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	17.4 SF
REGRADING SIDEWALK (ITEM 608.46)	46.3 SY
VERTICAL CURB TYPE I (ITEM 609.11)	35.5 LF
TERMINAL CURB TYPE I (ITEM 609.221)	32.0 LF

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY INFORMATION FROM MAINE OFFICE OF GEOGRAPHIC INFORMATION SYSTEMS - AUGUST 7, 2018

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

	B. KEEZER	DATE
PROJ. MANAGER		
DESIGN-DETAILED	MLG	07/20
CHECKED-REVIEWED	CMB	07/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

FAIRFIELD
ROUTE 201/11(UPPER MAIN ST)
AND JOHNNY'S SEEDS/KVCOG

CURB RAMP LAYOUT
AND DETAIL PLAN

SHEET NUMBER
47C
OF 358

Filename: ...\ROW\MSTA\047_RWPLAN1.dgn Username: Benjamin.Singer Date:11/24/2020 Division: ROW

PLAN LEGEND

Town, County, State	New R/W Along Existing R/W	Sanitary Sewer	Traveled Way	Cut Line	Fill Line
Approx. Property Lines P.L.	Building / Clearing Limit Line	Telephone Line	Ditch	Stonewall	Retaining Wall
Existing Right of Way	Trees Conifer / Deciduous	Electric Line	Catch Basin	Baseline 10+00 11+00 12+00	
Limits of Wrought Portion L.O.W.P.	Tree Line / Bush Line	Water Line	Manhole	Monument	Traverse Point
Control Of Access C.O.A.	Water Edge	Underdrain Line	Sewer Manhole	Iron Rod Found ● IRF	Pipe Found ● IPF
New Right of Way	Ledge / Rock/Boulder / Flag Pole	Gas Line	Utility Pole	Replacement Pin Set	
New Easement	Fence CHAIN LINK / BARB WIRE / STOCKADE	Guardrail	Fire Hydrant		
New Temporary Rights	Sign / Well / Mailbox	Culvert	Curbing		
New R/W Within Existing R/W					

(Existing / Proposed)

THIS PLAN WAS PREPARED IN CONNECTION WITH THE DEPARTMENT'S ACQUISITION OF REAL PROPERTY FOR TRANSPORTATION PURPOSES. IT CANNOT BE USED TO ESTABLISH LEGAL BOUNDARIES BETWEEN ABUTTING PROPERTY OWNERS.

25 0 25 50 75 100
Scale of Feet

STATE OF MAINE
REGISTRY OF DEEDS

COUNTY _____
RECEIVED _____, _____
at _____h_____m_____M and
recorded in Plan Bk _____, Pg._____
Attest: _____
REGISTER

GRID NORTH
MAINE 2000 WEST ZONE

NOTE:
THE NORTH ARROW AND BASELINE COORDINATES SHOWN ARE BASED ON GRID NORTH, MAINE 2000 WEST ZONE. HOWEVER, THE BASELINE BEARING IS TAKEN FROM THE D.O.T. FILE NO. REFERENCED, AND MAY BE BASED ON MAGNETIC NORTH.

FINAL SUBDIVISION PLAN OF
THE CHINET COMPANY SUBDIVISION
BY PICKETT LAND SURVEY INC.
DATED SEPTEMBER 01, 1995
PLAN BOOK B-95, PAGE 110, S.C.R.D

HUHTAMAKI INC.
ITEM NO. (19)
CONST. & MAINT. EASE. = 114± S.F. (1)
SIGNAL SYSTEM EASE. = 62± S.F. (1)
TOTAL AREA = 12.12± AC. (CALC.)

KENNEBEC VALLEY
COUNCIL OF GOVERNMENTS
("K.V.C.O.G.")
ITEM NO. (20)
SIGNAL SYSTEM EASE. = 112± S.F. (1)
TOTAL AREA = 0.41± AC. (TOWN)

FINAL SUBDIVISION PLAN OF
THE CHINET COMPANY SUBDIVISION
BY PICKETT LAND SURVEY INC.
DATED SEPTEMBER 01, 1995
PLAN BOOK B-95, PAGE 110, S.C.R.D

FINAL SUBDIVISION PLAN OF
THE CHINET COMPANY SUBDIVISION
BY PICKETT LAND SURVEY INC.
DATED SEPTEMBER 01, 1995
PLAN BOOK B-95, PAGE 110, S.C.R.D

SOMERSET COUNTY
KENNEBEC COUNTY

CONST. & MAINT.
EASE. LIMITS
114± S.F.

62± S.F.

N:637085.121
E:1183850.475

SIGNAL SYSTEM EASE. LIMITS
112± S.F.

L.O.W.P.

44' 44' 40' 38'

BASE LINE ESTABLISHED UNDER
S.H.C. FILE NO. 13-82

108 +35 +70 109 +13 +18± +37 110

BEGIN B.L.
N:636968.283
E:1183805.102

N57°56'E
200.00'

END B.L.
N:637111.784
E:1183944.413

STATE HIGHWAY "33" / U.S. ROUTE 201 / MAIN STREET

L.O.W.P.

EXISTING R/W

S.H.C. FILE NO. 13-82
(a/k/a S.H.C. FILE NO. 6-78)

NOTE: PRESCRIPTIVE EASEMENT FOR HIGHWAY PURPOSES WITHIN LIMITS OF WROUGHT PORTION (L.O.W.P.)

HUHTAMAKI INC.

FAIRFIELD
WATERVILLE

INTERSECTION NO. 47 WIN 024301.05

PRELIMINARY PLAN

ITEM	TECH	CHECKED
EXISTING CONDITION PLAN	B.S.	
FINAL RIGHT OF WAY	B.S.	
AREAS	B.S.	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION - AUGUSTA, ME 04333-0016 - 207-624-3460

FAIRFIELD
RIGHT OF WAY MAP

REVISIONS

NO.	DATE	DESCRIPTION	BY

PLAN FILED IN PLAN BOOK PAGE COUNTY RECORD

NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE

BRUCE A. VAN NOTE
COMMISSIONER

JOYCE NOEL TAYLOR
CHIEF ENGINEER

DATE

STATE HIGHWAY "33"
MAIN STREET / U.S. ROUTE 201
FAIRFIELD SOMERSET COUNTY
FEDERAL AID PROJECT NO. 2430100

OCTOBER 2020	RIGHT-OF-WAY MAP	D.O.T. FILE NO. 13-TBD
SCALE 1" = 25'	SHEET 1 OF 1	

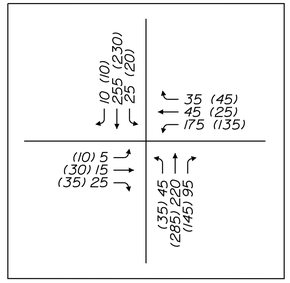
SHEET NUMBER
47R
OF 358

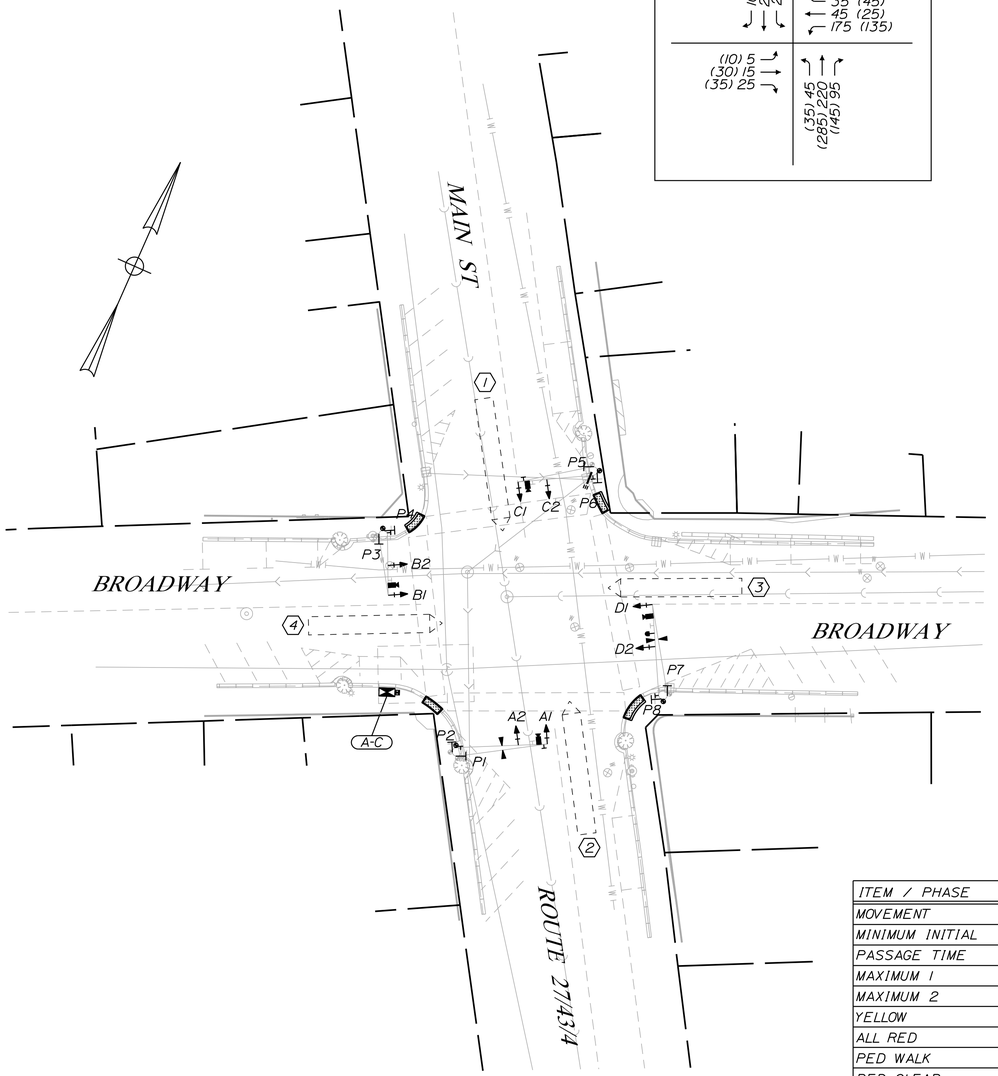
LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING CELL MODEM / FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED MONITORING SYSTEM	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	8
FURNISH AND INSTALL ONE-WAY, 16 X 18-INCH LED SIDE OF POLE MOUNTED COUNTDOWN PEDESTRIAN SIGNAL HEAD	8
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3e INFORMATIONAL SIGN	4
FURNISH AND INSTALL 4-CHANNEL PREEMPTION PHASE SELECTOR	1
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	4
FURNISH AND INSTALL PREEMPTION CONFIRMATION RED STROBE WITH CABLE	1
FURNISH AND INSTALL MAST ARM MOUNTED SIGNS	6
REMOVE MAST ARM MOUNTED SIGNS	6
FURNISH AND INSTALL NEW SIGNAL CABLE	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.21)	1 LS

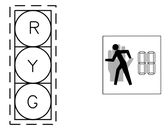
THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

SYSTEM DESIGN VOLUMES AM (PM)





PROPOSED INDICATIONS



A1,A2,B1,B2
C1,C2,D1,D2

P1-P8

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADVANCE B=STOPLINE	DELAY TIME	EXT. TIME
1	MAIN ST SB MOVEMENTS	6	6	B	-	-
2	MAIN ST NB MOVEMENTS	2	2	B	-	-
3	BROADWAY WB MOVEMENTS	8	8	B	-	-
4	BROADWAY EB MOVEMENTS	4	4	B	-	-

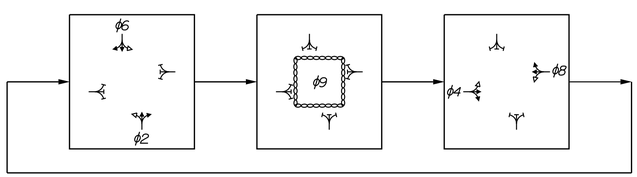
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

2 6 || 9 || 4 8



PHASING NOTES:
1. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY.

SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ1	φ2	φ3	φ4	φ5	φ6	φ7	φ8	φ9
MOVEMENT	-	C	-	D	-	A	-	B	EX. PED.
MINIMUM INITIAL	-	7	-	7	-	7	-	7	-
PASSAGE TIME	-	3.0	-	3.0	-	3.0	-	3.0	-
MAXIMUM 1	-	35	-	25	-	35	-	25	-
MAXIMUM 2	-	45	-	35	-	45	-	35	-
YELLOW	-	4.0	-	4.0	-	4.0	-	4.0	3.0
ALL RED	-	2.0	-	2.0	-	2.0	-	2.0	0.0
PED WALK	-	-	-	-	-	-	-	-	7
PED CLEAR	-	-	-	-	-	-	-	-	16
DYN MAX LIMIT	-	-	-	-	-	-	-	-	-
DYN MAX STEP	-	-	-	-	-	-	-	-	-
RECALL	-	SOFT	-	OFF	-	SOFT	-	OFF	-
DETECTOR	-	PR	-	PR	-	PR	-	PR	-
PRE-EMPT PRIORITY	-	4	-	6	-	3	-	5	-
FLASH	-	R	-	R	-	R	-	R	DARK
DUAL ENTRY	-	ON	-	ON	-	ON	-	ON	-

NOTES: S = SOFT RECALLY = YELLOW
O = RECALL OFF R = RED
PR = PRESENCE D = DARK
IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONTRACT AWARD.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE PIN 10760.00 STP-1076(000)X, SHEET 2 OF 2, 06/2003
* - RIGHT-OF-WAY REFERENCE 2874.10 & 2874.20 DOT FILE 4-178 SHEET 2 OF 4, 04/1988

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER		
DESIGN-DETAILED	MLG	JAR	07/20
CHECKED-REVIEWED	CMB	CMB	07/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

FARMINGTON
ROUTE 27/43/4(MAIN ST)
AND ROUTE 43(BROADWAY)

TRAFFIC SIGNAL PLAN

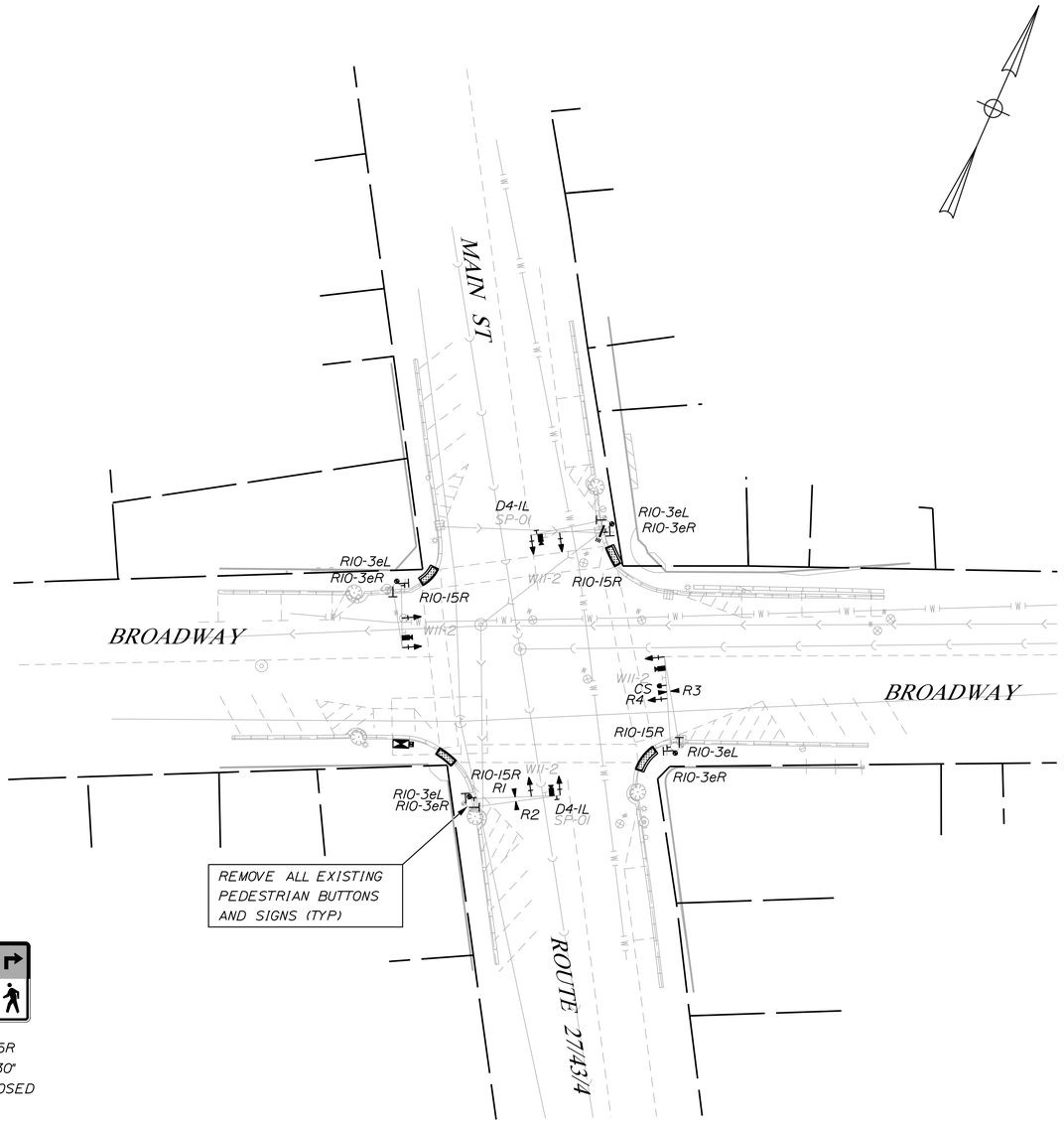
SHEET NUMBER
48
OF 358

Filename: 048_Signal_48.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
	1	NOT USE/RESERVED	
	2	NOT USE/RESERVED	
R1	3	1	ϕ6
R2	4	2	ϕ2
R3	5	3	ϕ8
R4	6	4	ϕ4

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 4 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR AND/OR RSU , THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION 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 PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

PROPOSED SIGNS



D4-1L
30"x24"
2-PROPOSED



R10-3eL
9"x15"
4-PROPOSED



R10-3eR
9"x15"
4-PROPOSED



R10-15R
30"x30"
4-PROPOSED

EXISTING SIGNS



W11-2
4-REMOVED



SP-01
2-REMOVED

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE PIN 10760.00 STP-1076(000)X, SHEET 2 OF 2, 06/2003
* - RIGHT-OF-WAY REFERENCE 2874.10 & 2874.20 DOT FILE 4-178 SHEET 2 OF 4, 04/1988

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN
024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER		
DESIGN-DETAILED	MLG	JAR	07/20
CHECKED-REVIEWED	CMB	CMB	07/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

FARMINGTON
ROUTE 27/43/4(MAIN ST)
AND ROUTE 43(BROADWAY)

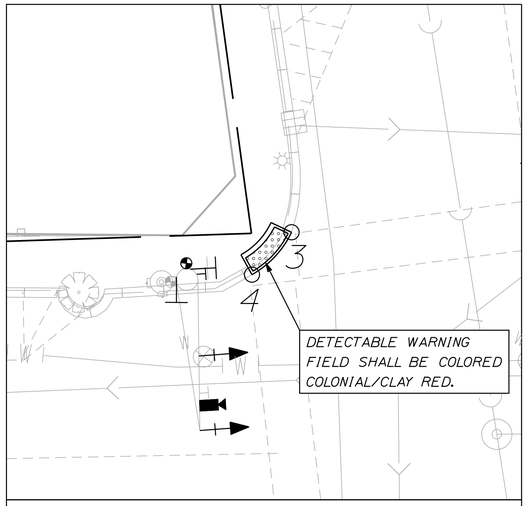
TRAFFIC SIGNAL PLAN

SHEET NUMBER
48A
OF 358

Filename: 048_Signal_48a.dgn Division: HIGHWAY Username: jarobert Date:11/24/2020

Filename: 048_Signal_48c.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

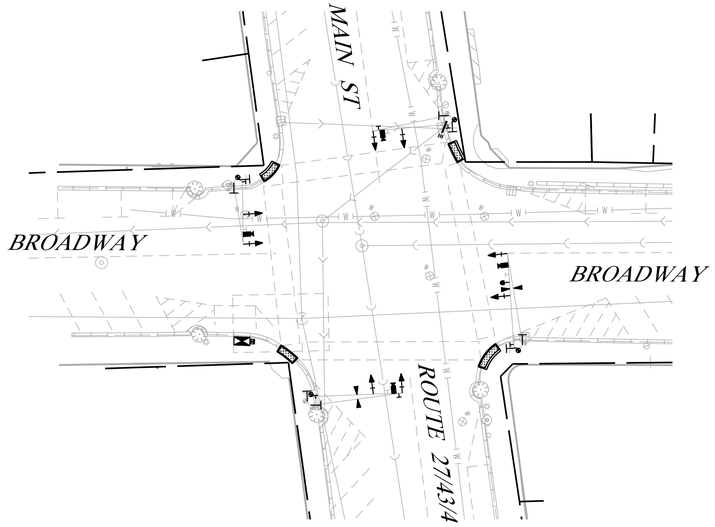
B CORNER - NW DETAIL



CONSTRUCT DETECTABLE WARNING FIELD AREA IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 608(12).

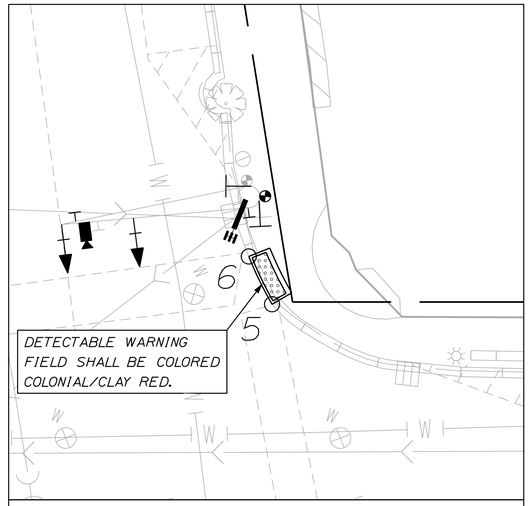
10 0 10 20
Scale of Feet

PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD		COMMENT
		LENGTH (FT)	QTY (SF)	
1 TO 2	30.0	7.1	12.2	
3 TO 4	12.5	7.8	12.6	
5 TO 6	49.0	7.0	12.3	
7 TO 8	15.5	9.8	16.6	



ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED. AS WELL AS DETAILS PROVIDED ON SHEET H.

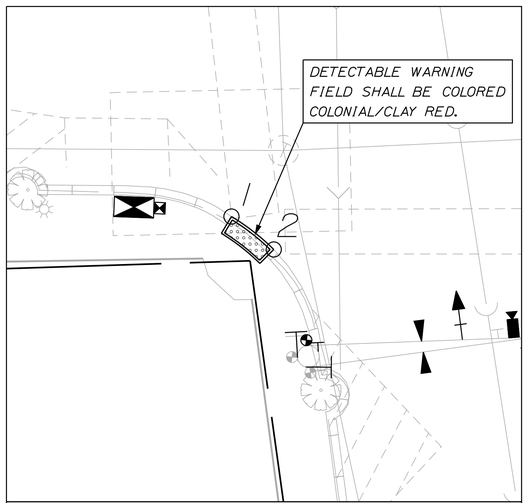
C CORNER - NE DETAIL



CONSTRUCT DETECTABLE WARNING FIELD AREA IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 608(12).

10 0 10 20
Scale of Feet

A CORNER - SW DETAIL



CONSTRUCT DETECTABLE WARNING FIELD AREA IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 608(12).

10 0 10 20
Scale of Feet

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	9.5 SY
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	53.7 SF

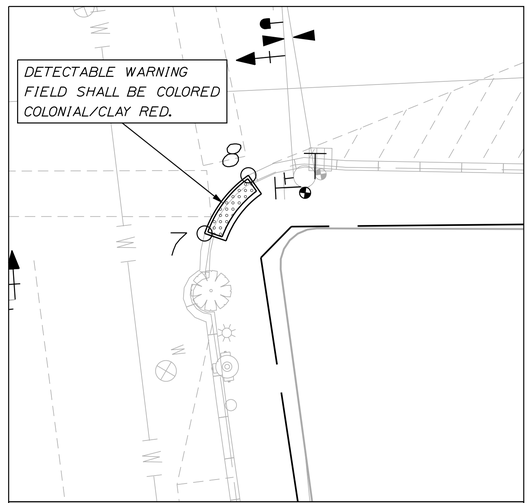
THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE PIN 10760.00 STP-1076(000)X, SHEET 2 OF 2, 06/2003
* - RIGHT-OF-WAY REFERENCE 2874.10 & 2874.20 DOT FILE 4-178 SHEET 2 OF 4, 04/1988

D CORNER - SE DETAIL



CONSTRUCT DETECTABLE WARNING FIELD AREA IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 608(12).

10 0 10 20
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER		
DESIGN-DETAILED	MLG	BY	JAR
CHECKED-REVIEWED	CMB	DATE	07/20
DESIGN2-DETAILED2		BY	CMB
DESIGN3-DETAILED3		DATE	07/20
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

FARMINGTON
ROUTE 27/43/4(MAIN ST)
AND ROUTE 43(BROADWAY)

CURB RAMP LAYOUT
AND DETAIL PLAN

SHEET NUMBER

48C

OF 358

LIST OF WORK ITEMS

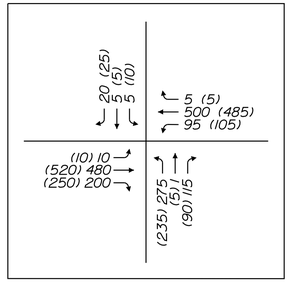
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING CELL MODEM / FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED MONITORING SYSTEM	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	6
FURNISH AND INSTALL ONE-WAY 4-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	3
FURNISH AND INSTALL ONE-WAY, 16 X 18-INCH LED TOP OF POST MOUNTED COUNTDOWN PEDESTRIAN SIGNAL HEAD	2
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3E INFORMATIONAL SIGN	2
FURNISH AND INSTALL 4-CHANNEL PREEMPTION PHASE SELECTOR	1
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	3
FURNISH AND INSTALL PREEMPTION CONFIRMATION RED STROBE WITH CABLE	1
FURNISH AND INSTALL 19-INCH 1RU FIBER OPTIC 12 POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL ENVIRONMENTALLY HARDENED FIBER OPTIC ETHERNET SWITCH	1
FURNISH AND INSTALL MAST ARM MOUNTED SIGNS	4
FURNISH AND INSTALL POST MOUNTED SIGNS	5
REMOVE EXISTING MAST OR POST MOUNTED SIGN	7
FURNISH AND INSTALL NEW SIGNAL CABLE	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 1 APPROACHES, COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

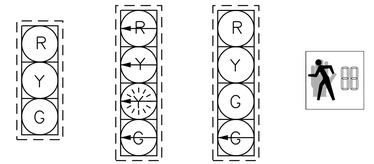
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"
A-P1	8' PEDESTAL POLE	24" DIAMETER
B-P1	8' PEDESTAL POLE	24" DIAMETER

SYSTEM DESIGN VOLUMES AM (PM)

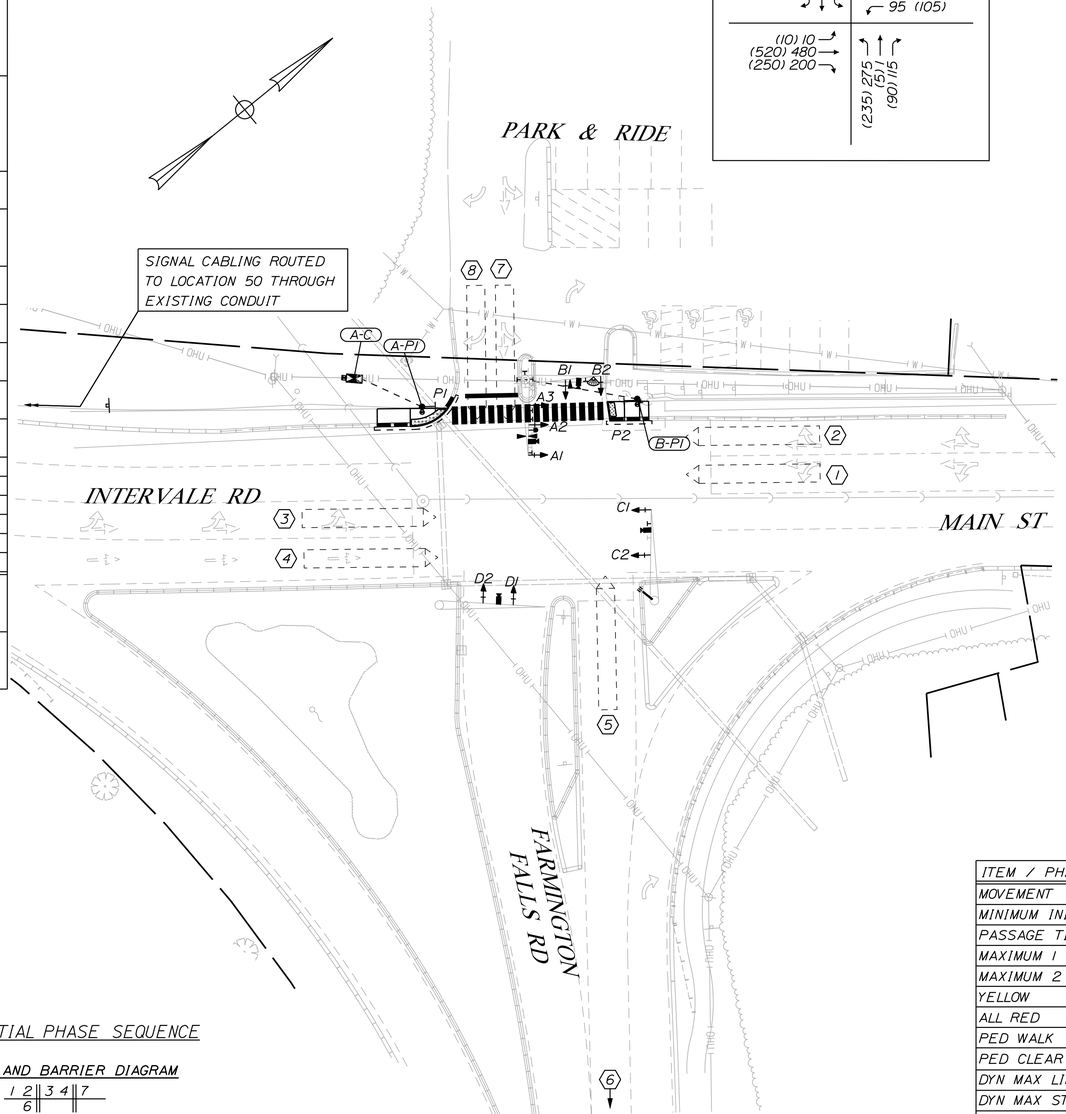


PROPOSED INDICATIONS



A2,A3,B2 C1,C2,D2 | A1 | B1,D1 | P1-P2

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES



DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADVANCE B=STOPLINE	DELAY TIME	EXT. TIME
1	MAIN ST SB LEFT-THRU	1	1	B	-	-
2	MAIN ST SB THRU-RIGHT	6	6	B	-	-
3	INTERVALE RD NB LEFT-THRU	2	2	B	-	-
4	INTERVALE RD NB THROUGH	2	2	B	-	-
5	FARMINGTON FALLS RD WB LEFT-THRU	3	3	B	-	-
6*	FARMINGTON FALLS RD WB ADVANCE	3	3	A	-	-
7	PARK & RIDE EB LEFT-THRU	7	7	B	-	-
8	PARK & RIDE EB RIGHT	7	7	B	5	-

* SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)

SIGNAL TIMING SCHEDULE

LOCATION 49 & 50

ITEM / PHASE	φ1	φ2	φ3	φ4	φ5	φ6	φ7	φ8
MOVEMENT	A (LT)	C	B	C	-	A	D	-
MINIMUM INITIAL	5	10	7	5	-	10	5	-
PASSAGE TIME	3.0	3.0	2.5	3.0	-	3.0	2.5	-
MAXIMUM 1	20	50	50	30	-	50	10	-
MAXIMUM 2	18	55	55	30	-	65	10	-
YELLOW	3.5	4.0	4.5	3.0	-	4.0	3.0	-
ALL RED	2.5	3.0	2.5	3.0	-	3.0	2.0	-
PED WALK	-	-	-	-	-	5	-	-
PED CLEAR	-	-	-	-	-	14	-	-
DYN MAX LIMIT	-	-	-	-	-	-	-	-
DYN MAX STEP	-	-	-	-	-	-	-	-
RECALL	OFF	SOFT	OFF	OFF	-	SOFT	OFF	-
DETECTOR	PR	PR	PR	PR	-	PR	PR	-
PRE-EMPT PRIORITY	3	4	5	6	-	3	-	-
FLASH	R	Y	R	R	-	Y	R	-
DUAL ENTRY	OFF	ON	OFF	OFF	-	ON	OFF	-

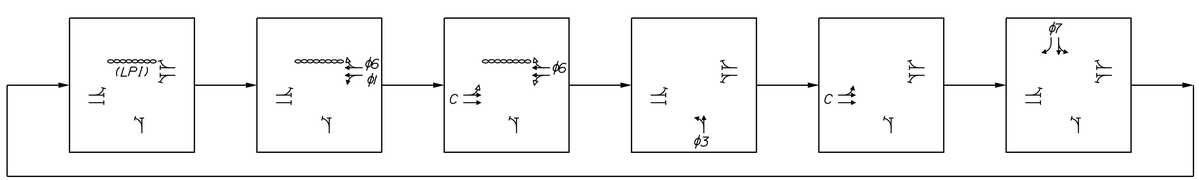
NOTES: S = SOFT RECALL Y = YELLOW
O = RECALL OFF R = RED
PR = PRESENCE D = DARK

IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONTRACT AWARD.

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

1 2 | 3 4 | 7
6



OVERLAP PHASING:
OVL A = 4-7
OVL B = 1-2-3
OVL C = 2-4
OVL D = 3-6-7

PHASING NOTES:
1. EACH PEDESTRIAN PHASE SHALL HAVE A MINIMUM OF A 4 SECOND LEADING PEDESTRIAN INTERVAL (LPI).
2. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY.
3. GREEN ARROW INDICATION FOR OVERLAP A IS DISABLED WHEN PHASE 1,2, AND 3 IS ACTIVE.
4. LOCATION 49 & 50 ARE CONTROLLED BY A SINGLE CONTROLLER.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE BR-025-2(47) DOT FILE 4-184 SHEET 3,4 OF 5, 02/1990

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

	B. KEEZER	DATE
PROJ. MANAGER		
DESIGN-DETAILED	MLG	JAR 07/20
CHECKED-REVIEWED	CMB	CMB 07/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

FARMINGTON
ROUTE 4(MAIN ST/INTERVALE RD) AND
ROUTE 2/27(FARMINGTON FALLS RD)

TRAFFIC SIGNAL PLAN

SHEET NUMBER
49
OF 358

Filename: 049_Signal_49.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

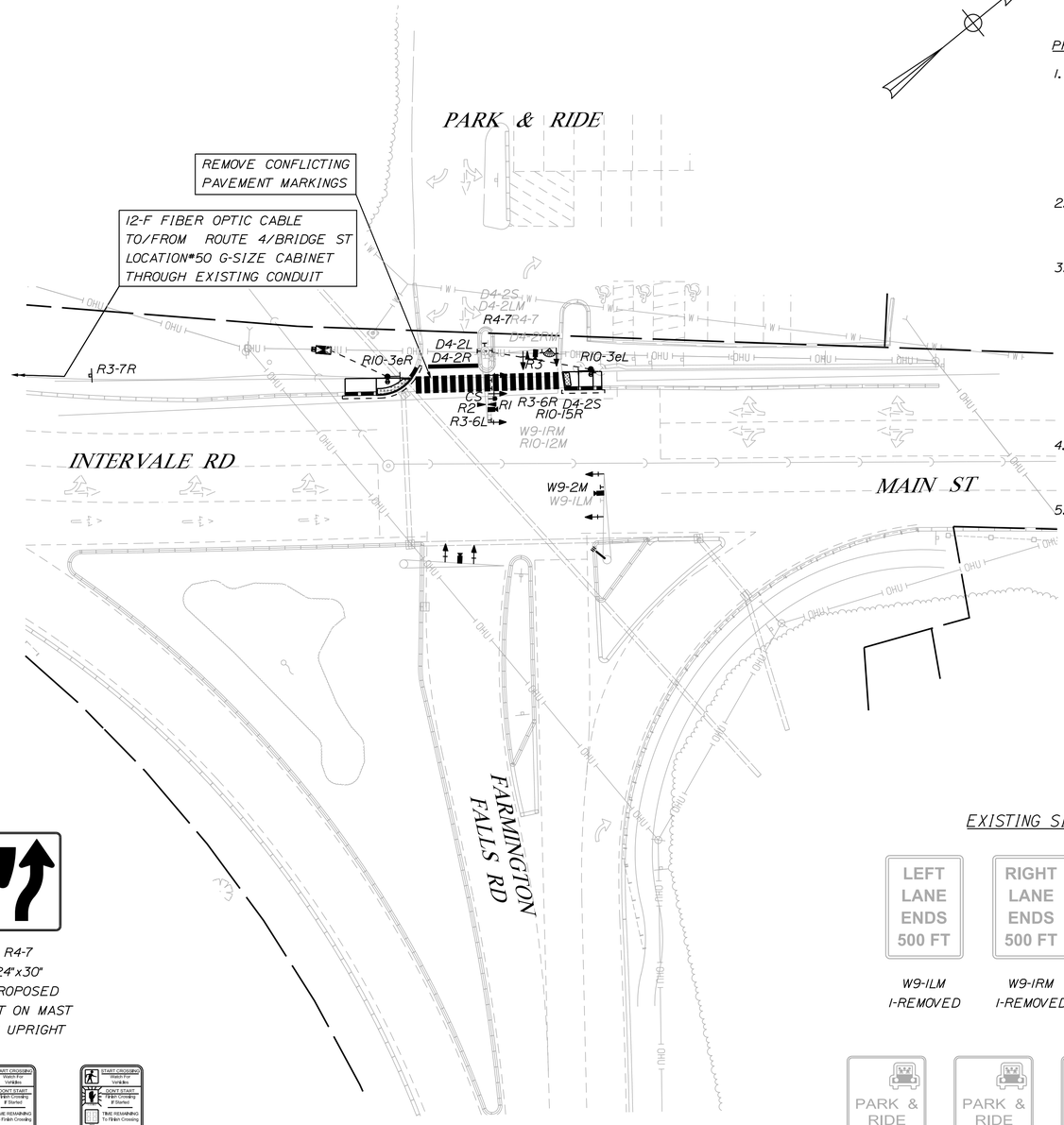
Filename: 049_SignoL_49a.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	25 LF
FURNISH AND INSTALL (3-INCH) NON-METALLIC UNDER PAVEMENT CONDUIT (ITEM 626.251)	40 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL 24-INCH DIAMETER FOUNDATION (ITEM 626.421)	14 LF
FURNISH AND INSTALL WHITE PAVEMENT AND CURB MARKING (ITEM 627.75)	321 SF
REMOVE EXISTING PAVEMENT MARKING (ITEM 627.77)	27 SF
FURNISH AND INSTALL APPROXIMATELY 1000 LINEAR FEET OF 12-STRAND FIBER OPTIC INTERCONNECT CABLE FROM G-SIZE CABINET AT ROUTE 4/BRIDGE ST LOCATION *50 TO CONTROLLER CABINET AT INTERSECTION *49. (ITEM 643.90)	1 LS
FURNISH AND INSTALL 8-FOOT PEDESTAL POLE (ITEM 643.92)	2 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

* REMOVING OF EXISTING FOUNDATION SHALL BE SUBSIDIARY TO ITEM 626.451

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
	1	NOT USE/RESERVED	
	2	NOT USE/RESERVED	
R1	3	1	ϕ1&ϕ6
R2	4	2	ϕ2
R3	5	3	ϕ3
R4*	6	4	ϕ4

* R4 LOCATED AT BRIDGE ST (INTERSECTION 50)

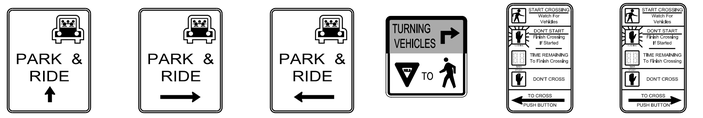
PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 4 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR AND/OR RSU , THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (4.5 SECONDS YELLOW AND 3.0 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

PROPOSED SIGNS



R3-6L 30"x36" 1-PROPOSED | R3-6R 30"x36" 1-PROPOSED | W9-2M 30"x48" 1-PROPOSED | R3-7R 36"x36" 1-PROPOSED | R4-7 24"x30" 1-PROPOSED MOUNT ON MAST ARM UPRIGHT



D4-2S 30"x36" 1-PROPOSED MOUNT ON MAST ARM UPRIGHT | D4-2R 30"x36" 1-PROPOSED MOUNT ON MAST ARM UPRIGHT | D4-2L 30"x36" 1-PROPOSED MOUNT ON MAST ARM UPRIGHT | R10-15R 30"x30" 1-PROPOSED | R10-3eL 9"x15" 1-PROPOSED | R10-3eR 9"x15" 1-PROPOSED

EXISTING SIGNS



W9-1LM 1-REMOVED | W9-1RM 1-REMOVED | R10-12M 1-REMOVED



D4-2S 1-REMOVED | D4-2RM 1-REMOVED | D4-2LM 1-REMOVED | R4-7 1-REMOVED

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE BR-025-2(47) DOT FILE 4-184 SHEET 3,4 OF 5, 02/1990

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

	B. KEEZER	DATE
PROJ. MANAGER		
DESIGN-DETAILED	MLG	07/20
CHECKED-REVIEWED	CMB	07/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

FARMINGTON
ROUTE 4(MAIN ST/INTERVALE RD) AND
ROUTE 2/27(FARMINGTON FALLS RD)

TRAFFIC SIGNAL PLAN

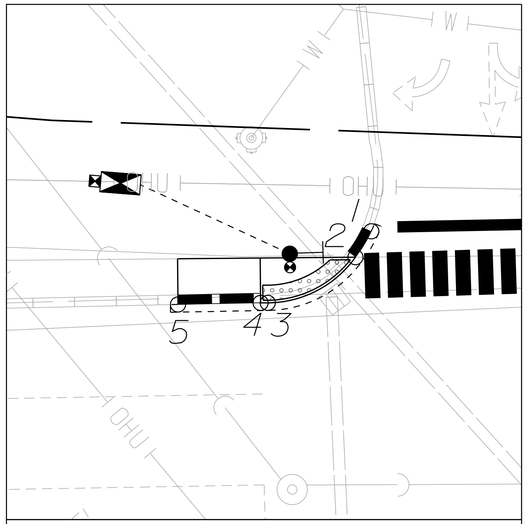
SHEET NUMBER

49A

OF 358

Filename: 049_Signal_49c.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

A CORNER - NW DETAIL



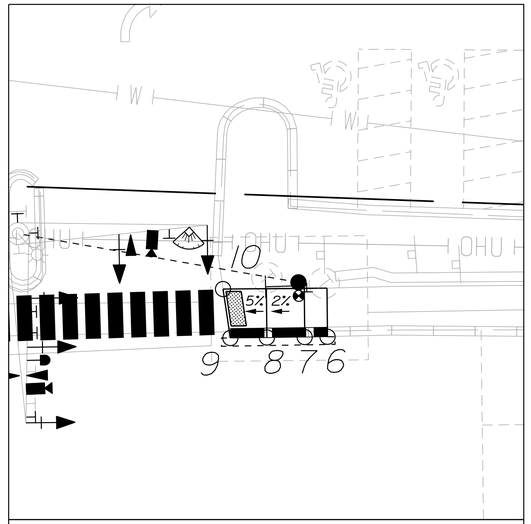
RECONSTRUCT CURB RAMP AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(22).
TRANSITION LENGTH REQUIRED FOR THE WESTERN CURB RAMP SHALL BE 10.9'. SEE MAINEDOT STANDARD DETAIL 801(13).

10 0 10 20
Scale of Feet

PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD		ITEM 609.11 - VERTICAL CURB TYPE 1 (LF)	ITEM 609.221 - TERMINAL CURB TYPE 1 (LF)	ITEM 609.222 - TERMINAL CURB TYPE 1 - CIRCULAR (LF)	COMMENT
		LENGTH (FT)	QTY (SF)				
1 TO 2	18.0					4.0	
2 TO 3	14.4	13.6	23.0				
3 TO 4	-	1.0					
4 TO 5	-				10.9		
6 TO 7	-			3.0			
7 TO 8	-			5.0			
8 TO 9	-				4.8		
* 9 TO 10	-	6.5	9.2				6.2% CROSS SLOPE

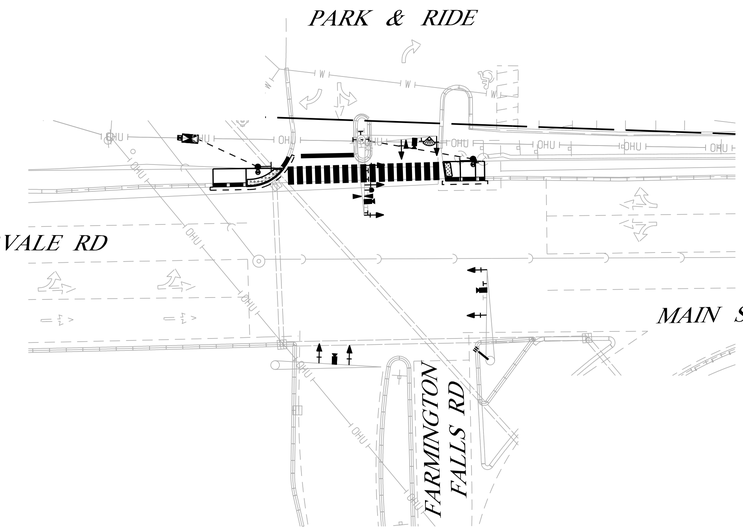
* NON-COMPLIANT CURB RAMP ELEMENT - THE EXISTING GUTTER LINE PROFILE IS GREATER THAN 2%. THEREFORE THE LEVEL LANDING CROSS SLOPE AND/OR RUNNING SLOPE WILL BE GREATER THAN THE 2% AND 8.33% MAXIMUM ALLOWABLE. RESPECTIVELY. THE COMMENT IS THE MAXIMUM VALUE FOR PROPOSED LEVEL OF COMPLIANCE.

B CORNER - NE DETAIL



RECONSTRUCT CURB RAMP AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(22).

10 0 10 20
Scale of Feet



ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED. AS WELL AS DETAILS PROVIDED ON SHEET H.

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	2.0 TONS
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	20.6 SY
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	32.2 SF
REGRADING SIDEWALK (ITEM 608.46)	20.6 SY

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
VERTICAL CURB TYPE 1 (ITEM 609.11)	8.0 LF
TERMINAL CURB TYPE 1 (ITEM 609.221)	15.7 LF
TERMINAL CURB TYPE 1 - CIRCULAR (ITEM 609.222)	4.0 LF

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE BR-025-2(47) DOT FILE 4-184 SHEET 3,4 OF 5, 02/1990

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

	B. KEEZER	DATE
PROJ. MANAGER		
DESIGN-DETAILED	MLG	07/20
CHECKED-REVIEWED	CMB	07/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

FARMINGTON
ROUTE 4(MAIN ST/INTERVALE RD) AND ROUTE 2/27(FARMINGTON FALLS RD)

CURB RAMP LAYOUT AND DETAIL PLAN

SHEET NUMBER

49C

OF 358

LIST OF WORK ITEMS

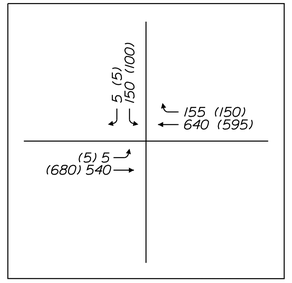
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	5
FURNISH AND INSTALL ONE-WAY 5-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	1
FURNISH AND INSTALL ONE-WAY, 16 X 18-INCH LED TOP OF POST MOUNTED COUNTDOWN PEDESTRIAN SIGNAL HEAD	2
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3E INFORMATIONAL SIGN	2
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	3
FURNISH AND INSTALL PREEMPTION CONFIRMATION RED STROBE WITH CABLE	1
FURNISH AND INSTALL G-SIZE POLE MOUNTED CABINET	1
FURNISH AND INSTALL 19-INCH 1 RU FIBER OPTIC 12 POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL ENVIRONMENTALLY HARDENED FIBER OPTIC ETHERNET SWITCH	1
FURNISH AND INSTALL MAST ARM MOUNTED SIGNS	2
FURNISH AND INSTALL NEW SIGNAL CABLE	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 3 APPROACHES, COMPLETE (ITEM 643.21)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

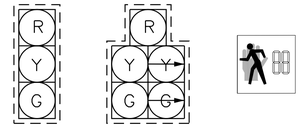
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
C-PI	8' PEDESTAL POLE	24" DIAMETER
D-PI	8' PEDESTAL POLE	24" DIAMETER

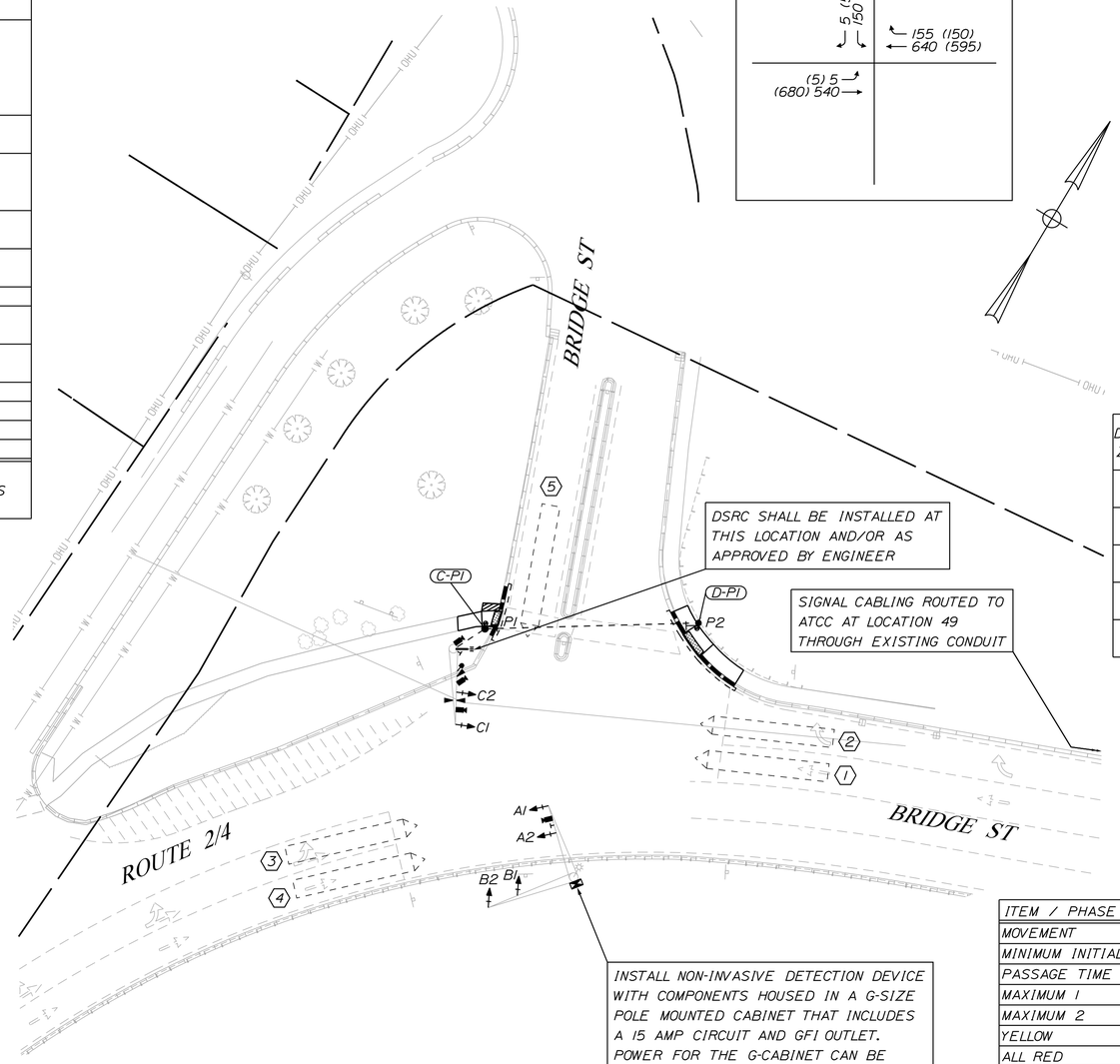
SYSTEM DESIGN VOLUMES AM (PM)



PROPOSED INDICATIONS



NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES



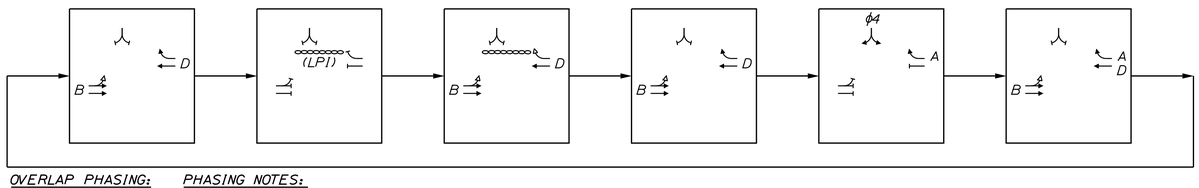
DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADVANCE B=STOPLINE	DELAY TIME	EXT. TIME
1	BRIDGE ST SB THROUGH	6	6	B	-	-
2	BRIDGE ST SB RIGHT	6	6	B	-	-
3	ROTUE 2/4 NB LEFT-THRU	2	2	B	-	-
4	ROUTE 2/4 NB THROUGH	2	2	B	-	-
5	BRIDGE ST EB RIGHT	4	4	B	-	-

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

1 2 | 3 4 | 7
6



OVERLAP PHASING:
OVL A = 4-7
OVL B = 1-2-3
OVL C = 2-4
OVL D = 3-6-7

PHASING NOTES:
1. EACH PEDESTRIAN PHASE SHALL HAVE A MINIMUM OF A 4 SECOND LEADING PEDESTRIAN INTERVAL (LPI).
2. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY.
3. GREEN ARROW INDICATION FOR OVERLAP A IS DISABLED WHEN PHASE 1,2, AND 3 IS ACTIVE.
4. LOCATION 49 & 50 ARE CONTROLLED BY A SINGLE CONTROLLER.

SIGNAL TIMING SCHEDULE

LOCATION 49 & 50

ITEM / PHASE	φ 1	φ 2	φ 3	φ 4	φ 5	φ 6	φ 7	φ 8
MOVEMENT	A, C	A, C	A, C	B	-	A, C	A, C	-
MINIMUM INITIAL	5	10	7	5	-	10	5	-
PASSAGE TIME	3.0	3.0	2.5	3.0	-	3.0	2.5	-
MAXIMUM 1	20	50	50	30	-	50	10	-
MAXIMUM 2	18	55	55	30	-	65	10	-
YELLOW	3.5	4.0	4.5	3.0	-	4.0	3.0	-
ALL RED	2.5	3.0	2.5	3.0	-	3.0	2.0	-
PED WALK	-	-	-	-	-	5	-	-
PED CLEAR	-	-	-	-	-	14	-	-
DYN MAX LIMIT	-	-	-	-	-	-	-	-
DYN MAX STEP	-	-	-	-	-	-	-	-
RECALL	OFF	SOFT	OFF	OFF	-	SOFT	OFF	-
DETECTOR	PR	PR	PR	PR	-	PR	PR	-
PRE-EMPT PRIORITY	3	4	5	6	-	3	-	-
FLASH	R	Y	R	R	-	Y	R	-
DUAL ENTRY	OFF	ON	OFF	OFF	-	ON	OFF	-

NOTES: S = SOFT RECALLY = YELLOW
O = RECALL OFF R = RED
PR = PRESENCE D = DARK
IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONTRACT AWARD.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE BR-025-2(47)
DOT FILE 4-184 SHEET 2 OF 5, 02/1990

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER	BY	DATE
DESIGN-DETAILED	MLG	JAR	07/20
CHECKED-REVIEWED	CMB	CMB	07/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

FARMINGTON
ROUTE 4 AND BRIDGE ST

TRAFFIC SIGNAL PLAN

SHEET NUMBER
50
OF 358

Filename: 050_Signal_50.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

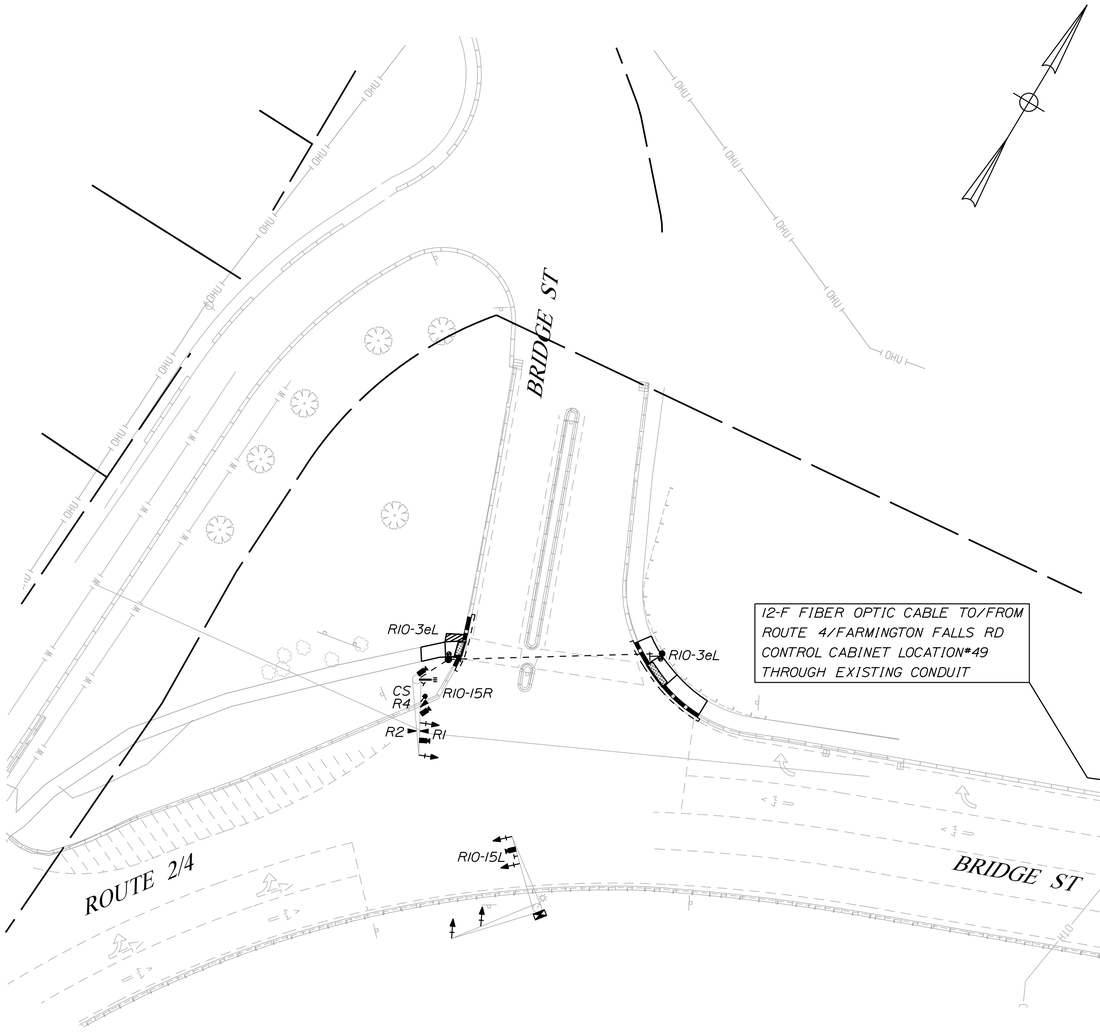
Filename: 050_Signal_50a.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	15 LF
FURNISH AND INSTALL (3-INCH) NON-METALLIC UNDER PAVEMENT CONDUIT (ITEM 626.251)	70 LF
FURNISH AND INSTALL 24-INCH DIAMETER FOUNDATION (ITEM 626.421)	14 LF
FURNISH AND INSTALL 8-FOOT PEDESTAL POLE (ITEM 643.92)	2 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

* REMOVING OF EXISTING FOUNDATION SHALL BE SUBSIDIARY TO ITEM 626.451

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
	1	NOT USE/RESERVED	
	2	NOT USE/RESERVED	
R1	3	1	0L ϕ4&ϕ0
R2	4	2	0L ϕ8
R3*	5	3	ϕ3
R4	6	4	ϕ4

* R3 LOCATED AT FARMINGTON FALLS RD (INTERSECTION 49)

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 4 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR AND/OR RSU , THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (4.5 SECONDS YELLOW AND 3.0 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

PROPOSED SIGNS



R10-15L 30"x30" 1-PROPOSED

R10-15R 30"x30" 1-PROPOSED

R10-3eL 9"x15" 2-PROPOSED

R10-3eR 9"x15" 1-PROPOSED

PLAN

25 0 25 50

Scale of Feet

* - RIGHT-OF-WAY REFERENCE BR-025-2(47) DOT FILE 4-184 SHEET 2 OF 5, 02/1990

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER		
DESIGN-DETAILED	MLG	JAR	07/20
CHECKED-REVIEWED	CMB	CMB	07/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

FARMINGTON
ROUTE 4 AND BRIDGE ST

TRAFFIC SIGNAL PLAN

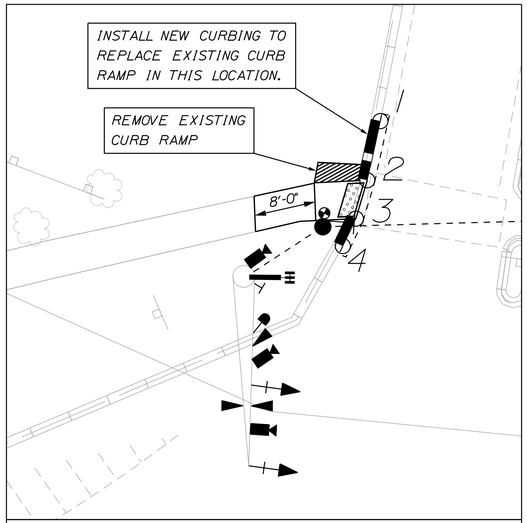
SHEET NUMBER

50A

OF 358

Filename: 050_Signal_50c.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

C CORNER - NW DETAIL



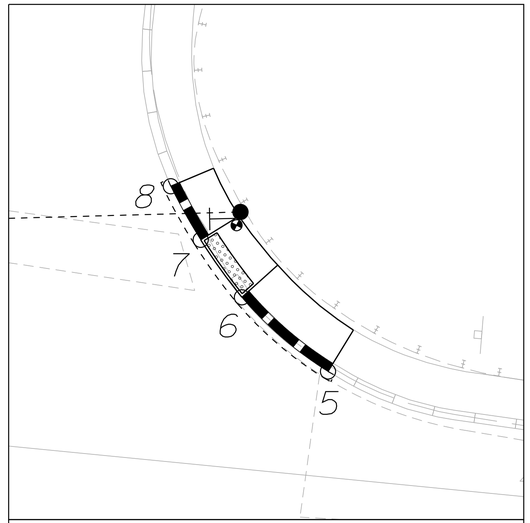
RECONSTRUCT CURB RAMP AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(22).

10 0 10 20
Scale of Feet

	PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD		ITEM 609.221 - TERMINAL CURB TYPE I (LF)	ITEM 609.222 - TERMINAL CURB TYPE I - CIRCULAR (LF)	COMMENT
			LENGTH (FT)	QTY (SF)			
	1 TO 2	-			8.0		
	2 TO 3	-	5.3	9.2			
	3 TO 4	-			4.0		
*	5 TO 6	49.1				15.0	13.1% RUNNING SLOPE
*	6 TO 7	77.5	9.3	16.9			2.7% CROSS SLOPE
	7 TO 8	77.9			8.0		

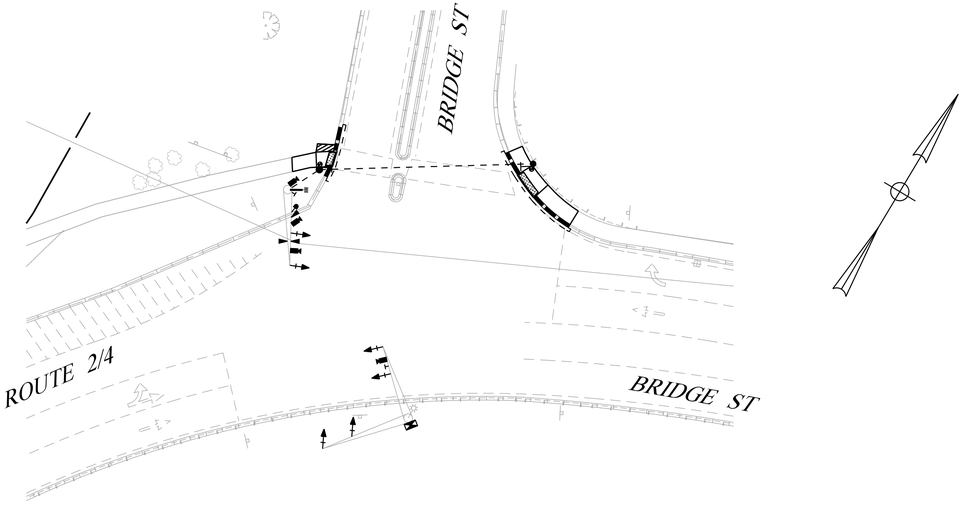
* NON-COMPLIANT CURB RAMP ELEMENT - THE EXISTING GUTTER LINE PROFILE IS GREATER THAN 2%. THEREFORE THE LEVEL LANDING CROSS SLOPE AND/OR RUNNING SLOPE WILL BE GREATER THAN THE 2% AND 8.33% MAXIMUM ALLOWABLE, RESPECTIVELY. THE COMMENT IS THE MAXIMUM VALUE FOR PROPOSED LEVEL OF COMPLIANCE.

D CORNER - NE DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(20).
TRANSITION LENGTH REQUIRED FOR THE EASTERN CURB RAMP SHALL BE 15.0'. SEE MAINEDOT STANDARD DETAIL 801(13).

10 0 10 20
Scale of Feet



ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED, AS WELL AS DETAILS PROVIDED ON SHEET H.

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
COMMON EXCAVATION (ITEM 203.20)	3.1 CY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	2.0 TONS
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	28.8 SY
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	26.1 SF

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
REGRADING SIDEWALK (ITEM 608.46)	24.6 SY
TERMINAL CURB TYPE I (ITEM 609.221)	20.0 LF
TERMINAL CURB TYPE I - CIRCULAR (ITEM 609.222)	15.0 LF

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE BR-025-2(47) DOT FILE 4-184 SHEET 2 OF 5, 02/1990

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER	
DESIGN-DETAILED	MLG	JAR 07/20
CHECKED-REVIEWED	CMB	CMB 07/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

FARMINGTON
ROUTE 4 AND BRIDGE ST
CURB RAMP LAYOUT AND DETAIL PLAN

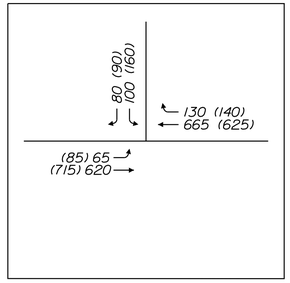
SHEET NUMBER
50C
OF 358

LIST OF WORK ITEMS

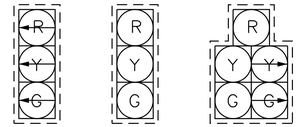
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING CELL MODEM / FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED MONITORING SYSTEM	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SPAN AND TETHER WIRE	6
FURNISH AND INSTALL ONE-WAY 5-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SPAN AND TETHER WIRE	1
FURNISH AND INSTALL 4-CHANNEL PREEMPTION PHASE SELECTOR	1
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	3
FURNISH AND INSTALL PREEMPTION CONFIRMATION RED STROBE WITH CABLE	1
FURNISH AND INSTALL SPAN WIRE MOUNTED SIGNS	7
FURNISH AND INSTALL NEW SIGNAL CABLE	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 3 APPROACHES, COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 2 APPROACHES, COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

SYSTEM DESIGN VOLUMES AM (PM)

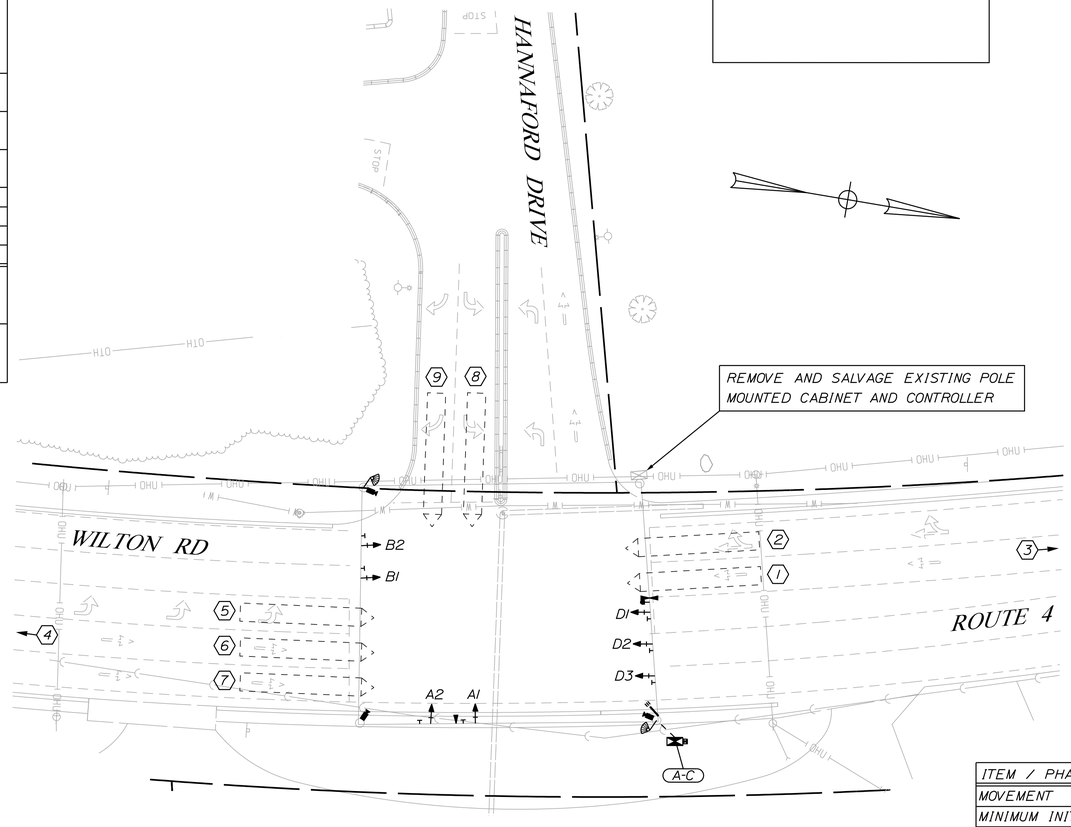


PROPOSED INDICATIONS



D1 A1,B1,B2 D2,D3 A2

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES



DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADVANCE B=STOPLINE	DELAY TIME	EXT. TIME
①	WILTON RD SB THROUGH	6	6	B	-	-
②	WILTON RD SB THRU-RIGHT	6	6	B	-	-
③*	WILTON RD SB ADVANCE	6	6	A	-	-
④*	WILTON RD NB ADVANCE	2	2	A	-	-
⑤	WILTON RD NB LEFT	5	5	B	-	-
⑥	WILTON RD NB THROUGH	2	2	B	-	-
⑦	WILTON RD NB THROUGH	2	2	B	-	-
⑧	HANNAFORD DRIVE EB LEFT	4	4	B	-	-
⑨	HANNAFORD DRIVE EB RIGHT	4	4	B	5	-

* SEE ADVANCED DILEMMA ZONE DETAIL (40 MPH)

STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"

SIGNAL TIMING SCHEDULE

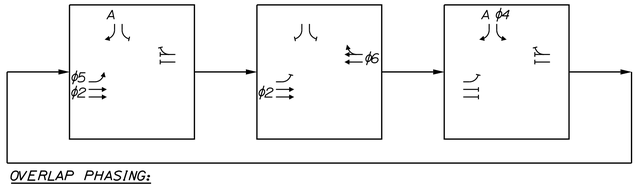
ITEM / PHASE	φ1	φ2	φ3	φ4	φ5	φ6	φ7	φ8
MOVEMENT	-	D	-	A	D (LT)	B	-	-
MINIMUM INITIAL	-	10	-	5	5	10	-	-
PASSAGE TIME	-	3.5	-	3.0	3.0	3.5	-	-
MAXIMUM 1	-	55	-	30	25	55	-	-
MAXIMUM 2	-	60	-	30	25	60	-	-
YELLOW	-	5.0	-	3.0	4.0	5.0	-	-
ALL RED	-	2.0	-	3.0	3.0	2.0	-	-
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
DYN MAX LIMIT	-	-	-	-	-	-	-	-
DYN MAX STEP	-	-	-	-	-	-	-	-
RECALL	-	SOFT	-	OFF	OFF	SOFT	-	-
DETECTOR	-	PR	-	PR	PR	PR	-	-
PRE-EMPT PRIORITY	-	4	-	5	4	3	-	-
FLASH	-	Y	-	R	R	Y	-	-
DUAL ENTRY	-	ON	-	OFF	OFF	ON	-	-

NOTES: S = SOFT RECALLY = YELLOW
O = RECALL OFF R = RED
PR = PRESENCE D = DARK
IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONTRACT AWARD.

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

2 | 4
5 6



OVERLAP PHASING:
OVL A = 4-5

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE 2910.00 DOT FILE 4-180 SHEET 11,12 OF 15, 12/1989

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER	DATE
DESIGN-DETAILED	MLG	JAR 07/20
CHECKED-REVIEWED	CMB	CMB 07/20
DESIGN2-DETAILED2		ED2
DESIGN3-DETAILED3		ED3
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

FARMINGTON
ROUTE 4(WILTON RD) AND HANNAFORD DRIVE

TRAFFIC SIGNAL PLAN

SHEET NUMBER
51
OF 358

Usernname: jorobert
Division: HIGHWAY
Date:11/24/2020
Filename: 051_Signal_51.dgn

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	20 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	10 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.


HANNAFORD DRIVE
WILTON RD
ROUTE 4
STOP
STOP
OHU
OHU
OHU

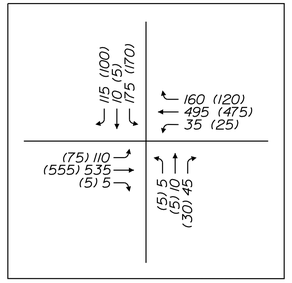
Date:11/24/2020
Username: jorobert
Division: HIGHWAY
Filename: 052_Signal_52.dgn

LIST OF WORK ITEMS

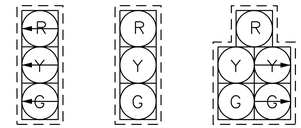
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING CELL MODEM / FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED MONITORING SYSTEM	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SPAN AND TETHER WIRE	8
FURNISH AND INSTALL ONE-WAY 5-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SPAN AND TETHER WIRE	2
FURNISH AND INSTALL 4-CHANNEL PREEMPTION PHASE SELECTOR	1
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	4
FURNISH AND INSTALL PREEMPTION CONFIRMATION RED STROBE WITH CABLE	1
FURNISH AND INSTALL SPAN WIRE MOUNTED SIGNS	6
REMOVE SPAN WIRE MOUNTED SIGNS	4
FURNISH AND INSTALL NEW SIGNAL CABLE	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 2 APPROACHES, COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

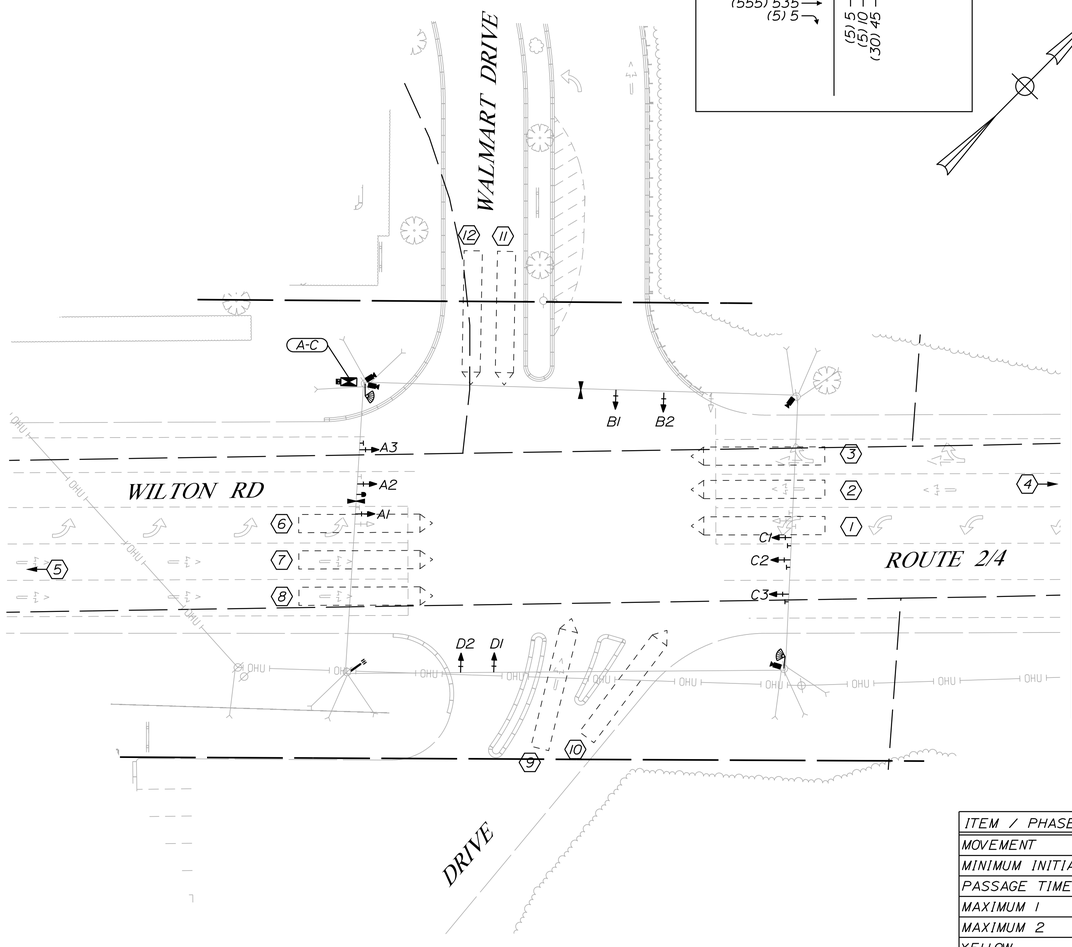
SYSTEM DESIGN VOLUMES AM (PM)



PROPOSED INDICATIONS



NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES



DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADVANCE B=STOPLINE	DELAY TIME	EXT. TIME
1	WILTON RD SB LEFT	1	1	B	-	-
2	WILTON RD SB THROUGH	6	6	B	-	-
3	WILTON RD SB THRU-RIGHT	6	6	B	-	-
4*	WILTON RD SB ADVANCE	6	6	A	-	-
5*	WILTON RD NB ADVANCE	2	2	A	-	-
6	WILTON RD NB LEFT	5	5	B	-	-
7	WILTON RD NB THROUGH	2	2	B	-	-
8	WILTON RD NB THRU-RIGHT	2	2	B	-	-
9	DRIVEWAY WB LEFT-THRU	8	8	B	-	-
10	DRIVEWAY WB RIGHT	8	8	B	5	-
11	WALMART DRIVE EB LEFT-THRU	4	4	B	-	-
12	WALMART DRIVE EB RIGHT	4	4	B	5	-

* SEE ADVANCED DILEMMA ZONE DETAIL (40 MPH)

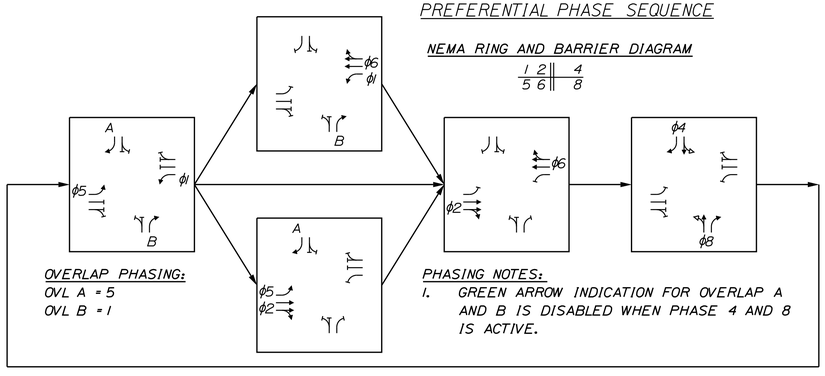
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

1 2 | 4
5 6 | 8



OVERLAP PHASING:
OVL A = 5
OVL B = 1

PHASING NOTES:
1. GREEN ARROW INDICATION FOR OVERLAP A AND B IS DISABLED WHEN PHASE 4 AND 8 IS ACTIVE.

SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ 1	φ 2	φ 3	φ 4	φ 5	φ 6	φ 7	φ 8
MOVEMENT	A (LT)	C	-	D	C (LT)	A	-	B
MINIMUM INITIAL	5	10	-	7	5	10	-	7
PASSAGE TIME	3.0	3.5	-	3.0	3.0	3.5	-	3.0
MAXIMUM 1	25	55	-	30	25	55	-	30
MAXIMUM 2	20	60	-	30	20	60	-	30
YELLOW	4.0	5.0	-	3.5	4.0	5.0	-	3.5
ALL RED	3.0	2.0	-	3.5	3.0	2.0	-	3.5
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
DYN MAX LIMIT	-	-	-	-	-	-	-	-
DYN MAX STEP	-	-	-	-	-	-	-	-
RECALL	OFF	SOFT	-	OFF	OFF	SOFT	-	OFF
DETECTOR	PR	PR	-	PR	PR	PR	-	PR
PRE-EMPT PRIORITY	3	4	-	6	4	3	-	5
FLASH	R	Y	-	R	R	Y	-	R
DUAL ENTRY	OFF	ON	-	ON	OFF	ON	-	ON

NOTES: S = SOFT RECALLY = YELLOW
O = RECALL OFF R = RED
PR = PRESENCE D = DARK
IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONTRACT AWARD.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE F-025-1(45)
DOT FILE 4-179 SHEET 5,6 OF 8, 11/1988

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

	B. KEEZER	DATE
PROJ. MANAGER		
DESIGN-DETAILED	MLG	JAR 07/20
CHECKED-REVIEWED	CMB	CMB 07/20
DESIGN2-DETAILED2		LED2
DESIGN3-DETAILED3		LED3
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

FARMINGTON
ROUTE 2/4(WILTON RD) AND
WALMART DRIVE

TRAFFIC SIGNAL PLAN

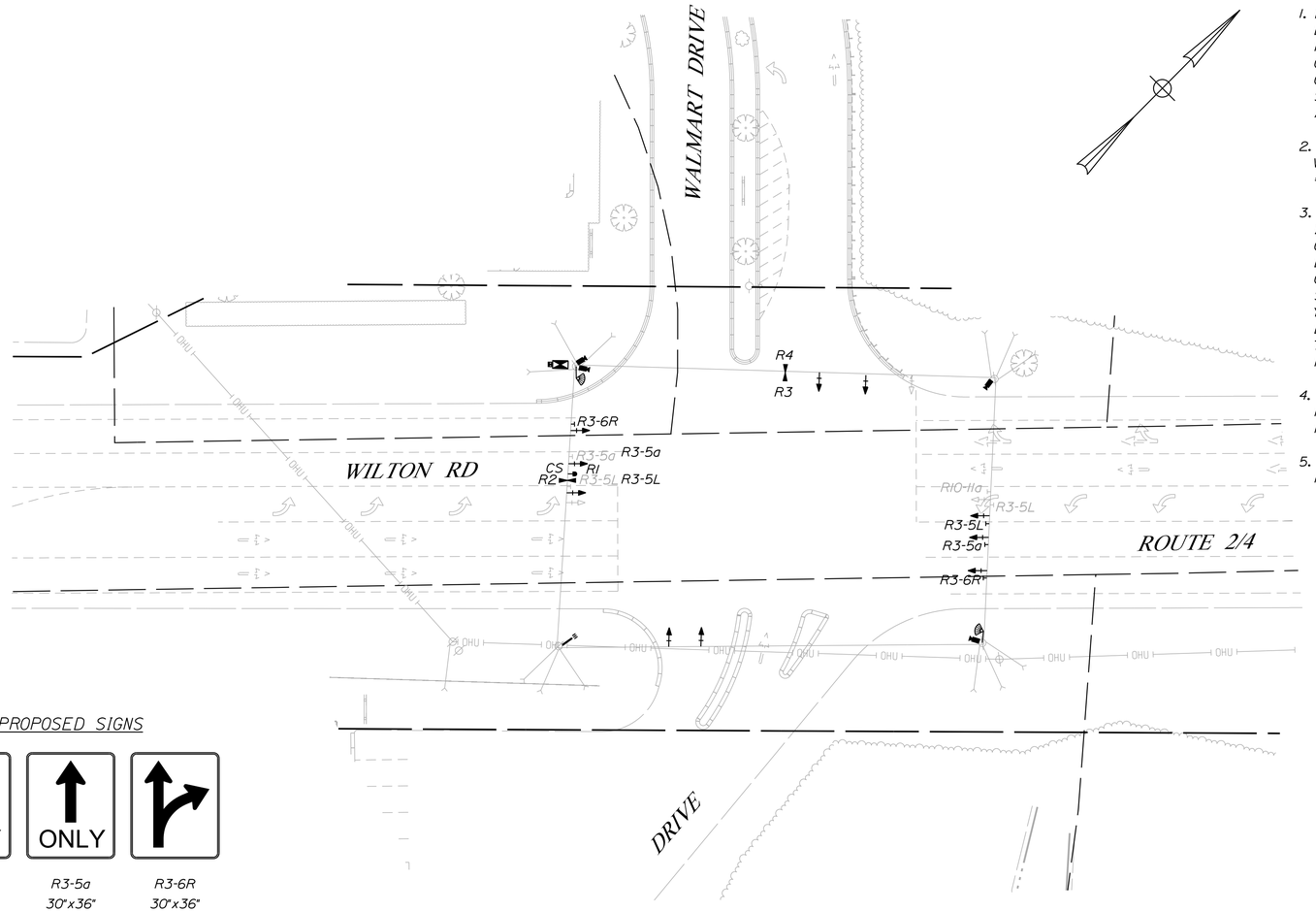
SHEET NUMBER
52
OF 358

Filename: 052_Signal_52a.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

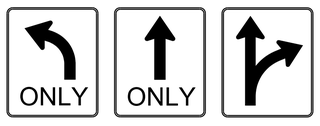
LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.3511)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PROPOSED SIGNS



R3-5L	R3-5a	R3-6R
30"x36"	30"x36"	30"x36"
2-PROPOSED	2-PROPOSED	2-PROPOSED

EXISTING SIGNS



R3-5L	R3-5a	R10-11a
2-REMOVED	1-REMOVED	1-REMOVED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
	1	NOT USE/RESERVED	
	2	NOT USE/RESERVED	
R1	3	1	ϕ1&ϕ6
R2	4	2	ϕ2&ϕ5
R3	5	3	ϕ8
R4	6	4	ϕ4

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.

2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 4 = LOWEST)

3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR AND/OR RSU , THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (5.0 SECONDS YELLOW AND 3.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.

4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.

5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE F-025-1(45)
DOT FILE 4-179 SHEET 5,6 OF 8, 11/1988

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER	
DESIGN-DETAILED	MLG	JAR 07/20
CHECKED-REVIEWED	CMB	CMB 07/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

FARMINGTON
ROUTE 2/4(WILTON RD) AND
WALMART DRIVE

TRAFFIC SIGNAL PLAN

SHEET NUMBER

52A

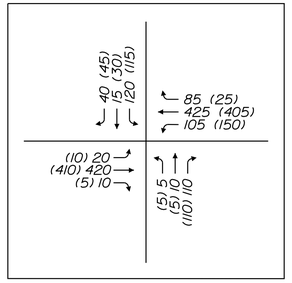
OF 358

LIST OF WORK ITEMS

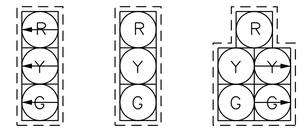
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING CELL MODEM / FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED MONITORING SYSTEM	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SPAN AND TETHER WIRE	9
FURNISH AND INSTALL ONE-WAY 5-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SPAN AND TETHER WIRE	1
FURNISH AND INSTALL 4-CHANNEL PREEMPTION PHASE SELECTOR	1
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	4
FURNISH AND INSTALL PREEMPTION CONFIRMATION RED STROBE WITH CABLE	1
FURNISH AND INSTALL SPAN WIRE MOUNTED SIGNS	3
FURNISH AND INSTALL NEW SIGNAL CABLE	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 3 APPROACHES, COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

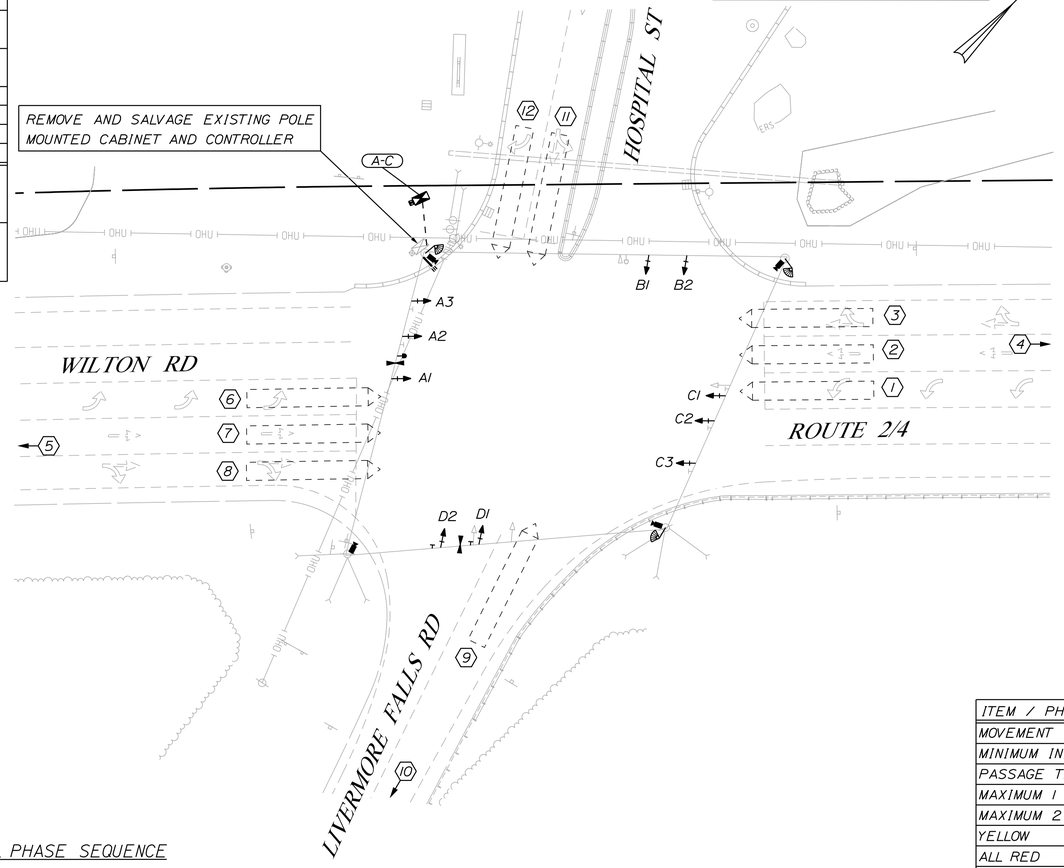
SYSTEM DESIGN VOLUMES AM (PM)



PROPOSED INDICATIONS



NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES



DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADVANCE B=STOPLINE	DELAY TIME	EXT. TIME
1	WILTON RD SB LEFT	1	1	B	-	-
2	WILTON RD SB THROUGH	6	6	B	-	-
3	WILTON RD SB THRU-RIGHT	6	6	B	-	-
4*	WILTON RD SB ADVANCE	6	6	A	-	-
5*	WILTON RD NB ADVANCE	2	2	A	-	-
6	WILTON RD NB LEFT	5	5	B	-	-
7	WILTON RD NB THROUGH	2	2	B	-	-
8	WILTON RD NB THRU-RIGHT	2	2	B	-	-
9	LIVERMORE FALLS RD WB MOVEMENTS	8	8	B	-	-
10**	LIVERMORE FALLS RD WB ADVANCE	8	8	A	-	-
11	HOSPITAL ST EB LEFT-THRU	4	4	B	-	-
12	HOSPITAL ST EB RIGHT	4	4	B	5	-

* SEE ADVANCED DILEMMA ZONE DETAIL (40 MPH)
** SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)

STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"

SIGNAL TIMING SCHEDULE

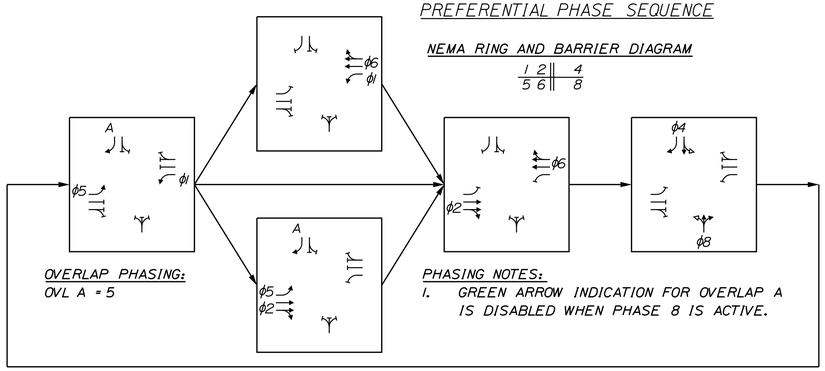
ITEM / PHASE	φ 1	φ 2	φ 3	φ 4	φ 5	φ 6	φ 7	φ 8
MOVEMENT	A (LT)	C	-	D	C (LT)	A	-	B
MINIMUM INITIAL	5	10	-	7	5	10	-	7
PASSAGE TIME	3.0	3.5	-	3.0	3.0	3.5	-	3.0
MAXIMUM 1	25	55	-	35	25	55	-	35
MAXIMUM 2	25	60	-	45	25	60	-	45
YELLOW	4.0	5.0	-	3.5	4.0	5.0	-	3.5
ALL RED	3.0	2.0	-	3.5	3.0	2.0	-	3.5
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
DYN MAX LIMIT	-	-	-	-	-	-	-	-
DYN MAX STEP	-	-	-	-	-	-	-	-
RECALL	OFF	SOFT	-	OFF	OFF	SOFT	-	OFF
DETECTOR	PR	PR	-	PR	PR	PR	-	PR
PRE-EMPT PRIORITY	3	4	-	6	4	3	-	5
FLASH	R	Y	-	R	R	Y	-	R
DUAL ENTRY	OFF	ON	-	ON	OFF	ON	-	ON

NOTES: S = SOFT RECALLY = YELLOW
O = RECALL OFF R = RED
PR = PRESENCE D = DARK
IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONTRACT AWARD.

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

1 2 | 4
5 6 | 8



OVERLAP PHASING:
OVL A = 5

PHASING NOTES:
1. GREEN ARROW INDICATION FOR OVERLAP A IS DISABLED WHEN PHASE 8 IS ACTIVE.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE F-025-1(45)
DOT FILE 4-179 SHEET 3 OF 8, 11/1988

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

	B. KEEZER	DATE
PROJ. MANAGER		
DESIGN-DETAILED	MLG	JAR 07/20
CHECKED-REVIEWED	CMB	CMB 07/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

FARMINGTON
ROUTE 2/4(WILTON RD) AND
HOSPITAL ST/LIVERMORE FALLS RD

TRAFFIC SIGNAL PLAN

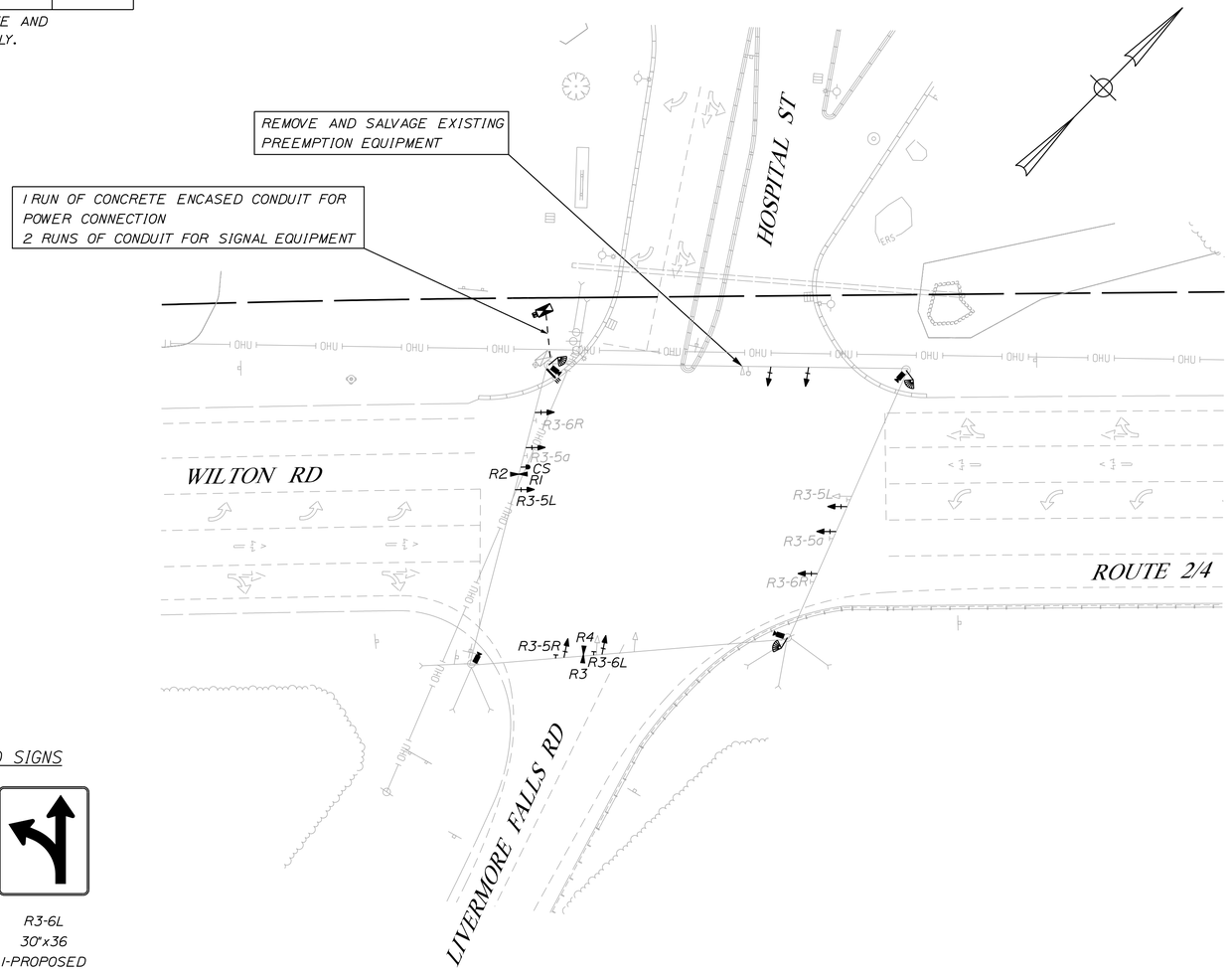
SHEET NUMBER
53
OF 358

Filename: 053_Signal_53.dgn Username: jorobert Division: HIGHWAY Date:11/24/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	40 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	20 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PROPOSED SIGNS



R3-5L	R3-5R	R3-6L
30"x36	30"x36	30"x36
1-PROPOSED	1-PROPOSED	1-PROPOSED

EXISTING SIGNS



R3-5L	R3-5a	R3-6R
1-RETAINED	2-RETAINED	2-RETAINED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
	1	NOT USE/RESERVED	
	2	NOT USE/RESERVED	
R1	3	1	ϕ1&ϕ6
R2	4	2	ϕ2&ϕ5
R3	5	3	ϕ8
R4	6	4	ϕ4

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.

2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 4 = LOWEST)

3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR AND/OR RSU , THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (5.0 SECONDS YELLOW AND 3.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.

4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.

5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

PLAN

25 0 25 50

Scale of Feet

* - RIGHT-OF-WAY REFERENCE F-025-1(45) DOT FILE 4-179 SHEET 3 OF 8, 11/1988

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER		
DESIGN-DETAILED	MLG	JAR	07/20
CHECKED-REVIEWED	CMB	CMB	07/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

FARMINGTON
ROUTE 2/4(WILTON RD) AND
HOSPITAL ST/LIVERMORE FALLS RD

TRAFFIC SIGNAL PLAN

SHEET NUMBER

53A

OF 358

Filename: 053_Signal_53a.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

Filename: ...\Final Plans\013_Signal_54.dgn Division: HIGHWAY Username: common Date:11/19/2020

LIST OF WORK ITEMS

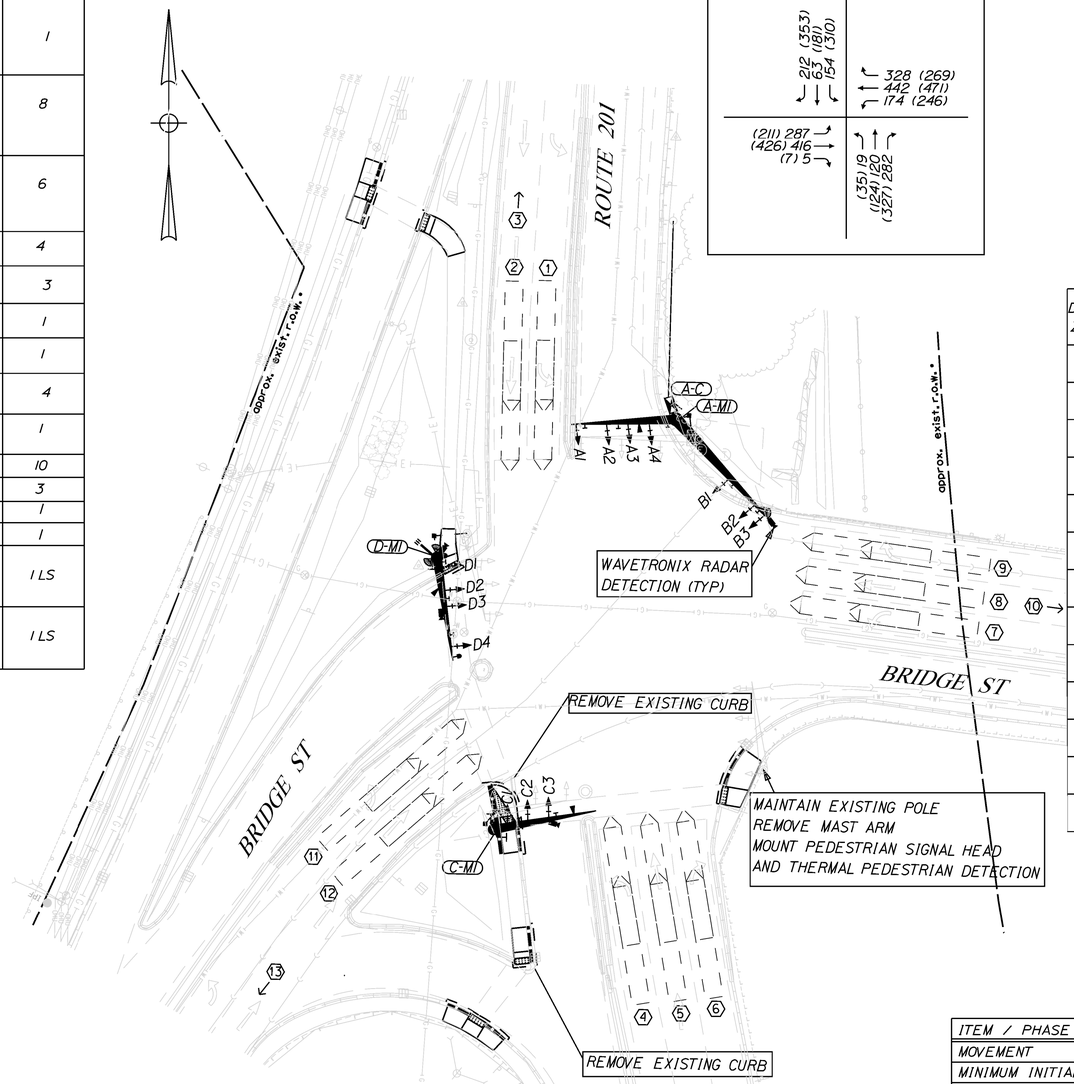
EQUIPMENT AND WORK ITEMS 643.71 TRAFFIC SIGNAL AT: BRIDGE ST & MAINE AVE. GARDINER	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	8
FURNISH AND INSTALL ONE-WAY 4-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	6
FURNISH AND INSTALL ONE-WAY, 16 X 18-INCH LED SIDE OF POLE MOUNTED BLACK COUNTDOWN PEDESTRIAN SIGNAL HEAD	4
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3e INFORMATIONAL SIGN	3
FURNISH AND INSTALL PEDESTRIAN FLIR THERMAL VIDEO DETECTION WITH ADA COMPLIANT INFORMATIONAL SIGN	1
FURNISH AND INSTALL 4-CHANNEL PREEMPTION PHASE SELECTOR WITH SYSTEM CHASSIS	1
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	4
FURNISH AND INSTALL PREEMPTION CONFIRMATION RED STROBE WITH CABLE	1
FURNISH AND INSTALL MAST ARM MOUNTED SIGNS	10
REMOVE MAST ARM MOUNTED SIGNS	3
IMPLEMENT LOCAL SIGNAL TIMINGS	1
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	1
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 3 APPROACHES, COMPLETE (643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

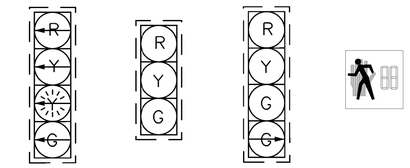
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-MI	35' MAST ARM & 45' MAST ARM	54" DIAMETER
A-C	CONTROLLER CABINET	L48"xW36"xH48"
C-MI	35' MAST ARM W/ LUMINAIRE	42" DIAMETER
D-MI	40' MAST ARM	48" DIAMETER

SYSTEM DESIGN VOLUMES AM (PM)



PROPOSED INDICATIONS



NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	ϕ CALLED	ϕ EXT.	MODE A=ADVANCE B=STOPLINE	DELAY TIME	EXT. TIME
1	ROUTE 201 SB LEFT	1	1	B	-	3.0
2	ROUTE 201 SB THRU	6	6	B	-	3.0
3 *	ROUTE 201 SB ADVANCE	6	6	A	-	-
4	MAINE AVE NB LEFT	5	5	B	-	3.0
5	MAINE AVE NB THRU	2	2	B	-	3.0
6	MAINE AVE NB RIGHT	2	2	B	8.0	3.0
7	BRIDGE STREET WB LEFT	3	3	B	-	3.0
8	BRIDGE STREET WB THRU	8	8	B	-	3.0
9	BRIDGE STREET WB RIGHT	8	8	B	8.0	3.0
10	BRIDGE STREET WB ADVANCE	8	8	A	-	-
11	BRIDGE STREET EB LEFT	7	7	B	-	3.0
12	BRIDGE STREET EB THRU	4	4	B	-	3.0
13	BRIDGE STREET EB ADVANCE	4	4	A	-	-

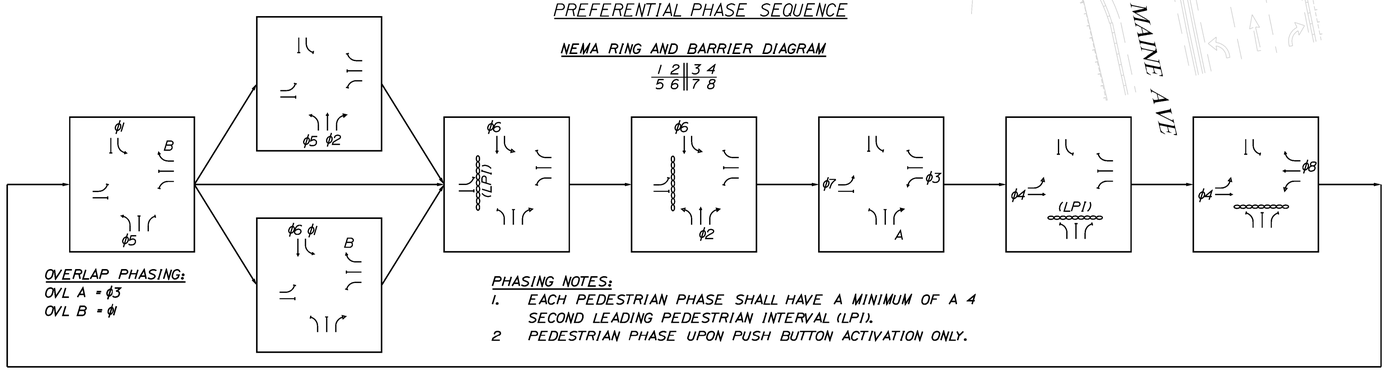
*SEE ADVANCE DILEMMA ZONE DETAIL (35 MPH)

NOTE:
RADAR SENSORS ARE LINE OF SIGHT DETECTORS AND SHOULD BE PLACED TO MINIMIZE ANY OBSTRUCTION TO THE DETECTION AREAS.
ALL DETECTOR PLACEMENT IS APPROXIMATE AND SHOULD BE FIELD VERIFIED PRIOR TO INSTALLATION VIA SITE SURVEY.

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

1 2 | 3 4
5 6 | 7 8



OVERLAP PHASING:
OVL A = ϕ3
OVL B = ϕ

PHASING NOTES:
1. EACH PEDESTRIAN PHASE SHALL HAVE A MINIMUM OF A 4 SECOND LEADING PEDESTRIAN INTERVAL (LPI).
2. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY.

SIGNAL TIMING SCHEDULE

ITEM / PHASE	ϕ1	ϕ2	ϕ3	ϕ4	ϕ5	ϕ6	ϕ7	ϕ8
MOVEMENT	C-L	A-T	D-L	B-T	A-L	C-T	B-L	D-T
MINIMUM INITIAL	5.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
PASSAGE TIME	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
MAXIMUM 1	5.0	29.0	9.0	28.0	5.0	29.0	9.0	28.0
MAXIMUM 2	5.0	29.0	12.0	25.0	5.0	29.0	8.0	29.0
YELLOW	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
ALL RED	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
PED WALK	-	8.0	-	-	-	-	-	7.0
PED CLEAR	-	21.0	-	-	-	-	-	19.0
RECALL	O	S	O	S	O	S	O	S
DETECTOR	PR	PR	PR	PR	PR	PR	PR	PR
PREEMPT PRIORITY	3	5	4	6	5	3	6	4
FLASH	R	R	R	R	R	R	R	R
DUAL ENTRY	NO	YES	NO	YES	NO	YES	NO	YES

NOTES: S = SOFT RECALL
O = RECALL OFF
PR = PRESENCE
Y = YELLOW
R = RED
D = DARK

MAX1 = AM PEAK HOURS
MAX2 = PM PEAK HOURS

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE PIN M-102I(1) DOT FILE 6-190, SHEET 2 OF 10, 08/1976

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

Sewall
The evolution of expertise

	B. KEEFER	DATE
PROJ. MANAGER		
DESIGN-DETAILED	LBF	7/20
CHECKED-REVIEWED	DWM	7/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

GARDINER
BRIDGE ST AND MAINE AVE

TRAFFIC SIGNAL PLAN

SHEET NUMBER
54
OF 358

LIST OF WORK ITEMS

EQUIPMENT AND WORK (ITEM XXX.YYZ)	QUANTITY
FURNISH AND INSTALL 14-INCH PRECAST JUNCTION BOX (ITEM 626.11)	3 EA
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	50 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	60 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
REMOVE OR MODIFY CONCRETE FOUNDATION (ITEM 626.36)	3 EA
FURNISH AND INSTALL 42-IN DIAMETER FOUNDATION (ITEM 626.451)	12.0 LF
FURNISH AND INSTALL 48-IN DIAMETER FOUNDATION (ITEM 626.46)	13.0 LF
FURNISH AND INSTALL 54-IN DIAMETER FOUNDATION (ITEM 626.47)	16.0 LF
FURNISH AND INSTALL WHITE OR YELLOW PAVEMENT & CURB MARKING (ITEM 627.75)	52 SF
REMOVING PAVEMENT MARKING (ITEM 627.77)	77 SF
FURNISH AND INSTALL MAST ARM POLE, W/35' ARM AND 45' ARM (ITEM 643.91)	1 EA
FURNISH AND INSTALL MAST ARM POLE , W/ 40' ARM (ITEM 643.91)	1 EA
FURNISH AND INSTALL DUAL PURPOSE POLE W/ 35' ARM W/ LUMINAIRE (ITEM 643.94)	1 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

PROPOSED SIGNS



R10-3eL
9"x15"
2-PROPOSED



R10-3eR
9"x15"
2-PROPOSED



R1-5aL
30"x30"
2-PROPOSED



R1-5aR
30"x30"
2-PROPOSED



R3-5L
30"x36"
4-PROPOSED



R3-5R
30"x36"
2-PROPOSED



R3-5a
30"x36"
4-PROPOSED

EXISTING SIGNS



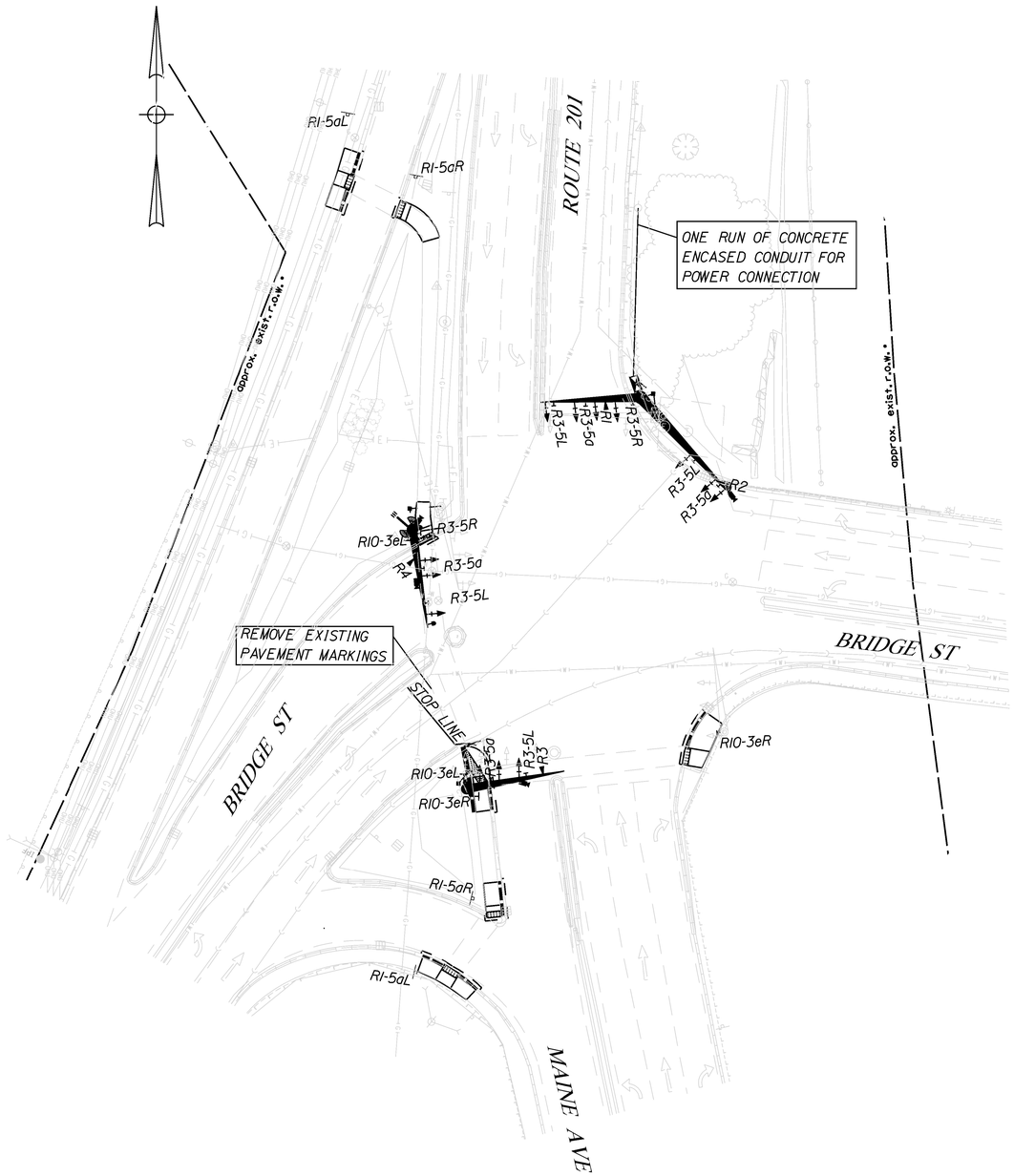
R3-5L
1-REMOVED



R3-5a
1-REMOVED



R3-5R
1-REMOVED



EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
	1	NOT USED	RESERVED
	2	NOT USED	RESERVED
R1	5	5	ϕ2 & ϕ5
R2	4	4	ϕ3 & ϕ8
R3	3	3	ϕ1 & ϕ6
R4	6	6	ϕ7 & ϕ4

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 4 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.0 SECONDS YELLOW AND 3.0 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE PIN M-1021(1) DOT FILE 6-190, SHEET 2 OF 10, 08/1976

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN
024301.00

TRAFFIC PLANS

Sewall
The evolution of expertise

	B. KEEFER	DATE
PROJ. MANAGER	LBF	7/20
DESIGN-DETAILED	LBF	7/20
CHECKED-REVIEWED	DWM	
DESIGN2-DETAILED2	DWM	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

GARDINER
BRIDGE ST AND
MAINE AVE

TRAFFIC SIGNAL PLAN

SHEET NUMBER

54A

OF 358

Filename: ...\Final Plans\014_Signal_54a.dgn Division: HIGHWAY Username: common Date:11/19/2020

Filename: ...\54B_BORING LOGS1_GA PHASE1.dgn Division: GEOTECH Username: Kole.Maguire Date:11/23/2020

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Intersection Improvements - Statewide
Location: Gardiner, Maine

Boring No.: HB-GA054-101
WIN: 024301

Driller:	S. W. Cole Explorations, LLC	Elevation (ft.)		Auger ID/OD:	5" Solid Stem
Operator:	K. Hanscom / R. Hackett	Datum:		Sampler:	Standard Split Spoon
Logged By:	M. St. Pierre	Rig Type:	Diedrich D-50 Track-Mounted	Hammer Wt./Fall:	140# /30"
Date Start/Finish:	9-12-2019	Drilling Method:	Auger	Core Barrel:	N/A
Boring Location:	See Boring Location Plan	Casing ID/OD:	N/A	Water Level*:	None observed.
Hammer Efficiency Factor: 0.977		Hammer Type:	Automatic ☒ Hydraulic ☐	Rope & Cathead ☐	

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample Attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample Attempt
V = Field Vane Shear Test. PP = Pocket Penetrometer
MV = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = Weight of 140lb. Hammer
WOR/C = Weight of Rods or Casing
WOCP = Weight of Cne Person
S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)
$S_{u(lab)}$ = Lab Vane Undrained Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N=uncorrected = Raw Field SPT N-value
Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
T_v = Pocket Torvane Shear Strength (psf)
WC = Water Content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows /6 in. Shear Strength (Psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	1D	24/17	0.00 - 2.00	2/3/4/3	7	11	SSA	-0.2		2" of Topsoil.	
								-0.2		Brown, damp, medium dense, SAND, some gravel, little silt with asphalt fragments. (Fill).	
5	2D	24/21	5.00 - 7.00	11/13/10/16	23	37		-5.0		Brown, moist, dense, SAND, some gravel, some silt. (Till).	
								-5.0		Brown, moist, very dense, Gravelly SAND, little silt. (Till).	
10	3D	24/22	10.00 - 12.00	26/27/30/29	57	93		-12.0		Bottom of Exploration at 12.0 feet below ground surface. No refusal.	
								-12.0			
15											
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil typesi 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.

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Intersection Improvements - Statewide
Location: Gardiner, Maine

Boring No.: HB-GA054-102
WIN: 024301

Driller:	S. W. Cole Explorations, LLC	Elevation (ft.)		Auger ID/OD:	5" Solid Stem
Operator:	K. Hanscom / R. Hackett	Datum:		Sampler:	Standard Split Spoon
Logged By:	M. St. Pierre	Rig Type:	Diedrich D-50 Track-Mounted	Hammer Wt./Fall:	140# /30"
Date Start/Finish:	9-12-2019	Drilling Method:	Cased Wash	Core Barrel:	N/A
Boring Location:	See Boring Location Plan	Casing ID/OD:	HW 4" / 4.5"	Water Level*:	5.7 feet (after drilling)
Hammer Efficiency Factor: 0.977		Hammer Type:	Automatic ☒ Hydraulic ☐	Rope & Cathead ☐	

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample Attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample Attempt
V = Field Vane Shear Test. PP = Pocket Penetrometer
MV = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = Weight of 140lb. Hammer
WOR/C = Weight of Rods or Casing
WOCP = Weight of Cne Person
S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)
$S_{u(lab)}$ = Lab Vane Undrained Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N=uncorrected = Raw Field SPT N-value
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N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
T_v = Pocket Torvane Shear Strength (psf)
WC = Water Content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows /6 in. Shear Strength (Psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	1D	24/15	0.80 - 2.80	12/13/18/14	31	50	SSA	-0.6		7.5" of Pavement	
								-0.6		Brown, damp, very dense, Gravelly SAND, little silt. (Fill).	
5	2D	24/19	5.00 - 7.00	28/54/27/28	81	132				Similar to above except with brick fragments.	
10	3D	24/20	10.00 - 12.00	12/12/7/18	19	31	116			Brown-grey, moist, hard, SILT, some sand, some gravel, with asphalt fragments. (Till).	
							118				
							97				
							157				
							136				
15	4D	24/18	15.00 - 17.00	6/6/7/9	13	21		-15.0		Grey, wet, medium dense, Silty SAND, little gravel. (Till).	
								-17.0		Bottom of Exploration at 17.0 feet below ground surface. No refusal.	
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil typesi 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.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. 2430100

WIN
24301.00

HIGHWAY PLANS

STATE OF MAINE ★ ENGINEER ★ Kathleen Maguire 7120 PROFESSIONAL

	BY	DATE
PROJ. MANAGER	----------	------
DESIGN-DETAILED	----------	------
CHECKED-REVIEWED	K.MAGUIRE	APR 2020
DESIGN2-DETAILED2	K.MAGUIRE	T.WHITE
DESIGN3-DETAILED3	----------	------
REVISIONS 1	----------	------
REVISIONS 2	----------	------
REVISIONS 3	----------	------
REVISIONS 4	----------	------
FIELD CHANGES	----------	------

SIGNATURE
7120
P.E. NUMBER
11/23/2020
DATE

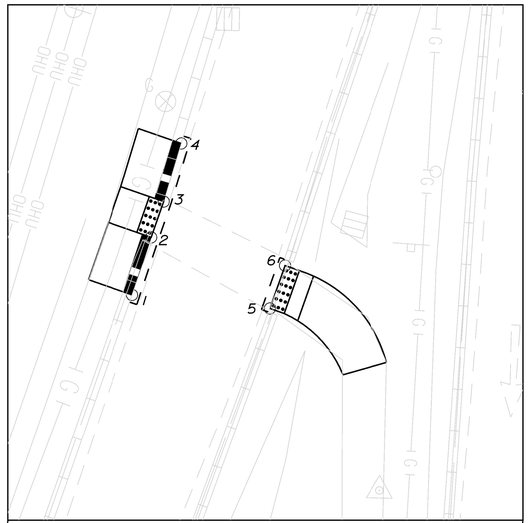
GARDINER
ROUTE 201/MAINE AVENUE/BRIDGE STREET

BORING LOGS

SHEET NUMBER
54B
OF 358

Filename: ...\Final Plans\015_Signal_54c.dgn Division: HIGHWAY Username: common Date:11/19/2020

D CORNER - SLIP RAMP DETAIL

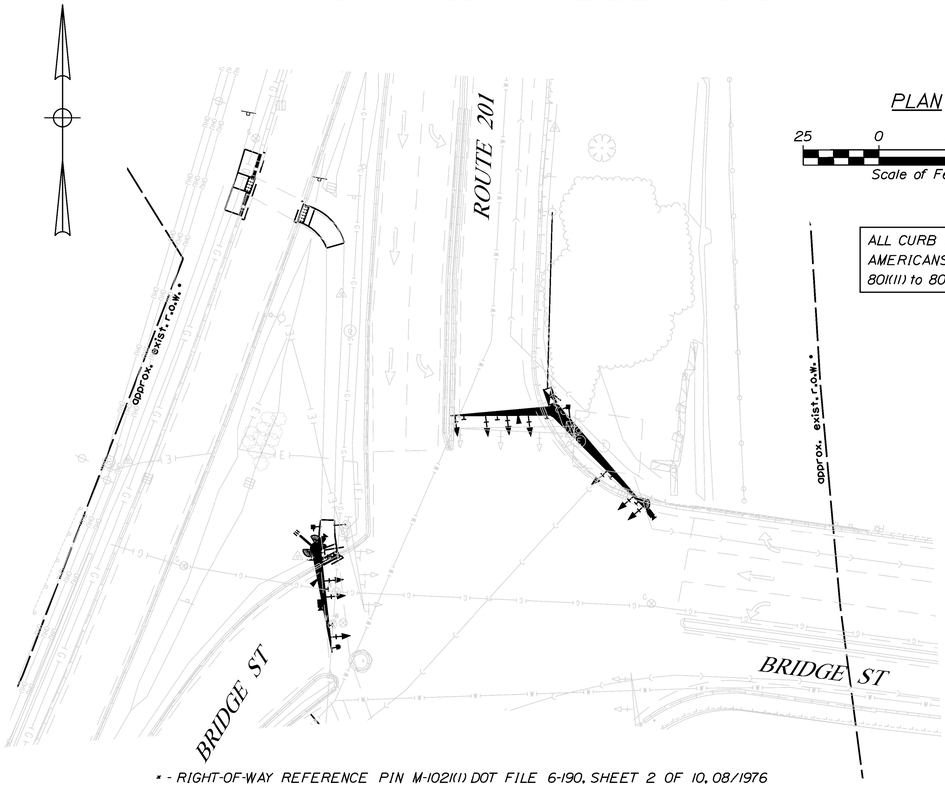


RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARDS DETAIL 801(14) - WEST SIDE AND 801(22) - EAST SIDE.

10 0 10 20
Scale of Feet

PT. TO PT.	RADIUS (FT)	LENGTH (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD		ITEM 609.11 - VERTICAL CURB TYPE I (LF)	ITEM 609.221 - TERMINAL CURB TYPE I (LF)	ITEM 609.222 - TERMINAL CURB TYPE I - CIRCULAR (LF)	COMMENT
			LENGTH (FT)	QTY (SF)				
1 TO 2		8.0				8.0		
2 TO 3			5.0	10.0				
3 TO 4		8.0				8.0		
* 5 TO 6			6.0	12.0				10.3% RUNNING SLOPE
7 TO 8			6.0	12.0				
9 TO 10			6.0	12.0				
* 10 TO 11	30	14.0					14.0	10.3% RUNNING SLOPE
12 TO 13	40	8.0					8.0	
13 TO 14			6.0	12.0				
14 TO 15	40	8.0					8.0	
16 TO 17			5.0	10.0				
17 TO 18		8.0				8.0		
19 TO 20		15.0			15.0			
20 TO 21		8.0			8.0			
22 TO 23		8.0				8.0		
19 TO 22			16.5	35.2				

* NON-COMPLIANT CURB RAMP ELEMENT - THE EXISTING BRIDGE STRUCTURE AND ROADWAY PROFILE CREATES A RUNNING SLOPE GREATER THAN THE 8.33% MAXIMUM ALLOWABLE. THEREFORE THE RUNNING SLOPE WILL BE GREATER THAN THE 8.33% MAXIMUM ALLOWABLE. THE COMMENT IS THE MAXIMUM VALUE FOR PROPOSED LEVEL OF COMPLIANCE.



* - RIGHT-OF-WAY REFERENCE PIN M-102(1) DOT FILE 6-190, SHEET 2 OF 10, 08/1976

PLAN

25 0 25 50
Scale of Feet

ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(1) to 801(26) AS NOTED, AS WELL AS DETAILS PROVIDED ON SHEET H.

D CORNER - NW DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(22).

10 0 10 20
Scale of Feet

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	1.7 TON
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	92.0 SY
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	104.00 SF
REGRADING SIDEWALK (ITEM 608.46)	92.0 SY

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
VERTICAL CURB TYPE I (ITEM 609.11)	23.0 LF
TERMINAL CURB TYPE I (ITEM 609.221)	32.0 LF
TERMINAL CURB TYPE I - CIRCULAR (ITEM 609.222)	30.0 LF

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

Sewall
The evolution of expertise

	B. KEEFER	DATE
PROJ. MANAGER		
DESIGN-DETAILED	LBF	7/20
CHECKED-REVIEWED	DWM	7/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

GARDINER
BRIDGE ST AND MAINE AVE

CURB RAMP LAYOUT AND DETAIL PLAN

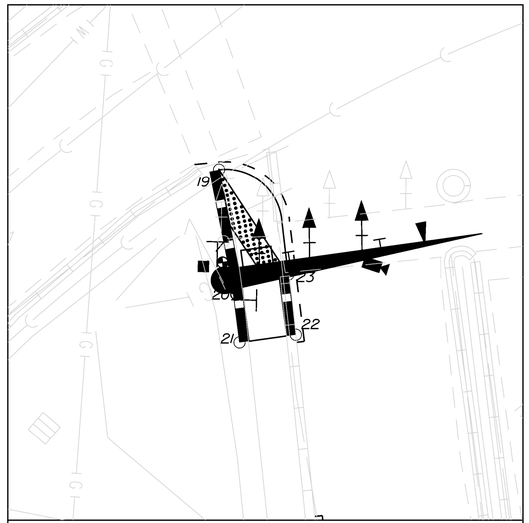
SHEET NUMBER

54C

OF 358

Filename: ...\Final Plans\016_Signal_54d.dgn Division: HIGHWAY Username: common Date:11/19/2020

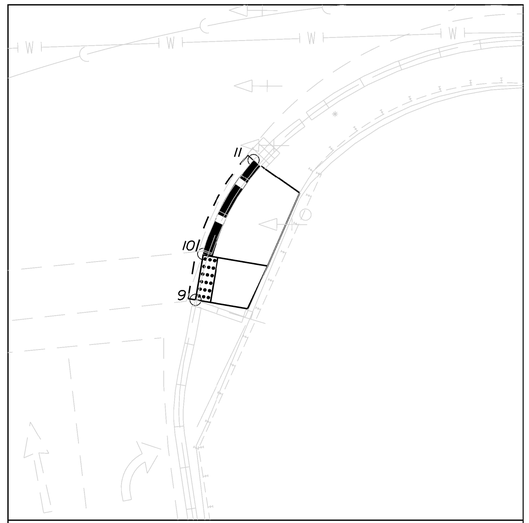
C CORNER - SW DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(22).

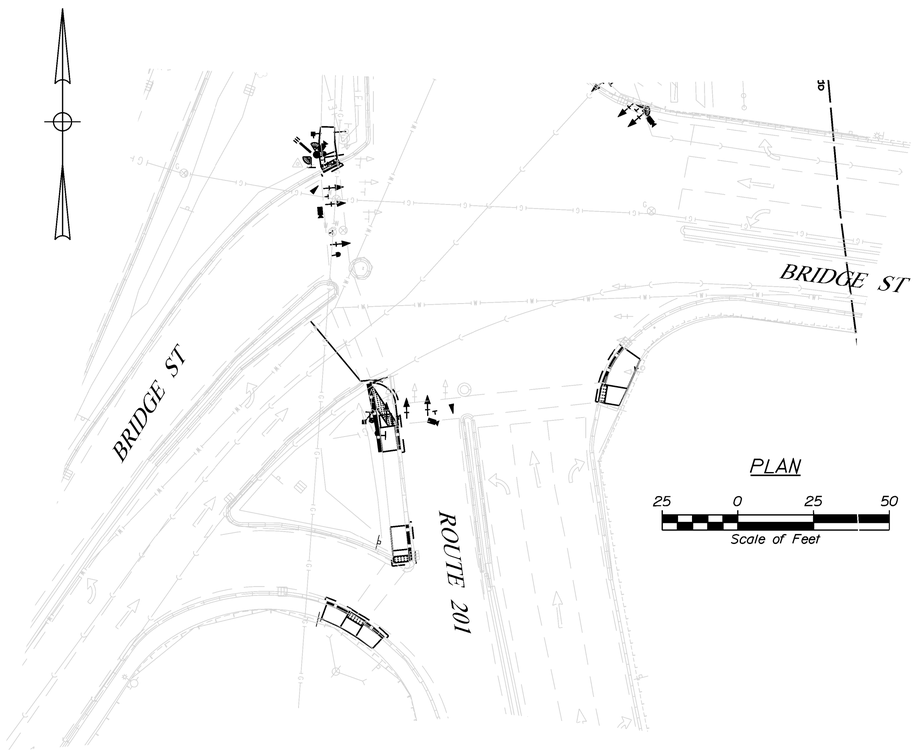
10 0 10 20
Scale of Feet

B CORNER - SE DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(16).

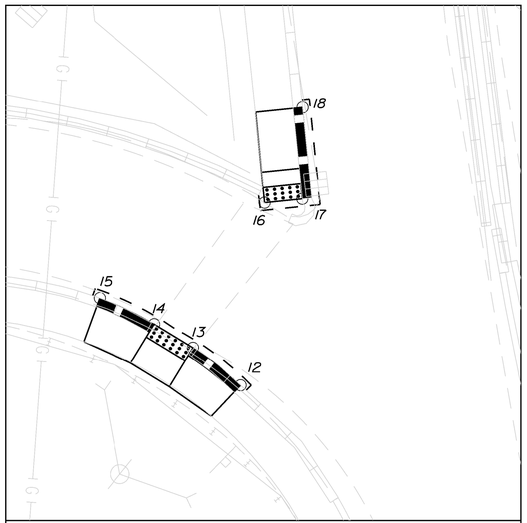
10 0 10 20
Scale of Feet



PLAN

25 0 25 50
Scale of Feet

C CORNER - SW SLIP RAMP DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAILS 801(22) - NORTH AND 801(20) - SOUTH.

10 0 10 20
Scale of Feet

* - RIGHT-OF-WAY REFERENCE PIN M-102(1) DOT FILE 6-190, SHEET 2 OF 10, 08/1976

ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(1) to 801(26) AS NOTED, AS WELL AS DETAILS PROVIDED ON SHEET H.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

Sewall
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	B. KEEZER	DATE
PROJ. MANAGER		
DESIGN-DETAILED	LBF	7/20
CHECKED-REVIEWED	DWM	7/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

GARDINER
BRIDGE ST AND
MAINE AVE

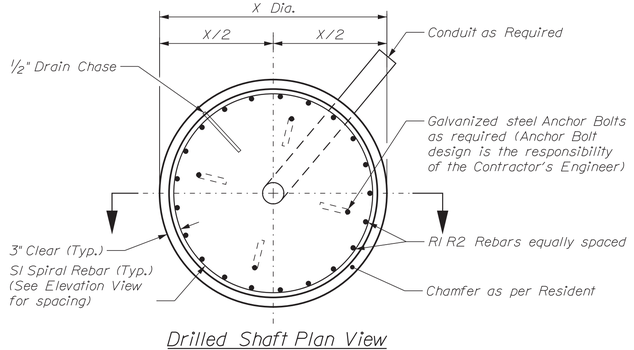
CURB RAMP LAYOUT AND DETAIL PLAN

SHEET NUMBER

54D

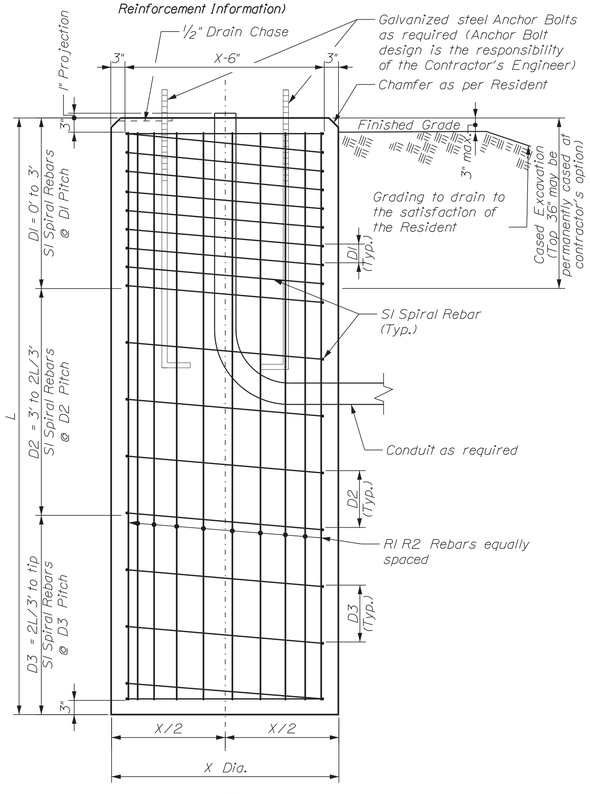
OF 358

Filename: ...\54F_MAF&BLP1_GA PHASE1.dgn Division: GEOTECH Username: Kate.Maguire Date:11/23/2020



Drilled Shaft Plan View

Not to Scale (See Table for Drilled Shaft & Reinforcement Information)

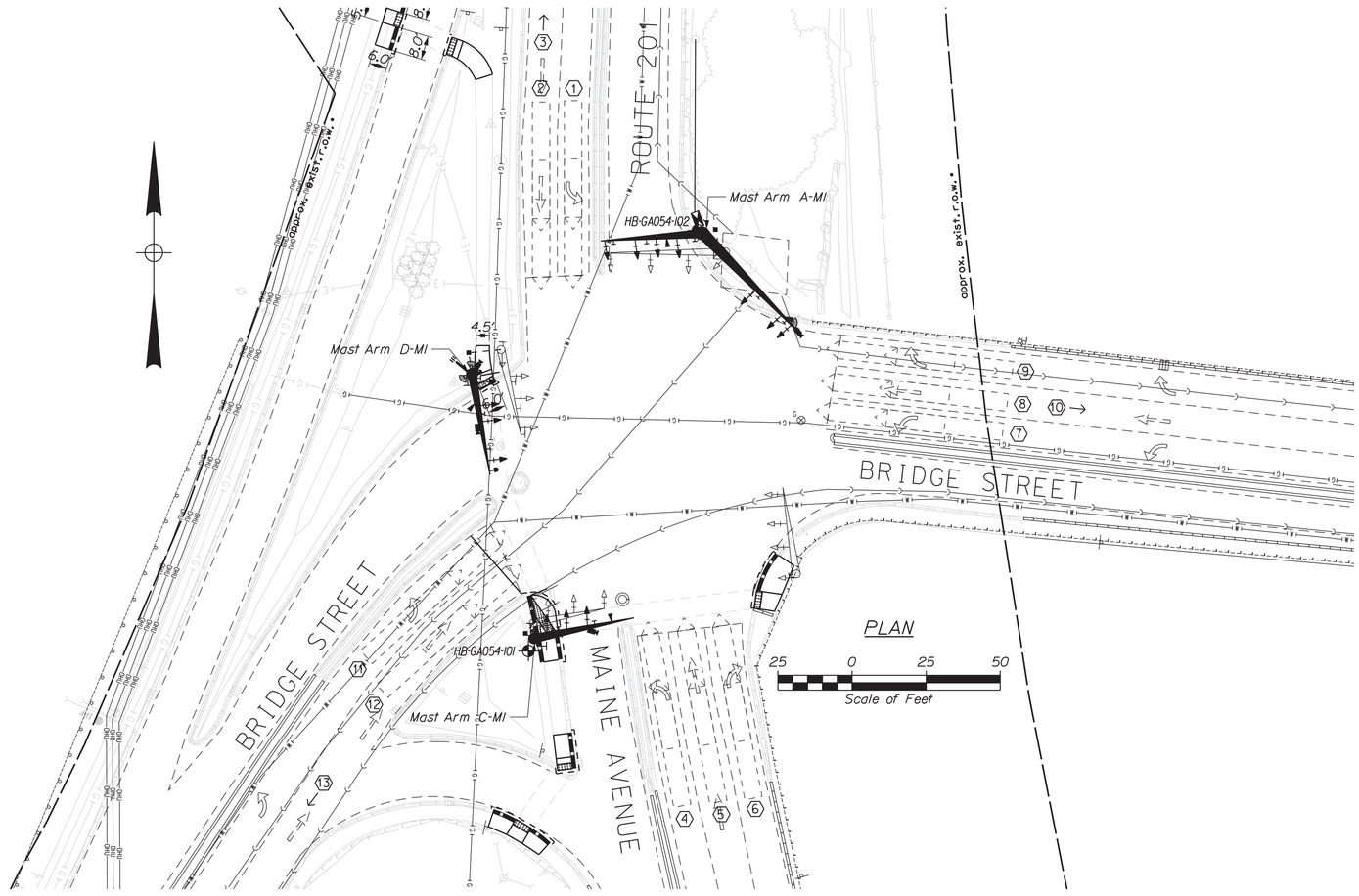


Drilled Shaft Elevation View

Not to Scale (See Table for Drilled Shaft & Reinforcement Information)

MAST ARMS A-MI, C-MI & D-MI

(A-MI) Route 201 and Maine Avenue
(C-MI) Maine Avenue and Bridge Street
(D-MI) Bridge Street and Route 201



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.*
6. *For Boring Logs see Sheet 54B of 358.*

Mast Arm	Location	Drilled Shaft Dimensions		Reinforcing Steel			Spiral Bar Spacing		
		X	L	R1	R2	S1	D1 (in)	D2 (in)	D3 (in)
		Diameter (feet)	Length (feet)	Longitudinal Rebars Quantity	Longitudinal Rebars Size	Spiral Rebars Size	0 to 3 ft	3 ft to 2L/3 ft	2L/3 ft to tip
A-M1	Route 201 and Maine Avenue	4.5	16.0	24	#10	#5	4	4	12
C-M1	Maine Avenue and Bridge Street	3.5	12.0	18	#9	#5	4	4	12
D-M1	Bridge Street and Route 201	4.0	13.0	21	#9	#5	4	4	12

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. 2430100

WIN 24301.00

HIGHWAY PLANS

STATE OF MAINE ★ Kathleen Maguire 7120 ★ PROFESSIONAL ENGINEER

	BY	DATE
PROJ. MANAGER		
DESIGN-DETAILED		
CHECKED-REVIEWED	T. WHITE	APR 2020
DESIGN2-DETAILED2	K.MAGUIRE	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE
7120
P.E. NUMBER
11/23/2020
DATE

GARDINER
ROUTE 201/MAINE AVENUE/BRIDGE STREET

MAST ARM FOUNDATION & BORING LOCATION PLAN

SHEET NUMBER

54F

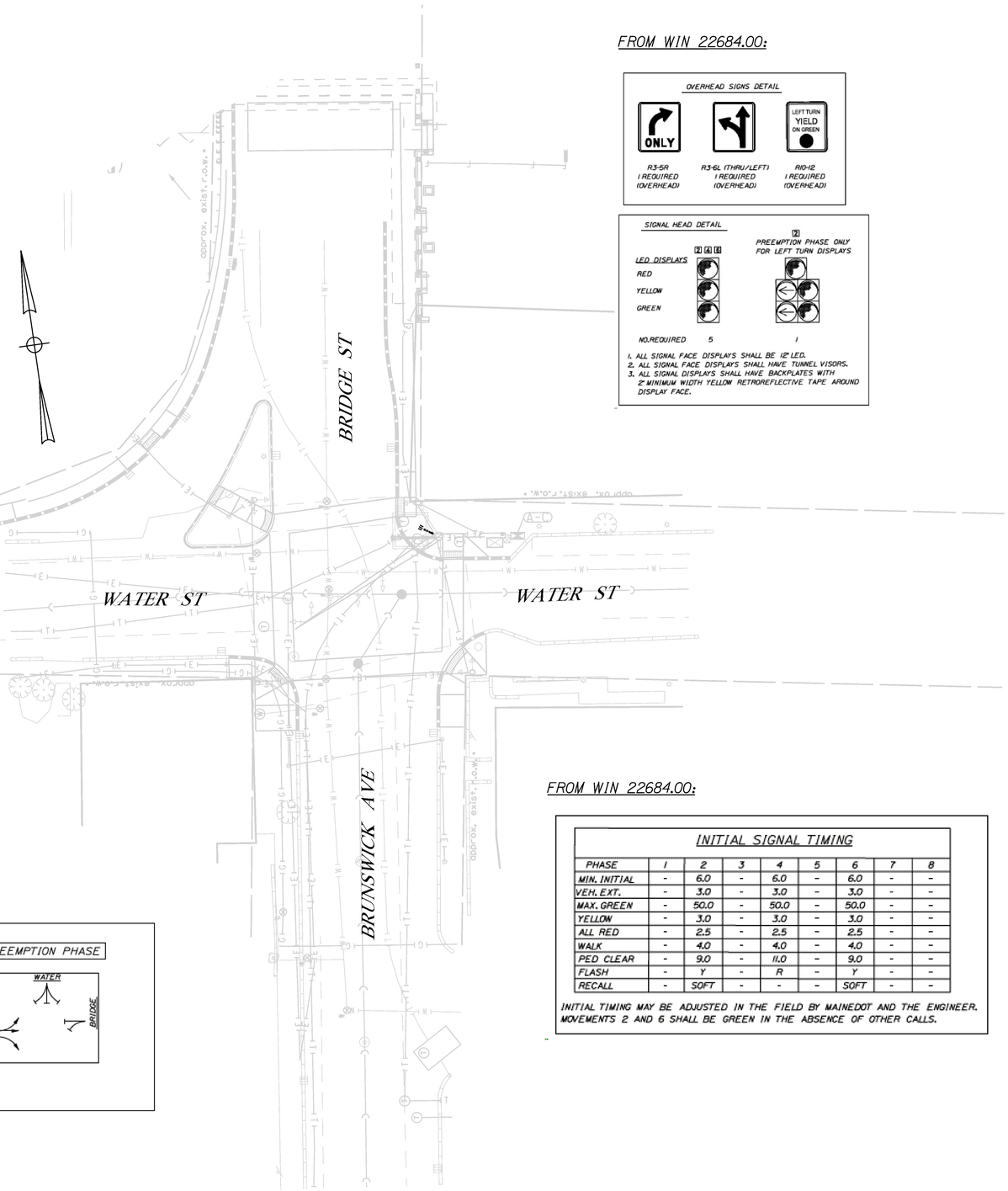
OF 358

Filename: ...\Final Plans\017_Signal_55.dgn Division: HIGHWAY Username: common Date:11/19/2020

LIST OF WORK ITEMS

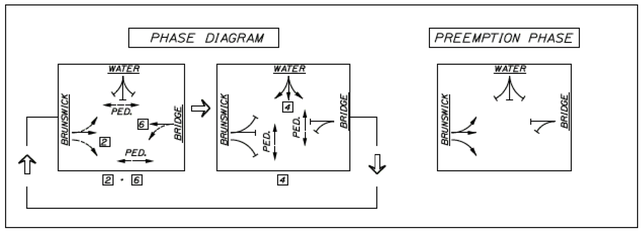
EQUIPMENT AND WORK ITEMS XXX.XYZ TRAFFIC SIGNAL AT: BRIDGE ST & WATER ST, GARDINER	QUANTITY
FURNISH AND INSTALL FIELD MONITORING UNIT/FMU (ITEM 643.71)	1 EA
FURNISH AND INSTALL NEW ATC CONTROLLER WITH INTEGRATION INTO CLOUD BASED MONITORING SYSTEM (ITEM 643.71)	1 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



FROM WIN 22684.00:

FROM WIN 22684.00:



FROM WIN 22684.00:

INITIAL SIGNAL TIMING

PHASE	1	2	3	4	5	6	7	8
MIN. INITIAL	-	6.0	-	6.0	-	6.0	-	-
VEH. EXT.	-	3.0	-	3.0	-	3.0	-	-
MAX. GREEN	-	50.0	-	50.0	-	50.0	-	-
YELLOW	-	3.0	-	3.0	-	3.0	-	-
ALL RED	-	2.5	-	2.5	-	2.5	-	-
WALK	-	4.0	-	4.0	-	4.0	-	-
PED CLEAR	-	9.0	-	11.0	-	9.0	-	-
FLASH	-	Y	-	R	-	Y	-	-
RECALL	-	SOFT	-	-	-	SOFT	-	-

INITIAL TIMING MAY BE ADJUSTED IN THE FIELD BY MAINEDOT AND THE ENGINEER.
MOVEMENTS 2 AND 6 SHALL BE GREEN IN THE ABSENCE OF OTHER CALLS.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE WIN 22684.0, 09/2018

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

Sewall
The evolution of expertise

PROJ. MANAGER	B. KEEFER
DESIGN-DETAILED	LBF
CHECKED-REVIEWED	DWM
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	

	BY	DATE
REVISIONS 1	LBF	7/20
REVISIONS 2	DWM	7/20
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

GARDINER
WATER ST AND
BRIDGE ST

TRAFFIC SIGNAL PLAN

SHEET NUMBER
55
OF 358

LIST OF WORK ITEMS

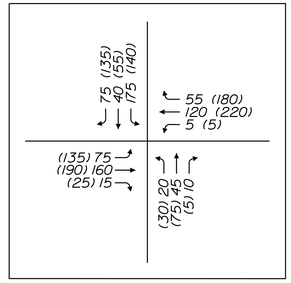
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING CELL MODEM / FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED MONITORING SYSTEM	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	9
FURNISH AND INSTALL ONE-WAY, 16 X 18-INCH LED SIDE OF POLE MOUNTED COUNTDOWN PEDESTRIAN SIGNAL HEAD	5
FURNISH AND INSTALL ONE-WAY, 16 X 18-INCH LED TOP OF POST MOUNTED COUNTDOWN PEDESTRIAN SIGNAL HEAD	1
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3E INFORMATIONAL SIGN	6
FURNISH AND INSTALL 4-CHANNEL PREEMPTION PHASE SELECTOR	1
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	4
FURNISH AND INSTALL PREEMPTION CONFIRMATION RED STROBE WITH CABLE	1
FURNISH AND INSTALL MAST ARM MOUNTED SIGNS	6
FURNISH AND INSTALL NEW POLE MOUNTED SIGN	2
FURNISH AND INSTALL NEW POST MOUNTED SIGN	10
REMOVE POLE MOUNTED SIGN	2
RESET POST MOUNTED SIGN	1
FURNISH AND INSTALL NEW SIGNAL CABLE	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.21)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

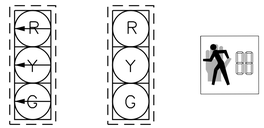
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"
A-MI	35' MAST ARM	42" DIAMETERx18'
A-PI	8' PEDESTAL POLE	24" DIAMETER
B-PI	8' PEDESTAL POLE	24" DIAMETER
C-MI	25' MAST ARM	42" DIAMETERx13.5'
C-PI	8' PEDESTAL POLE	24" DIAMETER

SYSTEM DESIGN VOLUMES AM (PM)

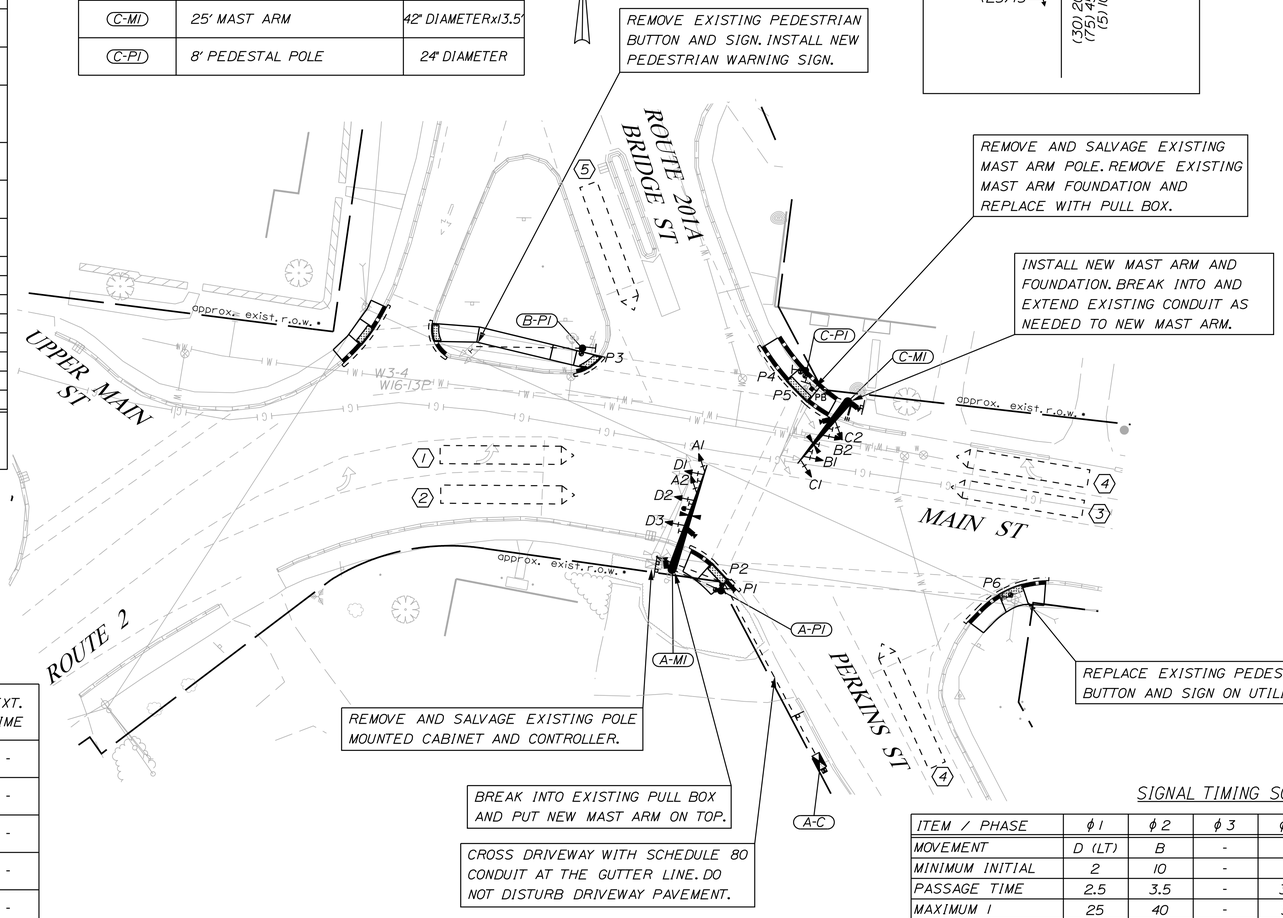


PROPOSED INDICATIONS



DI | A1,A2,B1,B2 C1,C2,D2,D3 | P1-P6

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES



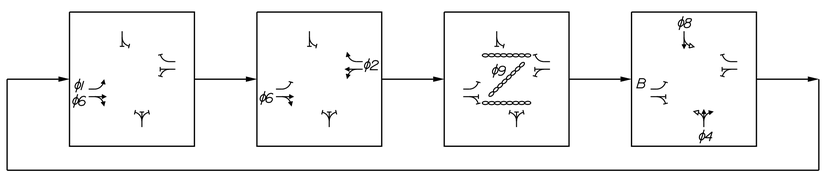
DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	ϕ CALLED	ϕ EXT.	MODE A=ADVANCE B=STOPLINE	DELAY TIME	EXT. TIME
1	ROUTE 2 EB LEFT	1	1	B	-	-
2	ROUTE 2 EB THRU-RIGHT	6	6	B	-	-
3	MAIN ST WB LEFT-THRU	2	2	B	-	-
4	MAIN ST WB RIGHT	2	2	B	5	-
5	BRIDGE ST SB LEFT-THRU	8	8	B	-	-
6	PERKINS ST NB MOVEMENTS	4	4	B	-	-

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

1 2 | 9 | 4
6 | | 8



PHASING NOTES:
1. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY.

SIGNAL TIMING SCHEDULE

ITEM / PHASE	ϕ 1	ϕ 2	ϕ 3	ϕ 4	ϕ 5	ϕ 6	ϕ 7	ϕ 8	ϕ 9
MOVEMENT	D (LT)	B	-	C	-	D	-	A	EX. PED.
MINIMUM INITIAL	2	10	-	5	-	10	-	5	-
PASSAGE TIME	2.5	3.5	-	3.0	-	3.5	-	3.0	-
MAXIMUM 1	25	40	-	30	-	40	-	30	-
MAXIMUM 2	30	45	-	30	-	30	-	30	-
YELLOW	3.5	3.5	-	3.5	-	3.5	-	3.5	3.0
ALL RED	2.5	2.5	-	3.5	-	2.5	-	3.5	0.0
PED WALK	-	-	-	-	-	-	-	-	5
PED CLEAR	-	-	-	-	-	-	-	-	25
DYN MAX LIMIT	-	-	-	-	-	-	-	-	-
DYN MAX STEP	-	-	-	-	-	-	-	-	-
RECALL	OFF	SOFT	-	OFF	-	SOFT	-	OFF	-
DETECTOR	PR	PR	-	PR	-	PR	-	PR	-
PRE-EMPT PRIORITY	3	4	-	6	-	3	-	5	-
FLASH	R	Y	-	R	-	Y	-	R	DARK
DUAL ENTRY	OFF	ON	-	ON	-	ON	-	ON	

NOTES: S = SOFT RECALL Y = YELLOW
O = RECALL OFF R = RED
PR = PRESENCE D = DARK
IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONTRACT AWARD.
PROGRAMMING FOR FLASHING ASSEMBLY SHALL BE RETAINED IN THE NEW CABINET AND TIMING PLANS.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE STP-1277(600)X DOT FILE 13-376, SHEET 60 OF 63, 03/2013 & DOT FILE 13-264, SHEET 1 OF 1, 1987

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

	B. KEEZER	DATE
PROJ. MANAGER		
DESIGN-DETAILED	MLG	07/20
CHECKED-REVIEWED	CMB	07/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

NORRIDGEWOCK
ROUTE 2(MAIN ST) AND ROUTE 201A(BRIDGE ST)/PERKINS ST

TRAFFIC SIGNAL PLAN

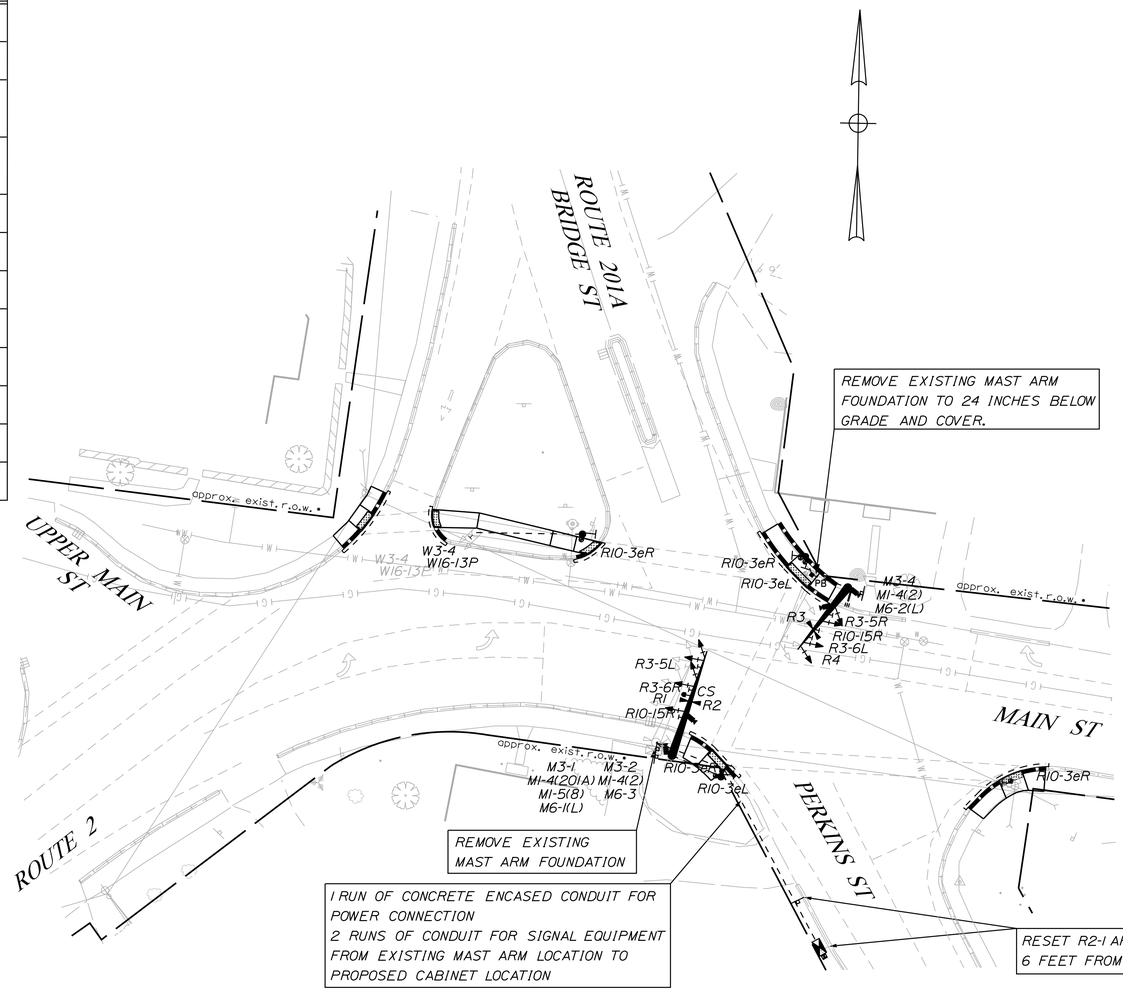
SHEET NUMBER
56
OF 358

Filename: 056_Signal_56.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
FURNISH AND INSTALL PRECAST CONCRETE JUNCTION BOX (ITEM 626.11)	1 EA
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	250 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	85 LF
FURNISH AND INSTALL NON-METALLIC UNDER PAVEMENT CONDUIT (ITEM 626.251)	75 LF
FURNISH AND INSTALL 24-INCH FOUNDATION (ITEM 626.32)	21 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
REMOVE OR MODIFY CONCRETE FOUNDATION (ITEM 626.36)	2 EA
FURNISH AND INSTALL 42-IN DIAMETER FOUNDATION (ITEM 626.451)	32 LF
FURNISH AND INSTALL 25' MAST ARM POLE (ITEM 643.91)	1 EA
FURNISH AND INSTALL 35' MAST ARM POLE (ITEM 643.91)	1 EA
FURNISH AND INSTALL 8-FOOT PEDESTAL POLE (ITEM 643.92)	3 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351 - BID ALTERNATIVE 1)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



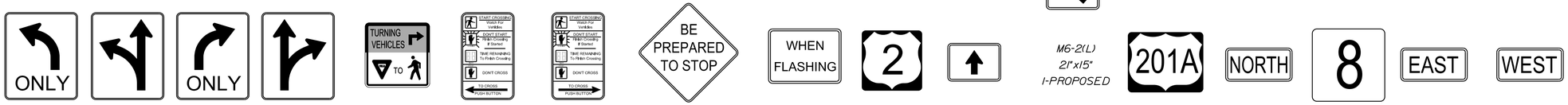
EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
	1	NOT USE/RESERVED	
	2	NOT USE/RESERVED	
R1	3	1	ϕ1&ϕ6
R2	4	2	ϕ2&ϕ5
R3	5	3	ϕ8
R4	6	4	ϕ4

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 4 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR AND/OR RSU , THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 3.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

PROPOSED SIGNS



R3-5L	R3-6L	R3-5R	R3-6R	R10-15R	R10-3eL	R10-3eR	W3-4	W16-13P	MI-4(2)	M6-3	M6-2(L)	MI-4(20IA)	M3-1	MI-5(8)	M3-2	M3-4
30"x36"	30"x36"	30"x36"	30"x36"	30"x30"	9"x15"	9"x15"	36"x36"	24"x18"	24"x24"	21"x15"	21"x15"	30"x24"	24"x12"	24"x24"	24"x12"	24"x12"
1-PROPOSED	1-PROPOSED	1-PROPOSED	1-PROPOSED	2-PROPOSED	2-PROPOSED	4-PROPOSED	1-PROPOSED	1-PROPOSED	2-PROPOSED	1-PROPOSED	1-PROPOSED	1-PROPOSED	1-PROPOSED	1-PROPOSED	1-PROPOSED	1-PROPOSED

M6-1(L) 21"x15" 1-PROPOSED

EXISTING SIGNS



W3-4	W16-13P	R3-1(30)
1-REMOVED	1-REMOVED	1 REMOVED AND RESET

PLAN

25 0 25 50

Scale of Feet

* - RIGHT-OF-WAY REFERENCE STP-1277(600)X DOT FILE 13-376. SHEET 60 OF 63, 03/2013 & DOT FILE 13-264, SHEET 1 OF 1, 1987

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER
DESIGN-DETAILED	MLG
CHECKED-REVIEWED	CMB
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	

	BY	DATE
REVISIONS 1	JAR	07/20
REVISIONS 2	CMB	07/20
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

NORRIDGEWOCK
ROUTE 2(MAIN ST) AND ROUTE 201A(BRIDGE ST)/PERKINS ST

TRAFFIC SIGNAL PLAN

SHEET NUMBER

56A

OF 358

Filename: 056_Signal_56a.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

Filename: ...\56B_BORING LOGS1_NO PHASE1.dgn Division: GEOTECH Username: Kate.Maguire Date:11/23/2020

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Main Strret Signal Improvements
Location: Norridgewock, Maine

Boring No.: HB-N0056-101
WIN: 24301.00

Driller:	MaineDOT	Elevation (ft.)		Auger ID/OD:	5" Dia.
Operator:	Daggett/Niles	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	B. Wilder	Rig Type:	CME 45C	Hammer Wt./Fall:	140#/30"
Date Start/Finish:	8/26/2019; 08:30-09:30	Drilling Method:	Solid Stem Auger	Core Barrel:	N/A
Boring Location:	Perkins St. and Route 2	Casing ID/OD:	N/A	Water Level*:	None Observed
Hammer Efficiency Factor: 0.886		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample; SSA = Solid Stem Auger; R = Rock Core Sample; S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf); T_v = Pocket Torvane Shear Strength (tsf)
WO = Unsuccessful Split Spoon Sample Attempt; HSA = Hollow Stem Auger; $S_{u(lab)}$ = Lab Vane Undrained Shear Strength (psf); WC = Water Content, percent
U = Thin Wall Tube Sample; RC = Roller Cone; q_p = Unconfined Compressive Strength (tsf); LL = Liquid Limit
WU = Unsuccessful Thin Wall Tube Sample Attempt; WOH = Weight of 140lb. Hammer; N-uncorrected = Raw Field SPT N-value; PL = Plastic Limit
V = Field Vane Shear Test. PP = Pocket Penetrometer; WOR/C = Weight of Rods or Casing; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; PI = Plasticity Index
WV = Unsuccessful Field Vane Shear Test Attempt; WOP = Weight of One Person; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; G = Grain Size Analysis
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected; C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows /6 in Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
							SSA	-0.2		2" HMA. -0.2	
	1D	24/15	1.00 - 3.00	4/4/4/4	8	12				Brown, moist, loose, fine to coarse SAND, little gravel, trace silt. (Fill).	
5	2D	24/14	5.00 - 7.00	3/2/1/1	3	4				Similar to above, except very loose.	
								-9.5		Dark brown, moist, medium dense, fine to coarse SAND, trace gravel, trace silt. -9.5	
10	3D	24/15	10.00 - 12.00	9/8/8/10	16	24		-12.0		Bottom of Exploration at 12.0 feet below ground surface. NO REFUSAL -12.0	
15											
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil typest 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.

Page 1 of 1

Boring No.: HB-N0056-101

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Main Strret Signal Improvements
Location: Norridgewock, Maine

Boring No.: HB-N0056-102
WIN: 24301.00

Driller:	MaineDOT	Elevation (ft.)		Auger ID/OD:	5" Dia.
Operator:	Daggett/Niles	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	B. Wilder	Rig Type:	CME 45C	Hammer Wt./Fall:	140#/30"
Date Start/Finish:	8/26/2019; 09:30-10:30	Drilling Method:	Solid Stem Auger	Core Barrel:	N/A
Boring Location:	Main St. and Perkins St.	Casing ID/OD:	N/A	Water Level*:	None Observed
Hammer Efficiency Factor: 0.886		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample; SSA = Solid Stem Auger; R = Rock Core Sample; S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf); T_v = Pocket Torvane Shear Strength (tsf)
WO = Unsuccessful Split Spoon Sample Attempt; HSA = Hollow Stem Auger; $S_{u(lab)}$ = Lab Vane Undrained Shear Strength (psf); WC = Water Content, percent
U = Thin Wall Tube Sample; RC = Roller Cone; q_p = Unconfined Compressive Strength (tsf); LL = Liquid Limit
WU = Unsuccessful Thin Wall Tube Sample Attempt; WOH = Weight of 140lb. Hammer; N-uncorrected = Raw Field SPT N-value; PL = Plastic Limit
V = Field Vane Shear Test. PP = Pocket Penetrometer; WOR/C = Weight of Rods or Casing; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; PI = Plasticity Index
WV = Unsuccessful Field Vane Shear Test Attempt; WOP = Weight of One Person; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; G = Grain Size Analysis
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected; C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows /6 in Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
							SSA	-0.2		2" HMA. -0.2	
	1D	24/18	1.00 - 3.00	4/7/7/5	14	21				Brown, moist, medium dense, fine to coarse SAND, trace gravel, trace silt. (Fill).	
5	2D	24/15	5.00 - 7.00	4/7/7/8	14	21		-5.0		Brown, moist, medium dense, fine to medium SAND, trace gravel, trace silt, with wood. -5.0	
								-9.0		Dark brown, moist, medium dense, fine to coarse SAND, trace gravel, trace silt. -9.0	
10	3D	24/17	10.00 - 12.00	6/6/5/7	11	16		-12.0		Bottom of Exploration at 12.0 feet below ground surface. NO REFUSAL -12.0	
15											
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil typest 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.

Page 1 of 1

Boring No.: HB-N0056-102

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. 2430100

WIN 24301.00

HIGHWAY PLANS

STATE OF MAINE ★ Kathleen Maguire 7120 ★ REGISTERED PROFESSIONAL ENGINEER

	BY	DATE
PROJ. MANAGER	-----	-----
DESIGN-DETAILED	-----	-----
CHECKED-REVIEWED	K.MAGUIRE	APR 2020
DESIGN2-DETAILED2	K.MAGUIRE	T.WHITE
DESIGN3-DETAILED3	-----	-----
REVISIONS 1	-----	-----
REVISIONS 2	-----	-----
REVISIONS 3	-----	-----
REVISIONS 4	-----	-----
FIELD CHANGES	-----	-----

Kathleen Maguire
SIGNATURE
7120
P.E. NUMBER
11/23/2020
DATE

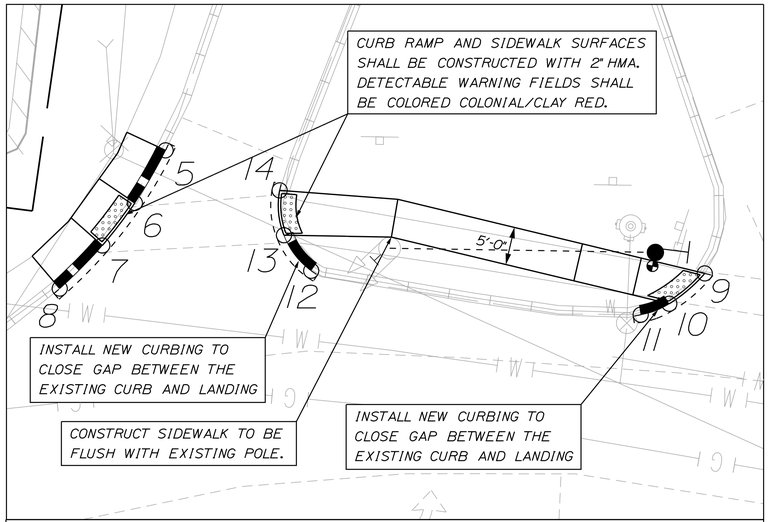
NORRIDGEWOCK
PERKINS STREET/ROUTE 2/MAIN STREET

BORING LOGS

SHEET NUMBER
56B
OF 358

Filename: 056_Signal_56c.dgn Username: jarobert Division: HIGHWAY Date:11/24/2020

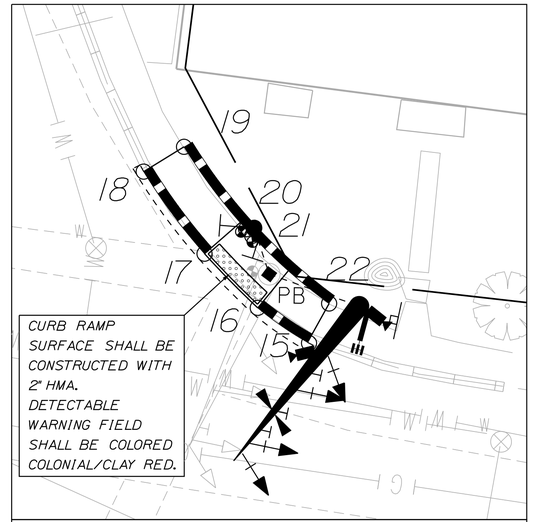
B CORNER - NW DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 80I(20).
RECONSTRUCT CURB RAMPS AND LANDINGS IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 80I(22) ON ISLAND.

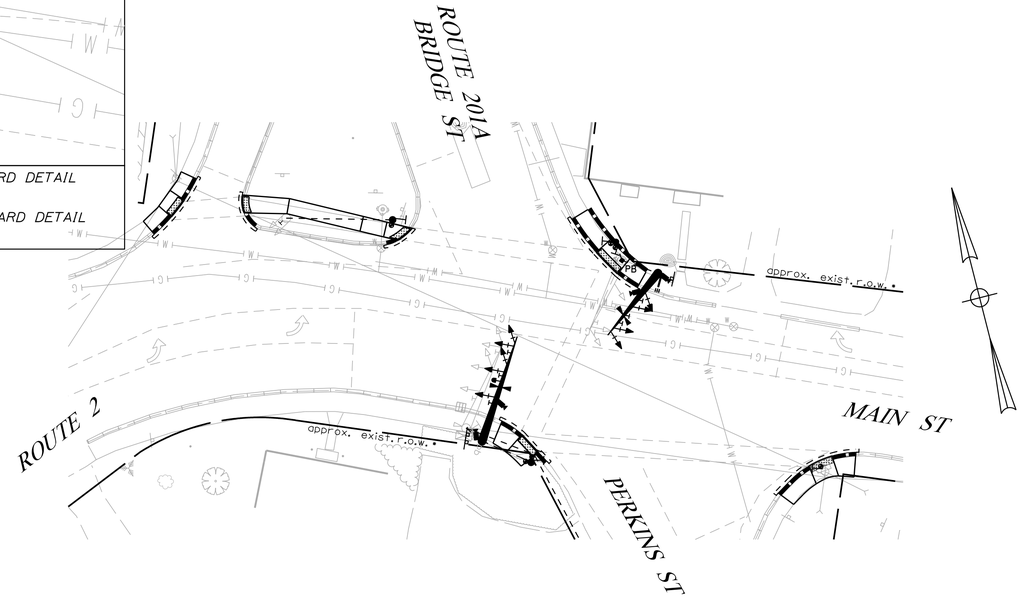
10 0 10 20
Scale of Feet

C CORNER - NE DETAIL



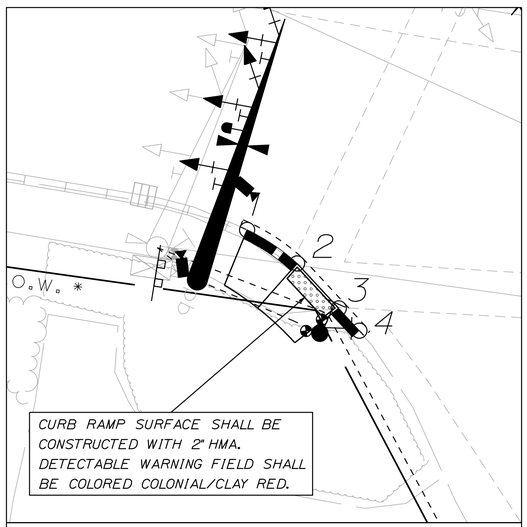
RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 80I(20).
TRANSITION LENGTH REQUIRED FOR THE NORTHERN CURB RAMP SHALL BE 13.5'. SEE MAINEDOT STANDARD DETAIL 80I(13).
CONSTRUCT BACK CURB ALONG CURB RAMPS AND LANDING.

10 0 10 20
Scale of Feet



ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 80I(11) to 80I(26) AS NOTED. AS WELL AS DETAILS PROVIDED ON SHEET H.

A CORNER - SW DETAIL



RECONSTRUCT CURB RAMP AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 80I(20).

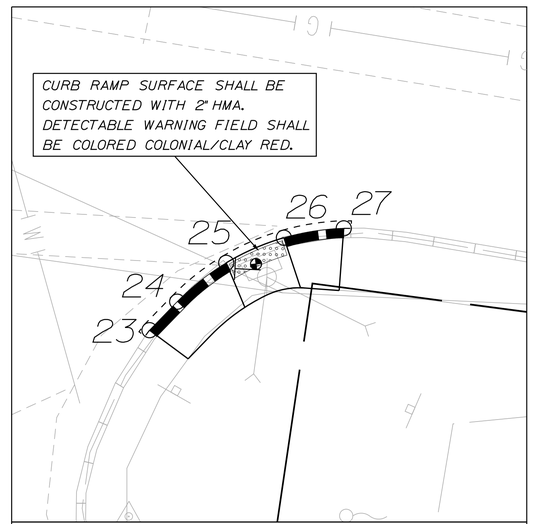
10 0 10 20
Scale of Feet

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE STP-1277(600)X DOT FILE 13-376, SHEET 60 OF 63, 03/2013 & DOT FILE 13-264, SHEET 1 OF 1, 1987

D CORNER - SE DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 80I(20).
TRANSITION LENGTH REQUIRED FOR THE SOUTHERN CURB RAMP SHALL BE 13.5'. SEE MAINEDOT STANDARD DETAIL 80I(13)

10 0 10 20
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

		DATE
PROJ. MANAGER	B. KEEZER	
DESIGN-DETAILED	MLG	07/20
CHECKED-REVIEWED	CMB	07/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

BY: B. KEEZER, JAR, CMB

NORRIDGEWOCK
ROUTE 2(MAIN ST) AND ROUTE 201A(BRIDGE ST)/PERKINS ST
CURB RAMP LAYOUT AND DETAIL PLAN

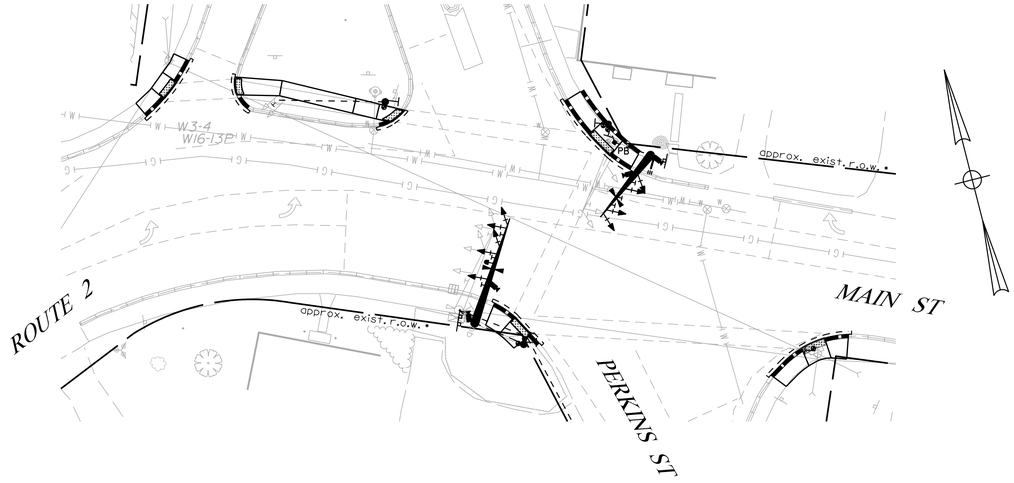
SHEET NUMBER

56C

OF 358

	PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD		ITEM 609.11 - VERTICAL CURB TYPE I (LF)	ITEM 609.221 - TERMINAL CURB TYPE I (LF)	ITEM 609.222 - TERMINAL CURB TYPE I - CIRCULAR (LF)	COMMENT
			LENGTH (FT)	QTY (SF)				
	1 TO 2	26.3					8.0	
*	2 TO 3	-	8.1	14.4				7.4% CROSS SLOPE
	3 TO 4	-				4.0		
	5 TO 6	60.0					8.0	
*	6 TO 7	60.0	7.1	12.5				3.1% CROSS SLOPE
	7 TO 8	60.0					8.0	
	9 TO 10	19.8	6.2	11.2				
	10 TO 11	10.0					4.0	
	12 TO 13	10.1					6.0	
	13 TO 14	10.6	6.0	10.6				
	15 TO 16	45.3					8.0	
*	16 TO 17	117.9	10.0	18.3				2.5% CROSS SLOPE
	17 TO 18	79.3				13.5		
	19 TO 20	73.0			13.6			
	21 TO 22	73.0			13.5			
	23 TO 24	-			5.2			
	24 TO 25	32.0					8.3	
	25 TO 26	32.0	8.3	15.1				
	26 TO 27	32.0					8.0	

* NON-COMPLIANT CURB RAMP ELEMENT - THE EXISTING GUTTER LINE PROFILE IS GREATER THAN 2%. THEREFORE THE LEVEL LANDING CROSS SLOPE AND/OR RUNNING SLOPE WILL BE GREATER THAN THE 2% AND 8.33% MAXIMUM ALLOWABLE. RESPECTIVELY. THE COMMENT IS THE MAXIMUM VALUE FOR PROPOSED LEVEL OF COMPLIANCE.



ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED. AS WELL AS DETAILS PROVIDED ON SHEET H.

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.2101)	15.8 TONS
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	82.1 SF
REGRADING SIDEWALK (ITEM 608.46)	97.4 SY

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
VERTICAL CURB TYPE I (ITEM 609.11)	32.3 LF
TERMINAL CURB TYPE I (ITEM 609.221)	17.5 LF
TERMINAL CURB TYPE I - CIRCULAR (ITEM 609.222)	58.3 LF

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE STP-1277(600)X DOT FILE 13-376, SHEET 60 OF 63, 03/2013 & DOT FILE 13-264, SHEET 1 OF 1, 1987

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

	B. KEEZER
PROJ. MANAGER	
DESIGN-DETAILED	MLG
CHECKED-REVIEWED	CMB
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	
REVISIONS 1	
REVISIONS 2	
REVISIONS 3	
REVISIONS 4	
FIELD CHANGES	

BY	DATE
JAR	07/20
CMB	07/20

NORRIDGEWOCK
ROUTE 2(MAIN ST) AND ROUTE 201A(BRIDGE ST)/PERKINS ST

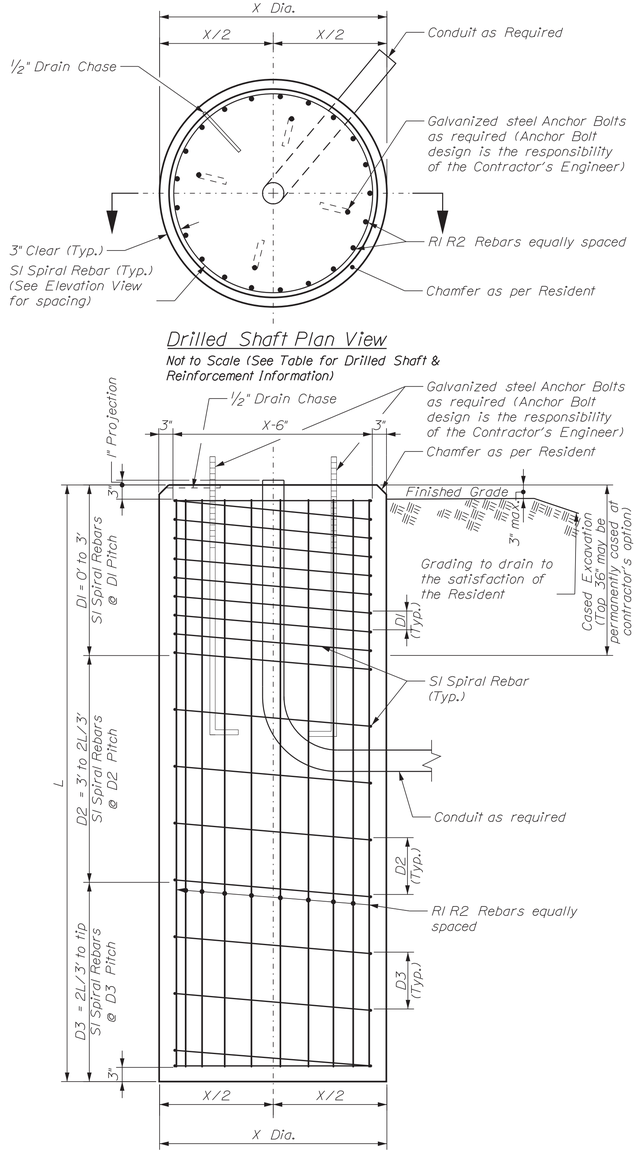
CURB RAMP LAYOUT AND DETAIL PLAN

SHEET NUMBER

56D

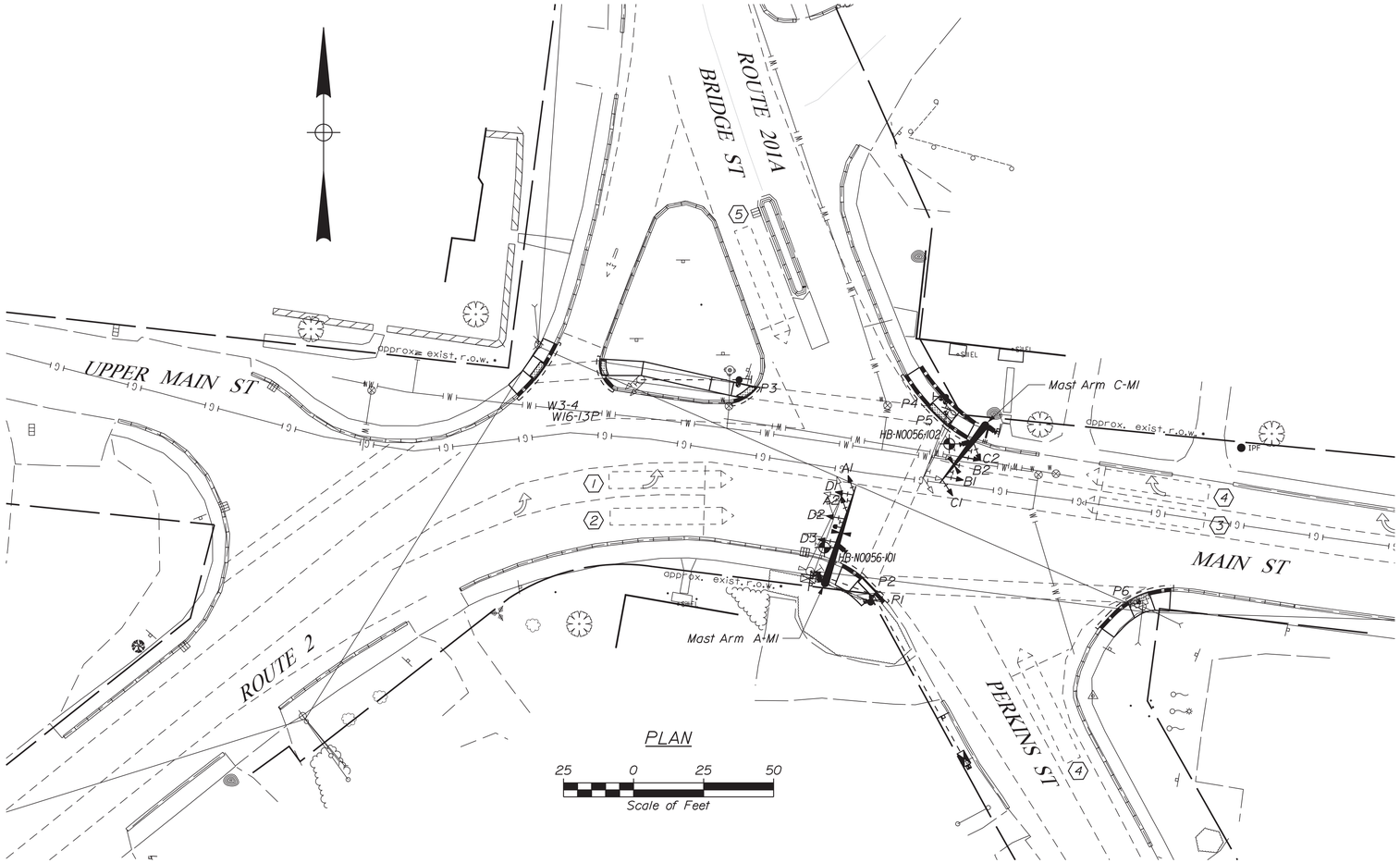
OF 358

Filename: 056_Signal_56d.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020



MAST ARMS A-M1 & C-M1

(A-M1) Perkins Street & Rout 2
(C-M1) Maine Street and Perkins Street



PLAN

25 0 25 50
Scale of Feet

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.
6. For Boring Logs see Sheet 56B of 358.

Mast Arm	Location	Drilled Shaft Dimensions		Reinforcing Steel			Spiral Bar Spacing		
		X	L	R1	R2	S1	D1 (in)	D2 (in)	D3 (in)
		Diameter (feet)	Length (feet)	Longitudinal Rebars Quantity	Longitudinal Rebars Size	Spiral Rebars Size	0 to 3 ft	3 ft to 2L/3 ft	2L/3 ft to tip
A-M1	Perkins Street and Route 2	3.5	18.0	18	#9	#5	4	4	12
C-M1	Main Street and Perkins Street	3.5	13.5	18	#9	#5	4	4	12

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. 2430100

WIN
24301.00

HIGHWAY PLANS

STATE OF MAINE ★ ENGINEER ★ PROFESSIONAL
Kathleen Maguire
7120

	BY	DATE
PROJ. MANAGER		
DESIGN-DETAILED		
CHECKED-REVIEWED	K.MAGUIRE	APR 2020
DESIGN2-DETAILED2	K.MAGUIRE	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE
7120
P.E. NUMBER
11/23/2020
DATE

NORRIDGEWOCK
PERKINS STREET/ROUTE 2/MAIN STREET

MAST ARM FOUNDATION & BORING LOCATION PLAN

SHEET NUMBER
56F
OF 358

Filename: ...\56F_MAF&BLP1_NO PHASE1.dgn Division: GEOTECH Username: Kate.Maguire Date:11/23/2020

Filename: ...\ROW\MSTA\056_RWPLAN1.dgn Usermame: Benjamin.Singer Date:11/24/2020 Division: ROW

PLAN LEGEND

Town, County, State	New R/W Along Existing R/W	Existing / Proposed	Existing / Proposed
Approx. Property Lines P.L.	Building / Clearing Limit Line	Sanitary Sewer	Traveled Way
Existing Right of Way	Trees Conifer / Deciduous	Telephone Line	Ditch
Limits of Wrought Portion L.O.W.P.	Tree Line / Bush Line	Electric Line	Catch Basin
Control Of Access C.O.A.	Water Edge	Water Line	Manhole
New Right of Way	Ledge / Rock/Boulder / Flag Pole	Underdrain Line	Sewer Manhole
New Easement	Fence CHAIN LINK / BARB WIRE / STOCKADE	Gas Line	Utility Pole
New Temporary Rights	Sign / Well / Mailbox	Guardrail	Fire Hydrant
New R/W Within Existing R/W		Culvert	Curbing

Cut Line C C C	Fill Line F F F	Monument
Stonewall	Retaining Wall	Traverse Point
Baseline 10+00 11+00 12+00		Iron Rod Found ● IRF
		Pipe Found ● IPF
		Replacement Pin Set

THIS PLAN WAS PREPARED IN CONNECTION WITH THE DEPARTMENT'S ACQUISITION OF REAL PROPERTY FOR TRANSPORTATION PURPOSES. IT CANNOT BE USED TO ESTABLISH LEGAL BOUNDARIES BETWEEN ABUTTING PROPERTY OWNERS.

25 0 25 50 75 100
Scale of Feet

STATE OF MAINE
REGISTRY OF DEEDS

COUNTY _____
RECEIVED _____, _____
at _____h _____m _____M and
recorded in Plan Bk _____, Pg. _____
Attest: _____
REGISTER

EXISTING RIGHT OF WAY REFERENCES

MAIN STREET AND UPPER MAIN ST. (WINDING HILL ROAD)
KENNEBEC COUNTY COMMISSIONERS RECORDS
VOL. 1, PAGE 202
1802, 4 RODS WIDE

MERCER ROAD
SOMERSET COUNTY COMMISSIONERS RECORDS
VOL. 1, PAGE 309
1831, X RODS WIDE

BRIDGE STREET AND PERKINS STREET
SOMERSET COUNTY COMMISSIONERS RECORDS
VOL. 3, PAGE 1
1841, 4 RODS WIDE

BRIDGE ST.
NORRIDGEWOCK TOWN RECORDS
VOL. 3, 1799-1832, PAGE 137, 4 RODS WIDE
VOL. 4, MAY 17, 1835, 4 RODS WIDE

CLARK STREET (MCKACHNIE ROAD)
NORRIDGEWOCK TOWN RECORDS OF 1799-1832 - VOL. 3
MAY 13, 1829, 4 RODS WIDE

SEE ALSO:
D.O.T. FILE NO. 13-295, SHEET 7, JULY 1992
D.O.T. FILE NO. 13-354, SHEET 1, JUNE 2007
D.O.T. FILE NO. 13-376, SHEET 60, MARCH 2013

NOTE: PRESCRIPTIVE EASEMENT FOR HIGHWAY PURPOSES WITHIN LIMITS OF WROUGHT PORTION (L.O.W.P.)

NOTE: EXISTING R/W SHOWN IS FROM D.O.T. W.I.N 023691.00

EXISTING CONSTRUCTION AND MAINT. EASE. ACQUIRED AS PART OF D.O.T. FILE NO. 13-354 SHEET 1, JUNE 2007

M.H. PARSONS & SONS

TRISTAN J. FATZ

TO MADISON
BRIDGE ST.
STATE HIGHWAY "45"
U.S. ROUTE 201A

EXISTING CONST. & MAINT. EASE. LIMITS

CLARK STREET (MCKACHNIE ROAD)

IPF N:686101.638 E:1134445.679

GRID NORTH
US STATE PLANE NAD83 (2011)
MAINE 2000 WEST ZONE
NAVD88
COMBINED FACTOR 0.9999987248

JESSICA ELLIS
PAUL EVERETT

A PORTION OF THE BUILDING EXISTS WITHIN THE LIMITS OF THE EXISTING HIGHWAY RIGHT OF WAY AND IS A PERMITTED TEMPORARY ENCROACHMENT UNDER MAINE LAW, FOR THE LIFE OF THE BUILDING ONLY. WHEN THE BUILDING IS REMOVED, THE ORIGINAL ESTABLISHED RIGHT OF WAY LINE SHALL REMAIN THE BOUNDARY OF THE HIGHWAY RIGHT OF WAY.

STEWART S. HATTABAUGH

DEBRA PELTON

BLYNN MARCUE
ELAINE MARCUE

JESSICA ELLIS
PAUL EVERETT

IPF N:685938.818 E:1134686.995

IPF N:685916.612 E:1134829.812

TO ROUTE 139

END B.L. N:685902.960 E:1134695.366

1+00 2+00 3+00

BEGIN B.L. N:685933.684 E:1134497.740

200.00' S81°09'47"E

MAIN STREET U.S. ROUTES 2 & 201A - ROUTE 8 STATE HIGHWAY "25"

UPPER MAIN STREET

COVERED PIPE DRAINS
U.S. ROUTE 2 & WINDING HILL ROAD
ACQUIRED AS PART OF D.O.T. FILE NO. 13-295, SHEET 6 & 7, JULY 1992

SOMERSET GRANGE

TO MERCER
U.S. ROUTE 2 MERCER ROAD STATE HIGHWAY "25"

SEE DOT FILE NO. 13-295

CONST. & MAINT. EASE. LIMITS
77± S.F.

PERKINS STREET STATE AID HIGHWAY NO. 6
TO SMITHFIELD

SKOWHEGAN SAVINGS BANK

KENT SINCLAIR
ROGER SACK
ITEM NO. (21)
CONST. & MAINT. EASE.
= (77± S.F.)
TOTAL AREA
= 0.75± AC. (CALC.)

BETTY J. CICHOCKI
BENJAMIN J. CICHOCKI
TIMOTHY S. CICHOCKI
ADAM J. CICHOCKI

NANCY EVERETT
RICKY EVERETT

INTERSECTION NO. 56 WIN 024301.08

PRELIMINARY PLAN

ITEM	TECH	CHECKED
EXISTING CONDITION PLAN	P.N.S.	B.S.
FINAL RIGHT OF WAY		
AREAS		B.S.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION - AUGUSTA, ME 04333-0016 - 207-624-3460

NORRIDGEWOCK
RIGHT OF WAY MAP

REVISIONS

NO.	DATE	DESCRIPTION	BY

PLAN FILED IN PLAN BOOK PAGE COUNTY RECORD

NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE

BRUCE A. VAN NOTE
COMMISSIONER
JOYCE NOEL TAYLOR
CHIEF ENGINEER
DATE

STATE HWY. "25" & STATE AID HWY. NO. 6
MAIN STREET & PERKINS STREET
NORRIDGEWOCK SOMERSET COUNTY
FEDERAL AID PROJECT NO. 2430100

OCTOBER 2020	RIGHT-OF-WAY MAP	D.O.T. FILE NO. 13-TBD
SCALE 1" = 25'	SHEET 1 OF 1	

SHEET NUMBER
56R
OF 358

LIST OF WORK ITEMS

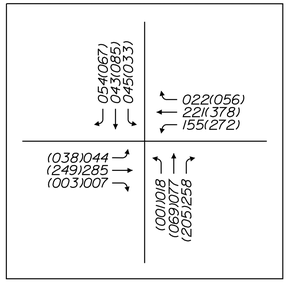
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEAD(S), WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE(S) WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SPAN WIRE WITH ASTRO-BRACKETS	6
FURNISH AND INSTALL ONE-WAY 4-SECTION, 12-INCH TRAFFIC SIGNAL HEAD(S), WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE(S) WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SPAN WIRE WITH ASTRO-BRACKETS	1
FURNISH AND INSTALL ONE-WAY 5-SECTION, 12-INCH TRAFFIC SIGNAL HEAD(S), WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE(S) WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SPAN WIRE WITH ASTRO-BRACKETS	1
FURNISH AND INSTALL ONE-WAY 16 X 18 - INCH LED TOP OF POST MOUNTED COUNTDOWN PEDESTRIAN SIGNAL HEAD	3
FURNISH AND INSTALL ONE-WAY 16 X 18 - INCH LED SIDE OF POLE MOUNTED COUNTDOWN PEDESTRIAN SIGNAL HEAD	1
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" RIO-3e INFORMATIONAL SIGN	4
FURNISH AND INSTALL SPAN WIRE MOUNTED SIGN	1
FURNISH AND INSTALL POLE MOUNTED SIGN	1
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS FOR 4 APPROACHES, PREEMPTION CONFIRMATION STROBE, AND PREEMPTION PHASE SELECTOR	1
FURNISH AND INSTALL NEW SIGNAL CABLE	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON- INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES. COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 1 APPROACH. COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

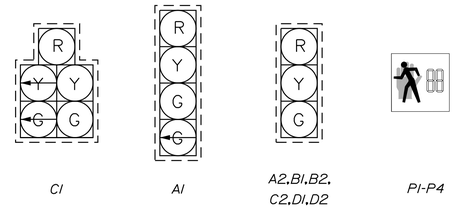
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"
A-P1	8' PEDESTAL POLE	24" DIAMETER
D-P1	8' PEDESTAL POLE	24" DIAMETER
D-P2	8' PEDESTAL POLE	24" DIAMETER

SYSTEM DESIGN VOLUMES AM (PM)



PROPOSED INDICATIONS

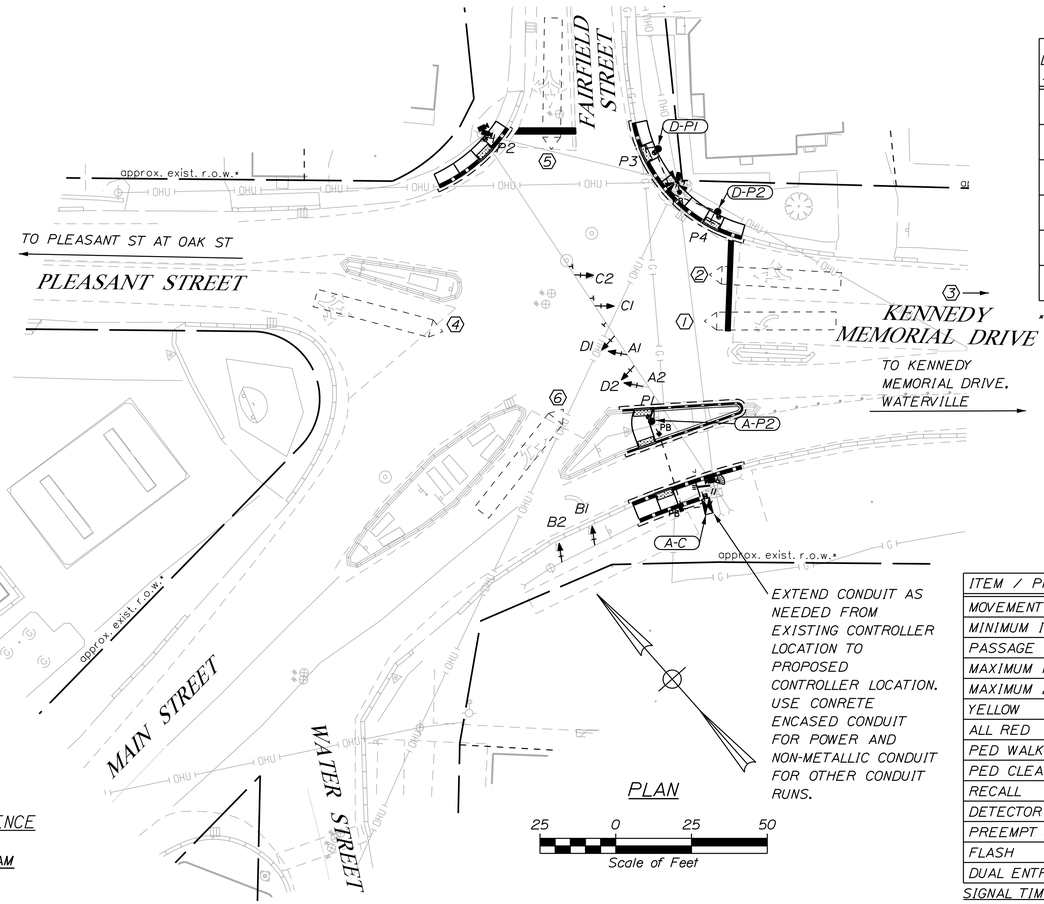


NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADV. B=S.BAR	DELAY TIME	EXT. TIME
1	KMD LEFT	1	1	B	-	-
2	KMD THRU/RIGHT	6	6	B	-	-
3*	KMD ADVANCE	6	6	A	-	-
4	PLEASANT STREET	2	2	B	-	-
5	FAIRFIELD STREET	8	8	B	-	-
6	MAIN STREET	4	4	B	-	-

*SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)



SIGNAL TIMING SCHEDULE

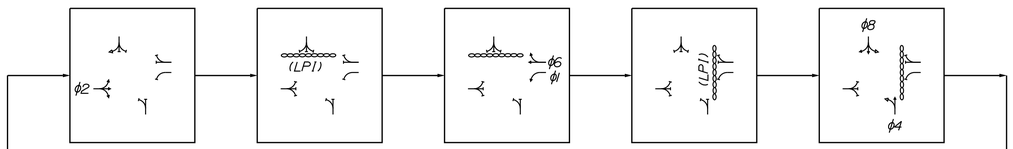
ITEM / PHASE	φ 1	φ 2	φ 3	φ 4	φ 5	φ 6	φ 7	φ 8
MOVEMENT	C	A	-	D	-	C	-	B
MINIMUM INITIAL	5.0	5.0	-	5.0	-	5.0	-	5.0
PASSAGE TIME	4.0	3.5	-	3.5	-	4.0	-	3.5
MAXIMUM 1	25.0	23.0	-	18.0	-	25.0	-	18.0
MAXIMUM 2	-	-	-	-	-	-	-	-
YELLOW	3.5	3.0	-	3.0	-	3.5	-	3.0
ALL RED	1.5	1.5	-	2.5	-	1.5	-	2.5
PED WALK	-	5.0	-	-	-	-	-	5.0
PED CLEAR	-	12.0	-	-	-	-	-	13.0
RECALL	0	S	-	0	-	0	-	0
DETECTOR	PR	PR	-	PR	-	PR	-	PR
PREEMPT PRIORITY	4	3	-	5	-	4	-	6
FLASH	R	Y	-	R	-	R	-	R
DUAL ENTRY	OFF	OFF		OFF		OFF		OFF

SIGNAL TIMING NOTES:
1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONTRACT AWARD.
2. DEFINITIONS
   S = SOFT RECALL Y = YELLOW
   O = RECALL OFF R = RED
   PR = PRESENCE D = DARK

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

2 | 1 | 4
6 | 8



PHASING NOTES:
1. EACH PEDESTRIAN PHASE SHALL HAVE A MINIMUM OF A 4 SECOND LEADING PEDESTRIAN INTERVAL(LPI).
2. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY

NOTE:
RIGHT-OF-WAY SHOWN ON THIS PLAN IS APPROXIMATE AND ACQUISTIONS (POST BID AND BY OTHERS) MAY BE REQUIRED TO COMPLETE THE WORK.

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED ON 9-17-19 FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 24301.00.

* - RIGHT-OF-WAY REFERENCE: PIN STP-7853(00)X DOT FILE 6-366, SHEET 1 OF 1, 1999

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

PROJ. MANAGER	B.KEEZER		
DESIGN-DETAILED	CMT	11\20	
CHECKED-REVIEWED	BRL	11\20	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

OAKLAND
MAIN ST AT FAIRFIELD ST

TRAFFIC SIGNAL PLAN

SHEET NUMBER
57
OF 358

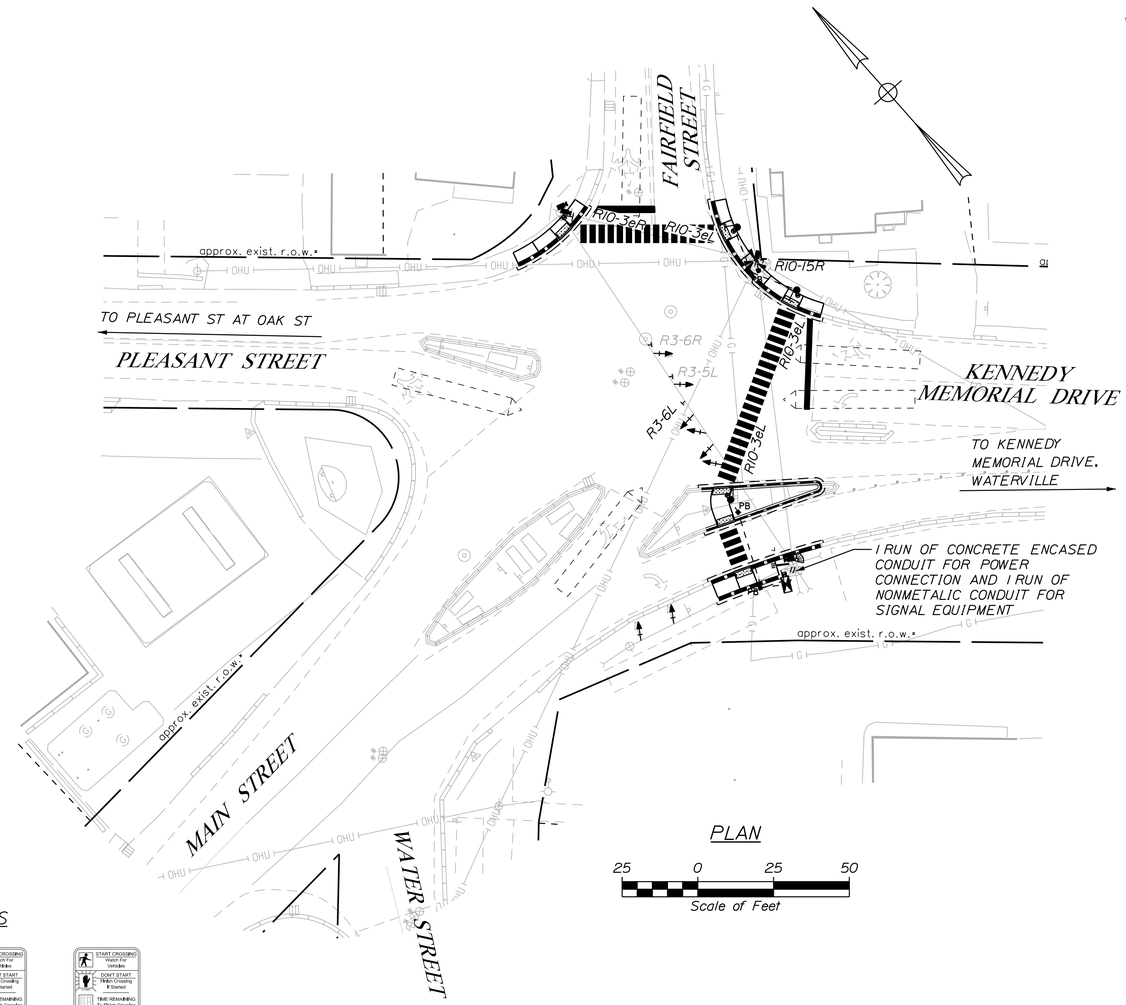
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Filename: ...\Oakland\057A_Signal_57.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL PRECAST CONCRETE JUNCTION BOX (ITEM 626.11)	3 EA
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	85 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT. CONCRETE ENCASED (ITEM 626.221)	10 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL 24-INCH DIAMETER FOUNDATION (ITEM 626.421)	21 LF
FURNISH AND INSTALL WHITE PAVEMENT AND CURB MARKING (ITEM 627.75)	570 SF
REMOVE EXISTING PAVEMENT MARKING (ITEM 627.77)	570 SF
FURNISH AND INSTALL 8-FOOT PEDESTAL POLE (ITEM 643.92)	3 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PLAN

25 0 25 50

Scale of Feet

PROPOSED SIGNS



R3-6L
30"x36"
1-PROPOSED



R10-15R
30"x30"
1-PROPOSED



R10-3eL
9"x15"
3-PROPOSED



R10-3eR
9"x15"
1-PROPOSED

EXISTING SIGNS



R3-5L
30"x36"
1-RETAINED



R3-6R
30"x36"
1-RETAINED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2
R4	4	2	ϕ1&ϕ6
R5	5	3	ϕ4
R6	6	4	ϕ8

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 6 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED ON 9-17-19 FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 24301.00.

* - RIGHT-OF-WAY REFERENCE: PIN STP-7853(00)X DOT FILE 6-366, SHEET 1 OF 1, 1999

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
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75 John Roberts Rd.
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South Portland, ME 04106
Tel. 207-200-2100

PROJ. MANAGER	B.KEEZER		
DESIGN-DETAILED	CMT	BY	11\20
CHECKED-REVIEWED	BRL	BY	11\20
DESIGN2-DETAILED2			
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REVISIONS 2			
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FIELD CHANGES			

OAKLAND
MAIN ST AT FAIRFIELD ST

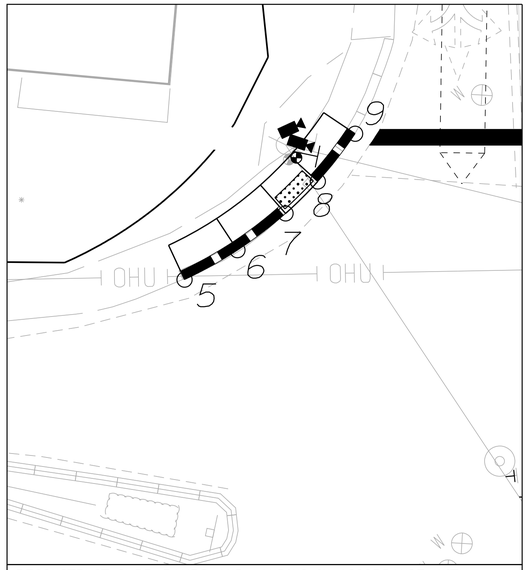
TRAFFIC SIGNAL PLAN

SHEET NUMBER

57A

OF 358

C CORNER - NW DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

10 0 10 20
Scale of Feet

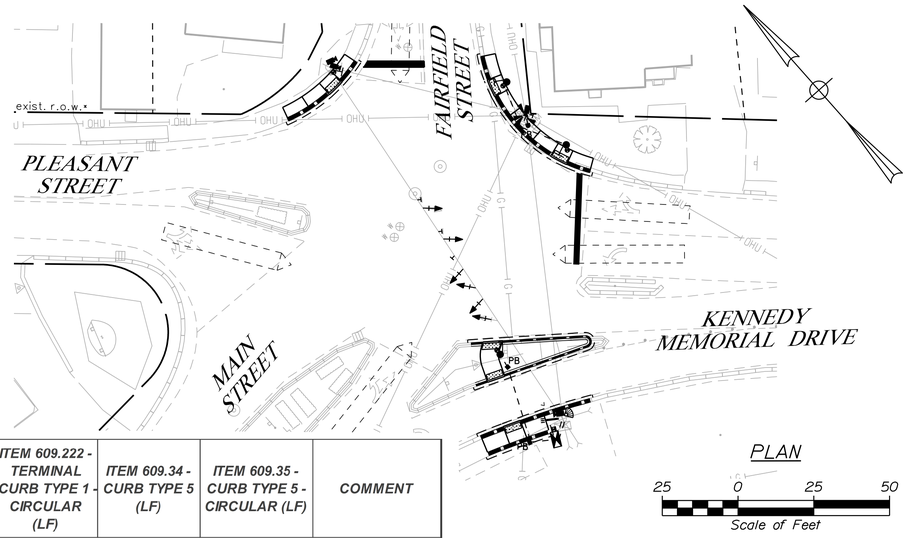
LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
REGRADING SIDEWALK (ITEM 608.46)	94.3 SY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	9.5 TONS
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	94.3 SY
VERTICAL CURB TYPE 1 (ITEM 609.11)	22 LF
VERTICAL CURB TYPE 1 - CIRCULAR (ITEM 609.12)	11.3 LF

EQUIPMENT AND WORK ITEMS	QUANTITY
TERMINAL CURB TYPE 1 (ITEM 609.221)	32 LF
TERMINAL CURB TYPE 1 - CIRCULAR (ITEM 609.222)	56 LF
CURB TYPE 5 (ITEM 609.34)	64.4 LF
CURB TYPE 5 - CIRCULAR (ITEM 609.35	5.7 LF
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	63.8 SF

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED, AS WELL AS DETAILS PROVIDED ON SHEET H.


exist. r.o.w.
PLEASANT STREET
FAIRFIELD STREET
MAIN STREET
KENNEDY MEMORIAL DRIVE
PB
PB
OHU
OHU
OHU

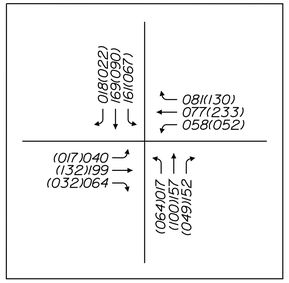
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LIST OF WORK ITEMS

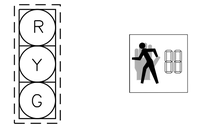
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEAD(S), WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE(S) WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SPAN WIRE WITH ASTRO-BRACKETS	8
FURNISH AND INSTALL ONE-WAY 16 X 18 - INCH LED TOP OF POST MOUNTED COUNTDOWN PEDESTRIAN SIGNAL HEAD	2
FURNISH AND INSTALL ONE-WAY 16 X 18 - INCH LED SIDE OF POLE MOUNTED COUNTDOWN PEDESTRIAN SIGNAL HEAD	2
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3e INFORMATIONAL SIGN	4
FURNISH AND INSTALL POLE MOUNTED SIGN	2
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECIEVERS FOR 4 APPROACHES, PREEMPTION CONFIRMATION STROBE, AND PREEMPTION PHASE SELECTOR	1
FURNISH AND INSTALL NEW SIGNAL CABLE	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON- INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.21)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

SYSTEM DESIGN VOLUMES AM (PM)



PROPOSED INDICATIONS

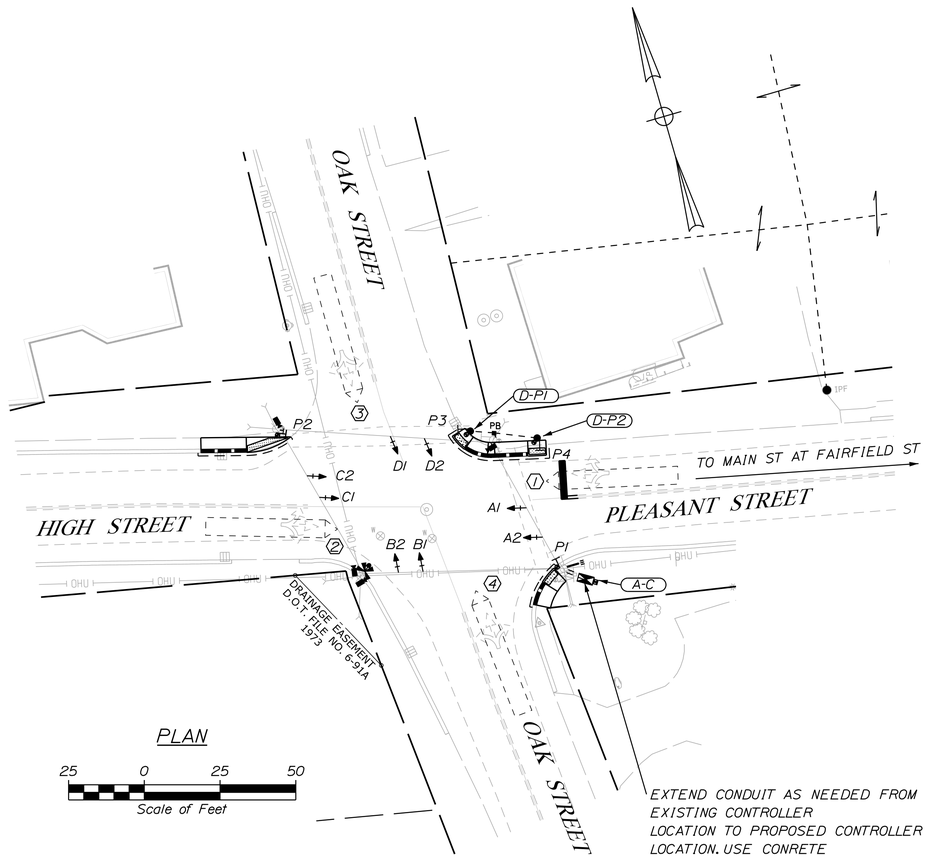


A1,A2,B1,B2, C1,C2,D1,D2 — P1-P4

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	ϕ CALLED	ϕ EXT.	MODE A=ADV, B=S.BAR	DELAY TIME	EXT. TIME
1	PLEASANT STREET	6	6	B	-	-
2	HIGH STREET	2	2	B	-	-
3	OAK STREET SB	8	8	B	-	-
4	OAK STREET NB	4	4	B	-	-



PLAN

25 0 25 50
Scale of Feet

EXTEND CONDUIT AS NEEDED FROM EXISTING CONTROLLER LOCATION TO PROPOSED CONTROLLER LOCATION. USE CONRETE ENCASED CONDUIT FOR POWER AND NON-METALLIC CONDUIT FOR OTHER CONDUIT RUNS.

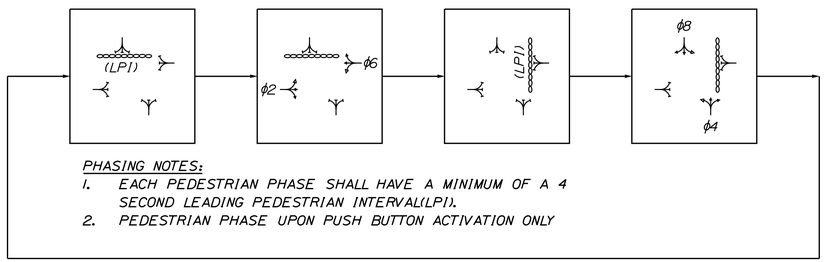
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"
D-P1	8' PEDESTAL POLE	24" DIAMETER
D-P2	8' PEDESTAL POLE	24" DIAMETER

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

2 | 4
6 | 8



PHASING NOTES:
1. EACH PEDESTRIAN PHASE SHALL HAVE A MINIMUM OF A 4 SECOND LEADING PEDESTRIAN INTERVAL(LPI).
2. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY

SIGNAL TIMING SCHEDULE

ITEM / PHASE	ϕ 1	ϕ 2	ϕ 3	ϕ 4	ϕ 5	ϕ 6	ϕ 7	ϕ 8
MOVEMENT	-	A	-	D	-	C	-	D
MINIMUM INITIAL	-	6.0	-	6.0	-	6.0	-	6.0
PASSAGE TIME	-	4.0	-	3.0	-	4.0	-	3.0
MAXIMUM 1	-	25.0	-	16.0	-	25.0	-	16.0
MAXIMUM 2	-	-	-	-	-	-	-	-
YELLOW	-	3.0	-	3.0	-	3.0	-	3.0
ALL RED	-	2.0	-	1.5	-	2.0	-	1.5
PED WALK	-	-	-	5.0	-	5.0	-	-
PED CLEAR	-	-	-	8.0	-	13.0	-	-
RECALL	-	S	-	0	-	S	-	0
DETECTOR	-	PR	-	PR	-	PR	-	PR
PREEMPT PRIORITY	-	3	-	5	-	4	-	5
FLASH	-	Y	-	R	-	Y	-	R
DUAL ENTRY	-	ON	-	ON	-	ON	-	ON

SIGNAL TIMING NOTES:
1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONCTRACT AWARD.
2. DEFINITIONS
   - S = SOFT RECALL
   - O = RECALL OFF
   - PR = PRESENCE
   - Y = YELLOW
   - R = RED
   - D = DARK

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED ON 2-13-19 FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 22178.00.

* - RIGHT-OF-WAY REFERENCE: RIGHT-OF-WAY INFORMATION DISPLAYED WAS SURVEYED UNDER WIN 22178.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
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Tel. 207-200-2100

PROJ. MANAGER	B.KEEZER		
DESIGN-DETAILED	CMT	11\20	
CHECKED-REVIEWED	BRL	11\20	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

OAKLAND
PLEASANT ST AT OAK ST

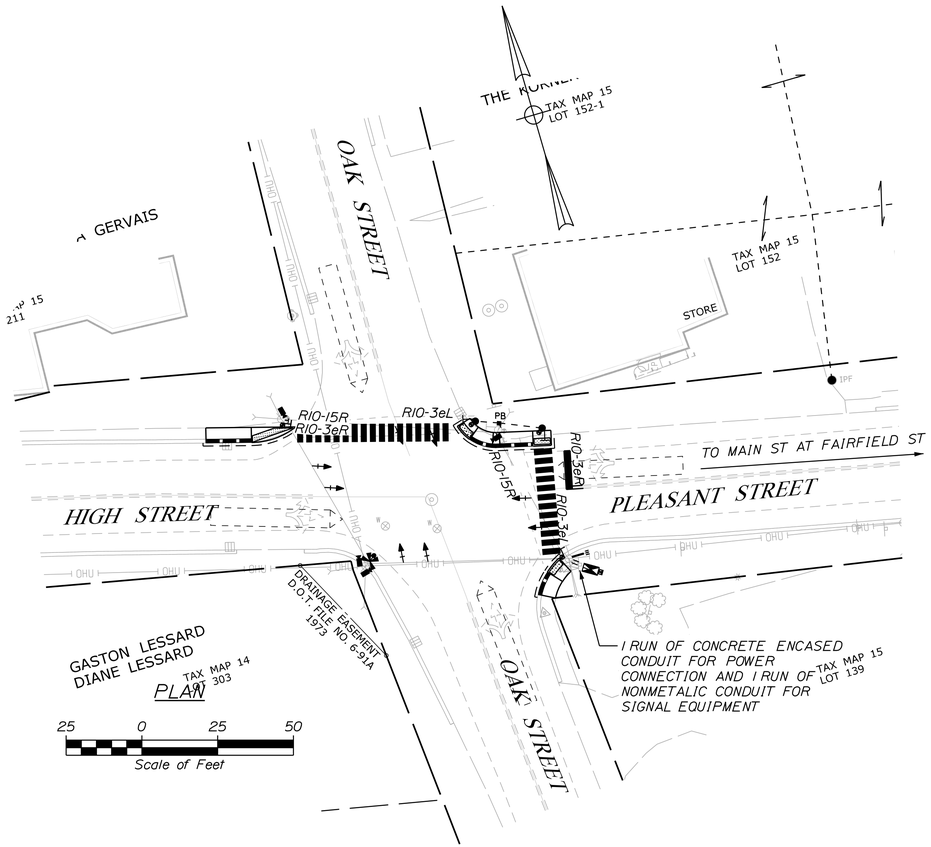
TRAFFIC SIGNAL PLAN

SHEET NUMBER
58
OF 358

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL PRECAST CONCRETE JUNCTION BOX (ITEM 626.11)	1 EA
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	35 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT. CONCRETE ENCASED (ITEM 626.221)	10 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL 24-INCH DIAMETER FOUNDATION (ITEM 626.421)	14 LF
FURNISH AND INSTALL WHITE PAVEMENT AND CURB MARKING (ITEM 627.75)	386 SF
REMOVE EXISTING PAVEMENT MARKING (ITEM 627.77)	386 SF
FURNISH AND INSTALL 8-FOOT PEDESTAL POLE (ITEM 643.92)	2 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PROPOSED SIGNS



R10-15R 30"x30" 2-PROPOSED

R10-3eL 9"x15" 2-PROPOSED

R10-3eR 9"x15" 2-PROPOSED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2
R4	4	2	ϕ6
R5	5	3	ϕ4
R6	6	4	ϕ8

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.

2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 6 = LOWEST)

3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.

4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.

5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED ON 2-13-19 FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 22178.00.

* - RIGHT-OF-WAY REFERENCE: RIGHT-OF-WAY INFORMATION DISPLAYED WAS SURVEYED UNDER WIN 22178.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

	B.KEEZER	DATE
PROJ. MANAGER		
DESIGN-DETAILED	CMT	11\20
CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

OAKLAND
PLEASANT ST AT OAK ST

TRAFFIC SIGNAL PLAN

SHEET NUMBER

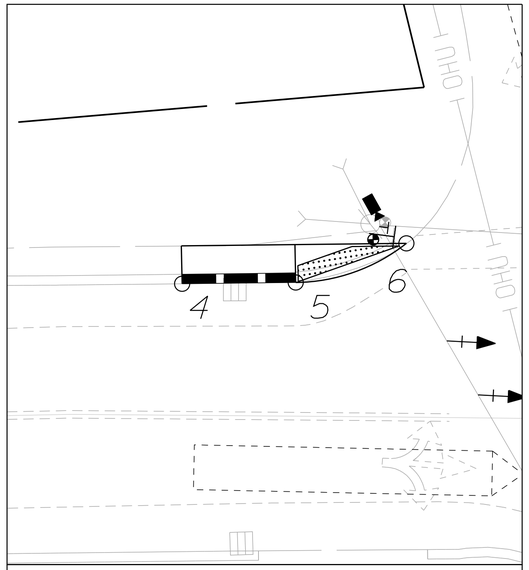
58A

OF 358

Filename: ...\Oakland\058A_Signal_58.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

Filename: ...\Oakland\058C_Signal_58.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

C CORNER - NW DETAIL

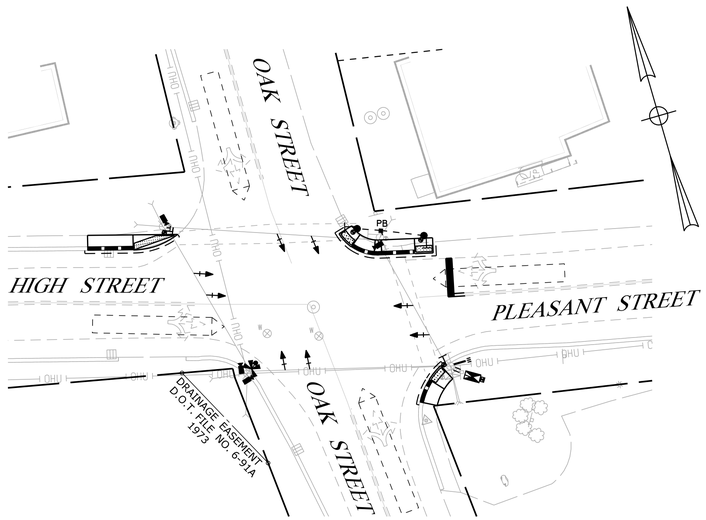


RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(22).

10 0 10 20
Scale of Feet

	PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD (SF)		ITEM 609.12 - VERTICAL CURB TYPE 1 - CIRCULAR (LF)	ITEM 609.221 - TERMINAL CURB TYPE 1 (LF)	ITEM 609.222 - TERMINAL CURB TYPE 1 - CIRCULAR (LF)	COMMENT
			LENGTH (FT)	QTY (SF)				
	1 TO 2	21.00					8.0	
	2 TO 3	21.00	6.0	10.0				
	4 TO 5	-				15.0		
*	5 TO 6	24.00	15.8	21.7				6.8% CROSS SLOPE
	7 TO 8	15.00	6.0	10.0				
	8 TO 9	15.00					8.0	
	9 TO 10	-			3.0			5" CURB REVEAL
	10 TO 11	-				11.0		
*	11 TO 12	-	6.0	10.7				3.8% CROSS SLOPE

* NON-COMPLIANT CURB RAMP ELEMENT - THE SLOPE NOTED IN THE COMMENT IS THE MAXIMUM VALUE FOR PROPOSED LEVEL OF COMPLIANCE.



ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED, AS WELL AS DETAILS PROVIDED ON SHEET H.

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
REGRADING SIDEWALK (ITEM 608.46)	21.8 SY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	3.4 TONS
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	39 SY
VERTICAL CURB TYPE 1 - CIRCULAR (ITEM 609.12)	3 LF

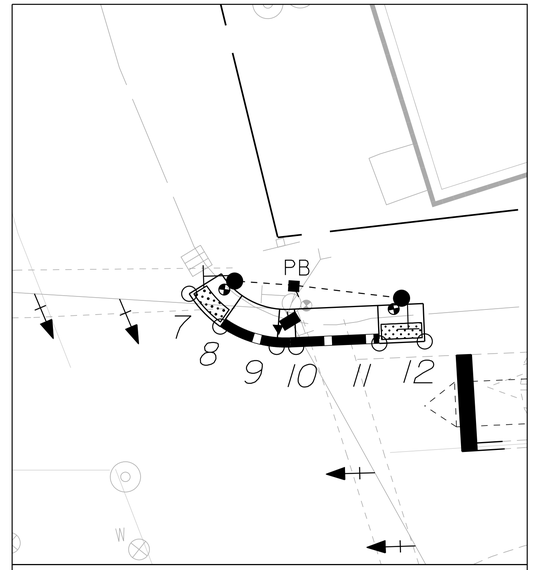
EQUIPMENT AND WORK ITEMS	QUANTITY
CONSTRUCT SIDEWALK (ITEM 608.45)	17.2 SY
TERMINAL CURB TYPE 1 (ITEM 609.221)	26 LF
TERMINAL CURB TYPE 1 - CIRCULAR (ITEM 609.222)	16 LF
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	52.3 SF

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

PLAN

25 0 25 50
Scale of Feet

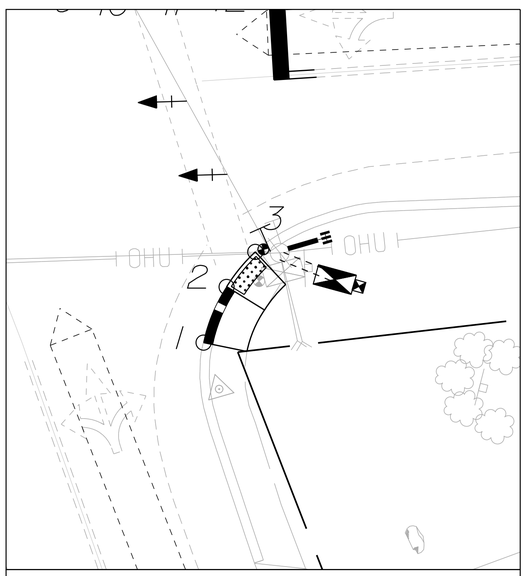
D CORNER - NE DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

10 0 10 20
Scale of Feet

A CORNER - SE DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

10 0 10 20
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

	BY	DATE
PROJ. MANAGER	B.KEEZER	
DESIGN-DETAILED	NLS	11\20
CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

OAKLAND
PLEASANT ST AT OAK ST

CURB RAMP LAYOUT
AND DETAIL PLAN

SHEET NUMBER

58C

OF 358

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS 643.71 TRAFFIC SIGNAL AT: ROUTE 9 & ROUTE 27, RANDOLPH	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	9
FURNISH AND INSTALL ONE-WAY, 16 X 18-INCH LED SIDE OF POLE MOUNTED BLACK COUNTDOWN PEDESTRIAN SIGNAL HEAD	2
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3e INFORMATIONAL SIGN	2
FURNISH AND INSTALL 4-CHANNEL PREEMPTION PHASE SELECTOR WITH SYSTEM CHASSIS AND CONFIRMATION STROBE	1
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	3
FURNISH AND INSTALL PREEMPTION CONFIRMATION RED STROBE WITH CABLE	6
FURNISH AND INSTALL MAST ARM MOUNTED SIGNS	1
FURNISH AND INSTALL WOOD POLE	1
REMOVE MAST ARM MOUNTED SIGNS	2
IMPLEMENT LOCAL SIGNAL TIMINGS	1
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	1
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 3 APPROACHES, COMPLETE (643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 2 APPROACHES, COMPLETE (643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

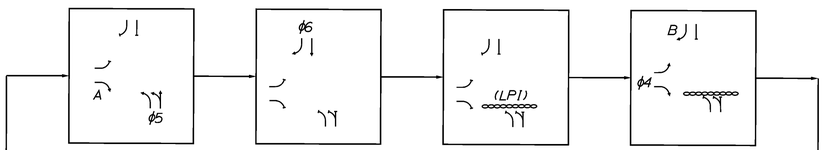
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-MI	25' MAST ARM W/ LUMINAIRE	42" DIAMETER
A-C	CONTROLLER CABINET	L48"xW36"xH48"
B-WP1	WOOD POLE	N/A
D-MI	30' & 20' MAST ARMS	42" DIAMETER
D-PI	8' PEDESTAL POLE	24" DIAMETER

PREFERENTIAL PHASE SEQUENCE

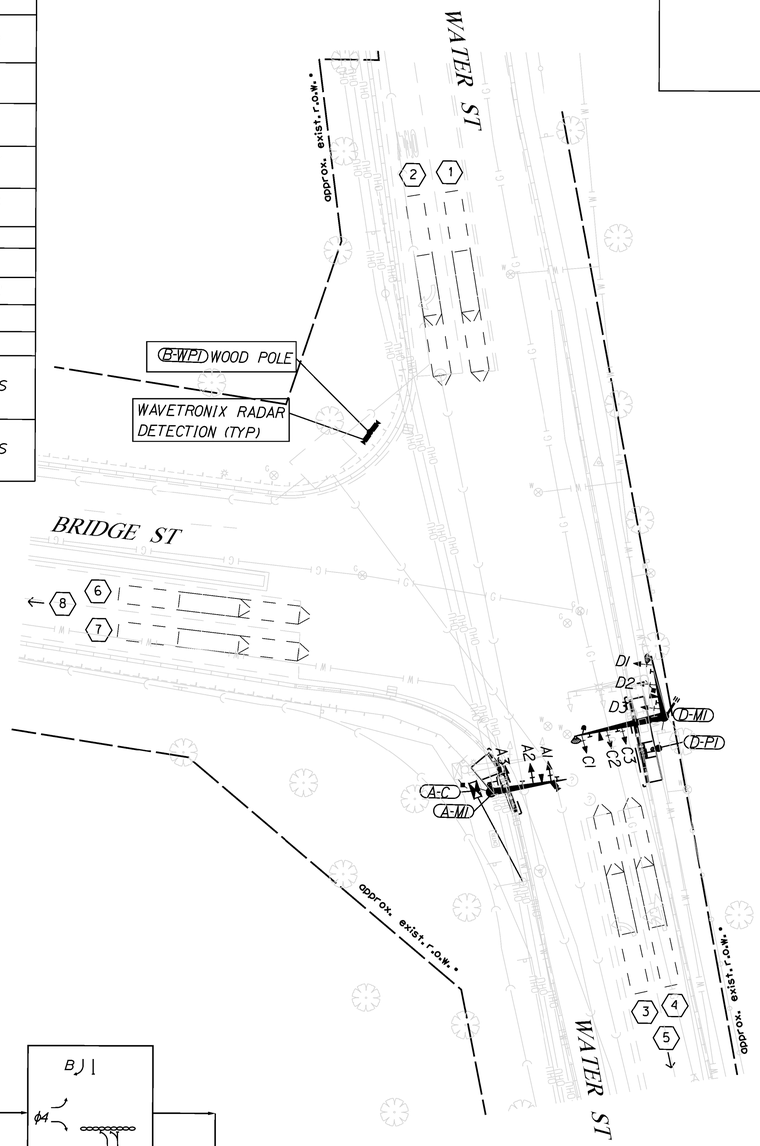
NEMA RING AND BARRIER DIAGRAM

5 6 4

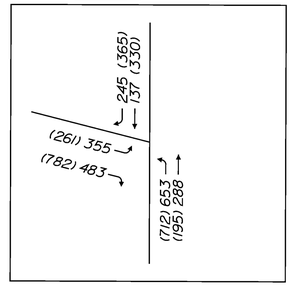


OVERLAP PHASING:
OVL A = ϕ5
OVL B = ϕ4

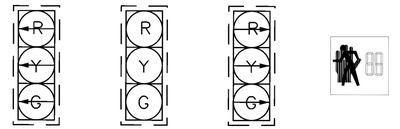
PHASING NOTES:
1. EACH PEDESTRIAN PHASE SHALL HAVE A MINIMUM OF A 4 SECOND LEADING PEDESTRIAN INTERVAL (LPI).
2. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY.



SYSTEM DESIGN VOLUMES AM (PM)



PROPOSED INDICATIONS



C1,C2 D1,D2 | A1,A2,C3, | A3,D3 | PED FACE P1-P2

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	ϕ CALLED	ϕ EXT.	MODE A=ADVANCE B=STOP LINE	DELAY TIME	EXT. TIME
1	WATER ST SB THRU	6	6	B	-	3
2	WATER ST SB RIGHT	6	6	B	8	3
3	WATER ST NB LEFT	5	5	B	-	3
4	WATER ST NB LEFT-THRU	5	5	B	-	3
5	WATER ST NB ADVANCE	5	5	A	-	-
6	BRIDGE ST EB LEFT	4	4	B	-	3
7	BRIDGE ST EB RIGHT	4	4	B	8	3
8	BRIDGE ST EB ADVANCE	4	4	A	-	-

NOTE:
RADAR SENSORS ARE LINE OF SIGHT DETECTORS AND SHOULD BE PLACED TO MINIMIZE ANY OBSTRUCTION TO THE DETECTION AREAS. TRIMMING OF TREES IN THE RIGHT OF WAY MAY BE REQUIRED. ALL DETECTOR PLACEMENT IS APPROXIMATE AND SHOULD BE FIELD VERIFIED PRIOR TO INSTALLATION VIA SITE SURVEY.

SIGNAL TIMING SCHEDULE

ITEM / PHASE	ϕ1	ϕ2	ϕ3	ϕ4	ϕ5	ϕ6	ϕ7	ϕ8
MOVEMENT	-	-	-	D	C	A	-	-
MINIMUM INITIAL	-	-	-	5.0	5.0	5.0	-	-
PASSAGE TIME	-	-	-	3.0	3.0	3.0	-	-
MAXIMUM 1	-	-	-	23.0	32.0	22.0	-	-
MAXIMUM 2	-	-	-	18.0	35.0	24.0	-	-
YELLOW	-	-	-	3.0	3.0	3.0	-	-
ALL RED	-	-	-	3.0	3.0	3.0	-	-
PED WALK	-	-	-	-	-	7.0	-	-
PED CLEAR	-	-	-	-	-	13.0	-	-
RECALL	-	-	-	S	S	S	-	-
DETECTOR	-	-	-	PR	PR	PR	-	-
PREEMPT PRIORITY	-	-	-	3	4	5	-	-
FLASH	-	-	-	R	R	R	-	-
DUAL ENTRY	-	-	-	ON	OFF	ON	-	-

NOTES: S = SOFT RECALL, O = RECALL OFF, PR = PRESENCE, Y = YELLOW, R = RED, D = DARK

MAX1 = AM PEAK HOURS
MAX2 = PM PEAK HOURS

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE PIN M-1302(1) & M-102(1) DOT FILE 6-190, SHEET 8 OF 10, 08/1976 AND RIGHT-OF-WAY REFERENCE PIN S-0206(3) DOT FILE 6-115, SHEET 1 OF 4, 05/1961

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PROJECT NO. 2430100
WIN 024301.00
TRAFFIC PLANS

Sewall
The evolution of expertise

	B. KEEZER	DATE
PROJ. MANAGER	LBF	7/20
DESIGN-DETAILED	LBF	7/20
CHECKED-REVIEWED	DWM	
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

RANDOLPH
ROUTE 9 AND ROUTE 27

TRAFFIC SIGNAL PLAN

SHEET NUMBER
59
OF 358

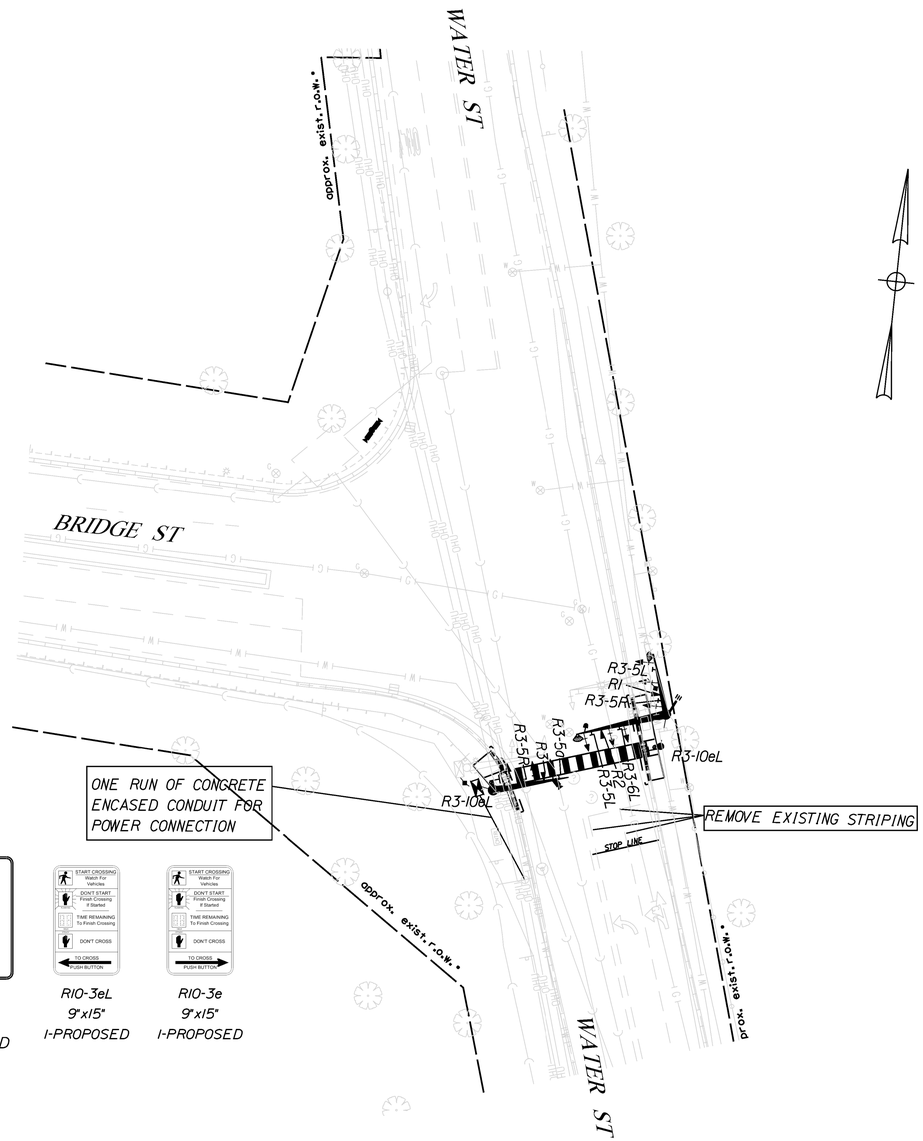
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Filename: ...\Final Plans\019_Signal_59a.dgn Division: HIGHWAY Username: common Date:11/19/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK (ITEM XXX.YY-Z)	QUANTITY
FURNISH AND INSTALL 14-INCH PRECAST JUNCTION BOX (ITEM 626.11)	2 EA
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	40 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	10 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
REMOVE OR MODIFY CONCRETE FOUNDATION (ITEM 626.36)	2 EA
FURNISH AND INSTALL 24-INCH DIAMETER FOUNDATION (ITEM 626.421)	7 LF
FURNISH AND INSTALL 42-IN DIAMETER FOUNDATION (ITEM 626.451)	25.5 LF
FURNISH AND INSTALL WHITE OR YELLOW PAVEMENT & CURB MARKING (ITEM 627.75)	179 SF
REMOVE PAVEMENT MARKING (ITEM 627.77)	209 SF
FURNISH AND INSTALL TEMPORARY TRAFFIC SIGNAL (ITEM 643.72)	1 LS
FURNISH AND INSTALL MAST ARM POLE, W/ 20' ARM AND 30' ARM (ITEM 643.91)	1 EA
FURNISH AND INSTALL DUAL PURPOSE POLE W/ 25' ARM W/ LUMINAIRE (ITEM 643.94)	1 EA
FURNISH AND INSTALL PEDESTAL POLE, 8' (ITEM 643.92)	1 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



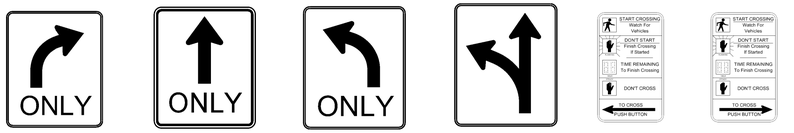
EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
	1	NOT USED RESERVED	
	2	NOT USED RESERVED	
R1	3	3	ϕ4
R2	4	4	ϕ5
R3	5	5	ϕ6

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 3 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.0 SECONDS YELLOW AND 3.0 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

PROPOSED SIGNS



R3-5R 30"x36" 2-PROPOSED
R3-5a 30"x36" 1-PROPOSED
R3-5L 30"x36" 2-PROPOSED
R3-6L 30"x36" 1-PROPOSED
R10-3eL 9"x15" 1-PROPOSED
R10-3e 9"x15" 1-PROPOSED

EXISTING SIGNS



R3-5L 1-REMOVED
R3-6L 1-REMOVED

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE PIN M-1302(1) & M-102(1) DOT FILE 6-190, SHEET 8 OF 10, 08/1976 AND RIGHT-OF-WAY REFERENCE PIN S-0206(3) DOT FILE 6-115, SHEET 1 OF 4, 05/1961

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

Sewall
The evolution of expertise

	B. KEEZER	DATE
PROJ. MANAGER		
DESIGN-DETAILED	LBF	7/20
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DESIGN2-DETAILED2		
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REVISIONS 1		
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REVISIONS 4		
FIELD CHANGES		

RANDOLPH
ROUTE 9 AND
ROUTE 27

TRAFFIC SIGNAL PLAN

SHEET NUMBER
59A
OF 358

Filename: ...\59B_BORING LOGS1_RA PHASE1.dgn Division: GEOTECH Username: Kate.Maguire Date:11/23/2020

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Intersection Improvements - Statewide
Location: Richmond, Maine

Boring No.: HB-RA059-101
WIN: 024301

Driller:	S. W. Cole Explorations, LLC	Elevation (ft.)		Auger ID/OD:	5" Solid Stem
Operator:	K. Hanscom / R. Hackett	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	M. St. Pierre	Rig Type:	Diedrich D-50 Track-Mounted	Hammer Wt./Fall:	140# / 30"
Date Start/Finish:	9-12-2019	Drilling Method:	Auger	Core Barrel:	N/A
Boring Location:	See Boring Location Plan	Casing ID/OD:	N/A	Water Level*:	Not Observed
Hammer Efficiency Factor: 0.977		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Catheod ☐		

Definitions:
D = Split Spoon Sample; MD = Unsuccessful Split Spoon Sample Attempt; U = Thin Wall Tube Sample; MU = Unsuccessful Thin Wall Tube Sample Attempt; V = Field Vane Shear Test; PP = Pocket Penetrometer; MV = Unsuccessful Field Vane Shear Test Attempt; R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOH = Weight of 140lb. Hammer; WOR/C = Weight of Rods or Casing; WOP = Weight of One Person; S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf); $S_{u(LAB)}$ = Lab Vane Undrained Shear Strength (psf); q_u = Unconfined Compressive Strength (ksf); N-uncorrected = Raw Field SPT N-value; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected; T_v = Pocket Torvane Shear Strength (psf); WC = Water Content, percent; LL = Liquid Limit; PL = Plastic Limit; PI = Plasticity Index; G = Grain Size Analysis; C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows /6 in. Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	1D	24/20	0.90 - 2.90	3/7/5/3	12	20	SSA	-0.3		3.5" of Pavement.	
								-0.3		Brown, damp, medium dense, SAND, some gravel, little silt, (Fill).	
5	2D	24/17	5.00 - 7.00	1/2/2/3	4	7		-5.0		Brown, moist, loose, fine SAND, some silt with trace rootlets.	
10	3D	24/24	10.00 - 12.00	4/6/7/11	13	21		-11.7		3D/A Brown, moist, medium dense, fine SAND, some silt.	
								-12.0		3D/B Brown, moist, Gravelly SAND, little silt, (Till).	
15										Bottom of Exploration at 12.0 feet below ground surface. No refusal.	
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil typest 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.

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Intersection Improvements - Statewide
Location: Richmond, Maine

Boring No.: HB-RA059-102
WIN: 024301

Driller:	S. W. Cole Explorations, LLC	Elevation (ft.)		Auger ID/OD:	5" Solid Stem
Operator:	K. Hanscom / R. Hackett	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	M. St. Pierre	Rig Type:	Diedrich D-50 Track-Mounted	Hammer Wt./Fall:	140# / 30"
Date Start/Finish:	9-12-2019	Drilling Method:	Auger	Core Barrel:	N/A
Boring Location:	See Boring Location Plan	Casing ID/OD:	N/A	Water Level*:	Not Observed
Hammer Efficiency Factor: 0.977		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Catheod ☐		

Definitions:
D = Split Spoon Sample; MD = Unsuccessful Split Spoon Sample Attempt; U = Thin Wall Tube Sample; MU = Unsuccessful Thin Wall Tube Sample Attempt; V = Field Vane Shear Test; PP = Pocket Penetrometer; MV = Unsuccessful Field Vane Shear Test Attempt; R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOH = Weight of 140lb. Hammer; WOR/C = Weight of Rods or Casing; WOP = Weight of One Person; S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf); $S_{u(LAB)}$ = Lab Vane Undrained Shear Strength (psf); q_u = Unconfined Compressive Strength (ksf); N-uncorrected = Raw Field SPT N-value; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected; T_v = Pocket Torvane Shear Strength (psf); WC = Water Content, percent; LL = Liquid Limit; PL = Plastic Limit; PI = Plasticity Index; G = Grain Size Analysis; C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows /6 in. Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
	1D	24/5	0.80 - 2.80	3/2/3/3	5	8	SSA	-0.3		4" of Pavement.	
								-0.3		Brown-grey, damp, loose, SAND, some gravel, little silt, (Fill).	
								-2.5			
5	2D	24/22	5.00 - 7.00	3/3/4/4	7	11				Brown, moist, medium dense, fine SAND, some silt.	
								-7.8			
10	3D	24/20	10.00 - 12.00	14/16/12/13	28	46				Brown, moist, dense, Gravelly SAND, little silt, (Till).	
								-12.0		Bottom of Exploration at 12.0 feet below ground surface. No refusal.	
15											
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil typest 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.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. 2430100

WIN 24301.00

HIGHWAY PLANS

STATE OF MAINE ★ ENGINEER ★ Kathleen Maguire 7120 PROFESSIONAL

	BY	DATE
PROJ. MANAGER	-----	-----
DESIGN-DETAILED	K.MAGUIRE	APR 2020
CHECKED-REVIEWED	-----	-----
DESIGN2-DETAILED2	T.WHITE	-----
DESIGN3-DETAILED3	-----	-----
REVISIONS 1	-----	-----
REVISIONS 2	-----	-----
REVISIONS 3	-----	-----
REVISIONS 4	-----	-----
FIELD CHANGES	-----	-----

SIGNATURE
7120
P.E. NUMBER
11/23/2020
DATE

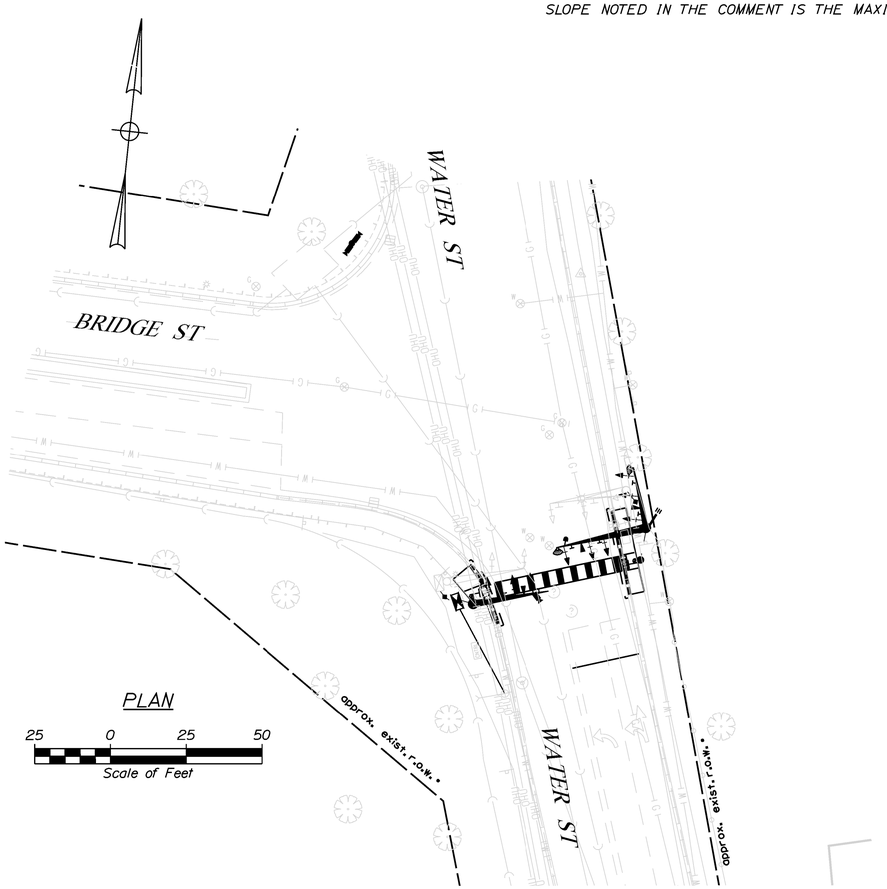
RANDOLPH
ROUTE 9 (WATER ST.) & ROUTE 27 (BRIDGE ST.)

BORING LOGS

SHEET NUMBER
59B
OF 358

PT. TO PT.	RADIUS (FT)	LENGTH (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD		ITEM 609.11 - VERTICAL CURB TYPE I (LF)	ITEM 609.221 - TERMINAL CURB TYPE I (LF)	ITEM 609.222 - TERMINAL CURB TYPE I - CIRCULAR (LF)	COMMENT
			LENGTH (FT)	QTY (SF)				
* 1 TO 2	20	8.0					8.0	3.2% CROSS SLOPE
2 TO 3			5.0	10.0				
3 TO 4		8.0				8.0		
5 TO 6		8.0				8.0		
6 TO 7			5.0	10.0				
7 TO 8		8.0				8.0		
8 TO 9		8.0			8.0			

* NON-COMPLIANT CURB RAMP ELEMENT - THE EXISTING SIDEWALK CROSS SLOPE IS GREATER THAN 2% AND CANNOT BE CORRECTED WITHIN 15'. THEREFORE THE SIDEWALK CROSS SLOPE AT THE TIE IN POINTS WILL BE GREATER THAN THE 2% MAXIMUM ALLOWABLE. THE CROSS SLOPE NOTED IN THE COMMENT IS THE MAXIMUM VALUE FOR PROPOSED LEVEL OF COMPLIANCE.



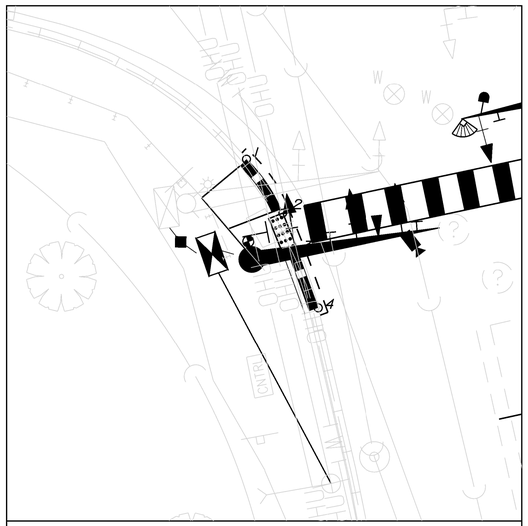
PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE PIN M-1302(1) & M-102(1) DOT FILE 6-190, SHEET 8 OF 10, 08/1976 AND RIGHT-OF-WAY REFERENCE PIN S-0206(3) DOT FILE 6-115, SHEET 1 OF 4, 05/1961

ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED. AS WELL AS DETAILS PROVIDED ON SHEET H.

A CORNER - SW DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(18).

10 0 10 20
Scale of Feet

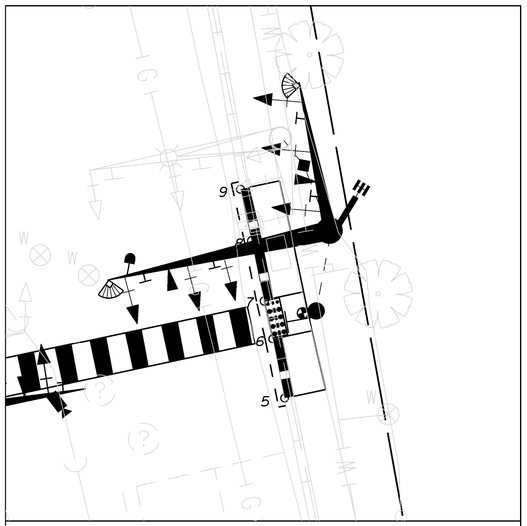
LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	0.7 TON
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	26.1 SY
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	20.00 SF
REGRADING SIDEWALK (ITEM 608.46)	26.1 SY

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
VERTICAL CURB TYPE I (ITEM 609.11)	8.0 LF
TERMINAL CURB TYPE I (ITEM 609.221)	24.0 LF
TERMINAL CURB TYPE I - CIRCULAR (ITEM 609.222)	8.0 LF

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

D CORNER - SE DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

10 0 10 20
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

Sewall
The evolution of expertise

	B. KEEZER
PROJ. MANAGER	
DESIGN-DETAILED	LBF
CHECKED-REVIEWED	DWM
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	
REVISIONS 1	
REVISIONS 2	
REVISIONS 3	
REVISIONS 4	
FIELD CHANGES	

BY	DATE
LBF	7/20
DWM	7/20

RANDOLPH
ROUTE 9 AND
ROUTE 27

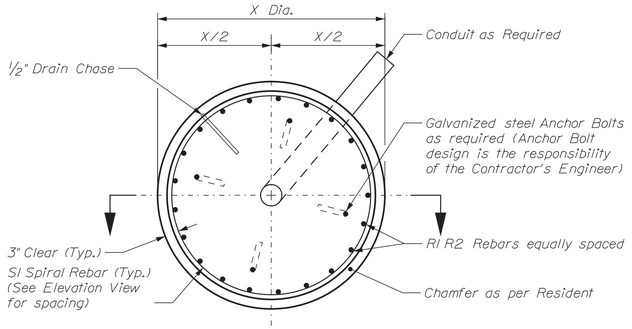
CURB RAMP LAYOUT AND DETAIL PLAN

SHEET NUMBER

59C

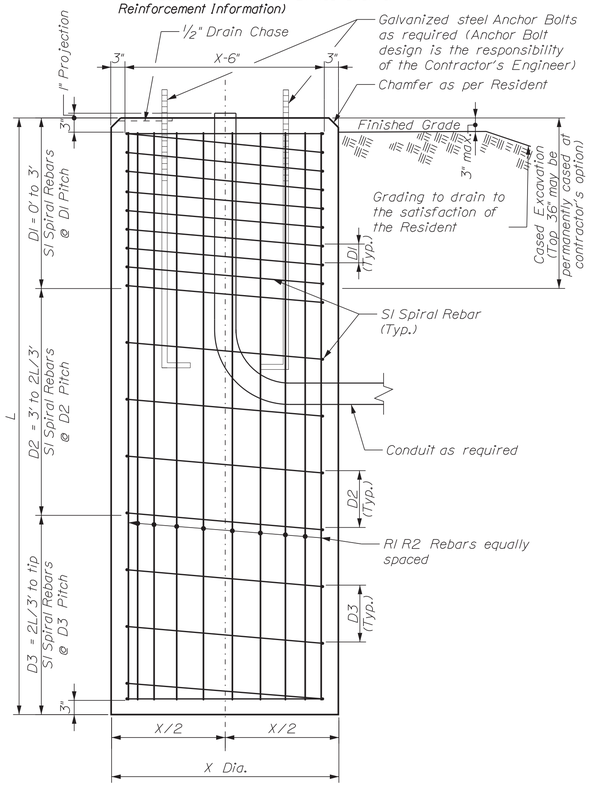
OF 358

Filename: ...\Final Plans\020_Signal_59c.dgn Division: HIGHWAY Username: common Date:11/19/2020



Drilled Shaft Plan View

Not to Scale (See Table for Drilled Shaft & Reinforcement Information)

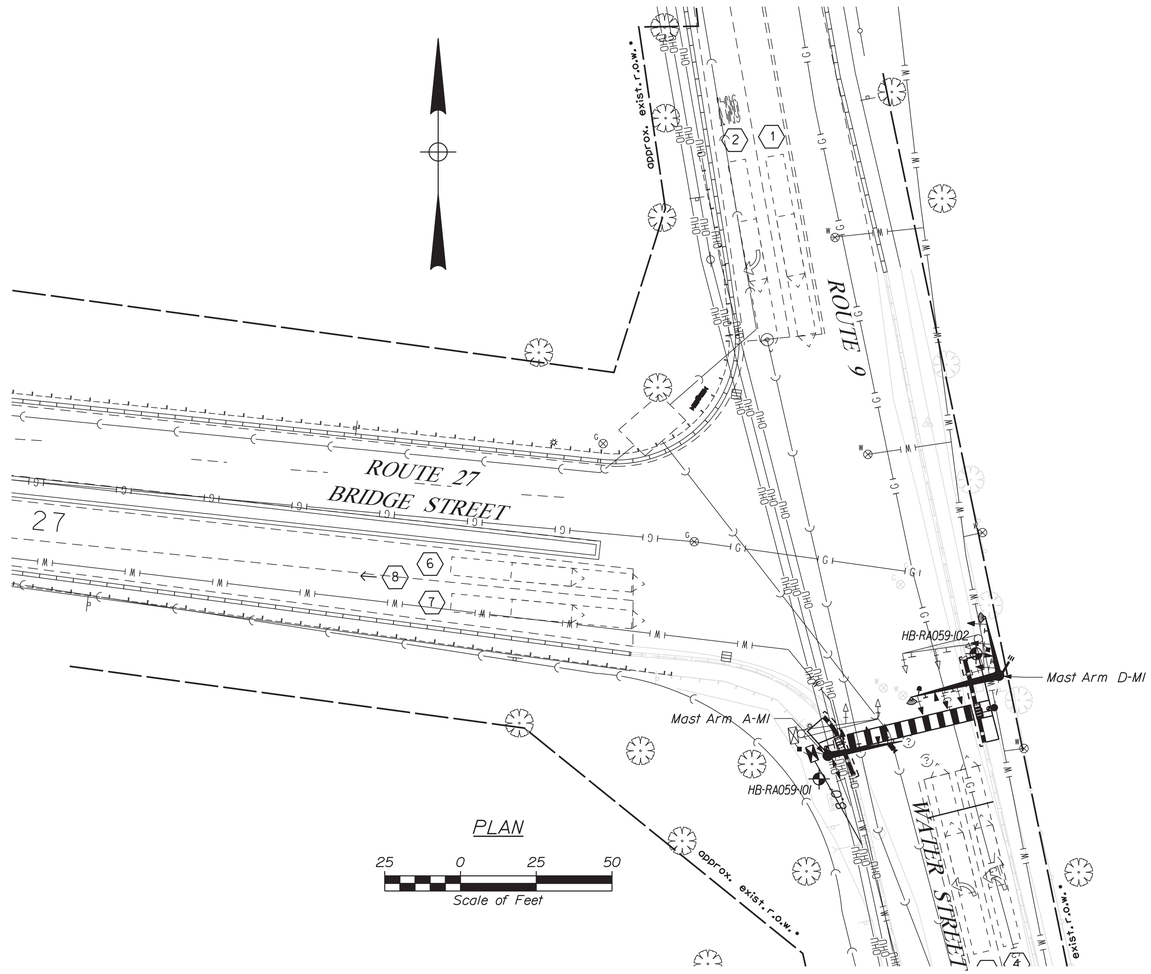


Drilled Shaft Elevation View

Not to Scale (See Table for Drilled Shaft & Reinforcement Information)

MAST ARMS A-MI & D-MI

(All) Water Street and Bridge Street



PLAN

25 0 25 50

Scale of Feet

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.
6. For Boring Logs see Sheet 59B of 358.

Mast Arm	Location	Drilled Shaft Dimensions		Reinforcing Steel			Spiral Bar Spacing		
		X	L	R1	R2	S1	D1 (in)	D2 (in)	D3 (in)
		Diameter (feet)	Length (feet)	Longitudinal Rebars Quantity	Longitudinal Rebars Size	Spiral Rebars Size	0 to 3 ft	3 ft to 2L/3 ft	2L/3 ft to tip
A-M1	Water Street and Bridge Street	3.5	12.0	18	#9	#5	4	4	12
D-M1	Water Street and Bridge Street	3.5	13.5	18	#9	#5	4	4	12

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. 2430100

WIN 24301.00

HIGHWAY PLANS

STATE OF MAINE ★ Kathleen Maguire 7120 ★ LICENSED PROFESSIONAL ENGINEER

	BY	DATE
PROJ. MANAGER	-----	-----
DESIGN-DETAILED	-----	-----
CHECKED-REVIEWED	-----	-----
DESIGN2-DETAILED2	K.MAGUIRE	APR 2020
DESIGN3-DETAILED3	-----	-----
REVISIONS 1	-----	-----
REVISIONS 2	-----	-----
REVISIONS 3	-----	-----
REVISIONS 4	-----	-----
FIELD CHANGES	-----	-----

SIGNATURE 7120

P.E. NUMBER 11/23/2020

DATE

RANDOLPH
ROUTE 9 (WATER ST.) & ROUTE 27 (BRIDGE ST.)

MAST ARM FOUNDATION & BORING LOCATION PLAN

SHEET NUMBER

59F

OF 358

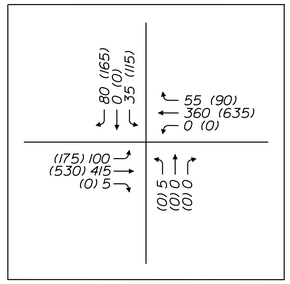
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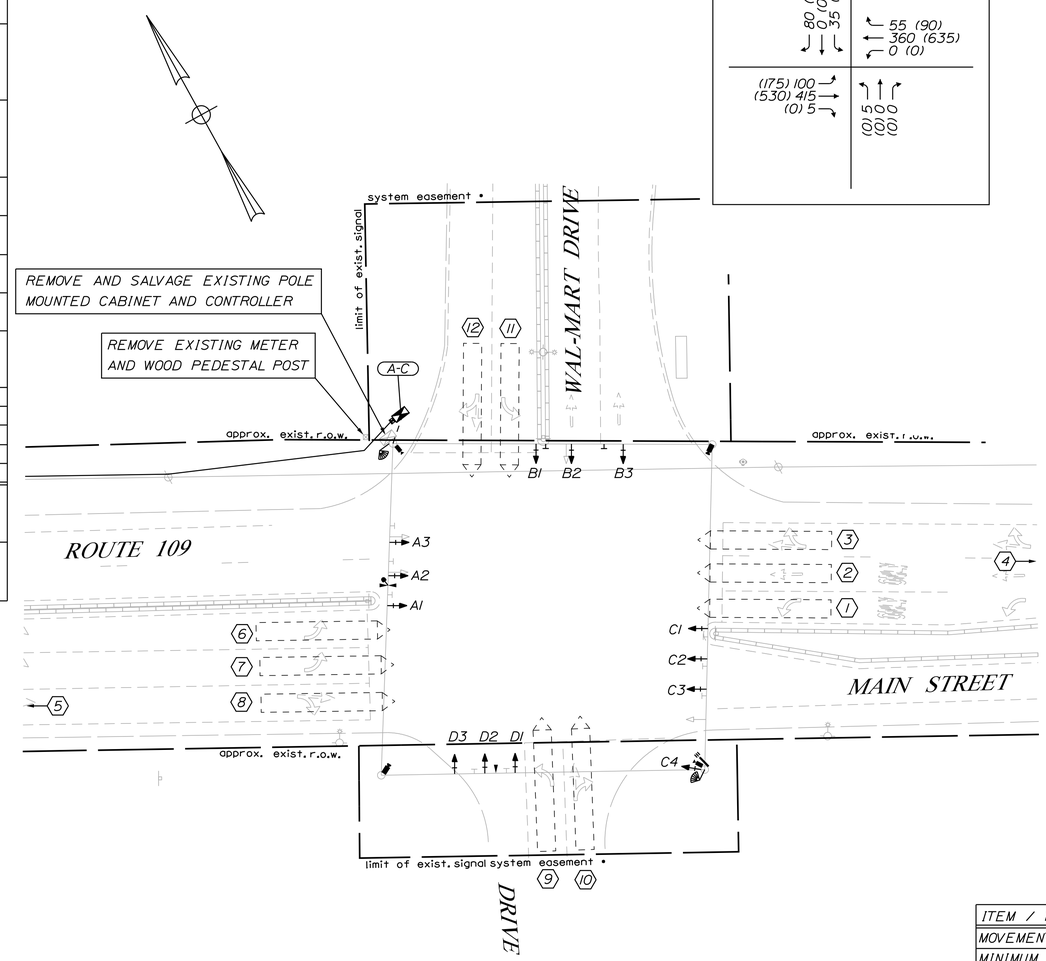
LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING CELL MODEM / FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED MONITORING SYSTEM	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SPAN AND TETHER WIRE	12
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SIDE OF POLE	1
FURNISH AND INSTALL 4-CHANNEL PREEMPTION PHASE SELECTOR	1
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	3
FURNISH AND INSTALL PREEMPTION CONFIRMATION RED STROBE WITH CABLE	1
FURNISH AND INSTALL 19-INCH 1RU FIBER OPTIC 12-POSITION PATCH PANELS WITH PIGTAILS	1
FURNISH AND INSTALL ENVIRONMENTALLY HARDENED FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL SPAN WIRE MOUNTED SIGNS	2
FURNISH AND INSTALL POLE RISERS (FIBER)	1
FURNISH AND INSTALL NEW SIGNAL CABLE	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 2 APPROACHES, COMPLETE (ITEM 643.22)	1 LS

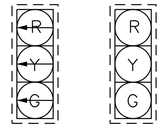
THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

SYSTEM DESIGN VOLUMES AM (PM)





PROPOSED INDICATIONS



A1,B1,C1
C2,D1

A2,A3,B2
B3,C3,C4
D2,D3

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADVANCE B=STOPLINE	DELAY TIME	EXT. TIME
1	MAIN ST WB LEFT	1	1	B	-	-
2	MAIN ST WB THROUGH	6	6	B	-	-
3	MAIN ST WB THRU-RIGHT	6	6	B	-	-
4*	MAIN ST WB ADVANCE	6	6	A	-	-
5*	MAIN ST EB ADVANCE	2	2	A	-	-
6	MAIN ST EB LEFT	5	5	B	-	-
7	MAIN ST EB LEFT	5	5	B	-	-
8	MAIN ST EB THRU-RIGHT	2	2	B	-	-
9	DRIVEWAY NB LEFT	3	3	B	-	-
10	DRIVEWAY NB THRU-RIGHT	3	3	B	-	-
11	WALMART DR SB LEFT	4	4	B	-	-
12	WALMART DR SB THRU-RIGHT	4	4	B	-	-

* SEE ADVANCED DILEMMA ZONE DETAIL (45 MPH)

STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"

SIGNAL TIMING SCHEDULE

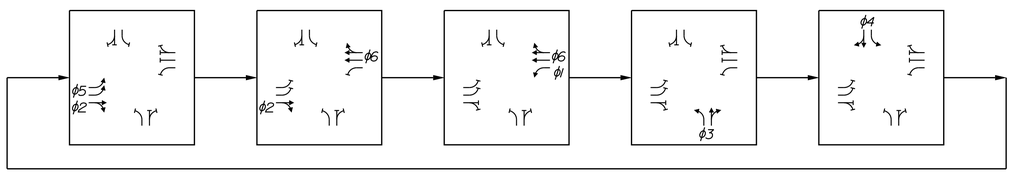
ITEM / PHASE	φ 1	φ 2	φ 3	φ 4	φ 5	φ 6	φ 7	φ 8
MOVEMENT	A (LT)	C	B	D	C (LT)	A	-	-
MINIMUM INITIAL	5	10	7	5	7	10	-	-
PASSAGE TIME	3.0	4.0	3.0	3.0	3.0	4.0	-	-
MAXIMUM 1	15	35	35	15	35	35	-	-
MAXIMUM 2	15	60	35	15	35	60	-	-
YELLOW	4.0	5.0	3.5	3.5	4.0	5.0	-	-
ALL RED	3.0	2.0	2.5	2.5	3.0	2.0	-	-
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
DYN MAX LIMIT	-	-	-	-	-	-	-	-
DYN MAX STEP	-	-	-	-	-	-	-	-
RECALL	OFF	SOFT	OFF	OFF	OFF	SOFT	-	-
DETECTOR	PR	PR	PR	PR	PR	PR	-	-
PRE-EMPT PRIORITY	3	4	-	5	4	3	-	-
FLASH	R	Y	R	R	R	Y	-	-
DUAL ENTRY	OFF	ON	OFF	OFF	OFF	ON	-	-

NOTES: S = SOFT RECALLY = YELLOW
O = RECALL OFF R = RED
PR = PRESENCE D = DARK
IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONTRACT AWARD.

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

2 1 ‖ 3 4
5 6



PLAN

25 0 25 50
Scale of Feet

* - LIMIT OF SIGNAL SYSTEM EASEMENT REFERENCE PIN 9815.67, DOT FILE 16-443, SHEET C-57, 12/18/2007

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

	BY	DATE
PROJ. MANAGER	B. KEEZER	
DESIGN-DETAILED	MLG	07/20
CHECKED-REVIEWED	CMB	07/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SANFORD
ROUTE 109 (MAIN STREET)
AND WAL-MART DRIVE

TRAFFIC SIGNAL PLAN

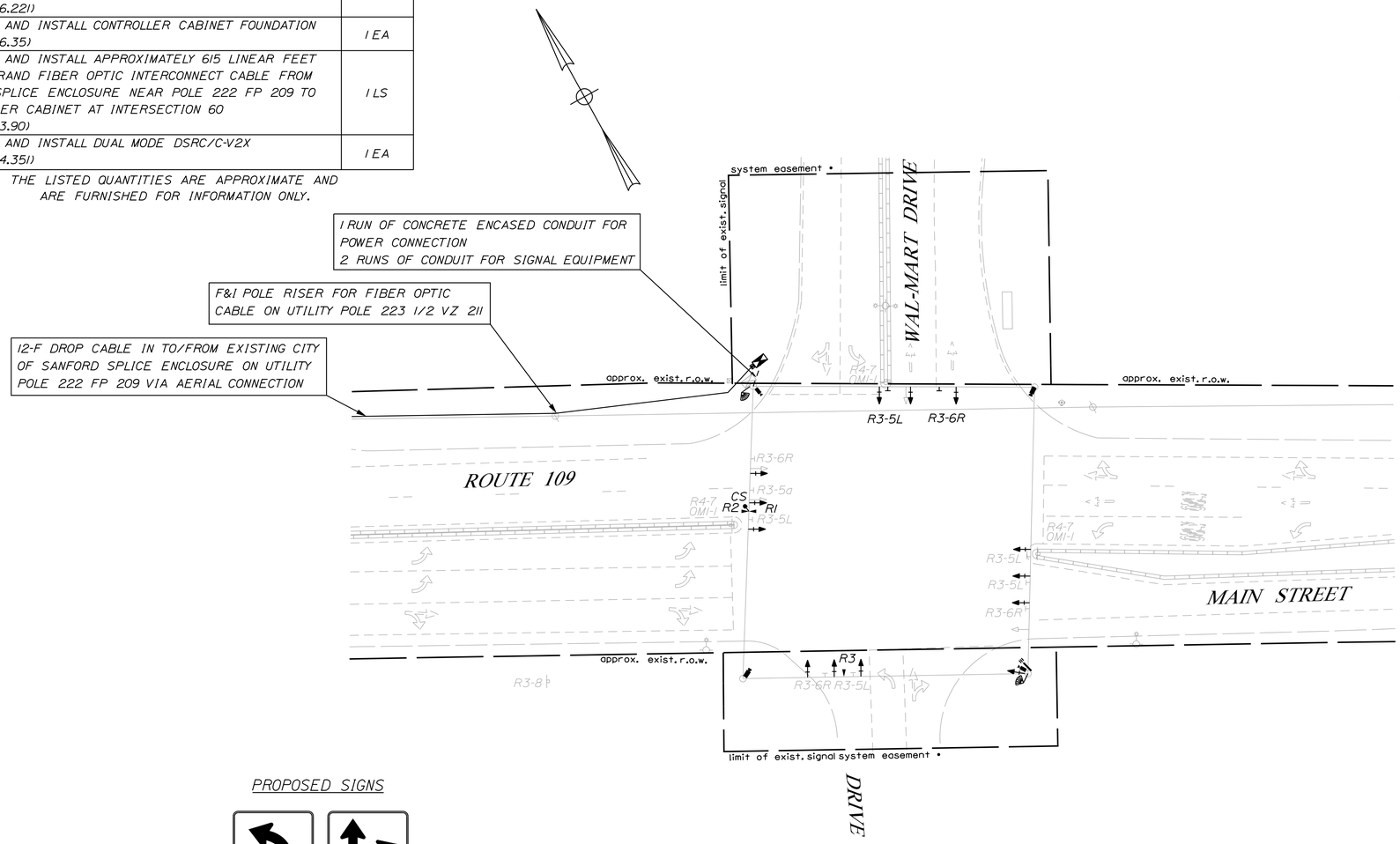
SHEET NUMBER
60
OF 358

Filename: 060_Signal_60.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

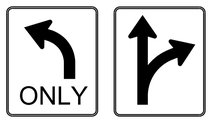
LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	100 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	15 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL APPROXIMATELY 615 LINEAR FEET OF 12-STRAND FIBER OPTIC INTERCONNECT CABLE FROM AERIAL SPLICE ENCLOSURE NEAR POLE 222 FP 209 TO CONTROLLER CABINET AT INTERSECTION 60 (ITEM 643.90)	1 LS
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



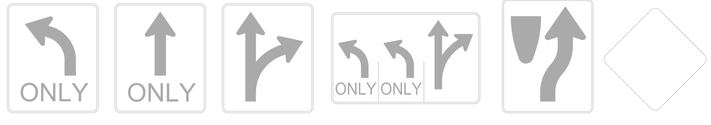
PROPOSED SIGNS



R3-5L 30"x36" 1-PROPOSED

R3-6R 30"x36" 1-PROPOSED

EXISTING POST AND SPAN WIRE MOUNTED SIGNS



R3-5L 4-RETAINED | R3-5a 1-RETAINED | R3-6R 3-RETAINED | R3-8 1-RETAINED | R4-7 3-RETAINED | OMI-I 3-RETAINED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
	1	NOT USE/RESERVED	
	2	NOT USE/RESERVED	
R1	3	1	ϕ1&ϕ6
R2	4	2	ϕ2&ϕ5
R3	5	3	ϕ8
	6	NOT USED	

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 3 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR AND/OR RSU , THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (5.0 SECONDS YELLOW AND 3.0 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

PLAN

25 0 25 50
Scale of Feet

* - LIMIT OF SIGNAL SYSTEM EASEMENT REFERENCE PIN 9815.67. DOT FILE 16-443, SHEET C-57, 12/18/2007

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

	B. KEEZER	DATE
PROJ. MANAGER		
DESIGN-DETAILED	MLG	JAR 07/20
CHECKED-REVIEWED	CMB	CMB 07/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SANFORD
ROUTE 109 (MAIN STREET)
AND WAL-MART DRIVE

TRAFFIC SIGNAL PLAN

SHEET NUMBER
60A
OF 358

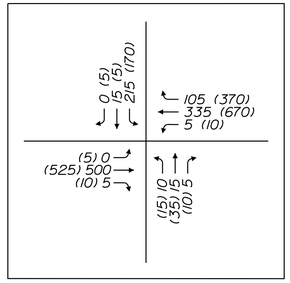
Filename: 060_Signal_60a.dgn Usermame: jorobert Date:11/24/2020 Division: HIGHWAY

LIST OF WORK ITEMS

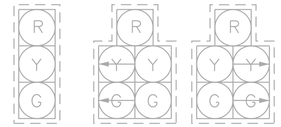
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING CELL MODEM / FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED MONITORING SYSTEM	1
FURNISH AND INSTALL 19-INCH 1RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL ENVIRONMENTALLY HARDENED FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 4-CHANNEL PREEMPTION PHASE SELECTOR	1
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	2
FURNISH AND INSTALL POLE RISERS (FIBER)	1
RESET VIDEO DETECTION ZONES (INCIDENTAL TO ITEM 643.71)	5
FURNISH AND INSTALL NEW SIGNAL CABLE	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 3 APPROACHES, COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

SYSTEM DESIGN VOLUMES AM (PM)

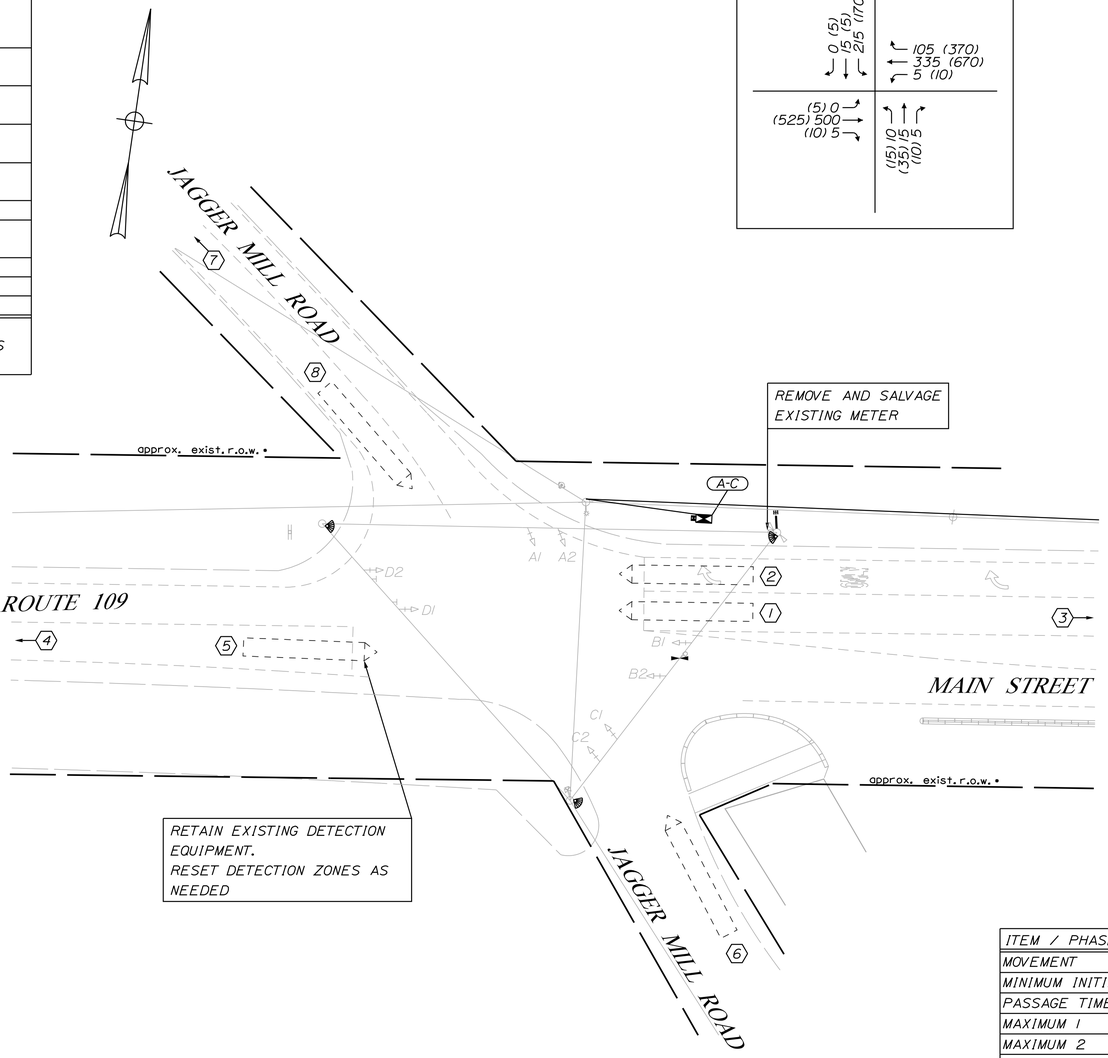


EXISTING INDICATIONS TO REMAIN



A2,B1,B2 C2,D1 — A1,C1 — D2

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES



DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADVANCE B=STOPLINE	DELAY TIME	EXT. TIME
1	MAIN ST WB LEFT-THRU	6	6	B	-	-
2	MAIN ST WB RIGHT	6	6	B	5	-
3*	MAIN ST WB ADVANCE	6	6	A	-	-
4*	MAIN ST EB ADVANCE	2	2	A	-	-
5	MAIN ST EB MOVEMENTS	2	2	B	-	-
6	JAGGER MILL RD NB MOVEMENTS	3	3	B	-	-
7**	JAGGER MILL RD SB ADVANCE	4	4	A	-	-
8	JAGGER MILL RD SB MOVEMENTS	4	4	B	-	-

* SEE ADVANCED DILEMMA ZONE DETAIL (45 MPH)
** SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)

STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	EXISTING

SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ1	φ2	φ3	φ4	φ5	φ6	φ7	φ8
MOVEMENT	-	B	A	C	-	D	-	-
MINIMUM INITIAL	-	10	5	7	-	10	-	-
PASSAGE TIME	-	4.0	3.0	3.0	-	4.0	-	-
MAXIMUM 1	-	45	20	20	-	45	-	-
MAXIMUM 2	-	60	25	25	-	60	-	-
YELLOW	-	5.0	3.5	3.5	-	5.0	-	-
ALL RED	-	2.0	2.5	2.5	-	2.0	-	-
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
DYN MAX LIMIT	-	-	-	-	-	-	-	-
DYN MAX STEP	-	-	-	-	-	-	-	-
RECALL	-	SOFT	OFF	OFF	-	SOFT	-	-
DETECTOR	-	PR	PR	PR	-	PR	-	-
PRE-EMPT PRIORITY	-	4	6	5	-	3	-	-
FLASH	-	Y	R	R	-	Y	-	-
DUAL ENTRY	-	ON	OFF	OFF	-	ON	-	-

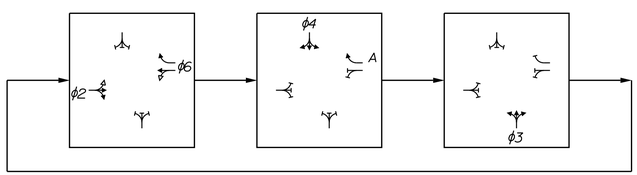
NOTES: S = SOFT RECALLY = YELLOW
O = RECALL OFF R = RED
PR = PRESENCE D = DARK

IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONTRACT AWARD.

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

2 | 4 3
6 | 5



OVERLAP PHASING:
OVL A = 4

PHASING NOTES:
1. GREEN ARROW INDICATION FOR OVERLAP A IS DISABLED WHEN PHASE 2 IS ACTIVE.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE PIN 9815.67, DOT FILE 16-443, SHEET C-62, 12/18/2007

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

		BY	DATE
PROJ. MANAGER	B. KEEZER		
DESIGN-DETAILED	M.L.G.	JAR	07/20
CHECKED-REVIEWED	CMB	CMB	07/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			1
REVISIONS 2			2
REVISIONS 3			3
REVISIONS 4			4
FIELD CHANGES			

SANFORD
ROUTE 109 (MAIN ST)
AND JAGGER MILL RD

TRAFFIC SIGNAL PLAN

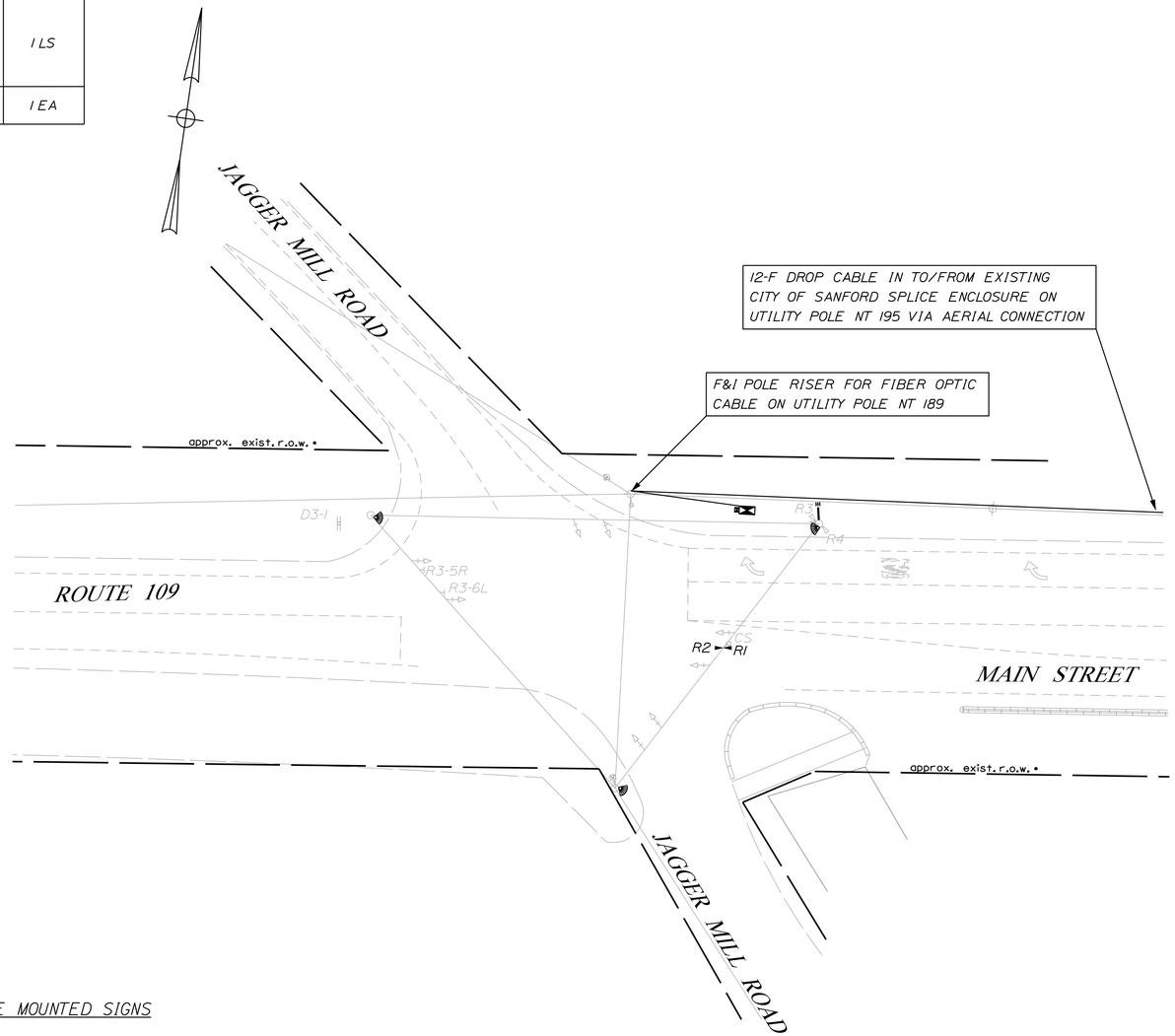
SHEET NUMBER
61
OF 358

Filename: 061_Signal_61.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	45 LF
FURNISH AND INSTALL APPROXIMATELY 1,350 LINEAR FEET OF 12-STRAND FIBER OPTIC INTERCONNECT CABLE FROM AERIAL SPLICE ENCLOSURE NEAR POLE NT 195 TO CONTROLLER CABINET AT INTERSECTION 61 (ITEM 643.90)	1 LS
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



EXISTING POST AND SPAN WIRE MOUNTED SIGNS



R3-5R I-RETAINED | R3-6L I-RETAINED | D3-1a I-RETAINED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
	1	NOT USE/RESERVED	
	2	NOT USE/RESERVED	
R1	3	1	ϕ6
R2	4	2	ϕ2
R3	5	3	ϕ4
R4	6	4	ϕ3

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 4 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR AND/OR RSU , THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (5.0 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE PIN 9815.67, DOT FILE 16-443, SHEET C-62, 12/18/2007

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER		
DESIGN-DETAILED	MLG	JAR	07/20
CHECKED-REVIEWED	CMB	CMB	07/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SANFORD
ROUTE 109 (MAIN ST)
AND JAGGER MILL RD

TRAFFIC SIGNAL PLAN

SHEET NUMBER

61A

OF 358

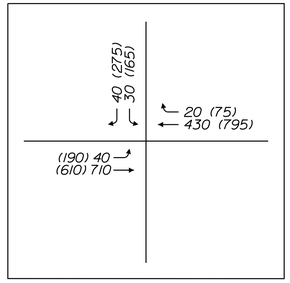
Username: jorobert Date:11/24/2020
Division: HIGHWAY
Filename: 061_Signal_61a.dgn

LIST OF WORK ITEMS

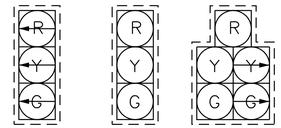
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING CELL MODEM / FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED MONITORING SYSTEM	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SPAN AND TETHER WIRE	6
FURNISH AND INSTALL ONE-WAY 5-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SPAN AND TETHER WIRE	1
FURNISH AND INSTALL 4-CHANNEL PREEMPTION PHASE SELECTOR	1
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	3
FURNISH AND INSTALL PREEMPTION CONFIRMATION RED STROBE WITH CABLE	1
FURNISH AND INSTALL 19-INCH 1 RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL ENVIRONMENTALLY HARDENED FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL SPAN WIRE MOUNTED SIGNS	2
FURNISH AND INSTALL POLE RISERS (FIBER)	1
FURNISH AND INSTALL TETHER WIRE	135 LF
REMOVE SPAN WIRE MOUNTED SIGNS	1
FURNISH AND INSTALL NEW SIGNAL CABLE	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 3 APPROACHES, COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 2 APPROACHES, COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

SYSTEM DESIGN VOLUMES AM (PM)

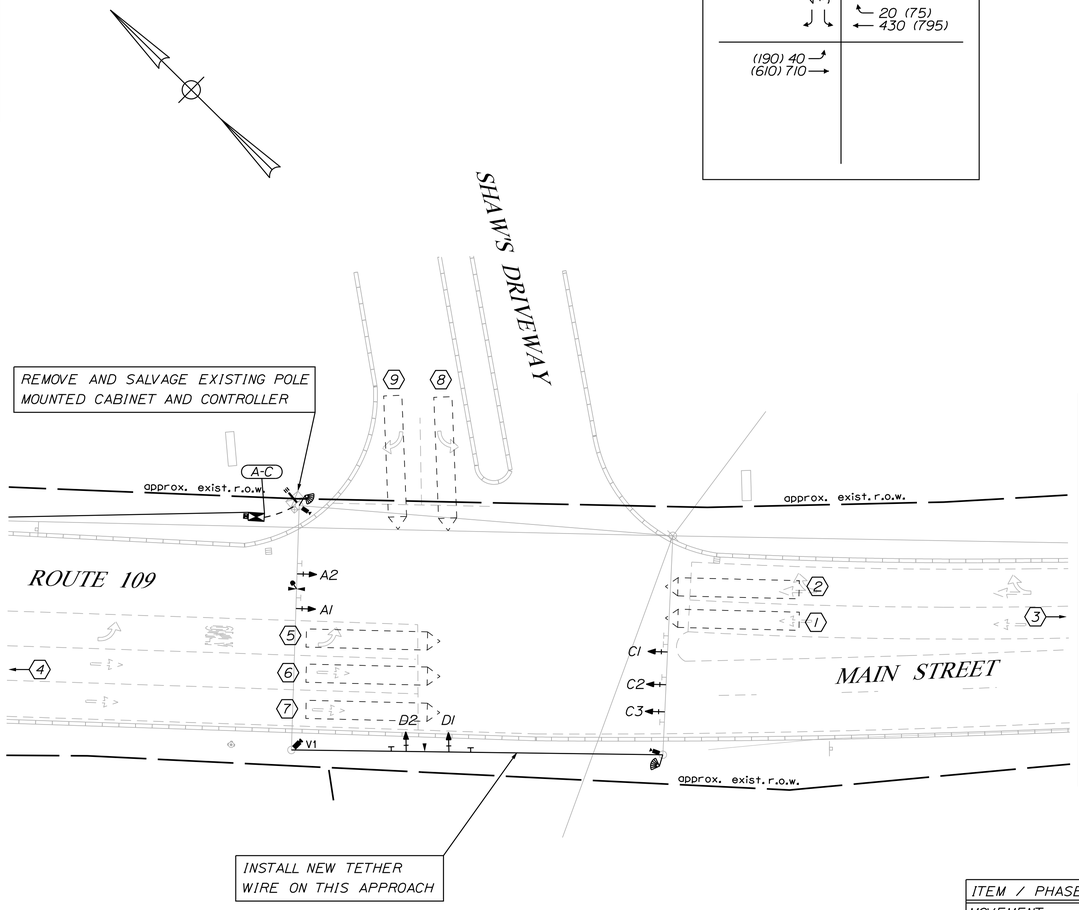


PROPOSED INDICATIONS



C1 A1,A2,C2 C3,D1 D2

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES



DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADVANCE B=STOPLINE	DELAY TIME	EXT. TIME
①	MAIN ST WB THROUGH	6	6	B	-	-
②	MAIN ST WB THRU-RIGHT	6	6	B	-	-
③*	MAIN ST WB ADVANCE	6	6	A	-	-
④*	MAIN ST EB ADVANCE	2	2	A	-	-
⑤	MAIN ST EB LEFT	5	5	B	-	-
⑥	MAIN ST EB THROUGH	2	2	B	-	-
⑦	MAIN ST EB THROUGH	2	2	B	-	-
⑧	SHAWS DR SB LEFT	4	4	B	-	-
⑨	SHAWS DR SB RIGHT	4	4	B	5	-

* SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)

STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"

SIGNAL TIMING SCHEDULE

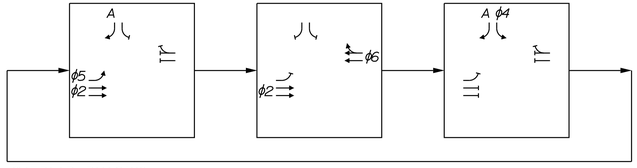
ITEM / PHASE	φ1	φ2	φ3	φ4	φ5	φ6	φ7	φ8
MOVEMENT	-	C	-	D	C (LT)	A	-	-
MINIMUM INITIAL	-	10	-	7	5	10	-	-
PASSAGE TIME	-	4.0	-	3.0	3.0	4.0	-	-
MAXIMUM 1	-	45	-	20	20	45	-	-
MAXIMUM 2	-	60	-	25	20	60	-	-
YELLOW	-	4.0	-	3.0	4.0	4.0	-	-
ALL RED	-	2.0	-	3.0	2.0	2.0	-	-
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
DYN MAX LIMIT	-	-	-	-	-	-	-	-
DYN MAX STEP	-	-	-	-	-	-	-	-
RECALL	-	SOFT	-	OFF	OFF	SOFT	-	-
DETECTOR	-	PR	-	PR	PR	PR	-	-
PRE-EMPT PRIORITY	-	4	-	5	4	3	-	-
FLASH	-	Y	-	R	R	Y	-	-
DUAL ENTRY	-	ON	-	OFF	OFF	ON	-	-

NOTES: S = SOFT RECALLY = YELLOW
O = RECALL OFF R = RED
PR = PRESENCE D = DARK
IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONTRACT AWARD.

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

2 4
5 6



OVERLAP PHASING:
OVL A = 4-5

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY INFORMATION FROM MAINE OFFICE OF GEOGRAPHIC INFORMATION SYSTEMS - JANUARY 7, 2015

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER		
DESIGN-DETAILED	MLG		
CHECKED-REVIEWED	CMB		
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			
DATE		07/20	07/20
BY		JAR	CMB

SANFORD
ROUTE 109 (MAIN ST)
AND SHAW'S DRIVEWAY

TRAFFIC SIGNAL PLAN

SHEET NUMBER
62
OF 358

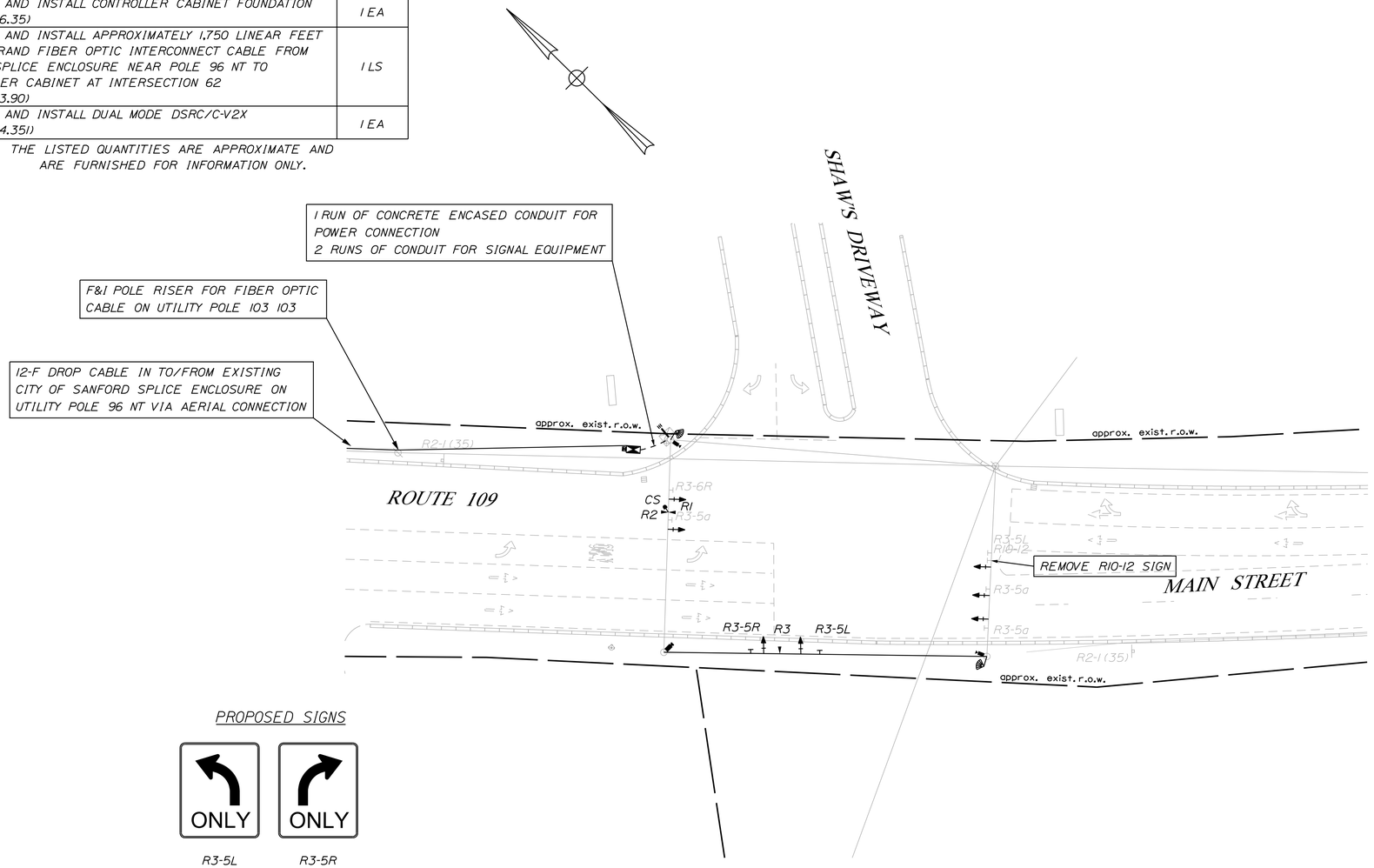
Filename: 062_Signal_62.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

Filename: 062_Signal_62a.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	120 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	15 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL APPROXIMATELY 1,750 LINEAR FEET OF 12-STRAND FIBER OPTIC INTERCONNECT CABLE FROM AERIAL SPLICE ENCLOSURE NEAR POLE 96 NT TO CONTROLLER CABINET AT INTERSECTION 62 (ITEM 643.90)	1 LS
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PROPOSED SIGNS

R3-5L 30"x36" 1-PROPOSED

R3-5R 30"x36" 1-PROPOSED

EXISTING POST AND SPAN WIRE MOUNTED SIGNS



R3-5L 1-RETAINED

R3-5a 3-RETAINED

R3-6R 1-RETAINED

R2-1 2-RETAINED

R10-12 1-REMOVED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
	1	NOT USE/RESERVED	
	2	NOT USE/RESERVED	
R1	3	1	ϕ6
R2	4	2	ϕ2&ϕ5
R3	5	3	ϕ4
	6	NOT USED	

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.

2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 3 = LOWEST)

3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR AND/OR RSU , THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (4.0 SECONDS YELLOW AND 3.0 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.

4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.

5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

PLAN

25 0 25 50

Scale of Feet

* - RIGHT-OF-WAY INFORMATION FROM MAINE OFFICE OF GEOGRAPHIC INFORMATION SYSTEMS - JANUARY 7, 2015

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

	B. KEEZER
PROJ. MANAGER	
DESIGN-DETAILED	M.G
CHECKED-REVIEWED	CMB
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	
REVISIONS 1	
REVISIONS 2	
REVISIONS 3	
REVISIONS 4	
FIELD CHANGES	

BY	DATE
JAR	07/20
CMB	07/20

SANFORD
ROUTE 109 (MAIN ST)
AND SHAW'S DRIVEWAY

TRAFFIC SIGNAL PLAN

SHEET NUMBER

62A

OF 358

Filename: 063_Signal_63.dgn Username: jorobert Date:11/24/2020 Division: HIGHWAY

LIST OF WORK ITEMS

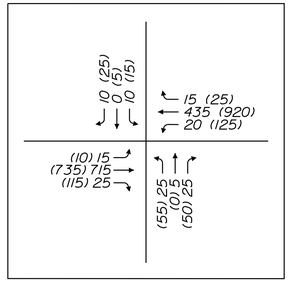
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING CELL MODEM / FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED MONITORING SYSTEM	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SPAN AND TETHER WIRE	9
FURNISH AND INSTALL ONE-WAY 5-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SPAN AND TETHER WIRE	1
FURNISH AND INSTALL ONE-WAY, 16 X 18-INCH LED SIDE OF POLE MOUNTED COUNTDOWN PEDESTRIAN SIGNAL HEAD	3
FURNISH AND INSTALL ONE-WAY, 16 X 18-INCH LED TOP OF POST MOUNTED COUNTDOWN PEDESTRIAN SIGNAL HEAD	1
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3e INFORMATIONAL SIGN	4
FURNISH AND INSTALL 4-CHANNEL PREEMPTION PHASE SELECTOR	1
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	3
FURNISH AND INSTALL PREEMPTION CONFIRMATION RED STROBE WITH CABLE	1
FURNISH AND INSTALL 19-INCH 1RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL ENVIRONMENTALLY HARDENED FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL SPAN WIRE MOUNTED SIGNS	4
FURNISH AND INSTALL POLE RISERS (FIBER)	1
REMOVE EXISTING POST MOUNTED SIGNS	1
REMOVE SPAN WIRE MOUNTED SIGNS	2
FURNISH AND INSTALL NEW SIGNAL CABLE	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 2 APPROACHES, COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

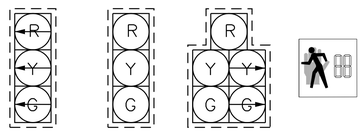
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"
C-P1	8' PEDESTAL POLE	24" DIAMETER

SYSTEM DESIGN VOLUMES AM (PM)

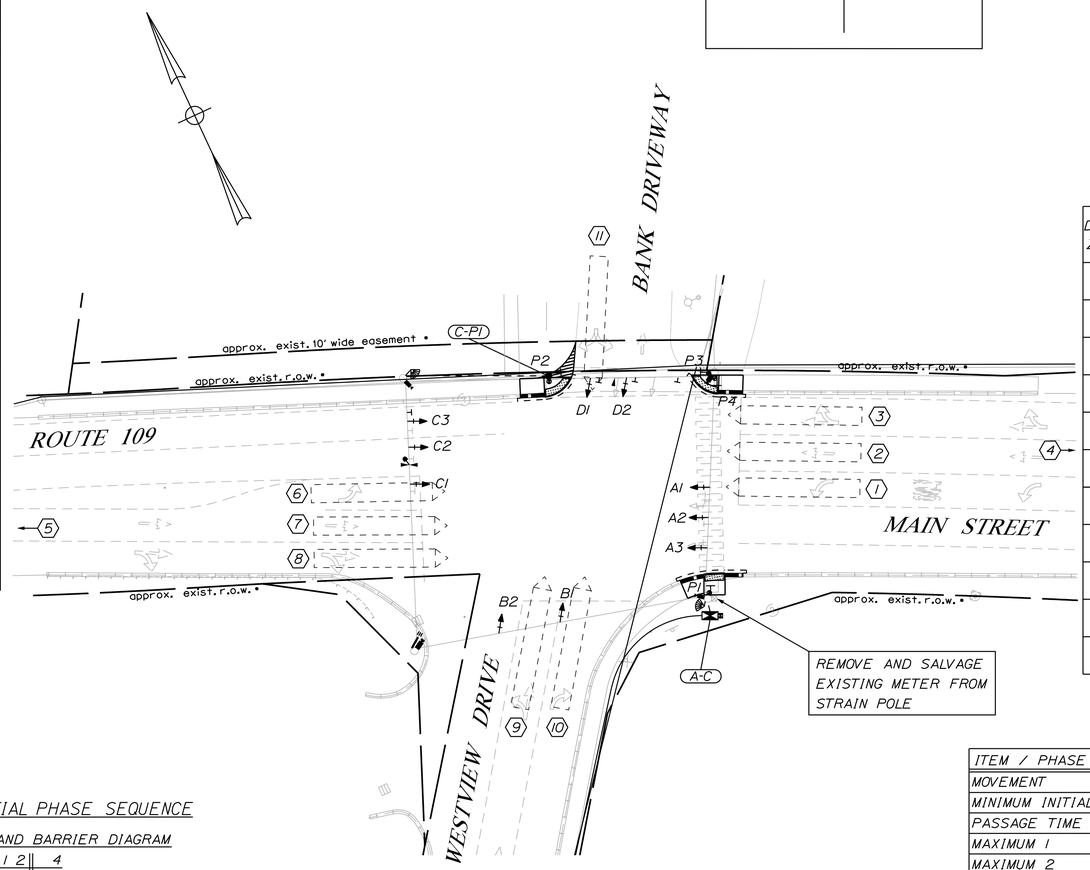


PROPOSED INDICATIONS



A1,C1 | A2,A3,B1 B2,C2,C3,D1 | D2 | P1-P4

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES



REMOVE AND SALVAGE EXISTING METER FROM STRAIN POLE

DETECTOR SCHEDULE

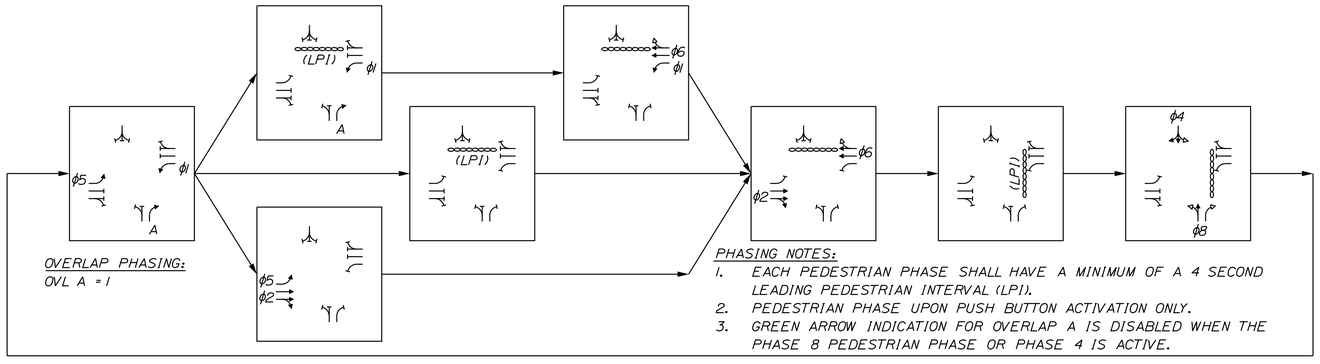
DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADVANCE B=STOPLINE	DELAY TIME	EXT. TIME
1	MAIN ST WB LEFT	1	1	B	-	-
2	MAIN ST WB THROUGH	6	6	B	-	-
3	MAIN ST WB THRU-RIGHT	6	6	B	-	-
4*	MAIN ST WB ADVANCE	6	6	A	-	-
5*	MAIN ST EB ADVANCE	2	2	A	-	-
6	MAIN ST EB LEFT	5	5	B	-	-
7	MAIN ST EB THROUGH	2	2	B	-	-
8	MAIN ST EB THRU-RIGHT	2	2	B	-	-
9	WESTVIEW DR NB LEFT-THRU	8	8	B	-	-
10	WESTVIEW DR NB RIGHT	8	8	B	5	-
11	BANK DR SB MOVEMENTS	4	4	B	-	-

* SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

1 2 | 4
5 6 | 8



OVERLAP PHASING:
OVL A = 1

PHASING NOTES:
1. EACH PEDESTRIAN PHASE SHALL HAVE A MINIMUM OF A 4 SECOND LEADING PEDESTRIAN INTERVAL (LPI).
2. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY.
3. GREEN ARROW INDICATION FOR OVERLAP A IS DISABLED WHEN THE PHASE 8 PEDESTRIAN PHASE OR PHASE 4 IS ACTIVE.

SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ 1	φ 2	φ 3	φ 4	φ 5	φ 6	φ 7	φ 8
MOVEMENT	C (LT)	A	-	B	A(LT)	C	-	D
MINIMUM INITIAL	5	10	-	7	5	10	-	7
PASSAGE TIME	2.5	4.0	-	2.5	2.5	4.0	-	2.5
MAXIMUM 1	15	45	-	25	15	45	-	25
MAXIMUM 2	15	60	-	15	15	45	-	15
YELLOW	3.5	4.0	-	3.0	3.5	4.0	-	3.0
ALL RED	2.5	2.0	-	2.0	2.5	2.0	-	2.0
PED WALK	-	-	-	-	-	4	-	4
PED CLEAR	-	-	-	-	-	10	-	16
DYN MAX LIMIT	-	-	-	-	-	-	-	-
DYN MAX STEP	-	-	-	-	-	-	-	-
RECALL	OFF	SOFT	-	OFF	OFF	SFOT	-	OFF
DETECTOR	PR	PR	-	PR	PR	PR	-	PR
PRE-EMPT PRIORITY	3	4	-	-	4	3	-	5
FLASH	R	Y	-	R	R	Y	-	R
DUAL ENTRY	OFF	ON	-	ON	OFF	ON	-	ON

NOTES: S = SOFT RECALL Y = YELLOW
O = RECALL OFF R = RED
PR = PRESENCE D = DARK
IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONTRACT AWARD.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE F-07-1(7), DOT FILE 16-300, SHEET 3, JANUARY 1987

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER
DESIGN-DETAILED	MLG
CHECKED-REVIEWED	CMB
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	

BY	DATE
JAR	07/20
CMB	07/20

REVISIONS 1
REVISIONS 2
REVISIONS 3
REVISIONS 4
FIELD CHANGES

SANFORD
ROUTE 109 (MAIN ST)
AND WESTVIEW DR

TRAFFIC SIGNAL PLAN

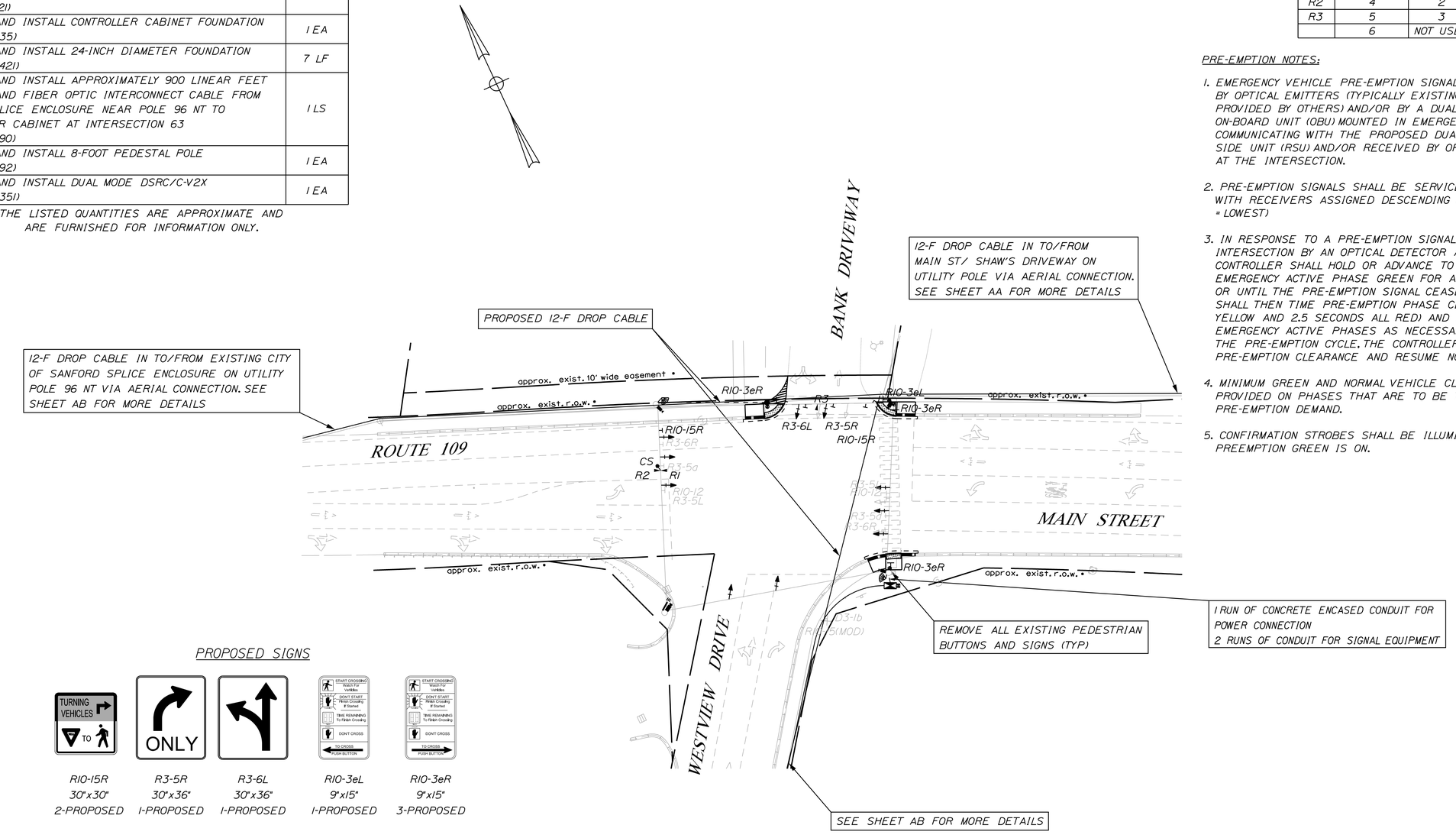
SHEET NUMBER
63
OF 358

Usernam: jorobert Date:11/24/2020
Division: HIGHWAY
Filename: 063_Signal_63a.dgn

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	190 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT. CONCRETE ENCASED (ITEM 626.221)	10 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL 24-INCH DIAMETER FOUNDATION (ITEM 626.421)	7 LF
FURNISH AND INSTALL APPROXIMATELY 900 LINEAR FEET OF 12-STRAND FIBER OPTIC INTERCONNECT CABLE FROM AERIAL SPLICE ENCLOSURE NEAR POLE 96 NT TO CONTROLLER CABINET AT INTERSECTION 63 (ITEM 643.90)	1 LS
FURNISH AND INSTALL 8-FOOT PEDESTAL POLE (ITEM 643.92)	1 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

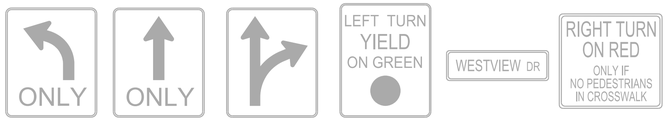
THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PROPOSED SIGNS

R10-15R	R3-5R	R3-6L	R10-3eL	R10-3eR
30"x30"	30"x36"	30"x36"	9"x15"	9"x15"
2-PROPOSED	1-PROPOSED	1-PROPOSED	1-PROPOSED	3-PROPOSED

EXISTING POST AND SPAN WIRE MOUNTED SIGNS



R3-5L	R3-5a	R3-6R	R10-12	D3-1b	R10-15(MOD)
2-RETAINED	2-RETAINED	2-RETAINED	2-REMOVED	1-RETAINED	1-REMOVED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
	1	NOT USE/RESERVED	
	2	NOT USE/RESERVED	
R1	3	1	ϕ1 & ϕ6
R2	4	2	ϕ2 & ϕ5
R3	5	3	ϕ8
	6	NOT USED	

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 3 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR AND/OR RSU , THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (4.0 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE F-07-1(7), DOT FILE 16-300, SHEET 3, JANUARY 1987

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

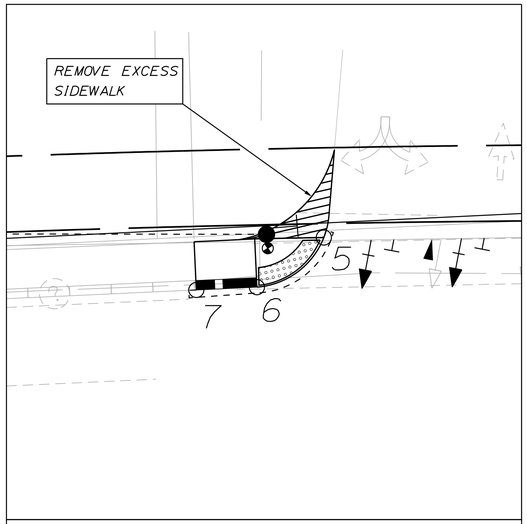
PROJ. MANAGER	B. KEEZER	
DESIGN-DETAILED	MLG	07/20
CHECKED-REVIEWED	CMB	07/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SANFORD
ROUTE 109 (MAIN ST)
AND WESTVIEW DR

TRAFFIC SIGNAL PLAN

SHEET NUMBER
63A
OF 358

C CORNER - NW DETAIL



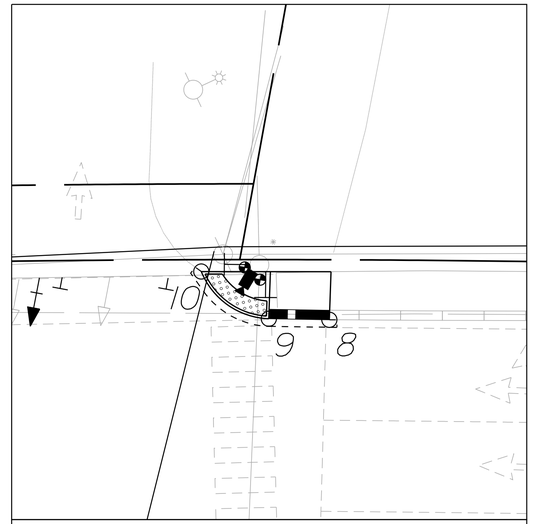
RECONSTRUCT CURB RAMP AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(22).

10 0 10 20
Scale of Feet

PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD		ITEM 609.221 - TERMINAL CURB TYPE I (LF)	ITEM 609.222 - TERMINAL CURB TYPE I - CIRCULAR (LF)	COMMENT
		LENGTH (FT)	QTY (SF)			
1 TO 2	38.5				8.0	
* 2 TO 3	38.5	7.2	12.7			4.9% CROSS SLOPE
3 TO 4	-			6.0		
5 TO 6	10.4	11.6	19.1			
6 TO 7	-			8.0		
8 TO 9	-			8.0		
9 TO 10	10.0	11.5	17.4			

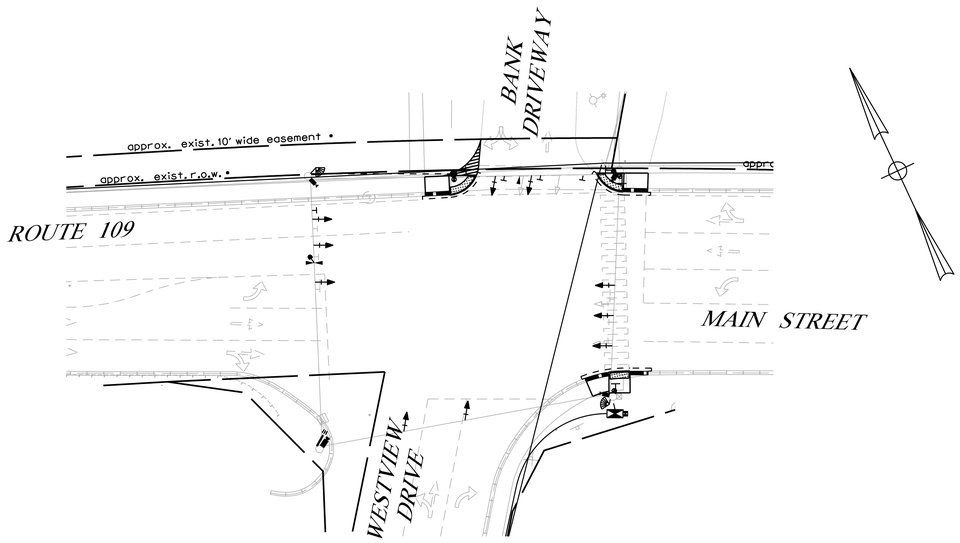
* NON-COMPLIANT CURB RAMP ELEMENT - THE EXISTING GUTTER LINE PROFILE IS GREATER THAN 2%. THEREFORE THE LEVEL LANDING CROSS SLOPE AND/OR RUNNING SLOPE WILL BE GREATER THAN THE 2% AND 8.33% MAXIMUM ALLOWABLE. RESPECTIVELY. THE COMMENT IS THE MAXIMUM VALUE FOR PROPOSED LEVEL OF COMPLIANCE.

D CORNER - NE DETAIL



RECONSTRUCT CURB RAMP AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(22).

10 0 10 20
Scale of Feet



ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED. AS WELL AS DETAILS PROVIDED ON SHEET H.

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
COMMON EXCAVATION (ITEM 203.20)	8.0 CY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	2.4 TONS
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	30.6 SY
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	49.2 SF

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
CONSTRUCT SIDEWALK (ITEM 608.45)	4.6 SY
REGRADING SIDEWALK (ITEM 608.46)	26.1 SY
TERMINAL CURB TYPE I (ITEM 609.221)	22.0 LF
TERMINAL CURB TYPE I - CIRCULAR (ITEM 609.222)	8.0 LF

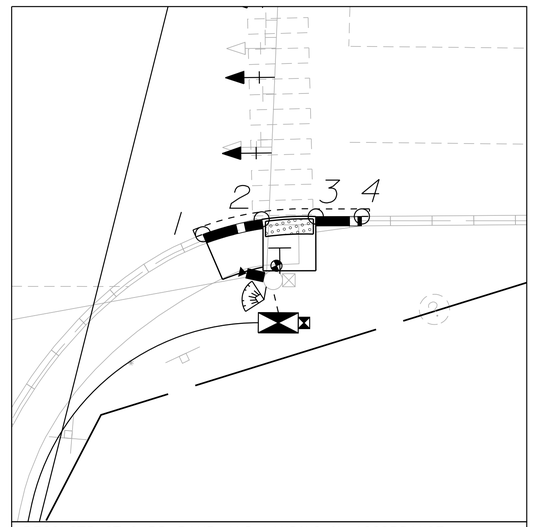
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PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE F-07-1(7), DOT FILE 16-300, SHEET 3, JANUARY 1987

A CORNER - SE DETAIL



RECONSTRUCT CURB RAMP AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(20).

10 0 10 20
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER		
DESIGN-DETAILED	MLG	JAR	07/20
CHECKED-REVIEWED	CMB	CMB	07/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SANFORD
ROUTE 109 (MAIN ST)
AND WESTVIEW DR

CURB RAMP LAYOUT AND DETAIL PLAN

SHEET NUMBER

63C

OF 358

Division: HIGHWAY
Username: jorobert
Date:11/24/2020
Filename: 063_Signal_63c.dgn

Filename: ...\ROW\MSTA\063_RWPLAN1.dgn Division: ROW Username: Benjamin.Singer Date:11/24/2020

PLAN LEGEND

Town, County, State	New R/W Along Existing R/W		Existing	Proposed		Existing	Proposed
Approx. Property Lines P.L.	Building	Clearing Limit Line	Sanitary Sewer		Traveled Way		
Existing Right of Way	Trees Conifer	Deciduous	Telephone Line		Ditch		
Limits of Wrought Portion L.O.W.P.	Tree Line	Bush Line	Electric Line		Catch Basin		
Control Of Access C.O.A.	Water Edge		Water Line		Manhole		
New Right of Way	Ledge	Rock/Boulder Flag Pole	Underdrain Line		Sewer Manhole		
New Easement	Fence CHAIN LINK	BARB WIRE STOCKADE	Gas Line		Utility Pole		
New Temporary Rights	Sign	Well WELL Mailbox	Guardrail		Fire Hydrant		
New R/W Within Existing R/W			Culvert		Curbing		

Cut Line C C C	Fill Line F F F	Monument
Stonewall	Retaining Wall	Iron Rod Found IRF
Baseline 10+00 11+00 12+00		Replacement Pin Set
Traverse Point	Pipe Found IPF	

THIS PLAN WAS PREPARED IN CONNECTION WITH THE DEPARTMENT'S ACQUISITION OF REAL PROPERTY FOR TRANSPORTATION PURPOSES. IT CANNOT BE USED TO ESTABLISH LEGAL BOUNDARIES BETWEEN ABUTTING PROPERTY OWNERS.

25 0 25 50 75 100
Scale of Feet

STATE OF MAINE
REGISTRY OF DEEDS

COUNTY _____
RECEIVED _____, _____
at _____h _____m _____M and
recorded in Plan Bk _____, Pg. _____
Attest: _____
REGISTER

COORD. SYSTEM: NAD83 (2011)
ZONE: MAINE 2000 WEST
VERTICAL DATUM: NAVD88
COMBINED FACTOR (CF): 0.9999787

GRID NORTH

KENNEBUNK SAVINGS BANK
ITEM NO. (22)
CONST. & MAINT. EASE. = 699± S.F. (1)
TEMP. CONST. RIGHTS = 119± S.F. (1)
TOTAL AREA = 1.85± AC. (CITY)

WAYNE N. BURBANK
PAULETTE BURBANK

WAYNE N. BURBANK
PAULETTE BURBANK

SEE Y.C.R.D. BOOK 8825, PAGE 57
KENNEBUNK SAVINGS BANK TO
TOWN OF SANFORD (5/18/1998)
10' WIDE CONDITIONAL ROAD EASEMENT

TEMPORARY
CONSTRUCTION
LIMITS
119± S.F.

R/W TO LAND OF BURBANK

CONSTRUCTION
& MAINTENANCE
EASEMENT LIMITS

699± S.F.

R/W LINE AS SHOWN ON FILE NO. 16-300

R/W EST. BY D.O.T. FILE NO. 16-300

TO EMERY STREET

L.O.W.P.

R/W ESTABLISHED BY D.O.T. FILE NO. 16-300

R/W LINE AS SHOWN ON FILE NO. 16-300

END B.L.
614+85.82
N:212657.799
E:884263.035

42'
44'
+50
185.82'
614
+93
+80
+75
+96±
+88
+65
613
BEGIN B.L.
N:212582.915
E:884433.051
+25
167'
167'
68'
55'

STATE HIGHWAY "7"
MAIN STREET
ROUTES 4A & 109

N:212732.185
E:884015.070

R/W LINE AS SHOWN ON FILE NO. 16-300

BASE LINE ESTABLISHED
UNDER D.O.T. FILE NO. 16-300

TO ROUTE 4

Y.C.R.D. BK. 11701, PG. 12

SEE Y.C.R.D. BOOK 11935, PAGE 10
CENTRAL TIRE COMPANY TO
STATE OF MAINE (7/25/2002)

SEE Y.C.R.D. BOOK 11701, PAGE 12
WAL-MART REAL ESTATE BUSINESS TRUST
TO STATE OF MAINE (2/28/2002)

CENTRAL TIRE RETREADING CO., INC.

P.T. 614+85.82

SIGNAL SYSTM EASEMENT LIMITS
1,127± S.F.

OSJ OF SANFORD, LLC
ITEM NO. (23)
SIGNAL SYSTEM EASE. = 1,127± S.F. (1)
TOTAL AREA = 19.48± AC. (CITY)

EXISTING R/W:
D.O.T. FILE NO. 16-300

NOTE: PRESCRIPTIVE EASEMENT FOR
HIGHWAY PURPOSES WITHIN LIMITS OF
WROUGHT PORTION (L.O.W.P.)

R/W LINE AS SHOWN ON FILE 16-300

WESTVIEW DRIVE

CURVE DATA

PI = 609+03.50
D = 2°16'40"
Δ = 26°59'15" LT.
R = 2515.42'
L = 1184.82'
T = 603.61'
E = 71.41'

INTERSECTION NO. 63 WIN 024301.11

PRELIMINARY PLAN

ITEM	TECH	CHECKED
EXISTING CONDITION PLAN	B.S.	
FINAL RIGHT OF WAY	B.S.	
AREAS	B.S.	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION - AUGUSTA, ME 04333-0016 - 207-624-3460
SANFORD
RIGHT OF WAY MAP

REVISIONS

NO.	DATE	DESCRIPTION	BY

PLAN FILED IN PLAN BOOK PAGE COUNTY RECORD					
NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE

BRUCE A. VAN NOTE
COMMISSIONER
JOYCE NOEL TAYLOR
CHIEF ENGINEER
DATE

STATE HIGHWAY "7"
MAIN STREET / WESTVIEW DRIVE
SANFORD YORK COUNTY
FEDERAL AID PROJECT NO. 2430100

OCTOBER 2020	RIGHT-OF-WAY MAP	D.O.T. FILE NO. 16-TBD
SCALE 1" = 25'	SHEET 1 OF 6	

SHEET NUMBER
63R
OF 358

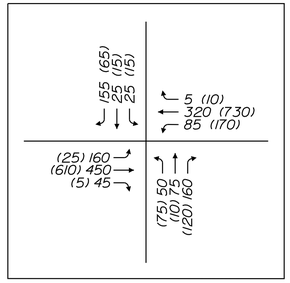
Filename: 064_Signal_64.dgn Username: jarobert Date:11/24/2020
Division: HIGHWAY

LIST OF WORK ITEMS

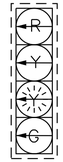
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING CELL MODEM / FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED MONITORING SYSTEM	1
FURNISH AND INSTALL ONE-WAY 4-SECTION, 12-INCH TRAFFIC SIGNAL EADS, WITH LED MODULES, TUNNEL VISORS AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTROBRACKETS	1
FURNISH AND INSTALL 4-CHANNEL PREEMPTION PHASE SELECTOR	1
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	2
FURNISH AND INSTALL 19-INCH 1 RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL ENVIRONMENTALLY HARDENED FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL POLE RISERS (FIBER)	1
REMOVE MAST ARM MOUNTED SIGN	1
FURNISH AND INSTALL NEW SIGNAL CABLE	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 3 APPROACHES, COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

SYSTEM DESIGN VOLUMES AM (PM)

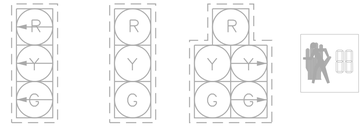


PROPOSED INDICATIONS



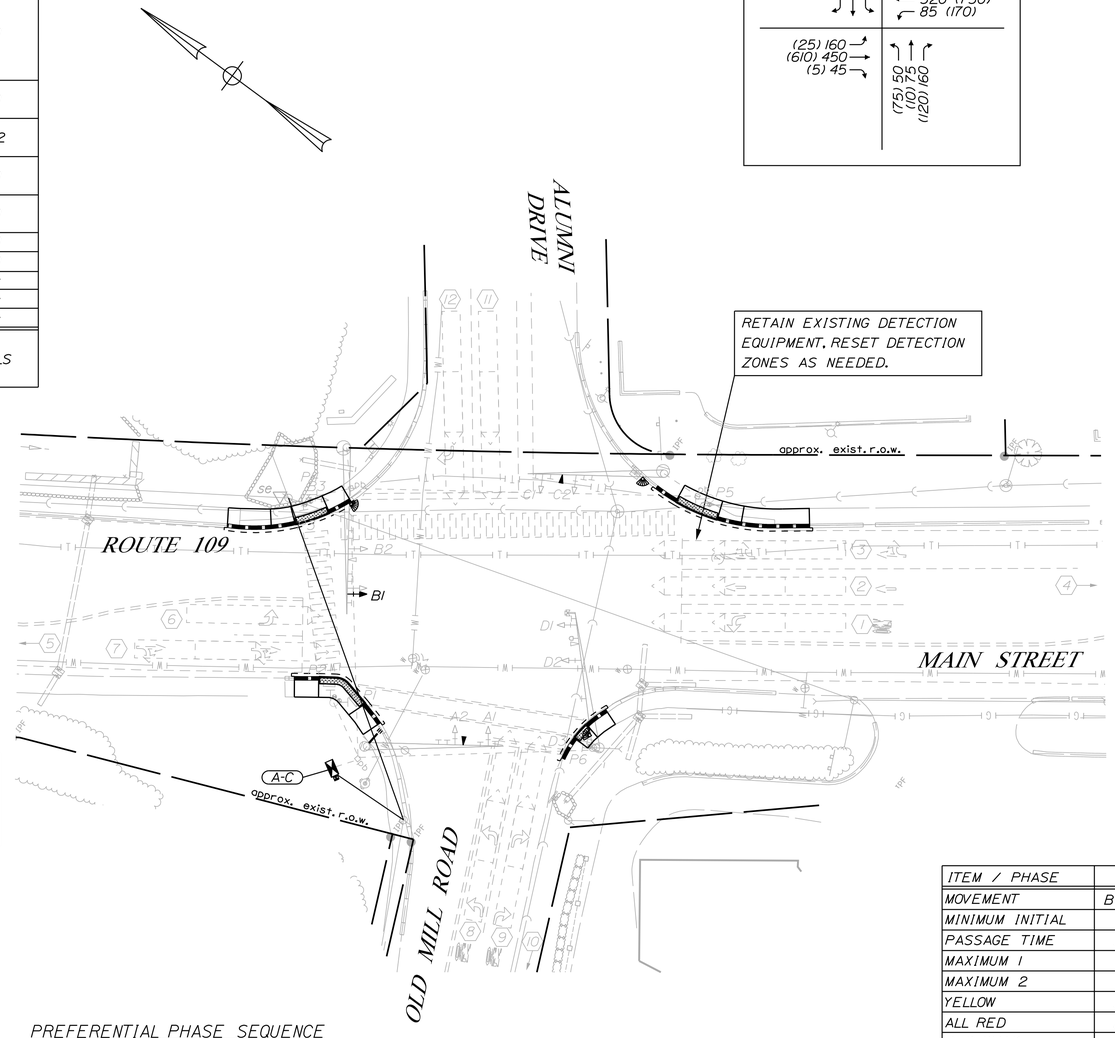
B1

EXISTING INDICATIONS TO REMAIN



D1 | A1,B2,B3 C1,D2,D3 | A2,C2 | P1-P6

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES



DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	ϕ CALLED	ϕ EXT.	MODE A=ADVANCE B=STOPLINE	DELAY TIME	EXT. TIME
①	MAIN ST WB LEFT	1	1	B	-	-
②	MAIN ST WB THROUGH	6	6	B	5	-
③	MAIN ST WB THRU-RIGHT	6	6	B	-	-
④*	MAIN ST WB ADVANCE	6	6	A	-	-
⑤*	MAIN ST EB ADVANCE	2	2	A	-	-
⑥	MAIN ST EB LEFT	5	5	B	5	-
⑦	MAIN ST EB THRU-RIGHT	2	2	B	-	-
⑧	OLD MILL RD NB LEFT-THRU	8	8	B	-	-
⑨	OLD MILL RD NB RIGHT	8	8	B	5	-
⑩*	OLD MILL RD NB ADVANCE	8	8	A	-	-
⑪	ALUMNI DR WB LEFT-THRU	4	4	B	-	-
⑫	ALUMNI DR WB RIGHT	4	4	B	5	-

* SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)

STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	EXISTING

SIGNAL TIMING SCHEDULE

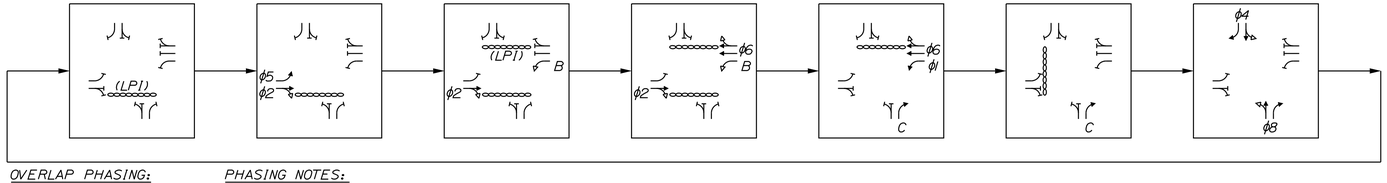
ITEM / PHASE	ϕ 1	ϕ 2	ϕ 3	ϕ 4	ϕ 5	ϕ 6	ϕ 7	ϕ 8	ϕ 9
MOVEMENT	B (LT)	D	-	A	D (LT)	B	-	C	EX. PED.
MINIMUM INITIAL	5	10	-	7	5	10	-	7	-
PASSAGE TIME	3.0	3.0	-	3.0	3.0	3.0	-	3.0	-
MAXIMUM 1	12	35	-	25	24	35	-	25	-
MAXIMUM 2	12	35	-	25	25	35	-	25	-
YELLOW	3.5	4.0	-	4.0	3.5	4.0	-	4.0	3.0
ALL RED	2.5	2.0	-	2.0	2.5	2.0	-	2.0	0.0
PED WALK	-	4	-	-	-	4	-	-	4
PED CLEAR	-	18	-	-	-	29	-	-	15
DYN MAX LIMIT	-	-	-	-	-	-	-	-	-
DYN MAX STEP	-	-	-	-	-	-	-	-	-
RECALL	OFF	SOFT	-	OFF	OFF	SOFT	-	OFF	-
DETECTOR	PR	PR	-	PR	PR	PR	-	PR	-
PRE-EMPT PRIORITY	3	4	-	6	4	3	-	5	-
FLASH	R	Y	-	R	R	Y	-	R	DARK
DUAL ENTRY	OFF	ON	-	ON	OFF	ON	-	ON	-

NOTES: S = SOFT RECALL Y = YELLOW
0 = RECALL OFF R = RED
PR = PRESENCE D = DARK
IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONTRACT AWARD.

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

2 1 9 4
5 6 8



OVERLAP PHASING:
OVL A = 5
OVL B = 1 (PROT) + 2 (PERM)
OVL C = 1+9

PHASING NOTES:
1. EACH PEDESTRIAN PHASE SHALL HAVE A MINIMUM OF A 4 SECOND LEADING PEDESTRIAN INTERVAL (LPI).
2. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY.
3. GREEN ARROW INDICATION FOR OVERLAP A AND C IS DISABLED WHEN PHASE 4 AND 8 IS ACTIVE.
4. OVERLAP B SHALL BE PROGRAMMED FOR FLASHING YELLOW ARROW.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE PROVIDED BY MAINEDOT PRO. NO. 23346.00, OCTOBER 2018

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER	DATE
DESIGN-DETAILED	ML.G	JAR 07/20
CHECKED-REVIEWED	CMB	CMB 07/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SANFORD
ROUTE 109 (MAIN STREET)
AND ALUMNI DR/OLD MILL RD

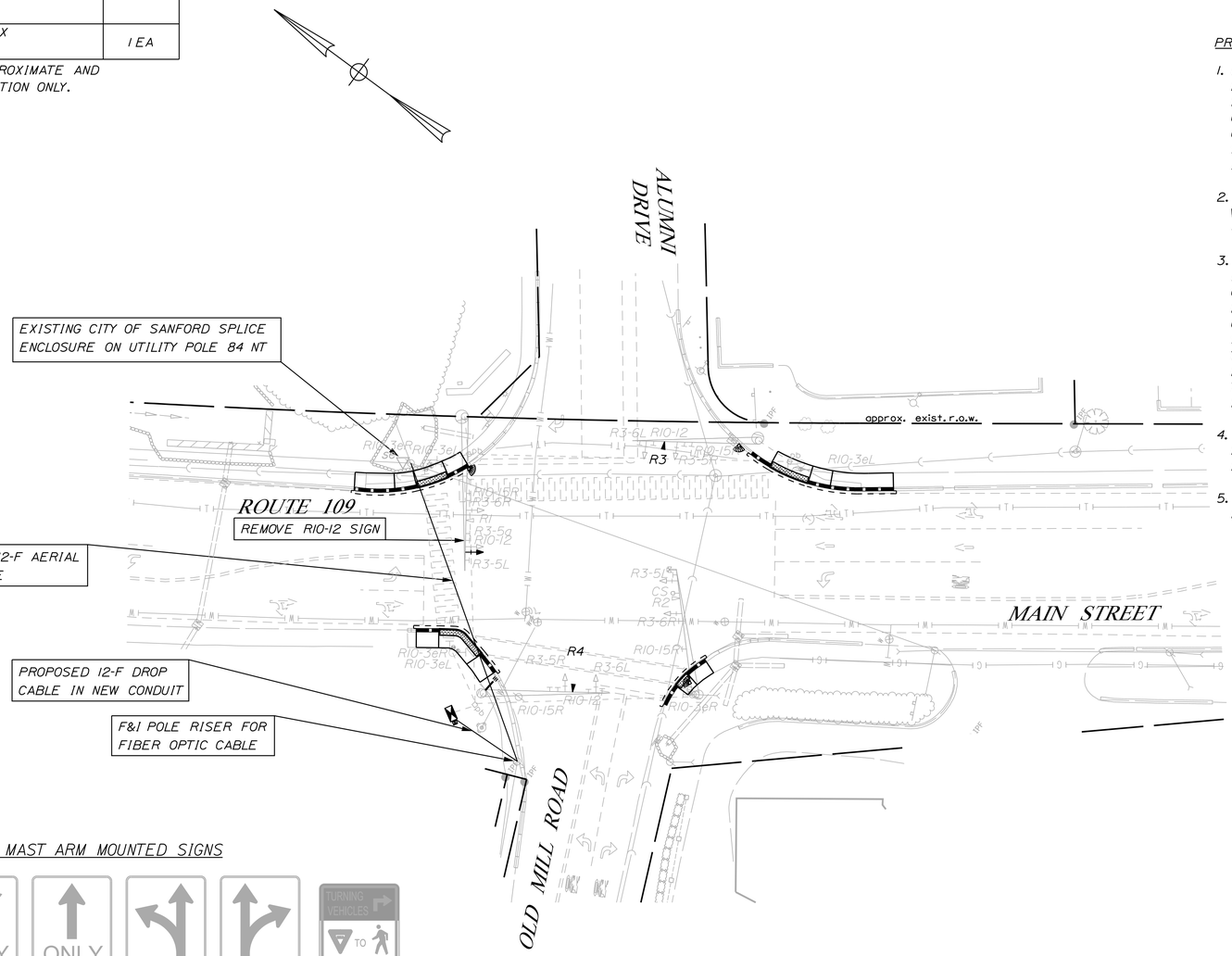
TRAFFIC SIGNAL PLAN

SHEET NUMBER
64
OF 358

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	30 LF
FURNISH AND INSTALL APPROXIMATELY 200 LINEAR FEET OF 12-STRAND FIBER OPTIC INTERCONNECT CABLE FROM AERIAL SPLICE ENCLOSURE NEAR POLE 84 NT TO CONTROLLER CABINET AT INTERSECTION 64 (ITEM 643.90)	1 LS
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

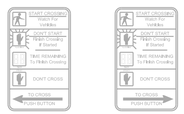


EXISTING MAST ARM MOUNTED SIGNS



R10-12 2-RETAINED 1-REMOVED | R3-5L 2-RETAINED | R3-5R 2-RETAINED | R3-5a 1-RETAINED | R3-6L 2-RETAINED | R3-6R 2-RETAINED | R10-15R 4-RETAINED

EXISTING PEDESTRIAN SIGNS



R10-3eL 3-RETAINED | R10-3eR 3-RETAINED

EXISTING POST MOUNTED SIGNS



R3-8 1-RETAINED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
	1	NOT USE/RESERVED	
	2	NOT USE/RESERVED	
R1	3	1	ϕ1&ϕ6
R2	4	2	ϕ2&ϕ5
R3	5	3	ϕ8
R4	6	4	ϕ4

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 4 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR AND/OR RSU , THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (4.0 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE PROVIDED BY MAINEDOT PRO. NO. 23346.00, OCTOBER 2018

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER		
DESIGN-DETAILED	MLG	BY	DATE
CHECKED-REVIEWED	CMB	JAR	07/20
DESIGN2-DETAILED2		CMB	07/20
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SANFORD
ROUTE 109 (MAIN STREET)
AND ALUMNI DR/OLD MILL RD

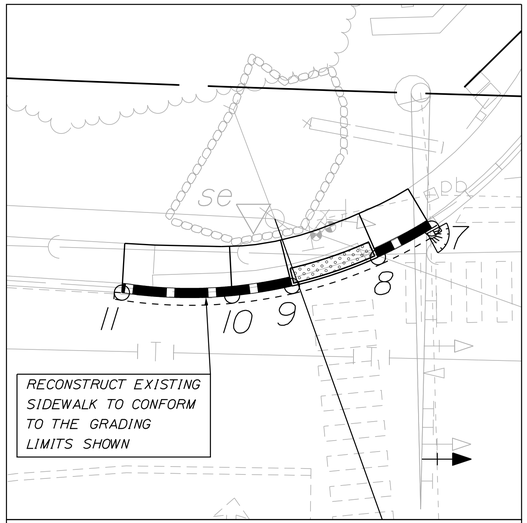
TRAFFIC SIGNAL PLAN

SHEET NUMBER
64A
OF 358

Filename: 064_Signal_64a.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

Filename: 064_Signal_64c.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

B CORNER - NW DETAIL

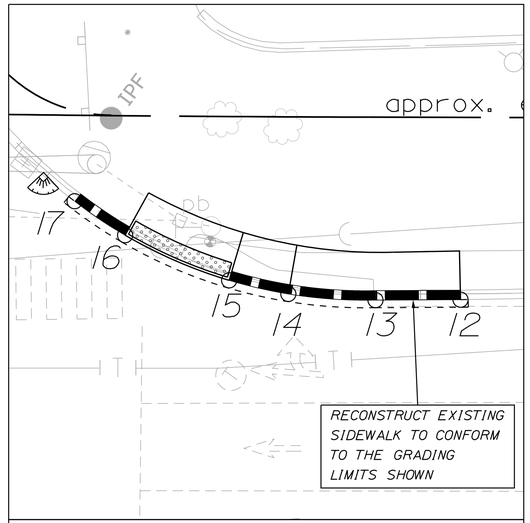


RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(20).

10 0 10 20
Scale of Feet

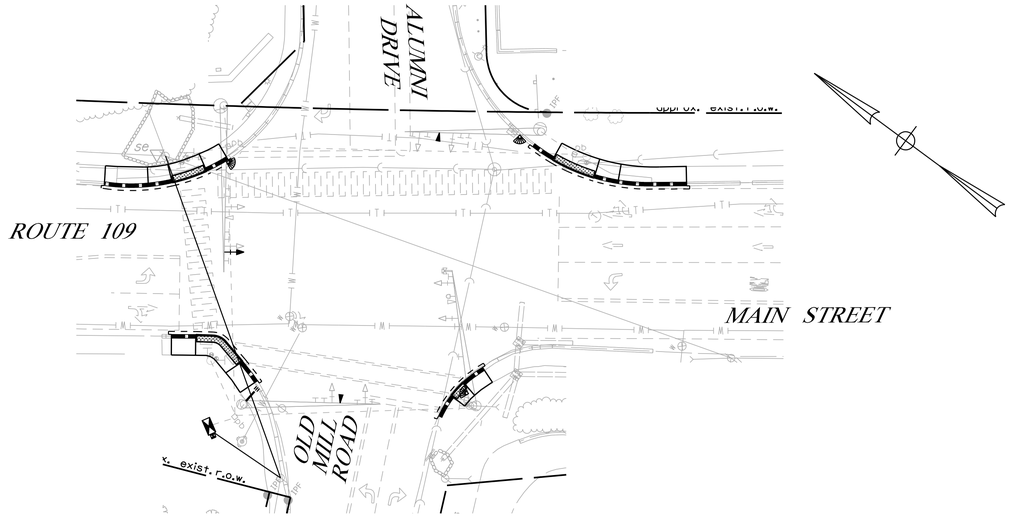
PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD		ITEM 609.11 - VERTICAL CURB TYPE I (LF)	ITEM 609.12 - VERTICAL CURB TYPE I - CIRCULAR (LF)	ITEM 609.221 - TERMINAL CURB TYPE I (LF)	ITEM 609.222 - TERMINAL CURB TYPE I - CIRCULAR (LF)	COMMENT
		LENGTH (FT)	QTY (SF)					
1 TO 2	-					8.0		
2 TO 3	-	5.7	34.6					
3 TO 4	6.0	4.6						
4 TO 5	-	5.9						
5 TO 6	-					8.0		
7 TO 8	60.0						8.0	
8 TO 9	60.0	12.0	22.2					
9 TO 10	60.0						8.0	
10 TO 11	60.0				14.6			
12 TO 13	-			11.2				
13 TO 14	62.8			11.6				
14 TO 15	62.8					8.0		
15 TO 16	62.8	15.0	28.1					
16 TO 17	62.8					8.0		
18 TO 19	36.0						8.0	
19 TO 20	36.0	6.1	10.2					
20 TO 21	36.0						8.0	

C CORNER - NE DETAIL



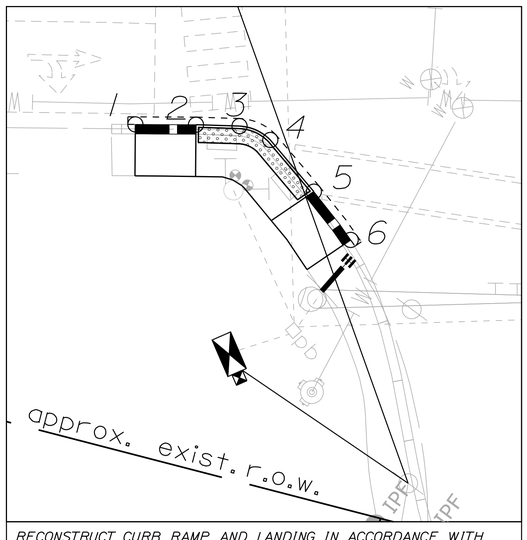
RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(20).

10 0 10 20
Scale of Feet



ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED. AS WELL AS DETAILS PROVIDED ON SHEET H.

A CORNER - SW DETAIL



RECONSTRUCT CURB RAMP AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(20).

10 0 10 20
Scale of Feet

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	8.9 TONS
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	91.3 SY
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	95.1 SF
REGRADING SIDEWALK (ITEM 608.46)	93.5 SY

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
VERTICAL CURB TYPE I (ITEM 609.11)	22.8 LF
VERTICAL CURB TYPE I - CIRCULAR (ITEM 609.12)	14.6 LF
TERMINAL CURB TYPE I (ITEM 609.221)	32.0 LF
TERMINAL CURB TYPE I - CIRCULAR (ITEM 609.222)	32.0 LF

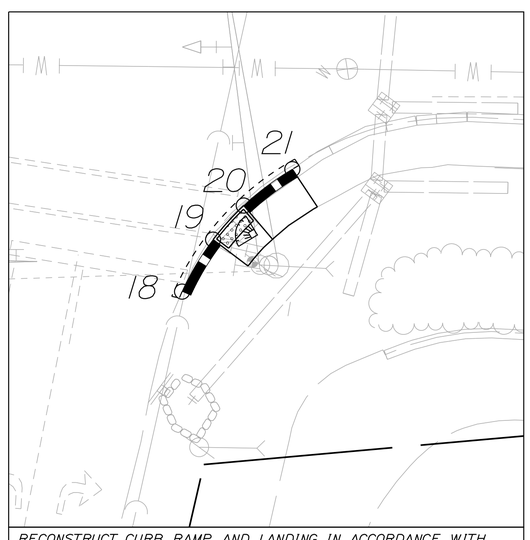
THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

PLAN

25 0 25 50
Scale of Feet

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D CORNER - SE DETAIL



RECONSTRUCT CURB RAMP AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(20).

10 0 10 20
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER		
DESIGN-DETAILED	MLG	JAR	07/20
CHECKED-REVIEWED	CMB	CMB	07/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SANFORD
ROUTE 109 (MAIN STREET) AND ALUMNI DR/OLD MILL RD
CURB RAMP LAYOUT AND DETAIL PLAN

SHEET NUMBER

64C

OF 358

LIST OF WORK ITEMS

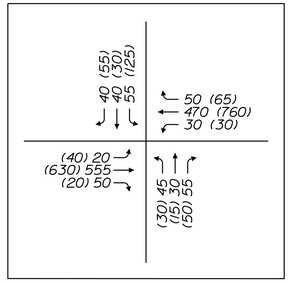
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING CELL MODEM / FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED MONITORING SYSTEM	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	2
FURNISH AND INSTALL ONE-WAY 4-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	3
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARM UPRIGHTS WITH BRACKET	2
FURNISH AND INSTALL 4-CHANNEL PREEMPTION PHASE SELECTOR	1
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	3
FURNISH AND INSTALL PREEMPTION CONFIRMATION RED STROBE WITH CABLE	1
FURNISH AND INSTALL 19-INCH 1 RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL ENVIRONMENTALLY HARDENED FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL MAST ARM MOUNTED SIGNS	5
FURNISH AND INSTALL POLE RISERS (FIBER)	1
REMOVE MAST ARM MOUNTED SIGNS	3
RESET COUNTDOWN PEDESTRIAN SIGNAL HEADS	1
RESET (APS) PUSH BUTTON WITH R10-3E SIGN	1
RESET VIDEO DETECTION ZONES (INCIDENTAL TO 643.71)	8
FURNISH AND INSTALL NEW SIGNAL CABLE	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-

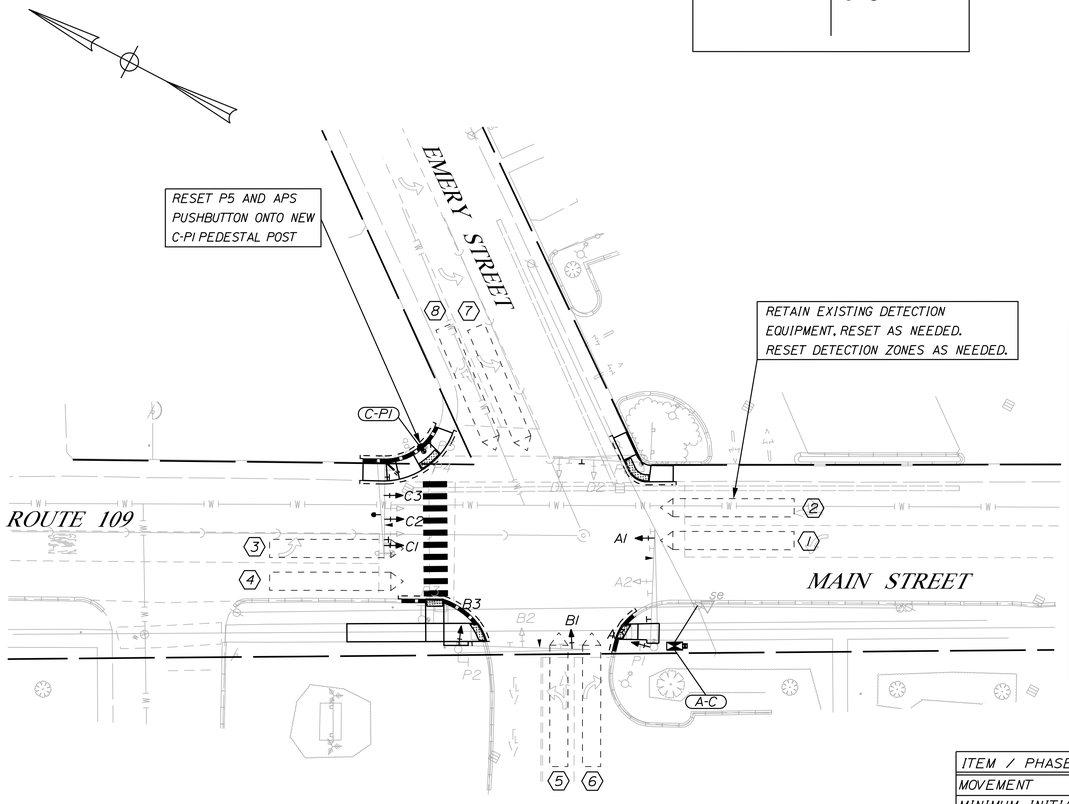
THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

STRUCTURE LIST

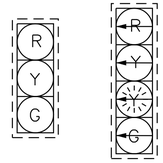
STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	EXISTING
C-P1	8' PEDESTAL POLE	24" DIAMETER

SYSTEM DESIGN VOLUMES AM (PM)



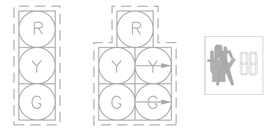


PROPOSED INDICATIONS



A3,B3,C2,C3 A1,B1,C1

EXISTING INDICATIONS TO REMAIN



A2,B2,D1 D2 P1-P6

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADVANCE B=STOPLINE	DELAY TIME	EXT. TIME
1	MAIN ST WB LEFT	1	1	B	-	-
2	MAIN ST WB THRU-RIGHT	6	6	B	-	-
3	MAIN ST EB LEFT	5	5	B	-	-
4	MAIN ST EB THRU-RIGHT	2	2	B	-	-
5	DRIVEWAY NB LEFT-THRU	8	8	B	-	-
6	DRIVEWAY NB RIGHT	8	8	B	5	-
7	EMERY ST WB LEFT	7	7	B	-	-
8	EMERY ST WB THRU-RIGHT	4	4	B	-	-

SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ 1	φ 2	φ 3	φ 4	φ 5	φ 6	φ 7	φ 8
MOVEMENT	C (LT)	A	-	B	A (LT)	C	B (LT)	D
MINIMUM INITIAL	5	7	-	7	5	7	5	5
PASSAGE TIME	2.5	3.0	-	2.5	2.5	3.0	2.5	2.5
MAXIMUM 1	10	45	-	35	10	45	20	35
MAXIMUM 2	15	60	-	35	15	60	20	35
YELLOW	3.5	3.5	-	3.5	3.5	3.5	3.5	3.5
ALL RED	2.5	2.5	-	2.5	2.5	2.5	2.5	2.5
PED WALK	-	5	-	5	-	5	-	-
PED CLEAR	-	12	-	12	-	16	-	-
DYN MAX LIMIT	-	-	-	-	-	-	-	-
DYN MAX STEP	-	-	-	-	-	-	-	-
RECALL	OFF	SOFT	-	OFF	OFF	SOFT	OFF	OFF
DETECTOR	PR	PR	-	PR	PR	PR	PR	PR
PRE-EMPT PRIORITY	3	4	-	5	4	3	5	-
FLASH	R	Y	-	R	R	Y	R	R
DUAL ENTRY	OFF	ON	-	ON	OFF	ON	OFF	ON

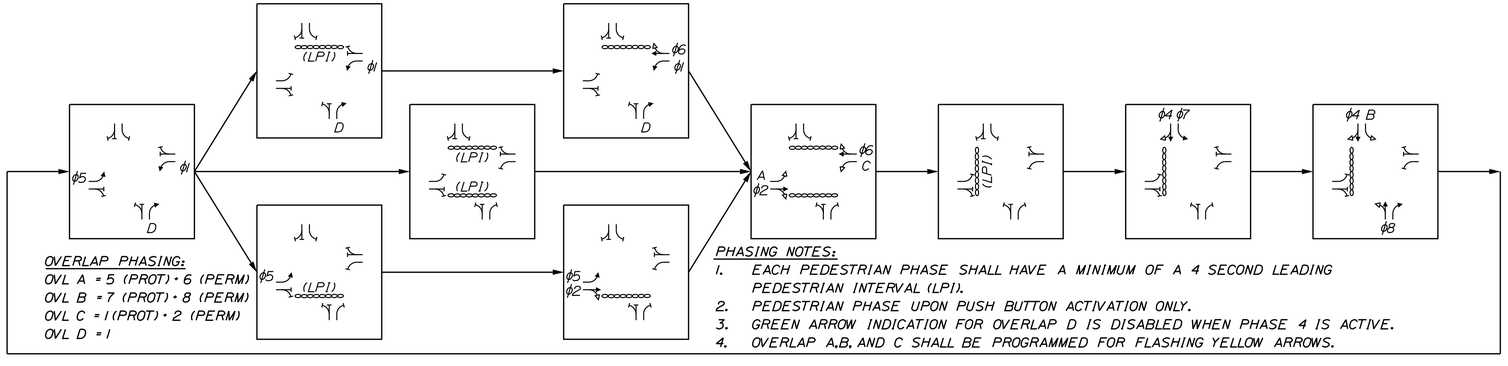
NOTES: S = SOFT RECALL Y = YELLOW
O = RECALL OFF R = RED
PR = PRESENCE D = DARK

IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONTRACT AWARD.

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

1 2 ‖ 4
5 6 ‖ 7 8



OVERLAP PHASING:
OVL A = 5 (PROT) + 6 (PERM)
OVL B = 7 (PROT) + 8 (PERM)
OVL C = 1 (PROT) + 2 (PERM)
OVL D = 1

PHASING NOTES:
1. EACH PEDESTRIAN PHASE SHALL HAVE A MINIMUM OF A 4 SECOND LEADING PEDESTRIAN INTERVAL (LPI).
2. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY.
3. GREEN ARROW INDICATION FOR OVERLAP D IS DISABLED WHEN PHASE 4 IS ACTIVE.
4. OVERLAP A,B, AND C SHALL BE PROGRAMMED FOR FLASHING YELLOW ARROWS.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY INFORMATION FROM MAINE OFFICE OF GEOGRAPHIC INFORMATION SYSTEMS - JANUARY 7, 2015

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

	BY	DATE
PROJ. MANAGER	B. KEEZER	
DESIGN-DETAILED	MLG	07/20
CHECKED-REVIEWED	CMB	07/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SANFORD
ROUTE 109 (MAIN ST)
AND EMERY ST

TRAFFIC SIGNAL PLAN

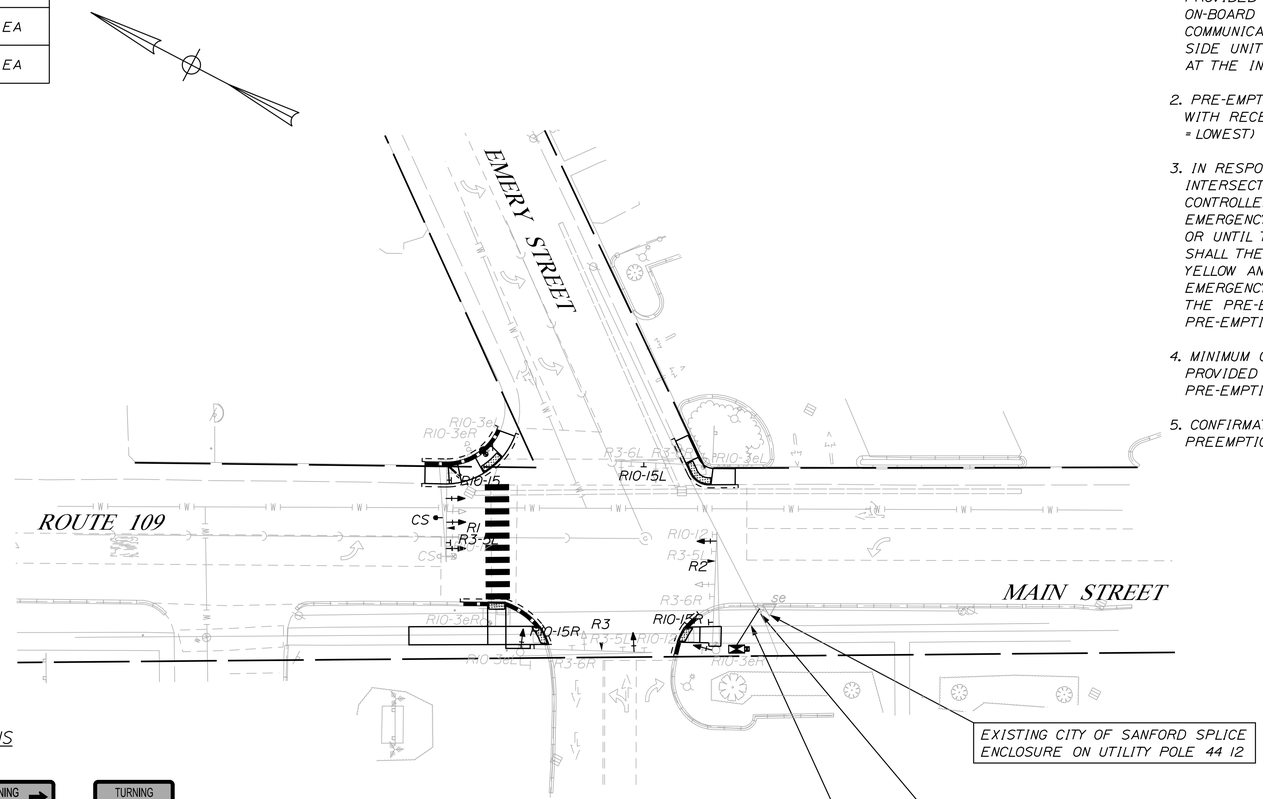
SHEET NUMBER
65
OF 358

Division: HIGHWAY
Usernome: jorobert
Date:11/24/2020
Filename: 065_Signal_65.dgn

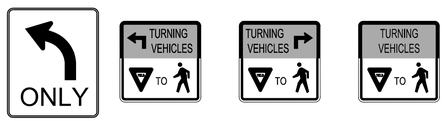
LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	20 LF
FURNISH AND INSTALL 24-INCH DIAMETER FOUNDATION (ITEM 626.421)	7 LF
FURNISH AND INSTALL WHITE PAVEMENT AND CURB MARKING (ITEM 627.75)	160 SF
FURNISH AND INSTALL APPROXIMATELY 100 LINEAR FEET OF 12-STRAND FIBER OPTIC INTERCONNECT CABLE FROM AERIAL SPLICE ENCLOSURE NEAR POLE 44 12 TO CONTROLLER CABINET AT INTERSECTION 65 (ITEM 643.90)	1 LS
FURNISH AND INSTALL 8-FOOT PEDESTAL POLE (ITEM 643.92)	1 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PROPOSED SIGNS



R3-5L	R10-15L	R10-15R	R10-15
30"x36"	30"x30"	30"x30"	30"x30"
1-PROPOSED	1-PROPOSED	2-PROPOSED	1-PROPOSED

EXISTING POST AND MAST ARM MOUNTED SIGNS



R10-3eL	R10-3eR	R10-12	R3-5L	R3-5R	R3-6L	R3-6R
3-RETAINED	3-RETAINED	3-REMOVED	2-RETAINED	1-RETAINED	1-RETAINED	2-RETAINED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
	1	NOT USE/RESERVED	
	2	NOT USE/RESERVED	
R1	3	1	ϕ 1&ϕ 6
R2	4	2	ϕ 2&ϕ 5
R3	5	3	ϕ 4&ϕ 7
	6	NOT USED	

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 4 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR AND/OR RSU , THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (4.0 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

PLAN

25 0 25 50

Scale of Feet

* - RIGHT-OF-WAY INFORMATION FROM MAINE OFFICE OF GEOGRAPHIC INFORMATION SYSTEMS - JANUARY 7, 2015

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

	BY	DATE
PROJ. MANAGER	B. KEEZER	
DESIGN-DETAILED	MLG	07/20
CHECKED-REVIEWED	CMB	07/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SANFORD
ROUTE 109 (MAIN ST)
AND EMERY ST

TRAFFIC SIGNAL PLAN

SHEET NUMBER

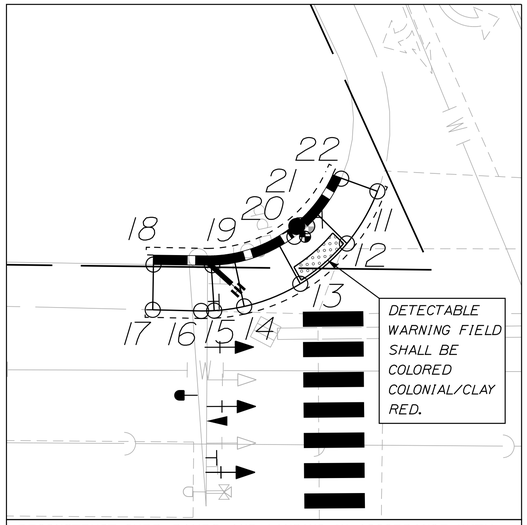
65A

OF 358

Username: jorobert
Date:11/24/2020
Division: HIGHWAY
Filename: 065_Signal_65a.dgn

Filename: 065_Signal_65c.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

C CORNER - NW DETAIL

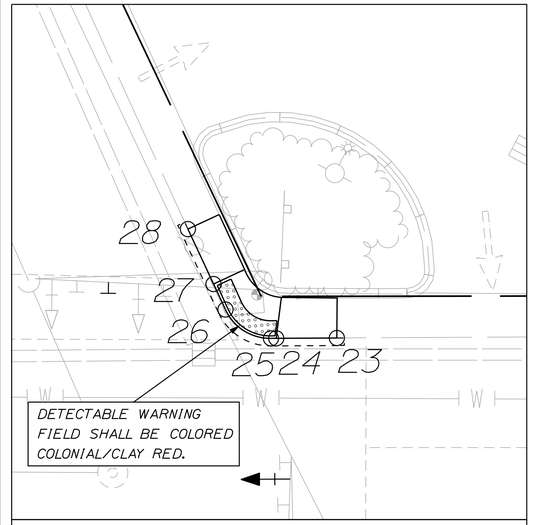


RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 80I(20).
CONSTRUCT BACK CURB ALONG CURB RAMPS AND LANDING.

10 0 10 20
Scale of Feet

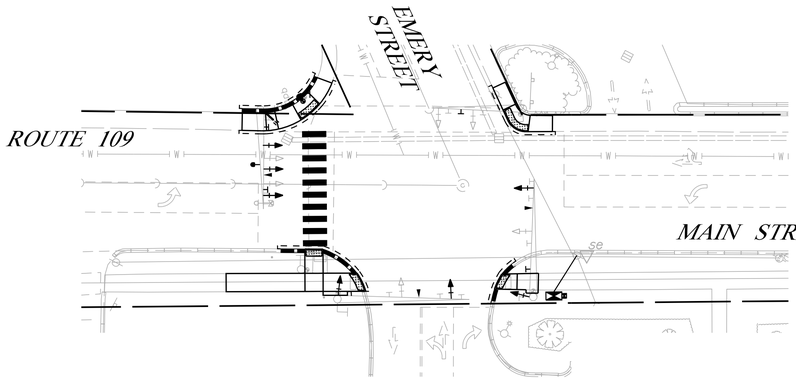
PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD		ITEM 609.11 - VERTICAL CURB TYPE I (LF)	ITEM 609.12 - VERTICAL CURB TYPE I - CIRCULAR (LF)	ITEM 609.221 - TERMINAL CURB TYPE I (LF)	ITEM 609.222 - TERMINAL CURB TYPE I - CIRCULAR (LF)	COMMENT
		LENGTH (FT)	QTY (SF)					
1 TO 2	47.5						4.0	
2 TO 3	25.7	5.5	10.0					
3 TO 4	20.5						5.4	
5 TO 6	-					8.0		
6 TO 7	-	6.0	10.7					
7 TO 8	24.3						7.0	
8 TO 9	24.3						7.0	
9 TO 10	20.5	6.7	12.1					
11 TO 12	24.6	8.0						
12 TO 13	24.6	8.2	14.3					
13 TO 14	24.6	8.0						
14 TO 15	24.6	4.0						
15 TO 16	24.6	1.7						
16 TO 17	-	6.4						
18 TO 19	-			7.5				
19 TO 20	18.1				11.1			
21 TO 22	18.1				7.3			
23 TO 24	-	8.0						
25 TO 25	-	0.7						
25 TO 26	6.5	7.5	20.0					
26 TO 27	-	3.7						
27 TO 28	-	8.0						

D CORNER - NE DETAIL

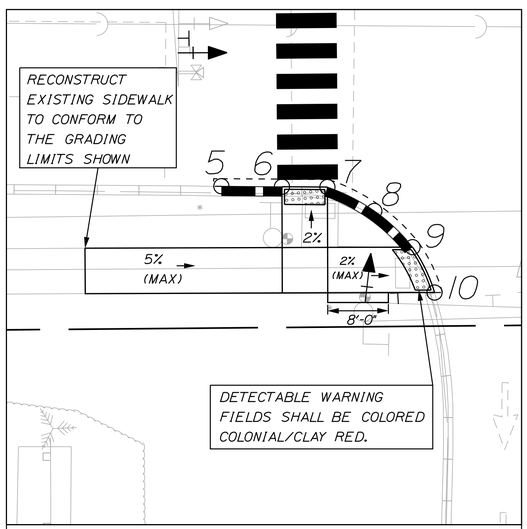


RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 80I(20).

10 0 10 20
Scale of Feet



B CORNER - SW DETAIL



RECONSTRUCT CURB RAMPS AND LANDINGS IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 80I(14).

10 0 10 20
Scale of Feet

ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 80I(11) to 80I(26) AS NOTED. AS WELL AS DETAILS PROVIDED ON SHEET H.

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	5.6 TONS
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	83.0 SY
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	67.1 SF
CONSTRUCT SIDEWALK (ITEM 608.45)	1.1 SY
REGRADING SIDEWALK (ITEM 608.46)	81.8 SY

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
VERTICAL CURB TYPE I (ITEM 609.11)	7.5 LF
VERTICAL CURB TYPE I - CIRCULAR (ITEM 609.12)	18.4 LF
TERMINAL CURB TYPE I (ITEM 609.221)	8.0 LF
TERMINAL CURB TYPE I - CIRCULAR (ITEM 609.222)	23.4 LF

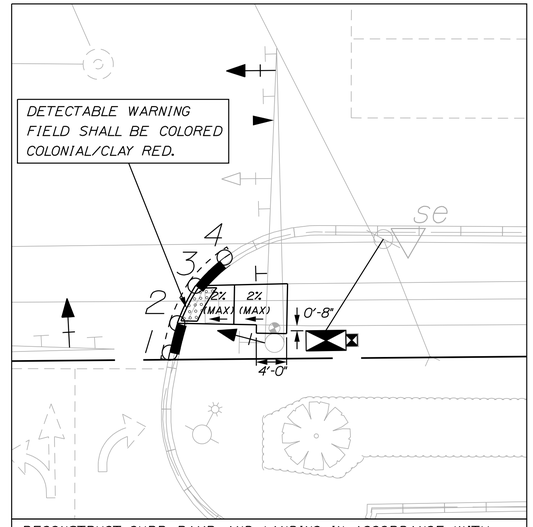
THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY INFORMATION FROM MAINE OFFICE OF GEOGRAPHIC INFORMATION SYSTEMS - JANUARY 7, 2015

A CORNER - SE DETAIL



RECONSTRUCT CURB RAMP AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 80I(20).
EXTEND LANDING TO ACCESS PEDESTRIAN BUTTON.
SEE DETAIL ON SHEET H.

10 0 10 20
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER	BY	DATE
DESIGN-DETAILED	MLG	JAR	07/20
CHECKED-REVIEWED	CMB	CMB	07/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

ROUTE 109 (MAIN ST) AND EMERY ST

CURB RAMP LAYOUT AND DETAIL PLAN

SHEET NUMBER

65C

OF 358

Filename: ...\ROW\MSTA\065_RWPLAN2.dgn Username: Benjamin.Singer Date:11/24/2020 Division: ROW

PLAN LEGEND

Town, County, State	New R/W Along Existing R/W	Sanitary Sewer	Traveled Way
Approx. Property Lines P.L.	Building / Clearing Limit Line	Telephone Line	Ditch
Existing Right of Way	Trees Conifer / Deciduous	Electric Line	Catch Basin
Limits of Wrought Portion L.O.W.P.	Tree Line / Bush Line	Water Line	Manhole
Control Of Access C.O.A.	Water Edge	Underdrain Line	Sewer Manhole
New Right of Way	Ledge / Rock/Boulder / Flag Pole	Gas Line	Utility Pole
New Easement	Fence CHAIN LINK / BARB WIRE / STOCKADE	Guardrail	Fire Hydrant
New Temporary Rights	Sign / Well / Mailbox	Culvert	Curbing
New R/W Within Existing R/W			

Existing / Proposed

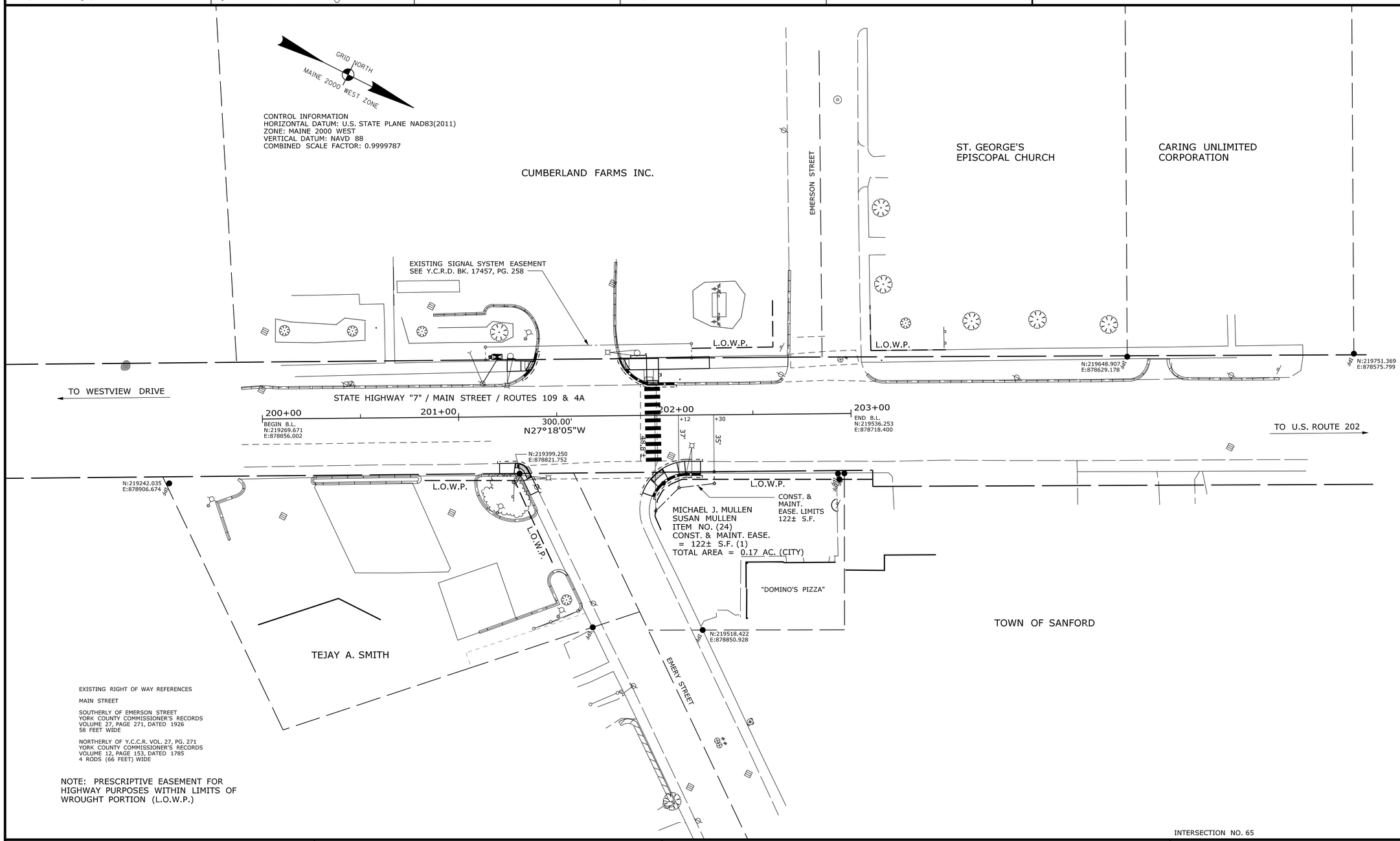
Cut Line C C C	Fill Line F F F
Stonewall	Retaining Wall
Baseline 10+00 11+00 12+00	
Monument	Traverse Point
Iron Rod Found IRF	Pipe Found IPF
Replacement Pin Set	

THIS PLAN WAS PREPARED IN CONNECTION WITH THE DEPARTMENT'S ACQUISITION OF REAL PROPERTY FOR TRANSPORTATION PURPOSES. IT CANNOT BE USED TO ESTABLISH LEGAL BOUNDARIES BETWEEN ABUTTING PROPERTY OWNERS.

25 0 25 50 75 100
Scale of Feet

STATE OF MAINE
REGISTRY OF DEEDS

COUNTY _____
RECEIVED _____, _____
at _____h_____m_____M and
recorded in Plan Bk _____, Pg._____
Attest: _____
REGISTER



EXISTING RIGHT OF WAY REFERENCES

MAIN STREET

SOUTHERLY OF EMERSON STREET
YORK COUNTY COMMISSIONER'S RECORDS
VOLUME 27, PAGE 271, DATED 1926
58 FEET WIDE

NORTHERLY OF Y.C.C.R. VOL. 27, PG. 271
YORK COUNTY COMMISSIONER'S RECORDS
VOLUME 12, PAGE 153, DATED 1785
4 RODS (66 FEET) WIDE

NOTE: PRESCRIPTIVE EASEMENT FOR HIGHWAY PURPOSES WITHIN LIMITS OF WROUGHT PORTION (L.O.W.P.)

INTERSECTION NO. 65 WIN 024301.11

PRELIMINARY PLAN

ITEM	TECH	CHECKED
EXISTING CONDITION PLAN	N.T.A.	
FINAL RIGHT OF WAY	B.S.	
AREAS	B.S.	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION - AUGUSTA, ME 04333-0016 - 207-624-3460
SANFORD
RIGHT OF WAY MAP

REVISIONS

NO.	DATE	DESCRIPTION	BY

PLAN FILED IN PLAN BOOK PAGE COUNTY RECORD

NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE

BRUCE A. VAN NOTE
COMMISSIONER
JOYCE NOEL TAYLOR
CHIEF ENGINEER
DATE

STATE HIGHWAY "7"
MAIN STREET / EMERSON STREET / EMERY STREET
SANFORD YORK COUNTY
FEDERAL AID PROJECT NO. 2430100

OCTOBER 2020	RIGHT-OF-WAY MAP	D.O.T. FILE NO. 16-TBD
SCALE 1" = 25'	SHEET 2 OF 6	

SHEET NUMBER
65R
OF 358

LIST OF WORK ITEMS

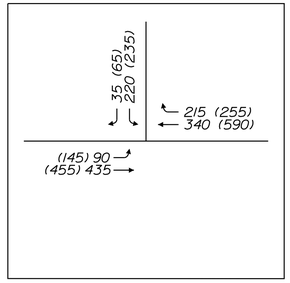
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING CELL MODEM / FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED MONITORING SYSTEM	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	5
FURNISH AND INSTALL ONE-WAY 4-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	2
FURNISH AND INSTALL ONE-WAY 4-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON UPRIGHTS WITH BRACKETS	1
FURNISH AND INSTALL ONE-WAY, 16 X 18-INCH LED SIDE OF POLE MOUNTED COUNTDOWN PEDESTRIAN SIGNAL HEAD	3
FURNISH AND INSTALL ONE-WAY, 16 X 18-INCH LED TOP OF POST MOUNTED COUNTDOWN PEDESTRIAN SIGNAL HEAD	1
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3e INFORMATIONAL SIGN	4
FURNISH AND INSTALL 4-CHANNEL PREEMPTION PHASE SELECTOR	1
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	3
FURNISH AND INSTALL PREEMPTION CONFIRMATION RED STROBE WITH CABLE	1
FURNISH AND INSTALL ENVIRONMENTALLY HARDENED FIBER OPTIC ETHERNET SWITCH	1
FURNISH AND INSTALL MAST ARM MOUNTED SIGNS	1
REMOVE MAST ARM MOUNTED SIGNS	1
REMOVE POLE MOUNTED SIGNS	5
FURNISH AND INSTALL NEW SIGNAL CABLE	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 3 APPROACHES, COMPLETE (ITEM 643.21)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

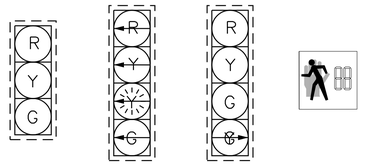
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"
C-P1	8' PEDESTAL POLE	24" DIAMETER

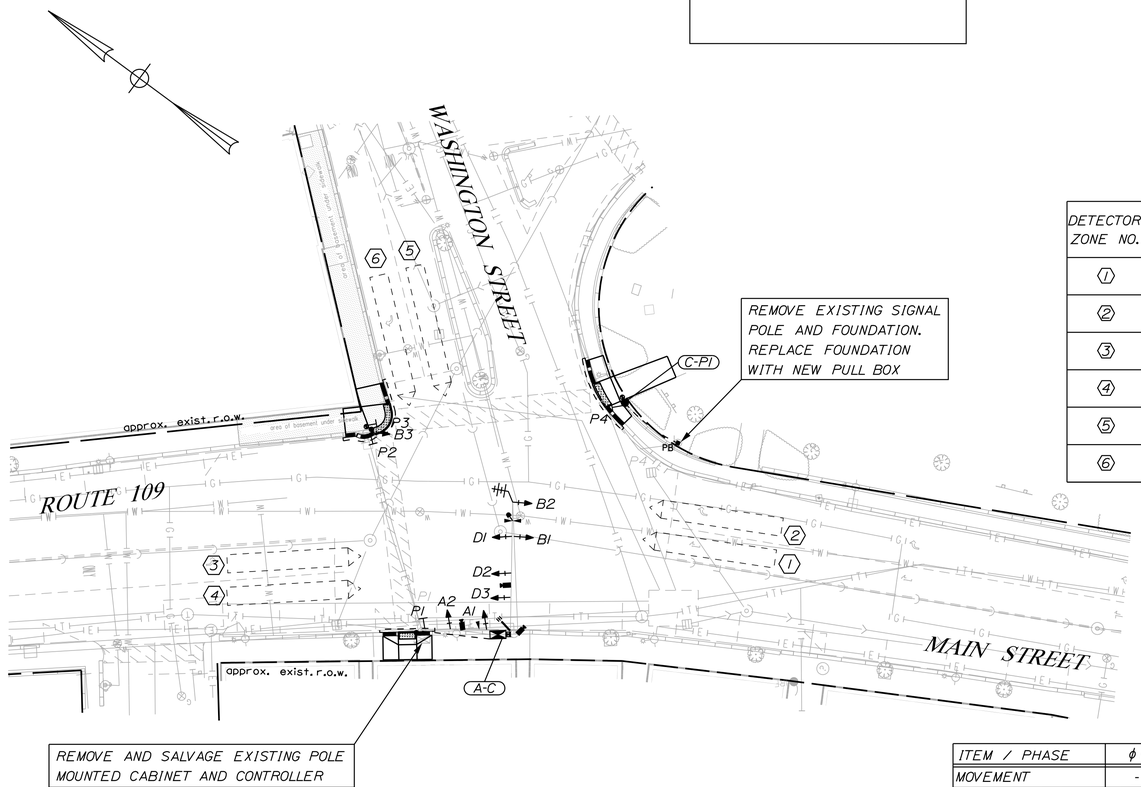
SYSTEM DESIGN VOLUMES AM (PM)



PROPOSED INDICATIONS



NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES



DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADVANCE B=STOPLINE	DELAY TIME	EXT. TIME
1	MAIN ST WB THROUGH	6	6	B	-	-
2	MAIN ST WB RIGHT	6	6	B	5	-
3	MAIN ST EB LEFT	5	5	B	-	-
4	MAIN ST EB THROUGH	2	2	B	-	-
5	WASHINGTON ST SB LEFT	4	4	B	-	-
6	WASHINGTON ST SB RIGHT	4	4	B	5	-

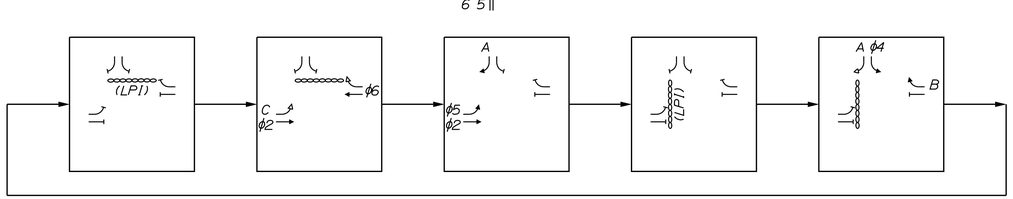
SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ 1	φ 2	φ 3	φ 4	φ 5	φ 6	φ 7	φ 8
MOVEMENT	-	D	-	A	D (LT)	B	-	-
MINIMUM INITIAL	-	7	-	7	5	7	-	-
PASSAGE TIME	-	3.0	-	2.5	2.5	3.0	-	-
MAXIMUM 1	-	45	-	25	15	45	-	-
MAXIMUM 2	-	60	-	30	15	60	-	-
YELLOW	-	3.5	-	3.5	3.5	3.5	-	-
ALL RED	-	2.5	-	2.5	2.5	2.5	-	-
PED WALK	-	-	-	5	-	5	-	-
PED CLEAR	-	-	-	18	-	18	-	-
DYN MAX LIMIT	-	-	-	-	-	-	-	-
DYN MAX STEP	-	-	-	-	-	-	-	-
RECALL	-	SOFT	-	OFF	OFF	SOFT	-	-
DETECTOR	-	PR	-	PR	PR	PR	-	-
PRE-EMPT PRIORITY	-	4	-	5	4	3	-	-
FLASH	-	Y	-	R	R	Y	-	-
DUAL ENTRY	-	ON	-	OFF	OFF	ON	-	-

NOTES: S = SOFT RECALL Y = YELLOW
O = RECALL OFF R = RED
PR = PRESENCE D = DARK
IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONTRACT AWARD.

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM



OVERLAP PHASING:
OVL A = 4-5
OVL B = 4
OVL C = 5 (PROT) - 6 (PERM)

PHASING NOTES:
1. EACH PEDESTRIAN PHASE SHALL HAVE A MINIMUM OF A 4 SECOND LEADING PEDESTRIAN INTERVAL (LPI).
2. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY.
3. GREEN ARROW INDICATION FOR OVERLAP A IS DISABLED WHEN THE PHASE 4 PEDESTRIAN PHASE IS ACTIVE.
4. OVERLAP C SHALL BE PROGRAMMED FOR FLASHING YELLOW ARROW.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE TITCOMB ASSOCIATES - PIN 218095, BOOK #913, SHEETS 1 AND 2 OF 3 - NOVEMBER 28, 2018

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

			DATE
PROJ. MANAGER	B. KEEZER	BY	
DESIGN-DETAILED	MLG	JAR	07/20
CHECKED-REVIEWED	CMB	CMB	07/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SANFORD
ROUTE 109 (MAIN ST)
AND WASHINGTON ST

TRAFFIC SIGNAL PLAN

SHEET NUMBER

66

OF 358

Filename: 066_Signal_66.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

LIST OF WORK ITEMS

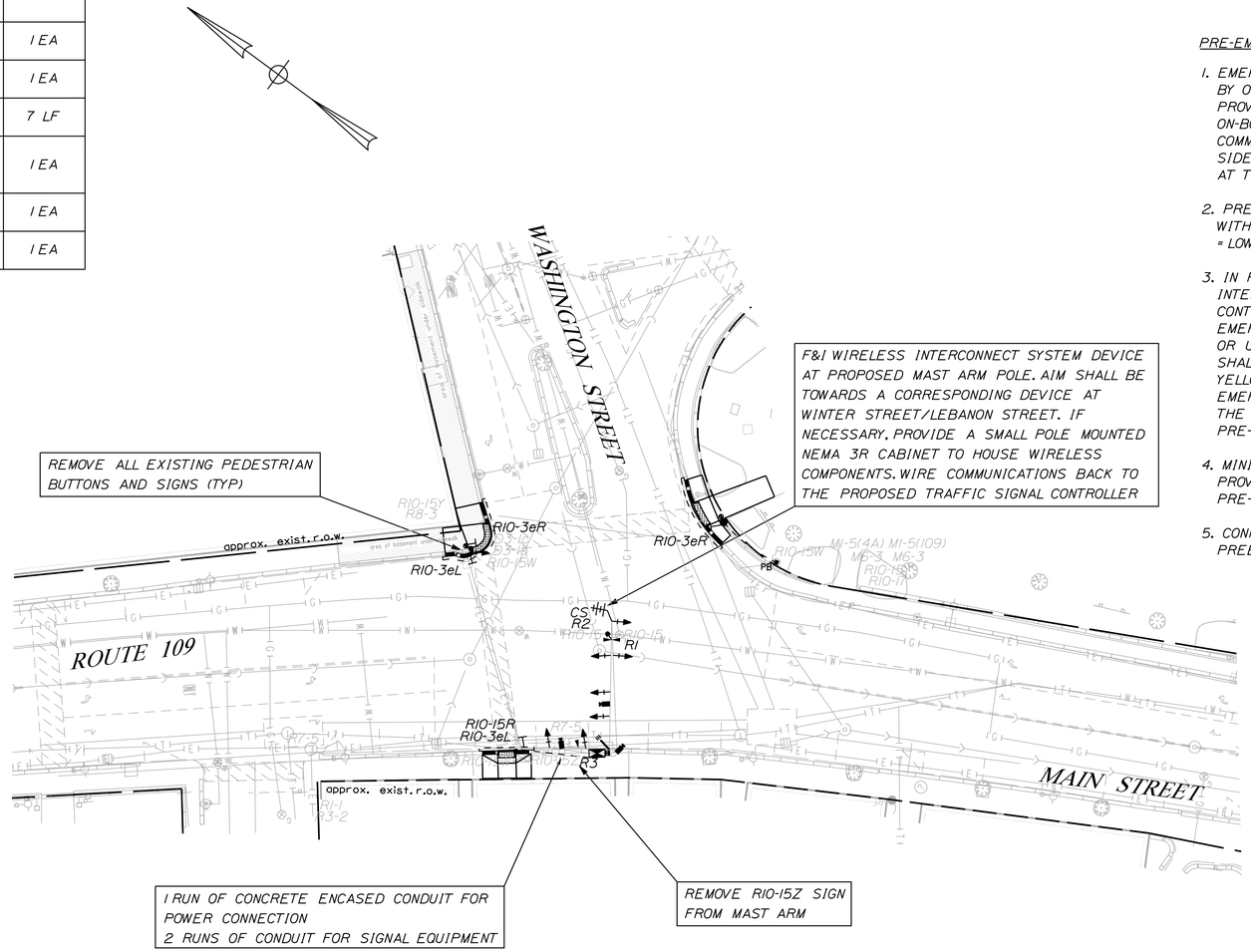
EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
FURNISH AND INSTALL PRECAST CONCRETE JUNCTION BOX (ITEM 626.11)	1 EA
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	75 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	25 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
REMOVE OR MODIFY CONCRETE FOUNDATION (ITEM 626.36)	1 EA
FURNISH AND INSTALL 24-INCH DIAMETER FOUNDATION (ITEM 626.421)	7 LF
FURNISH AND INSTALL 5.8 GHZ WIRELESS RADIO UNIT WITH FLAT PANEL ANTENNAE (ITEM 643.90)	1 EA
FURNISH AND INSTALL 8-FOOT PEDESTAL POLE (ITEM 643.92)	1 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

PROPOSED SIGNS



R10-3eL 9"x15" 2-PROPOSED | R10-3eR 9"x15" 2-PROPOSED | R10-15R 30"x30" 1-PROPOSED



F&I WIRELESS INTERCONNECT SYSTEM DEVICE AT PROPOSED MAST ARM POLE. AIM SHALL BE TOWARDS A CORRESPONDING DEVICE AT WINTER STREET/LEBANON STREET. IF NECESSARY, PROVIDE A SMALL POLE MOUNTED NEMA 3R CABINET TO HOUSE WIRELESS COMPONENTS. WIRE COMMUNICATIONS BACK TO THE PROPOSED TRAFFIC SIGNAL CONTROLLER

REMOVE ALL EXISTING PEDESTRIAN BUTTONS AND SIGNS (TYP)

1 RUN OF CONCRETE ENCASED CONDUIT FOR POWER CONNECTION
2 RUNS OF CONDUIT FOR SIGNAL EQUIPMENT

REMOVE R10-15Z SIGN FROM MAST ARM

EXISTING POST AND MAST ARM MOUNTED SIGNS



R1-1 1 - RETAINED | R3-2 2 - RETAINED | R10-15 2 - RETAINED | R10-15z 1 - REMOVED | R10-15y 2 - REMOVED | R10-15w 3 - REMOVED



D3-1c 1 - RETAINED | D3-1d 1 - RETAINED | MI-5(4A) 1 - RETAINED | MI-5(109) 1 - RETAINED | M6-3 2 - RETAINED | R8-3 1 - RETAINED | R7-5 1 - RETAINED | R10-17 1 - RETAINED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
	1	NOT USE/RESERVED	
	2	NOT USE/RESERVED	
R1	3	1	ϕ6
R2	4	2	ϕ2&ϕ5
R3	5	3	ϕ4
	6	NOT USED	

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 3 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR AND/OR RSU , THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE TITCOMB ASSOCIATES - PIN 218095, BOOK #913, SHEETS 1 AND 2 OF 3 - NOVEMBER 28, 2018

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER	
DESIGN-DETAILED	MLC	JAR
CHECKED-REVIEWED	CMB	CMB
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

DATE: 07/20 07/20

SANFORD
ROUTE 109 (MAIN ST)
AND WASHINGTON ST

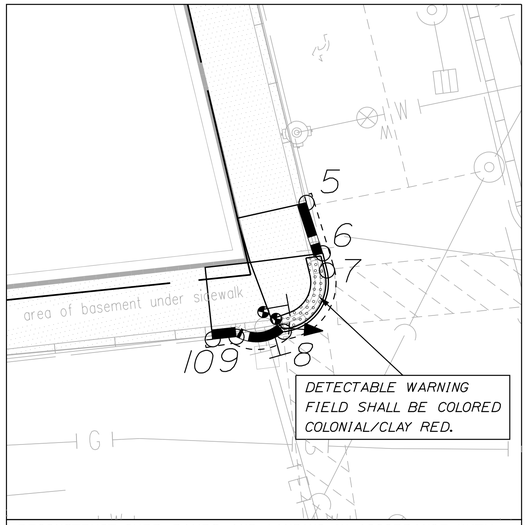
TRAFFIC SIGNAL PLAN

SHEET NUMBER
66A
OF 358

Filename: 066_Signal_66a.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

Filename: 066_Signal_66c.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

B CORNER - NW DETAIL



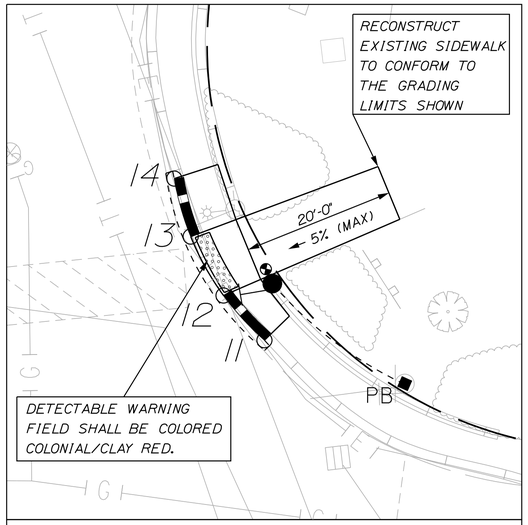
RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(20).

10 0 10 20
Scale of Feet

PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD		ITEM 609.221 - TERMINAL CURB TYPE I (LF)	ITEM 609.222 - TERMINAL CURB TYPE I - CIRCULAR (LF)	COMMENT
		LENGTH (FT)	QTY (SF)			
1 TO 2	-			5.0		
* 2 TO 3	-	6.0	10.7			5.9% CROSS SLOPE
3 TO 4	-			5.1		
5 TO 6	-			7.0		
* 6 TO 7	-	2.3	23.2			12.6% CROSS SLOPE
7 TO 8	6.5	11.2				
8 TO 9	5.4				6.7	
9 TO 10	-			3.2		
11 TO 12	36.4				8.0	
12 TO 13	36.4	8.9	16.3			
13 TO 14	36.4				8.0	

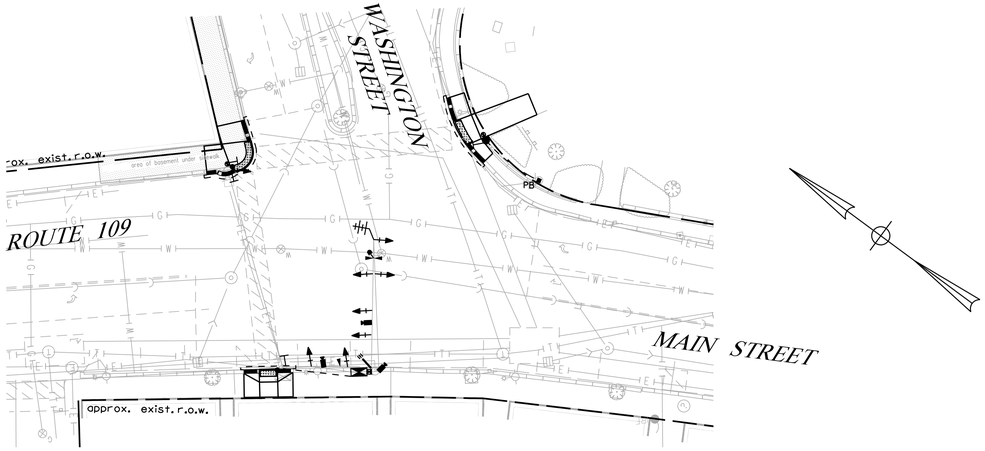
* NON-COMPLIANT CURB RAMP ELEMENT - THE EXISTING GUTTER LINE PROFILE IS GREATER THAN 2%. THEREFORE THE LEVEL LANDING CROSS SLOPE AND/OR RUNNING SLOPE WILL BE GREATER THAN THE 2% AND 8.33% MAXIMUM ALLOWABLE, RESPECTIVELY. THE COMMENT IS THE MAXIMUM VALUE FOR PROPOSED LEVEL OF COMPLIANCE.

C CORNER - NE DETAIL

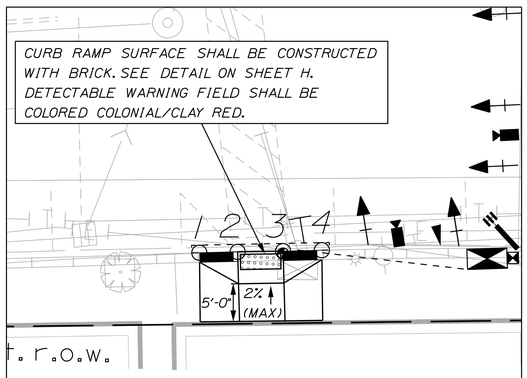


RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(20).
DO NOT IMPACT EXISTING BACK CURB.

10 0 10 20
Scale of Feet



A CORNER - SW DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(15).

10 0 10 20
Scale of Feet

ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED. AS WELL AS DETAILS PROVIDED ON SHEET H.

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	5.9 TONS
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	56.5 SY
BRICK SIDEWALK WITH BITUMINOUS BASE (ITEM 608.15)	16.5 SY
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	50.2 SF

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
REGRADING SIDEWALK (ITEM 608.46)	73.0 LF
TERMINAL CURB TYPE I (ITEM 609.221)	20.3 LF
TERMINAL CURB TYPE I - CIRCULAR (ITEM 609.222)	22.7 LF

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE TITCOMB ASSOCIATES - PIN 218095, BOOK #913, SHEETS 1 AND 2 OF 3 - NOVEMBER 28, 2018

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER		
DESIGN-DETAILED	MLG	JAR	07/20
CHECKED-REVIEWED	CMB	CMB	07/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SANFORD
ROUTE 109 (MAIN ST)
AND WASHINGTON ST

CURB RAMP LAYOUT AND DETAIL PLAN

SHEET NUMBER

66C

OF 358

PLAN LEGEND

Town, County, State		New R/W Along Existing R/W		Existing	Proposed	Existing	Proposed
Approx. Property Lines P.L.		Building	Clearing Limit Line	Sanitary Sewer		Traveled Way	
Existing Right of Way		Trees Conifer	Deciduous	Telephone Line		Ditch	
Limits of Wrought Portion L.O.W.P.		Tree Line	Bush Line	Electric Line	E	Catch Basin	
Control Of Access C.O.A.		Water Edge		Water Line	W	Manhole	
New Right of Way		Ledge	Rock/Boulder Flag Pole	Underdrain Line		Sewer Manhole	
New Easement		Fence CHAIN LINK	BARB WIRE STOCKADE	Gas Line		Utility Pole	
New Temporary Rights		Sign	Well WELL Mailbox	Guardrail		Fire Hydrant	
New R/W Within Existing R/W				Culvert		Curbing	

Cut Line C C C	Fill Line F F F	
Stonewall	Retaining Wall	
Baseline 10+00	11+00 12+00	
Monument	Traverse Point	
Iron Rod Found IRF	Pipe Found IPF	
Replacement Pin Set		

THIS PLAN WAS PREPARED IN CONNECTION WITH THE DEPARTMENT'S ACQUISITION OF REAL PROPERTY FOR TRANSPORTATION PURPOSES. IT CANNOT BE USED TO ESTABLISH LEGAL BOUNDARIES BETWEEN ABUTTING PROPERTY OWNERS.

25 0 25 50 75 100
Scale of Feet

STATE OF MAINE
REGISTRY OF DEEDS

COUNTY _____
RECEIVED _____, _____
at _____h _____m _____M and
recorded in Plan Bk _____, Pg. _____
Attest: _____
REGISTER

GRID NORTH

NOTE:
THE NORTH ARROW AND COORDINATES SHOWN ARE BASED ON GRID NORTH, MAINE 2000 WEST ZONE, U.S. SURVEY FEET. HOWEVER, THE BASELINE BEARING IS TAKEN FROM THE D.O.T. FILE NO. REFERENCED, AND MAY BE BASED ON MAGNETIC NORTH.

N:220995.999
E:878169.384

SCHOOL STREET

"SANFORD TRUST BUILDING"
(BUILT 1917)

L.O.W.P. ALONG BUILDING FACE

STATE AID HWY. NO. 24
WASHINGTON STREET

L.O.W.P.

N/F SANFORD URBAN RENEWAL AUTHORITY
OR CITY OF SANFORD

CONSTRUCTION & MAINTENANCE EASEMENT LIMITS
130± S.F.

TEMPORARY CONSTRUCTION LIMITS

197± S.F.

CITY OF SANFORD
ITEM NO. (25)
CONST. & MAINT. EASE. 130± S.F. (1)
TEMP. CONST. RIGHTS = 197± S.F. (1)
TOTAL AREA = 0.48± AC. (CITY)

area of basement under sidewalk

TO U.S. ROUTE 202

STATE HIGHWAY "7" / MAIN STREET / ROUTES 109 & 4A

END B.L.
N:220944.035
E:877998.190

N:220863.123
E:878065.535

N 07° 30' 00" W
300.00'

R/W LINES PER
D.O.T. FILE NO 16-309

BASE LINE IS AN EXTENSION OF
D.O.T. FILE NO 16-309

BEGIN B.L.
N:220673.684
E:878128.230

TO EMERSON STREET

N:221147.041
E:877774.484

KIMBALL STREET

L.O.W.P. ALONG BUILDING FACES

N:220833.764
E:878011.847

ROBERTS STREET

LONG-STANDING BUILDING ENCROACHMENT
PERMITTED IN ACCORDANCE WITH,
AND SUBJECT TO, MAINE LAW.

EXISTING R/W REFERENCES:

MAIN STREET:
SOUTH OF WASHINGTON STREET
YORK COUNTY COMMISSIONERS RECORDS
VOLUME 12, PAGE 153
1785, 4 RODS

WASHINGTON STREET:
NORTHWARD OF A LINE 200 FEET NORTH OF MAIN STREET
YORK COUNTY COMMISSIONERS RECORDS
VOLUME 14, PAGE 305
1808, 3 RODS

SCHOOL STREET
SANFORD STREET BOOK
PAGES 123-124
MAY 5, 1934
2 RODS & 18 LINKS, OR 27.88 FEET
(PER SANFORD G.I.S.: 45 FEET)

NOTE: PRESCRIPTIVE EASEMENT FOR HIGHWAY PURPOSES WITHIN LIMITS OF WROUGHT PORTION (L.O.W.P.)

INTERSECTION NO. 66 WIN 024301.11

PRELIMINARY PLAN

ITEM	TECH	CHECKED
EXISTING CONDITION PLAN	B.S.	
FINAL RIGHT OF WAY	B.S.	
AREAS	B.S.	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION - AUGUSTA, ME 04333-0016 - 207-624-3460

SANFORD
RIGHT OF WAY MAP

REVISIONS			
NO.	DATE	DESCRIPTION	BY

PLAN FILED IN PLAN BOOK PAGE COUNTY RECORD

NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE

BRUCE A. VAN NOTE
COMMISSIONER
JOYCE NOEL TAYLOR
CHIEF ENGINEER
DATE

STATE HWY. "7" & STATE AID HWY. NO. 24
MAIN STREET / WASHINGTON STREET
SANFORD YORK COUNTY
FEDERAL AID PROJECT NO. 2430100

OCTOBER 2020	RIGHT-OF-WAY MAP	D.O.T. FILE NO. 16-TBD
SCALE 1" = 25'	SHEET 3 OF 6	

SHEET NUMBER
66R
OF 358

Filename: ...\ROW\MSTA\066_RWPLAN3.dgn Division: ROW Username: Benjamin.Singer Date:11/24/2020

Usernome: jorobert
Division: HIGHWAY
Filename: 067_Signal_67.dgn
Date:11/24/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS 643.71*	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING CELL MODEM / FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED MONITORING SYSTEM	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	4
FURNISH AND INSTALL ONE-WAY 4-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	3
FURNISH AND INSTALL ONE-WAY 5-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARM UPRIGHTS WITH BRACKET	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON TOP OF POST	3
FURNISH AND INSTALL ONE-WAY, 16 X 18-INCH LED SIDE OF POLE MOUNTED COUNTDOWN PEDESTRIAN SIGNAL HEAD	6
FURNISH AND INSTALL ONE-WAY, 16 X 18-INCH LED TOP OF POST MOUNTED COUNTDOWN PEDESTRIAN SIGNAL HEAD	2
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3e INFORMATIONAL SIGN	8
FURNISH AND INSTALL 4-CHANNEL PREEMPTION PHASE SELECTOR	1
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	4
FURNISH AND INSTALL PREEMPTION CONFIRMATION RED STROBE WITH CABLE	1
FURNISH AND INSTALL ENVIRONMENTALLY HARDENED FIBER OPTIC ETHERNET SWITCH	1
FURNISH AND INSTALL MAST ARM MOUNTED SIGNS	12
FURNISH AND INSTALL NEW SIGNAL CABLE	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.21)	1 LS

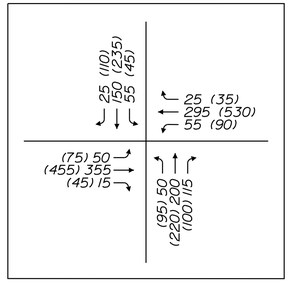
* TEMPORARY TRAFFIC SIGNAL SHALL BE SUBSIDIARY TO ITEM 643.71

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

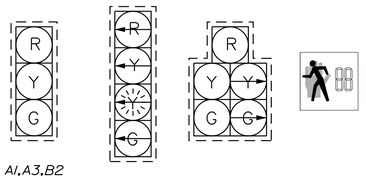
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"
A-P1	8' PEDESTAL POLE	24" DIAMETER
A-P2	10' PEDESTAL POLE	24" DIAMETER
B-MI	55' MAST ARM	60" DIA.x21'-0"
C-P1	10' PEDESTAL POLE	24" DIAMETER
D-MI	50' MAST ARM	60" DIA.x15'-6"

SYSTEM DESIGN VOLUMES AM (PM)

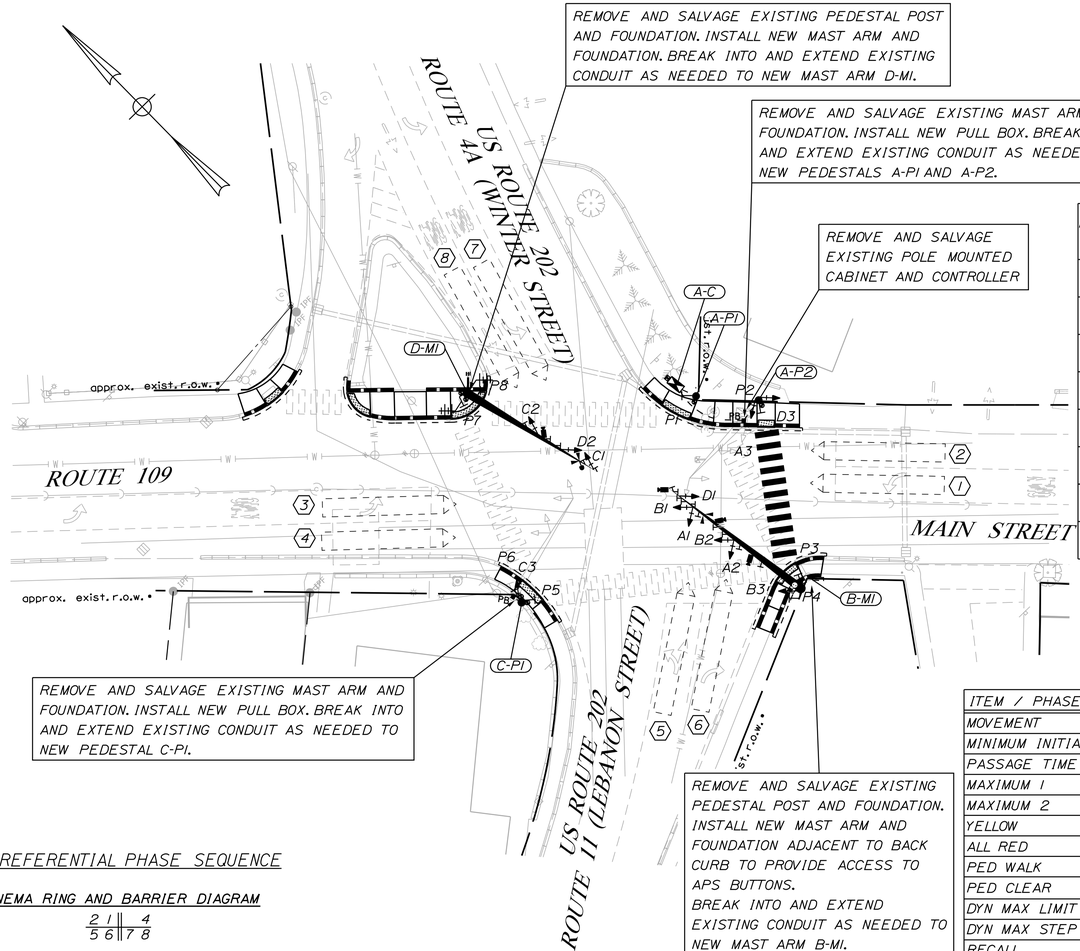


PROPOSED INDICATIONS



A1,A3,B2 B3,C2,C3 D2,D3 | B1,C1,D1 | A2 | P1-P8

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES



REMOVE AND SALVAGE EXISTING PEDESTAL POST AND FOUNDATION. INSTALL NEW MAST ARM AND FOUNDATION. BREAK INTO AND EXTEND EXISTING CONDUIT AS NEEDED TO NEW MAST ARM D-MI.

REMOVE AND SALVAGE EXISTING MAST ARM AND FOUNDATION. INSTALL NEW PULL BOX. BREAK INTO AND EXTEND EXISTING CONDUIT AS NEEDED TO NEW PEDESTALS A-P1 AND A-P2.

REMOVE AND SALVAGE EXISTING POLE MOUNTED CABINET AND CONTROLLER

REMOVE AND SALVAGE EXISTING MAST ARM AND FOUNDATION. INSTALL NEW PULL BOX. BREAK INTO AND EXTEND EXISTING CONDUIT AS NEEDED TO NEW PEDESTAL C-P1.

REMOVE AND SALVAGE EXISTING PEDESTAL POST AND FOUNDATION. INSTALL NEW MAST ARM AND FOUNDATION ADJACENT TO BACK CURB TO PROVIDE ACCESS TO APS BUTTONS. BREAK INTO AND EXTEND EXISTING CONDUIT AS NEEDED TO NEW MAST ARM B-MI.

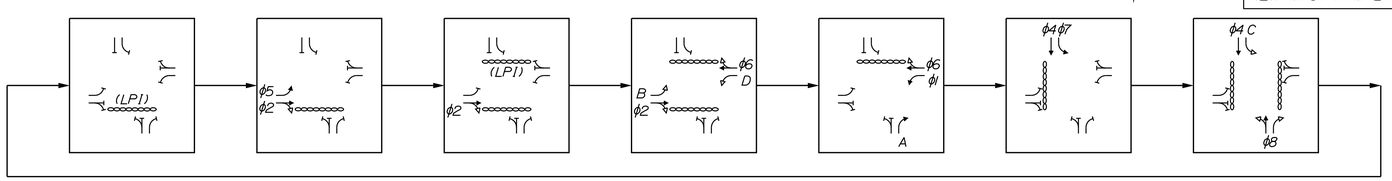
DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADVANCE B=STOPLINE	DELAY TIME	EXT. TIME
1	MAIN ST WB LEFT	1	1	B	-	-
2	MAIN ST WB THRU-RIGHT	6	6	B	-	-
3	MAIN ST EB LEFT	5	5	B	-	-
4	MAIN ST EB THRU-RIGHT	2	2	B	-	-
5	LEBANON ST NB LEFT-THRU	8	8	B	-	-
6	LEBANON ST NB RIGHT	8	8	B	5	-
7	WINTER ST SB LEFT	4	4	B	-	-
8	WINTER ST SB THROUGH	4	4	B	-	-

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

2 1 | 4
5 6 | 7 8



OVERLAP PHASING:
OVL A = 1
OVL B = 5 (PROT) + 6 (PERM)
OVL C = 7 (PROT) + 8 (PERM)
OVL D = 1 (PROT) + 2 (PERM)

PHASING NOTES:
1. EACH PEDESTRIAN PHASE SHALL HAVE A MINIMUM OF A 4 SECOND LEADING PEDESTRIAN INTERVAL (LPI).
2. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY.
3. GREEN ARROW INDICATION FOR OVERLAP A IS DISABLED WHEN PHASE 8 PEDESTRIAN PHASE OR PHASE 4 IS ACTIVE.
4. OVERLAP B,C, AND D SHALL BE PROGRAMMED FOR FLASHING YELLOW ARROWS.

SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ 1	φ 2	φ 3	φ 4	φ 5	φ 6	φ 7	φ 8
MOVEMENT	D (LT)	B	-	C	B (LT)	D	C (LT)	A
MINIMUM INITIAL	5	7	-	5	5	7	5	5
PASSAGE TIME	2.0	3.0	-	2.5	2.0	3.0	2	2.5
MAXIMUM 1	10	35	-	35	10	35	10	35
MAXIMUM 2	15	60	-	35	15	60	12	35
YELLOW	3.5	3.5	-	3.5	3.5	3.5	3.5	3.5
ALL RED	2.5	2.5	-	2.5	2.5	2.5	2.5	2.5
PED WALK	-	5	-	5	-	5	-	5
PED CLEAR	-	21	-	16	-	18	-	12
DYN MAX LIMIT	-	-	-	-	-	-	-	-
DYN MAX STEP	-	-	-	-	-	-	-	-
RECALL	OFF	SOFT	-	OFF	OFF	SOFT	OFF	OFF
DETECTOR	PR	PR	-	PR	PR	PR	PR	PR
PRE-EMPT PRIORITY	3	4	-	5	4	3	5	6
FLASH	R	Y	-	R	R	Y	R	R
DUAL ENTRY	OFF	ON	-	OFF	OFF	ON	OFF	OFF

NOTES: S = SOFT RECALL Y = YELLOW
O = RECALL OFF R = RED
PR = PRESENCE D = DARK
IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONTRACT AWARD.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE U-08-1(5), DOT FILE 16-215, SHEET 1, FEBRUARY 1975

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

		DATE
B. KEEZER		
PROJ. MANAGER	JAR	07/20
DESIGN-DETAILED	MLG	07/20
CHECKED-REVIEWED	CMB	
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SANFORD
ROUTE 109 (MAIN STREET)
AND ROUTE 11/ROUTE 4A

TRAFFIC SIGNAL PLAN

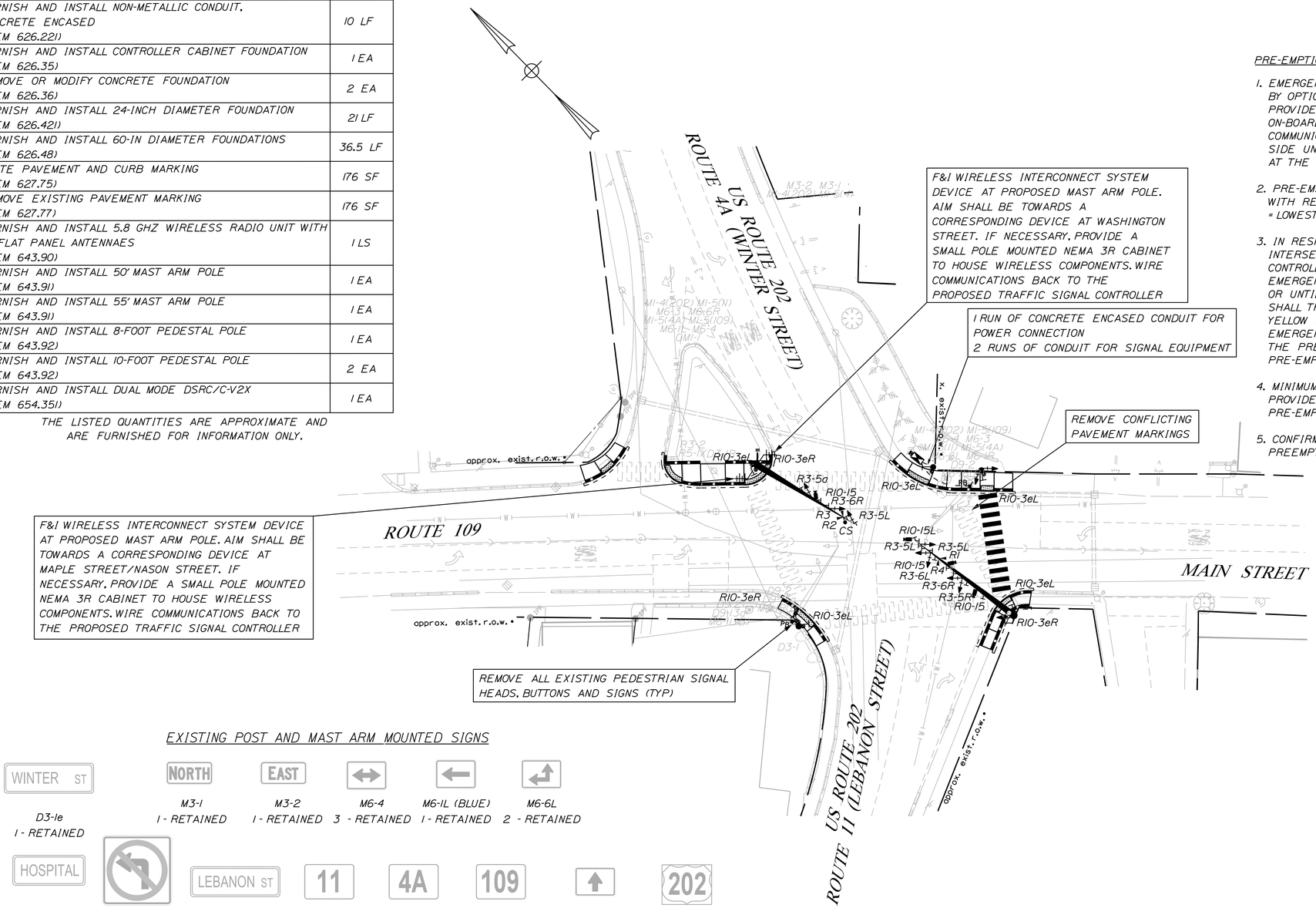
SHEET NUMBER
67
OF 358

Usermame: jorobert
Division: HIGHWAY
Filename: 067_Signal_67a.dgn
Date:11/24/2020

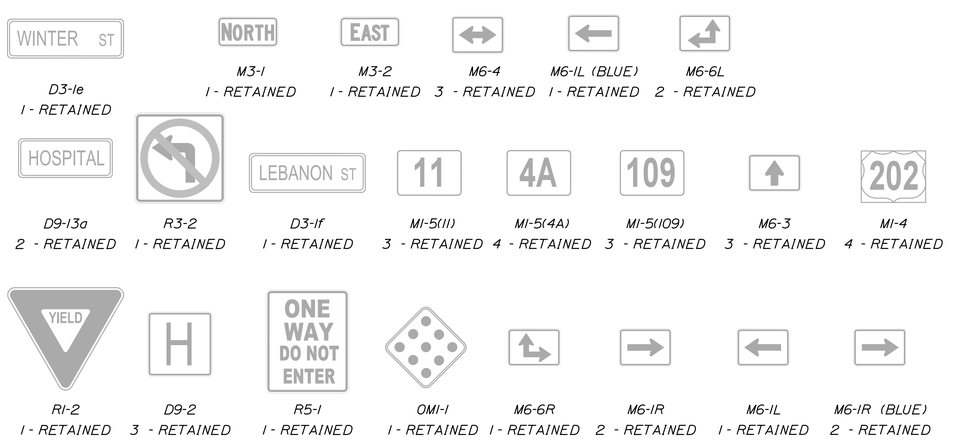
LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
FURNISH AND INSTALL PRECAST CONCRETE JUNCTION BOX (ITEM 626.11)	2 EA
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	60 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT. CONCRETE ENCASED (ITEM 626.221)	10 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
REMOVE OR MODIFY CONCRETE FOUNDATION (ITEM 626.36)	2 EA
FURNISH AND INSTALL 24-INCH DIAMETER FOUNDATION (ITEM 626.421)	21 LF
FURNISH AND INSTALL 60-IN DIAMETER FOUNDATIONS (ITEM 626.48)	36.5 LF
WHITE PAVEMENT AND CURB MARKING (ITEM 627.75)	176 SF
REMOVE EXISTING PAVEMENT MARKING (ITEM 627.77)	176 SF
FURNISH AND INSTALL 5.8 GHZ WIRELESS RADIO UNIT WITH (2) FLAT PANEL ANTENNAES (ITEM 643.90)	1 LS
FURNISH AND INSTALL 50' MAST ARM POLE (ITEM 643.91)	1 EA
FURNISH AND INSTALL 55' MAST ARM POLE (ITEM 643.91)	1 EA
FURNISH AND INSTALL 8-FOOT PEDESTAL POLE (ITEM 643.92)	1 EA
FURNISH AND INSTALL 10-FOOT PEDESTAL POLE (ITEM 643.92)	2 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



EXISTING POST AND MAST ARM MOUNTED SIGNS



D3-1e	M3-1	M3-2	M6-4	M6-1L (BLUE)	M6-6L
1 - RETAINED	1 - RETAINED	1 - RETAINED	3 - RETAINED	1 - RETAINED	2 - RETAINED

D9-13a	R3-2	D3-1f	MI-5(11)	MI-5(4A)	MI-5(109)	M6-3	MI-4
2 - RETAINED	1 - RETAINED	1 - RETAINED	3 - RETAINED	4 - RETAINED	3 - RETAINED	3 - RETAINED	4 - RETAINED

R1-2	D9-2	R5-1	OMI-1	M6-6R	M6-1R	M6-1L	M6-1R (BLUE)
1 - RETAINED	3 - RETAINED	1 - RETAINED	1 - RETAINED	1 - RETAINED	2 - RETAINED	1 - RETAINED	2 - RETAINED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
	1	NOT USE/RESERVED	
	2	NOT USE/RESERVED	
R1	3	1	ϕ1&ϕ6
R2	4	2	ϕ2&ϕ5
R3	5	3	ϕ4&ϕ7
R4	6	4	ϕ8

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 4 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR AND/OR RSU , THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

PROPOSED SIGNS

R3-5L 30"x36" 3-PROPOSED	R3-5a 30"x36" 1-PROPOSED	R3-5R 30"x36" 1-PROPOSED
R3-6L 30"x36" 1-PROPOSED	R10-3eL 9"x15" 5-PROPOSED	R10-3eR 9"x15" 3-PROPOSED
R10-15L 30"x30" 1-PROPOSED	R3-6R 30"x36" 2-PROPOSED	R10-15 30"x30" 3-PROPOSED

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE U-08-1(5), DOT FILE 16-215, SHEET 1, FEBRUARY 1975

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100
WIN 024301.00

TRAFFIC PLANS

vhb

		DATE
PROJ. MANAGER	B. KEEZER	BY
DESIGN-DETAILED	MLG	07/20
CHECKED-REVIEWED	CMB	JAR 07/20
DESIGN2-DETAILED2		CMB
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

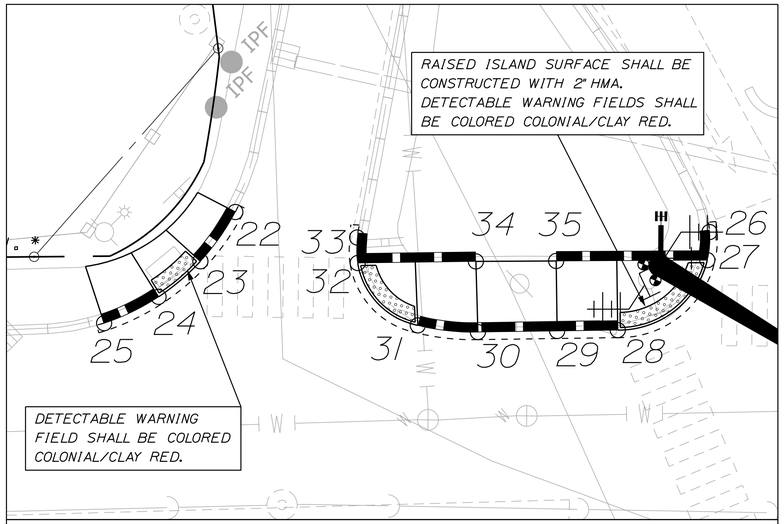
SANFORD
ROUTE 109 (MAIN STREET)
AND ROUTE 11/ROUTE 4A

TRAFFIC SIGNAL PLAN

SHEET NUMBER
67A
OF 358

Filename: 067_Signal_67c.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

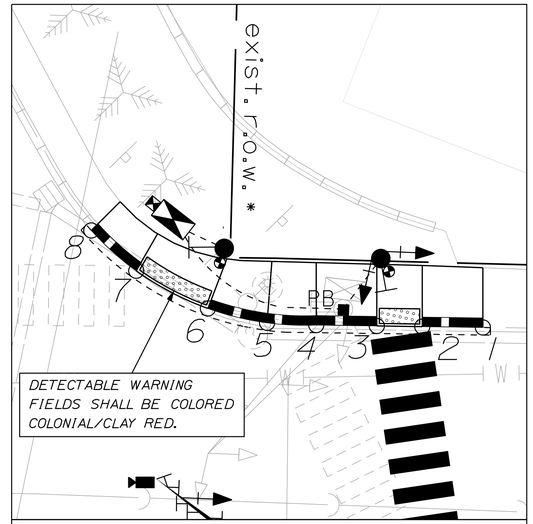
D CORNER - NW DETAIL



RECONSTRUCT CURB RAMP AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 80I(20).
RECONSTRUCT ISLAND CURB RAMPS AND LANDINGS IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 80I(22).
MAINTAIN 4' MINIMUM CLEAR WIDTH AT FRONT OF EXISTING UTILITY POLE.

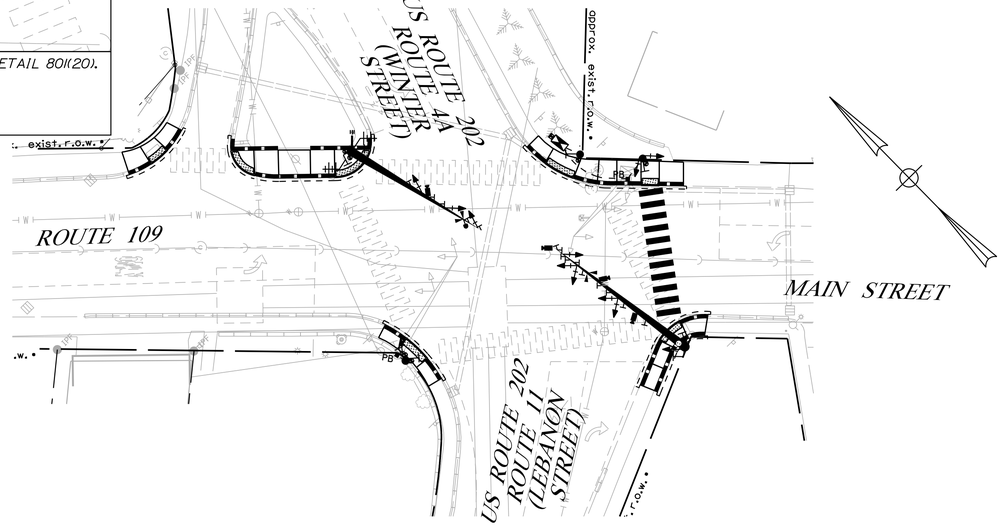
10 0 10 20
Scale of Feet

A CORNER - NE DETAIL



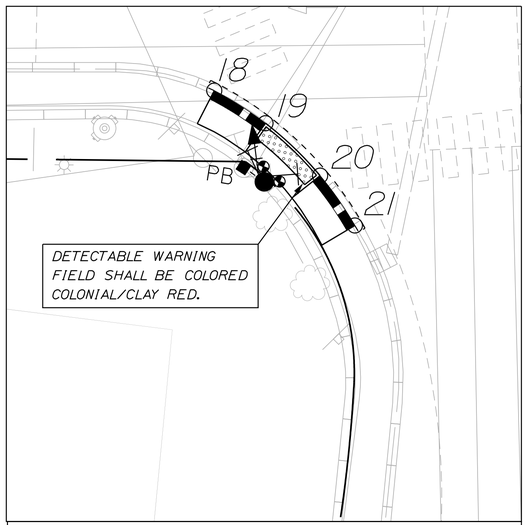
RECONSTRUCT CURB RAMPS AND LANDINGS IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 80I(14).

10 0 10 20
Scale of Feet



ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 80I(11) to 80I(26) AS NOTED. AS WELL AS DETAILS PROVIDED ON SHEET H.

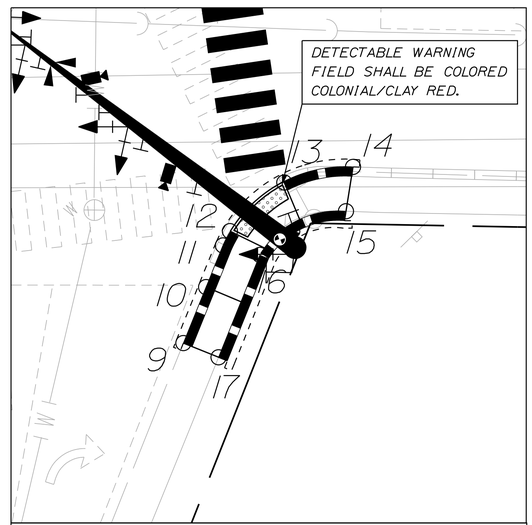
C CORNER - SW DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 80I(20).
DO NOT IMPACT EXISTING BACK CURB.

10 0 10 20
Scale of Feet

B CORNER - SE DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 80I(20).
INSTALL BACK CURB ALONG CURB RAMPS, LANDING AND SIDEWALK.

10 0 10 20
Scale of Feet

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE U-08-1(5), DOT FILE 16-215, SHEET 1, FEBRUARY 1975

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER	
DESIGN-DETAILED	MLG	
CHECKED-REVIEWED	CMB	
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1	BY	DATE
REVISIONS 2	JAR	07/20
REVISIONS 3	CMB	07/20
REVISIONS 4		
FIELD CHANGES		

SANFORD
ROUTE 109 (MAIN STREET)
AND ROUTE 11/ROUTE 4A

CURB RAMP LAYOUT AND DETAIL PLAN

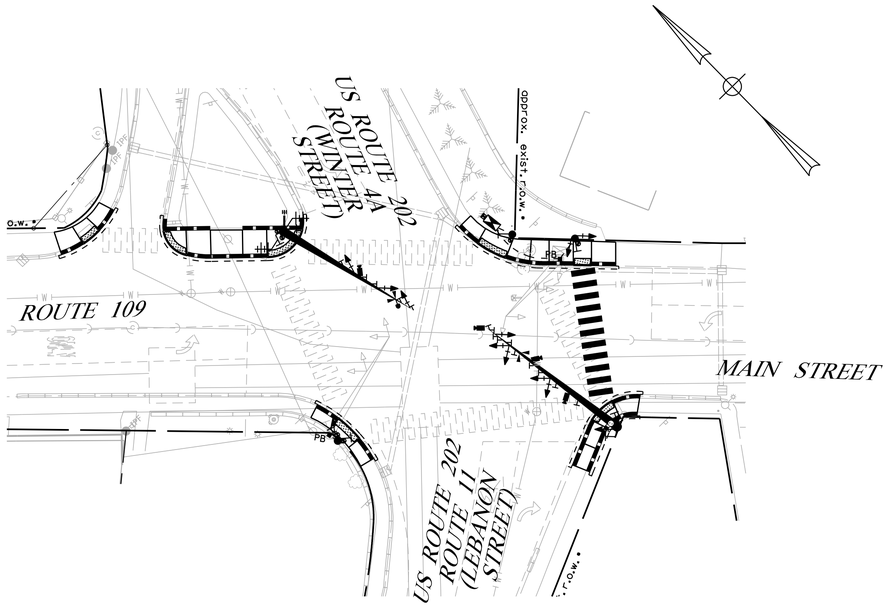
SHEET NUMBER

67C

OF 358

PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD		ITEM 609.11 - VERTICAL CURB TYPE I (LF)	ITEM 609.12 - VERTICAL CURB TYPE I - CIRCULAR (LF)	ITEM 609.221 - TERMINAL CURB TYPE I (LF)	ITEM 609.222 - TERMINAL CURB TYPE I - CIRCULAR (LF)	ITEM 609.34 - CURB TYPE 5 (LF)	COMMENT
		LENGTH (FT)	QTY (SF)						
1 TO 2	-					8.0			
2 TO 3	-	6.0	10.7						
3 TO 4	-					8.0			
4 TO 5	38.0				6.5				
5 TO 6	38.0						8.0		
6 TO 7	38.0	10.7	19.7						
7 TO 8	38.0						8.0		
9 TO 10	-			8.0					
10 TO 11	-					5.9			
11 TO 12	17.7						2.1		
12 TO 13	17.7	9.8	16.3						
13 TO 14	17.7						9.4		
15 TO 16	10.8				11.8				
16 TO 17	-			14.6					
18 TO 19	45.7						8.0		
* 19 TO 20	45.7	10.0	17.9						3.1% CROSS SLOPE
20 TO 21	45.7						8.0		
22 TO 23	30.3						8.0		
23 TO 24	30.3	7.3	12.5						
24 TO 25	30.3						8.0		
26 TO 27	12.0						4.0		
27 TO 28	12.0	16.2	26.9						
28 TO 29	-							8.0	
29 TO 30	-							10.5	
30 TO 31	29.6							8.0	
31 TO 32	10.0	12.2	18.7						
32 TO 33	16.0						4.0		
32 TO 34	-			15.6					
35 TO 27	-			20.0					

* NON-COMPLIANT CURB RAMP ELEMENT - THE EXISTING GUTTER LINE PROFILE IS GREATER THAN 2%. THEREFORE THE LEVEL LANDING CROSS SLOPE AND/OR RUNNING SLOPE WILL BE GREATER THAN THE 2% AND 8.33% MAXIMUM ALLOWABLE, RESPECTIVELY. THE COMMENT IS THE MAXIMUM VALUE FOR PROPOSED LEVEL OF COMPLIANCE.



ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED. AS WELL AS DETAILS PROVIDED ON SHEET H.

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	13.4 TONS
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	93.0 SY
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	122.7 SF
REGRADING SIDEWALK (ITEM 608.46)	134.2 SY

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
VERTICAL CURB TYPE I (ITEM 609.11)	58.2 LF
VERTICAL CURB TYPE I - CIRCULAR (ITEM 609.12)	18.3 LF
TERMINAL CURB TYPE I (ITEM 609.221)	21.9 LF
TERMINAL CURB TYPE I - CIRCULAR (ITEM 609.222)	67.5 LF
CURB TYPE 5 (ITEM 609.34)	26.5 LF

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE U-08-1(5), DOT FILE 16-215, SHEET 1, FEBRUARY 1975

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

	BY	DATE
B. KEEZER		
PROJ. MANAGER		
DESIGN-DETAILED	MLG	07/20
CHECKED-REVIEWED	CMB	07/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SANFORD
ROUTE 109 (MAIN STREET)
AND ROUTE 11/ROUTE 4A

CURB RAMP LAYOUT
AND DETAIL PLAN

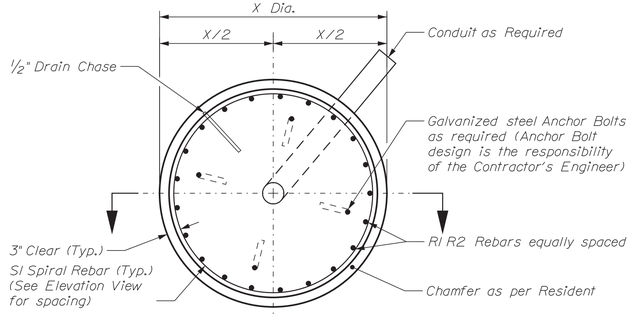
SHEET NUMBER

67D

OF 358

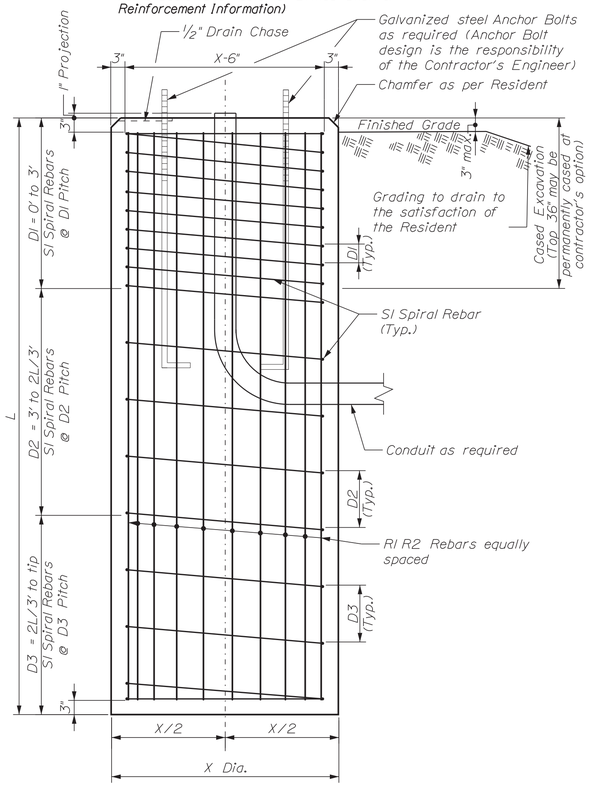
Filename: 067_Signal_67d.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

Filename: ...\67F_MAF&BLP3_SA PHASE1.dgn Division: GEOTECH Username: Kate.Maguire Date:11/23/2020



Drilled Shaft Plan View

Not to Scale (See Table for Drilled Shaft & Reinforcement Information)

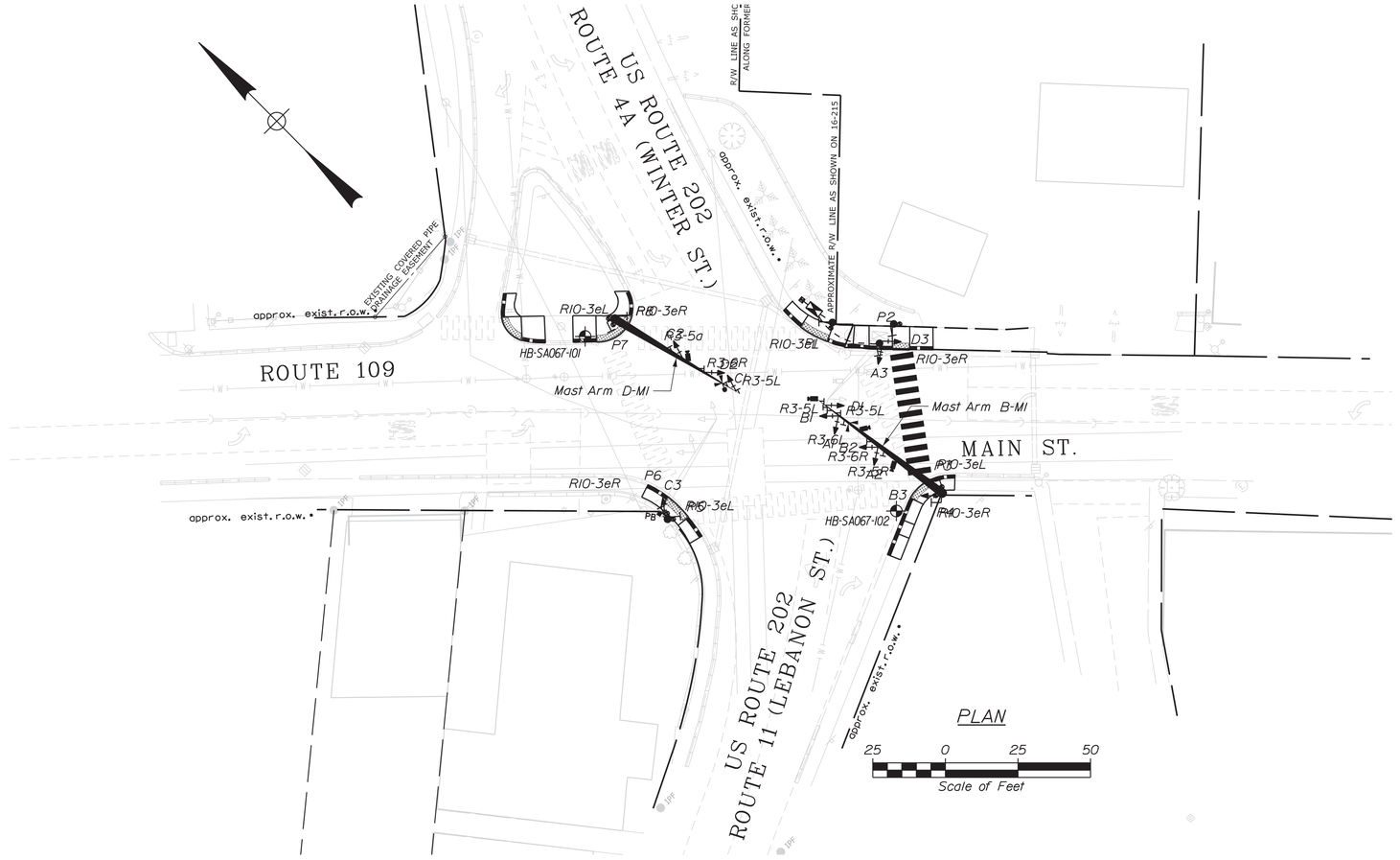


Drilled Shaft Elevation View

Not to Scale (See Table for Drilled Shaft & Reinforcement Information)

MAST ARMS B-MI & D-MI

(B-MI) Route 202 and Route 109/Main Street
(D-MI) Route 4A/Winter Street and Route 109/Main Street



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.*
6. *For Boring Logs see Sheet 68B of 358.*

Mast Arm	Location	Drilled Shaft Dimensions		Reinforcing Steel			Spiral Bar Spacing		
		X	L	R1	R2	S1	D1 (in)	D2 (in)	D3 (in)
		Diameter (feet)	Length (feet)	Longitudinal Rebars Quantity	Longitudinal Rebars Size	Spiral Rebars Size	0 to 3 ft	3 ft to 2L/3 ft	2L/3 ft to tip
B-M1	Route 202 and Route 109/Main Street	5.0	20.0	27	#10	#5	4	12	12
D-M1	Route 4A/Winter Street and Route 109/Main Street	5.0	15.5	27	#10	#5	4	12	12

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. 2430100

WIN 24301.00

HIGHWAY PLANS

STATE OF MAINE ★ Kathleen Maguire 7120 ★ REGISTERED PROFESSIONAL ENGINEER

	BY	DATE
PROJ. MANAGER	---	---
DESIGN-DETAILED	---	---
CHECKED-REVIEWED	T. WHITE	MAR 2020
DESIGN2-DETAILED2	K.MAGUIRE	---
DESIGN3-DETAILED3	---	---
REVISIONS 1	---	---
REVISIONS 2	---	---
REVISIONS 3	---	---
REVISIONS 4	---	---
FIELD CHANGES	---	---

SIGNATURE 7120
P.E. NUMBER
11/23/2020
DATE

SANFORD
ROUTES 202/109/MAIN ST. &
ROUTE 4A/WINTER ST. & ROUTE 109/MAIN ST.

MAST ARM FOUNDATION & BORING LOCATION PLAN

SHEET NUMBER

67F

OF 358

Filename: ...\ROW\MSTA\067_RWPLAN4.dgn Usernname: Benjamin.Singer Date:11/24/2020 Division: ROW

PLAN LEGEND

Town, County, State
Approx. Property Lines — P.L.
Existing Right of Way
Limits of Wrought Portion — L.O.W.P.
Control Of Access — C.O.A.
New Right of Way
New Easement
New Temporary Rights
New R/W Within Existing R/W

New R/W Along Existing R/W
Building — Clearing Limit Line
Trees — Conifer — Deciduous
Tree Line — Bush Line
Water Edge
Ledge — Rock/Boulder — Flag Pole
Fence — CHAIN LINK — BARB WIRE — STOCKADE
Sign — Well — Mailbox

	Existing	Proposed
Sanitary Sewer		
Telephone Line	T	T
Electric Line	E	E
Water Line	W	W
Underdrain Line		
Gas Line		
Guardrail		
Culvert		

	Existing	Proposed
Traveled Way		
Ditch		
Catch Basin		
Manhole		
Sewer Manhole		
Utility Pole		
Fire Hydrant		
Curbing		

Cut Line — Fill Line
Stonewall — Retaining Wall
Baseline 10+00 11+00 12+00
Monument — Traverse Point
Iron Rod Found ● IRF — Pipe Found ● IPF
Replacement Pin Set

THIS PLAN WAS PREPARED IN CONNECTION WITH THE DEPARTMENT'S ACQUISITION OF REAL PROPERTY FOR TRANSPORTATION PURPOSES. IT CANNOT BE USED TO ESTABLISH LEGAL BOUNDARIES BETWEEN ABUTTING PROPERTY OWNERS.

25 0 25 50 75 100
Scale of Feet

STATE OF MAINE
REGISTRY OF DEEDS

COUNTY _____
RECEIVED _____, _____
at _____h_____m_____M and
recorded in Plan Bk _____, Pg._____
Attest: _____
REGISTER

CONTROL INFORMATION
HORIZONTAL DATUM - US STATE PLANE NAD83(2011)
ZONE - MAINE 2000 WEST ZONE
VERTICAL DATUM - NAVD 88
COMBINED SCALE FACTOR - 0.9999787

GRID NORTH

THE SALVATION ARMY

THE UNITARIAN CHURCH
ITEM NO. (28)
SIGNAL SYSTEM EASE. = 76± S.F. (1)
TOTAL AREA = 0.29 AC. (TOWN)

YORK COUNTY FEDERAL CREDIT UNION

STATE HIGHWAY "7" / ROUTES 109 & 11 / MAIN STREET

STATE HIGHWAY "8" / ROUTES 202 & 11 / LEBANON STREET

"JEWELERS' OUTLET"

CX4 MANAGEMENT, LLC
ITEM NO. (27)
SIGNAL SYSTEM EASE.
= 44± S.F. (1)
TOTAL AREA
= 0.12 AC. (CITY)

RIGZ ENTERPRISES
ITEM NO. (26)
CONST. & MAINT. EASE.
= 174± S.F. (1)
TOTAL AREA
= 0.31± AC. (CITY)

TWOMBLEY ROAD
(FORMERLY BERWICK ROAD OR LOWER BERWICK ROAD)

STATE HIGHWAY "7" / MAIN STREET
ROUTES 109 & 4A

SIGNAL SYSTEM EASE. LIMIT 76± S.F.
SIGNAL SYSTEM EASE. LIMIT 44± S.F.
CONSTRUCTION & MAINTENANCE LIMITS 174± S.F.
EXISTING COVERED PIPE DRAINAGE EASEMENT

N:221728.208 E:877217.517 IPF
N:221696.331 E:877249.344 IPF
N:221882.694 E:877398.350 IPF
N:221984.826 E:877480.039 IPF
N:221961.931 E:877510.288 IPF
N:221502.520 E:877169.639 IPF
N:221576.234 E:877225.322 IPF
N:221536.326 E:877244.002 IPF
N:221445.258 E:877352.473
N:221561.260 E:877475.691 IPF

302+00 END B.L. N:221686.198 E:877307.726
301+00 BEGIN B.L. N:221544.273 E:877448.641
300+00
N44°47'43.5"W 200.00'

R/W LINE AS SHOWN ON D.O.T. FILE 16-215
R/W LINE PER 16-215
R/W LINE AS SHOWN ON D.O.T. FILE 16-215
R/W LINE AS SHOWN ON D.O.T. FILE 16-215
R/W LINE AS SHOWN ON D.O.T. FILE

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS 643.71*	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING CELL MODEM / FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED MONITORING SYSTEM	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	6
FURNISH AND INSTALL ONE-WAY 4-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	3
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARM UPRIGHTS WITH BRACKET	1
FURNISH AND INSTALL ONE-WAY, 16 X 18-INCH LED SIDE OF POLE MOUNTED COUNTDOWN PEDESTRIAN SIGNAL HEAD	6
FURNISH AND INSTALL ONE-WAY, 16 X 18-INCH LED TOP OF POST MOUNTED COUNTDOWN PEDESTRIAN SIGNAL HEAD	2
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3e INFORMATIONAL SIGN	4
FURNISH AND INSTALL 4-CHANNEL PREEMPTION PHASE SELECTOR	1
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	4
FURNISH AND INSTALL PREEMPTION CONFIRMATION RED STROBE WITH CABLE	1
FURNISH AND INSTALL ENVIRONMENTALLY HARDENED FIBER OPTIC ETHERNET SWITCH	1
FURNISH AND INSTALL MAST ARM MOUNTED SIGNS	8
REMOVE EXISTING POST MOUNTED SIGNS	1
FURNISH AND INSTALL NEW SIGNAL CABLE	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.21)	1

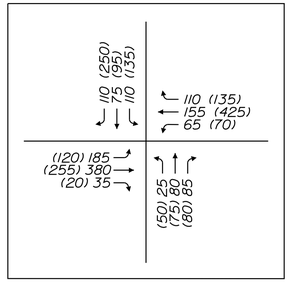
* TEMPORARY TRAFFIC SIGNAL SHALL BE SUBSIDIARY TO ITEM 643.71

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

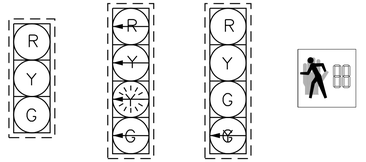
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"
A-MI	25' MAST ARM	42" DIA.x12'-0"
A-PI	8' PEDESTAL POLE	24" DIAMETER
B-MI	30' MAST ARM	42" DIA.x12'-0"
B-PI	8' PEDESTAL POLE	24" DIAMETER
C-MI	35' MAST ARM/30' MAST ARM	48" DIA.x14'-0"

SYSTEM DESIGN VOLUMES AM (PM)

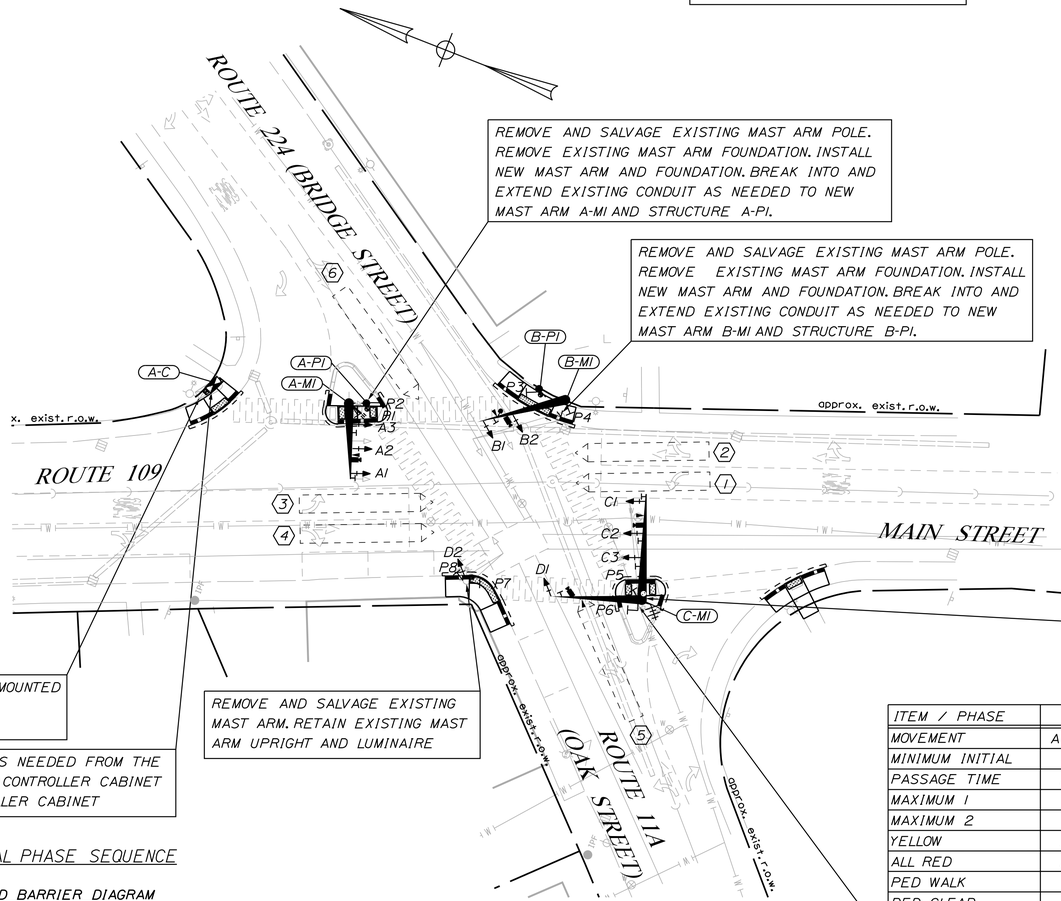


PROPOSED INDICATIONS



A2,A3,B1 B2,C2,C3,D2 — A1,C1 — D1 — P1-P8

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES



REMOVE AND SALVAGE EXISTING MAST ARM POLE. REMOVE EXISTING MAST ARM FOUNDATION. INSTALL NEW MAST ARM AND FOUNDATION. BREAK INTO AND EXTEND EXISTING CONDUIT AS NEEDED TO NEW MAST ARM A-MI AND STRUCTURE A-PI.

REMOVE AND SALVAGE EXISTING MAST ARM POLE. REMOVE EXISTING MAST ARM FOUNDATION. INSTALL NEW MAST ARM AND FOUNDATION. BREAK INTO AND EXTEND EXISTING CONDUIT AS NEEDED TO NEW MAST ARM B-MI AND STRUCTURE B-PI.

REMOVE AND SALVAGE EXISTING MAST ARM POLE. REMOVE EXISTING MAST ARM FOUNDATION. INSTALL NEW MAST ARM AND FOUNDATION.

REMOVE AND SALVAGE EXISTING GROUND MOUNTED CONTROLLER CABINET. REMOVE EXISTING FOUNDATION TO 12-INCHES BELOW GRADE

EXTEND CONDUIT SYSTEM AS NEEDED FROM THE EXISTING (TO BE REMOVED) CONTROLLER CABINET TO THE PROPOSED CONTROLLER CABINET

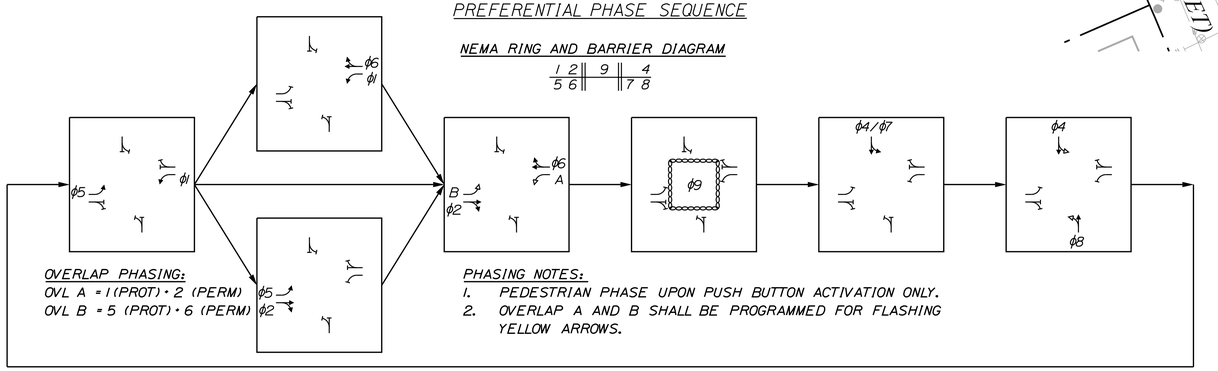
REMOVE AND SALVAGE EXISTING MAST ARM. RETAIN EXISTING MAST ARM UPRIGHT AND LUMINAIRE

NOTE THAT IN VICINITY OF PROPOSED AND EXISTING FOUNDATION TO BE REMOVED THERE IS AN EXISTING 12-INCH WATER LINE. CONTRACTOR SHALL INSTALL THE NEW FOUNDATION SO THERE IS A 15-INCH SEPARATION BETWEEN THE OUTER-EDGE OF THE EXISTING WATER LINE TO THE OUTER-EDGE OF THE NEW FOUNDATION.

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

1 2 | 9 | 4
5 6 | | 7 8



OVERLAP PHASING:
OVL A = 1 (PROT) + 2 (PERM)
OVL B = 5 (PROT) + 6 (PERM)

PHASING NOTES:
1. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY.
2. OVERLAP A AND B SHALL BE PROGRAMMED FOR FLASHING YELLOW ARROWS.

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	ϕ CALLED	ϕ EXT.	MODE A=ADVANCE B=STOPLINE	DELAY TIME	EXT. TIME
1	MAIN ST WB LEFT	1	1	B	-	-
2	MAIN ST WB THRU-RIGHT	6	6	B	-	-
3	MAIN ST EB LEFT	5	5	B	-	-
4	MAIN ST EB THRU-RIGHT	2	2	B	-	-
5	OAK ST NB LEFT-THRU	8	8	B	-	-
6	BRIDGE ST SB LEFT-THRU	4	4	B	-	-

SIGNAL TIMING SCHEDULE

ITEM / PHASE	ϕ 1	ϕ 2	ϕ 3	ϕ 4	ϕ 5	ϕ 6	ϕ 7	ϕ 8	ϕ 9
MOVEMENT	A (LT)	C	-	D	C (LT)	A	D (LT)	B	EX. PED
MINIMUM INITIAL	5	7	-	5	5	7	5	5	-
PASSAGE TIME	2.0	3.0	-	2.5	2.0	3.0	2	2.5	-
MAXIMUM 1	10	35	-	25	10	35	10	25	-
MAXIMUM 2	15	60	-	30	15	60	15	30	-
YELLOW	3.5	3.5	-	3.5	3.5	3.5	3.5	3.5	3.0
ALL RED	2.5	2.5	-	2.5	2.5	2.5	2.5	2.5	0.0
PED WALK	-	-	-	-	-	-	-	-	5
PED CLEAR	-	-	-	-	-	-	-	-	17
DYN MAX LIMIT	-	-	-	-	-	-	-	-	-
DYN MAX STEP	-	-	-	-	-	-	-	-	-
RECALL	OFF	SOFT	-	OFF	OFF	SOFT	OFF	OFF	-
DETECTOR	PR	PR	-	PR	PR	PR	PR	PR	-
PRE-EMPT PRIORITY	3	4	-	5	4	3	5	6	-
FLASH	R	Y	-	R	R	Y	R	R	DARK
DUAL ENTRY	OFF	ON	-	OFF	OFF	ON	OFF	OFF	-

NOTES: S = SOFT RECALL Y = YELLOW
O = RECALL OFF R = RED
PR = PRESENCE D = DARK
IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONTRACT AWARD.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY INFORMATION FROM MAINE OFFICE OF GEOGRAPHIC INFORMATION SYSTEMS - JANUARY 7, 2015

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

	B. KEEZER	DATE
PROJ. MANAGER		
DESIGN-DETAILED	MLG	07/20
CHECKED-REVIEWED	JAR	07/20
DESIGN2-DETAILED2	CMB	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SANFORD
ROUTE 109 (MAIN ST) AND
ROUTE 11A/ROUTE 224

TRAFFIC SIGNAL PLAN

SHEET NUMBER
68
OF 358

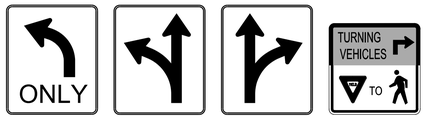
Division: HIGHWAY
Username: jorobert
Date:11/24/2020
Filename: 068_Signal_68.dgn

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	45 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
REMOVE OR MODIFY CONCRETE FOUNDATION (ITEM 626.36)	3 EA
FURNISH AND INSTALL 24-INCH DIAMETER FOUNDATION (ITEM 626.421)	14 LF
FURNISH AND INSTALL 42-IN DIAMETER FOUNDATIONS (ITEM 626.451)	24 LF
FURNISH AND INSTALL 48-IN DIAMETER FOUNDATIONS (ITEM 626.46)	14 LF
FURNISH AND INSTALL TEMPORARY TRAFFIC SIGNAL (ITEM 643.72)	1 LS
FURNISH AND INSTALL 5.8 GHZ WIRELESS RADIO UNIT WITH FLAT PANEL ANTENNAE (ITEM 643.90)	1 LS
FURNISH AND INSTALL 25' MAST ARM POLE (ITEM 643.91)	1 EA
FURNISH AND INSTALL 30' MAST ARM POLE (ITEM 643.91)	1 EA
FURNISH AND INSTALL 35' MAST ARM/30' MAST ARM POLE (ITEM 643.91)	1 EA
FURNISH AND INSTALL 8-FOOT PEDESTAL POLE (ITEM 643.92)	2 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

PROPOSED SIGNS



R3-5L 30"x36" 2-PROPOSED | R3-6L 30"x36" 2-PROPOSED | R3-6R 30"x36" 2-PROPOSED | R10-15R 30"x30" 2-PROPOSED



R10-3e 9"x15" 4-PROPOSED

EXISTING POST AND MAST ARM MOUNTED SIGNS



SP-01 1 - RETAINED



M3-3 1 - RETAINED | M3-2 1 - RETAINED | D3-1k 1 - RETAINED



MI-5(11) 4 - RETAINED | MI-5(224) 4 - RETAINED | MI-5(109) 4 - RETAINED | MI-5(11A) 3 - RETAINED

R4-7 1 - RETAINED



R1-2 1 - RETAINED 1 - REMOVED



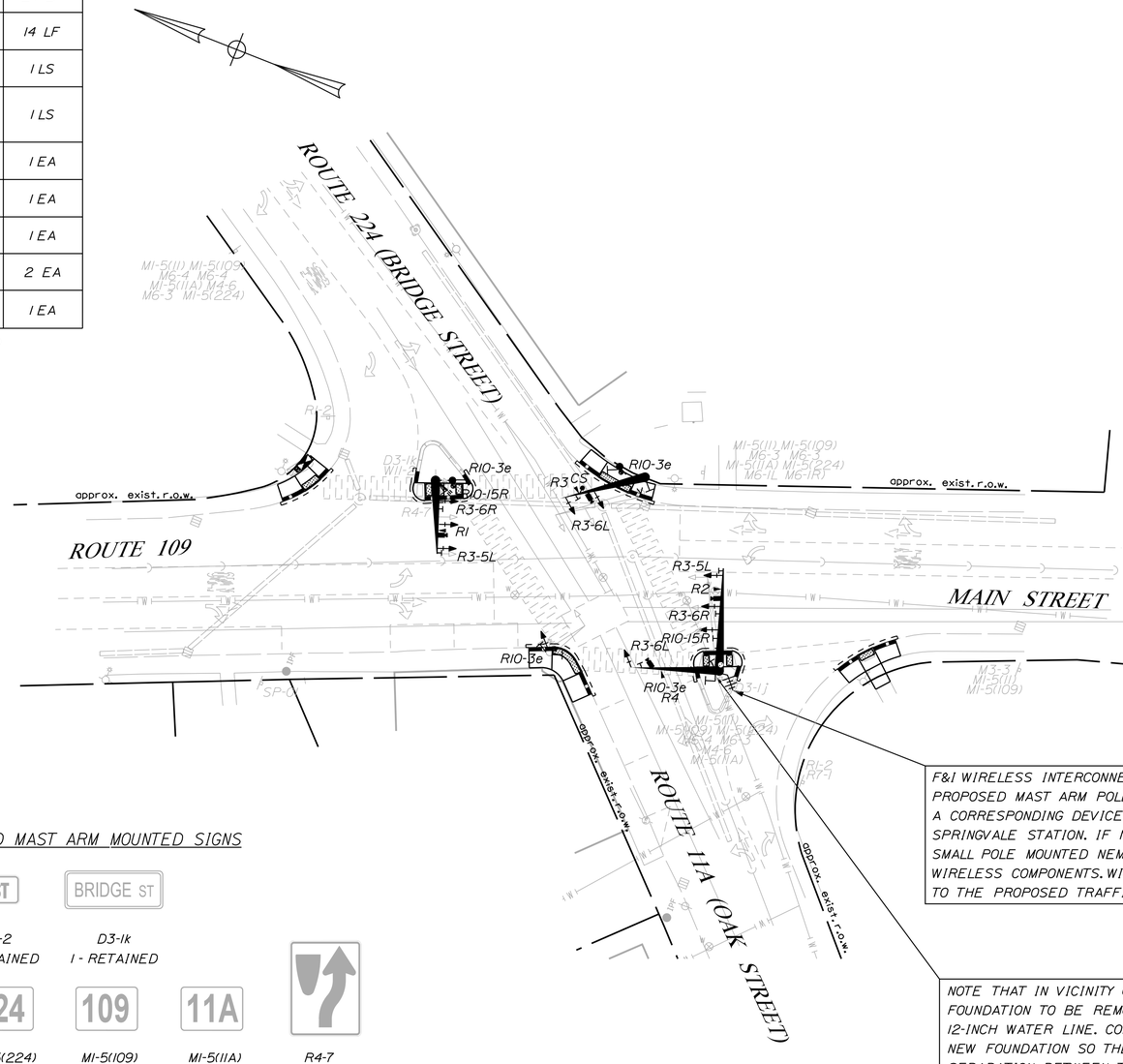
D3-1j 1 - RETAINED



M6-3 4 - RETAINED | M6-4 3 - RETAINED | M6-1R 1 - RETAINED | M6-1L 1 - RETAINED | M4-6 2 - RETAINED | W11-2 1 - RETAINED



R7-1 1 - RETAINED



F&I WIRELESS INTERCONNECT SYSTEM DEVICE AT PROPOSED MAST ARM POLE. AIM SHALL BE TOWARDS A CORRESPONDING DEVICE AT SANFORD FIRE DEPT SPRINGVALE STATION. IF NECESSARY, PROVIDE A SMALL POLE MOUNTED NEMA 3R CABINET TO HOUSE WIRELESS COMPONENTS. WIRE COMMUNICATIONS BACK TO THE PROPOSED TRAFFIC SIGNAL CONTROLLER

NOTE THAT IN VICINITY OF PROPOSED AND EXISTING FOUNDATION TO BE REMOVED THERE IS AN EXISTING 12-INCH WATER LINE. CONTRACTOR SHALL INSTALL THE NEW FOUNDATION SO THERE IS A 15-INCH SEPARATION BETWEEN THE OUTER-EDGE OF THE EXISTING WATER LINE TO THE OUTER-EDGE OF THE NEW FOUNDATION.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY INFORMATION FROM MAINE OFFICE OF GEOGRAPHIC INFORMATION SYSTEMS - JANUARY 7, 2015

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
	1	NOT USE/RESERVED	
	2	NOT USE/RESERVED	
R1	3	1	ϕ 1&ϕ 6
R2	4	2	ϕ 2&ϕ 5
R3	5	3	ϕ 4&ϕ 7
R4	6	4	ϕ 8

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 4 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR AND/OR RSU , THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

	B. KEEZER	DATE
PROJ. MANAGER	M.G	07/20
DESIGN-DETAILED	JAR	07/20
CHECKED-REVIEWED	CMB	
DESIGN2-DETAILED2	CMB	
DESIGN3-DETAILED3	ED2	
REVISIONS 1	ED3	
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SANFORD
ROUTE 109 (MAIN ST) AND
ROUTE 11A/ROUTE 224

TRAFFIC SIGNAL PLAN

SHEET NUMBER
68A
OF 358

Date:11/24/2020
Username: jorobert
Division: HIGHWAY
Filename: 068_Signal_68a.dgn

Filename: ...\68B_BORING LOGS1_SA PHASE1.dgn Division: GEOTECH Username: Kate.Maguire Date:11/23/2020

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Sanford Intersection Signals
Location: Sanford, Maine

Boring No.: HB-SA067-101
WIN: 24301.00

Driller:	MaineDOT	Elevation (ft.):		Auger ID/OD:	5" Dia.
Operator:	Daggett/AGaron/Niles	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	B. Wilder	Rig Type:	CME 45C	Hammer Wt./Fall:	140#/30"
Date Start/Finish:	10/8/2019; 11:00-11:30	Drilling Method:	Solid Stem Auger	Core Barrel:	N/A
Boring Location:	TBD	Casing ID/OD:	N/A	Water Level(ft):	None Observed
Hammer Efficiency Factor:	0.886	Hammer Type:	Automatic ☒ Hydraulic ☐	Rope & Cathead ☐	

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample Attempt
U = Thin Wall Tube Sample
WU = Unsuccessful Thin Wall Tube Sample Attempt
V = Field Vane Shear Test. PP = Pocket Penetrometer WOR/C = Weight of Rods or Casing
WH = Unsuccessful Field Vane Shear Test Attempt WOH = Weight of One Person
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
MDH = Weight of 140lb. Hammer
Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N_{60} = SPT N-value Uncorrected Corrected for Hammer Efficiency
N_{60} = Hammer Efficiency Factor/60%*N-uncorrected
S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_u = Pocket Torvane Shear Strength (psf)
$S_{u(LAB)}$ = Lab Vane Undrained Shear Strength (psf)
q_u = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw Field SPT N-value
WC = Water Content, percent
LL = Liquid Limit
PL = Plasticity Index
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows / 6 in. Recovery, Strength (tsf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0							SSA				
	1D	24/6	0.00 - 2.00	3/5/7/10	12	18				Brown, damp, medium dense, fine to coarse SAND, some gravel, trace silt. (Fill).	
								-4.0			
5										Light brown, damp, medium dense, fine to coarse SAND, little gravel, trace silt.	
	2D	24/18	5.00 - 7.00	5/8/8/11	16	24					
								-9.5			
10										Light brown, damp, very dense, Gravelly fine to coarse SAND, trace silt, occasional cobble.	
	3D	24/20	10.00 - 12.00	22/33/33/30	66	97					
								-12.0		Bottom of Exploration at 12.0 feet below ground surface. NO REFUSAL	
15											
20											
25											

Remarks:

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.

Page 1 of 1

Boring No.: HB-SA067-101

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Sanford Intersection Signals
Location: Sanford, Maine

Boring No.: HB-SA067-102
WIN: 24301.00

Driller:	MaineDOT	Elevation (ft.):		Auger ID/OD:	5" Dia.
Operator:	Daggett/AGaron/Niles	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	B. Wilder	Rig Type:	CME 45C	Hammer Wt./Fall:	140#/30"
Date Start/Finish:	10/8/2019; 12:15-13:30	Drilling Method:	Solid Stem Auger	Core Barrel:	N/A
Boring Location:	TBD	Casing ID/OD:	N/A	Water Level(ft):	None Observed
Hammer Efficiency Factor:	0.886	Hammer Type:	Automatic ☒ Hydraulic ☐	Rope & Cathead ☐	

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample Attempt
U = Thin Wall Tube Sample
WU = Unsuccessful Thin Wall Tube Sample Attempt
V = Field Vane Shear Test. PP = Pocket Penetrometer WOR/C = Weight of Rods or Casing
WH = Unsuccessful Field Vane Shear Test Attempt WOH = Weight of One Person
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
MDH = Weight of 140lb. Hammer
Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N_{60} = SPT N-value Uncorrected Corrected for Hammer Efficiency
N_{60} = Hammer Efficiency Factor/60%*N-uncorrected
S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_u = Pocket Torvane Shear Strength (psf)
$S_{u(LAB)}$ = Lab Vane Undrained Shear Strength (psf)
q_u = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw Field SPT N-value
WC = Water Content, percent
LL = Liquid Limit
PL = Plasticity Index
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows / 6 in. Recovery, Strength (tsf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0							SSA	-0.4		5" HMA.	
	1D	24/17	1.00 - 3.00	4/6/7/7	13	19				Brown, damp, medium dense, fine to coarse SAND, some gravel, trace silt.	
								-4.0			
5										Similar to above.	
	2DF	24/16	5.00 - 7.00	4/5/6/8	11	16					
								-8.0			
10										Brown, damp, dense, Gravelly fine to coarse SAND, trace silt.	
	3D	24/21	10.00 - 12.00	17/16/16/33	32	47					
								-14.0			
15										Light brown, damp, medium dense, fine to coarse SAND, little gravel, trace silt.	
	4D	24/16	15.00 - 17.00	12/13/10/12	23	34					
								-17.0		Bottom of Exploration at 17.0 feet below ground surface. NO REFUSAL	
20											
25											

Remarks:

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.

Page 1 of 1

Boring No.: HB-SA067-102

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Sanford Intersection Signals
Location: Sanford, Maine

Boring No.: HB-SA068-101
WIN: 24301.00

Driller:	MaineDOT	Elevation (ft.):		Auger ID/OD:	5" Dia.
Operator:	Daggett/AGaron/Niles	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	B. Wilder	Rig Type:	CME 45C	Hammer Wt./Fall:	140#/30"
Date Start/Finish:	10/8/2019; 09:30-11:00	Drilling Method:	Solid Stem Auger	Core Barrel:	N/A
Boring Location:	TBD	Casing ID/OD:	N/A	Water Level(ft):	None Observed
Hammer Efficiency Factor:	0.886	Hammer Type:	Automatic ☒ Hydraulic ☐	Rope & Cathead ☐	

Definitions:
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SSA = Solid Stem Auger
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Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N_{60} = SPT N-value Uncorrected Corrected for Hammer Efficiency
N_{60} = Hammer Efficiency Factor/60%*N-uncorrected
S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf) S_u = Pocket Torvane Shear Strength (psf)
$S_{u(LAB)}$ = Lab Vane Undrained Shear Strength (psf)
q_u = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw Field SPT N-value
WC = Water Content, percent
LL = Liquid Limit
PL = Plasticity Index
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows / 6 in. Recovery, Strength (tsf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0							SSA	-0.4		5" HMA.	
	1D	24/15	1.00 - 3.00	15/13/10/10	23	34				Brown, damp, medium dense, fine to coarse SAND, some gravel, trace silt.	
								-4.0			
5										Similar to above, except very dense.	
	2D	18/14	5.00 - 6.50	12/22/50	72	106				Cobble from 6.5-6.8 ft bgs.	
								-8.0			
10										Similar to above. Cobble from 10.5-10.9 ft bgs. Roller Coned ahead to 13.5 ft bgs.	
	3D	6/6	10.00 - 10.50	50/6"	---		RC				
								-13.5		Bottom of Exploration at 13.5 feet below ground surface. NO REFUSAL	
15											
20											
25											

Remarks:

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Page 1 of 1

Boring No.: HB-SA068-101

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Sanford Intersection Signals
Location: Sanford, Maine

Boring No.: HB-SA068-102
WIN: 24301.00

Driller:	MaineDOT	Elevation (ft.):		Auger ID/OD:	5" Dia. Stem
Operator:	Daggett/AGaron/Niles	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	B. Wilder	Rig Type:	CME 45C	Hammer Wt./Fall:	140#/30"
Date Start/Finish:	10/8/2019; 09:30-11:00	Drilling Method:	Cased Wash Boring	Core Barrel:	NQ-2"
Boring Location:	TBD	Casing ID/OD:	NW-3"	Water Level(ft):	None Observed
Hammer Efficiency Factor:	0.886	Hammer Type:	Automatic ☒ Hydraulic ☐	Rope & Cathead ☐	

Definitions:
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U = Thin Wall Tube Sample
WU = Unsuccessful Thin Wall Tube Sample Attempt
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R = Rock Core Sample
SSA = Solid Stem Auger
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N_{60} = SPT N-value Uncorrected Corrected for Hammer Efficiency
N_{60} = Hammer Efficiency Factor/60%*N-uncorrected
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$S_{u(LAB)}$ = Lab Vane Undrained Shear Strength (psf)
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Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows / 6 in. Recovery, Strength (tsf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0							SSA	-0.5		5" HMA.	
	1D	24/13	1.50 - 3.50	4/5/8/12	13	19				Brown, damp, medium dense, fine to coarse SAND, some gravel, trace silt.	
								-9.0			
5										Brown, damp, dense, fine tal coarse SAND, some gravel, trace silt, concrete.	
	2D	9.6/9.6	5.00 - 5.80	14/50(3.6")	---						
	R1	50/20	9.00 - 11.50	RQD = ---%						Set in NW Casing at 9.0 ft bgs. R1: Cobbles.	
10								-11.5			
	3D	18/16	11.50 - 13.00	16/30/32	62	92				Brown, wet, very dense, fine to coarse SAND, some gravel, trace silt.	
								-13.0		Bottom of Exploration at 13.0 feet below ground surface. NO REFUSAL	
15											
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.

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Page 1 of 1

Boring No.: HB-SA068-102

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. 2430100

WIN 24301.00 — HIGHWAY PLANS

STATE OF MAINE — Kathleen Maguire — 7120 — REGISTERED PROFESSIONAL ENGINEER

SIGNATURE		
P.E. NUMBER	7120	
DATE	11/23/2020	

	BY	DATE
PROJ. MANAGER	-------	-------
DESIGN-DETAILED	-------	-------
CHECKED-REVIEWED	-------	-------
DESIGN2-DETAILED2	K.MAGUIRE	MAR 2020
DESIGN3-DETAILED3	T.WHITE	MAR 2020
REVISIONS 1	-------	-------
REVISIONS 2	-------	-------
REVISIONS 3	-------	-------
REVISIONS 4	-------	-------
FIELD CHANGES	-------	-------

SANFORD
ROUTE 4A/WINTER ST. & ROUTE 109/MAIN ST.
ROUTES 109/224/BRIDGE ST. & ROUTES 109/11A/OAK ST.

BORING LOGS

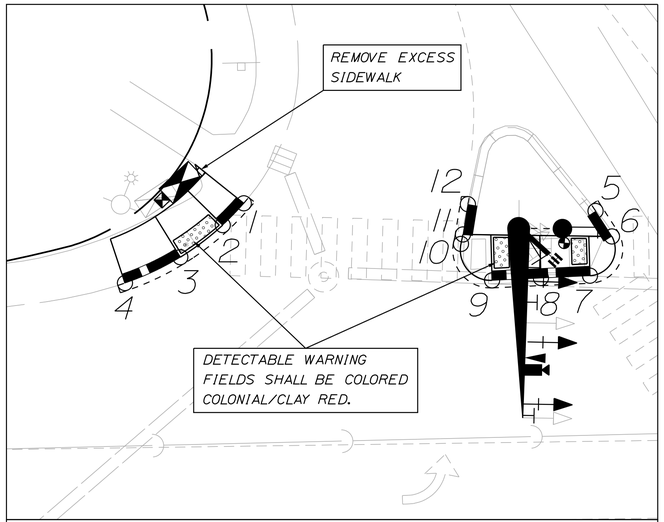
SHEET NUMBER

68B

OF 358

Filename: 068_Signal_68c.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

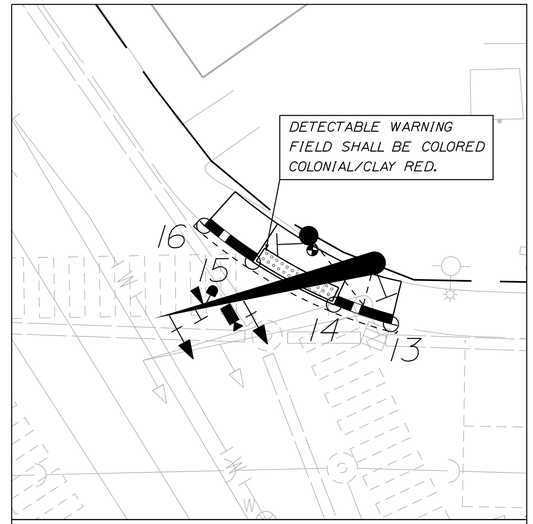
A CORNER - NW DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(20).
RECONSTRUCT ISLAND CURB RAMPS AND LANDINGS IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(22).

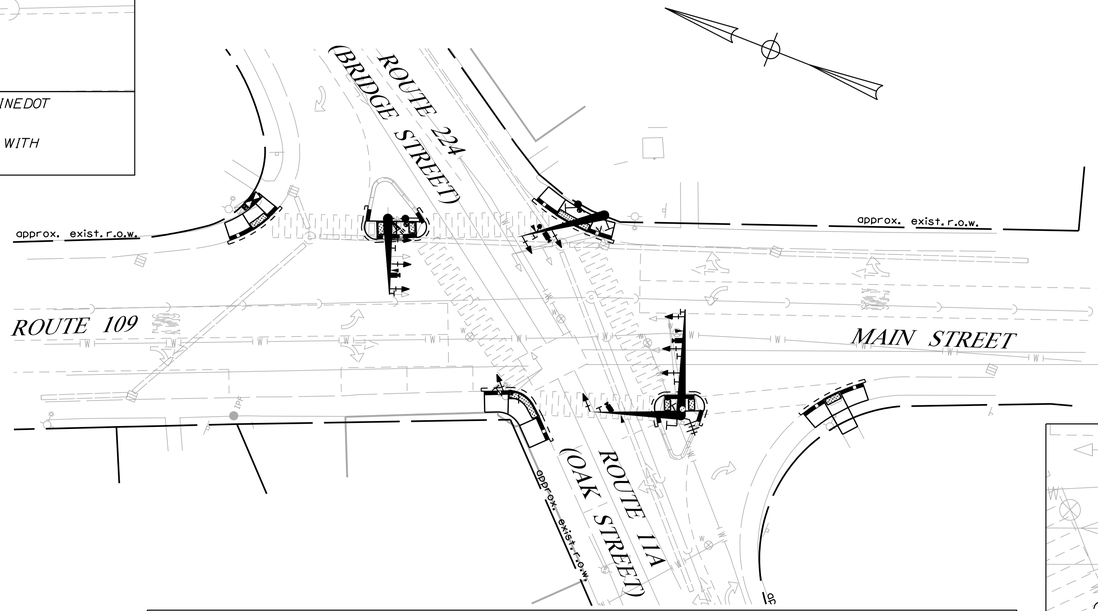
10 0 10 20
Scale of Feet

B CORNER - NE DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(20).

10 0 10 20
Scale of Feet

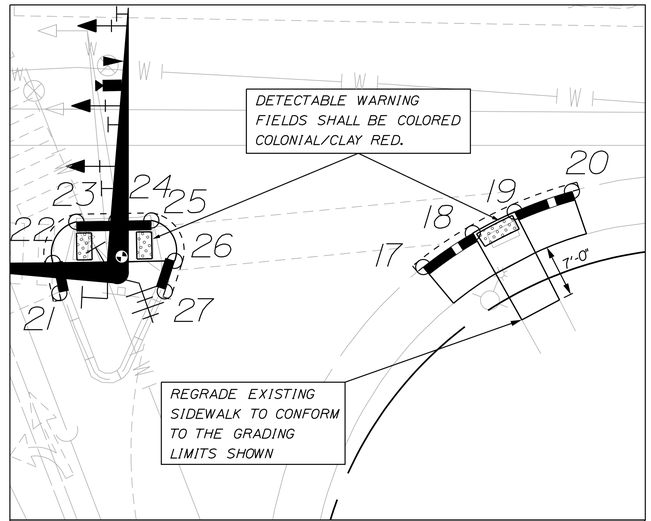


ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(1) to 801(26) AS NOTED. AS WELL AS DETAILS PROVIDED ON SHEET H.

PLAN

25 0 25 50
Scale of Feet

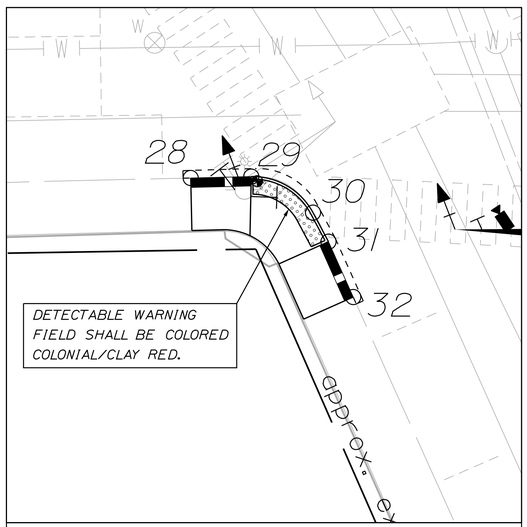
C CORNER - SE DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(20).
RECONSTRUCT ISLAND CURB RAMPS AND LANDINGS IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(22).

10 0 10 20
Scale of Feet

D CORNER - SW DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(20).

10 0 10 20
Scale of Feet

* - RIGHT-OF-WAY INFORMATION FROM MAINE OFFICE OF GEOGRAPHIC INFORMATION SYSTEMS - JANUARY 7, 2015

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

	B. KEEZER	DATE
PROJ. MANAGER		
DESIGN-DETAILED	MLG	07/20
CHECKED-REVIEWED	CMB	07/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SANFORD
ROUTE 109 (MAIN ST) AND ROUTE 11A/ROUTE 224
CURB RAMP LAYOUT AND DETAIL PLAN

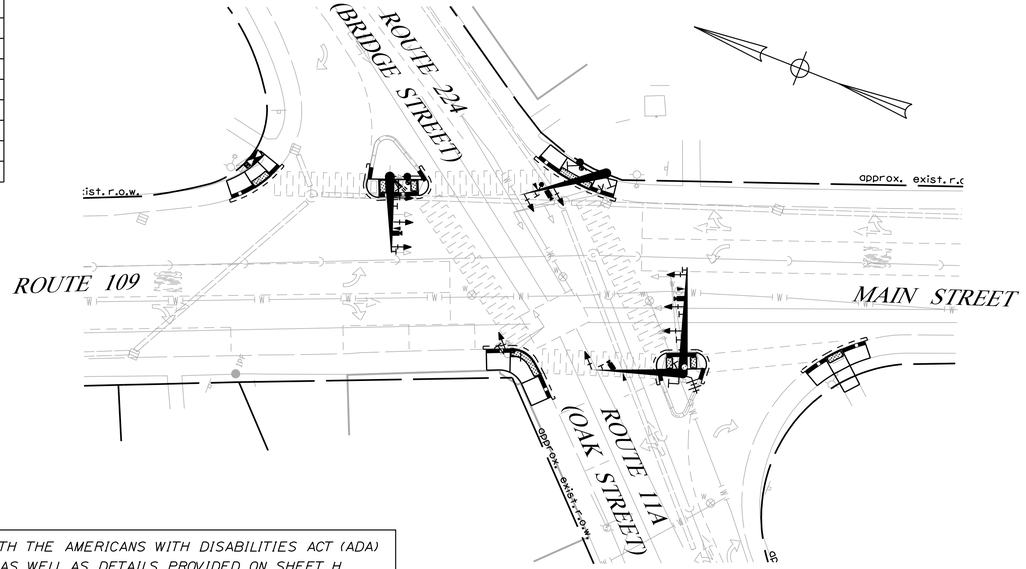
SHEET NUMBER

68C

OF 358

PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD		ITEM 609.21 - CONCRETE SLIPFORM CURB (LF)	ITEM 609.214 - CONCRETE SLIPFORM CURB - 4' TERMINAL END (LF)	ITEM 609.218 - CONCRETE SLIPFORM CURB - 8' TERMINAL END (LF)	COMMENT
		LENGTH (FT)	QTY (SF)				
1 TO 2	36.4				4.0		
2 TO 3	36.4	7.0	12.1				
3 TO 4	36.4					8.0	
5 TO 6	-				4.0		
6 TO 7	3.5	7.1	6.8				
7 TO 8	-			6.5			
8 TO 9	-			6.5			
9 TO 10	4.0	7.3	8.0				
10 TO 11	-	1.3					
11 TO 12					4.0		
13 TO 14	64.5					8.0	
14 TO 15	64.5	12.1	22.5				
15 TO 16	64.5					8.0	
17 TO 18	55.3					8.0	
18 TO 19	55.3	6.2	10.4				
19 TO 20	55.3					8.0	
21 TO 22	-				4.0		
22 TO 23	4.3	7.0	7.1				
23 TO 24	-			5.0			
24 TO 25	-			4.9			
25 TO 26	4.0	7.0	7.1				
26 TO 27	-				4.0		
28 TO 29	-					8.0	
* 29 TO 30	9.0	9.9	24.4				5.0% CROSS SLOPE
30 TO 31	-	4.4					
31 TO 32	-					8.0	

* NON-COMPLIANT CURB RAMP ELEMENT - THE EXISTING GUTTER LINE PROFILE IS GREATER THAN 2%. THEREFORE THE LEVEL LANDING CROSS SLOPE AND/OR RUNNING SLOPE WILL BE GREATER THAN THE 2% AND 8.33% MAXIMUM ALLOWABLE, RESPECTIVELY. THE COMMENT IS THE MAXIMUM VALUE FOR PROPOSED LEVEL OF COMPLIANCE.



ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED, AS WELL AS DETAILS PROVIDED ON SHEET H.

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
COMMON EXCAVATION (ITEM 203.20)	0.2 CY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	6.9 TONS
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	90.3 SY
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	98.4 SF

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
CONSTRUCT SIDEWALK (ITEM 608.45)	3.4 SF
REGRADING SIDEWALK (ITEM 608.46)	86.9 SY
CONCRETE SLIPFORM CURB (ITEM 609.21)	22.9 LF
CONCRETE SLIPFORM CURB - 4' TERMINAL END (ITEM 609.214)	20.0 LF
CONCRETE SLIPFORM CURB - 8' TERMINAL END (ITEM 609.218)	56.0 LF

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY INFORMATION FROM MAINE OFFICE OF GEOGRAPHIC INFORMATION SYSTEMS - JANUARY 7, 2015

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN
024301.00

TRAFFIC PLANS

vhb

	BY	DATE
PROJ. MANAGER	B. KEEZER	
DESIGN-DETAILED	MLG	07/20
CHECKED-REVIEWED	CMB	07/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SANFORD
ROUTE 109 (MAIN ST) AND
ROUTE 11A/ROUTE 224

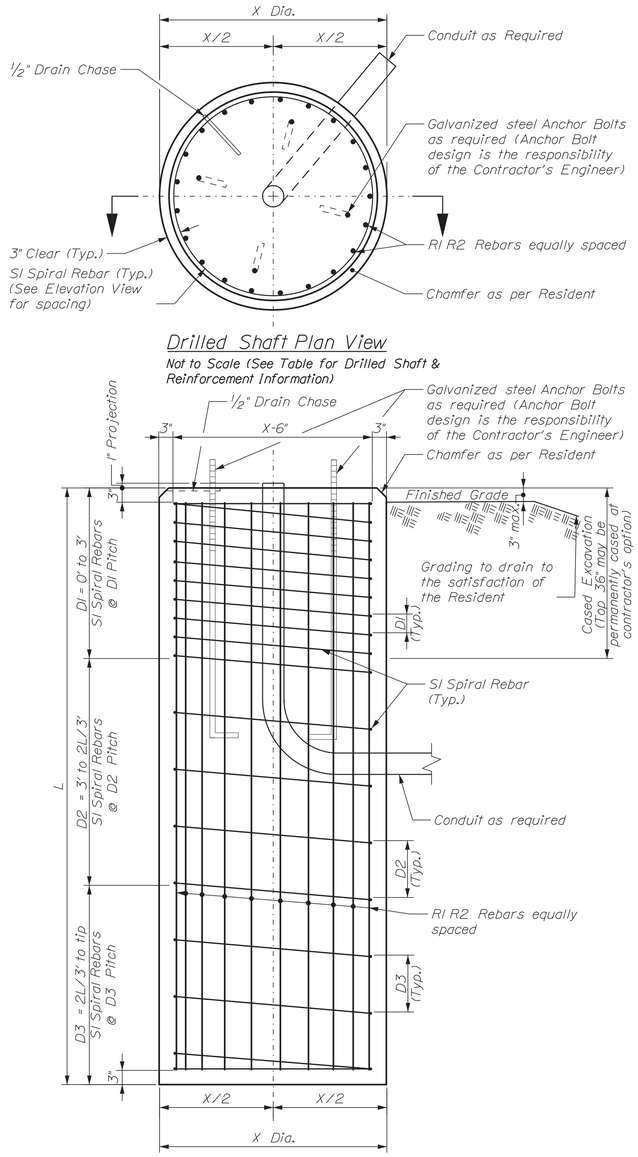
CURB RAMP LAYOUT
AND DETAIL PLAN

SHEET NUMBER

68D

OF 358

Filename: 068_Signal_68d.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

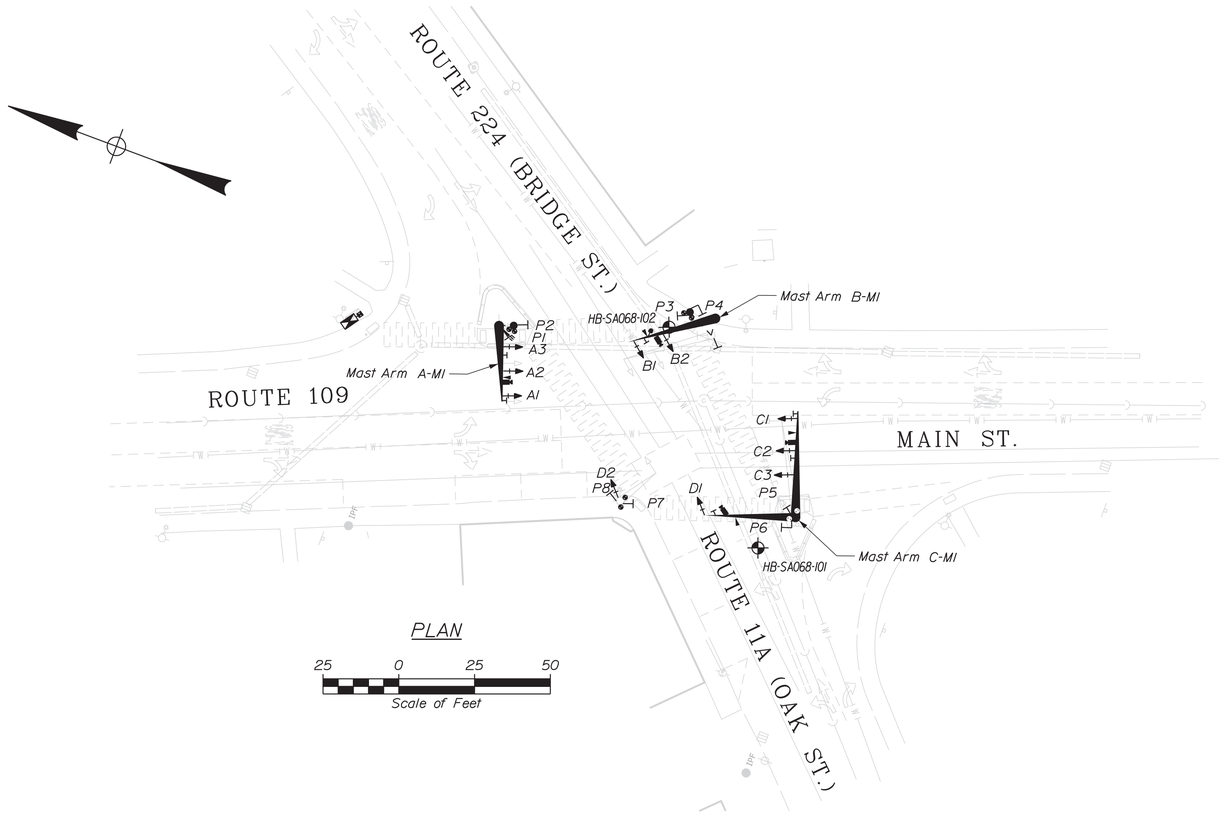


Drilled Shaft Plan View

Not to Scale (See Table for Drilled Shaft & Reinforcement Information)

Drilled Shaft Elevation View

Not to Scale (See Table for Drilled Shaft & Reinforcement Information)



PLAN

25 0 25 50

Scale of Feet

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.
6. For Boring Logs see Sheet 68B of 358.

MAST ARMS A-M1, B-M1 & C-M1

(A-M1) Route 109 and Route 224/Bridge Street
(B-M1) Route 109 and Route 224/Bridge Street
(C-M1) Route 109 and Route 11A/Oak Street

Mast Arm	Location	Drilled Shaft Dimensions		Reinforcing Steel			Spiral Bar Spacing		
		X	L	R1	R2	S1	D1 (in)	D2 (in)	D3 (in)
		Diameter (feet)	Length (feet)	Longitudinal Rebars Quantity	Longitudinal Rebars Size	Spiral Rebars Size	0 to 3 ft	3 ft to 2L/3 ft	2L/3 ft to tip
A-M1	Route 109 and Route 224/Bridge Street	3.5	12.0	18	#9	#5	4	4	12
B-M1	Route 109 and Route 224/Bridge Street	3.5	12.0	18	#9	#5	4	4	12
C-M1	Route 109 and Route 11A/ Oak Street	4.0	14.0	21	#9	#5	4	4	12

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. 2430100

WIN 24301.00

HIGHWAY PLANS

STATE OF MAINE ★ ENGINEER ★ PROFESSIONAL
Kathleen Maguire
7120

	BY	DATE
PROJ. MANAGER		
DESIGN-DETAILED		
CHECKED-REVIEWED	K.MAGUIRE	MAR 2020
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE
7120
P.E. NUMBER
11/23/2020
DATE

SANFORD
ROUTES 109/224/BRIDGE ST.
ROUTES 109/11A/OAK ST.

MAST ARM FOUNDATION & BORING LOCATION PLAN

SHEET NUMBER
68F
OF 358

Username: Kate.Maguire Date:11/23/2020
Division: GEOTECH
Filename: ...\68F_MAF&BLP4_SA PHASE1.dgn

Filename: ...\ROW\MSTA\068_RWPLAN5.dgn Division: ROW Username: Benjamin.Singer Date:11/24/2020

PLAN LEGEND

Town, County, State	New R/W Along Existing R/W	Sanitary Sewer	Traveled Way
Approx. Property Lines P.L.	Building	Telephone Line	Ditch
Existing Right of Way	Clearing Limit Line	Electric Line	Catch Basin
Limits of Wrought Portion L.O.W.P.	Trees Conifer Deciduous	Water Line	Manhole
Control Of Access C.O.A.	Tree Line Bush Line	Underdrain Line	Sewer Manhole
New Right of Way	Water Edge	Gas Line	Utility Pole
New Easement	Ledge Rock/Boulder Flag Pole	Guardrail	Fire Hydrant
New Temporary Rights	Fence CHAIN LINK BARB WIRE STOCKADE	Culvert	Curbing
New R/W Within Existing R/W	Sign Well WELL Mailbox		

Existing / Proposed

Cut Line C C C — Fill Line F F F
Stonewall — Retaining Wall
Baseline 10+00 11+00 12+00
Monument — Traverse Point
Iron Rod Found IRF — Pipe Found IPF
Replacement Pin Set

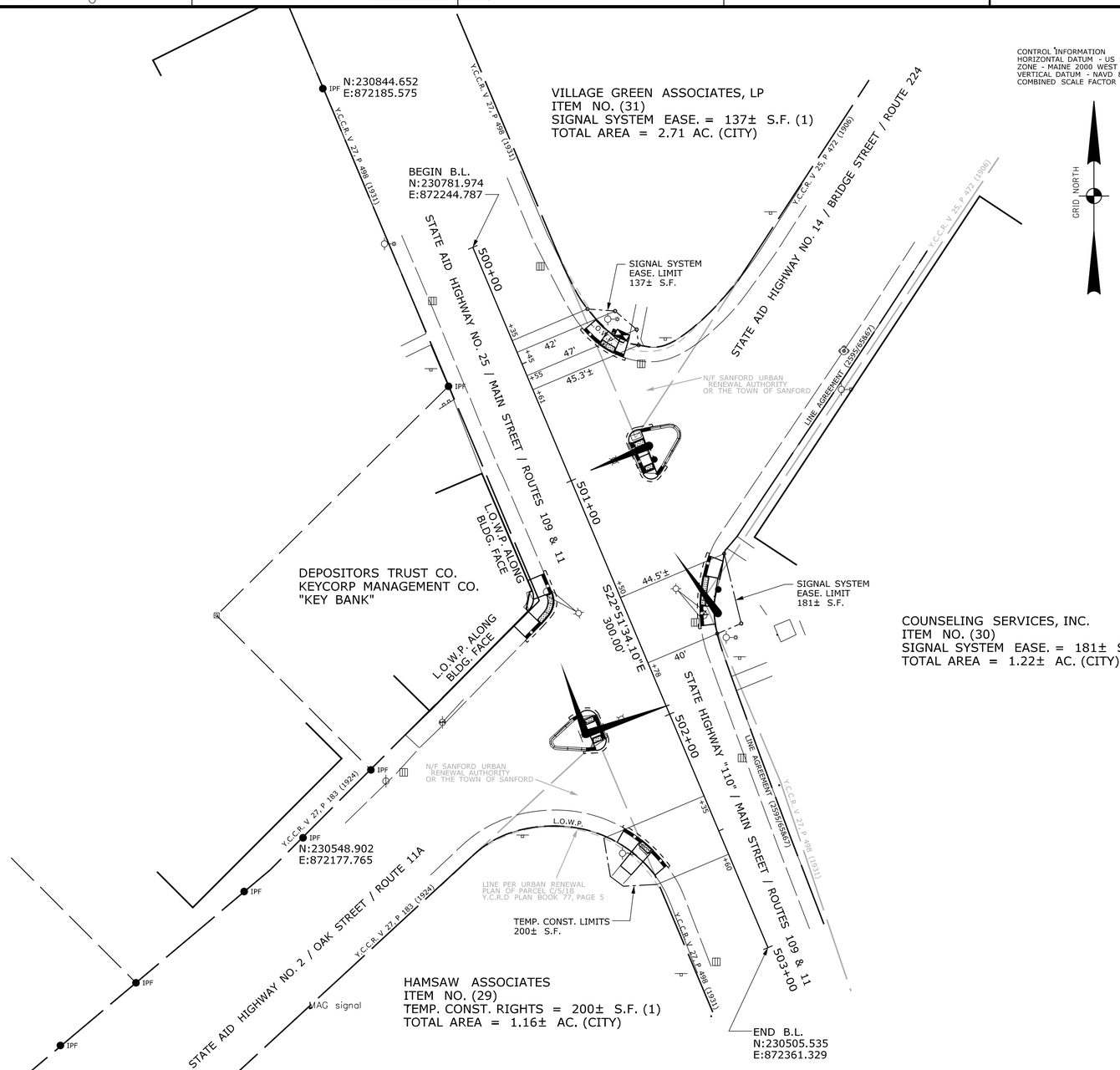
THIS PLAN WAS PREPARED IN CONNECTION WITH THE DEPARTMENT'S ACQUISITION OF REAL PROPERTY FOR TRANSPORTATION PURPOSES. IT CANNOT BE USED TO ESTABLISH LEGAL BOUNDARIES BETWEEN ABUTTING PROPERTY OWNERS.

25 0 25 50 75 100
Scale of Feet

STATE OF MAINE
REGISTRY OF DEEDS

COUNTY _____
RECEIVED _____, _____
at _____h_____m_____M and
recorded in Plan Bk _____, Pg._____
Attest: _____
REGISTER

CONTROL INFORMATION
HORIZONTAL DATUM - US STATE PLANE NAD83(2011)
ZONE - MAINE 2000 WEST ZONE
VERTICAL DATUM - NAVD 88
COMBINED SCALE FACTOR - 0.9999787



EXISTING RIGHT OF WAY REFERENCES

MAIN STREET:
YORK COUNTY COMMISSIONER'S RECORDS
VOLUME 27, PAGE 498 (DATED 1931)
60 FEET WIDE WITHIN PROJECT LOCUS

PREVIOUS MAIN STREET LAYOUTS:
YORK COUNTY COMMISSIONER'S RECORDS
VOLUME 25, PAGES 468-472 (1906)
60 FEET WIDE

OAK STREET:
YORK COUNTY COMMISSIONER'S RECORDS
VOLUME 27, PAGE 183 (DATED 1924)
VARIABLE WIDTH

PREVIOUS OAK STREET LAYOUTS:
YORK COUNTY COMMISSIONER'S RECORDS
VOLUME 25, PAGE 472 (DATED 1906)
APPARENT VARIABLE WIDTH

YORK COUNTY COMMISSIONER'S RECORDS
VOLUME 18, PAGE 88 (DATED 1844)
3 RODS (49.5') WIDE

YORK COUNTY COMMISSIONER'S RECORDS
VOLUME 14, PAGE 431 (DATED 1812)
3 RODS (49.5') WIDE

YORK COUNTY COMMISSIONER'S RECORDS
VOLUME 14, PAGE 305 (DATED 1808)
3 RODS (49.5') WIDE

BRIDGE STREET:
YORK COUNTY COMMISSIONER'S RECORDS
VOLUME 25, PAGE 472 (DATED 1906)
VARIABLE WIDTH

PREVIOUS BRIDGE STREET LAYOUTS:
YORK COUNTY COMMISSIONER'S RECORDS
VOLUME 18, PAGE 88 (DATED 1844)
3 RODS (49.5') WIDE

YORK COUNTY COMMISSIONER'S RECORDS
VOLUME 14, PAGE 431 (DATED 1812)
3 RODS (49.5') WIDE

YORK COUNTY COMMISSIONER'S RECORDS
VOLUME 14, PAGE 305 (DATED 1808)
3 RODS (49.5') WIDE

NOTE: PRESCRIPTIVE EASEMENT FOR HIGHWAY PURPOSES WITHIN LIMITS OF WROUGHT PORTION (L.O.W.P.)

PRELIMINARY PLAN

ITEM	TECH	CHECKED
EXISTING CONDITION PLAN	N.T.A.	
FINAL RIGHT OF WAY	B.S.	
AREAS	B.S.	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION - AUGUSTA, ME 04333-0016 - 207-624-3460
SANFORD
RIGHT OF WAY MAP

INTERSECTION NO. 68 WIN 024301.11

REVISIONS

NO.	DATE	DESCRIPTION	BY

PLAN FILED IN PLAN BOOK PAGE COUNTY RECORD

NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE

BRUCE A. VAN NOTE
COMMISSIONER
JOYCE NOEL TAYLOR
CHIEF ENGINEER
DATE

STATE HWY. "110" & STATE AID HYW. NOS. 2, 14, & 25
MAIN STREET / OAK STREET / BRIDGE STREET
SANFORD YORK COUNTY
FEDERAL AID PROJECT NO. 2430100

OCTOBER 2020 | RIGHT-OF-WAY MAP | D.O.T. FILE NO. 16-TBD
SCALE 1"= 25' | SHEET 5 OF 6

SHEET NUMBER
68R
OF 358

LIST OF WORK ITEMS

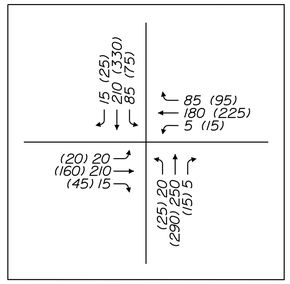
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING CELL MODEM / FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED MONITORING SYSTEM	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SPAN AND TETHER WIRE	7
FURNISH AND INSTALL ONE-WAY 5-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SPAN AND TETHER WIRE	1
FURNISH AND INSTALL ONE-WAY, 16 X 18-INCH LED SIDE OF POLE MOUNTED COUNTDOWN PEDESTRIAN SIGNAL HEAD	5
FURNISH AND INSTALL ONE-WAY, 16 X 18-INCH LED TOP OF POST MOUNTED COUNTDOWN PEDESTRIAN SIGNAL HEAD	3
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" RIO-3e INFORMATIONAL SIGN	8
FURNISH AND INSTALL 4-CHANNEL PREEMPTION PHASE SELECTOR	1
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	4
FURNISH AND INSTALL PREEMPTION CONFIRMATION RED STROBE WITH CABLE	1
FURNISH AND INSTALL 19-INCH 1RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL ENVIRONMENTALLY HARDENED FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL SPAN WIRE MOUNTED SIGNS	4
FURNISH AND INSTALL POLE RISERS (FIBER)	1
FURNISH AND INSTALL TETHER WIRE	375 LF
FURNISH AND INSTALL NEW SIGNAL CABLE	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.21)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

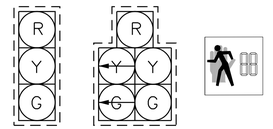
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"
A-PI	8' PEDESTAL POLE	24" DIAMETER
B-PI	8' PEDESTAL POLE	24" DIAMETER
C-PI	8' PEDESTAL POLE	24" DIAMETER
C-P2	8' PEDESTAL POLE	24" DIAMETER
D-PI	8' PEDESTAL POLE	24" DIAMETER

SYSTEM DESIGN VOLUMES AM (PM)

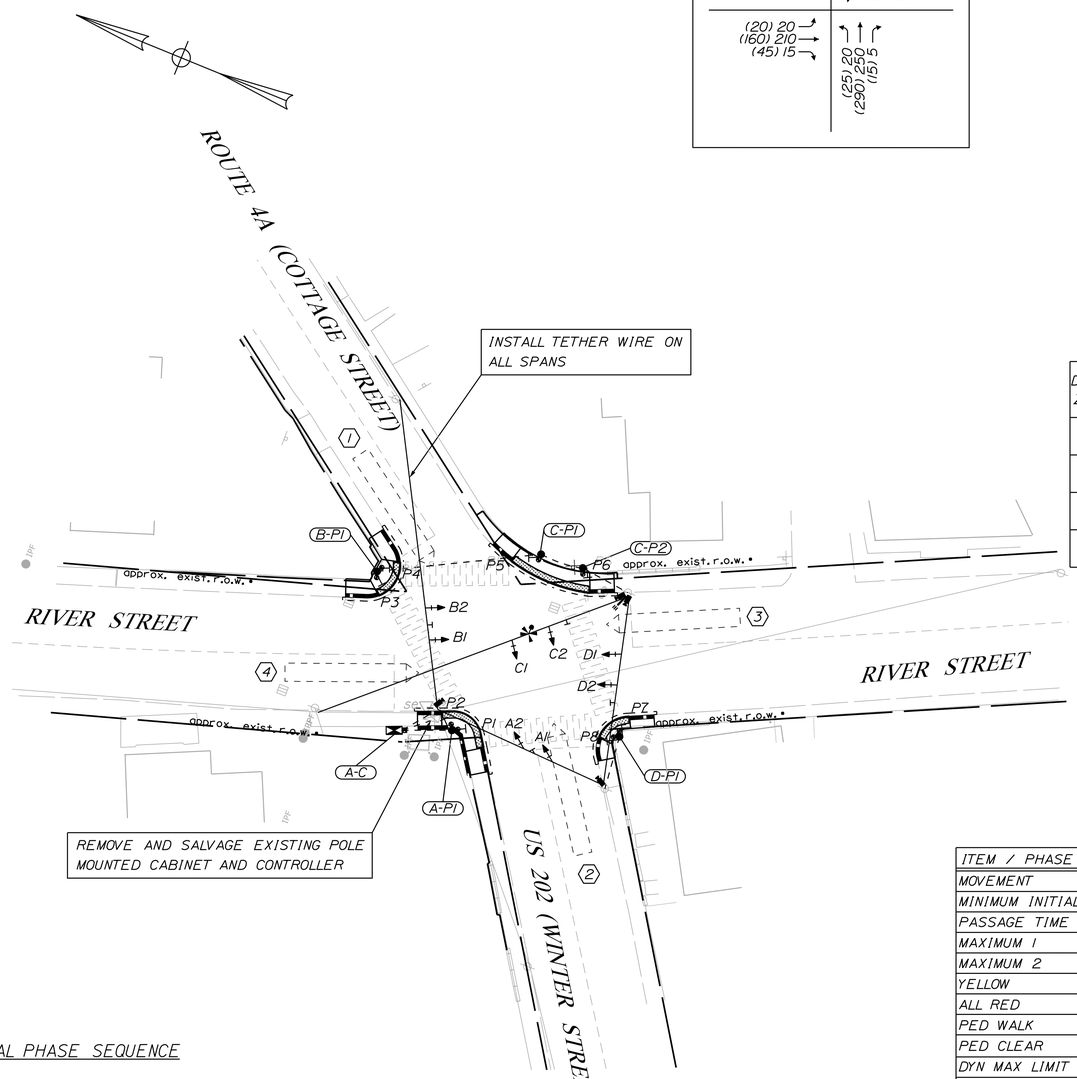


PROPOSED INDICATIONS



A2,B1,B2
C1,C2,D1,D2 — A1 — P1-P8

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES



DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADVANCE B=STOPLINE	DELAY TIME	EXT. TIME
1	COTTAGE ST SB MOVEMENTS	6	6	B	-	-
2	WINTER ST NB MOVEMENTS	2	2	B	-	-
3	RIVER ST WB MOVEMENTS	8	8	B	-	-
4	RIVER ST EB MOVEMENTS	4	4	B	-	-

SIGNAL TIMING SCHEDULE

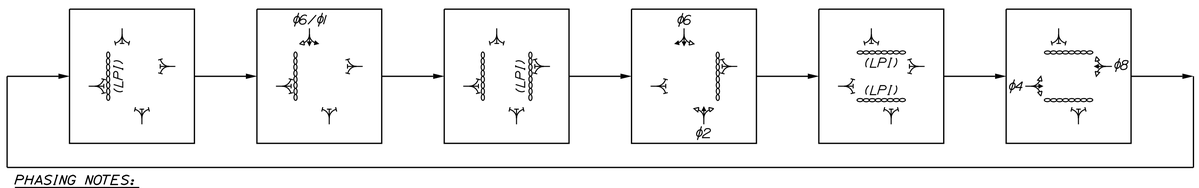
ITEM / PHASE	φ1	φ2	φ3	φ4	φ5	φ6	φ7	φ8
MOVEMENT	A (LT)	C	-	D	-	A	-	B
MINIMUM INITIAL	5	7	-	5	-	7	-	5
PASSAGE TIME	2.0	3.0	-	3.0	-	3.0	-	3.0
MAXIMUM 1	10	35	-	30	-	35	-	30
MAXIMUM 2	15	40	-	30	-	40	-	30
YELLOW	3.5	3.5	-	3.5	-	3.5	-	3.5
ALL RED	2.5	2.5	-	2.5	-	2.5	-	2.5
PED WALK	-	5	-	5	-	5	-	5
PED CLEAR	-	12	-	12	-	12	-	12
DYN MAX LIMIT	-	-	-	-	-	-	-	-
DYN MAX STEP	-	-	-	-	-	-	-	-
RECALL	OFF	SOFT	-	OFF	-	SOFT	-	OFF
DETECTOR	PR	PR	-	PR	-	PR	-	PR
PRE-EMPT PRIORITY	3	4	-	6	-	3	-	5
FLASH	R	Y	-	R	-	Y	-	R
DUAL ENTRY	OFF	ON	-	ON	-	ON	-	ON

NOTES: S = SOFT RECALLY = YELLOW
O = RECALL OFF R = RED
PR = PRESENCE D = DARK
IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONTRACT AWARD.

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

1 2 | 4
6 | 8



PHASING NOTES:
1. EACH PEDESTRIAN PHASE SHALL HAVE A MINIMUM OF A 4 SECOND LEADING PEDESTRIAN INTERVAL (LPI).
2. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE M-6405(1), DOT FILE 16-250, SHEET 1, FEBRUARY 1981

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER		
DESIGN-DETAILED	MLG	JAR	07/20
CHECKED-REVIEWED	CMB	CMB	07/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SANFORD
ROUTE 4A/202 (COTTAGE ST) AND RIVER ST

TRAFFIC SIGNAL PLAN

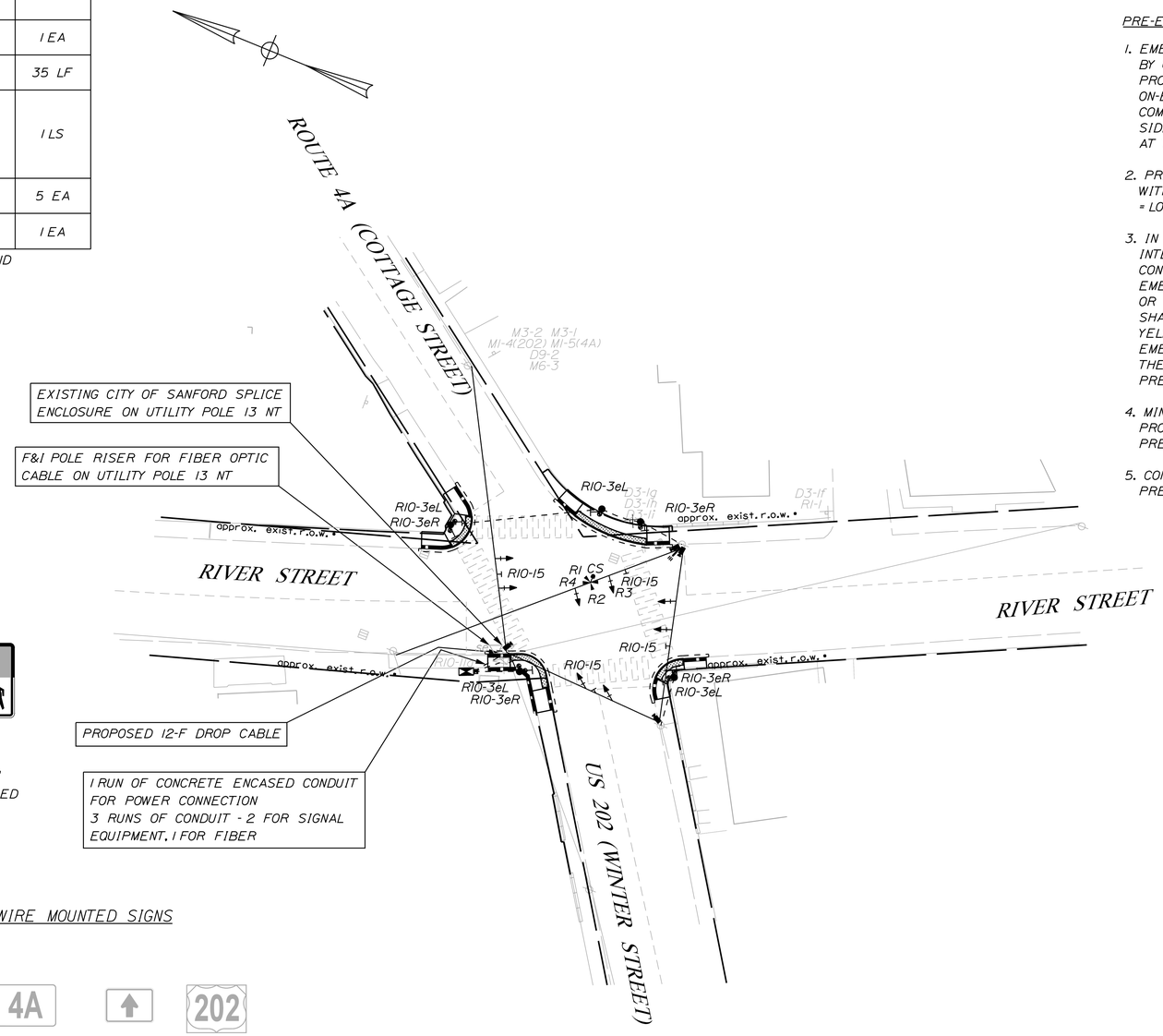
SHEET NUMBER
69
OF 358

Date:11/24/2020
Username: jorobert
Division: HIGHWAY
Filename: 069_Signal_69.dgn

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	125 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	15 LF
FURNISH AND INSTALL (3-INCH) NON-METALLIC UNDER PAVEMENT CONDUIT (ITEM 626.251)	55 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL 24-INCH DIAMETER FOUNDATION (ITEM 626.421)	35 LF
FURNISH AND INSTALL APPROXIMATELY 100 LINEAR FEET OF 12-STRAND FIBER OPTIC INTERCONNECT CABLE FROM AERIAL SPLICE ENCLOSURE NEAR POLE 13 NT TO CONTROLLER CABINET AT INTERSECTION 69 (ITEM 643.90)	1 LS
FURNISH AND INSTALL 8-FOOT PEDESTAL POLE (ITEM 643.92)	5 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

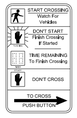
THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PROPOSED SIGNS



RIO-3eL
9"x15"
4-PROPOSED



RIO-3eR
9"x15"
4-PROPOSED



RIO-15
30"x30"
4-PROPOSED

EXISTING POST AND SPAN WIRE MOUNTED SIGNS



RI-1
1 - RETAINED



M3-1
1 - RETAINED



M3-2
1 - RETAINED



MI-5(4A)
1 - RETAINED

M6-3 (BLUE)
1 - RETAINED

MI-4
1 - RETAINED



D9-2
1 - RETAINED



D3-1e
1 - RETAINED



RIO-11a
1 - RETAINED



D3-1i
1 - RETAINED



D3-1g
1 - RETAINED



D3-1h
1 - RETAINED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
	1	NOT USE/RESERVED	
	2	NOT USE/RESERVED	
R1	3	1	ϕ1&ϕ6
R2	4	2	ϕ2
R3	5	3	ϕ8
R4	6	4	ϕ4

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.

2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 4 = LOWEST)

3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR AND/OR RSU , THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.

4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.

5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE M-6405(1), DOT FILE 16-250, SHEET 1, FEBRUARY 1981

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN
024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER		
DESIGN-DETAILED	MLG	JAR	07/20
CHECKED-REVIEWED	CMB	CMB	07/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SANFORD
ROUTE 4A/202 (COTTAGE ST)
AND RIVER ST

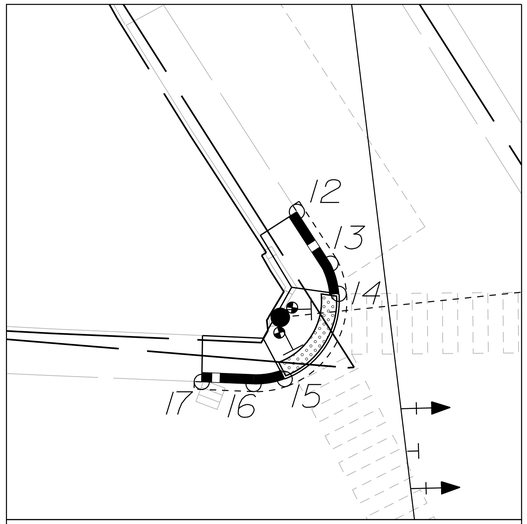
TRAFFIC SIGNAL PLAN

SHEET NUMBER
69A
OF 358

Filename: 069_SignoL_69a.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

Filename: 069_Signal_69c.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

B CORNER - NW DETAIL



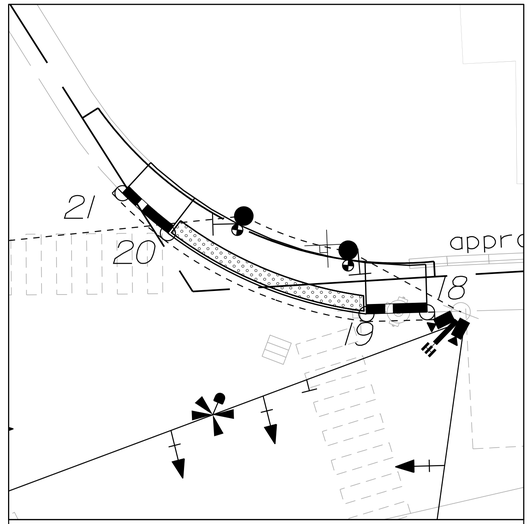
RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(20).

10 0 10 20
Scale of Feet

PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD		ITEM 609.11 - VERTICAL CURB TYPE I (LF)	ITEM 609.221 - TERMINAL CURB TYPE I (LF)	ITEM 609.222 - TERMINAL CURB TYPE I - CIRCULAR (LF)	COMMENT
		LENGTH (FT)	QTY (SF)				
1 TO 2	-				8.0		
2 TO 3	-	3.5	37.9				
3 TO 4	9.5	13.1					
4 TO 5	-	4.8					
5 TO 6	-				8.0		
7 TO 8	-			13.8			
8 TO 9	-			2.9			
10 TO 11	-			0.6			
11 TO 12	-			11.3			
12 TO 13	-				8.2		
13 TO 14	11.0					4.2	
14 TO 15	11.0	14.3	24.8				
15 TO 16	11.0					4.2	
16 TO 17	-				6.8		
18 TO 19	54.6					8.0	
* 19 TO 20	54.6	28.6	54.1				5.3% CROSS SLOPE
20 TO 21	54.6					8.0	
22 TO 23	11.0					8.0	
23 TO 24	11.0	13.2	22.3				
24 TO 25	-				8.0		

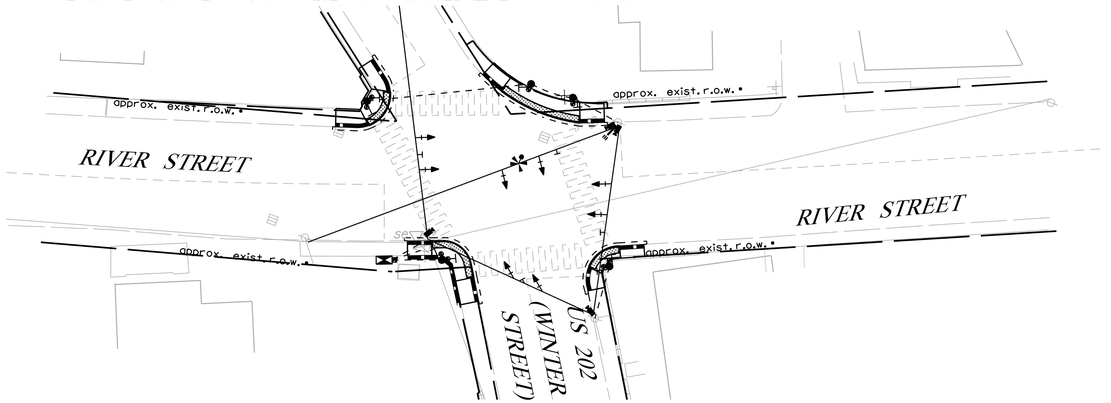
* NON-COMPLIANT CURB RAMP ELEMENT - THE EXISTING GUTTER LINE PROFILE IS GREATER THAN 2%. THEREFORE THE LEVEL LANDING CROSS SLOPE AND/OR RUNNING SLOPE WILL BE GREATER THAN THE 2% AND 8.33% MAXIMUM ALLOWABLE, RESPECTIVELY. THE COMMENT IS THE MAXIMUM VALUE FOR PROPOSED LEVEL OF COMPLIANCE.

C CORNER - NE DETAIL



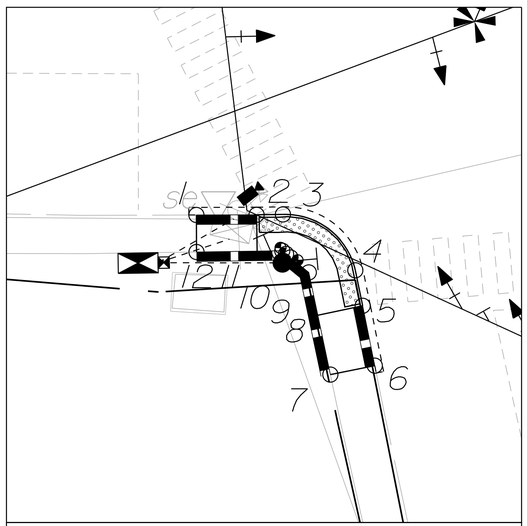
RECONSTRUCT CURB RAMPS AND LANDINGS IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(18). DO NOT IMPACT EXISTING RETAINING WALL.

10 0 10 20
Scale of Feet



ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED, AS WELL AS DETAILS PROVIDED ON SHEET H.

A CORNER - SW DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(20).
INSTALL BACK CURB ALONG CURB RAMPS AND LANDING.

10 0 10 20
Scale of Feet

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	5.9 TONS
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	84.4 SY
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	139.1 SF
REGRADING SIDEWALK (ITEM 608.46)	84.4 SY

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
VERTICAL CURB TYPE I (ITEM 609.11)	28.6 LF
TERMINAL CURB TYPE I (ITEM 609.221)	39.0 LF
TERMINAL CURB TYPE I - CIRCULAR (ITEM 609.222)	32.4 LF

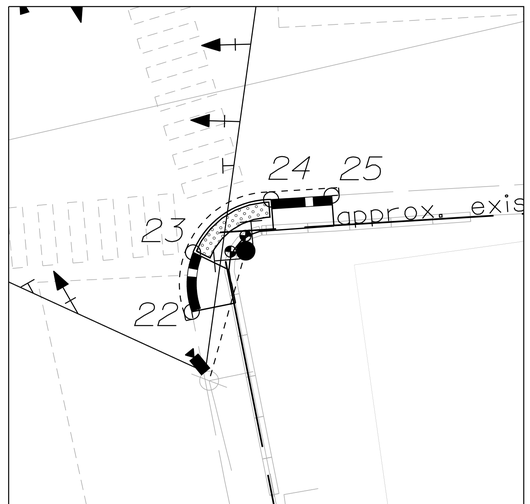
THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE M-6405(1), DOT FILE 16-250, SHEET 1, FEBRUARY 1981

D CORNER - SE DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(20).

10 0 10 20
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER	
DESIGN-DETAILED	MLG	JAR 07/20
CHECKED-REVIEWED	CMB	CMB 07/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SANFORD
ROUTE 4A/202 (COTTAGE ST)
AND RIVER ST

CURB RAMP LAYOUT
AND DETAIL PLAN

SHEET NUMBER

69C

OF 358

Username: Benjamin.Singer Date:11/24/2020
Division: ROW
Filename: ...\ROW\MSTA\069_RWPLAN6.dgn

PLAN LEGEND

Town, County, State	New R/W Along Existing R/W	Sanitary Sewer	Traveled Way
Approx. Property Lines P.L.	Building / Clearing Limit Line	Telephone Line	Ditch
Existing Right of Way	Trees Conifer / Deciduous	Electric Line	Catch Basin
Limits of Wrought Portion L.O.W.P.	Tree Line / Bush Line	Water Line	Manhole
Control Of Access C.O.A.	Water Edge	Underdrain Line	Sewer Manhole
New Right of Way	Ledge / Rock/Boulder / Flag Pole	Gas Line	Utility Pole
New Easement	Fence CHAIN LINK / BARB WIRE / STOCKADE	Guardrail	Fire Hydrant
New Temporary Rights	Sign / Well / Mailbox	Culvert	Curbing

Existing / Proposed

Cut Line C C C	Fill Line F F F
Stonewall	Retaining Wall
Baseline 10+00 11+00 12+00	
Monument	Traverse Point
Iron Rod Found IRF	Pipe Found IPF
Replacement Pin Set	

THIS PLAN WAS PREPARED IN CONNECTION WITH THE DEPARTMENT'S ACQUISITION OF REAL PROPERTY FOR TRANSPORTATION PURPOSES. IT CANNOT BE USED TO ESTABLISH LEGAL BOUNDARIES BETWEEN ABUTTING PROPERTY OWNERS.

25 0 25 50 75 100
Scale of Feet

STATE OF MAINE
REGISTRY OF DEEDS

COUNTY _____
RECEIVED _____, _____
at _____h_____m_____M and
recorded in Plan Bk _____, Pg. _____
Attest: _____
REGISTER

NOTES:
1) D.O.T. FILE NO. 16-250 (1981) USED AN INCORRECT WIDTH AND TOWN MEETING ARTICLE REFERENCE FOR THE EXISTING RIGHT OF WAY OF COTTAGE STREET. SAID FILE 16-250 REFERENCED ARTICLE DATED 1909 FOR A SECTION OF COTTAGE STREET, KNOWN AS COTTAGE STREET EXTENSION (BETWEEN BROOK ST. & NORTH AVE.), WHICH WAS LOCATED SOMEWHERE BETWEEN BROOK STREET AND NORTH STREET, AND IS ASSUMED TO HAVE BEEN SUPERCEDED BY A YORK COUNTY COMMISSIONER'S RECORD (VOLUME 27, PAGE 63, DATED 1919)

2) COTTAGE STREET - EXISTING CENTERLINE OF PAVEMENT WAS USED AND ASSUMED TO BE THE CENTERLINE OF THE 1887 COTTAGE STREET LAYOUT.

CONTROL INFORMATION
HORIZONTAL DATUM - US STATE PLANE NAD83(2011)
ZONE - MAINE 2000 WEST ZONE
VERTICAL DATUM - NAVD 88
COMBINED SCALE FACTOR - 0.9999787

GRID NORTH

TO ROUTE 224

3-STORY BRICK COMMERCIAL BUILDING

LAFAYETTE SOCIAL CLUB
ITEM NO. (34)
CONST. & MAINT. EASE. = 110± S.F. (1)
SIGNAL SYSTEM EASE. 65± S.F. = (1)
TOTAL AREA = 0.47 AC. (CITY)

Y.C.C.R. VOL. 14 PG. 305 (1808)
AS SHOWN ON D.O.T. FILE 16-250

STATE AID HIGHWAY NO. 22 / RIVER STREET

IPF
N:222577.470
E:877932.188

N:222554.404
E:877962.320

CITY STREET BOOK, PG. 57 (5/4/1911)
AS SHOWN ON 1996 CORNERPOST PLAN

STATE HIGHWAY "8" / WINTER STREET / U.S. ROUTE 202 / ROUTE 4A

SIGNAL SYSTEM EASE. LIMIT 65± S.F.

CONST. & MAINT. EASE. LIMIT 110± S.F.

END B.L.
N:222799.316
E:878138.067

Y.C.C.R. VOL. 14 PG. 305 (1808)
AS SHOWN ON D.O.T. FILE 16-250

L.O.W.P.

INHABITANTS OF THE TOWN OF SANFORD

SANFORD T.R. BK. 14, PGS. 188-189 (1887)

STATE HIGHWAY "8" / COTTAGE STREET / U.S. ROUTE 202 / ROUTE 4A

TO ALFRED

WHITE BARK PROPERTIES LLC
ITEM NO. (32)
SIGNAL SYSTEM EASE. = 79± S.F. (1)
TOTAL AREA = 0.10 AC. (CITY)

SIGNAL SYSTEM EASE. LIMIT 97± S.F.

N:222674.848
E:878150.027

402+00

401+00

150.00'
N21°31'46"W

BEGIN B.L.
N:222659.782
E:878193.114

NOTE: RIVER STREET WAS F.K.A. WATER STREET

SIGNAL SYSTEM EASE. LIMIT 352± S.F.

TERRENCE JELLERSON
ITEM NO. (33)
SIGNAL SYSTEM EASE.
= 352± S.F. (1)
TOTAL AREA
= 0.20 AC. (CITY)

Y.C.C.R. VOL. 14 PG. 305 (1808)
AS SHOWN ON D.O.T. FILE 16-250

STATE AID HIGHWAY NO. 22 / RIVER STREET

TO HIGH STREET

Y.C.C.R. VOL. 14 PG. 305 (1808)
AS SHOWN ON D.O.T. FILE 16-250

EXISTING RIGHT OF WAY REFERENCES:

DEPARTMENT OF TRANSPORTATION - RIGHT OF WAY MAP
STATE AID HIGHWAY NO. 19, SANFORD, MAINE
FEDERAL AID PROJECT NO. M-6405(1)
DATED FEBRUARY 1981
D.O.T. FILE NO. 16-250 (SHEET 1 OF 4)
Y.C.R.D. PLAN BOOK 140, PAGE 50

RIVER STREET:
YORK COUNTY COMMISSIONER'S RECORDS
VOLUME 14, PAGE 305 (DATED 1808)
3 RODS (49.5') WIDE

WINTER STREET EXTENSION
DATED FEBRUARY 21, 1911, 42 FEET WIDE
SANFORD STREET BOOK, PAGE 119

LAYOUT OF WINTER STREET EXTENSION
DATED MAY 4, 1911, STILL 42 FEET WIDE
SANFORD STREET BOOK, PAGE 57
(ALTERS THE FEBRUARY 21, 1911 LOCATION)

COTTAGE STREET (FROM RIVER TO SPRUCE):
SANFORD TOWN RECORDS
BOOK 14 (1877-1907) PAGES 188-189
DATED APRIL 23, 1887, 2 RODS (33') WIDE
ALSO LISTED IN SANFORD STREET BOOK, PAGE 95
ACCEPTED IN TOWN MEETING OF 1887, ARTICLE 15.

COTTAGE STREET (FROM SPRUCE TO BROOK):
SANFORD STREET BOOK, PAGE 87
DATED MARCH 7, 1892, 2 RODS (33' WIDE)

NOTE: PRESCRIPTIVE EASEMENT FOR HIGHWAY PURPOSES WITHIN LIMITS OF WROUGHT PORTION (L.O.W.P.)

PLAN SHOWING PROPOSED ALTERATIONS
OF COTTAGE AND WINTER STREETS
BY ERNEST E. GALLANT, ENGINEER
DATED SEPTEMBER 28, 1930
(PLAN BOX 1 AT SANFORD PUBLIC WORKS OFFICE)

NOTE: THE ALTERATIONS SHOWN ON THIS PLAN WERE APPARENTLY DENIED IN DECEMBER 1930 BY THE YORK COUNTY COMMISSIONERS. SEE Y.C.C.R. VOLUME 27, PAGES 502-504 FOR FURTHER INFORMATION.

INTERSECTION NO. 69 WIN 024301.11

PRELIMINARY PLAN

ITEM	CHECKED
EXISTING CONDITION PLAN	N.T.A.
FINAL RIGHT OF WAY	B.S.
AREAS	B.S.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION - AUGUSTA, ME 04333-0016 - 207-624-3460
SANFORD
RIGHT OF WAY MAP

REVISIONS

NO.	DATE	DESCRIPTION	BY

PLAN FILED IN PLAN BOOK	PAGE	COUNTY RECORD			
NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE

BRUCE A. VAN NOTE
COMMISSIONER
JOYCE NOEL TAYLOR
CHIEF ENGINEER
DATE

STATE HWY. "8" & STATE AID HWY. NO. 22
WINTER STREET, COTTAGE STREET, & RIVER STREET
SANFORD YORK COUNTY
FEDERAL AID PROJECT NO. 2430100

OCTOBER 2020 | RIGHT-OF-WAY MAP | D.O.T. FILE NO. 16-TBD
SCALE 1" = 25' | SHEET 6 OF 6

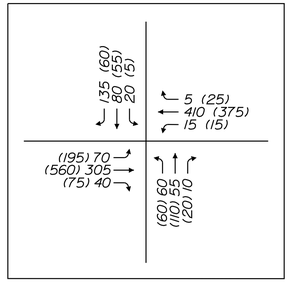
SHEET NUMBER
69R
OF 358

LIST OF WORK ITEMS

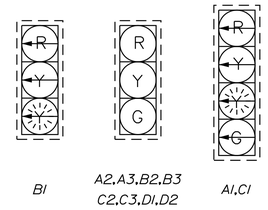
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING CELL MODEM / FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED MONITORING SYSTEM	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SPAN AND TETHER WIRE	9
FURNISH AND INSTALL ONE-WAY 4-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SPAN AND TETHER WIRE	2
FURNISH AND INSTALL 4-CHANNEL PREEMPTION PHASE SELECTOR	1
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	4
FURNISH AND INSTALL PREEMPTION CONFIRMATION RED STROBE WITH CABLE	1
FURNISH AND INSTALL SPAN WIRE MOUNTED SIGNS	2
FURNISH AND INSTALL NEW SIGNAL CABLE	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

SYSTEM DESIGN VOLUMES AM (PM)

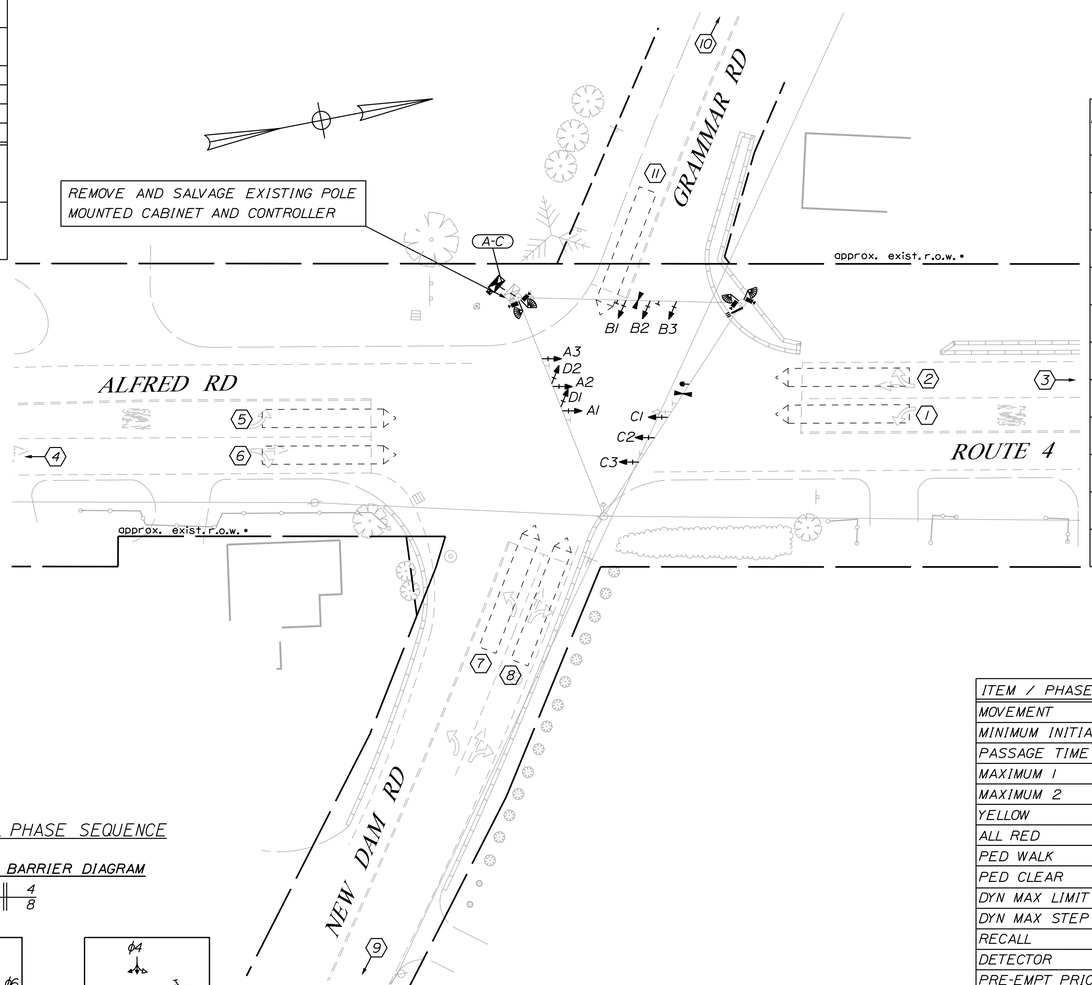


PROPOSED INDICATIONS



B1 A2,A3,B2,B3 C2,C3,D1,D2 A1,C1

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES



DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADVANCE B=STOPLINE	DELAY TIME	EXT. TIME
1	ALFRED RD SB LEFT	1	1	B	-	-
2	ALFRED RD SB THRU-RIGHT	6	6	B	-	-
3*	ALFRED RD SB ADVANCE	6	6	A	-	-
4*	ALFRED RD NB ADVANCE	2	2	A	-	-
5	ALFRED RD NB LEFT	5	5	B	-	-
6	ALFRED RD NB THRU-RIGHT	2	2	B	-	-
7	NEW DAM RD WB LEFT	8	8	B	-	-
8	NEW DAM RD WB THRU-RIGHT	8	8	B	-	-
9**	NEW DAM RD WB ADVANCE	8	8	A	-	-
10*	GRAMMER RD EB ADVANCE	4	4	A	-	-
11	GRAMMER RD EB MOVEMENTS	4	4	B	-	-

* SEE ADVANCED DILEMMA ZONE DETAIL (40 MPH)
** SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)

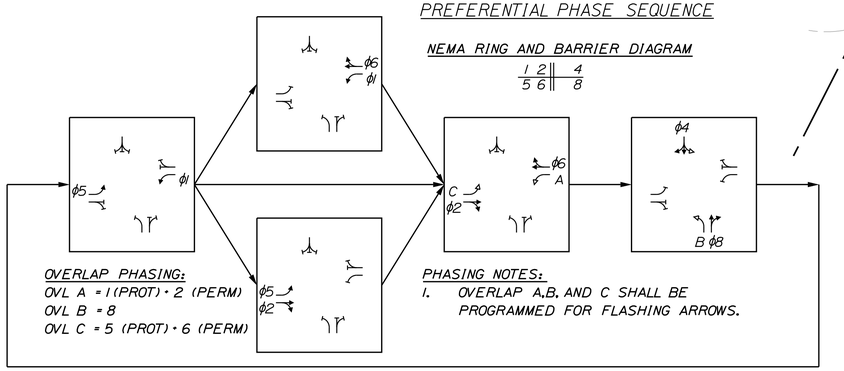
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

1 2 | 4
5 6 | 8



OVERLAP PHASING:
OVL A = 1 (PROT) + 2 (PERM)
OVL B = 8
OVL C = 5 (PROT) + 6 (PERM)

PHASING NOTES:
1. OVERLAP A,B, AND C SHALL BE PROGRAMMED FOR FLASHING ARROWS.

SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ 1	φ 2	φ 3	φ 4	φ 5	φ 6	φ 7	φ 8
MOVEMENT	A (LT)	C	-	D	C (LT)	A	-	B
MINIMUM INITIAL	5	10	-	5	5	10	-	5
PASSAGE TIME	2.5	4.0	-	2.0	2.5	4.0	-	2.0
MAXIMUM 1	20	45	-	30	20	45	-	30
MAXIMUM 2	20	60	-	30	20	60	-	30
YELLOW	3.5	4.0	-	4.0	3.5	4.0	-	4.0
ALL RED	2.5	2.0	-	2.0	2.5	2.0	-	2.0
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
DYN MAX LIMIT	-	-	-	-	-	-	-	-
DYN MAX STEP	-	-	-	-	-	-	-	-
RECALL	OFF	SOFT	-	OFF	OFF	SOFT	-	OFF
DETECTOR	PR	PR	-	PR	PR	PR	-	PR
PRE-EMPT PRIORITY	3	4	-	5	4	3	-	6
FLASH	R	Y	-	R	R	Y	-	R
DUAL ENTRY	OFF	ON	-	ON	OFF	ON	-	ON

NOTES: S = SOFT RECALLY = YELLOW
O = RECALL OFF R = RED
PR = PRESENCE D = DARK
IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONTRACT AWARD.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY PROVIDED BY MAINEDOT, MARCH 2019

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

	BY	DATE
PROJ. MANAGER	B. KEEZER	
DESIGN-DETAILED	MLG	JAR 07/20
CHECKED-REVIEWED	CMB	CMB 07/20
DESIGN2-DETAILED2	CMB	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SANFORD
ROUTE 4(ALFRED RD) AND
GRAMMAR RD / NEW DAM RD

TRAFFIC SIGNAL PLAN

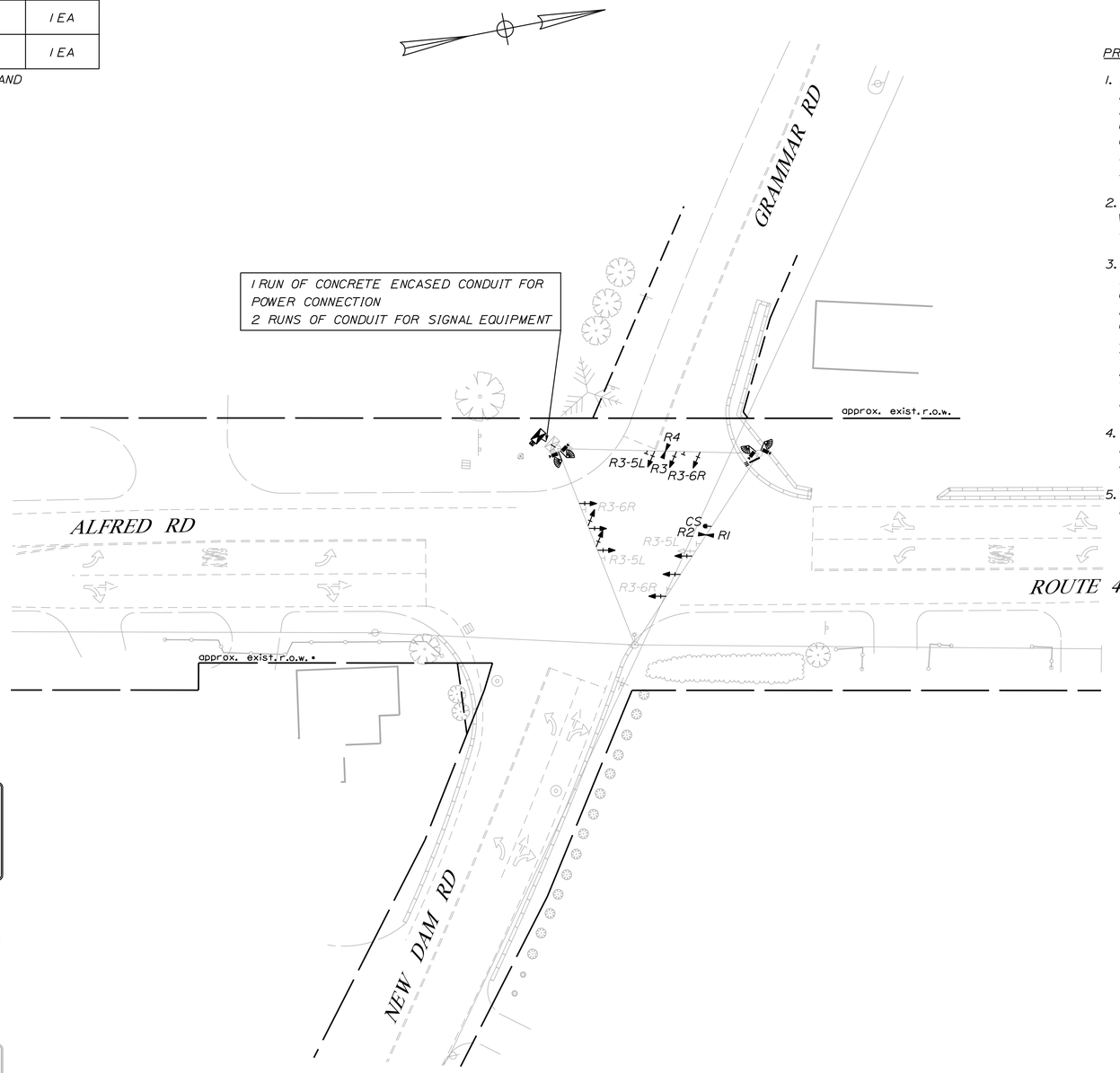
SHEET NUMBER
70
OF 358

Division: HIGHWAY
Username: jorobert
Date:11/24/2020
Filename: 070_Signal_70.dgn

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	20 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	10 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



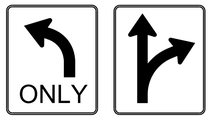
EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
	1	NOT USE/RESERVED	
	2	NOT USE/RESERVED	
R1	3	1	ϕ 1&ϕ 6
R2	4	2	ϕ 2&ϕ 5
R3	5	3	ϕ 4
R4	6	4	ϕ 8

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 4 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR AND/OR RSU , THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (4.0 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

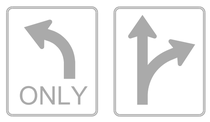
PROPOSED SIGNS



R3-5L 30"x36" 1-PROPOSED

R3-6R 30"x36" 1-PROPOSED

EXISTING SIGNS



R3-5L 2-RETAINED

R3-6R 2-RETAINED

PLAN

25 0 25 50

Scale of Feet

* - RIGHT-OF-WAY PROVIDED BY MAINEDOT, MARCH 2019

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

			DATE
PROJ. MANAGER	B. KEEZER		
DESIGN-DETAILED	MLG	JAR	07/20
CHECKED-REVIEWED	CMB	CMB	07/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SANFORD
ROUTE 4(ALFRED RD) AND
GRAMMAR RD / NEW DAM RD

TRAFFIC SIGNAL PLAN

SHEET NUMBER

70A

OF 358

Filename: 070_Signal_70a.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING CELL MODEM / FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED MONITORING SYSTEM	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SPAN AND TETHER WIRE	5
FURNISH AND INSTALL ONE-WAY 4-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SPAN AND TETHER WIRE	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	1
FURNISH AND INSTALL ONE-WAY 4-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	1
FURNISH AND INSTALL 4-CHANNEL PREEMPTION PHASE SELECTOR	1
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	4
FURNISH AND INSTALL PREEMPTION CONFIRMATION RED STROBE WITH CABLE	1
FURNISH AND INSTALL 19-INCH 1RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL ENVIRONMENTALLY HARDENED FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL POLE RISERS (FIBER)	1
FURNISH AND INSTALL NEW SIGNAL CABLE	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 2 APPROACHES, COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

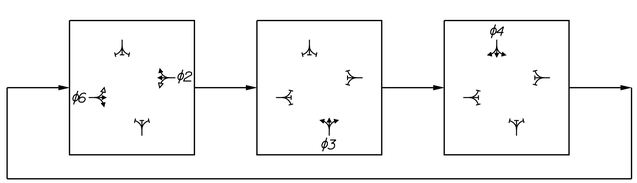
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"

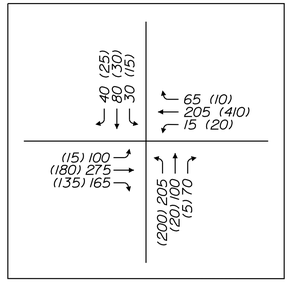
PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

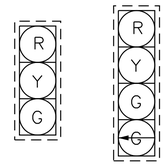
2 | 3 4
6 | 5



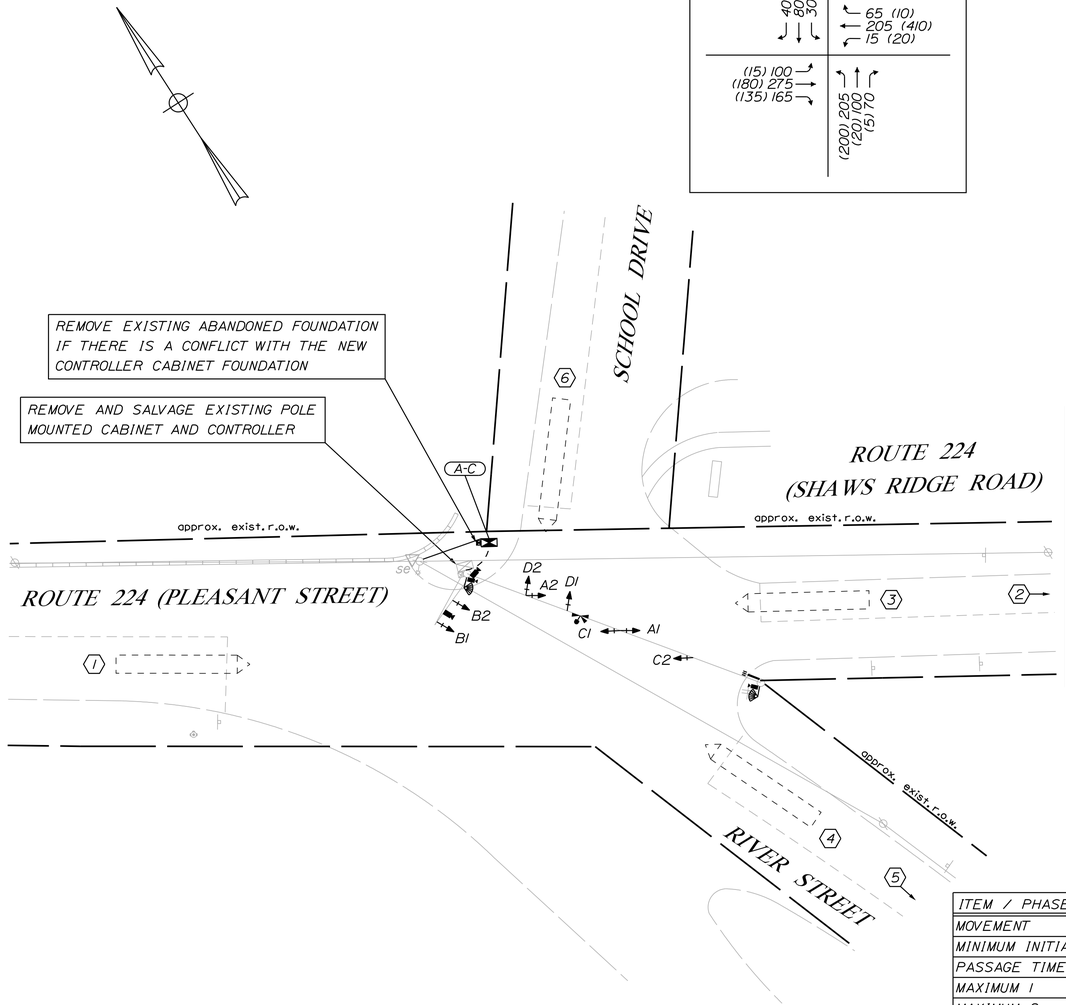
SYSTEM DESIGN VOLUMES AM (PM)



PROPOSED INDICATIONS



NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES



DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	ϕ CALLED	ϕ EXT.	MODE A=ADVANCE B=STOPLINE	DELAY TIME	EXT. TIME
1	PLEASANT ST EB MOVEMENTS	6	6	B	-	-
2*	SHAWS RIDGE RD WB ADVANCE	2	2	B	-	-
3	SHAWS RIDGE RD WB MOVEMENTS	2	2	B	-	-
4	RIVER ST NB MOVEMENTS	3	3	A	-	-
5**	RIVER ST NB ADVANCE	3	3	A	-	-
6	SCHOOL DR SB MOVEMENTS	4	4	B	-	-

* SEE ADVANCED DILEMMA ZONE DETAIL (40 MPH)
** SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)

SIGNAL TIMING SCHEDULE

ITEM / PHASE	ϕ1	ϕ2	ϕ3	ϕ4	ϕ5	ϕ6	ϕ7	ϕ8
MOVEMENT	-	A	B	D	-	C	-	-
MINIMUM INITIAL	-	7	7	5	-	7	-	-
PASSAGE TIME	-	3.0	3.0	3.0	-	3.0	-	-
MAXIMUM 1	-	35	25	25	-	35	-	-
MAXIMUM 2	-	45	25	25	-	45	-	-
YELLOW	-	3.5	3.5	3.5	-	3.5	-	-
ALL RED	-	3.5	2.5	2.5	-	3.5	-	-
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
DYN MAX LIMIT	-	-	-	-	-	-	-	-
DYN MAX STEP	-	-	-	-	-	-	-	-
RECALL	-	SOFT	OFF	OFF	-	SOFT	-	-
DETECTOR	-	PR	PR	PR	-	PR	-	-
PRE-EMPT PRIORITY	-	4	5	-	-	3	-	-
FLASH	-	Y	R	R	-	Y	-	-
DUAL ENTRY	-	ON	OFF	OFF	-	ON	-	-

NOTES: S = SOFT RECALLY = YELLOW
O = RECALL OFF R = RED
PR = PRESENCE D = DARK
IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONTRACT AWARD.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY INFORMATION FROM MAINE OFFICE OF GEOGRAPHIC INFORMATION SYSTEMS - JANUARY 7, 2015

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

	BY	DATE
PROJ. MANAGER	B. KEEZER	
DESIGN-DETAILED	MLG	JAR 07/20
CHECKED-REVIEWED	CMB	CMB 07/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SANFORD
ROUTE 224 AND RIVER ST

TRAFFIC SIGNAL PLAN

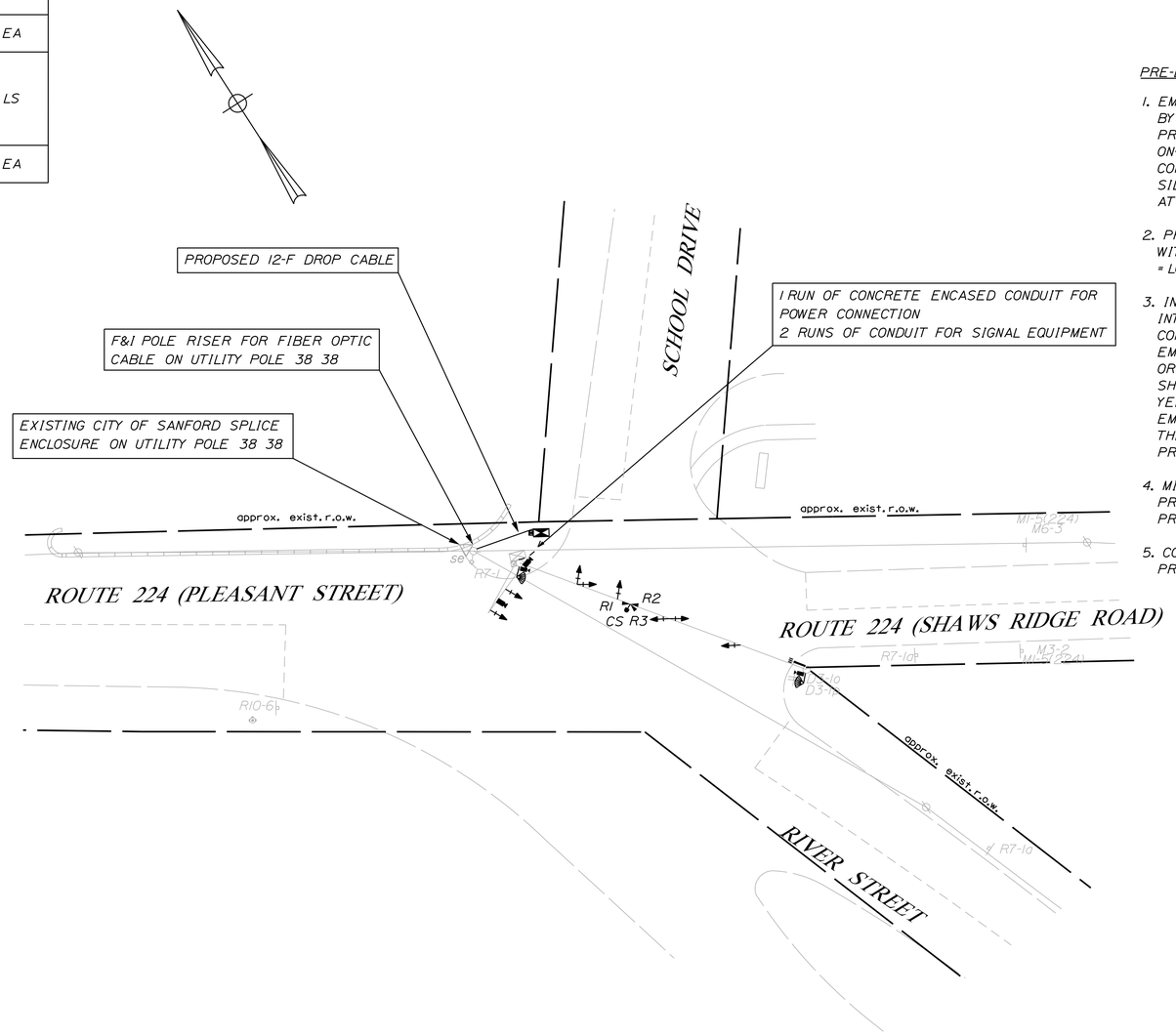
SHEET NUMBER
71
OF 358

Division: HIGHWAY
Username: jorobert
Date:11/24/2020
Filename: 071_Signal_71.dgn

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	55 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	15 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL APPROXIMATELY 100 LINEAR FEET OF 12-STRAND FIBER OPTIC INTERCONNECT CABLE FROM AERIAL SPLICE ENCLOSURE NEAR POLE 38 38 TO CONTROLLER CABINET AT INTERSECTION 71 (ITEM 643.90)	1 LS
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
	1	NOT USE/RESERVED	
	2	NOT USE/RESERVED	
R1	3	1	ϕ 6
R2	4	2	ϕ 2
R3	5	3	ϕ 3
	6	NOT USED	

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 3 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR AND/OR RSU , THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

EXISTING POST MOUNTED SIGNS



M6-3 1-RETAINED | M3-2 1-RETAINED | M1-5(224) 2-RETAINED | R7-1 1-RETAINED | R10-6 1-RETAINED | R7-1a 1-RETAINED



D3-1o 1-RETAINED | D3-1g 1-RETAINED

PLAN

25 0 25 50

Scale of Feet

* - RIGHT-OF-WAY INFORMATION FROM MAINE OFFICE OF GEOGRAPHIC INFORMATION SYSTEMS - JANUARY 7, 2015

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER		
DESIGN-DETAILED	MLG	JAR	07/20
CHECKED-REVIEWED	CMB	CMB	07/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SANFORD
ROUTE 224 AND RIVER ST

TRAFFIC SIGNAL PLAN

SHEET NUMBER

71A

OF 358

Filename: 071_Signal_71a.dgn Division: HIGHWAY Username: jarobert Date:11/24/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING CELL MODEM / FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED MONITORING SYSTEM	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SPAN AND TETHER WIRE	10
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SIDE OF POLE	2
FURNISH AND INSTALL 4-CHANNEL PREEMPTION PHASE SELECTOR	1
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	4
FURNISH AND INSTALL PREEMPTION CONFIRMATION RED STROBE WITH CABLE	1
FURNISH AND INSTALL 19-INCH 1RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL ENVIRONMENTALLY HARDENED FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL POLE RISERS (FIBER)	1
FURNISH AND INSTALL NEW SIGNAL CABLE	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCED VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

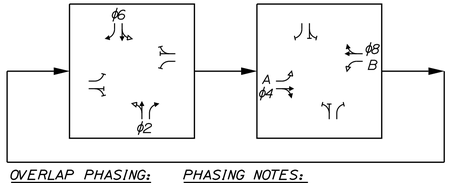
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

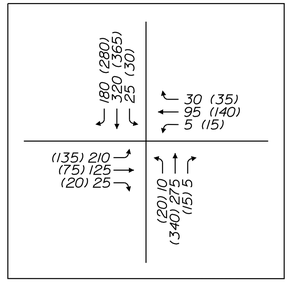
2 | 4
6 | 8

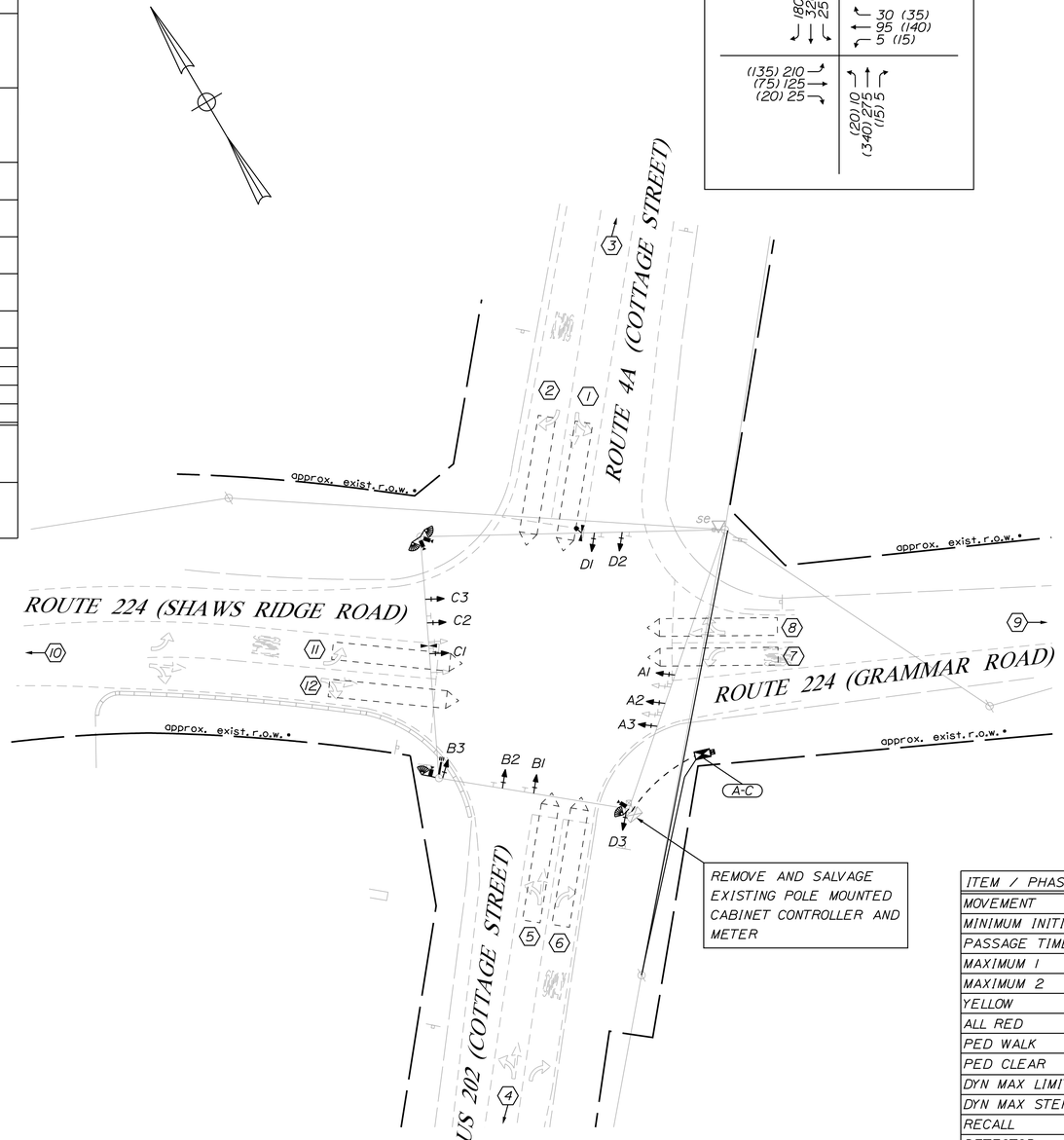


OVERLAP PHASING:
OVL A = 4
OVL B = 8

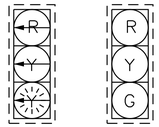
PHASING NOTES:
1. OVERLAP A AND B SHALL BE PROGRAMMED FOR FLASHING YELLOW ARROWS.

SYSTEM DESIGN VOLUMES AM (PM)





PROPOSED INDICATIONS



A1,C1 — A2,A3,B1 B2,B3,C2 C3,D1,D2,D3

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADVANCE B=STOPLINE	DELAY TIME	EXT. TIME
1	COTTAGE ST SB LEFT-THRU	6	6	B	-	-
2	COTTAGE ST SB RIGHT	6	6	B	5	-
3*	COTTAGE ST SB ADVANCE	6	6	A	-	-
4**	COTTAGE ST NB ADVANCE	2	2	A	-	-
5	COTTAGE ST NB LEFT-THRU	2	2	B	-	-
6	COTTAGE ST NB RIGHT	2	2	B	5	-
7	GRAMMER RD WB LEFT	8	8	B	-	-
8	GRAMMER RD WB THRU-RIGHT	8	8	B	-	-
9***	GRAMMER RD WB ADVANCE	8	8	A	-	-
10***	SHAWS RIDGE RD EB ADVANCE	4	4	A	-	-
11	SHAWS RIDGE RD EB LEFT	4	4	B	-	-
12	SHAWS RIDGE RD EB THRU-RIGHT	4	4	B	-	-

* SEE ADVANCED DILEMMA ZONE DETAIL (40 MPH)
** SEE ADVANCED DILEMMA ZONE DETAIL (45 MPH)
*** SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)

SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ1	φ2	φ3	φ4	φ5	φ6	φ7	φ8
MOVEMENT	-	D	-	A	-	B	-	C
MINIMUM INITIAL	-	10	-	5	-	10	-	5
PASSAGE TIME	-	3.0	-	2.0	-	3.0	-	2.0
MAXIMUM 1	-	30	-	15	-	30	-	15
MAXIMUM 2	-	35	-	20	-	35	-	20
YELLOW	-	4.5	-	4.0	-	4.5	-	4.0
ALL RED	-	2.0	-	2.0	-	2.0	-	2.0
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
DYN MAX LIMIT	-	-	-	-	-	-	-	-
DYN MAX STEP	-	-	-	-	-	-	-	-
RECALL	-	SOFT	-	OFF	-	SOFT	-	OFF
DETECTOR	-	PR	-	PR	-	PR	-	PR
PRE-EMPT PRIORITY	-	4	-	5	-	3	-	6
FLASH	-	Y	-	R	-	Y	-	R
DUAL ENTRY	-	ON	-	ON	-	ON	-	ON

NOTES: S = SOFT RECALLY = YELLOW
O = RECALL OFF R = RED
PR = PRESENCE D = DARK
IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONTRACT AWARD.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE STP-08-5674(00)E. DOT FILE 16-354, SHEET 1, DECEMBER 1995

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

PROJ. MANAGER	B. KEEZER	DATE
DESIGN-DETAILED	MLG	07/20
CHECKED-REVIEWED	CMB	07/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SANFORD
ROUTE 4A (COTTAGE ST) AND ROUTE 224

TRAFFIC SIGNAL PLAN

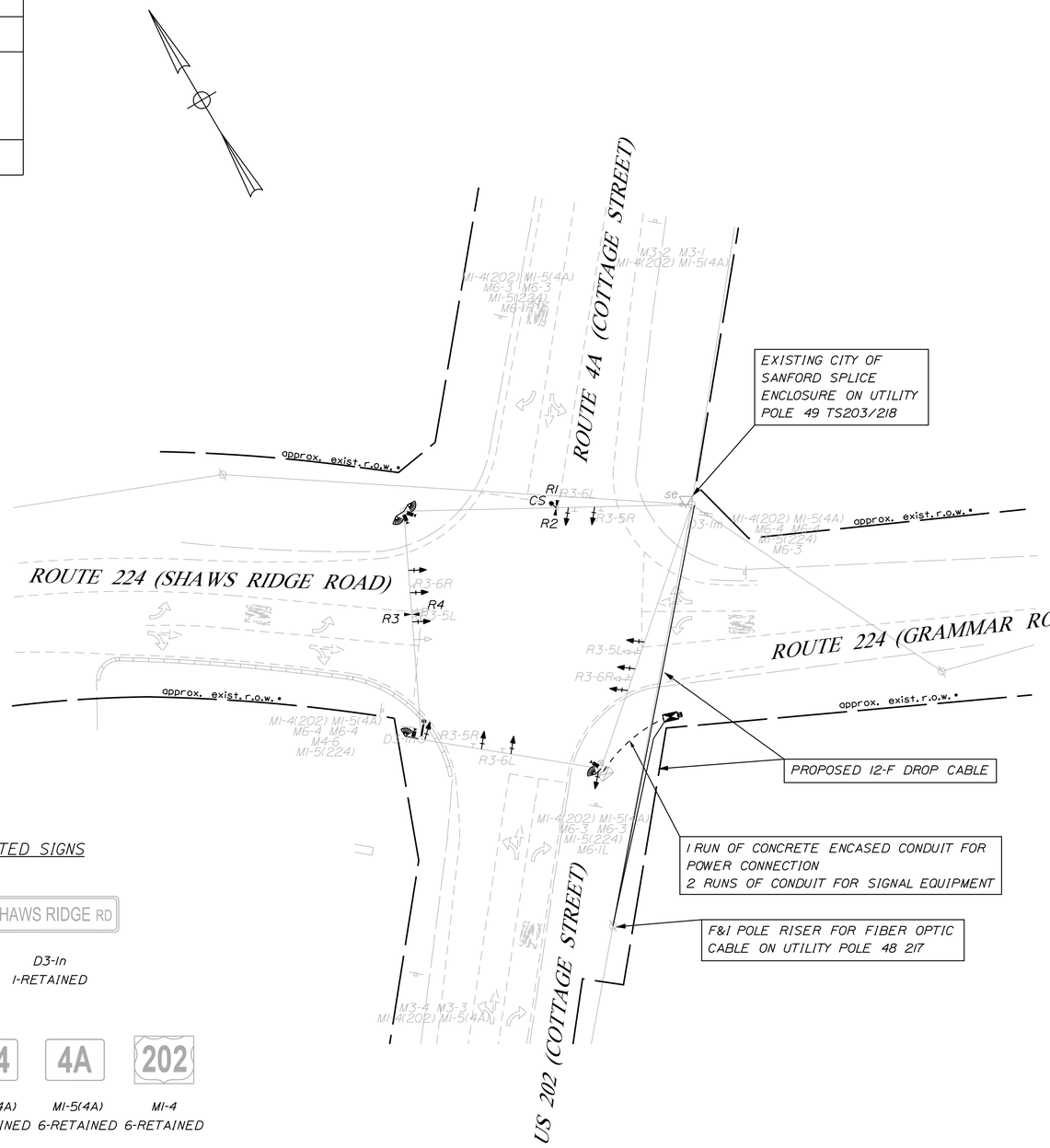
SHEET NUMBER
72
OF 358

Filename: 072_Signal_72.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

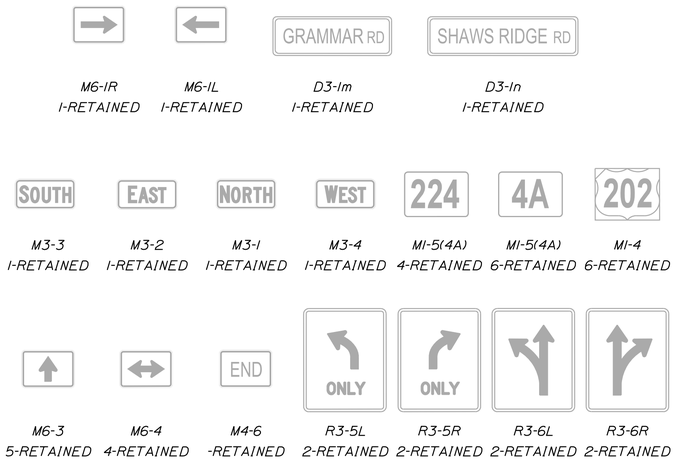
LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS XXX.YYZ	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	140 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	35 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL APPROXIMATELY 310 LINEAR FEET OF 12-STRAND FIBER OPTIC INTERCONNECT CABLE FROM AERIAL SPLICE ENCLOSURE NEAR POLE 49 TS203/218 TO CONTROLLER CABINET AT INTERSECTION 72 (ITEM 643.90)	1 LS
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



EXISTING POST AND SPAN WIRE MOUNTED SIGNS



M6-1R I-RETAINED · M6-1L I-RETAINED · D3-1m I-RETAINED · D3-1n I-RETAINED

M3-3 I-RETAINED · M3-2 I-RETAINED · M3-1 I-RETAINED · M3-4 I-RETAINED · M1-5(4A) 4-RETAINED · M1-5(4A) 6-RETAINED · M1-4 6-RETAINED

M6-3 5-RETAINED · M6-4 4-RETAINED · M4-6 -RETAINED · R3-5L 2-RETAINED · R3-5R 2-RETAINED · R3-6L 2-RETAINED · R3-6R 2-RETAINED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
	1	NOT USE/RESERVED	
	2	NOT USE/RESERVED	
R1	3	1	ϕ6
R2	4	2	ϕ2
R3	5	3	ϕ4
R4	6	4	ϕ8

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 4 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR AND/OR RSU , THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (4.5 SECONDS YELLOW AND 2.0 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE STP-08-5674(00)E, DOT FILE 16-354, SHEET 1, DECEMBER 1995

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

vhb

	B. KEEZER	DATE
PROJ. MANAGER		
DESIGN-DETAILED	MLG	07/20
CHECKED-REVIEWED	CMB	07/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SANFORD
ROUTE 4A (COTTAGE ST)
AND ROUTE 224

TRAFFIC SIGNAL PLAN

SHEET NUMBER
72A
OF 358

Filename: 072_Signal_72a.dgn Division: HIGHWAY Username: jorobert Date:11/24/2020

Filename: ...\FinalPlans\021_Signal_73.dgn Username: common Division: HIGHWAY Date:11/19/2020

LIST OF WORK ITEMS

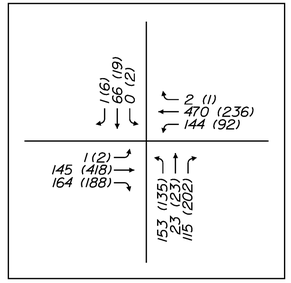
EQUIPMENT AND WORK ITEMS 643.71 TRAFFIC SIGNAL AT: ROUTE 202 & ROUTE 32, CHINA	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SPAN WIRE	8
FURNISH AND INSTALL ONE-WAY 4-SECTION, 12-INCH TRAFFIC SIGNAL HEADS, WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON SPAN WIRE	2
FURNISH AND INSTALL SPAN WIRE	385 LF
FUNRISH AND INSTALL 4-CHANNEL PREEMPTION PHASE SELECTOR WITH SYSTEM CHASSIS	1
FURNISH AND INSTALL LIGHT-BASED PREEMPTION RECEIVERS WITH DETECTOR CABLE	4
FURNISH AND INSTALL PREEMPTION CONFIRMATION RED STROBE WITH CABLE	1
FURNISH AND INSTALL SPAN WIRE MOUNTED SIGNS	6
REMOVE SPAN WIRE MOUNTED SIGNS	8
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	1
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	1
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 3 APPROACHES, COMPLETE (643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

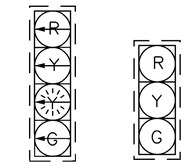
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"

SYSTEM DESIGN VOLUMES AM (PM)

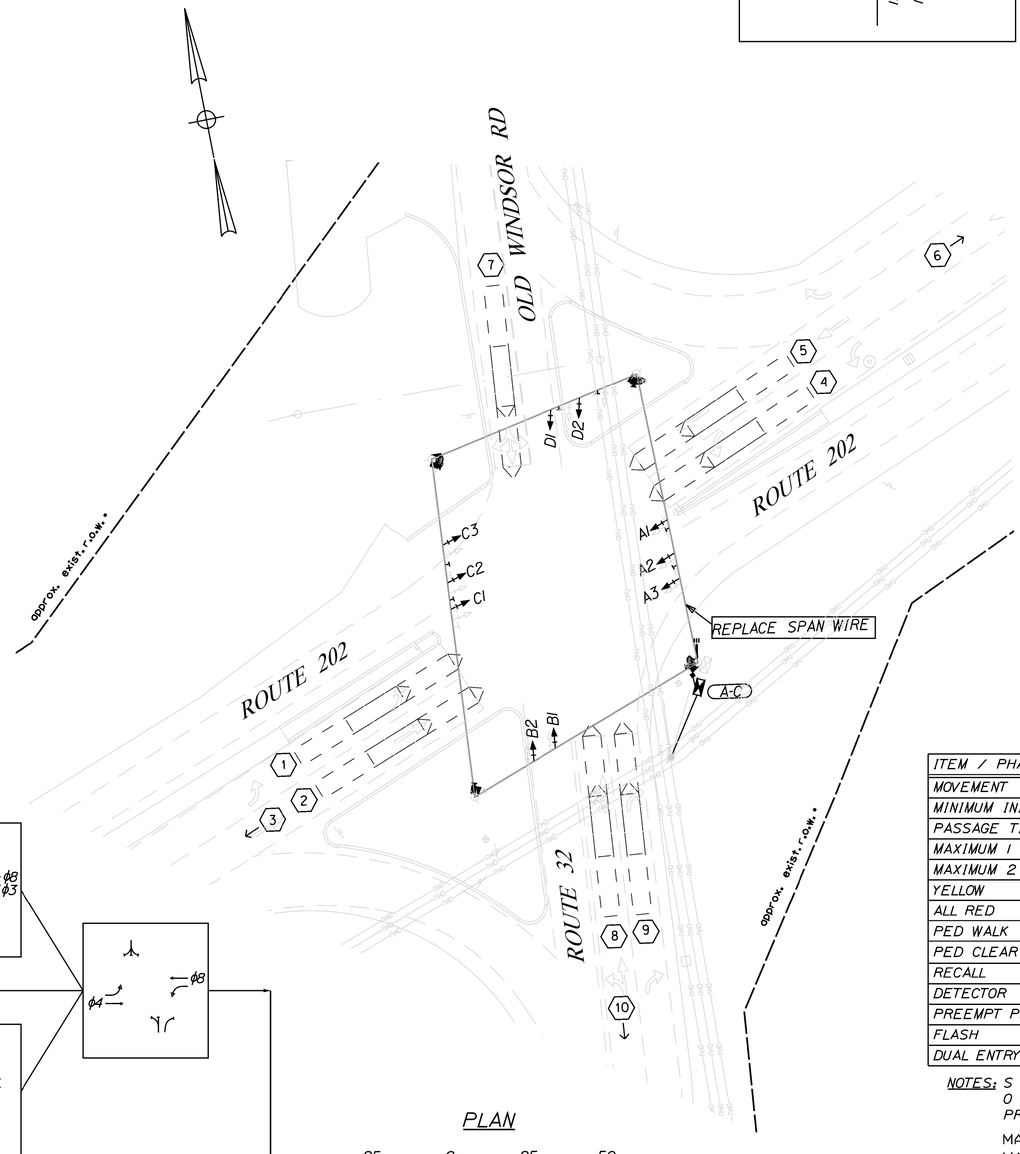


PROPOSED INDICATIONS



A1, C1 — A2, A3, B1, B2, C2, C3, D1, D2

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES



PLAN

25 0 25 50
Scale of Feet

DETECTOR SCHEDULE

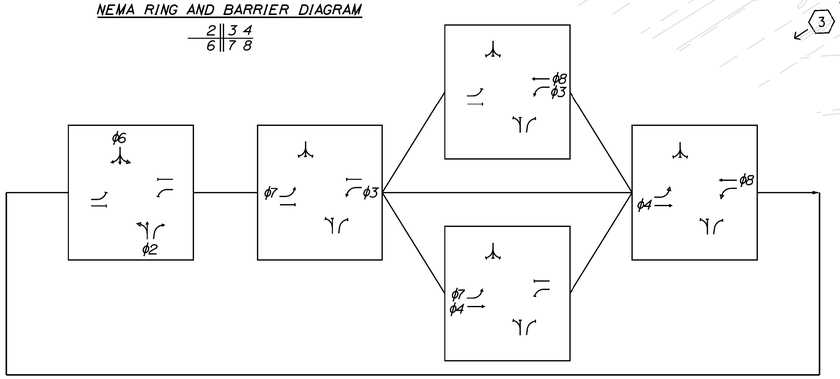
DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADVANCE B=STOPLINE	DELAY TIME	EXT. TIME
1	ROUTE 202 EB LEFT	7	7	B	-	3
2	ROUTE 202 EB THRU	4	4	B	-	3
3*	ROUTE 202 EB ADVANCE	4	4	A	-	-
4	ROUTE 202 WB LEFT	3	3	B	-	3
5	ROUTE 202 WB THRU	8	8	B	-	3
6*	ROUTE 202 WB ADVANCE	8	8	A	-	-
7	OLD WINDSOR RD SB LEFT-THRU-RIGHT	6	6	B	-	3
8	ROUTE 32 NB LEFT-THRU	2	2	B	-	3
9	ROUTE 32 NB RIGHT	2	2	B	8	3
10*	ROUTE 32 NB ADVANCE	2	2	A	-	-

* SEE ADVANCED DILEMMA ZONE DETAIL (40 MPH)

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

2 | 3 4
6 | 7 8



SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ 1	φ 2	φ 3	φ 4	φ 5	φ 6	φ 7	φ 8
MOVEMENT	-	D	C-L	A-T	-	B	A-L	C-T
MINIMUM INITIAL	-	5.0	5.0	10.0	-	5.0	10.0	5.0
PASSAGE TIME	-	3.0	3.0	3.0	-	3.0	3.0	3.0
MAXIMUM 1	-	21.0	7.0	34.0	-	21.0	10.0	31.0
MAXIMUM 2	-	21.0	7.0	34.0	-	21.0	10.0	31.0
YELLOW	-	4.0	4.0	4.0	-	4.0	4.0	4.0
ALL RED	-	2.0	2.0	2.0	-	2.0	2.0	2.0
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
RECALL	-	O	O	S	-	O	O	S
DETECTOR	-	PR	PR	PR	-	PR	PR	PR
PREEMPT PRIORITY	-	5	4	3	-	6	3	4
FLASH	-	R	R	Y	-	R	R	Y
DUAL ENTRY	-	ON	OFF	ON	-	ON	OFF	ON

NOTES: S = SOFT RECALL
O = RECALL OFF
PR = PRESENCE
Y = YELLOW
R = RED
D = DARK

MAX1 = AM PEAK HOURS
MAX2 = PM PEAK HOURS

* - RIGHT-OF-WAY REFERENCE PIN 15116.16 SHEET 18, 09/2008

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

Sewal
The evolution of expertise

PROJ. MANAGER	B. KEEZER
DESIGN-DETAILED	LBF
CHECKED-REVIEWED	DWM
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	

BY	DATE
LBF	7/20
DWM	7/20

REVISIONS
REVISIONS 1
REVISIONS 2
REVISIONS 3
REVISIONS 4
FIELD CHANGES

CHINA
ROUTE 202 AND
ROUTE 32

TRAFFIC SIGNAL PLAN

SHEET NUMBER

73

OF 358

Filename: ...\Final Plans\022_Signal_73a.dgn Division: HIGHWAY Username: common Date:11/19/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK (ITEM XXX.YYZ)	QUANTITY
FURNISH AND INSTALL 14-INCH PRECAST JUNCTION BOX (ITEM 626.11)	1 EA
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	20 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.22)	25 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

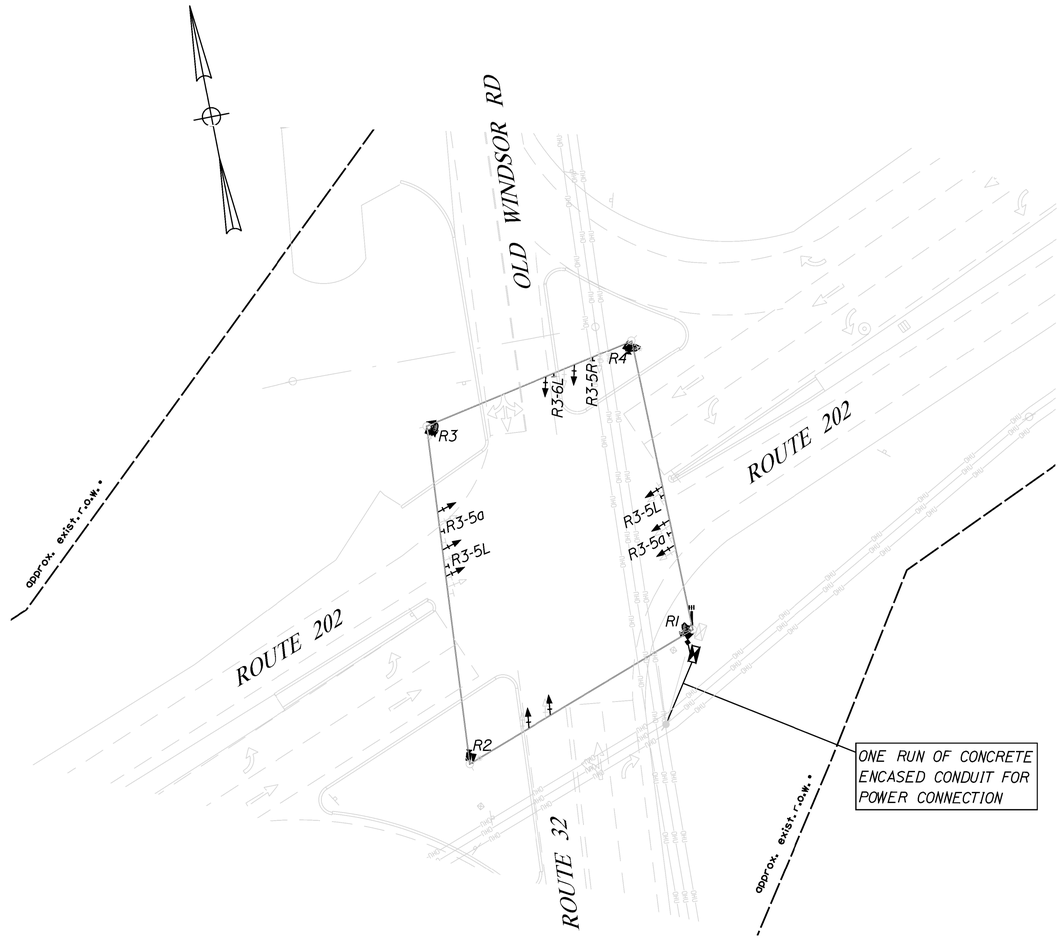
THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
	1	NOT USED	RESERVED
	2	NOT USED	RESERVED
R1	3	3	ϕ4 & ϕ7
R2	6	6	ϕ6
R3	4	4	ϕ3 & ϕ8
R4	5	5	ϕ2

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 4 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION 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 PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.



PLAN

25 0 25 50
Scale of Feet

* - RIGHT-OF-WAY REFERENCE PIN 15116.16 SHEET 18, 09/2008

PROPOSED SIGNS



R3-5L 30"x36" 2-PROPOSED | R3-5R 30"x36" 1-PROPOSED | R3-5a 30"x36" 2-PROPOSED | R3-6L 30"x36" 1-PROPOSED

EXISTING SIGNS



R3-5L 2-REMOVED | R3-5a 2-REMOVED | R10-5L 2-REMOVED | R3-6L 1-REMOVED | R3-5R 1-REMOVED

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

Sewal
The evolution of expertise

	BY	DATE
B. KEEFER	LBF	7/20
PROJ. MANAGER	LBF	7/20
DESIGN-DETAILED	DWM	
CHECKED-REVIEWED	DWM	
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

CHINA
ROUTE 202 AND
ROUTE 32

TRAFFIC SIGNAL PLAN

SHEET NUMBER

73A

OF 358

LIST OF WORK ITEMS

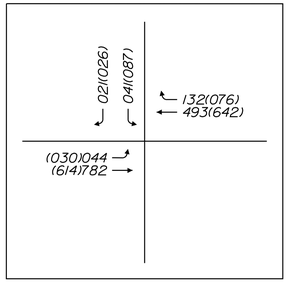
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT $^{32}/_{48}$ SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ONE-WAY, CIRCULAR LED MODULES TO BE INSTALLED INTO EXISTING SIGNAL HEADS.	24
RESET PREEMPTION PHASE SELECTOR	1
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1 RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL SPAN WIRE MOUNTED SIGN	2
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
FURNISH AND INSTALL NEW SIGNAL CABLE	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON- INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 3 APPROACHES, COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 3 APPROACHES, COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

STRUCTURE LIST

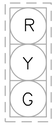
STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"

SYSTEM DESIGN VOLUMES AM (PM)



EXISTING INDICATIONS

TO REMAIN



A1, A2, A3, B1, B2, B3, C1, C2

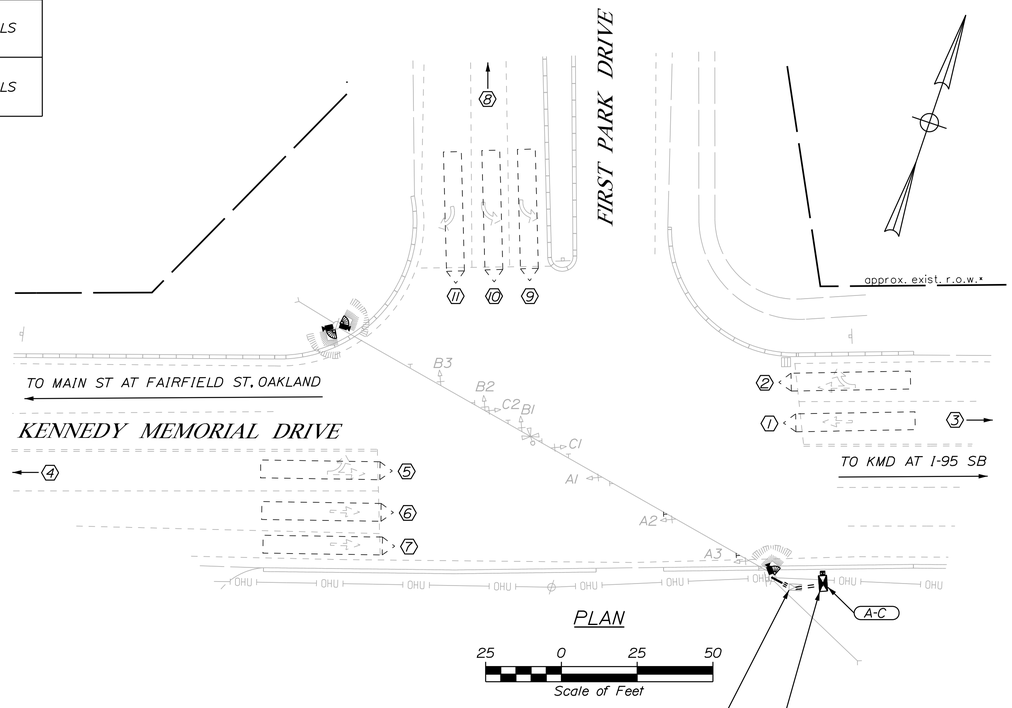
ALL EXISTING INDICATION MODULES TO BE REPLACED WITH NEW LIGHT EMITTING DIODES (LED) MODULES

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADV. B=S.BAR	DELAY TIME	EXT. TIME
①	KMD WB THRU	6	6	B	-	-
②	KMD WB THRU/RIGHT	6	6	B	-	-
③*	KMD WB ADVANCE	6	6	A	-	-
④*	KMD EB ADVANCE	2	2	A	-	-
⑤	KMD EB THRU/LEFT	2	2	B	-	-
⑥	KMD EB THRU	2	2	B	-	-
⑦	KMD EB THRU	2	2	B	-	-
⑧*	FIRST PARK DRIVE SB ADVANCE	4	4	A	-	-
⑨	FIRST PARK DRIVE SB LEFT	4	4	B	-	-
⑩	FIRST PARK DRIVE SB LEFT	4	4	B	-	-
⑪	FIRST PARK DRIVE SB RIGHT	4	4	B	10	-

*SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)

NOTE: LOCATION AND QUANTITY OF ADDITIONAL VEHICLE DETECTION ZONES TO BE DETERMINED BASED ON THE SPECIFIC ASCT SYSTEM REQUIREMENTS.



REMOVE AND SALVAGE EXISTING GROUND MOUNTED CONTROLLER CABINET. REMOVE EXISTING FOUNDATION TO 12 INCHES BELOW GRADE.

EXTEND CONDUIT AS NEEDED FROM EXISTING CONTROLLER LOCATION TO PROPOSED CONTROLLER LOCATION. USE CONRETE ENCASED CONDUIT FOR POWER AND NON-METALLIC CONDUIT FOR OTHER CONDUIT RUNS.

SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ 1	φ 2	φ 3	φ 4	φ 5	φ 6	φ 7	φ 8
MOVEMENT	-	A	-	B	-	C	-	-
MINIMUM INITIAL	-	10.0	-	5.0	-	10.0	-	-
PASSAGE TIME	-	4.0	-	2.0	-	4.0	-	-
MAXIMUM 1	-	17.0	-	10.0	-	17.0	-	-
MAXIMUM 2	-	-	-	-	-	-	-	-
YELLOW	-	3.5	-	3.5	-	3.5	-	-
ALL RED	-	1.5	-	1.5	-	1.5	-	-
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
RECALL	-	S	-	0	-	S	-	-
DETECTOR	-	PR	-	PR	-	PR	-	-
PREEMPT PRIORITY	-	3	-	5	-	4	-	-
FLASH	-	Y	-	R	-	Y	-	-
DUAL ENTRY	-	ON	-	OFF	-	ON	-	-

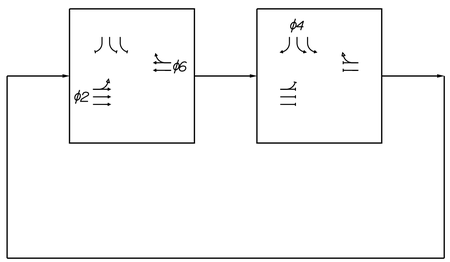
SIGNAL TIMING NOTES:

1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONCTRACT AWARD.
2. DEFINITIONS
   - S = SOFT RECALL
   - 0 = RECALL OFF
   - PR = PRESENCE
   - Y = YELLOW
   - R = RED
   - D = DARK

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

2 | 4
6 | 8



NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN IS AN APPROXIMATE REPRESENTATION OF EXISTING CONDITIONS BASED ON INFORMATION FROM VARIOUS SOURCES, INCLUDING: GEO-LOCATED AERIAL IMAGERY, LIDAR DERIVED CONTOURS, AVAILABLE PROPERTY MAP INFORMATION, AND SCANNED RIGHT-OF-WAY INFORMATION FROM THE SOURCE LISTED BELOW FITTED TO THE OTHER SOURCES. THE INFORMATION WITHIN THIS PLAN IS NOT SUPPORTED BY FIELD SURVEY.

* - RIGHT-OF-WAY REFERENCE: PIN F-031-1(18) DOT FILE 6-128, SHEET 2 OF 7, 1964

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

	BY	DATE
PROJ. MANAGER	B.KEEZER	
DESIGN-DETAILED	NLS	11\20
CHECKED-REVIEWED	CMT	11\20
DESIGN2-DETAILED2	BRL	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
KMD AT FIRST PARK DR

TRAFFIC SIGNAL PLAN

SHEET NUMBER

74

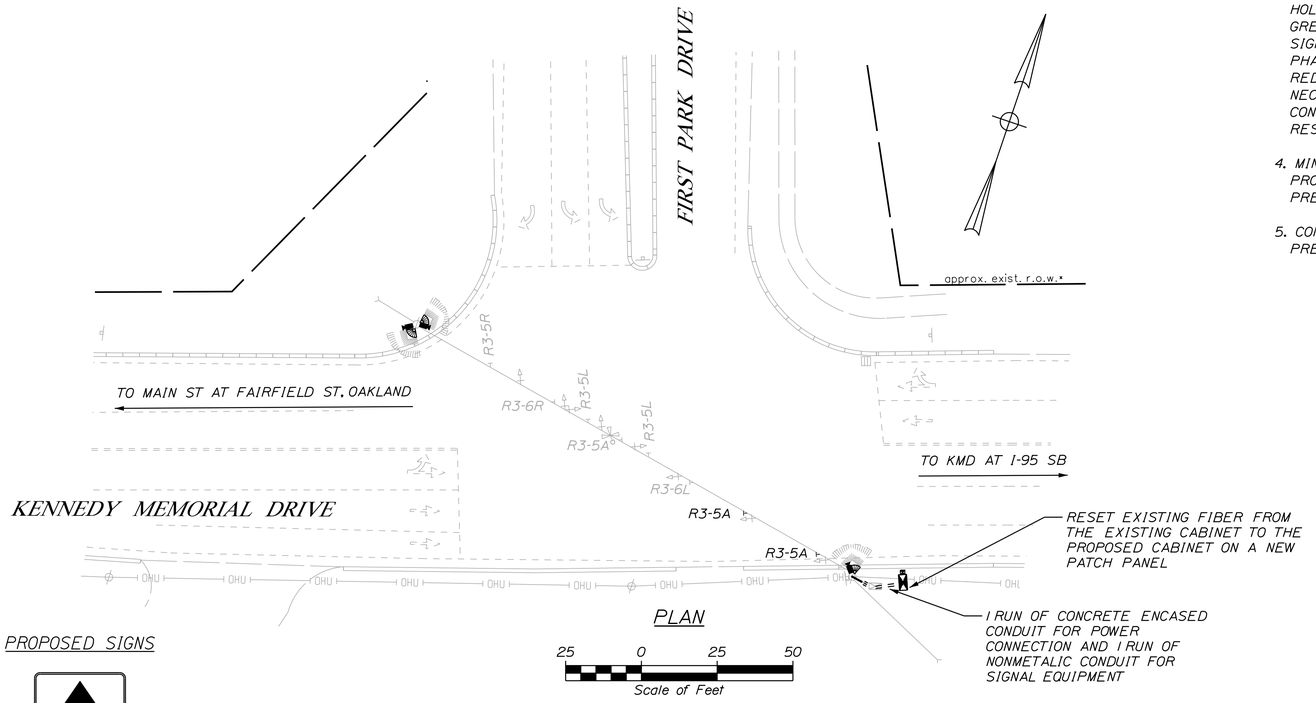
OF 358

Filename: ...\Waterville\074_Signal_74.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	20 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	10 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL KENNEDY MEMORIAL DRIVE PROGRESSION BASED ASCT SYSTEM (ITEM 654.05)	1 LS
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PLAN

25 0 25 50

Scale of Feet

PROPOSED SIGNS



R3-5a
30"x36"
2-PROPOSED

EXISTING SIGNS



R3-6L 30"x36" 1-RETAINED

R3-5L 30"x36" 2-RETAINED

R3-5a 30"x36" 1-RETAINED

R3-6R 30"x36" 1-RETAINED

R3-5R 30"x36" 1-RETAINED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2
R4	4	2	ϕ6
R5	5	3	ϕ4
R6	6	4	-

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.

2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 6 = LOWEST)

3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.

4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.

5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN IS AN APPROXIMATE REPRESENTATION OF EXISTING CONDITIONS BASED ON INFORMATION FROM VARIOUS SOURCES, INCLUDING: GEO-LOCATED AERIAL IMAGERY, LIDAR DERIVED CONTOURS, AVAILABLE PROPERTY MAP INFORMATION, AND SCANNED RIGHT-OF-WAY INFORMATION FROM THE SOURCE LISTED BELOW FITTED TO THE OTHER SOURCES. THE INFORMATION WITHIN THIS PLAN IS NOT SUPPORTED BY FIELD SURVEY.

* - RIGHT-OF-WAY REFERENCE: PIN F-031-1(8) DOT FILE 6-128, SHEET 2 OF 7, 1964

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

	B.KEEZER
PROJ. MANAGER	
DESIGN-DETAILED	CMT
CHECKED-REVIEWED	BRL
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	

	BY	DATE
REVISIONS 1	CMT	11\20
REVISIONS 2	BRL	11\20
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
KMD AT FIRST PARK DR

TRAFFIC SIGNAL PLAN

SHEET NUMBER

74A

OF 358

Filename: ...\Waterville\074A_Signal_74.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

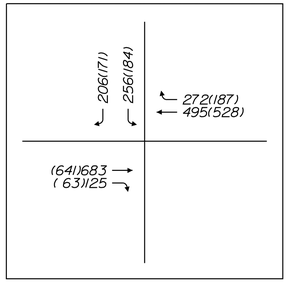
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT $^{32}/_{48}$ SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ONE-WAY, CIRCULAR LED MODULES TO BE INSTALLED INTO EXISTING SIGNAL HEADS.	18
RESET PREEMPTION PHASE SELECTOR	1
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1 RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
FURNISH AND INSTALL NEW SIGNAL CABLE	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON- INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 3 APPROACHES. COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 3 APPROACHES. COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

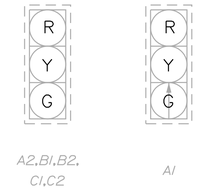
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"

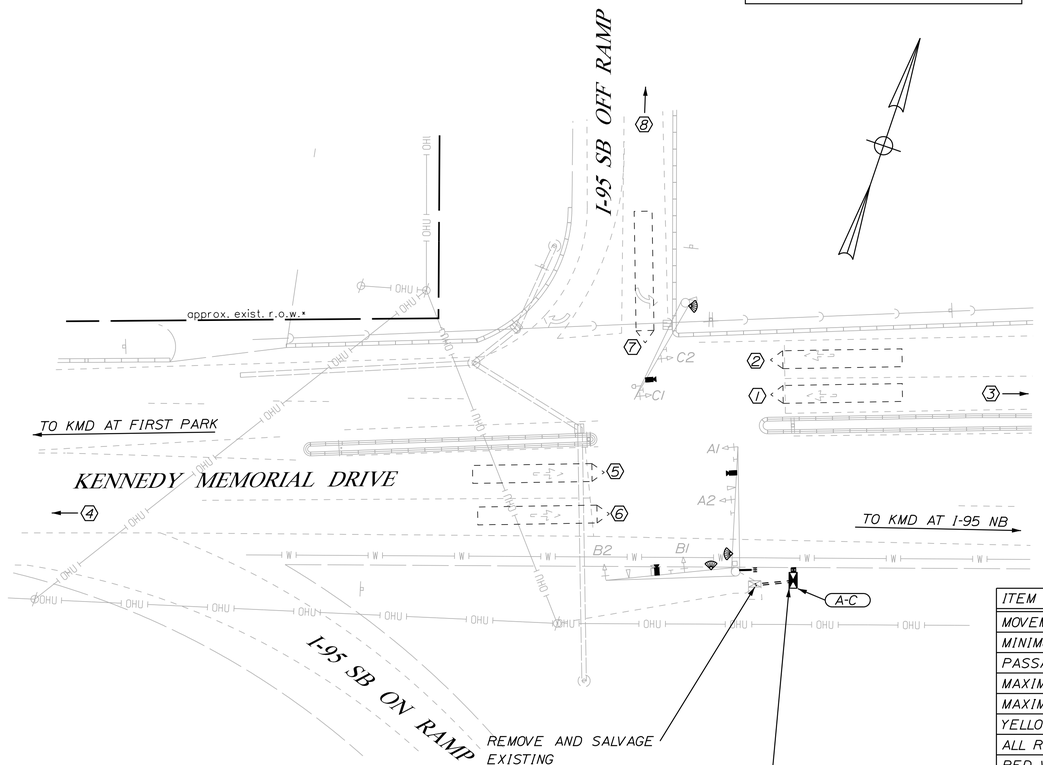
SYSTEM DESIGN VOLUMES AM (PM)



EXISTING INDICATIONS TO REMAIN



ALL EXISTING INDICATION MODULES TO BE REPLACED WITH NEW LIGHT EMITTING DIODES (LED) MODULES



PLAN

25 0 25 50

Scale of Feet

REMOVE AND SALVAGE EXISTING GROUND MOUNTED CONTROLLER CABINET. REMOVE EXISTING FOUNDATION TO 12 INCHES BELOW GRADE.

EXTEND CONDUIT AS NEEDED FROM EXISTING CONTROLLER LOCATION TO PROPOSED CONTROLLER LOCATION. USE CONRETE ENCASED CONDUIT FOR POWER AND NON-METALLIC CONDUIT FOR OTHER CONDUIT RUNS.

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADV. B=S.BAR	DELAY TIME	EXT. TIME
①	KMD WB THRU	6	6	B	-	-
②	KMD WB THRU	6	6	B	-	-
③*	KMD WB ADVANCE	6	6	A	-	-
④*	KMD EB ADVANCE	2	2	A	-	-
⑤	KMD EB THRU	2	2	B	-	-
⑥	KMD EB THRU	2	2	B	-	-
⑦	I-95 SB OFF RAMP LEFT	4	4	B	-	-
⑧*	I-95 SB OFF RAMP ADVANCE	4	4	A	-	-

*SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)

NOTE: LOCATION AND QUANTITY OF ADDITIONAL VEHICLE DETECTION ZONES TO BE DETERMINED BASED ON THE SPECIFIC ASCT SYSTEM REQUIREMENTS.

SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ 1	φ 2	φ 3	φ 4	φ 5	φ 6	φ 7	φ 8
MOVEMENT	-	A	-	B	-	C	-	-
MINIMUM INITIAL	-	10.0	-	5.0	-	10.0	-	-
PASSAGE TIME	-	2.0	-	2.0	-	2.0	-	-
MAXIMUM 1	-	44.0	-	44.0	-	44.0	-	-
MAXIMUM 2	-	-	-	-	-	-	-	-
YELLOW	-	3.5	-	4.0	-	3.5	-	-
ALL RED	-	1.0	-	1.0	-	1.0	-	-
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
RECALL	-	S	-	0	-	S	-	-
DETECTOR	-	PR	-	PR	-	PR	-	-
PREEMPT PRIORITY	-	3	-	5	-	4	-	-
FLASH	-	Y	-	R	-	Y	-	-
DUAL ENTRY	-	ON	-	OFF	-	ON	-	-

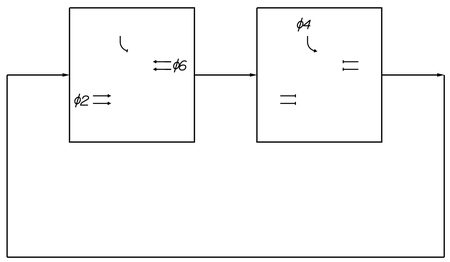
SIGNAL TIMING NOTES:

1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONCTRACT AWARD.
2. DEFINITIONS
   - S = SOFT RECALL
   - O = RECALL OFF
   - PR = PRESENCE
   - Y = YELLOW
   - R = RED
   - D = DARK

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

2 | 4
6 | 8



NOTE:

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

	BY	DATE
PROJ. MANAGER	B.KEEZER	
DESIGN-DETAILED	CMT	11\20
CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
KMD AT I-95 SB OFF RAMP

TRAFFIC SIGNAL PLAN

SHEET NUMBER

75

OF 358

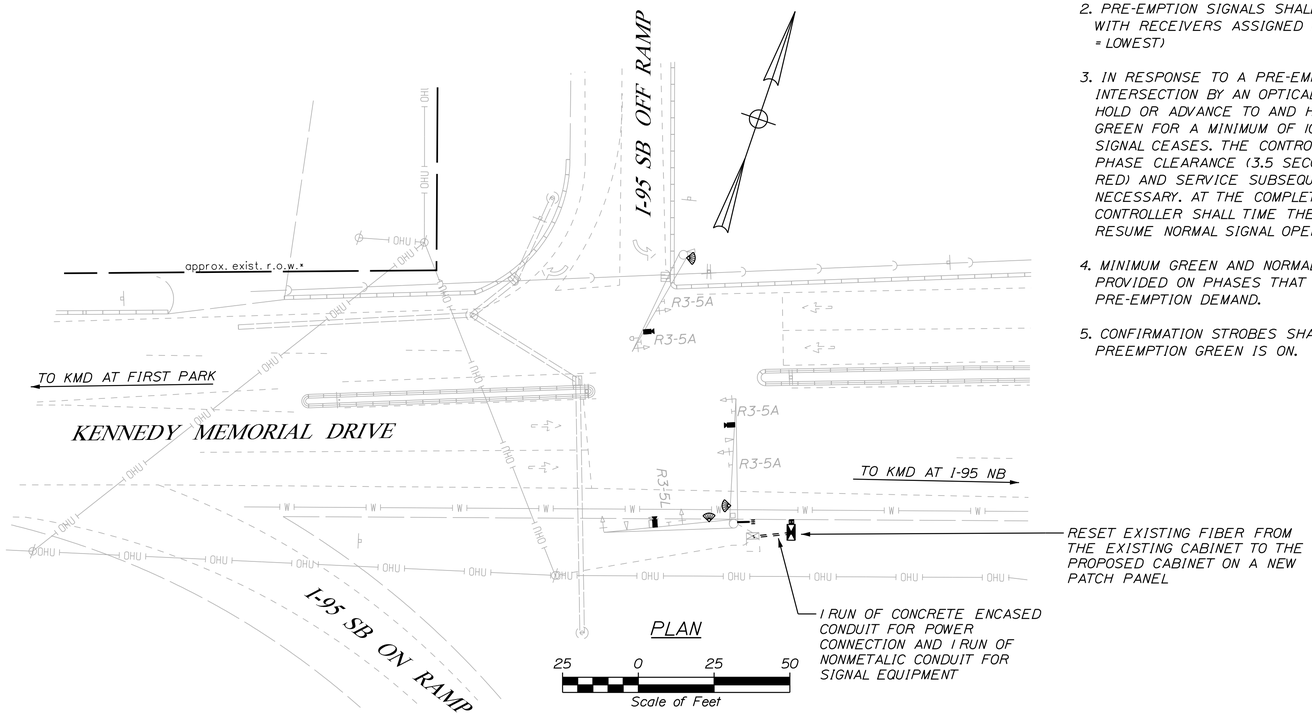
Filename: ...\Waterville\075_Signal_75.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

Filename: ...\Waterville\075A_Signal_75.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	30 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	15 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL KENNEDY MEMORIAL DRIVE PROGRESSION BASED ASCT SYSTEM (ITEM 654.05)	1 LS
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2
R4	4	2	ϕ6
R5	5	3	ϕ4
R6	6	4	-

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
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4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

EXISTING SIGNS



R3-5L 30"x36" I-RETAINED

R3-5a 30"x36" I-RETAINED

NOTE:

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
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75 John Roberts Rd.
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South Portland, ME 04106
Tel. 207-200-2100

		BY	DATE
PROJ. MANAGER	B.KEEZER		
DESIGN-DETAILED	CMT	CMT	11\20
CHECKED-REVIEWED	BRL	BRL	11\20
DESIGN2-DETAILED2			
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REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WATERVILLE
KMD AT I-95 SB OFF RAMP

TRAFFIC SIGNAL PLAN

SHEET NUMBER

75A

OF 358

LIST OF WORK ITEMS

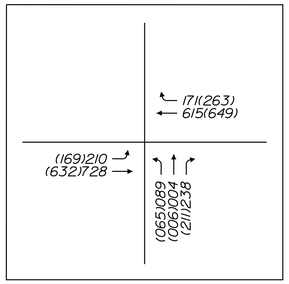
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT $^{32}/_{48}$ SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ONE-WAY, CIRCULAR LED MODULES TO BE INSTALLED INTO EXISTING SIGNAL HEADS.	24
RESET PREEMPTION PHASE SELECTOR	1
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1 RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL SPAN WIRE MOUNTED SIGN	6
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
FURNISH AND INSTALL NEW SIGNAL CABLE	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON- INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 3 APPROACHES, COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 3 APPROACHES, COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

STRUCTURE LIST

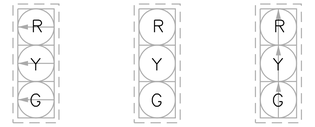
STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"

SYSTEM DESIGN VOLUMES AM (PM)



EXISTING INDICATIONS

TO REMAIN



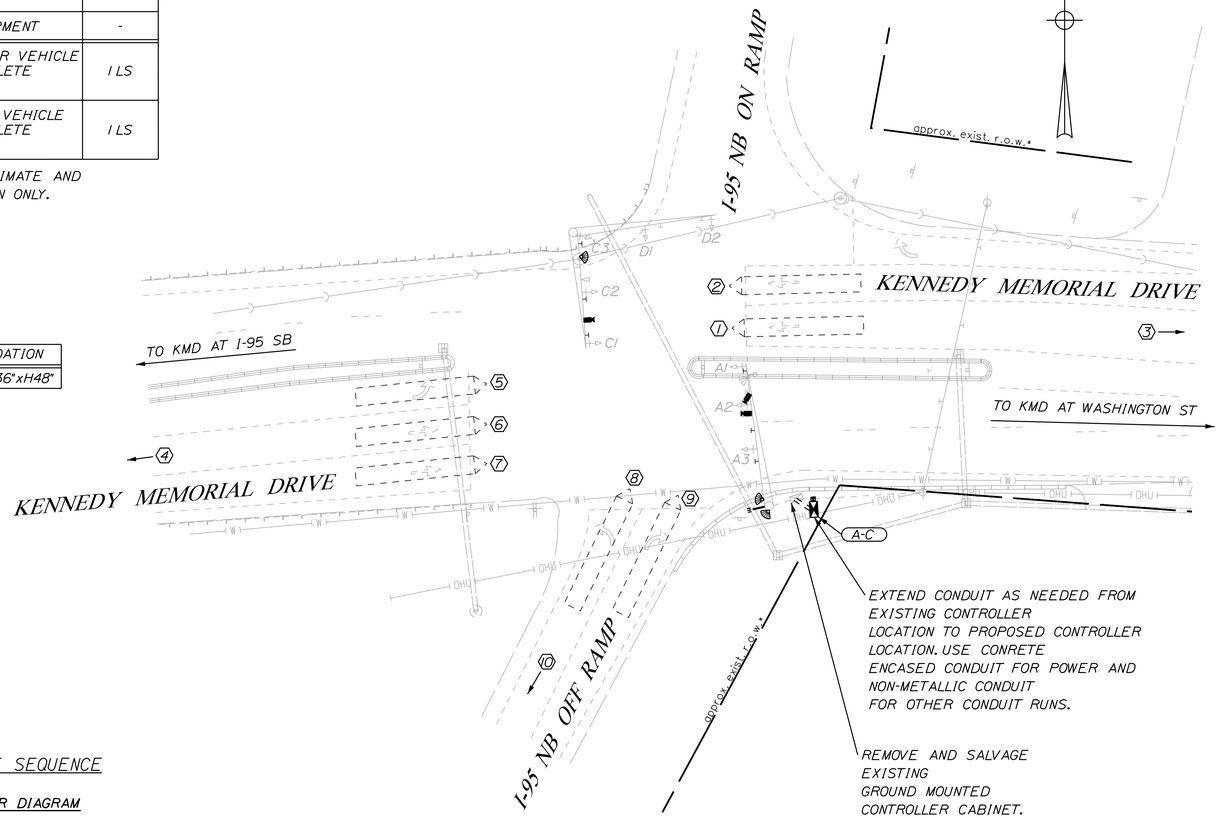
ALL EXISTING INDICATION MODULES TO BE REPLACED WITH NEW LIGHT EMITTING DIODES (LED) MODULES

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	ϕ CALLED	ϕ EXT.	MODE A=ADV, B=S.BAR	DELAY TIME	EXT. TIME
①	KMD WB THRU	2	2	B	-	-
②	KMD WB THRU	2	2	B	-	-
③*	KMD WB ADVANCE	2	2	A	-	-
④*	KMD EB ADVANCE	6	6	A	-	-
⑤	KMD EB LEFT	5	5	B	-	-
⑥	KMD EB THRU	6	6	B	-	-
⑦	KMD EB THRU	6	6	B	-	-
⑧	I-95 NB OFF RAMP LEFT	3	3	B	-	-
⑨	I-95 NB OFF RAMP RIGHT	3	3	B	10	-
⑩*	I-95 NB OFF RAMP ADVANCE	3	3	A	-	-

*SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)

NOTE: LOCATION AND QUANTITY OF ADDITIONAL VEHICLE DETECTION ZONES TO BE DETERMINED BASED ON THE SPECIFIC ASCT SYSTEM REQUIREMENTS.



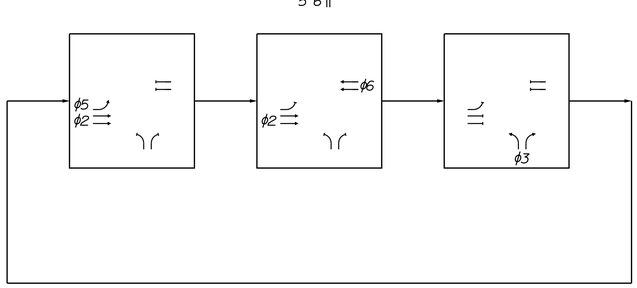
PLAN

25 0 25 50

Scale of Feet

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM



SIGNAL TIMING SCHEDULE

ITEM / PHASE	ϕ 1	ϕ 2	ϕ 3	ϕ 4	ϕ 5	ϕ 6	ϕ 7	ϕ 8
MOVEMENT	-	C	D	-	A(LT)	A	-	-
MINIMUM INITIAL	-	10.0	5.0	-	5.0	10.0	-	-
PASSAGE TIME	-	2.0	2.0	-	2.0	2.0	-	-
MAXIMUM 1	-	63.0	25.0	-	20.0	37.0	-	-
MAXIMUM 2	-	-	-	-	-	-	-	-
YELLOW	-	4.0	3.5	-	4.0	4.0	-	-
ALL RED	-	1.5	1.0	-	1.5	1.5	-	-
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
RECALL	-	S	S	-	0	S	-	-
DETECTOR	-	PR	PR	-	PR	PR	-	-
PREEMPT PRIORITY	-	3	5	-	3	4	-	-
FLASH	-	Y	R	-	R	Y	-	-
DUAL ENTRY	-	ON	OFF	-	OFF	ON	-	-

SIGNAL TIMING NOTES:

1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONCTRACT AWARD.
2. DEFINITIONS
   - S = SOFT RECALL
   - O = RECALL OFF
   - PR = PRESENCE
   - Y = YELLOW
   - R = RED
   - D = DARK

NOTE:

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* - RIGHT-OF-WAY REFERENCE: PIN 1-95-6 (18) 120 DOT FILE 6-87, SHEET 35 OF 54, 1958

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
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	BY	DATE
PROJ. MANAGER	B.KEEZER	
DESIGN-DETAILED	CMT	11\20
CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
KMD AT I-95 NB OFF RAMP

TRAFFIC SIGNAL PLAN

SHEET NUMBER

76

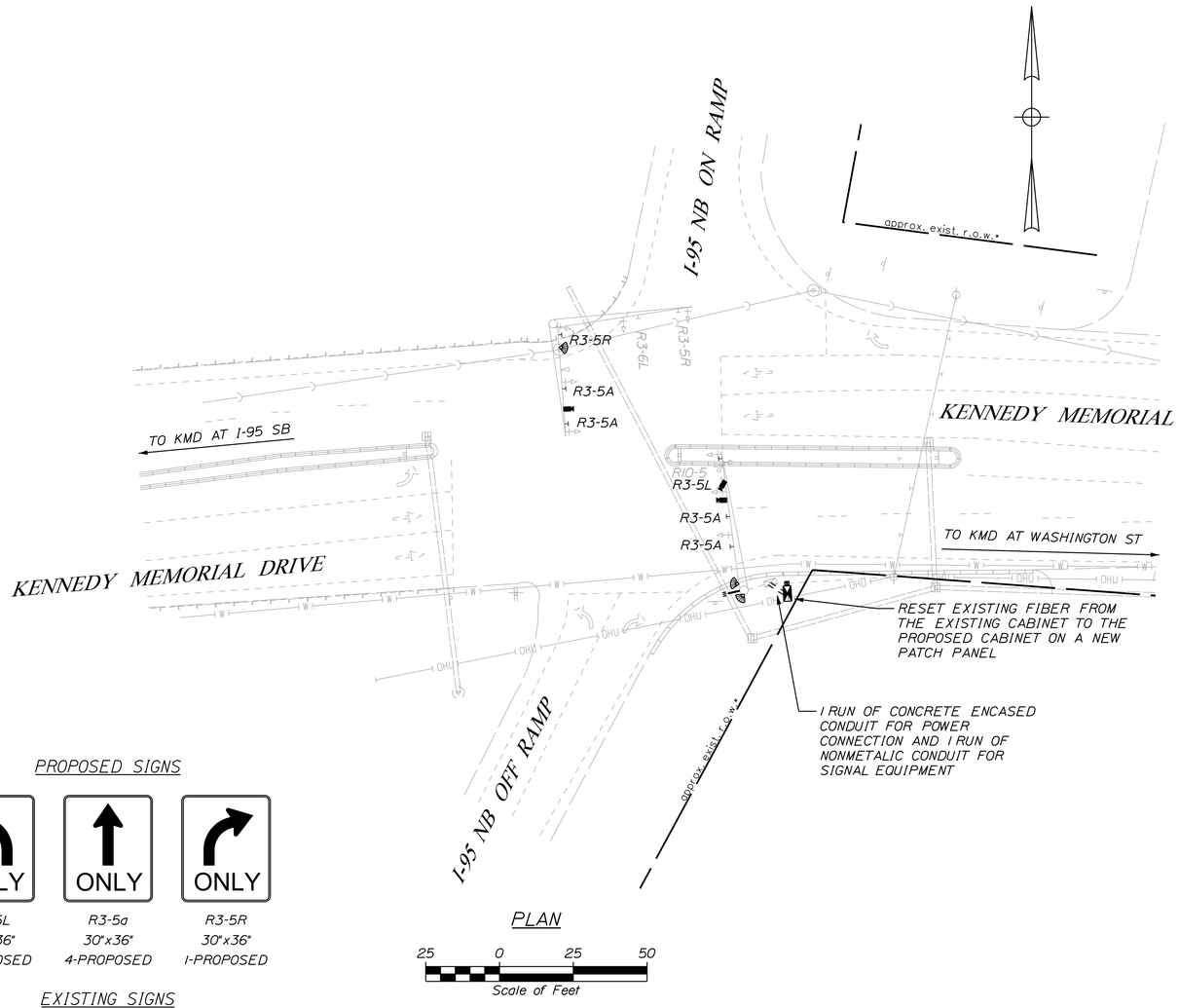
OF 358

Filename: ...\Waterville\076_Signal_76.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	20 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	10 LF
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FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

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PLAN

25 0 25 50

Scale of Feet

PROPOSED SIGNS



R3-5L	R3-5a	R3-5R
30"x36"	30"x36"	30"x36"
1-PROPOSED	4-PROPOSED	1-PROPOSED

EXISTING SIGNS



R10-5	R3-6L	R3-5R
30"x36"	30"x36"	30"x36"
1-RETAINED	1-RETAINED	1-RETAINED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2&ϕ5
R4	4	2	ϕ6
R5	5	3	ϕ3
R6	6	4	-

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.

2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 6 = LOWEST)

3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.

4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.

5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN IS AN APPROXIMATE REPRESENTATION OF EXISTING CONDITIONS BASED ON INFORMATION FROM VARIOUS SOURCES, INCLUDING: GEO-LOCATED AERIAL IMAGERY, LIDAR DERIVED CONTOURS, AVAILABLE PROPERTY MAP INFORMATION, AND SCANNED RIGHT-OF-WAY INFORMATION FROM THE SOURCE LISTED BELOW FITTED TO THE OTHER SOURCES. THE INFORMATION WITHIN THIS PLAN IS NOT SUPPORTED BY FIELD SURVEY.

* - RIGHT-OF-WAY REFERENCE: PIN 1-95-6 (18) 120 DOT FILE 6-87, SHEET 35 OF 54, 1958

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

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75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

PROJ. MANAGER	B.KEEZER
DESIGN-DETAILED	CMT
CHECKED-REVIEWED	BRL
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	

	BY	DATE
REVISIONS 1	CMT	11\20
REVISIONS 2	BRL	11\20
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
KMD AT I-95 NB OFF RAMP

TRAFFIC SIGNAL PLAN

SHEET NUMBER

76A

OF 358

Filename: ...\Waterville\076A_Signal_76.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

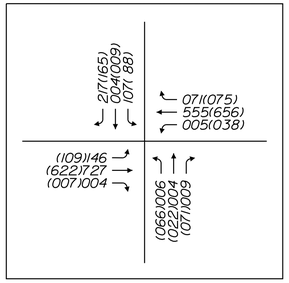
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT $^{32}/_{48}$ SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ONE-WAY, CIRCULAR LED MODULES TO BE INSTALLED INTO EXISTING SIGNAL HEADS.	37
RESET PREEMPTION PHASE SELECTOR	1
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1 RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
FURNISH AND INSTALL NEW SIGNAL CABLE	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON- INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 3 APPROACHES, COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

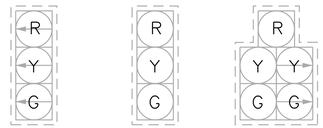
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"

SYSTEM DESIGN VOLUMES AM (PM)



EXISTING INDICATIONS TO REMAIN



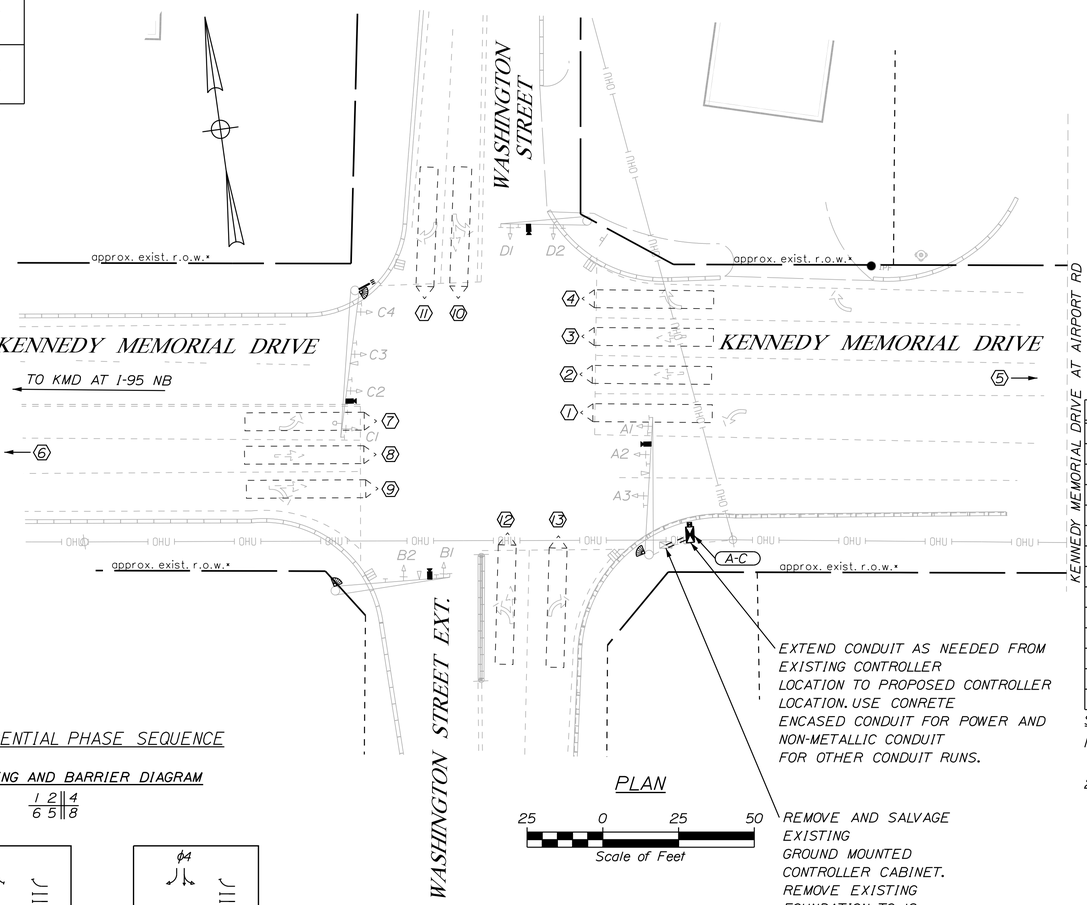
ALL EXISTING INDICATION MODULES TO BE REPLACED WITH NEW LIGHT EMITTING DIODES (LED) MODULES

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADV. B=S.BAR	DELAY TIME	EXT. TIME
1	KMD WB LEFT	1	1	B	-	-
2	KMD WB THRU	6	6	B	-	-
3	KMD WB THRU	6	6	B	-	-
4	KMD WB RIGHT	6	6	B	10	-
5*	KMD WB ADVANCE	6	6	A	-	-
6*	KMD EB ADVANCE	2	2	A	-	-
7	KMD WB LEFT	5	5	B	-	-
8	KMD WB THRU	2	2	B	-	-
9	KMD WB THRU/RIGHT	2	2	B	-	-
10	WASHINGTON ST SB LEFT/THRU	4	4	B	-	-
11	WASHINGTON ST SB RIGHT	4	4	B	10	-
12	WASHINTON ST EXT NB LEFT/THRU	8	8	B	-	-
13	WASHINGTON ST EXT NB RIGHT	8	8	B	10	-

*SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)

NOTE: LOCATION AND QUANTITY OF ADDITIONAL VEHICLE DETECTION ZONES TO BE DETERMINED BASED ON THE SPECIFIC ASCT SYSTEM REQUIREMENTS.



PLAN

25 0 25 50
Scale of Feet

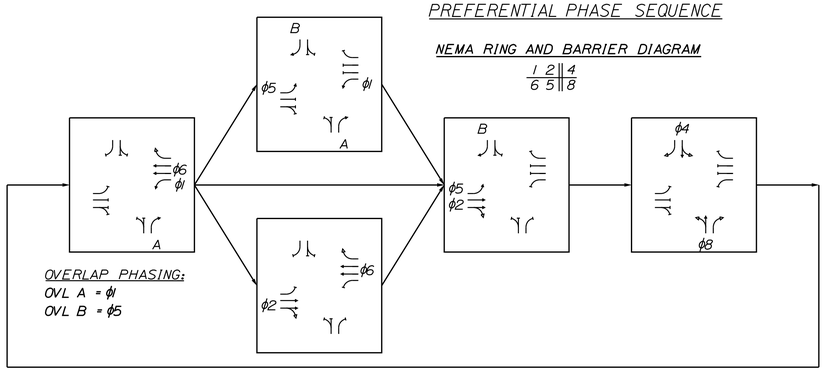
EXTEND CONDUIT AS NEEDED FROM EXISTING CONTROLLER LOCATION TO PROPOSED CONTROLLER LOCATION. USE CONRETE ENCASED CONDUIT FOR POWER AND NON-METALLIC CONDUIT FOR OTHER CONDUIT RUNS.

REMOVE AND SALVAGE EXISTING GROUND MOUNTED CONTROLLER CABINET. REMOVE EXISTING FOUNDATION TO 12 INCHES BELOW GRADE.

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

1 2 || 4
6 5 || 8



OVERLAP PHASING:
OVL A = φ1
OVL B = φ5

SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ 1	φ 2	φ 3	φ 4	φ 5	φ 6	φ 7	φ 8
MOVEMENT	C(LT)	A	-	B	A(LT)	C	-	D
MINIMUM INITIAL	5.0	10.0	-	5.0	5.0	10.0	-	5.0
PASSAGE TIME	2.0	2.0	-	2.0	2.0	2.0	-	2.0
MAXIMUM 1	12.0	38.0	-	30.0	20.0	30.0	-	30.0
MAXIMUM 2	-	-	-	-	-	-	-	-
YELLOW	3.5	3.5	-	3.5	3.5	3.5	-	3.5
ALL RED	1.0	1.0	-	1.5	1.0	1.0	-	1.5
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
RECALL	0	S	-	0	0	S	-	0
DETECTOR	PR	PR	-	PR	PR	PR	-	PR
PREEMPT PRIORITY	4	3	-	5	3	4	-	6
FLASH	R	Y	-	R	R	Y	-	R
DUAL ENTRY	OFF	ON	-	ON	OFF	ON	-	ON

SIGNAL TIMING NOTES:

1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONCTRACT AWARD.
2. DEFINITIONS
   - S = SOFT RECALL
   - 0 = RECALL OFF
   - PR = PRESENCE
   - Y = YELLOW
   - R = RED
   - D = DARK

NOTE:

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* - RIGHT-OF-WAY REFERENCE: PIN HES-STP-031P(15) DOT FILE 6-337, SHEET 4 OF 4, 1993

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

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75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
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	BY	DATE
PROJ. MANAGER	BKEEZER	
DESIGN-DETAILED	CMT	11\20
CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
KMD AT WASHINGTON ST

TRAFFIC SIGNAL PLAN

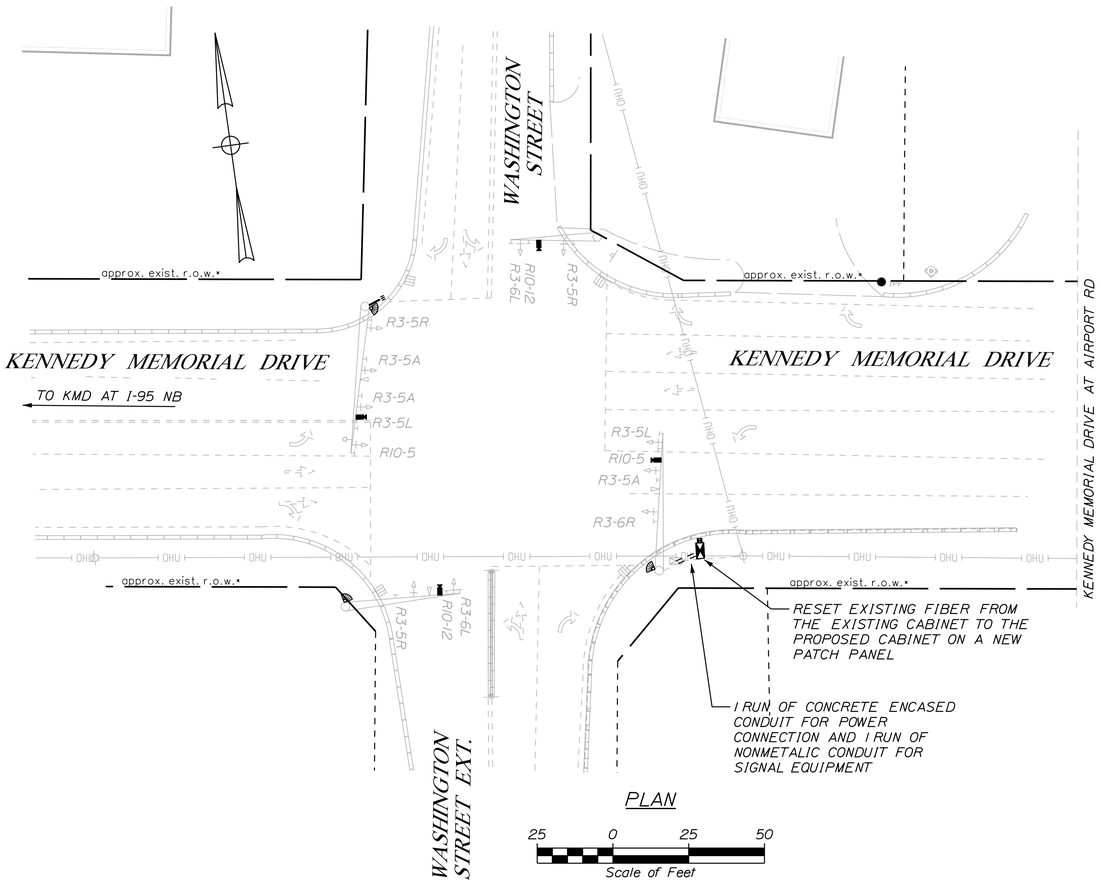
SHEET NUMBER
77
OF 358

Filename: ...\Waterville\077_Signal_77.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	20 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	10 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL KENNEDY MEMORIAL DRIVE PROGRESSION BASED ASCT SYSTEM (ITEM 654.05)	1 LS
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PLAN

25 0 25 50

Scale of Feet

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2&ϕ5
R4	4	2	ϕ1&ϕ6
R5	5	3	ϕ4
R6	6	4	ϕ8

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 6 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

EXISTING SIGNS



R10-12	R10-5	R3-5L	R3-6L	R3-5a	R3-6R	R3-5R
30"x36"	30"x36"	30"x36"	30"x36"	30"x36"	30"x36"	30"x36"
2-RETAINED	2-RETAINED	2-RETAINED	2-RETAINED	3-RETAINED	1-RETAINED	3-RETAINED

NOTE:

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

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PROJ. MANAGER	B.KEEZER		
DESIGN-DETAILED	CMT	BY	DATE
CHECKED-REVIEWED	BRL	CMT	11\20
DESIGN2-DETAILED2		BRL	11\20
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WATERVILLE
KMD AT WASHINGTON ST

TRAFFIC SIGNAL PLAN

SHEET NUMBER

77A

OF 358

Filename: ...\Waterville\077A_Signal_77.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

Filename: ...\Waterville\078_Signal_78.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

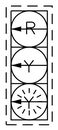
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ONE-WAY, CIRCULAR LED MODULES TO BE INSTALLED INTO EXISTING SIGNAL HEADS.	33
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEAD(S), WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE(S) WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	1
RESET PREEMPTION PHASE SELECTOR	1
RESET VEHICULAR SIGNAL HEAD	1
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1 RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
FURNISH AND INSTALL NEW SIGNAL CABLE	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 2 APPROACHES, COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"

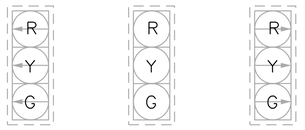
PROPOSED INDICATIONS



A1

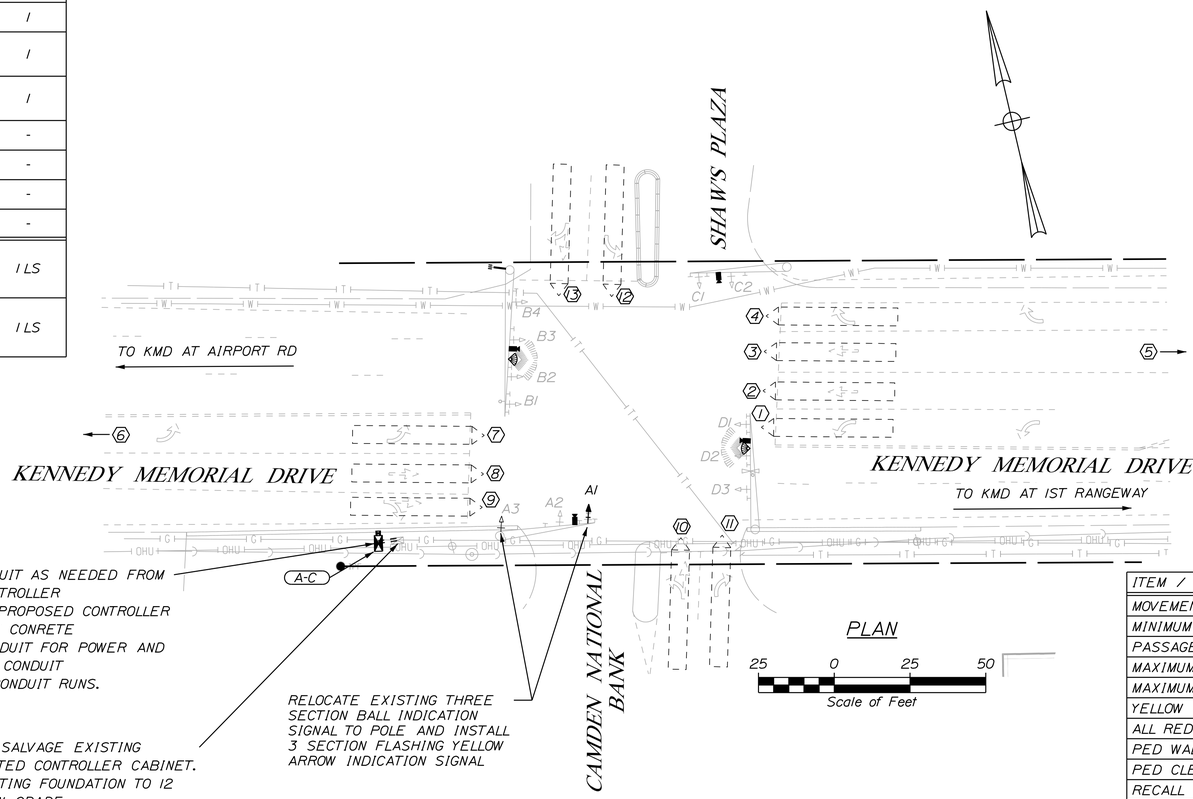
NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES

EXISTING INDICATIONS
TO REMAIN



B1,D1 A2,A3,B2,B3, C1,C2,D2,D3 B4

ALL EXISTING INDICATION MODULES TO BE REPLACED WITH NEW LIGHT EMITTING DIODES (LED) MODULES



PLAN
25 0 25 50
Scale of Feet

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADV. B=S.BAR	DELAY TIME	EXT. TIME
1	KMD WB LEFT	1	1	B	-	-
2	KMD WB THRU	6	6	B	-	-
3	KMD WB THRU	6	6	B	-	-
4	KMD WB RIGHT	6	6	B	10	-
5*	KMD WB ADVANCED	6	6	A	-	-
6*	KMD EB ADVANCED	2	2	A	-	-
7	KMD EB LEFT	5	5	B	-	-
8	KMD EB THRU	2	2	B	-	-
9	KMD EB THRU/RIGHT	2	2	B	-	-
10	CAMDEN NATL. BANK LEFT/THRU	8	8	B	-	-
11	CAMDEN NATL. BANK RIGHT	8	8	B	10	-
12	SHAW'S PLAZA LEFT	4	4	B	-	-
13	SHAW'S PLAZA THRU/RIGHT	4	4	B	-	-

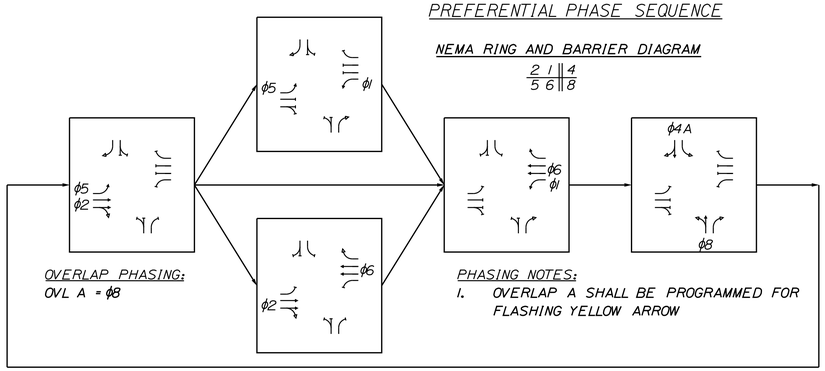
*SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)

NOTE: LOCATION AND QUANTITY OF ADDITIONAL VEHICLE DETECTION ZONES TO BE DETERMINED BASED ON THE SPECIFIC ASCT SYSTEM REQUIREMENTS.

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

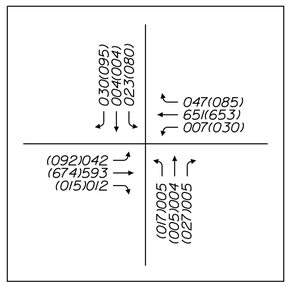
2 1 4
5 6 8



OVERLAP PHASING:
OVL A = φ8

PHASING NOTES:
1. OVERLAP A SHALL BE PROGRAMMED FOR FLASHING YELLOW ARROW

SYSTEM DESIGN VOLUMES AM (PM)



SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ 1	φ 2	φ 3	φ 4	φ 5	φ 6	φ 7	φ 8
MOVEMENT	B(LT)	D	-	A	D(LT)	B	-	C
MINIMUM INITIAL	5.0	10.0	-	5.0	5.0	10.0	-	5.0
PASSAGE TIME	2.0	2.0	-	2.0	2.0	2.0	-	2.0
MAXIMUM 1	12.0	50.0	-	19.5	17.0	45.0	-	19.5
MAXIMUM 2	-	-	-	-	-	-	-	-
YELLOW	3.5	3.5	-	3.5	3.5	3.5	-	3.5
ALL RED	1.0	1.5	-	1.0	1.0	1.5	-	1.0
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
RECALL	0	S	-	0	0	0	-	0
DETECTOR	PR	PR	-	PR	PR	PR	-	PR
PREEMPT PRIORITY	4	3	-	5	3	4	-	6
FLASH	R	Y	-	R	R	Y	-	R
DUAL ENTRY	OFF	ON		ON	OFF	ON		ON

SIGNAL TIMING NOTES:

1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONCTRACT AWARD.
2. DEFINITIONS
   - S = SOFT RECALL
   - 0 = RECALL OFF
   - PR = PRESENCE
   - Y = YELLOW
   - R = RED
   - D = DARK

NOTE:

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* - RIGHT-OF-WAY REFERENCE: PIN F U-031-1(6) DOT FILE 6-108, SHEET 4 OF 6, 1960

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

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TRAFFIC PLANS

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	BY	DATE
PROJ. MANAGER	B.KEEZER	
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CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
KMD AT CAMDEN NATL BANK

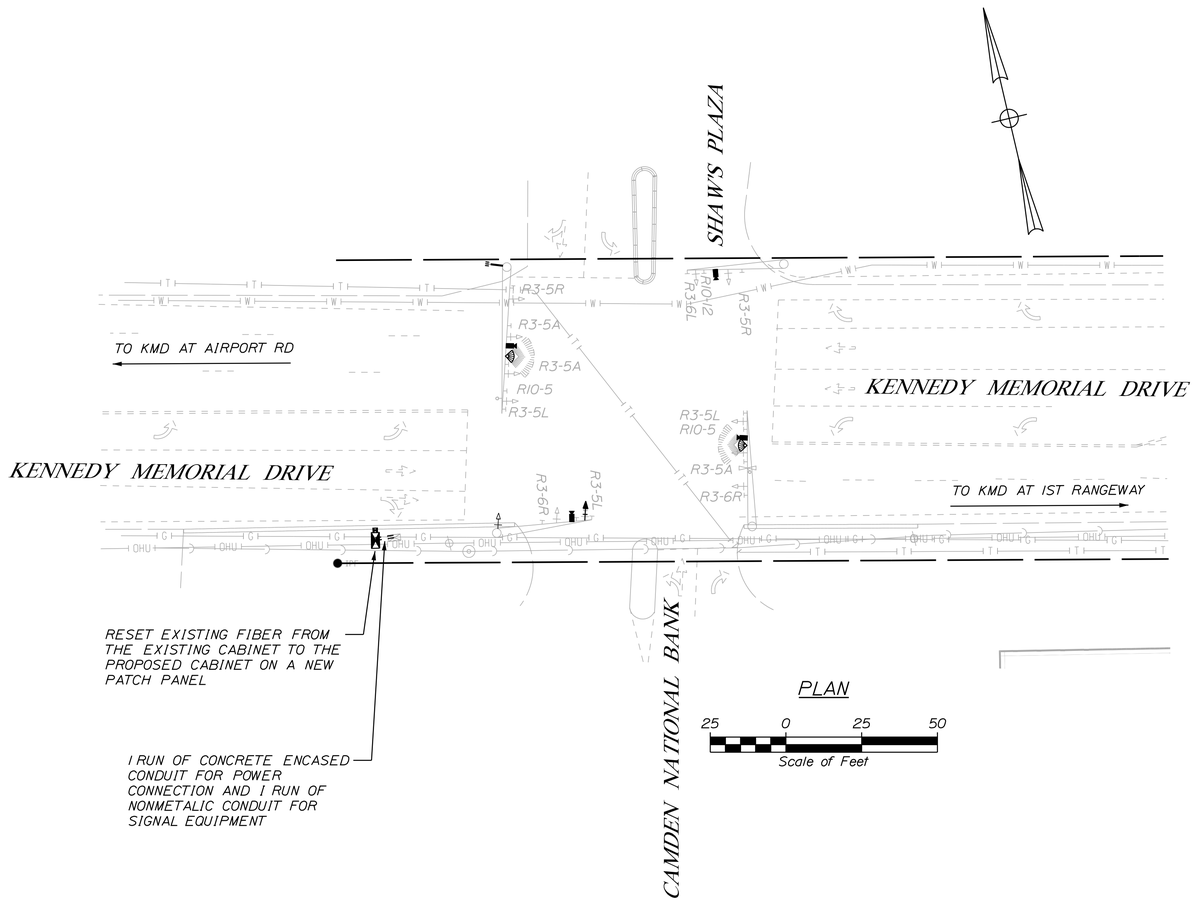
TRAFFIC SIGNAL PLAN

SHEET NUMBER
78
OF 358

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	20 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	10 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL KENNEDY MEMORIAL DRIVE PROGRESSION BASED ASCT SYSTEM (ITEM 654.05)	1 LS
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PLAN

25 0 25 50

Scale of Feet

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2&ϕ5
R4	4	2	ϕ1&ϕ6
R5	5	3	ϕ4
R6	6	4	ϕ3

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 6 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

EXISTING SIGNS



R10-12	R10-12	R10-5	R3-6L	R3-5L	R3-5a	R3-5R	R3-6R
30"x36"	30"x36"	30"x36"	30"x36"	30"x36"	30"x36"	30"x36"	30"x36"
1-REMOVED	1-RETAINED	2-RETAINED	1-RETAINED	3-RETAINED	3-RETAINED	2-RETAINED	2-RETAINED

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN IS AN APPROXIMATE REPRESENTATION OF EXISTING CONDITIONS BASED ON INFORMATION FROM VARIOUS SOURCES, INCLUDING: GEO-LOCATED AERIAL IMAGERY, LIDAR DERIVED CONTOURS, AVAILABLE PROPERTY MAP INFORMATION, AND SCANNED RIGHT-OF-WAY INFORMATION FROM THE SOURCE LISTED BELOW FITTED TO THE OTHER SOURCES. THE INFORMATION WITHIN THIS PLAN IS NOT SUPPORTED BY FIELD SURVEY.

* - RIGHT-OF-WAY REFERENCE: PIN F U-031-1(6) DOT FILE 6-108, SHEET 4 OF 6, 1960

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
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75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

PROJ. MANAGER	B.KEEZER		
DESIGN-DETAILED	CMT	BY	DATE
CHECKED-REVIEWED	BRL	CMT	11\20
DESIGN2-DETAILED2		BRL	11\20
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WATERVILLE
KMD AT CAMDEN NATL BANK

TRAFFIC SIGNAL PLAN

SHEET NUMBER

78A

OF 358

Filename: ...\Waterville\078A_Signal_78.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

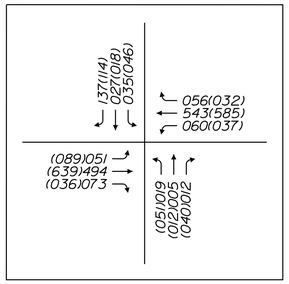
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ONE-WAY, CIRCULAR LED MODULES TO BE INSTALLED INTO EXISTING SIGNAL HEADS.	29
FURNISH AND INSTALL ONE-WAY, LED MODULES TO BE INSTALLED INTO EXISTING PEDESTRIAN SIGNAL HEADS.	4
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3e INFORMATIONAL SIGN	4
RESET PREEMPTION PHASE SELECTOR	1
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
FURNISH AND INSTALL NEW SIGNAL CABLE	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES. COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 2 APPROACHES. COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

STRUCTURE LIST

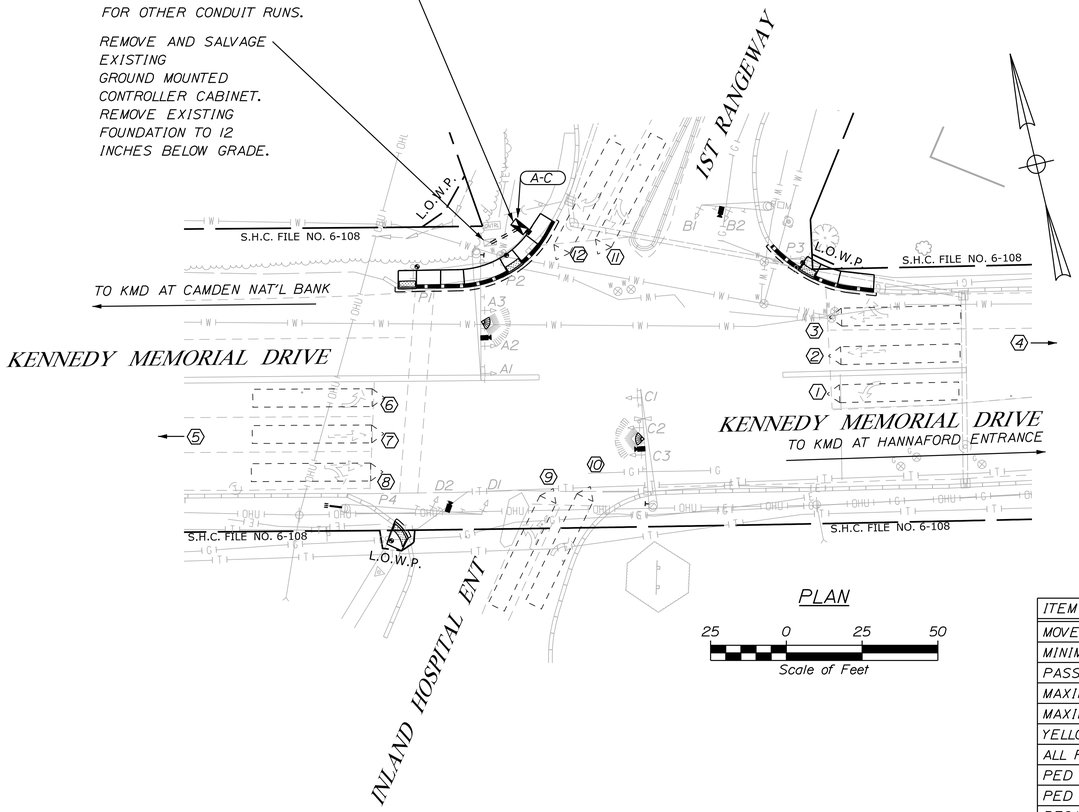
STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"

SYSTEM DESIGN VOLUMES AM (PM)



EXTEND CONDUIT AS NEEDED FROM EXISTING CONTROLLER LOCATION TO PROPOSED CONTROLLER LOCATION. USE CONRETE ENCASED CONDUIT FOR POWER AND NON-METALLIC CONDUIT FOR OTHER CONDUIT RUNS.

REMOVE AND SALVAGE EXISTING GROUND MOUNTED CONTROLLER CABINET. REMOVE EXISTING FOUNDATION TO 12 INCHES BELOW GRADE.

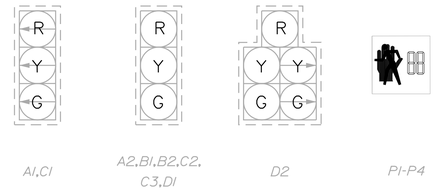


PLAN

25 0 25 50

Scale of Feet

EXISTING INDICATIONS TO REMAIN



ALL EXISTING INDICATION MODULES TO BE REPLACED WITH NEW LIGHT EMITTING DIODES (LED) MODULES

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADV, B=S.BAR	DELAY TIME	EXT. TIME
1	KMD WB LEFT	1	1	B	-	-
2	KMD WB THRU	6	6	B	-	-
3	KMD WB THRU/RIGHT	6	6	B	-	-
4*	KMD WB ADVANCE	6	6	A	-	-
5	KMD EB ADVANCE	2	2	A	-	-
6	KMD EB LEFT	5	5	B	-	-
7	KMD EB THRU	2	2	B	-	-
8	KMD EB THRU/RIGHT	2	2	B	-	-
9	INLAND HOSPITAL ENT LEFT/THRU	8	8	B	-	-
10	INLAND HOSPITAL ENT RIGHT	8	8	B	-	-
11	1ST RANGEWAY LEFT/THRU	4	4	B	10	-
12	1ST RANGEWAY RIGHT	4	4	B	-	-

*SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)

NOTE: LOCATION AND QUANTITY OF ADDITIONAL VEHICLE DETECTION ZONES TO BE DETERMINED BASED ON THE SPECIFIC ASCT SYSTEM REQUIREMENTS.

SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ 1	φ 2	φ 3	φ 4	φ 5	φ 6	φ 7	φ 8
MOVEMENT	A(LT)	C	-	D	C(LT)	A	-	B
MINIMUM INITIAL	5.0	10.0	-	5.0	5.0	10.0	-	5.0
PASSAGE TIME	2.0	3.0	-	2.0	2.0	3.0	-	3.0
MAXIMUM 1	15.5	38.5	-	26.5	25.5	28.5	-	26.5
MAXIMUM 2	-	-	-	-	-	-	-	-
YELLOW	3.5	3.5	-	3.5	3.5	3.5	-	3.5
ALL RED	2.0	2.5	-	1.5	2.0	2.5	-	1.5
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
RECALL	0	S	-	0	0	S	-	0
DETECTOR	PR	PR	-	PR	PR	PR	-	PR
PREEMPT PRIORITY	4	3	-	5	3	4	-	6
FLASH	R	Y	-	R	R	Y	-	R
DUAL ENTRY	OFF	ON	-	ON	OFF	ON		ON

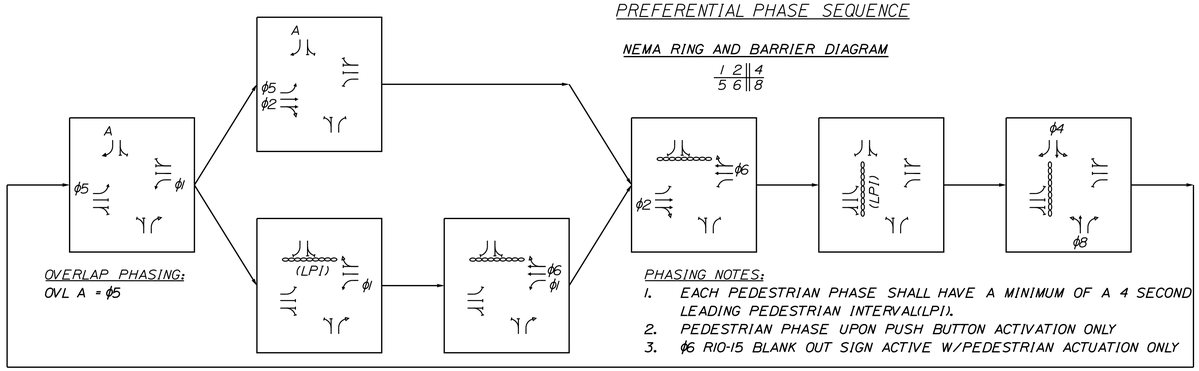
SIGNAL TIMING NOTES:

1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONCTRACT AWARD.
2. DEFINITIONS
   - S = SOFT RECALL
   - O = RECALL OFF
   - PR = PRESENCE
   - Y = YELLOW
   - R = RED
   - D = DARK

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

1 2 | 4
5 6 | 8



OVERLAP PHASING:
OVL A = φ5

PHASING NOTES:

1. EACH PEDESTRIAN PHASE SHALL HAVE A MINIMUM OF A 4 SECOND LEADING PEDESTRIAN INTERVAL(LPI).
2. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY
3. φ6 R10-15 BLANK OUT SIGN ACTIVE W/PEDESTRIAN ACTUATION ONLY

NOTE:

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* - RIGHT-OF-WAY REFERENCE: THE RIGHT-OF-WAY INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED ON 10-2-19 FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 24301.00.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
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75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

	BY	DATE
PROJ. MANAGER	B.KEEZER	
DESIGN-DETAILED	CMT	11\20
CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
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REVISIONS 1		
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FIELD CHANGES		

WATERVILLE
KMD AT 1ST RANGEWAY

TRAFFIC SIGNAL PLAN

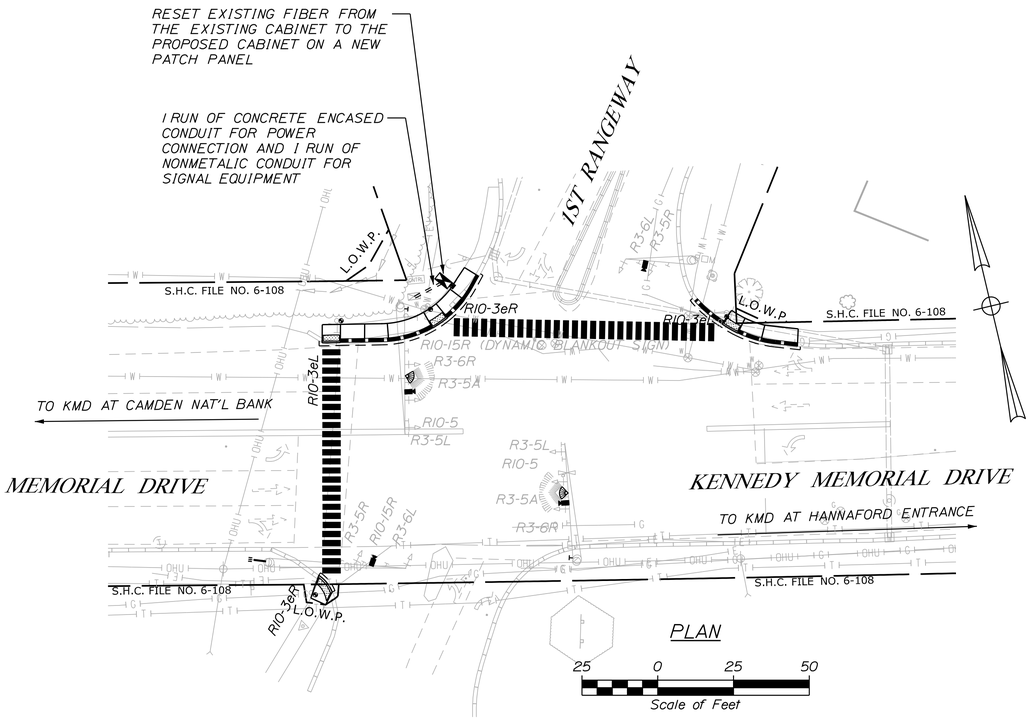
SHEET NUMBER
79
OF 358

Filename: ...\Waterville\079_Signal_79.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	30 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	15 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL WHITE PAVEMENT AND CURB MARKING (ITEM 627.75)	648 SF
REMOVE EXISTING PAVEMENT MARKING (ITEM 627.77)	648 SF
FURNISH AND INSTALL KENNEDY MEMORIAL DRIVE PROGRESSION BASED ASCT SYSTEM (ITEM 654.05)	1 LS
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



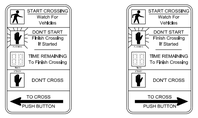
EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2&ϕ5
R4	4	2	ϕ1&ϕ6
R5	5	3	ϕ4
R6	6	4	ϕ8

PRE-EMPTION NOTES:

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5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

PROPOSED SIGNS



R10-3eL 9"x15" 2-PROPOSED

R10-3eR 9"x15" 2-PROPOSED

EXISTING SIGNS



R10-5 30"x36" 2-RETAINED



R3-5L 30"x36" 2-RETAINED



R3-6L 30"x36" 2-RETAINED



R3-5a 30"x36" 2-RETAINED



R3-6R 30"x36" 2-RETAINED



R3-5R 30"x36" 2-RETAINED



R10-15R 30"x30" 1-RETAINED



R10-15R DYNAMIC BLANKKOUT SIGN 1-RETAINED

NOTE:

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* - RIGHT-OF-WAY REFERENCE: THE RIGHT-OF-WAY INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED ON 10-2-19 FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 24301.00.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

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PROJ. MANAGER	B.KEEZER		
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DESIGN2-DETAILED2		BRL	11\20
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WATERVILLE
KMD AT 1ST RANGEWAY

TRAFFIC SIGNAL PLAN

SHEET NUMBER

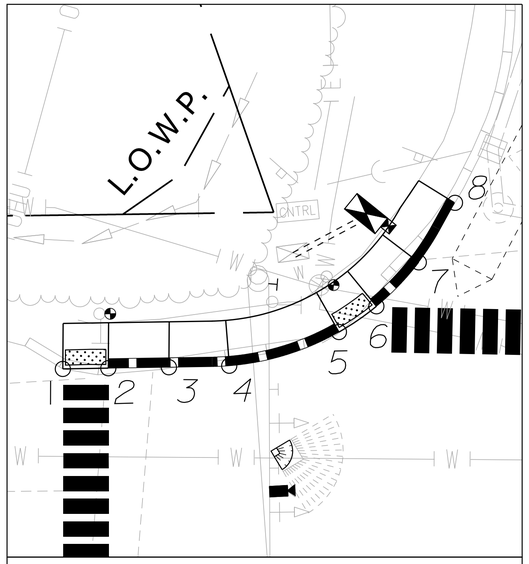
79A

OF 358

Filename: ...\Waterville\079A_SignalPlan_79.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

Filename: ...\Waterville\079C_Signal_79.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

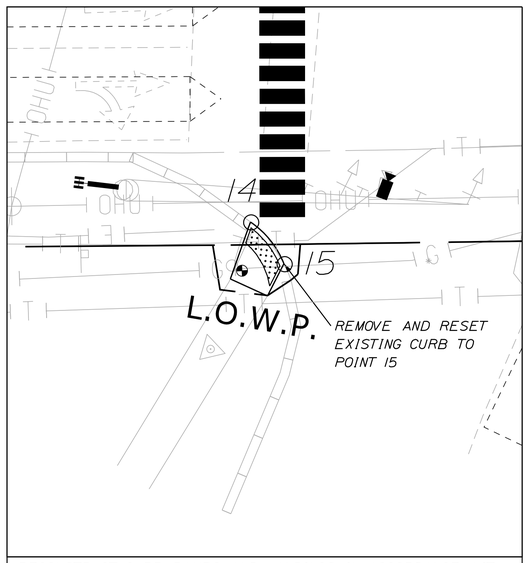
A CORNER - NW DETAIL



RECONSTRUCT CURB RAMPS AND LANDINGS IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

10 0 10 20
Scale of Feet

D CORNER - SW DETAIL

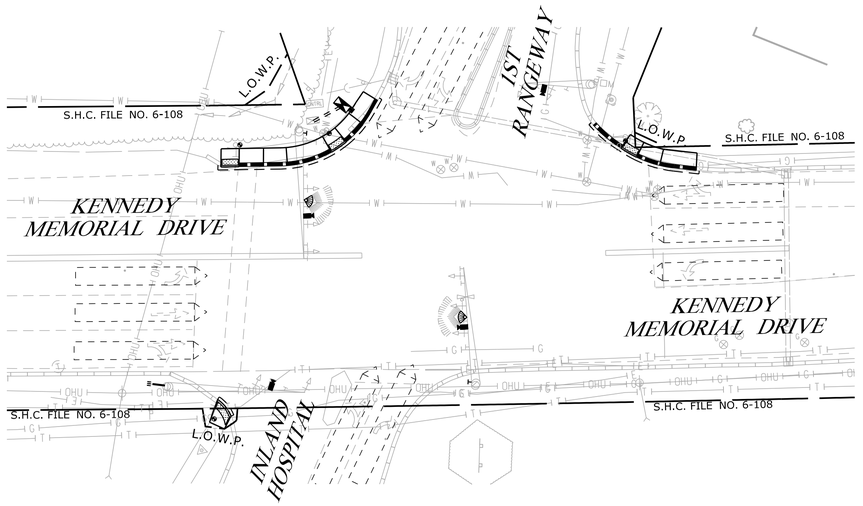


RECONSTRUCT CURB RAMPS AND LANDINGS IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(22).

10 0 10 20
Scale of Feet

PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD (SF)		ITEM 609.11 - VERTICAL CURB TYPE 1 (LF)	ITEM 609.221 - TERMINAL CURB TYPE 1 (LF)	ITEM 609.222 - TERMINAL CURB TYPE 1 - CIRCULAR (LF)	COMMENT
		LENGTH (FT)	QTY (SF)				
1 TO 2	-	6.0	10.6				
2 TO 3	-				8.0		
3 TO 4	-			8.0			
4 TO 5	35.00					15.0	
* 5 TO 6	35.00	6.0	10.6				6.0% CROSS SLOPE
6 TO 7	35.00					8.0	
7 TO 8	-			9.2			
9 TO 10	38.00					12.0	
* 10 TO 11	38.00	6.0	10.6				9.8% CROSS SLOPE
11 TO 12	38.00					8.0	
12 TO 13	-			12.2			
* 14 TO 15	12.00	7.2	13.0				5.8% CROSS SLOPE

* NON-COMPLIANT CURB RAMP ELEMENT - THE SLOPE NOTED IN THE COMMENT IS THE MAXIMUM VALUE FOR PROPOSED LEVEL OF COMPLIANCE.



ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED. AS WELL AS DETAILS PROVIDED ON SHEET H.

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
REGRADING SIDEWALK (ITEM 608.46)	58 SY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	5.8 TONS
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	44.7 SY
VERTICAL CURB TYPE 1 (ITEM 609.11)	29.4 LF

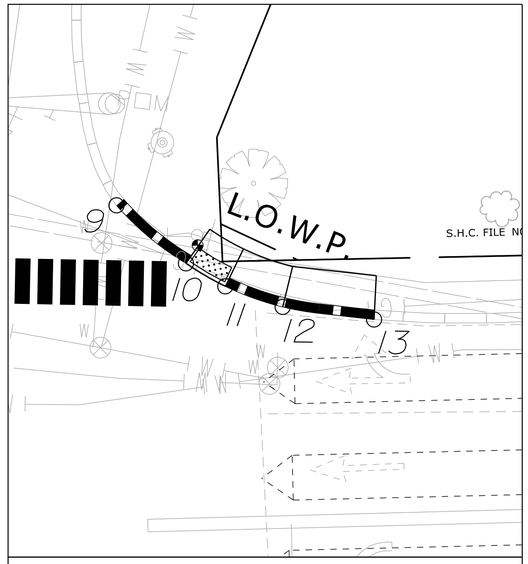
EQUIPMENT AND WORK ITEMS	QUANTITY
TERMINAL CURB TYPE 1 (ITEM 609.221)	8 LF
TERMINAL CURB TYPE 1 - CIRCULAR (ITEM 609.222)	43 LF
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	44.8 SF

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PLAN

25 0 25 50
Scale of Feet

B CORNER - NE DETAIL



RECONSTRUCT CURB RAMPS AND LANDINGS IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

10 0 10 20
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

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TRAFFIC PLANS

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	BY	DATE
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DESIGN-DETAILED	N.L.S	11\20
CHECKED-REVIEWED	B.R.L	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
KMD AT 1ST RANGEWAY

CURB RAMP LAYOUT AND DETAIL PLAN

SHEET NUMBER

79C

OF 358

Filename: ...\Waterville\080_Signal_80.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

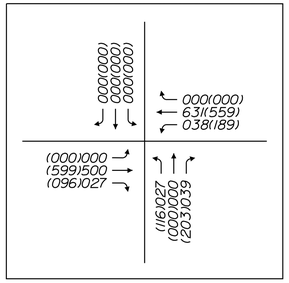
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT $^{32}/_{48}$ SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ONE-WAY, CIRCULAR LED MODULES TO BE INSTALLED INTO EXISTING SIGNAL HEADS.	34
FURNISH AND INSTALL ONE-WAY, LED MODULES TO BE INSTALLED INTO EXISTING PEDESTRIAN SIGNAL HEADS.	2
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3e INFORMATIONAL SIGN	2
RESET PREEMPTION PHASE SELECTOR	1
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
FURNISH AND INSTALL NEW SIGNAL CABLE	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES. COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 2 APPROACHES. COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

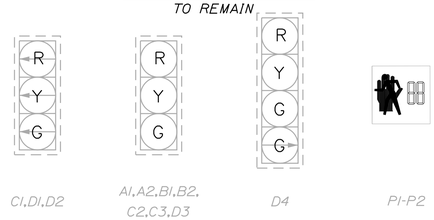
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"

SYSTEM DESIGN VOLUMES AM (PM)



EXISTING INDICATIONS TO REMAIN



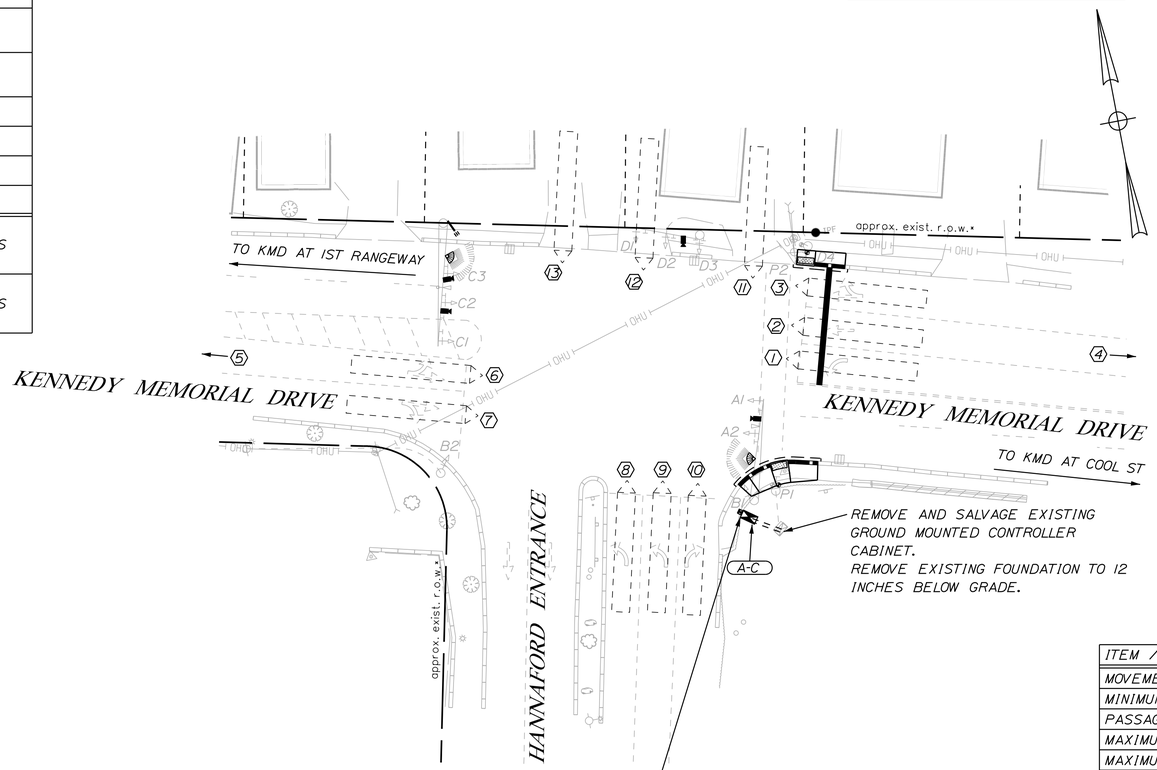
ALL EXISTING INDICATION MODULES TO BE REPLACED WITH NEW LIGHT EMITTING DIODES (LED) MODULES

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADV. B=S.BAR	DELAY TIME	EXT. TIME
①	KMD WB LEFT	1	1	B	-	-
②	KMD WB THRU	6	6	B	-	-
③	KMD WB THRU/RIGHT	6	6	B	-	-
④*	KMD WB ADVANCE	6	6	A	-	-
⑤*	KMD EB ADVANCE	2	2	A	-	-
⑥	KMD EB LEFT/THRU	2	2	B	-	-
⑦	KMD EB THRU/RIGHT	2	2	B	-	-
⑧	HANNAFORD ENT LEFT	3	3	B	-	-
⑨	HANNAFORD ENT LEFT	3	3	B	-	-
⑩	HANNAFORD ENT RIGHT	3	3	B	10	-
⑪	PRIVATE DRIVE	4	4	B	-	-
⑫	PRIVATE DRIVE	4	4	B	-	-
⑬	PRIVATE DRIVE	4	4	B	-	-

*SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)

NOTE: LOCATION AND QUANTITY OF ADDITIONAL VEHICLE DETECTION ZONES TO BE DETERMINED BASED ON THE SPECIFIC ASCT SYSTEM REQUIREMENTS.



PLAN

25 0 25 50
Scale of Feet

SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ 1	φ 2	φ 3	φ 4	φ 5	φ 6	φ 7	φ 8
MOVEMENT	C(LT)	A	B	D	-	C	-	-
MINIMUM INITIAL	5.0	10.0	5.0	5.0	-	10.0	-	-
PASSAGE TIME	2.0	3.0	2.0	1.0	-	3.0	-	-
MAXIMUM 1	11.5	35.5	20.5	6.5	-	53.5	-	-
MAXIMUM 2	-	-	-	-	-	-	-	-
YELLOW	3.5	3.5	3.0	3.5	-	3.5	-	-
ALL RED	1.5	1.5	1.0	1.0	-	1.5	-	-
PED WALK	-	-	7.0	-	-	-	-	-
PED CLEAR	-	-	16.0	-	-	-	-	-
RECALL	0	S	0	0	-	S	-	-
DETECTOR	PR	PR	PR	PR	-	PR	-	-
PREEMPT PRIORITY	4	3	5	6	-	4	-	-
FLASH	R	Y	R	R	-	Y	-	-
DUAL ENTRY	OFF	ON	OFF	OFF	-	ON	-	-

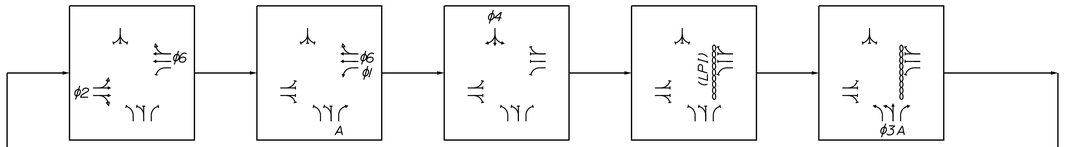
SIGNAL TIMING NOTES:

1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONCTRACT AWARD.
2. DEFINITIONS
   - S = SOFT RECALL
   - O = RECALL OFF
   - PR = PRESENCE
   - Y = YELLOW
   - R = RED
   - D = DARK

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

2 1 | 4 3
6 ||



OVERLAP PHASING:
OVL A = φ1 + φ3

PHASING NOTES:
1. EACH PEDESTRIAN PHASE SHALL HAVE A MINIMUM OF A 4 SECOND LEADING PEDESTRIAN INTERVAL(LPI).
2. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY
3. GREEN ARROW INDICATION FOR OVERLAP A IS DISABLED WHEN THE PHASE 3 PEDESTRIAN PHASE IS ACTIVE

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED ON 04-06-20 FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 24301.00.

* - RIGHT-OF-WAY REFERENCE: PIN F-FG-031-1(12) DOT FILE 6-256, SHEET 1 OF 1, 1984

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

PROJ. MANAGER	B.KEEZER		
DESIGN-DETAILED	CMT	BY	DATE
CHECKED-REVIEWED	BRL	CMT	11\20
DESIGN2-DETAILED2		BRL	11\20
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WATERVILLE
KMD AT HANNAFORD ENT

TRAFFIC SIGNAL PLAN

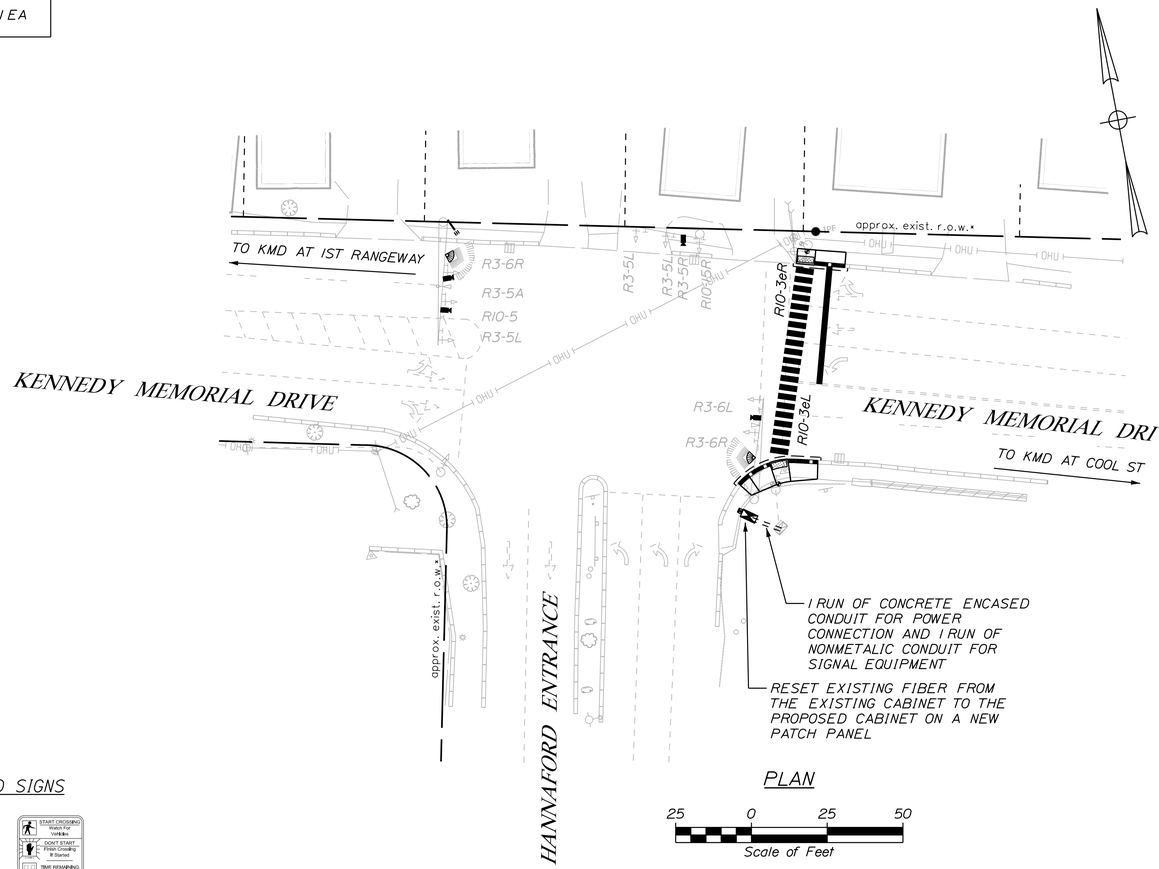
SHEET NUMBER
80
OF 358

Filename: ...\Waterville\080A_Signal_80.dgn Division: HIGHWAY
Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	30 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	15 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL WHITE PAVEMENT AND CURB MARKING (ITEM 627.75)	330 SF
REMOVE EXISTING PAVEMENT MARKING (ITEM 627.77)	330 SF
FURNISH AND INSTALL KENNEDY MEMORIAL DRIVE PROGRESSION BASED ASCT SYSTEM (ITEM 654.05)	1 LS
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PLAN

25 0 25 50
Scale of Feet

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2
R4	4	2	ϕ1&ϕ6
R5	5	3	ϕ3
R6	6	4	ϕ4

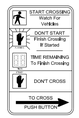
PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 6 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

PROPOSED SIGNS



R10-3eL
9"x15"
1-PROPOSED



R10-3eR
9"x15"
1-PROPOSED

EXISTING SIGNS



R10-5
30"x36"
1-RETAINED



R3-5L
30"x36"
3-RETAINED



R3-6L
30"x36"
1-RETAINED



R3-5a
30"x36"
1-RETAINED



R3-6R
30"x36"
2-RETAINED



R3-5R
30"x36"
1-RETAINED



R10-15R
30"x30"
1-RETAINED

NOTE:

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* - RIGHT-OF-WAY REFERENCE: PIN F-FG-031-I(12) DOT FILE 6-256, SHEET 1 OF 1, 1984

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

	BY	DATE
PROJ. MANAGER	B.KEEZER	
DESIGN-DETAILED	CMT	11\20
CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
KMD AT HANNAFORD ENT

TRAFFIC SIGNAL PLAN

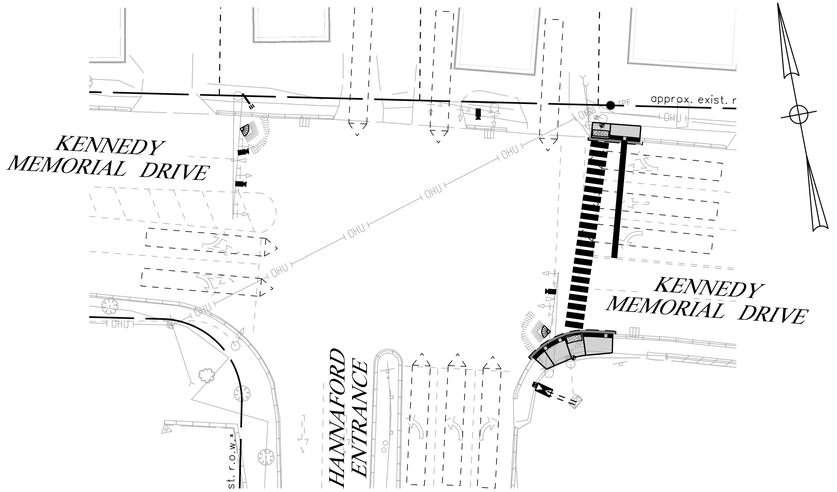
SHEET NUMBER

80A

OF 358

PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD (SF)		ITEM 609.12 - VERTICAL CURB TYPE 1 - CIRCULAR (LF)	ITEM 609.221 - TERMINAL CURB TYPE 1 (LF)	ITEM 609.222 - TERMINAL CURB TYPE 1 - CIRCULAR (LF)	COMMENT
		LENGTH (FT)	QTY (SF)				
1 TO 2	24.00			4.5			
2 TO 3	24.00					8.0	
3 TO 4	24.00	6.0	10.6				6.7% CROSS SLOPE
4 TO 5	-				10.0		
6 TO 7	-	6.0	10.6				
7 TO 8	-				10.0		

* NON-COMPLIANT CURB RAMP ELEMENT - THE SLOPE NOTED IN THE COMMENT IS THE MAXIMUM VALUE FOR PROPOSED LEVEL OF COMPLIANCE.



ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED. AS WELL AS DETAILS PROVIDED ON SHEET H.

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
REGRADING SIDEWALK (ITEM 608.46)	29.3 SY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	1.8 TONS
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	29.3 SY
VERTICAL CURB TYPE 1 - CIRCULAR (ITEM 609.12)	4.5 LF

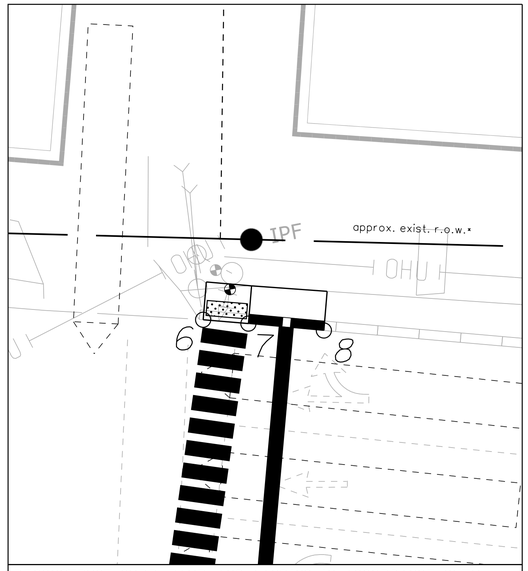
EQUIPMENT AND WORK ITEMS	QUANTITY
TERMINAL CURB TYPE 1 (ITEM 609.221)	20 LF
TERMINAL CURB TYPE 1 - CIRCULAR (ITEM 609.222)	8 LF
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	21.2 SF

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

PLAN

25 0 25 50
Scale of Feet

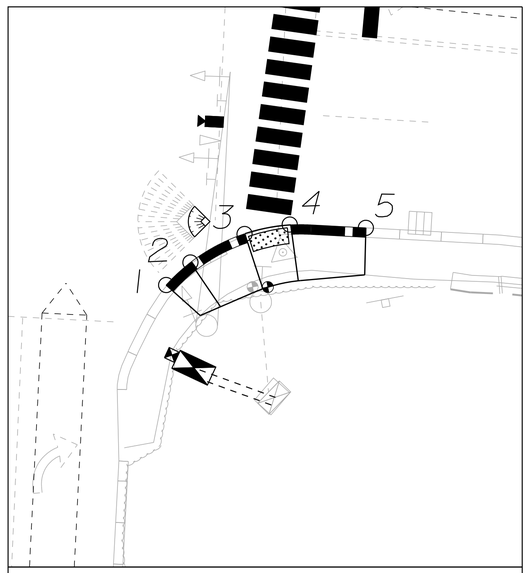
D CORNER - NE DETAIL



RECONSTRUCT CURB RAMP AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

10 0 10 20
Scale of Feet

A CORNER - SE DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

10 0 10 20
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

	BY	DATE
PROJ. MANAGER	B.KEEZER	
DESIGN-DETAILED	N.L.S	11\20
CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		1
REVISIONS 2		2
REVISIONS 3		3
REVISIONS 4		4
FIELD CHANGES		5

WATERVILLE
KMD AT HANNAFORD ENT

CURB RAMP LAYOUT
AND DETAIL PLAN

SHEET NUMBER

80C

OF 358

Filename: ...\Waterville\080C_Signal_80.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

Filename: ...\Waterville\081_Signal_81.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

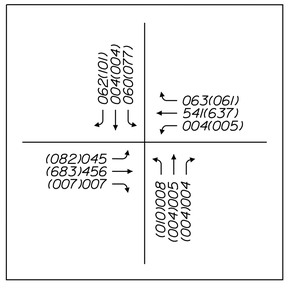
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ONE-WAY, CIRCULAR LED MODULES TO BE INSTALLED INTO EXISTING SIGNAL HEADS.	29
FURNISH AND INSTALL ONE-WAY, LED MODULES TO BE INSTALLED INTO EXISTING PEDESTRIAN SIGNAL HEADS.	8
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3e INFORMATIONAL SIGN	8
RESET PEDESTRIAN SIGNAL	1
RESET PREEMPTION PHASE SELECTOR	1
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1 RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
FURNISH AND INSTALL NEW SIGNAL CABLE	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES. COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 2 APPROACHES. COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

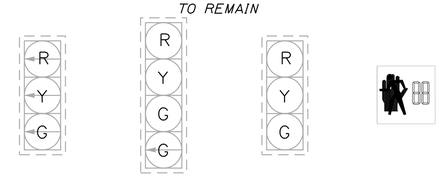
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"
B-PI	8' PEDESTAL POLE	24" DIAMETER

SYSTEM DESIGN VOLUMES AM (PM)



EXISTING INDICATIONS TO REMAIN



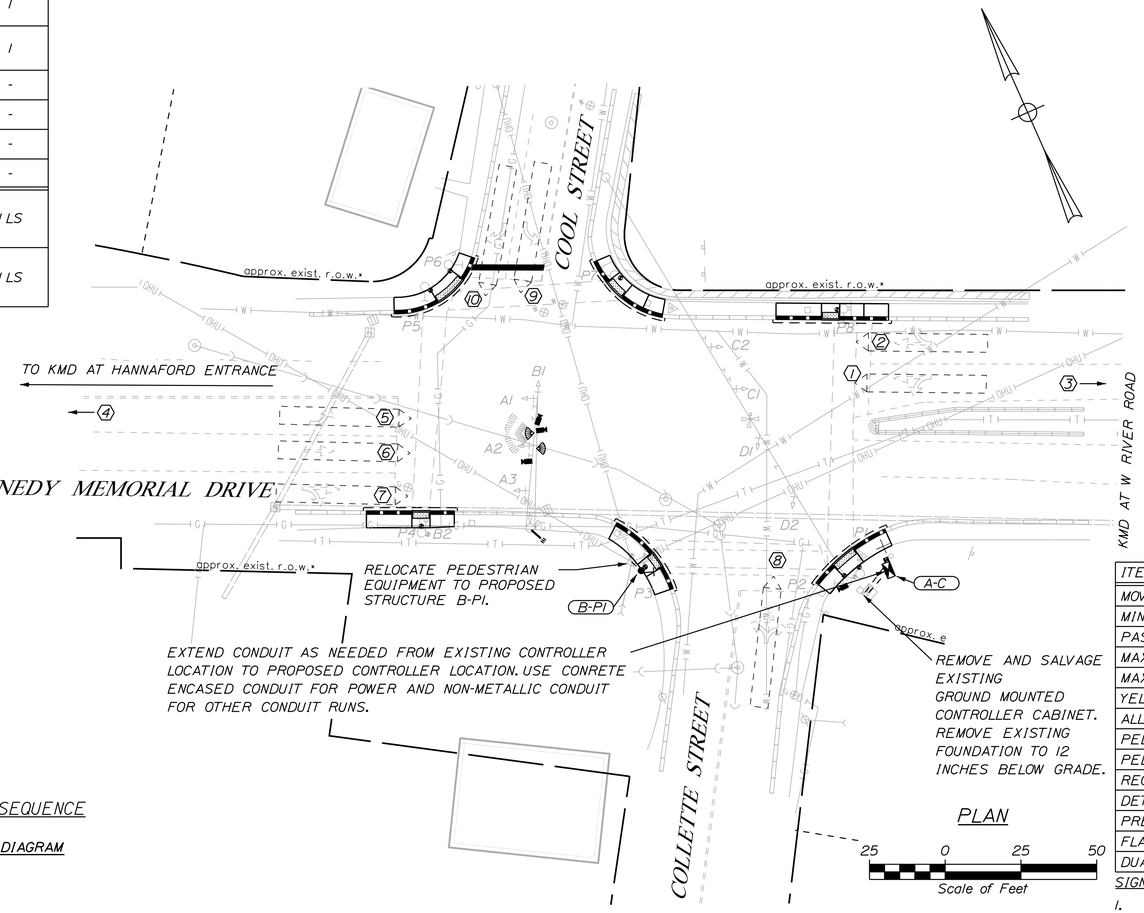
ALL EXISTING INDICATION MODULES TO BE REPLACED WITH NEW LIGHT EMITTING DIODES (LED) MODULES

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADV. B=S.BAR	DELAY TIME	EXT. TIME
1	KMD WB LEFT/THRU	6	6	B	-	-
2	KMD WB THRU/RIGHT	6	6	B	-	-
3*	KMD WB ADVANCE	6	6	A	-	-
4*	KMD EB ADVANCE	2	2	A	-	-
5	KMD EB LEFT	5	5	B	-	-
6	KMD EB THRU	2	2	B	-	-
7	KMD EB THRU/RIGHT	2	2	B	-	-
8	COLLETTE STREET	3	3	B	-	-
9	COOL STREET LEFT/THRU	4	4	B	-	-
10	COOL STREET RIGHT	4	4	B	10	-

*SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)

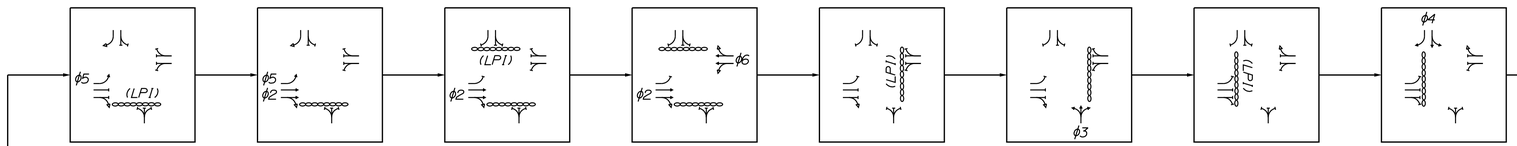
NOTE: LOCATION AND QUANTITY OF ADDITIONAL VEHICLE DETECTION ZONES TO BE DETERMINED BASED ON THE SPECIFIC ASCT SYSTEM REQUIREMENTS.



PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

2 | 3 4
5 6



PHASING NOTES:
1. EACH PEDESTRIAN PHASE SHALL HAVE A MINIMUM OF A 4 SECOND LEADING PEDESTRIAN INTERVAL(LPI).
2. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY

SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ 1	φ 2	φ 3	φ 4	φ 5	φ 6	φ 7	φ 8
MOVEMENT	-	A	D	B	A(LT)	C	-	-
MINIMUM INITIAL	-	10.0	5.0	5.0	5.0	10.0	-	-
PASSAGE TIME	-	4.0	2.0	2.0	2.0	4.0	-	-
MAXIMUM 1	-	39.0	20.5	18.5	11.0	21.0	-	-
MAXIMUM 2	-	-	-	-	-	-	-	-
YELLOW	-	4.0	3.5	3.5	4.0	4.0	-	-
ALL RED	-	2.5	2.5	2.5	1.0	2.5	-	-
PED WALK	-	7.0	7.0	7.0	-	7.0	-	-
PED CLEAR	-	15.0	19.0	17.0	-	13.0	-	-
RECALL	-	S	0	0	0	S	-	-
DETECTOR	-	PR	PR	PR	PR	PR	-	-
PREEMPT PRIORITY	-	3	5	6	3	4	-	-
FLASH	-	Y	R	R	R	Y	-	-
DUAL ENTRY	-	ON	OFF	OFF	OFF	ON	-	-

SIGNAL TIMING NOTES:
1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONCTRACT AWARD.
2. DEFINITIONS
   S = SOFT RECALL Y = YELLOW
   0 = RECALL OFF R = RED
   PR = PRESENCE D = DARK

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED ON 04-06-20 FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 24301.00.

* - RIGHT-OF-WAY REFERENCE: PIN D.P.B. 0009(001) DOT FILE 6-341, SHEET 2&4 OF 25, 1994

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

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75 John Roberts Rd.
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	BY	DATE
PROJ. MANAGER	B.KEEZER	
DESIGN-DETAILED	CMT	11\20
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DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
KMD AT COOL ST

TRAFFIC SIGNAL PLAN

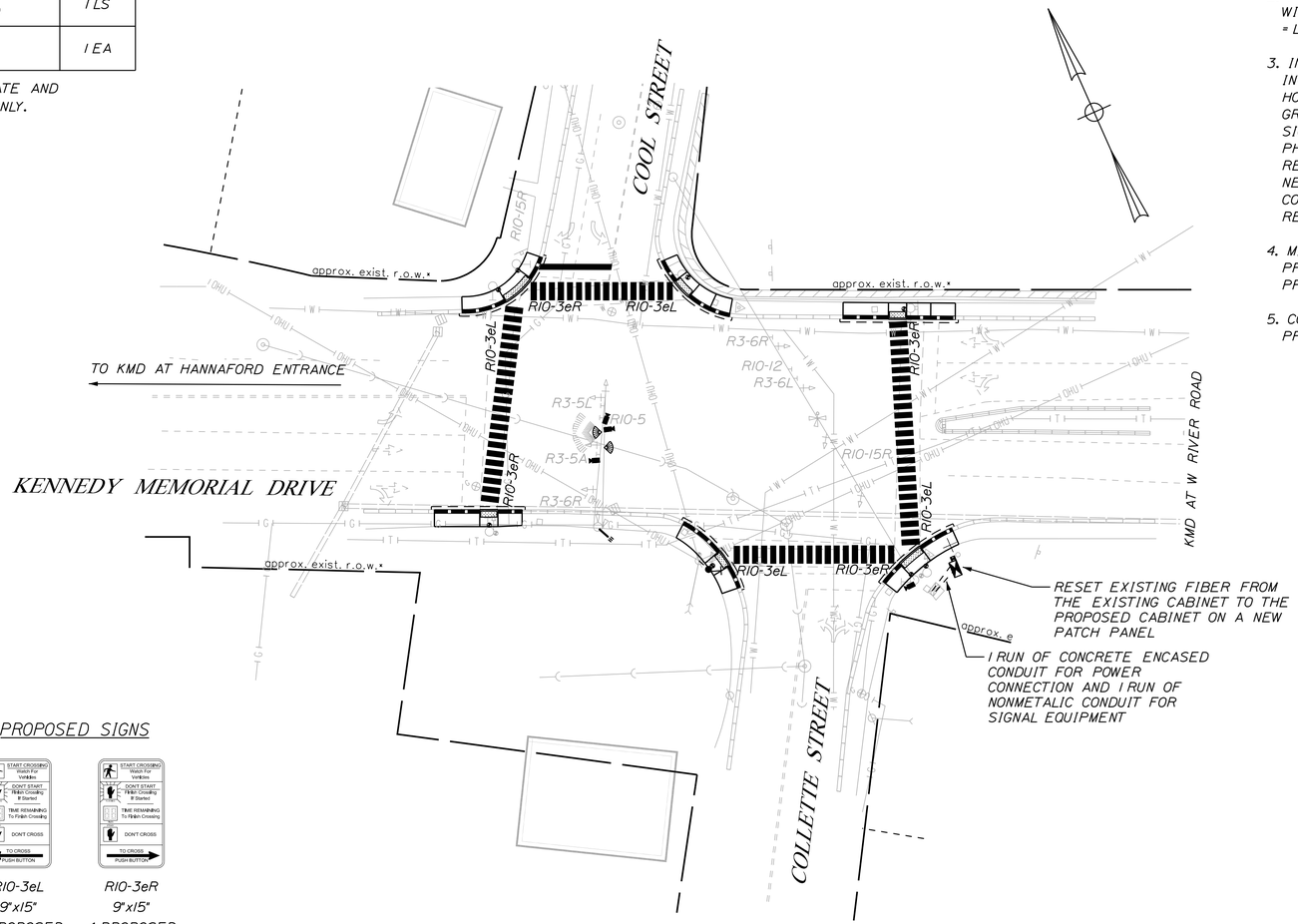
SHEET NUMBER
81
OF 358

Filename: ...\Waterville\081A_Signal_81.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	30 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	10 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL 24-INCH DIAMETER FOUNDATION (ITEM 626.421)	7 LF
FURNISH AND INSTALL WHITE PAVEMENT AND CURB MARKING (ITEM 627.75)	1,020 SF
REMOVE EXISTING PAVEMENT MARKING (ITEM 627.77)	1,020 SF
FURNISH AND INSTALL 8-FOOT PEDESTAL POLE (ITEM 643.92)	1 EA
FURNISH AND INSTALL KENNEDY MEMORIAL DRIVE PROGRESSION BASED ASCT SYSTEM (ITEM 654.05)	1 LS
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PLAN

25 0 25 50

Scale of Feet

PROPOSED SIGNS



R10-3eL
9"x15"
4-PROPOSED

R10-3eR
9"x15"
4-PROPOSED

EXISTING SIGNS



R10-12
30"x36"
1-RETAINED



R10-5
30"x36"
1-RETAINED



R3-5L
30"x36"
1-RETAINED



R3-6L
30"x36"
1-RETAINED



R3-5a
30"x36"
1-RETAINED



R3-6R
30"x36"
2-RETAINED



R10-15R
30"x30"
2-RETAINED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2&ϕ5
R4	4	2	ϕ6
R5	5	3	ϕ3
R6	6	4	ϕ4

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.

2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 6 = LOWEST)

3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.

4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.

5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED ON 04-06-20 FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 24301.00.

* - RIGHT-OF-WAY REFERENCE: PIN D.P.B. 0009(001) DOT FILE 6-341, SHEET 2&4 OF 25, 1994

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

PROJ. MANAGER	B.KEEZER	
DESIGN-DETAILED	CMT	11\20
CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
KMD AT COOL ST

TRAFFIC SIGNAL PLAN

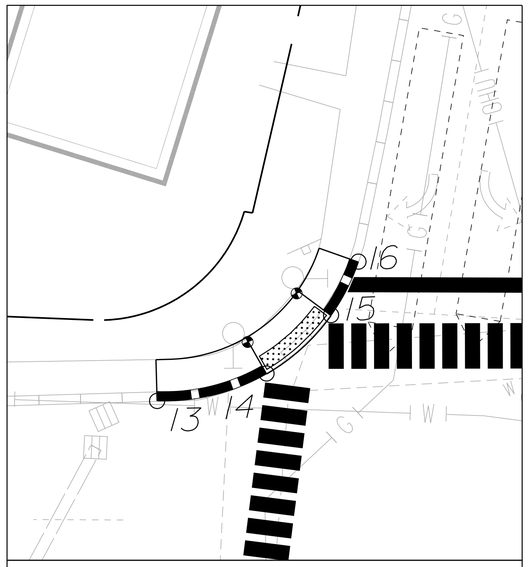
SHEET NUMBER

81A

OF 358

Filename: ...\Waterville\081C_Signal_81.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

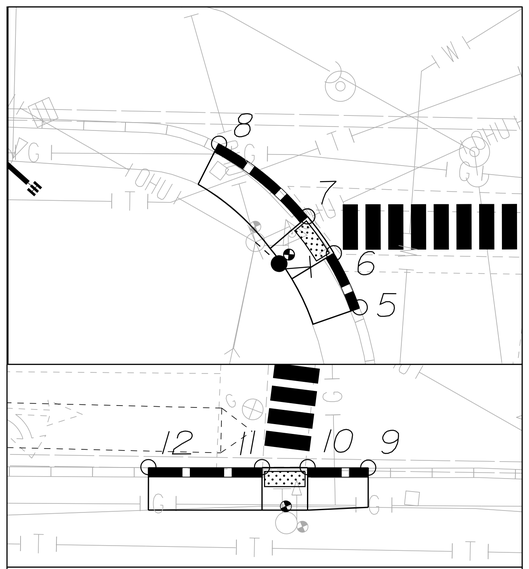
C CORNER - NW DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(20).

10 0 10 20
Scale of Feet

B CORNER - SW DETAIL

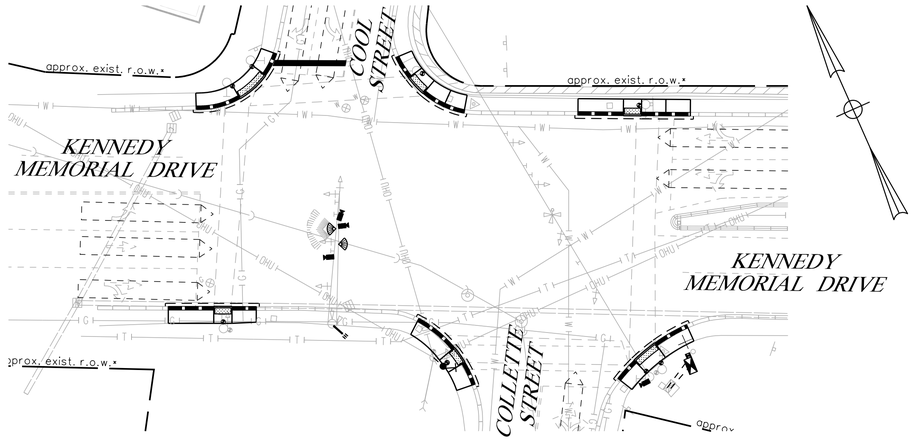


RECONSTRUCT CURB RAMPS AND LANDINGS IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

10 0 10 20
Scale of Feet

PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD (SF)		ITEM 609.11 - VERTICAL CURB TYPE 1 (LF)	ITEM 609.12 - VERTICAL CURB TYPE 1 - CIRCULAR (LF)	ITEM 609.221 - TERMINAL CURB TYPE 1 (LF)	ITEM 609.222 - TERMINAL CURB TYPE 1 - CIRCULAR (LF)	COMMENT
		LENGTH (FT)	QTY (SF)					
1 TO 2	60.00						8.0	
2 TO 3	60.00	9.0	16.2					
3 TO 4	60.00						12.0	
5 TO 6	38.00						8.0	
* 6 TO 7	38.00	6.0	10.6					13.6% CROSS SLOPE
* 7 TO 8	38.00						15.0	14% RUNNING SLOPE
9 TO 10	-					8.0		
* 10 TO 11	-	6.0	10.6					4.8% CROSS SLOPE
11 TO 12	-					15.0		
* 13 TO 14	27.00						15.0	10.6% RUNNING SLOPE
* 14 TO 15	27.00	11.5	20.5					9.0% CROSS SLOPE
15 TO 16	27.00						8.0	
17 TO 18	30.00						8.0	
* 18 TO 19	30.00	7.0	12.2					3.2% CROSS SLOPE
19 TO 20	30.00						8.0	
20 TO 21	30.00				7.0			
22 TO 23	-					15.0		
* 23 TO 24	-	6.0	10.6					6.0% CROSS SLOPE
24 TO 25	-					8.0		
25 TO 26	-			8.0				

* NON-COMPLIANT CURB RAMP ELEMENT - THE SLOPE NOTED IN THE COMMENT IS THE MAXIMUM VALUE FOR PROPOSED LEVEL OF COMPLIANCE.



ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED. AS WELL AS DETAILS PROVIDED ON SHEET H.

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
REGRADING SIDEWALK (ITEM 608.46)	114.5 SY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	8.4 TONS
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	105.3 SY
VERTICAL CURB TYPE 1 (ITEM 609.11)	8 LF

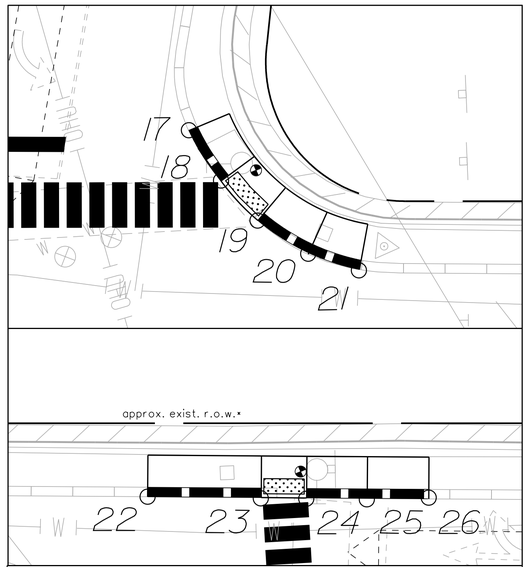
EQUIPMENT AND WORK ITEMS	QUANTITY
VERTICAL CURB TYPE 1 - CIRCULAR (ITEM 609.12)	7 LF
TERMINAL CURB TYPE 1 (ITEM 609.221)	46 LF
TERMINAL CURB TYPE 1 - CIRCULAR (ITEM 609.222)	82 LF
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	80.8 SF

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

PLAN

25 0 25 50
Scale of Feet

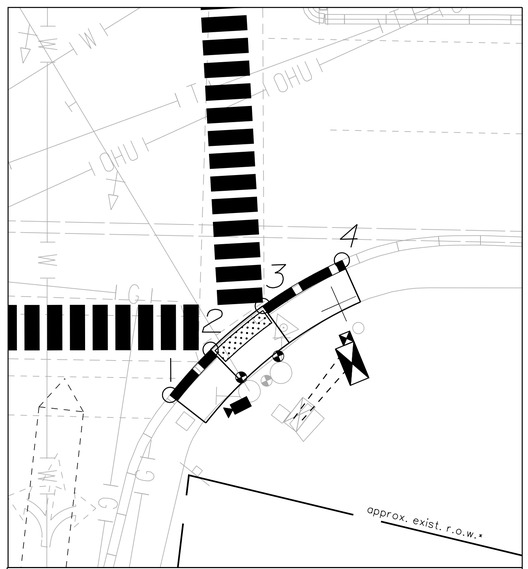
D CORNER - NE DETAIL



RECONSTRUCT CURB RAMPS AND LANDINGS IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

10 0 10 20
Scale of Feet

A CORNER - SE DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(20).

10 0 10 20
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

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South Portland, ME 04106
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PROJ. MANAGER	B.KEEZER	DATE
DESIGN-DETAILED	N.S	11\20
CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
KMD AT COOL STREET

CURB RAMP LAYOUT AND DETAIL PLAN

SHEET NUMBER

81C

OF 358

LIST OF WORK ITEMS

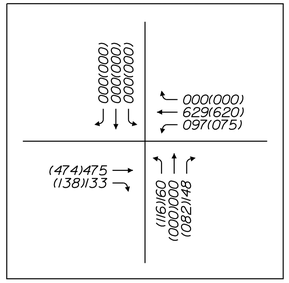
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ONE-WAY, CIRCULAR LED MODULES TO BE INSTALLED INTO EXISTING SIGNAL HEADS.	29
FURNISH AND INSTALL ONE-WAY, LED MODULES TO BE INSTALLED INTO EXISTING PEDESTRIAN SIGNAL HEADS.	2
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3e INFORMATIONAL SIGN	2
RESET PEDESTRIAN SIGNAL	2
RESET PREEMPTION PHASE SELECTOR	1
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1 RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
FURNISH AND INSTALL NEW SIGNAL CABLE	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES. COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 3 APPROACHES. COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

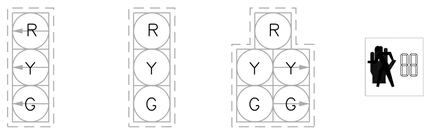
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"
A-P1	8' PEDESTAL POLE	24" DIAMETER
D-P1	8' PEDESTAL POLE	24" DIAMETER

SYSTEM DESIGN VOLUMES AM (PM)



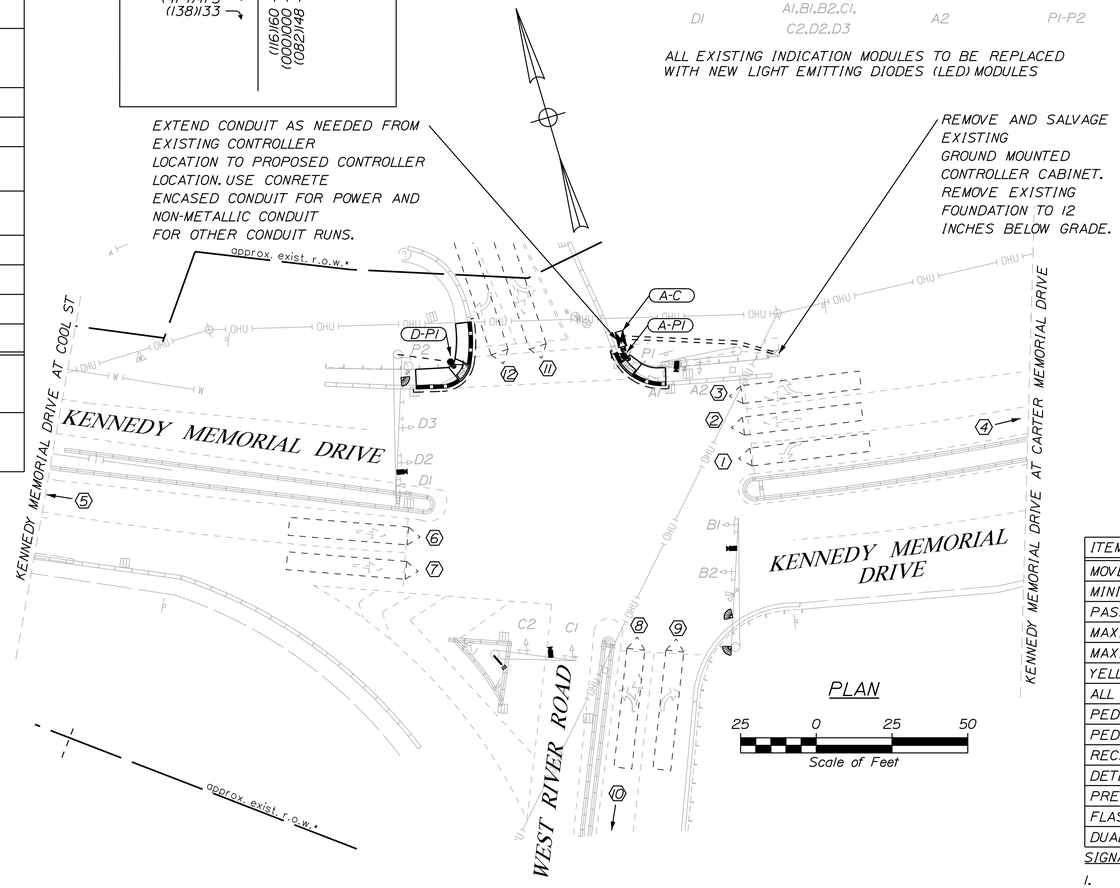
EXISTING INDICATIONS TO REMAIN



ALL EXISTING INDICATION MODULES TO BE REPLACED WITH NEW LIGHT EMITTING DIODES (LED) MODULES

EXTEND CONDUIT AS NEEDED FROM EXISTING CONTROLLER LOCATION TO PROPOSED CONTROLLER LOCATION. USE CONRETE ENCASED CONDUIT FOR POWER AND NON-METALLIC CONDUIT FOR OTHER CONDUIT RUNS.

REMOVE AND SALVAGE EXISTING GROUND MOUNTED CONTROLLER CABINET. REMOVE EXISTING FOUNDATION TO 12 INCHES BELOW GRADE.



PLAN

25 0 25 50
Scale of Feet

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADV. B=S.BAR	DELAY TIME	EXT. TIME
1	KMD WB LEFT	1	1	B	-	-
2	KMD WB THRU	6	6	B	-	-
3	KMD WB THRU/RIGHT	6	6	B	-	-
4*	KMD WB ADVANCE	6	6	A	-	-
5*	KMD EB ADVANCE	2	2	A	-	-
6	KMD EB THRU	2	2	B	-	-
7	KMD EB THRU	2	2	B	-	-
8	WEST RIVER ROAD LEFT/THRU	8	8	B	-	-
9	WEST RIVER ROAD RIGHT	8	8	B	10	-
10*	WEST RIVER ROAD ADVANCE	8	8	A	-	-
11	COMERCIAL ENTRANCE LEFT/THRU	4	4	B	-	-
12	COMERCIAL ENTRANCE RIGHT	4	4	B	10	-

*SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)

NOTE: LOCATION AND QUANTITY OF ADDITIONAL VEHICLE DETECTION ZONES TO BE DETERMINED BASED ON THE SPECIFIC ASCT SYSTEM REQUIREMENTS.

SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ1	φ2	φ3	φ4	φ5	φ6	φ7	φ8
MOVEMENT	D(LT)	B	-	C	-	D	-	A
MINIMUM INITIAL	5.0	10.0	-	5.0	-	10.0	-	5.0
PASSAGE TIME	2.0	2.0	-	2.0	-	2.0	-	2.0
MAXIMUM 1	15.0	43.0	-	23.5	-	64.0	-	23.5
MAXIMUM 2	-	-	-	-	-	-	-	-
YELLOW	3.5	3.5	-	3.5	-	3.5	-	3.5
ALL RED	1.0	1.0	-	1.5	-	1.0	-	1.5
PED WALK	-	-	-	-	-	7.0	-	-
PED CLEAR	-	-	-	-	-	16.0	-	-
RECALL	O	S	-	O	-	S	-	O
DETECTOR	PR	PR	-	PR	-	PR	-	PR
PREEMPT PRIORITY	4	3	-	5	-	4	-	6
FLASH	R	Y	-	R	-	Y	-	R
DUAL ENTRY	OFF	ON	-	ON	-	ON	-	ON

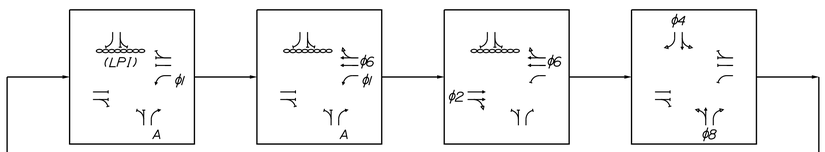
SIGNAL TIMING NOTES:

1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONCTRACT AWARD.
2. DEFINITIONS
   - S = SOFT RECALL
   - O = RECALL OFF
   - PR = PRESENCE
   - Y = YELLOW
   - R = RED
   - D = DARK

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

1 2 | 4
6 | 8



OVERLAP PHASING:
OVL A = φ1

PHASING NOTES:
1. EACH PEDESTRIAN PHASE SHALL HAVE A MINIMUM OF A 4 SECOND LEADING PEDESTRIAN INTERVAL(LP1).
2. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY

NOTE:

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THE REMAINING TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN IS AN APPROXIMATE REPRESENTATION OF EXISTING CONDITIONS BASED ON INFORMATION FROM VARIOUS SOURCES, INCLUDING: GEO-LOCATED AERIAL IMAGERY, LIDAR DERIVED CONTOURS, AVAILABLE PROPERTY MAP INFORMATION, AND SCANNED RIGHT-OF-WAY INFORMATION FROM THE SOURCE LISTED BELOW FITTED TO THE OTHER SOURCES. THE INFORMATION WITHIN THIS PLAN IS NOT SUPPORTED BY FIELD SURVEY.

* - RIGHT-OF-WAY REFERENCE: PIN D.P.B. 0009(001) DOT FILE 6-341, SHEET 4 OF 25, 1994

STATE OF MAINE
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PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

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75 John Roberts Rd.
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PROJ. MANAGER	B.KEEZER		
DESIGN-DETAILED	CMT		
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DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1		BY	DATE
REVISIONS 2		CMT	11\20
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REVISIONS 4			
FIELD CHANGES			

WATERVILLE
KMD AT WEST RIVER RD

TRAFFIC SIGNAL PLAN

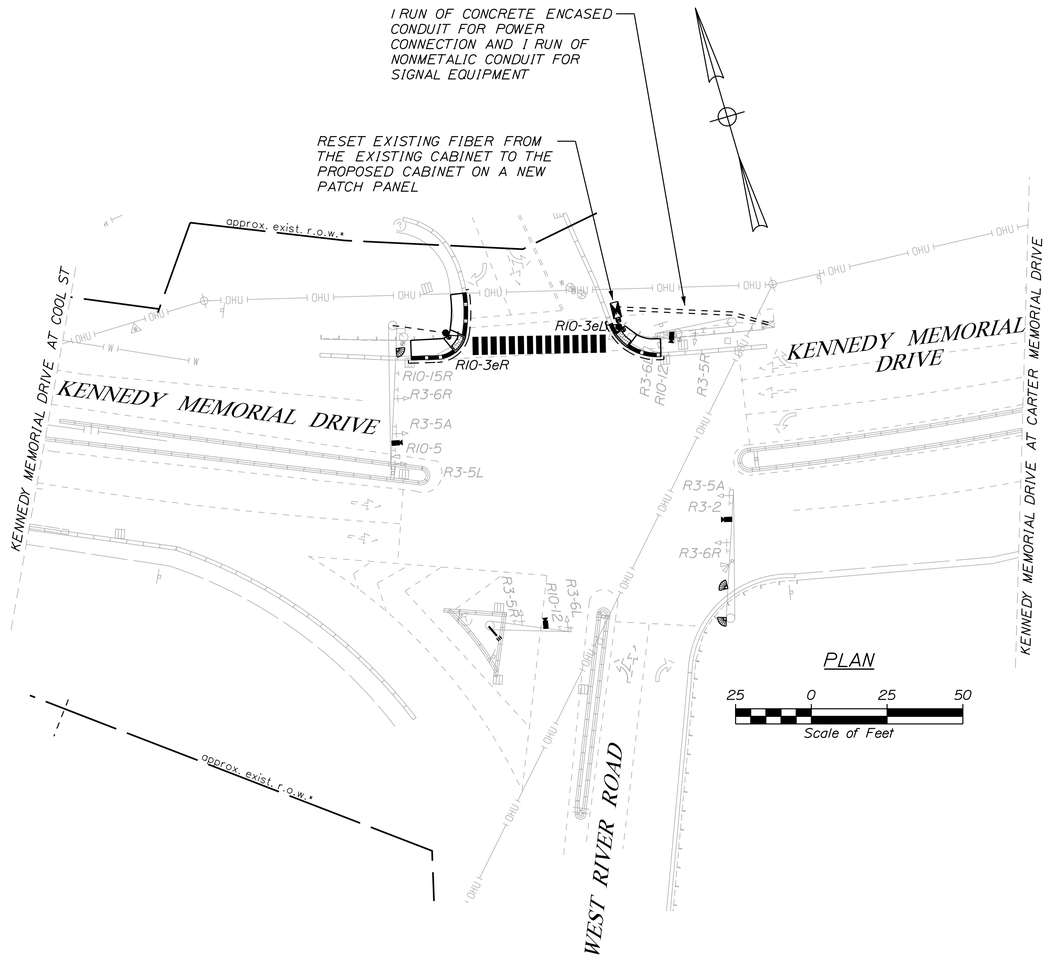
SHEET NUMBER
82
OF 358

Filename: ...\Waterville\082_Signal_82.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	130 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	55 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL 24-INCH DIAMETER FOUNDATION (ITEM 626.421)	14 LF
FURNISH AND INSTALL WHITE PAVEMENT AND CURB MARKING (ITEM 627.75)	180 SF
REMOVE EXISTING PAVEMENT MARKING (ITEM 627.77)	180 SF
FURNISH AND INSTALL 8-FOOT PEDESTAL POLE (ITEM 643.92)	2 EA
FURNISH AND INSTALL KENNEDY MEMORIAL DRIVE PROGRESSION BASED ASCT SYSTEM (ITEM 654.05)	1 LS
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

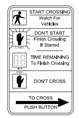
THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PROPOSED SIGNS



R10-3eL
9"x15"
1-PROPOSED



R10-3eR
9"x15"
1-PROPOSED

EXISTING SIGNS



R3-2
30"x30"
1-RETAINED



R10-5
30"x36"
1-RETAINED



R10-12
30"x36"
2-RETAINED



R3-5L
30"x36"
1-RETAINED



R3-6L
30"x36"
2-RETAINED



R3-5a
30"x36"
2-RETAINED



R3-6R
30"x36"
2-RETAINED



R3-5R
30"x36"
2-RETAINED



R10-15R
30"x30"
1-RETAINED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2
R4	4	2	ϕ1&ϕ6
R5	5	3	ϕ4
R6	6	4	ϕ8

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
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WATERVILLE
KMD AT WEST RIVER RD

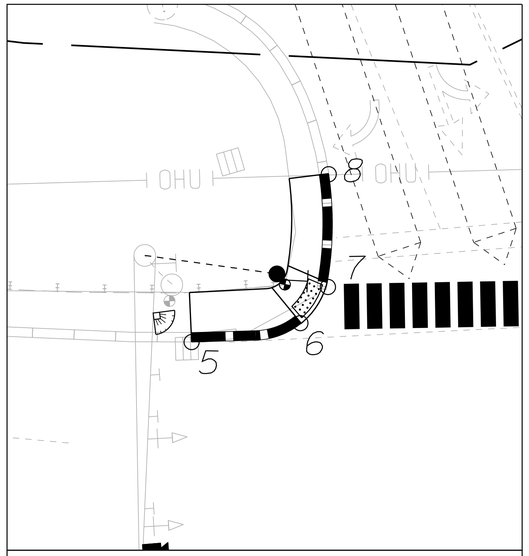
TRAFFIC SIGNAL PLAN

SHEET NUMBER
82A
OF 358

Filename: ...\Waterville\082A_Signal_82.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

Filename: ...\Waterville\082C_Signal_82.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

D CORNER - NW DETAIL



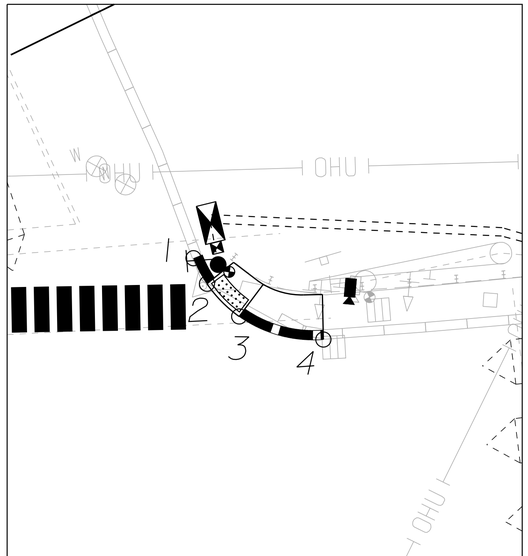
RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

10 0 10 20
Scale of Feet

PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD (SF)		ITEM 609.221 - TERMINAL CURB TYPE 1 (LF)	ITEM 609.222 - TERMINAL CURB TYPE 1 - CIRCULAR (LF)	COMMENT
		LENGTH (FT)	QTY (SF)			
1 TO 2	17.00				4.0	
2 TO 3	17.00	6.0	10.0			
3 TO 4	17.00				12.0	
* 5 TO 6	-			15.0		BACKSIDE SW 8.6%
6 TO 7	10.00	6.0	10.0			
7 TO 8	45.00				15.0	

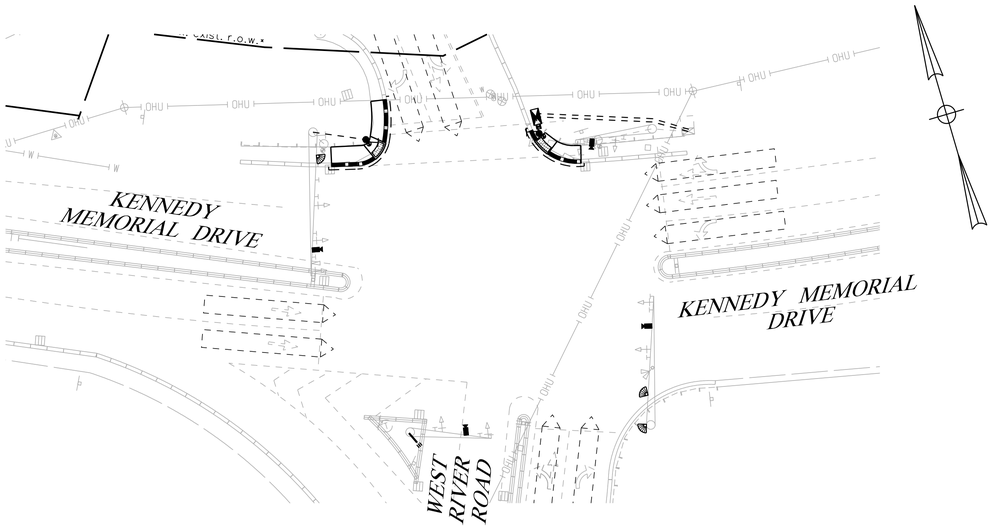
* NON-COMPLIANT CURB RAMP ELEMENT - THE SLOPE NOTED IN THE COMMENT IS THE MAXIMUM VALUE FOR PROPOSED LEVEL OF COMPLIANCE.

A CORNER - NE DETAIL



RECONSTRUCT CURB RAMP AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

10 0 10 20
Scale of Feet



ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED. AS WELL AS DETAILS PROVIDED ON SHEET H.

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
REGRADING SIDEWALK (ITEM 608.46)	29.7 SY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	2.3 TONS
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	29.7 SY

EQUIPMENT AND WORK ITEMS	QUANTITY
TERMINAL CURB TYPE 1 (ITEM 609.221)	15 LF
TERMINAL CURB TYPE 1 - CIRCULAR (ITEM 609.222)	31 LF
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	20 SF

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

PLAN

25 0 25 50
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

	BY	DATE
PROJ. MANAGER	B.KEEFER	
DESIGN-DETAILED	NLS	11\20
CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
KMD AT WEST RIVER ROAD

CURB RAMP LAYOUT
AND DETAIL PLAN

SHEET NUMBER
82C
OF 358

LIST OF WORK ITEMS

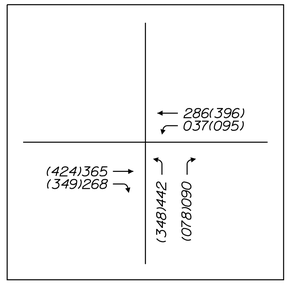
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ONE-WAY, CIRCULAR LED MODULES TO BE INSTALLED INTO EXISTING SIGNAL HEADS.	21
RESET PREEMPTION PHASE SELECTOR	1
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1 RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
FURNISH AND INSTALL NEW SIGNAL CABLE	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON- INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 3 APPROACHES, COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 2 APPROACHES, COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

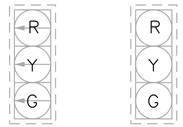
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"
A-PI	4' PEDESTAL POLE	24" DIAMETER

SYSTEM DESIGN VOLUMES AM (PM)



EXISTING INDICATIONS TO REMAIN



C1,D1,D2 A1,A2,C2,C3

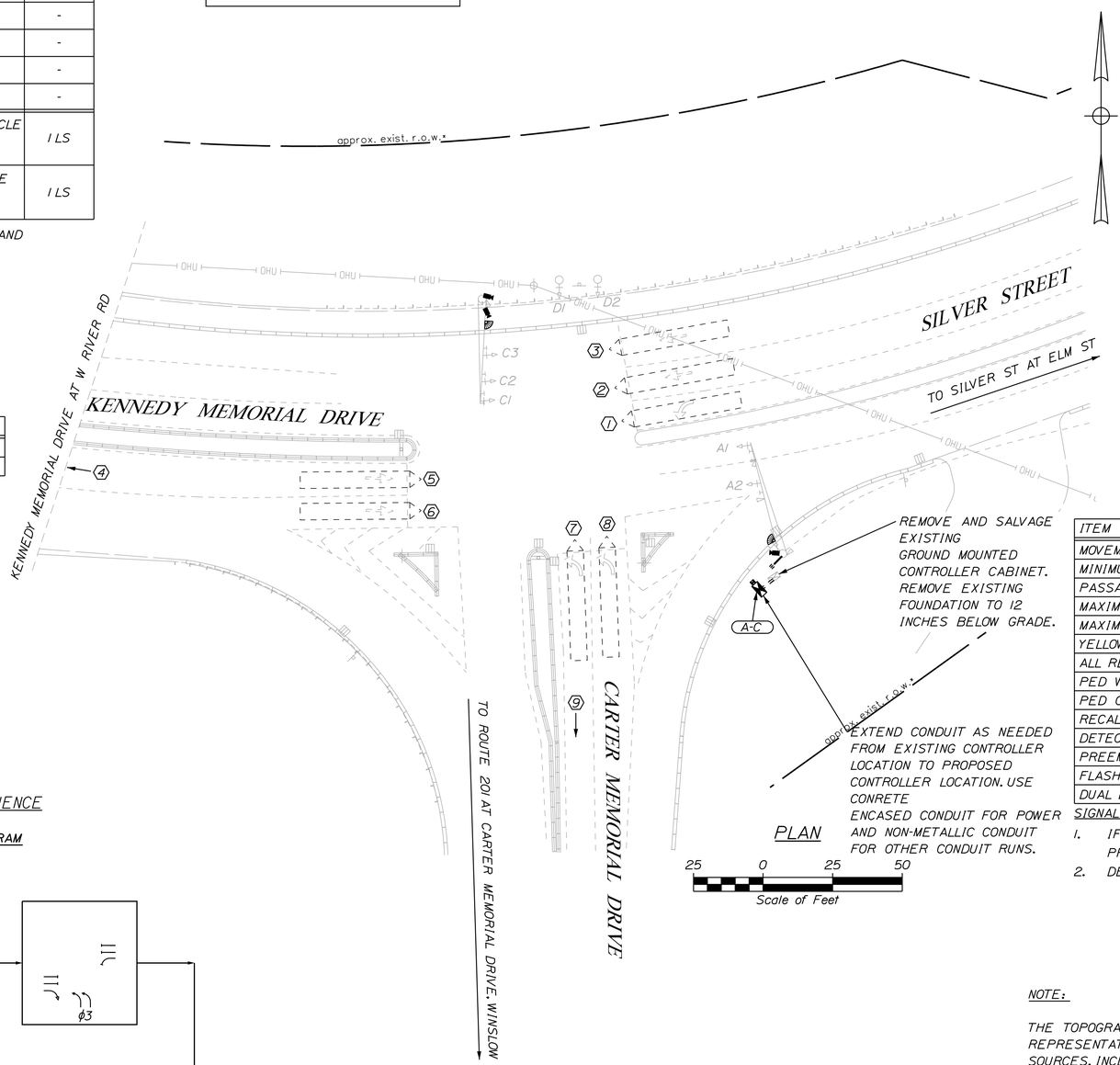
ALL EXISTING INDICATION MODULES TO BE REPLACED WITH NEW LIGHT EMITTING DIODES (LED) MODULES

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	ϕ CALLED	ϕ EXT.	MODE A=ADV. B=S.BAR	DELAY TIME	EXT. TIME
1	SILVER STREET LEFT	1	1	B	-	-
2	SILVER STREET THRU	6	6	B	-	-
3	SILVER STREET THRU	6	6	B	-	-
4*	KMD ADVANCE	2	2	A	-	-
5	KMD THRU	2	2	B	-	-
6	KMD THRU	2	2	B	-	-
7	CARTER MEM. DR LEFT	3	3	B	-	-
8	CARTER MEM. DR LEFT	3	3	B	-	-
9*	CARTER MEM. DR ADVANCE	3	3	A	-	-

*SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)

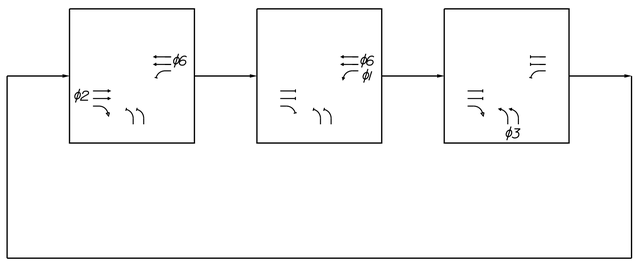
NOTE: LOCATION AND QUANTITY OF ADDITIONAL VEHICLE DETECTION ZONES TO BE DETERMINED BASED ON THE SPECIFIC ASCT SYSTEM REQUIREMENTS.



PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

2 1 3
6



SIGNAL TIMING SCHEDULE

ITEM / PHASE	ϕ 1	ϕ 2	ϕ 3	ϕ 4	ϕ 5	ϕ 6	ϕ 7	ϕ 8
MOVEMENT	C(LT)	A	D	-	-	C	-	-
MINIMUM INITIAL	5.0	10.0	5.0	-	-	10.0	-	-
PASSAGE TIME	2.0	4.0	2.0	-	-	4.0	-	-
MAXIMUM 1	15.0	38.0	29.0	-	-	59.0	-	-
MAXIMUM 2	-	-	-	-	-	-	-	-
YELLOW	3.5	3.5	3.5	-	-	3.5	-	-
ALL RED	1.0	1.0	1.0	-	-	1.0	-	-
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
RECALL	O	S	O	-	-	S	-	-
DETECTOR	PR	PR	PR	-	-	PR	-	-
PREEMPT PRIORITY	4	3	5	-	-	4	-	-
FLASH	R	Y	R	-	-	Y	-	-
DUAL ENTRY	OFF	ON	OFF	-	-	ON	-	-

SIGNAL TIMING NOTES:

1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONCTRACT AWARD.
2. DEFINITIONS
   - S = SOFT RECALL
   - O = RECALL OFF
   - PR = PRESENCE
   - Y = YELLOW
   - R = RED
   - D = DARK

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN IS AN APPROXIMATE REPRESENTATION OF EXISTING CONDITIONS BASED ON INFORMATION FROM VARIOUS SOURCES, INCLUDING: GEO-LOCATED AERIAL IMAGERY, LIDAR DERIVED CONTOURS, AVAILABLE PROPERTY MAP INFORMATION, AND SCANNED RIGHT-OF-WAY INFORMATION FROM THE SOURCE LISTED BELOW FITTED TO THE OTHER SOURCES. THE INFORMATION WITHIN THIS PLAN IS NOT SUPPORTED BY FIELD SURVEY.

* - RIGHT-OF-WAY REFERENCE: PIN D.P.B. 0009(001) DOT FILE 6-341, SHEET 5 OF 25, 1994

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

PROJ. MANAGER	B.KEEZER		
DESIGN-DETAILED	CMT	BY	11\20
CHECKED-REVIEWED	BRL		11\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WATERVILLE
KMD AT CARTER MEM DR

TRAFFIC SIGNAL PLAN

SHEET NUMBER

83

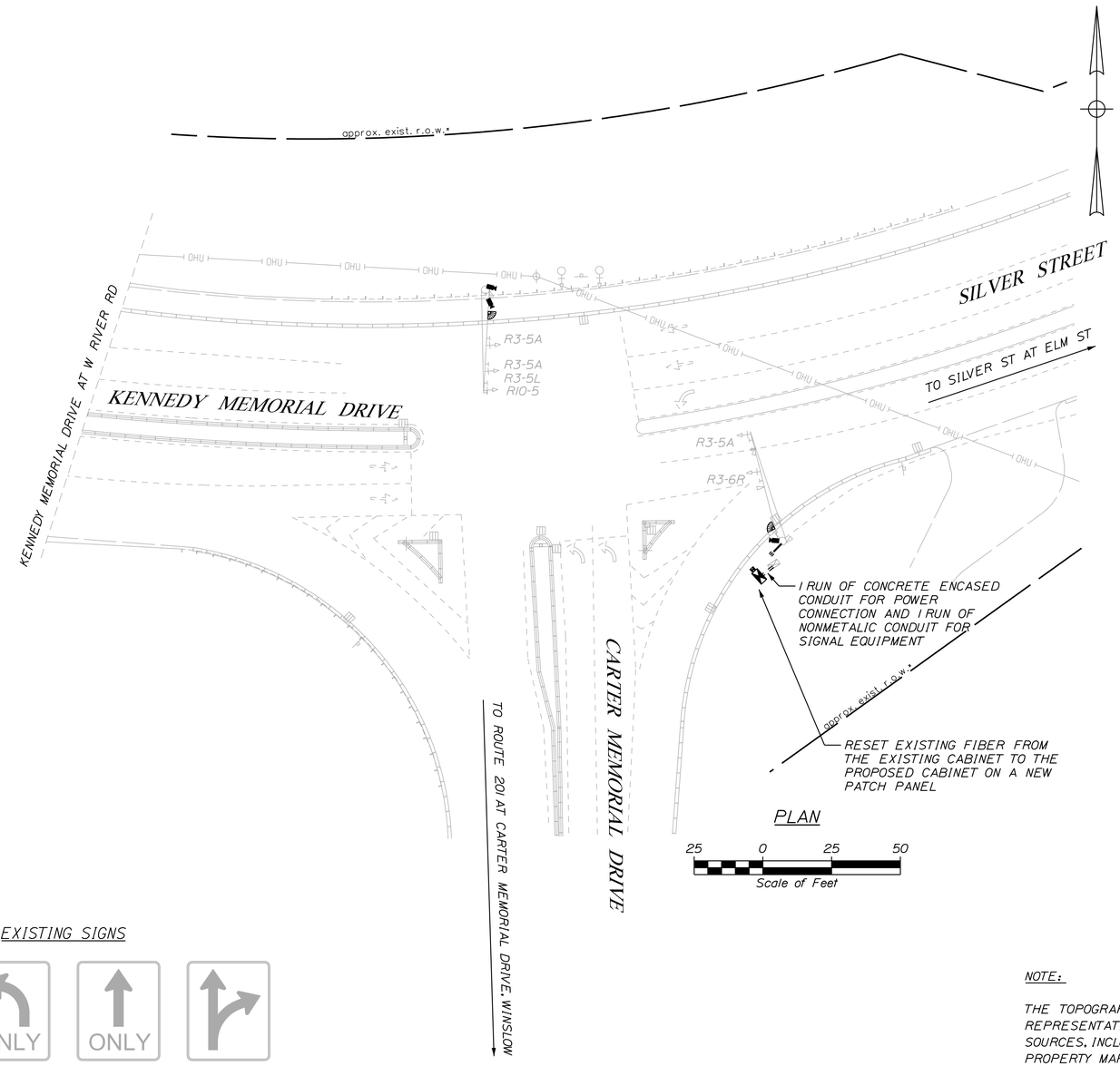
OF 358

Filename: ...\Waterville\083_Signal_83.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	20 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	10 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL KENNEDY MEMORIAL DRIVE PROGRESSION BASED ASCT SYSTEM (ITEM 654.05)	1 LS
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PLAN

25 0 25 50

Scale of Feet

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2
R4	4	2	ϕ1&ϕ6
R5	5	3	ϕ3
R6	6	4	-

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 6 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

EXISTING SIGNS



R10-5 30"x36" 1-RETAINED | R3-5L 30"x36" 1-RETAINED | R3-5a 30"x36" 3-RETAINED | R3-6R 30"x36" 1-RETAINED

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN IS AN APPROXIMATE REPRESENTATION OF EXISTING CONDITIONS BASED ON INFORMATION FROM VARIOUS SOURCES, INCLUDING: GEO-LOCATED AERIAL IMAGERY, LIDAR DERIVED CONTOURS, AVAILABLE PROPERTY MAP INFORMATION, AND SCANNED RIGHT-OF-WAY INFORMATION FROM THE SOURCE LISTED BELOW FITTED TO THE OTHER SOURCES. THE INFORMATION WITHIN THIS PLAN IS NOT SUPPORTED BY FIELD SURVEY.

* - RIGHT-OF-WAY REFERENCE: PIN D.P.B. 0009(001) DOT FILE 6-341, SHEET 5 OF 25, 1994

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
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75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

PROJ. MANAGER	B.KEEZER		
DESIGN-DETAILED	CMT	BY	DATE
CHECKED-REVIEWED	BRL		
DESIGN2-DETAILED2		CMT	11\20
DESIGN3-DETAILED3		BRL	11\20
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WATERVILLE
KMD AT CARTER MEM DR

TRAFFIC SIGNAL PLAN

SHEET NUMBER

83A

OF 358

Filename: ...\Waterville\083A_Signol_83.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

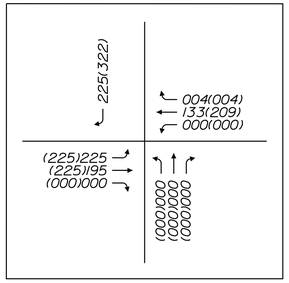
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ONE-WAY, CIRCULAR LED MODULES TO BE INSTALLED INTO EXISTING SIGNAL HEADS.	27
FURNISH AND INSTALL ONE-WAY, LED MODULES TO BE INSTALLED INTO EXISTING PEDESTRIAN SIGNAL HEADS.	4
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3e INFORMATIONAL SIGN	4
RESET PEDESTRIAN SIGNAL	3
RESET PREEMPTION PHASE SELECTOR	1
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1 RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
FURNISH AND INSTALL NEW SIGNAL CABLE	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES. COMPLETE (ITEM 643.21)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

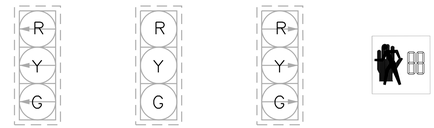
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"
A-PI	8' PEDESTAL POLE	24" DIAMETER
B-PI	8' PEDESTAL POLE	24" DIAMETER
B-P2	8' PEDESTAL POLE	24" DIAMETER

SYSTEM DESIGN VOLUMES AM (PM)



EXISTING INDICATIONS
TO REMAIN

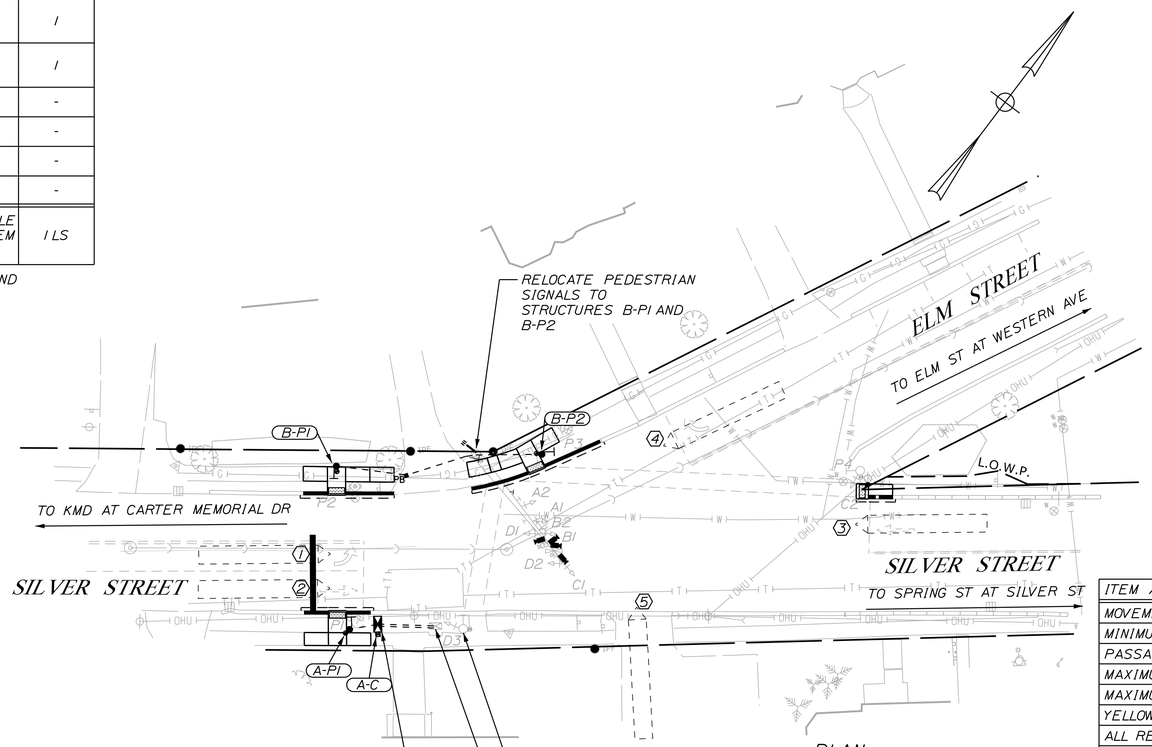


ALL EXISTING INDICATION MODULES TO BE REPLACED WITH NEW LIGHT EMITTING DIODES (LED) MODULES

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADV. B=S.BAR	DELAY TIME	EXT. TIME
①	SILVER STREET NB LEFT	1	1	B	-	-
②	SILVER STREET NB THRU/RIGHT	6	6	B	-	-
③	SILVER STREET SB	2	2	B	-	-
④	ELM STREET	1	1	B	-	-
⑤	PRIVATE DRIVE	3	3	B	-	-

*SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)



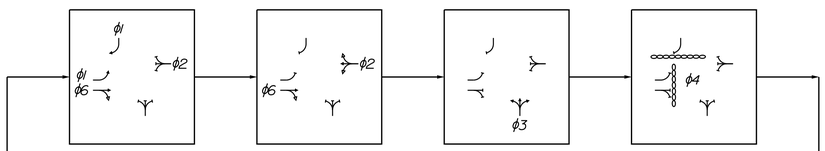
PLAN

25 0 25 50
Scale of Feet

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

1 2 | 3 4
6 | 5



PHASING NOTES:
1. EACH PEDESTRIAN PHASE SHALL HAVE A MINIMUM OF A 4 SECOND LEADING PEDESTRIAN INTERVAL(LPI).
2. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY

SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ1	φ2	φ3	φ4	φ5	φ6	φ7	φ8	φ9
MOVEMENT	D(LT)	B	C	-	-	D	-	-	PED
MINIMUM INITIAL	5.0	10	5.0	-	-	10.0	-	-	-
PASSAGE TIME	2.0	2.0	1.0	-	-	2.0	-	-	-
MAXIMUM 1	16.0	10.0	10.0	-	-	33.0	-	-	-
MAXIMUM 2	-	-	-	-	-	-	-	-	-
YELLOW	3.0	3.0	3.0	-	-	3.0	-	-	2.0
ALL RED	4.5	4.5	2.0	-	-	4.5	-	-	1.0
PED WALK	-	-	-	-	-	-	-	-	8.0
PED CLEAR	-	-	-	-	-	-	-	-	29.0
RECALL	0	S	0	-	-	S	-	-	0
DETECTOR	PR	PR	PR	-	-	PR	-	-	-
PREEMPT PRIORITY	4	3	5	-	-	4	-	-	-
FLASH	R	Y	Y	-	-	Y	-	-	-
DUAL ENTRY	OFF	ON	OFF	-	-	ON	-	-	-

SIGNAL TIMING NOTES:
1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONCTRACT AWARD.
2. DEFINITIONS
   S = SOFT RECALL — Y = YELLOW
   0 = RECALL OFF — R = RED
   PR = PRESENCE — D = DARK

NOTE:
RIGHT-OF-WAY SHOWN ON THIS PLAN IS APPROXIMATE AND ACQUISTIONS (POST BID AND BY OTHERS) MAY BE REQUIRED TO COMPLETE THE WORK.

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED ON 9-17-19 FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 24301.00.

* - RIGHT-OF-WAY REFERENCE: THE RIGHT-OF-WAY INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED ON 10-2-19 FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 24301.00.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
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75 John Roberts Rd.
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Tel. 207-200-2100

PROJ. MANAGER	B.KEEZER
DESIGN-DETAILED	CMT
CHECKED-REVIEWED	BRL
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	

	BY	DATE
REVISIONS 1	CMT	11\20
REVISIONS 2	BRL	11\20
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
ELM ST AT SILVER ST

TRAFFIC SIGNAL PLAN

SHEET NUMBER
84
OF 358

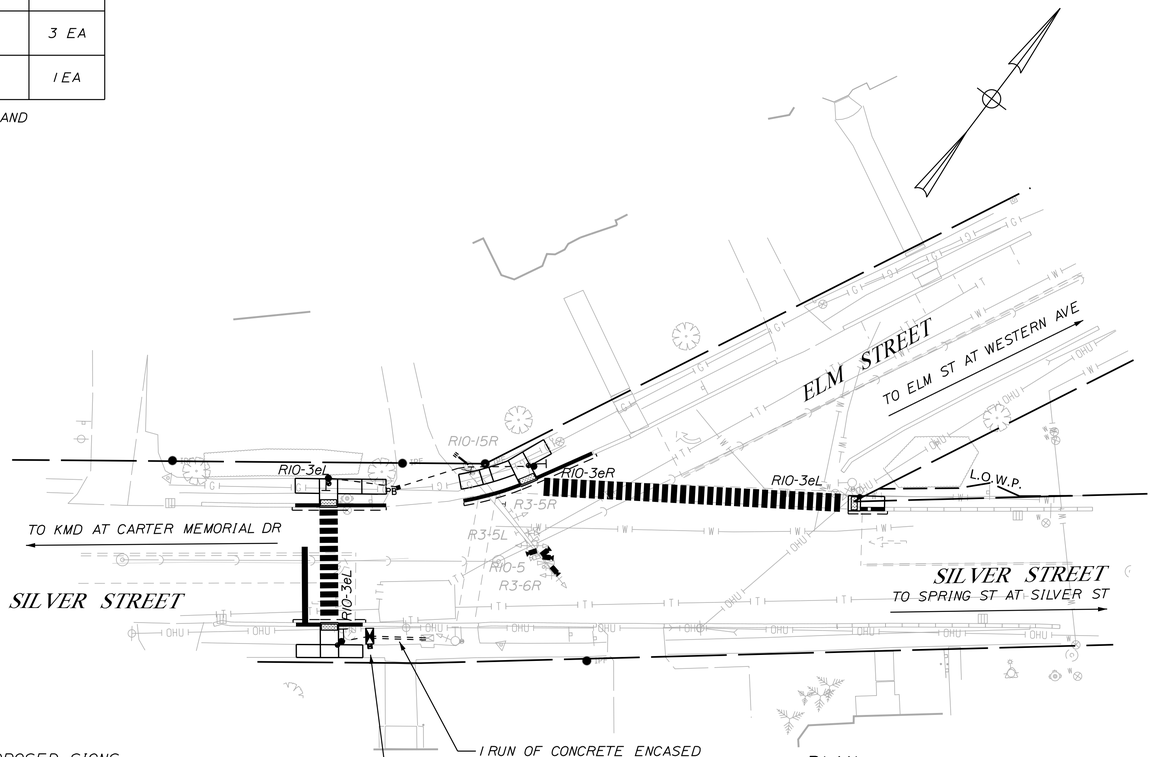
Filename: ...\Waterville\084_Signal_84.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

Filename: ...\Waterville\084A_Signal_84.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL PRECAST CONCRETE JUNCTION BOX (ITEM 626.11)	1 EA
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	115 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT. CONCRETE ENCASED (ITEM 626.221)	20 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL 24-INCH DIAMETER FOUNDATION (ITEM 626.421)	21 LF
FURNISH AND INSTALL WHITE PAVEMENT AND CURB MARKING (ITEM 627.75)	590 SF
REMOVE EXISTING PAVEMENT MARKING (ITEM 627.77)	590 SF
FURNISH AND INSTALL 8-FOOT PEDESTAL POLE (ITEM 643.92)	3 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PLAN

25 0 25 50

Scale of Feet

PROPOSED SIGNS



R10-3eL
9"x15"
3-PROPOSED



R10-3eR
9"x15"
1-PROPOSED

EXISTING SIGNS



R10-5
30"x36"
1-RETAINED



R3-5L
30"x36"
1-RETAINED



R3-6R
30"x36"
1-RETAINED



R3-5R
30"x36"
1-RETAINED



R10-15R
30"x30"
1-RETAINED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2
R4	4	2	ϕ1&ϕ6
R5	5	3	ϕ3
R6	6	4	-

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.

2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 6 = LOWEST)

3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.

4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.

5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED ON 9-17-19 FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 24301.00.

* - RIGHT-OF-WAY REFERENCE: THE RIGHT-OF-WAY INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED ON 10-2-19 FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 24301.00.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

PROJ. MANAGER	B.KEEZER	DATE
DESIGN-DETAILED	CMT	11\20
CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
ELM ST AT SILVER ST

TRAFFIC SIGNAL PLAN

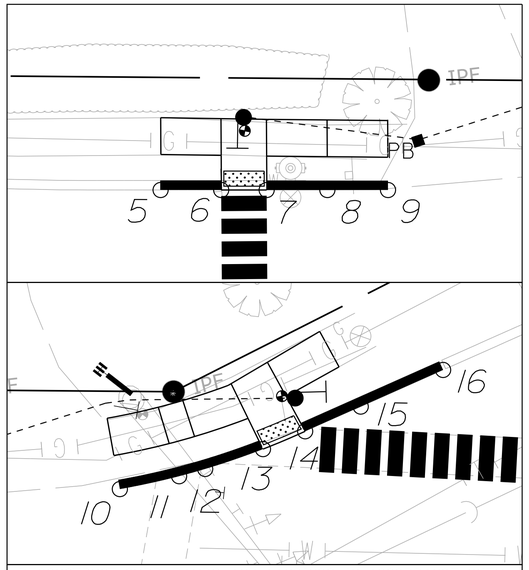
SHEET NUMBER

84A

OF 358

Filename: ...\Waterville\084C_Signal_84.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

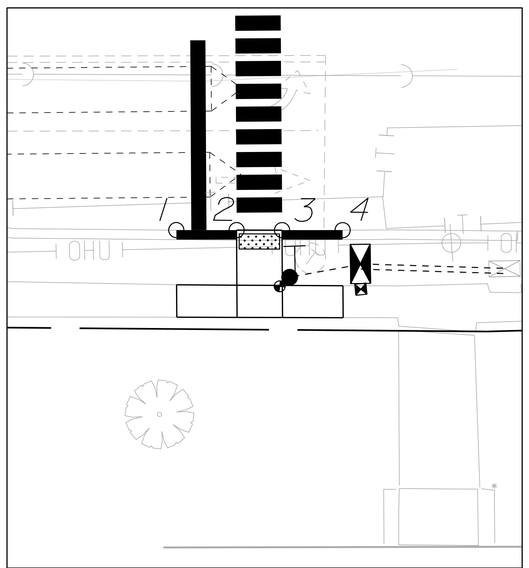
B CORNER - NW DETAIL



RECONSTRUCT CURB RAMPS AND LANDINGS IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(23).

10 0 10 20
Scale of Feet

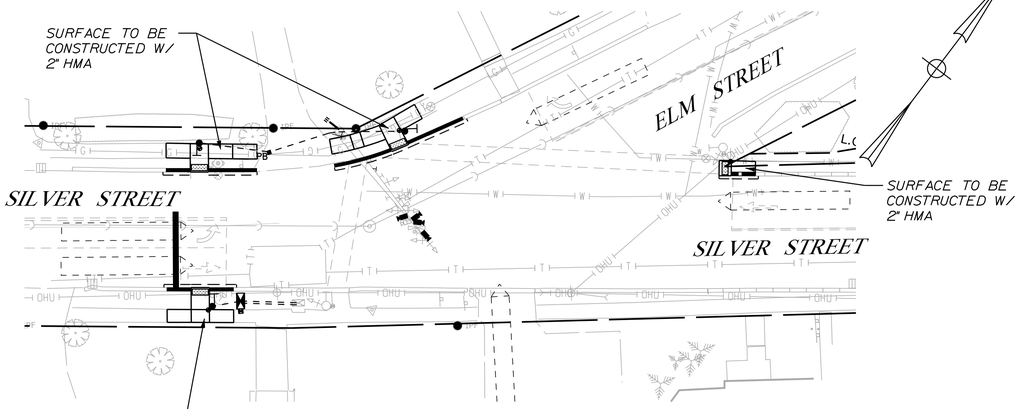
A CORNER - SW DETAIL



RECONSTRUCT CURB RAMPS AND LANDINGS IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(23).

10 0 10 20
Scale of Feet

PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD (SF)		ITEM 609.221 - TERMINAL CURB TYPE 1 (LF)	ITEM 609.31 - CURB TYPE 3 (LF)	COMMENT
		LENGTH (FT)	QTY (SF)			
1 TO 2	-				8.0	
2 TO 3	-	6.0	10.6			
3 TO 4	-				8.0	
5 TO 6	-				8.0	
6 TO 7	-	6.0	10.6			
7 TO 8	-				8.0	
8 TO 9	-				8.0	
10 TO 11	100.00				8.0	
11 TO 12	100.00				3.5	
12 TO 13	100.00				8.0	
13 TO 14	100.00	6.0	10.6			
14 TO 15					8.0	
15 TO 16					12.0	
17 TO 18	-		10.0			
18 TO 19	-			8.0		



ALL DETECTABLE WARNING FIELDS AT THIS INTERSECTION SHALL BE "COLONIAL / CLAY RED" IN COLOR.

ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED. AS WELL AS DETAILS PROVIDED ON SHEET H.

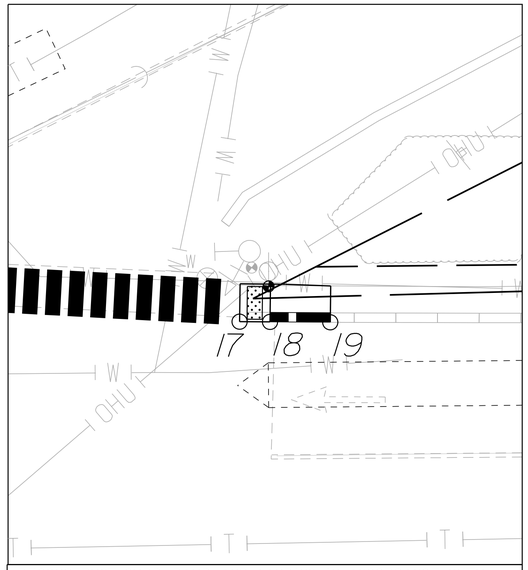
LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
REGRADING SIDEWALK (ITEM 608.46)	50.9 SY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	11 TONS
CONSTRUCT SIDEWALK (ITEM 608.45)	11 SY

EQUIPMENT AND WORK ITEMS	QUANTITY
CURB TYPE 3 (ITEM 609.31)	80 LF
TERMINAL CURB TYPE 1 (ITEM 609.221)	8 LF
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	41.8 SF

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

C CORNER - NE DETAIL



RECONSTRUCT CURB RAMP AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(22).

10 0 10 20
Scale of Feet

PLAN

25 0 25 50
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

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South Portland, ME 04106
Tel. 207-200-2100

	BY	DATE
PROJ. MANAGER	B.KEEZER	
DESIGN-DETAILED	NLS	11\20
CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
KMD AT SILVER STREET

CURB RAMP LAYOUT
AND DETAIL PLAN

SHEET NUMBER

84C

OF 358

LIST OF WORK ITEMS

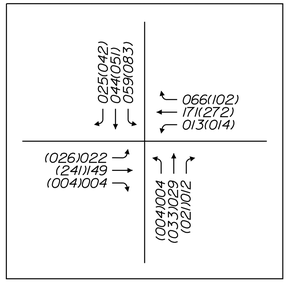
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ONE-WAY, CIRCULAR LED MODULES TO BE INSTALLED INTO EXISTING SIGNAL HEADS.	24
FURNISH AND INSTALL ONE-WAY, LED MODULES TO BE INSTALLED INTO EXISTING PEDESTRIAN SIGNAL HEADS.	4
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3e INFORMATIONAL SIGN	4
RESET PEDESTRIAN SIGNAL	2
RESET PREEMPTION PHASE SELECTOR	1
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1 RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL NEW SIGNAL CABLE	-
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES. COMPLETE (ITEM 643.21)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

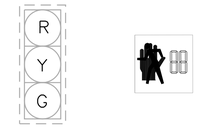
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"
A-PI	8' PEDESTAL POLE	24" DIAMETER
D-PI	8' PEDESTAL POLE	24" DIAMETER

SYSTEM DESIGN VOLUMES AM (PM)



EXISTING INDICATIONS
TO REMAIN



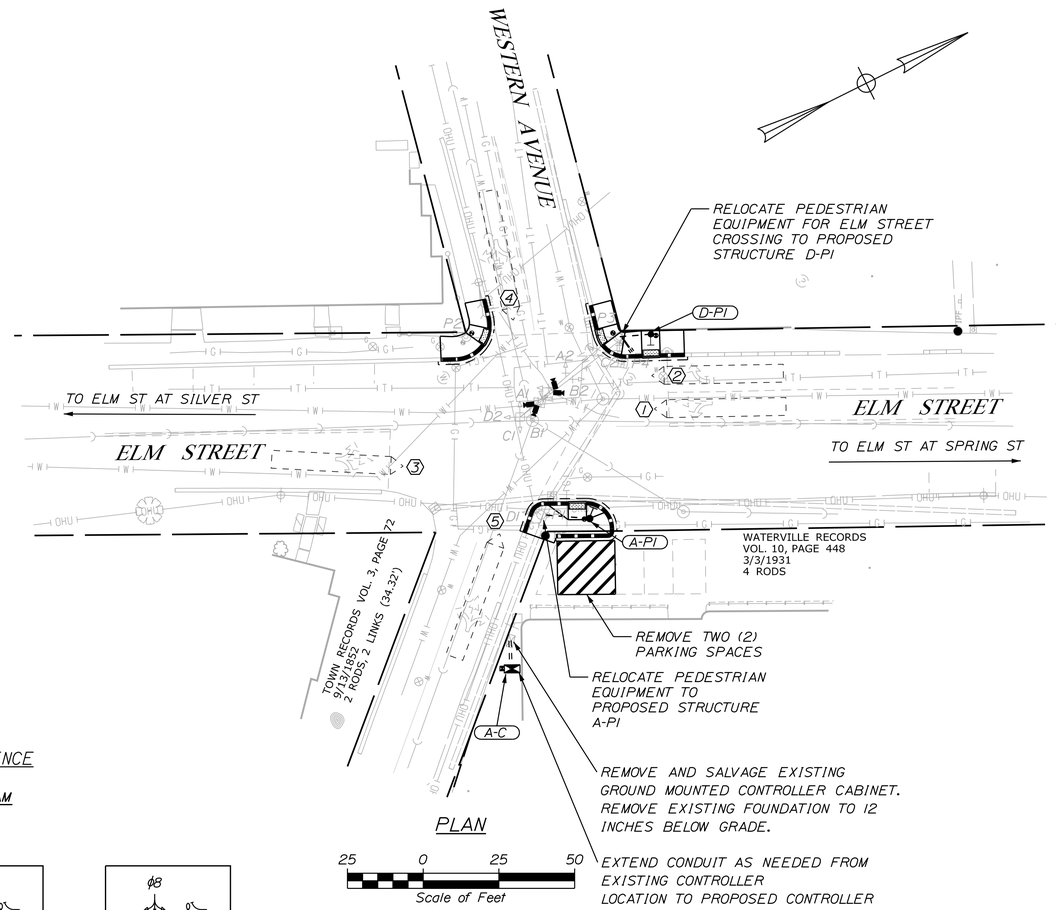
A1,A2,B1,B2,
C1,C2,D1,D2

P1-P4

ALL EXISTING INDICATION MODULES TO BE REPLACED WITH NEW LIGHT EMITTING DIODES (LED) MODULES

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADV. B=S.BAR	DELAY TIME	EXT. TIME
1	ELM STREET SB LEFT/THRU	6	6	B	-	-
2	ELM STREET SB RIGHT	6	6	B	10	-
3	ELM STREET NB	2	2	B	-	-
4	WESTERN AVENUE EB	8	8	B	-	-
5	WESTERN AVENUE WB	4	4	B	-	-



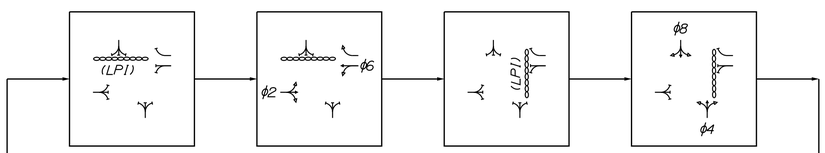
PLAN

25 0 25 50
Scale of Feet

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

2 | 4
6 | 8



PHASING NOTES:
1. EACH PEDESTRIAN PHASE SHALL HAVE A MINIMUM OF A 4 SECOND LEADING PEDESTRIAN INTERVAL(LPI).
2. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY

SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ 1	φ 2	φ 3	φ 4	φ 5	φ 6	φ 7	φ 8
MOVEMENT	-	D	-	A	-	B	-	C
MINIMUM INITIAL	-	10.0	-	5.0	-	10.0	-	5.0
PASSAGE TIME	-	2.0	-	3.0	-	2.0	-	3.0
MAXIMUM 1	-	20.0	-	20.0	-	20.0	-	20.0
MAXIMUM 2	-	-	-	-	-	-	-	-
YELLOW	-	3.5	-	3.0	-	3.5	-	3.0
ALL RED	-	1.5	-	2.0	-	1.5	-	2.0
PED WALK	-	-	-	5.0	-	5.0	-	-
PED CLEAR	-	-	-	12.0	-	7.0	-	-
RECALL	-	S	-	0	-	S	-	0
DETECTOR	-	PR	-	PR	-	PR	-	PR
PREEMPT PRIORITY	-	3	-	5	-	4	-	6
FLASH	-	Y	-	R	-	Y	-	R
DUAL ENTRY	-	ON	-	ON	-	ON	-	ON

SIGNAL TIMING NOTES:
1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONCTRACT AWARD.
2. DEFINITIONS
   S = SOFT RECALL Y = YELLOW
   0 = RECALL OFF R = RED
   PR = PRESENCE D = DARK

NOTE:
RIGHT-OF-WAY SHOWN ON THIS PLAN IS APPROXIMATE AND ACQUISTIONS (POST BID AND BY OTHERS) MAY BE REQUIRED TO COMPLETE THE WORK.

NOTE:

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PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
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75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

PROJ. MANAGER	B-KEEZER
DESIGN-DETAILED	CMT
CHECKED-REVIEWED	BRL
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	
REVISIONS 1	
REVISIONS 2	
REVISIONS 3	
REVISIONS 4	
FIELD CHANGES	

BY	DATE
CMT	11\20
BRL	11\20

WATERVILLE
ELM ST AT WESTERN AVE

TRAFFIC SIGNAL PLAN

SHEET NUMBER
85
OF 358

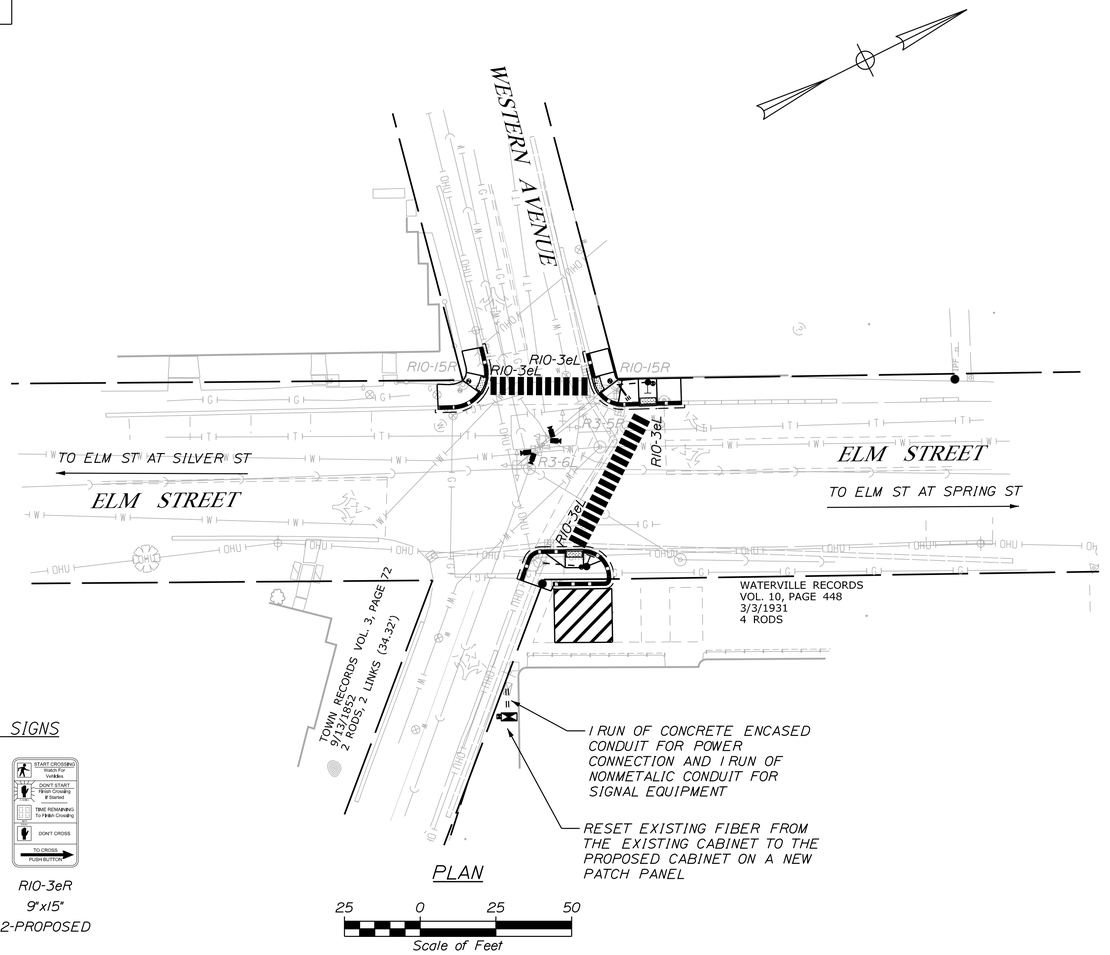
Filename: ...\Waterville\085_Signal_85.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

Filename: ...\Waterville\085A_Signal_85.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

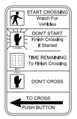
EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	30 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	10 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL 24-INCH DIAMETER FOUNDATION (ITEM 626.421)	14 LF
FURNISH AND INSTALL WHITE PAVEMENT AND CURB MARKING (ITEM 627.75)	409 LF
REMOVE EXISTING PAVEMENT MARKING (ITEM 627.77)	324 LF
FURNISH AND INSTALL 8-FOOT PEDESTAL POLE (ITEM 643.92)	2 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PLAN

PROPOSED SIGNS



R10-3eL
9"x15"
2-PROPOSED

R10-3eR
9"x15"
2-PROPOSED

EXISTING SIGNS



R3-6L
30"x36"
1-RETAINED



R3-5R
30"x36"
1-RETAINED



R10-15R
30"x30"
2-RETAINED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2
R4	4	2	ϕ6
R5	5	3	ϕ4
R6	6	4	ϕ8

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 6 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

NOTE:

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PROJECT NO. 2430100

WIN 024301.00

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PROJ. MANAGER	B.KEEZER	
DESIGN-DETAILED	CMT	11\20
CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
ELM ST AT WESTERN AVE

TRAFFIC SIGNAL PLAN

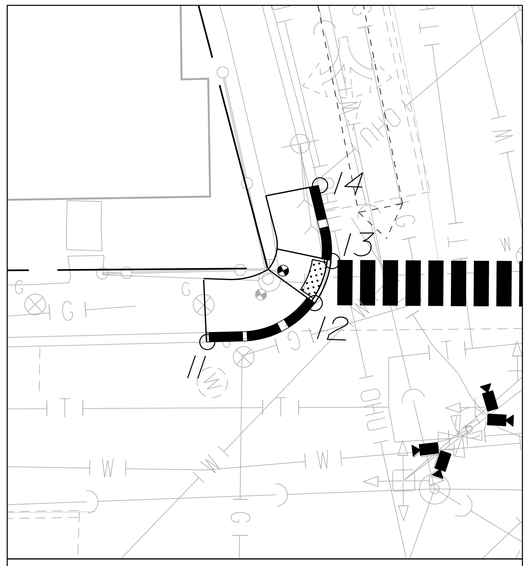
SHEET NUMBER

85A

OF 358

Filename: ...\Waterville\085C_Signol_85.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

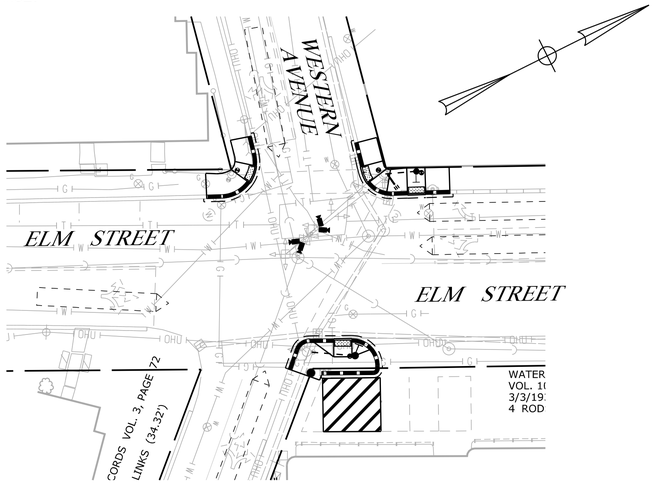
C CORNER - NW DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD (SF)		ITEM 609.11 VERTICAL CURB TYPE 1 (LF)	ITEM 609.12 - VERTICAL CURB TYPE 1 - CIRCULAR (LF)	ITEM 609.221 - TERMINAL CURB TYPE 1 (LF)	ITEM 609.222 - TERMINAL CURB TYPE 1 - CIRCULAR (LF)	COMMENT
		LENGTH (FT)	QTY (SF)					
1 TO 2	-					8.0		
2 TO 3	5.00				5.1			4" CURB REVEAL
3 TO 4	-					8.0		
4 TO 5		6.0	10.6					
5 TO 6	9.00						8.0	
6 TO 7	9.00				7.0			
7 TO 8	2.00				3.1			
8 TO 9	-			13.1				
9 TO 10	-					4.0		
* 11 TO 12	12.00						15.0	BACKSIDE SW 10.0%
12 TO 13	12.00	6.0	10.0					
* 13 TO 14	-					10.0		
15 TO 16	-					8.0		
16 TO 17	10.00	6.0	10.0					
17 TO 18	10.00						7.5	3" CURB REVEAL
18 TO 19	-					7.0		3" CURB REVEAL
19 TO 20	-	6.0	10.6					
20 TO 21	-					8.0		

* NON-COMPLIANT CURB RAMP ELEMENT - THE SLOPE NOTED IN THE COMMENT IS THE MAXIMUM VALUE FOR PROPOSED LEVEL OF COMPLIANCE.



ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED, AS WELL AS DETAILS PROVIDED ON SHEET H.

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
REGRADING SIDEWALK (ITEM 608.46)	56.3 SY
CONSTRUCT SIDEWALK (ITEM 608.45)	35.6 SY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	8 TONS
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	65.8 SY

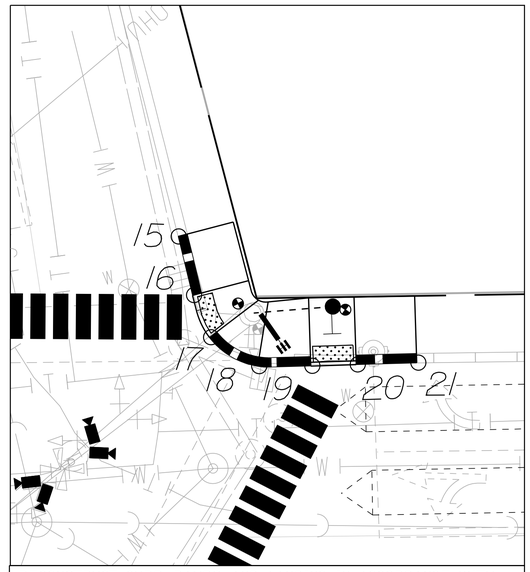
EQUIPMENT AND WORK ITEMS	QUANTITY
VERTICAL CURB TYPE 1 (ITEM 609.11)	13.1 LF
VERTICAL CURB TYPE 1 - CIRCULAR (ITEM 609.12)	15.2 LF
TERMINAL CURB TYPE 1 (ITEM 609.221)	53.0 LF
TERMINAL CURB TYPE 1 - CIRCULAR (ITEM 609.222)	30.5 LF
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	41.2 SF

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

PLAN

25 0 25 50
Scale of Feet

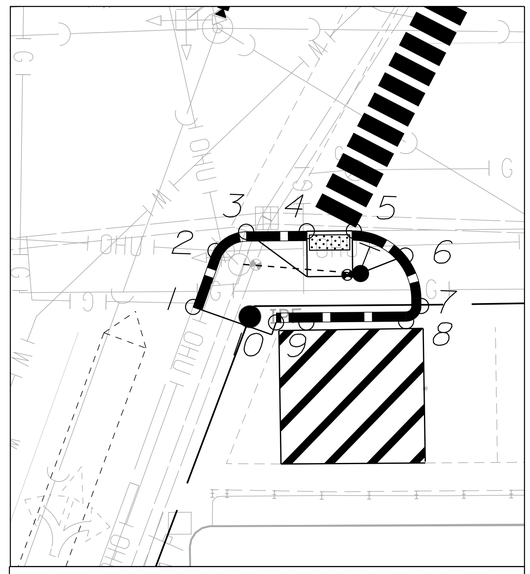
D CORNER - NE DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(16).

10 0 10 20
Scale of Feet

A CORNER - SE DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(16).

10 0 10 20
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

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Tel. 207-200-2100

PROJ. MANAGER	B.KEEZER	DATE
DESIGN-DETAILED	NLS	11\20
CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
ELM ST AT WESTERN AVE
CURB RAMP LAYOUT AND DETAIL PLAN

SHEET NUMBER
85C
OF 358

Filename: ...\ROW\MSTA\085_RWPLAN1.dgn Division: ROW Username: Benjamin.Singer Date:11/20/2020

PLAN LEGEND

Town, County, State	New R/W Along Existing R/W		Existing / Proposed	Existing / Proposed	Cut Line / Fill Line
Approx. Property Lines P.L.	Building / Clearing Limit Line		Sanitary Sewer	Traveled Way	Stonewall / Retaining Wall
Existing Right of Way	Trees Conifer / Deciduous		Telephone Line	Ditch	Baseline 10+00 11+00 12+00
Limits of Wrought Portion L.O.W.P.	Tree Line / Bush Line		Electric Line	Catch Basin	Monument / Traverse Point
Control Of Access C.O.A.	Water Edge		Water Line	Manhole	Iron Rod Found IRF / Pipe Found IPF
New Right of Way	Ledge / Rock/Boulder / Flag Pole		Underdrain Line	Sewer Manhole	Replacement Pin Set
New Easement	Fence CHAIN LINK / BARB WIRE / STOCKADE		Gas Line	Utility Pole	
New Temporary Rights	Sign / Well / Mailbox		Guardrail	Fire Hydrant	
New R/W Within Existing R/W			Culvert	Curbing	

THIS PLAN WAS PREPARED IN CONNECTION WITH THE DEPARTMENT'S ACQUISITION OF REAL PROPERTY FOR TRANSPORTATION PURPOSES. IT CANNOT BE USED TO ESTABLISH LEGAL BOUNDARIES BETWEEN ABUTTING PROPERTY OWNERS.

25 0 25 50 75 100
Scale of Feet

STATE OF MAINE
REGISTRY OF DEEDS

COUNTY _____
RECEIVED _____, _____
at _____h_____m_____M and
recorded in Plan Bk _____, Pg._____
Attest: _____
REGISTER

GRID
MAINE 2000 WEST ZONE

WATERVILLE RECORDS
VOL. 3, PAGE 72
9/13/1852
3 RODS

WESTERN AVE.
(FORMERLY MILL STREET)

PINE TREE COMMONS LLC

XIANGXI ZENG

N:625803.039
E:1177170.409

N:625807.750
E:1177172.321

WATERVILLE RECORDS
VOL. 10, PAGE 448
3/3/1931
4 RODS

TO SILVER STREET

231+00
BEGIN B.L.
N:625578.763
E:1177095.576

N25°43'22"E
200.00'

232+00

233+00
END B.L.
N:625758.944
E:1177182.379

ELM STREET
ROUTES 11 & 104
STATE HIGHWAY "231"

TO SPRING STREET

IPF
N:625819.301
E:1177247.114

90.7'±
65.1'±
44.7'± ±
58'
65'
114'± S.F.

TEMPORARY CONSTRUCTION LIMITS

CONSTRUCTION & MAINTENANCE EASEMENT LIMITS
587± S.F.

KEVIN P. JOSEPH

WESTERN AVE.

200± S.F.

REVOCABLE TRUST OF FRANCIS M. SILVIA, IV, DATED 01-14-00
FRANCIS M. SILVIA, IV, TRUSTEE
ITEM NO. (35)
CONST. & MAINT. EASE. = 587± S.F. (1)
SIGNAL SYSTEM EASE. = 200± S.F. (1)
TEMP. CONST. RIGHTS = 114± S.F. (1)
TOTAL AREA = 0.6± AC. (CITY)

SIGNAL SYSTEM EASEMENT LIMITS

WATERVILLE RECORDS
BOOK 3, PAGE 69
9/13/1853
3 RODS

STATE HWY. "31"
ROUTE 137
SILVER ST.

N:625545.825
E:1177220.023

TOWN RECORDS VOL. 3, PAGE 72
9/13/1852
2 RODS, 2 LINKS (34.32')

N:625567.210
E:1177248.033

WIN 024301.00

PRELIMINARY PLAN

ITEM	TECH	CHECKED
EXISTING CONDITION PLAN	B.S.	
FINAL RIGHT OF WAY	B.S.	
AREAS	B.S.	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION - AUGUSTA, ME 04333-0016 - 207-624-3460
WATERVILLE
RIGHT OF WAY MAP

REVISIONS

NO.	DATE	DESCRIPTION	BY

PLAN FILED IN PLAN BOOK PAGE COUNTY RECORD

NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE

BRUCE A. VAN NOTE
COMMISSIONER
JOYCE NOEL TAYLOR
CHIEF ENGINEER
DATE

STATE HIGHWAY "231"
ELM STREET AT WESTERN AVENUE
WATERVILLE KENNEBEC COUNTY
FEDERAL AID PROJECT NO. 2430100

NOVEMBER 2020	RIGHT-OF-WAY MAP	D.O.T. FILE NO. 6-TBD
SCALE 1" = 25'	SHEET 1 OF 2	

SHEET NUMBER
85R
OF 358

Filename: ...\Waterville\086_Signal_86.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

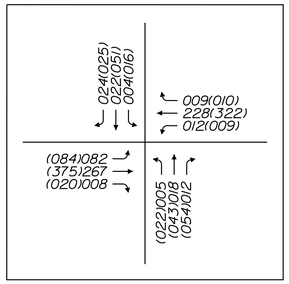
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT $^{32}/_{48}$ SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ONE-WAY, CIRCULAR LED MODULES TO BE INSTALLED INTO EXISTING SIGNAL HEADS.	24
FURNISH AND INSTALL ONE-WAY, LED MODULES TO BE INSTALLED INTO EXISTING PEDESTRIAN SIGNAL HEADS.	8
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEAD(S), WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE(S) WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	1
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3e INFORMATIONAL SIGN	8
FURNISH AND INSTALL POLE MOUNTED SIGN	3
RESET VEHICULAR SIGNAL	1
RESET PEDESTRIAN SIGNAL	7
RESET PREEMPTION PHASE SELECTOR	1
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1 RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL NEW SIGNAL CABLE	-
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON- INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES. COMPLETE (ITEM 643.21)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

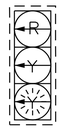
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	EXISTING
A-P1	10' PEDESTAL POLE	24" DIAMETER
A-P2	8' PEDESTAL POLE	24" DIAMETER
B-P1	8' PEDESTAL POLE	24" DIAMETER
B-P2	8' PEDESTAL POLE	24" DIAMETER
C-P1	8' PEDESTAL POLE	24" DIAMETER
D-P1	8' PEDESTAL POLE	24" DIAMETER
D-P2	8' PEDESTAL POLE	24" DIAMETER

SYSTEM DESIGN VOLUMES AM (PM)



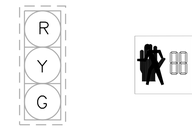
PROPOSED INDICATIONS



A1

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES

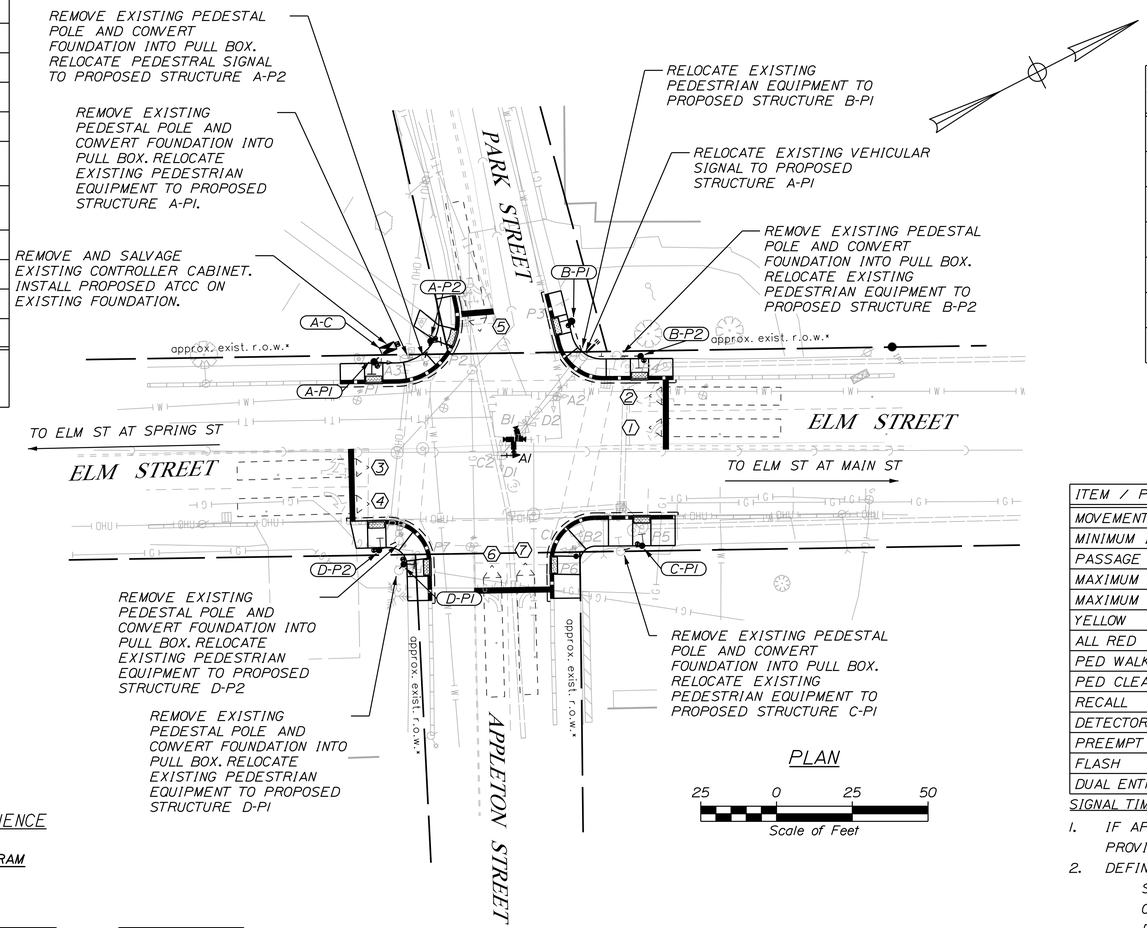
EXISTING INDICATIONS
TO REMAIN



A2,A3,B1,B2,
C1,C2,D1,D2

P1-P8

ALL EXISTING INDICATION MODULES TO BE REPLACED WITH NEW LIGHT EMITTING DIODES (LED) MODULES



PLAN

25 0 25 50
Scale of Feet

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADV, B=S.BAR	DELAY TIME	EXT. TIME
1	ELM STREET SB LEFT	6	6	B	-	-
2	ELM STREET SB THRU/RIGHT	6	6	B	-	-
3	ELM STREET NB LEFT/THRU	2	2	B	-	-
4	ELM STREET NB RIGHT	2	2	B	10	-
5	PARK STREET	8	8	B	-	-
6	APPLETON STREET LEFT/THRU	4	4	B	-	-
7	APPLETON STREET RIGHT	4	4	B	10	-

SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ1	φ2	φ3	φ4	φ5	φ6	φ7	φ8
MOVEMENT	-	C	-	D	-	A	-	B
MINIMUM INITIAL	-	10.0	-	5.0	-	10.0	-	5.0
PASSAGE TIME	-	2.0	-	2.0	-	2.0	-	2.0
MAXIMUM 1	-	20.5	-	20.5	-	20.5	-	20.5
MAXIMUM 2	-	-	-	-	-	-	-	-
YELLOW	-	3.0	-	3.0	-	3.0	-	3.0
ALL RED	-	2.5	-	2.5	-	2.5	-	2.5
PED WALK	-	5.0	-	5.0	-	5.0	-	5.0
PED CLEAR	-	9.0	-	10.0	-	7.0	-	12.0
RECALL	-	S	-	0	-	S	-	0
DETECTOR	-	PR	-	PR	-	PR	-	PR
PREEMPT PRIORITY	-	3	-	5	-	4	-	6
FLASH	-	Y	-	R	-	Y	-	R
DUAL ENTRY	-	ON	-	ON	-	ON	-	ON

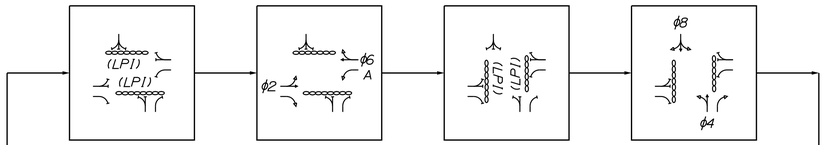
SIGNAL TIMING NOTES:

1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONCTRACT AWARD.
2. DEFINITIONS
   - S = SOFT RECALL
   - 0 = RECALL OFF
   - PR = PRESENCE
   - Y = YELLOW
   - R = RED
   - D = DARK

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

$^{2}/_{6} \| ^{4}/_{8}$



OVERLAP PHASING:
OVL A = φ2

PHASING NOTES:
1. EACH PEDESTRIAN PHASE SHALL HAVE A MINIMUM OF A 4 SECOND LEADING PEDESTRIAN INTERVAL(LPI).
2. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY
3. OVERLAP A SHALL BE PROGRAMMED FOR FLASHING YELLOW ARROW

NOTE:
RIGHT-OF-WAY SHOWN ON THIS PLAN IS APPROXIMATE AND ACQUISITIONS (POST BID AND BY OTHERS) MAY BE REQUIRED TO COMPLETE THE WORK.

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED ON 04-06-20 FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 24301.00.

* - RIGHT-OF-WAY REFERENCE: CITY OF WATERVILLE TAX MAPS

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

B.KEEZER	DATE
PROJ. MANAGER	
DESIGN-DETAILED	CMT 11\20
CHECKED-REVIEWED	BRL 11\20
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	
REVISIONS 1	
REVISIONS 2	
REVISIONS 3	
REVISIONS 4	
FIELD CHANGES	

WATERVILLE
ELM ST AT PARK ST

TRAFFIC SIGNAL PLAN

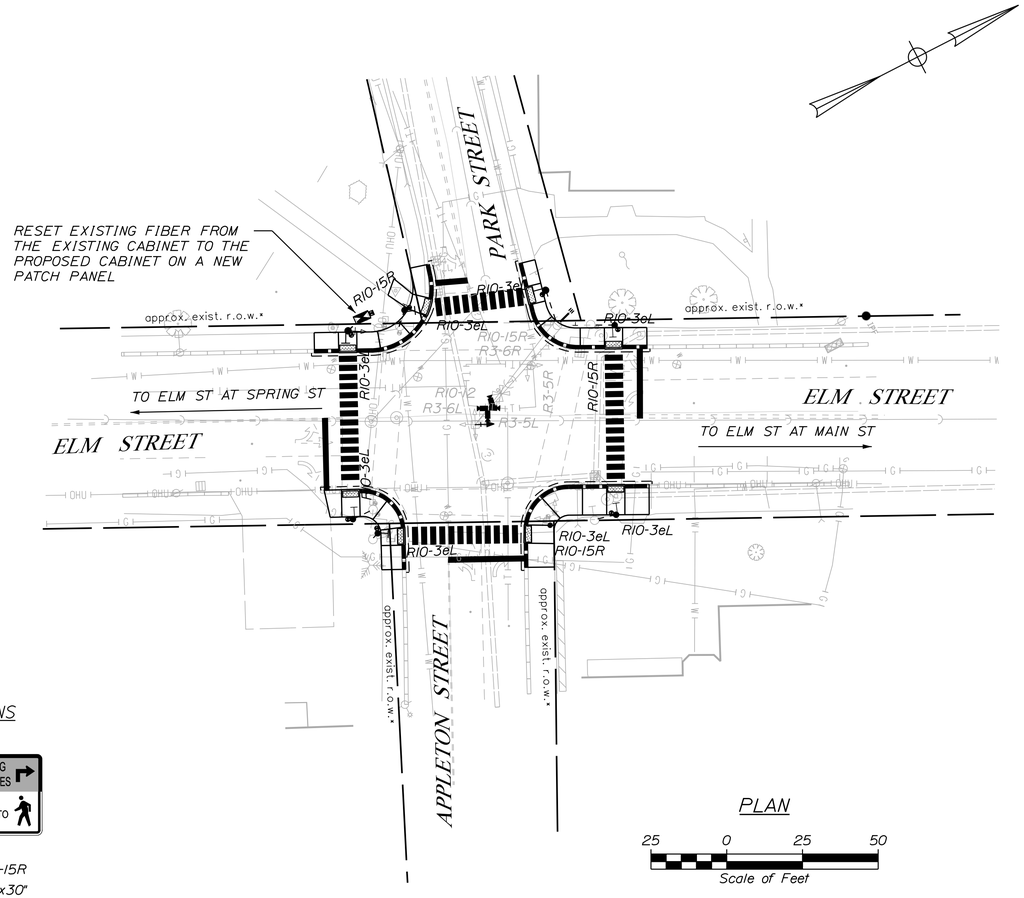
SHEET NUMBER
86
OF 358

Filename: ...\Waterville\086A_SignalPlan_86.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	40 LF
FURNISH AND INSTALL 24-INCH DIAMETER FOUNDATION (ITEM 626.421)	49 LF
FURNISH AND INSTALL WHITE PAVEMENT AND CURB MARKING (ITEM 627.75)	766 SF
REMOVE EXISTING PAVEMENT MARKING (ITEM 627.77)	766 SF
FURNISH AND INSTALL 8-FOOT PEDESTAL POLE (ITEM 643.92)	6 EA
FURNISH AND INSTALL 10-FOOT PEDESTAL POLE (ITEM 643.92)	1 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PLAN

25 0 25 50

Scale of Feet

PROPOSED SIGNS



R10-3eL
9"x15"
8-PROPOSED



R10-15R
30"x30"
3-PROPOSED

EXISTING SIGNS



R10-12
30"x36"
1-REMOVED



R3-5L
30"x36"
1-RETAINED



R3-6L
30"x36"
1-RETAINED



R3-5R
30"x36"
1-RETAINED



R10-15R
30"x30"
1-RETAINED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2
R4	4	2	ϕ6
R5	5	3	ϕ4
R6	6	4	ϕ8

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.

2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 6 = LOWEST)

3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.

4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.

5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED ON 04-06-20 FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 24301.00.

* - RIGHT-OF-WAY REFERENCE: CITY OF WATERVILLE TAX MAPS

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

PROJ. MANAGER	B.KEEZER	
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DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
ELM ST AT PARK ST

TRAFFIC SIGNAL PLAN

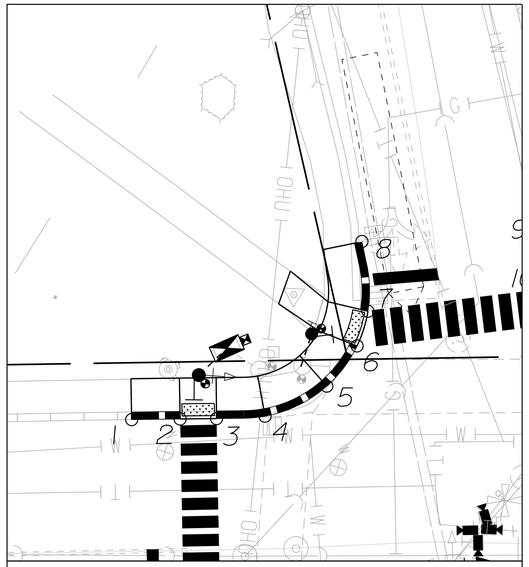
SHEET NUMBER

86A

OF 358

Filename: ...\Waterville\086C_General_86.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

A CORNER - NW DETAIL

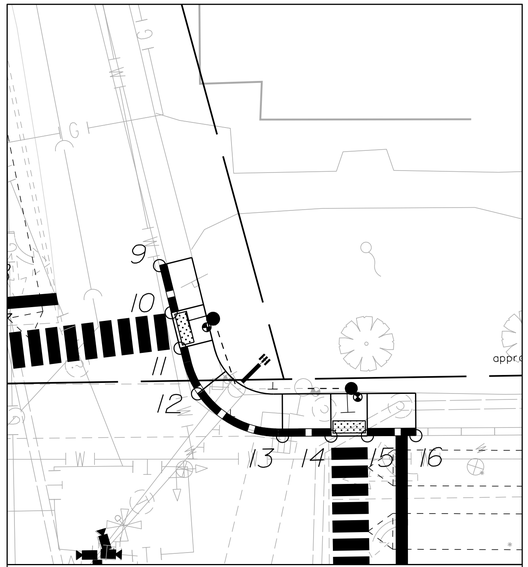


RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(16).

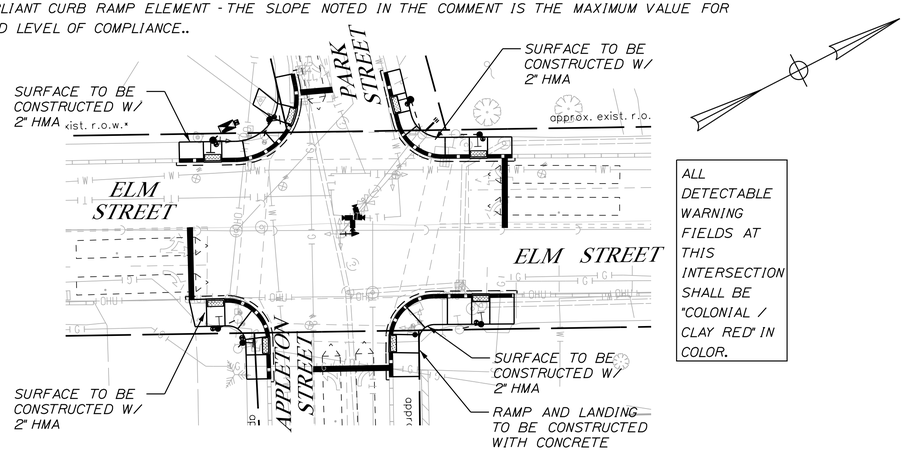
PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD (SF)		ITEM 609.12 - VERTICAL CURB TYPE 1 - CIRCULAR (LF)	ITEM 609.221 - TERMINAL CURB TYPE 1 (LF)	ITEM 609.222 - TERMINAL CURB TYPE 1 - CIRCULAR (LF)	COMMENT
		LENGTH (FT)	QTY (SF)				
1 TO 2	-				8.0		
2 TO 3	-	6.0	10.6				
3 TO 4	-				8.0		
4 TO 5	21.00			11.5			4" CURB REVEAL
5 TO 6	21.00					8.0	
6 TO 7	21.00	6.0	10.6				
7 TO 8	21.00					10.0	
9 TO 10	-						
* 10 TO 11	-	6.0	10.6				2.6% CROSS SLOPE
11 TO 12	16.00					8.0	
12 TO 13	16.00			16.3			5" CURB REVEAL
13 TO 14	-				8.0		
14 TO 15	-	6.0	10.6				
15 TO 16	-				8.0		
17 TO 18	-				8.0		
18 TO 19	-	6.0	10.6				
19 TO 20	15.00					11.0	3" CURB REVEAL
20 TO 21	15.00					15.0	3" CURB REVEAL
21 TO 22	-				8.0		
22 TO 23	-	6.0	10.6				
23 TO 24	-				8.0		
25 TO 26	-	6.0	10.6				
26 TO 27	14.00					10.0	3" CURB REVEAL
27 TO 28	14.00					10.0	3" CURB REVEAL
28 TO 29	-	6.0	10.6				
29 TO 30	-				8.0		

* NON-COMPLIANT CURB RAMP ELEMENT - THE SLOPE NOTED IN THE COMMENT IS THE MAXIMUM VALUE FOR PROPOSED LEVEL OF COMPLIANCE..

B CORNER - NE DETAIL



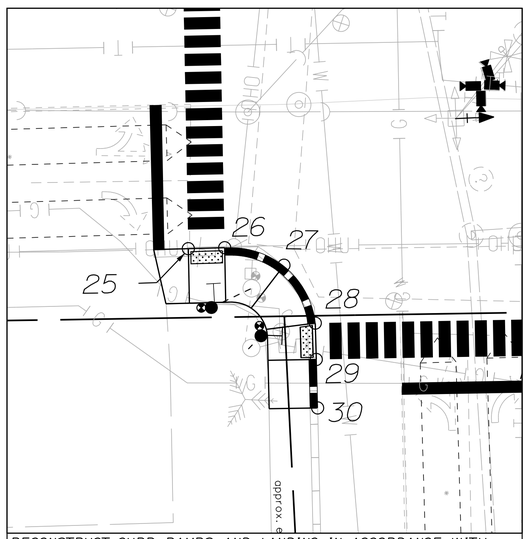
RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).



ALL DETECTABLE WARNING FIELDS AT THIS INTERSECTION SHALL BE "COLONIAL / CLAY RED" IN COLOR.

ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED. AS WELL AS DETAILS PROVIDED ON SHEET H.

D CORNER - SW DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

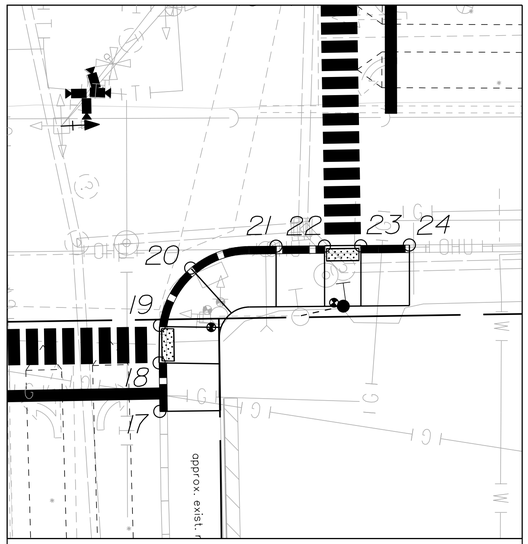
LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
REGRADING SIDEWALK (ITEM 608.46)	182.3 SY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	27.2 TONS
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	15.4 SY
TERMINAL CURB TYPE 1 (ITEM 609.221)	64 LF

EQUIPMENT AND WORK ITEMS	QUANTITY
VERTICAL CURB TYPE 1 - CIRCULAR (ITEM 609.12)	27.8 LF
TERMINAL CURB TYPE 1 - CIRCULAR (ITEM 609.222)	72 LF
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	84.8 SF

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

C CORNER - SE DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(16).

PLAN

10 0 10 20
Scale of Feet

25 0 25 50
Scale of Feet

10 0 10 20
Scale of Feet

10 0 10 20
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

PROJ. MANAGER	B.KEEZER		
DESIGN-DETAILED	NLS	NLS	11\20
CHECKED-REVIEWED	BRL	BRL	11\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WATERVILLE
ELM ST AT PARK ST

CURB RAMP LAYOUT AND DETAIL PLAN

SHEET NUMBER

86C

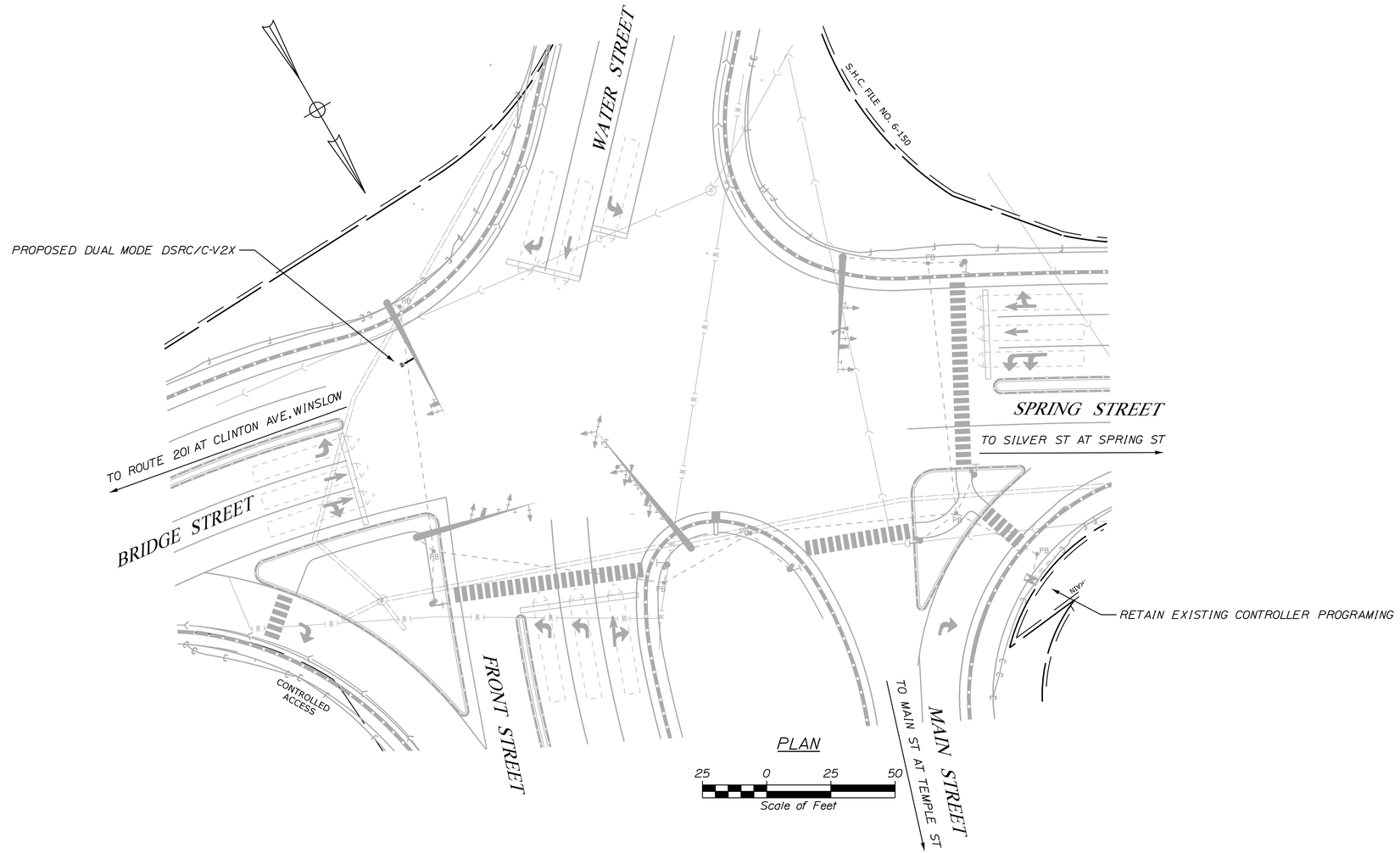
OF 358

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL NEW ATC CONTROLLER WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM. (ITEM 643.71)	1 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

NOTE:
PROPOSED ROADWAY RECONFIGURATION AND SIGNAL WORK SHOWN ON THIS PLAN SHALL BE PERFORMED BY OTHERS UNDER WIN 24371.00 AND THEREFORE HAS BEEN "GRAY SCALED" ON THIS PLAN FOR CLARITY. THE CONTRACTOR UNDER THIS PROJECT. WIN 24301.00. SHALL SOLELY BE RESPONSIBLE FOR THE ITEMS LISTED UNDER THE LIST OF WORK ITEMS CONTAINED ON THIS SHEET



PLAN

25 0 25 50
Scale of Feet

NOTE:

* - RIGHT-OF-WAY REFERENCE: RIGHT-OF-WAY INFORMATION DISPLAYED IN THIS PLAN WAS SURVEYED UNDER WIN 24371.00.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

		BY	DATE
PROJ. MANAGER	B.KEEZER		
DESIGN-DETAILED	CMT	CMT	11\20
CHECKED-REVIEWED	BRL	BRL	11\20
DESIGN2-DETAILED2	BRL		
DESIGN3-DETAILED3	CMT		
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WATERVILLE
MAIN ST AT SPRING ST

TRAFFIC SIGNAL PLAN

SHEET NUMBER

87

OF 358

Filename: ...\Waterville\087_Signal_87.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

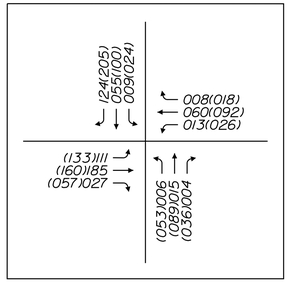
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT $^{32}/_{48}$ SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ONE-WAY, CIRCULAR LED MODULES TO BE INSTALLED INTO EXISTING SIGNAL HEADS.	32
FURNISH AND INSTALL ONE-WAY, LED MODULES TO BE INSTALLED INTO EXISTING PEDESTRIAN SIGNAL HEADS.	6
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEAD(S), WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE(S) WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	1
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3e INFORMATIONAL SIGN	6
RESET MAST ARM MOUNTED SIGN	10
RESET VEHICULAR SIGNAL	7
RESET PEDESTRIAN SIGNAL	5
RESET LIGHT-BASED PREEMPTION RECEIVER	2
RESET PREEMPTION PHASE SELECTOR	1
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1 RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL NEW SIGNAL CABLE	-
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.21)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

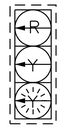
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"
A-P1	8' PEDESTAL POLE	24" DIAMETER
A-M1	40' MAST ARM	60" DIAMETER
B-P1	8' PEDESTAL POLE	24" DIAMETER
B-P2	8' PEDESTAL POLE	24" DIAMETER
B-M1	30' MAST ARM	48" DIAMETER
C-P1	8' PEDESTAL POLE	24" DIAMETER
C-P2	8' PEDESTAL POLE	24" DIAMETER
C-M1	35' MAST ARM	54" DIAMETER
D-P1	4' PEDESTAL POLE	24" DIAMETER

SYSTEM DESIGN VOLUMES AM (PM)



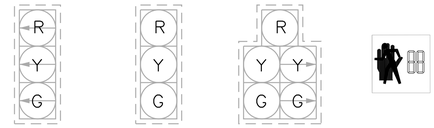
PROPOSED INDICATIONS



B1

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES

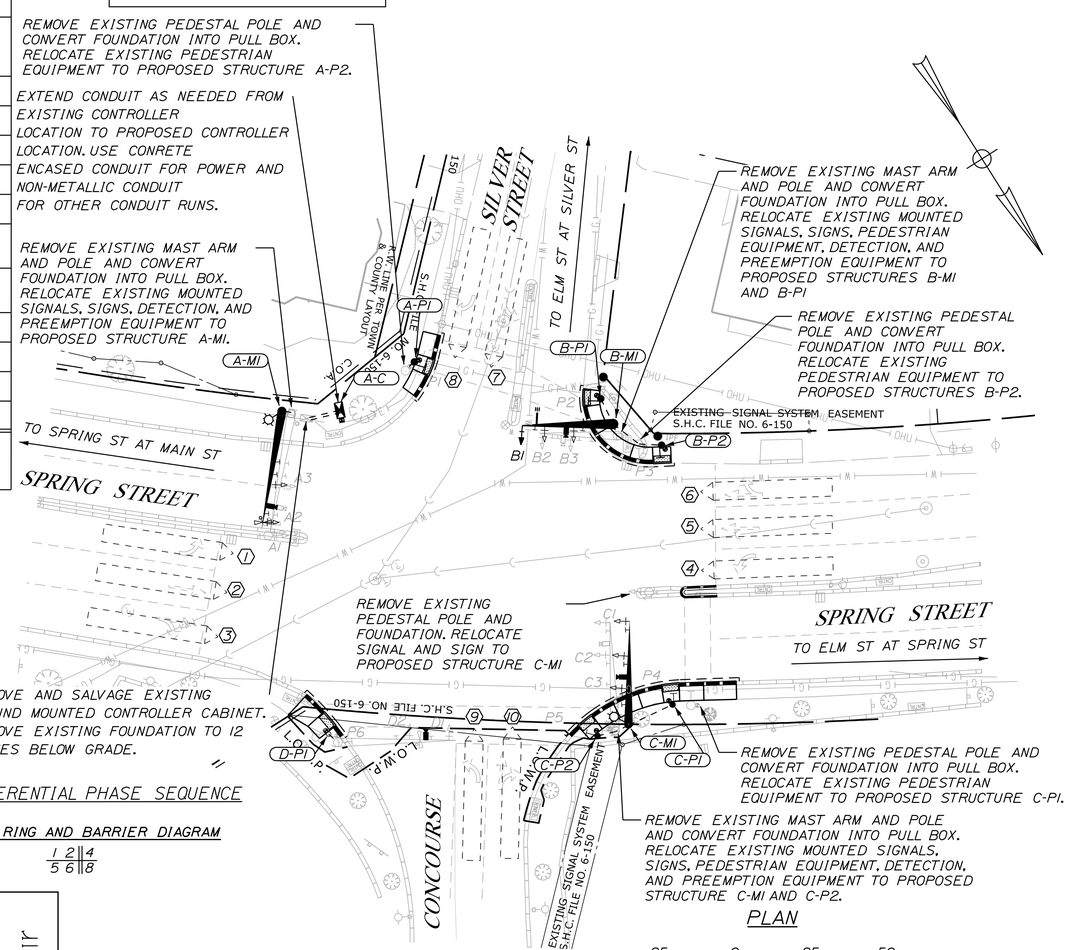
EXISTING INDICATIONS
TO REMAIN



ALL EXISTING INDICATION MODULES TO BE REPLACED WITH NEW LIGHT EMITTING DIODES (LED) MODULES

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADV. B=S.BAR	DELAY TIME	EXT. TIME
①	SPRING STREET WB LEFT	1	1	B	-	-
②	SPRING STREET WB THRU	6	6	B	-	-
③	SPRING STREET WB THRU/RIGHT	6	6	B	-	-
④	SPRING STREET EB LEFT	5	5	B	-	-
⑤	SPRING STREET EB THRU	2	2	B	-	-
⑥	SPRING STREET EB THRU/RIGHT	2	2	B	-	-
⑦	SILVER STREET LEFT/THRU	8	8	B	-	-
⑧	SILVER STREET RIGHT	8	8	B	10	-
⑨	CONCOURSE LEFT	4	4	B	-	-
⑩	CONCOURSE THRU/RIGHT	4	4	B	-	-

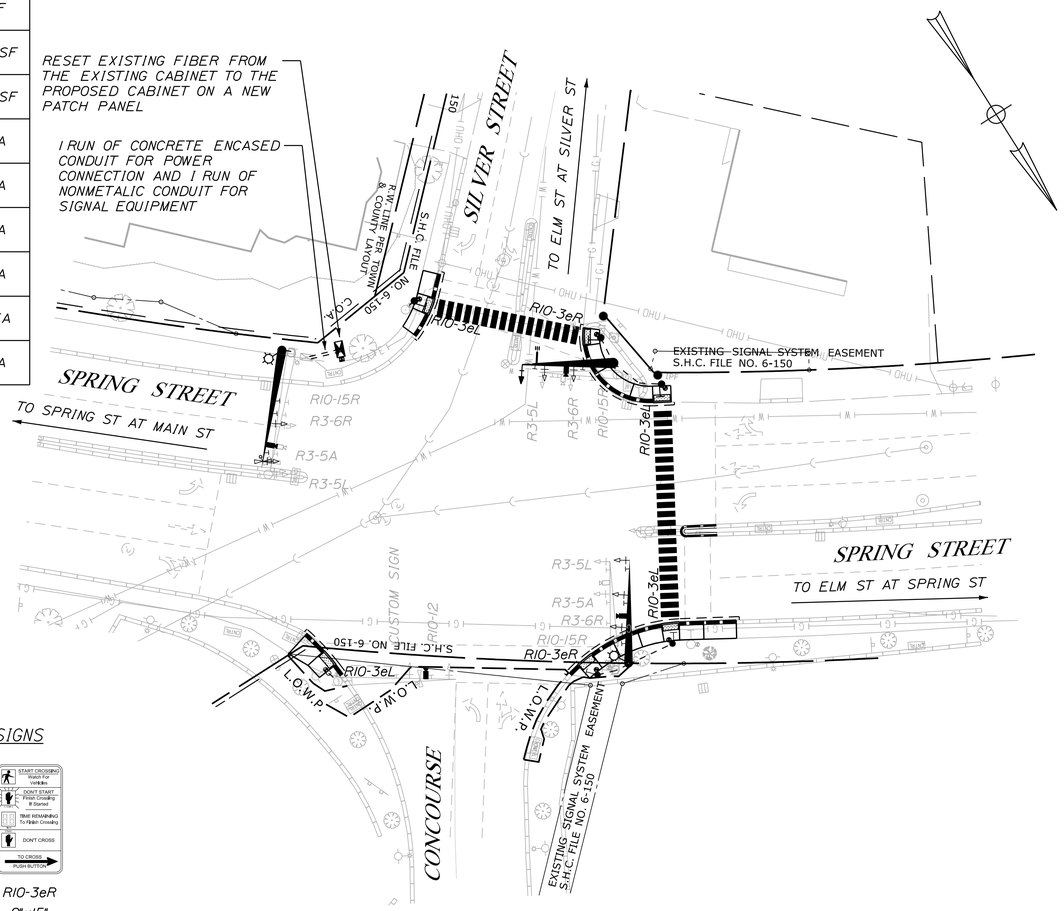

REMOVE EXISTING PEDESTAL POLE AND CONVERT FOUNDATION INTO PULL BOX. RELOCATE EXISTING PEDESTRIAN EQUIPMENT TO PROPOSED STRUCTURE A-P2.
EXTEND CONDUIT AS NEEDED FROM EXISTING CONTROLLER LOCATION TO PROPOSED CONTROLLER LOCATION. USE CONRETE ENCASED CONDUIT FOR POWER AND NON-METALLIC CONDUIT FOR OTHER CONDUIT RUNS.
REMOVE EXISTING MAST ARM AND POLE AND CONVERT FOUNDATION INTO PULL BOX. RELOCATE EXISTING MOUNTED SIGNALS, SIGNS, DETECTION, AND PREEMPTION EQUIPMENT TO PROPOSED STRUCTURE A-M1.
TO SPRING ST AT MAIN ST
SPRING STREET
REMOVE AND SALVAGE EXISTING GROUND MOUNTED CONTROLLER CABINET. REMOVE EXISTING FOUNDATION TO 12 INCHES BELOW GRADE.
SILVER STREET
TO ELM ST AT SILVER ST
REMOVE EXISTING MAST ARM AND POLE AND CONVERT FOUNDATION INTO PULL BOX. RELOCATE EXISTING MOUNTED SIGNALS, SIGNS, PEDESTRIAN EQUIPMENT, DETECTION, AND PREEMPTION EQUIPMENT TO PROPOSED STRUCTURES B-M1 AND B-P1
REMOVE EXISTING PEDESTAL POLE AND CONVERT FOUNDATION INTO PULL BOX. RELOCATE EXISTING PEDESTRIAN EQUIPMENT TO PROPOSED STRUCTURES B-P2.
EXISTING SIGNAL SYSTEM EASEMENT S.H.C. FILE NO. 6-150
REMOVE EXISTING PEDESTAL AND FOUNDATION. RELOCATE SIGNAL AND SIGN TO PROPOSED STRUCTURE C-M1
SPRING STREET
TO ELM ST AT SPRING ST
REMOVE EXISTING PEDESTAL POLE AND CONVERT FOUNDATION INTO PULL BOX. RELOCATE EXISTING PEDESTRIAN EQUIPMENT TO PROPOSED STRUCTURE C-P1.
REMOVE EXISTING MAST ARM AND POLE AND CONVERT FOUNDATION INTO PULL BOX. RELOCATE EXISTING MOUNTED SIGNALS, SIGNS, PEDESTRIAN EQUIPMENT, DETECTION, AND PREEMPTION EQUIPMENT TO PROPOSED STRUCTURE C-M1 AND C-P2.
CONCOURSE
EXISTING SIGNAL SYSTEM EASEMENT S.H.C. FILE NO. 6-150
S.H.C. FILE NO. 6-150
A-P1
A-M1
A-C
B-P1
B-M1
B-P2
C-P1
C-M1
C-P2
D-P1
A1
A2
A3
B1
B2
B3
C1
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Filename: ...\Waterville\088A_Signal_88.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	95 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	15 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
REMOVE OR MODIFY CONCRETE FOUNDATION (ITEM 626.36)	3 EA
FURNISH AND INSTALL 24-INCH DIAMETER FOUNDATION (ITEM 626.421)	42 LF
FURNISH AND INSTALL 48-INCH DIAMETER FOUNDATION (ITEM 626.46)	12 LF
FURNISH AND INSTALL 54-INCH DIAMETER FOUNDATION (ITEM 626.47)	12 LF
FURNISH AND INSTALL 60-INCH DIAMETER FOUNDATION (ITEM 626.48)	11 LF
FURNISH AND INSTALL WHITE PAVEMENT AND CURB MARKING (ITEM 627.75)	468 SF
REMOVE EXISTING PAVEMENT MARKING (ITEM 627.77)	468 SF
FURNISH AND INSTALL 30' MAST ARM POLE (ITEM 643.91)	1 EA
FURNISH AND INSTALL DUAL PURPOSE POLE, W/ 35' ARM W/ LUMINAIRE (ITEM 643.94)	1 EA
FURNISH AND INSTALL DUAL PURPOSE POLE, W/ 40' ARM W/ LUMINAIRE (ITEM 643.94)	1 EA
FURNISH AND INSTALL 4-FOOT PEDESTAL POLE (ITEM 643.92)	1 EA
FURNISH AND INSTALL 8-FOOT PEDESTAL POLE (ITEM 643.92)	5 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

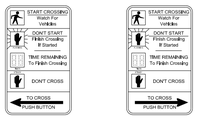
THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PLAN

25 0 25 50
Scale of Feet

PROPOSED SIGNS



R10-3eL
9"x15"
4-PROPOSED

R10-3eR
9"x15"
2-PROPOSED

EXISTING SIGNS



R10-12
30"x36"
1-REMOVED



R10-12
30"x36"
1-RETAINED



R3-5L
30"x36"
3-RETAINED



R3-5a
30"x36"
1-RETAINED



R3-6R
30"x36"
3-RETAINED



R10-15R
30"x30"
3-RETAINED



CUSTOM SIGN
18"x24"
1-RETAINED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2&ϕ5
R4	4	2	ϕ1&ϕ6
R5	5	3	ϕ4
R6	6	4	ϕ8

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 6 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED ON 9-17-19 FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 24301.00.

* - RIGHT-OF-WAY REFERENCE: RIGHT-OF-WAY INFORMATION DISPLAYED IN THIS PLAN WAS SURVEYED UNDER WIN 21936.01.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

	BY	DATE
PROJ. MANAGER	B.KEEZER	
DESIGN-DETAILED	CMT	11\20
CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
SPRING ST AT SILVER ST

TRAFFIC SIGNAL PLAN

SHEET NUMBER

88A

OF 358

Filename: ...\88B_BORING LOGS1_WA PHASE1.dgn Division: GEOTECH Username: Kate.Maguire Date:11/23/2020

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Intersection Improvements - Statewide
Location: Waterville, Maine

Boring No.: HB-WA088-101
WIN: 24301.00

Driller:	S. W. Cole Explorations, LLC	Elevation (ft.)		Auger ID/OD:	5" Solid Stem
Operator:	K. Hanscom / R. Hackett	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	N. Strout	Rig Type:	Diedrich D-50 Track-Mounted	Hammer Wt./Fall:	140# / 30"
Date Start/Finish:	8-19-2019	Drilling Method:	Auger	Core Barrel:	N/A
Boring Location:	See Boring Location Plan	Casing ID/OD:	N/A	Water Level*:	No water observed.
Hammer Efficiency Factor: 0.977		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample; MD = Unsuccessful Split Spoon Sample Attempt; U = Thin Wall Tube Sample; MU = Unsuccessful Thin Wall Tube Sample Attempt; V = Field Vane Shear Test; PP = Pocket Penetrometer; MV = Unsuccessful Field Vane Shear Test Attempt; R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOH = Weight of 140lb. Hammer; WOR/C = Weight of Rods or Casing; WOP = Weight of One Person; S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf); $S_{u(lab)}$ = Lab Vane Unrailned Shear Strength (psf); q_p = Unconfined Compressive Strength (ksf); N-uncorrected = Raw Field SPT N-value; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected; T_v = Pocket Torvane Shear Strength (psf); WC = Water Content, percent; LL = Liquid Limit; PL = Plastic Limit; PI = Plasticity Index; G = Grain Size Analysis; C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in. Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/24	0.00 - 2.00	2/11/5/5	16	26	SSA	-0.5		6" of Topsoil. (0.5)	
										Brown, moist, medium dense, SAND, some silt, little gravel. (Fill).	
5	2D	24/16	5.00 - 7.00	2/7/4/3	11	18		-6.0		2D/A: Brown, moist, medium dense, SAND, some gravel, little silt, with little brick, (Fill). (6.0)	
										2D/B: Brown, moist, medium dense, fine to medium SAND, little silt.	
10	3D	24/16	10.00 - 12.00	5/6/4/4	10	16		-10.0		Brown, moist, very stiff, SILT, little sand. (10.0)	
								-12.0		Bottom of Exploration at 12.0 feet below ground surface. NO REFUSAL (12.0)	
15											
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil typest 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.

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Intersection Improvements - Statewide
Location: Waterville, Maine

Boring No.: HB-WA088-102
WIN: 24301.00

Driller:	S. W. Cole Explorations, LLC	Elevation (ft.)		Auger ID/OD:	5" Solid Stem
Operator:	K. Hanscom / R. Hackett	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	N. Strout	Rig Type:	Diedrich D-50 Track-Mounted	Hammer Wt./Fall:	140# / 30"
Date Start/Finish:	8-19-2019	Drilling Method:	Auger	Core Barrel:	N/A
Boring Location:	See Boring Location Plan	Casing ID/OD:	N/A	Water Level*:	No water observed.
Hammer Efficiency Factor: 0.977		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample; MD = Unsuccessful Split Spoon Sample Attempt; U = Thin Wall Tube Sample; MU = Unsuccessful Thin Wall Tube Sample Attempt; V = Field Vane Shear Test; PP = Pocket Penetrometer; MV = Unsuccessful Field Vane Shear Test Attempt; R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOH = Weight of 140lb. Hammer; WOR/C = Weight of Rods or Casing; WOP = Weight of One Person; S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf); $S_{u(lab)}$ = Lab Vane Unrailned Shear Strength (psf); q_p = Unconfined Compressive Strength (ksf); N-uncorrected = Raw Field SPT N-value; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected; T_v = Pocket Torvane Shear Strength (psf); WC = Water Content, percent; LL = Liquid Limit; PL = Plastic Limit; PI = Plasticity Index; G = Grain Size Analysis; C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in. Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/14	0.40 - 2.40	8/7/5/5	12	20	SSA	-0.3		4" of Pavement. (0.3)	
								-1.0		1D/A: Brown, moist, medium dense, Gravelly SAND, trace silt, (Fill). (1.0)	
										1D/B: Brown, moist, medium dense, fine SAND, some silt.	
5	2D	24/24	5.00 - 7.00	5/6/6/6	12	20				Brown, moist, medium dense, fine to medium SAND, little silt.	
10	3D	24/20	10.00 - 12.00	3/3/3/4	6	10		-12.0		Similar to above except wet. (12.0)	
										Bottom of Exploration at 12.0 feet below ground surface. NO REFUSAL	
15											
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil typest 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.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. 2430100

WIN 24301.00 HIGHWAY PLANS

STATE OF MAINE ★ Kathleen Maguire 7120 ★ REGISTERED PROFESSIONAL ENGINEER

	BY	DATE
PROJ. MANAGER	-------	------
DESIGN-DETAILED	-------	------
CHECKED-REVIEWED	-------	------
DESIGN2-DETAILED2	K.MAGUIRE	APR 2020
DESIGN3-DETAILED3	T.WHITE	APR 2020
REVISIONS 1	-------	------
REVISIONS 2	-------	------
REVISIONS 3	-------	------
REVISIONS 4	-------	------
FIELD CHANGES	-------	------

SIGNATURE
7120 P.E. NUMBER
11/23/2020 DATE

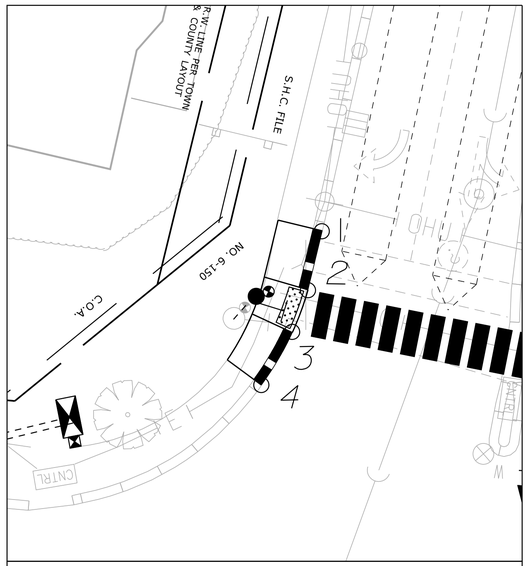
WATERVILLE
SPRING ST. & SILVER ST.

BORING LOGS

SHEET NUMBER
88B
OF 358

Filename: ...\Waterville\088C_Signal_88.dgn Division: HIGHWAY User: CThompson Date:11/19/2020

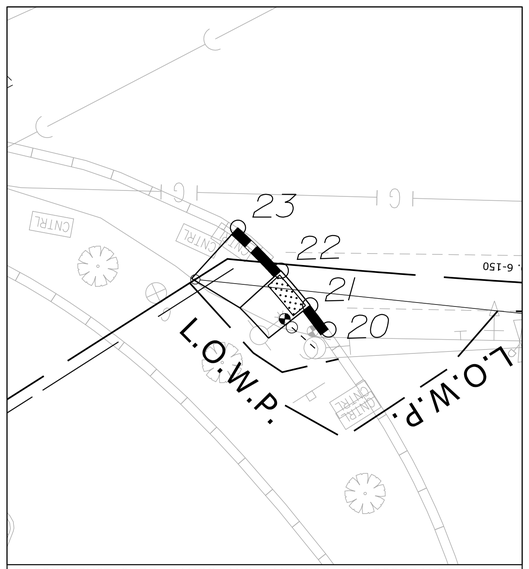
A CORNER - SE DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 80I(14).

10 0 10 20
Scale of Feet

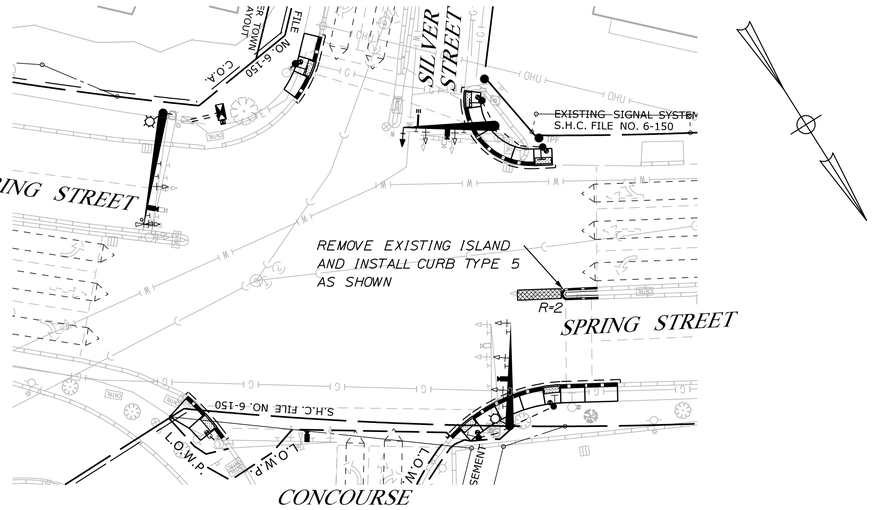
D CORNER - NE DETAIL



RECONSTRUCT CURB RAMPS AND LANDINGS IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 80I(14).

10 0 10 20
Scale of Feet

PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD (SF)		ITEM 609.11 - VERTICAL CURB TYPE 1 (LF)	ITEM 609.12 - VERTICAL CURB TYPE 1 - CIRCULAR (LF)	ITEM 609.221 - TERMINAL CURB TYPE 1 (LF)	ITEM 609.222 - TERMINAL CURB TYPE 1 - CIRCULAR (LF)	COMMENT
		LENGTH (FT)	QTY (SF)					
1 TO 2	-					8.0		
2 TO 3	40.00	6.0	10.6					
3 TO 4	40.00						8.0	
5 TO 6	22.00	6.0	10.0					
6 TO 7	22.00						10.0	
7 TO 8	22.00				14.3			
8 TO 9	22.00						8.0	
9 TO 10	-	6.0	10.6					
11 TO 12	-			10.8				
12 TO 13	-					8.0		
13 TO 14	54.00							
14 TO 15	54.00						8.0	
15 TO 16	54.00				9.0			
16 TO 17	54.00						8.0	
17 TO 18	54.00	6.0	10.6					
18 TO 19	54.00						4.0	
20 TO 21	-					4.0		
21 TO 22	85.00	6.0	10.6					
22 TO 23	85.00					8.0		



ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 80I(11) to 80I(26) AS NOTED, AS WELL AS DETAILS PROVIDED ON SHEET H.

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
REGRADING SIDEWALK (ITEM 608.46)	85.6 SY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	5.7 TONS
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	85.6 SY
VERTICAL CURB TYPE 1 (ITEM 609.11)	10.8 LF
TERMINAL CURB TYPE 1 (ITEM 609.221)	28 LF

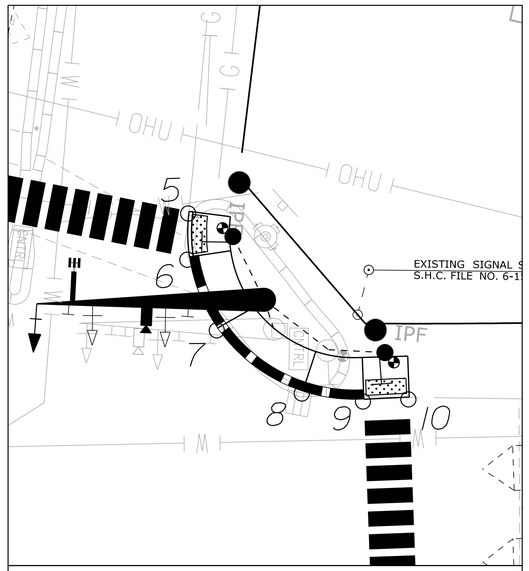
EQUIPMENT AND WORK ITEMS	QUANTITY
VERTICAL CURB TYPE 1 - CIRCULAR (ITEM 609.12)	23.7 LF
TERMINAL CURB TYPE 1 - CIRCULAR (ITEM 609.222)	46 LF
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	63 SF
CURB TYPE 5 (ITEM 609.34)	20 LF
CURB TYPE 5 - CIRCULAR (ITEM 609.35)	6 LF

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

PLAN

25 0 25 50
Scale of Feet

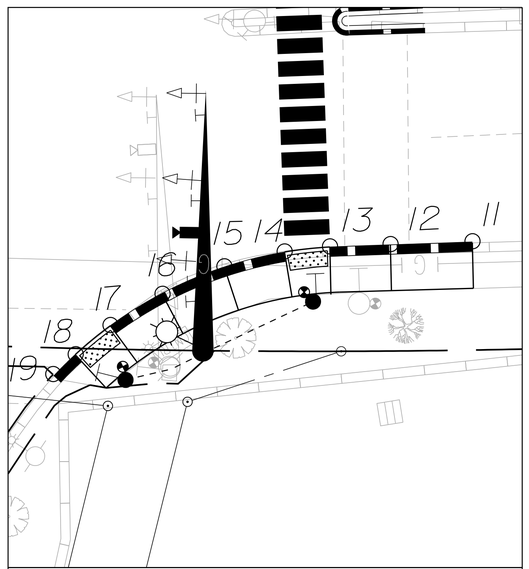
B CORNER - SW DETAIL



RECONSTRUCT CURB RAMPS AND LANDINGS IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 80I(14).

10 0 10 20
Scale of Feet

C CORNER - NW DETAIL



RECONSTRUCT CURB RAMPS AND LANDINGS IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 80I(14).

10 0 10 20
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

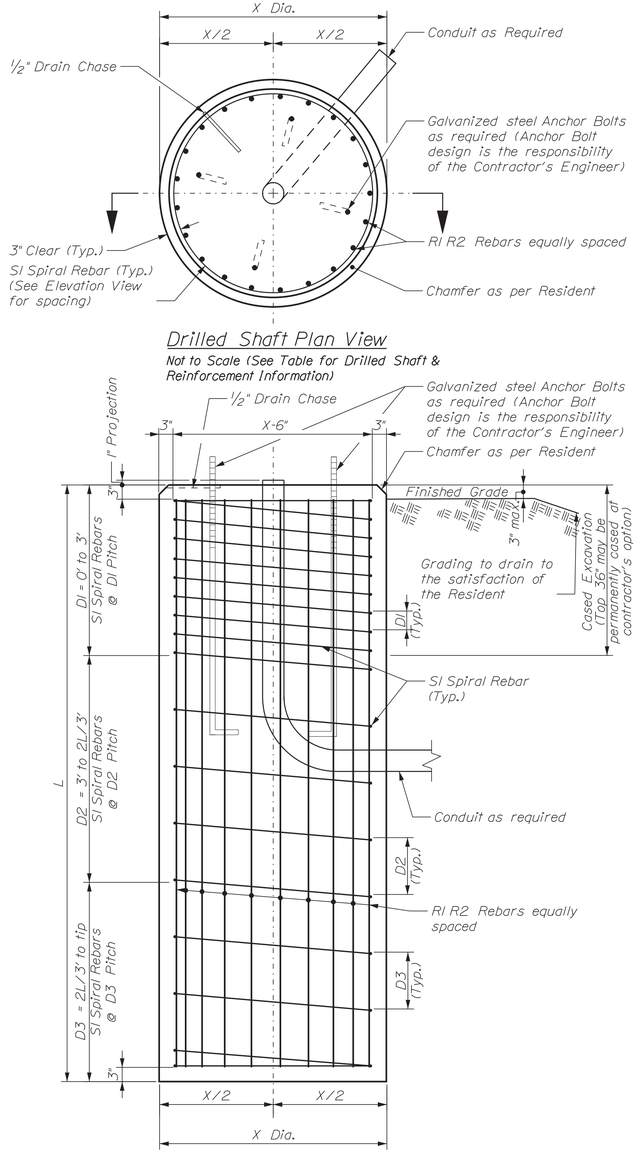
TRAFFIC PLANS

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75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

PROJ. MANAGER	B.KEEFER		
DESIGN-DETAILED	NLS	1 REVISIONS 1	11\20
CHECKED-REVIEWED	BRL	2 REVISIONS 2	11\20
DESIGN2-DETAILED2		3 REVISIONS 3	
DESIGN3-DETAILED3		4 REVISIONS 4	
		FIELD CHANGES	

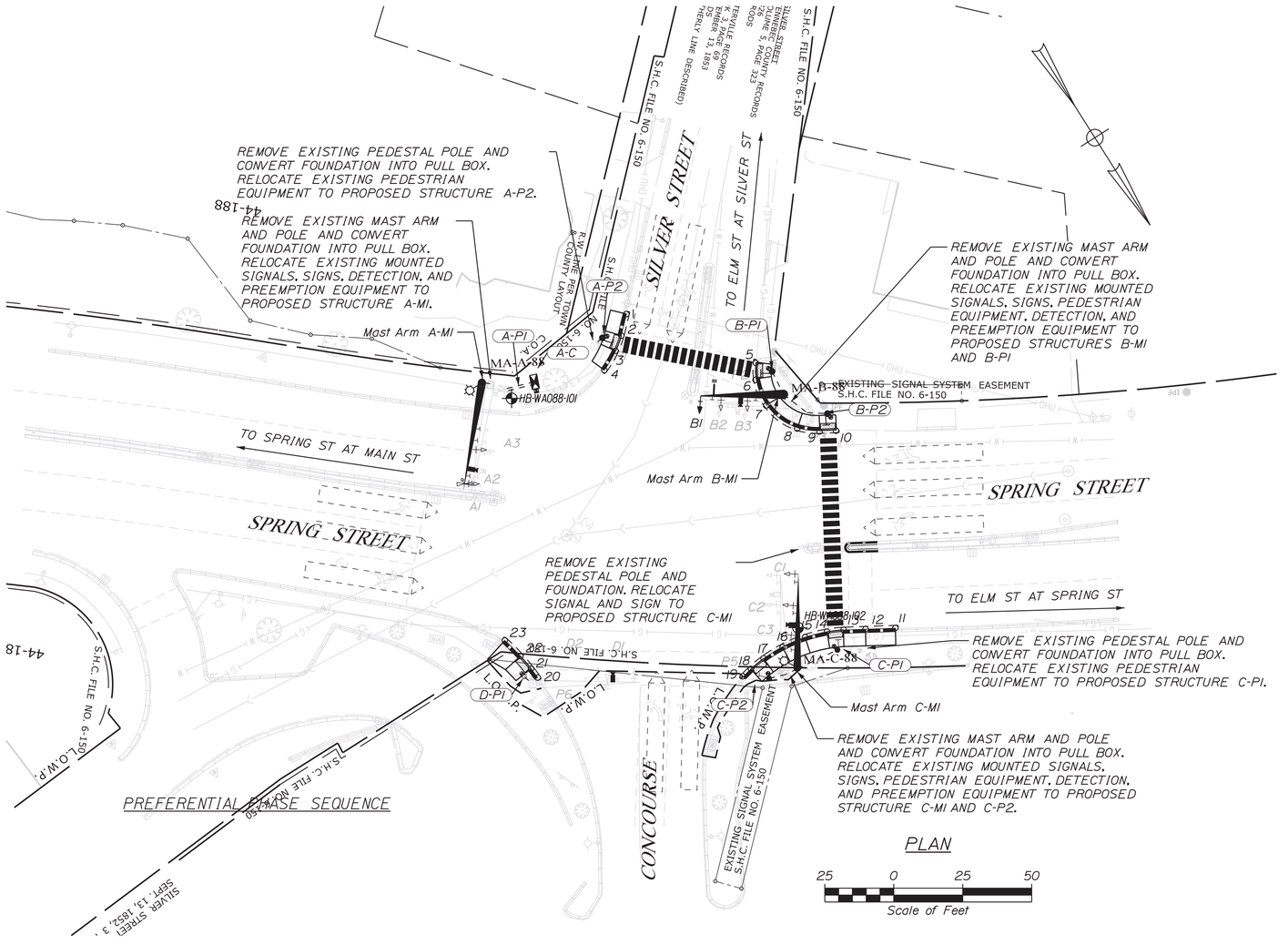
WATERVILLE
SPRING ST AT SILVER ST
CURB RAMP LAYOUT AND DETAIL PLAN

SHEET NUMBER
88C
OF 358



MAST ARMS A-MI, B-MI & C-MI

(A-MI) Spring Street and Silver Street
(B-MI) Spring Street and Silver Street
(C-MI) Spring Street and Silver Street



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.
6. For Boring Logs see Sheet 88B of 358.

Mast Arm	Location	Drilled Shaft Dimensions X Diameter (feet)	Drilled Shaft Dimensions L Length (feet)	Reinforcing Steel R1 Longitudinal Rebars Quantity	Reinforcing Steel R2 Longitudinal Rebars Size	Reinforcing Steel S1 Spiral Rebars Size	Spiral Bar Spacing D1 (in) 0 to 3 ft	Spiral Bar Spacing D2 (in) 3 ft to 2L/3 ft	Spiral Bar Spacing D3 (in) 2L/3 ft to tip
A-M1	Spring Street and Silver Street	5.0	11.0	27	#10	#5	4	12	12
B-M1	Spring Street and Silver Street	4.0	12.0	21	#9	#5	4	4	12
C-M1	Spring Street and Silver Street	4.5	11.5	24	#10	#5	4	12	12

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
FEDERAL PROJECT NO. 2430100
WIN 24301.00
HIGHWAY PLANS

STATE OF MAINE ★ Kathleen Maguire 7120 ★ REGISTERED PROFESSIONAL ENGINEER

SIGNATURE
7120 P.E. NUMBER
11/23/2020 DATE

	DATE	BY
PROJ. MANAGER		
DESIGN-DETAILED		
CHECKED-REVIEWED	MAY 2020	T. WHITE
DESIGN2-DETAILED2		K.MAGUIRE
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
SPRING ST. & SILVER ST.

MAST ARM FOUNDATION & BORING LOCATION PLAN

SHEET NUMBER
88F
OF 358

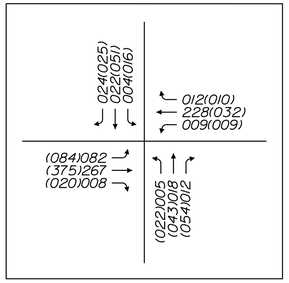
Filename: ...\88F_MAF&BLP9_WA PHASE1.dgn Division: GEOTECH Username: Kate.Maguire Date:11/23/2020

LIST OF WORK ITEMS

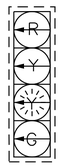
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT $^{32}/_{48}$ SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ONE-WAY, CIRCULAR LED MODULES TO BE INSTALLED INTO EXISTING SIGNAL HEADS.	27
FURNISH AND INSTALL ONE-WAY, LED MODULES TO BE INSTALLED INTO EXISTING PEDESTRIAN SIGNAL HEADS.	8
FURNISH AND INSTALL ONE-WAY 4-SECTION, 12-INCH TRAFFIC SIGNAL HEAD(S), WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE(S) WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	1
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3e INFORMATIONAL SIGN	8
FURNISH AND INSTALL MAST ARM MOUNTED SIGN	3
RESET PEDESTRIAN SIGNAL	5
RESET PREEMPTION PHASE SELECTOR	1
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1 RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL NEW SIGNAL CABLE	-
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON- INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.21)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

SYSTEM DESIGN VOLUMES AM (PM)



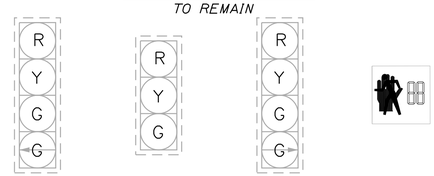
PROPOSED INDICATIONS



CI

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES

EXISTING INDICATIONS TO REMAIN

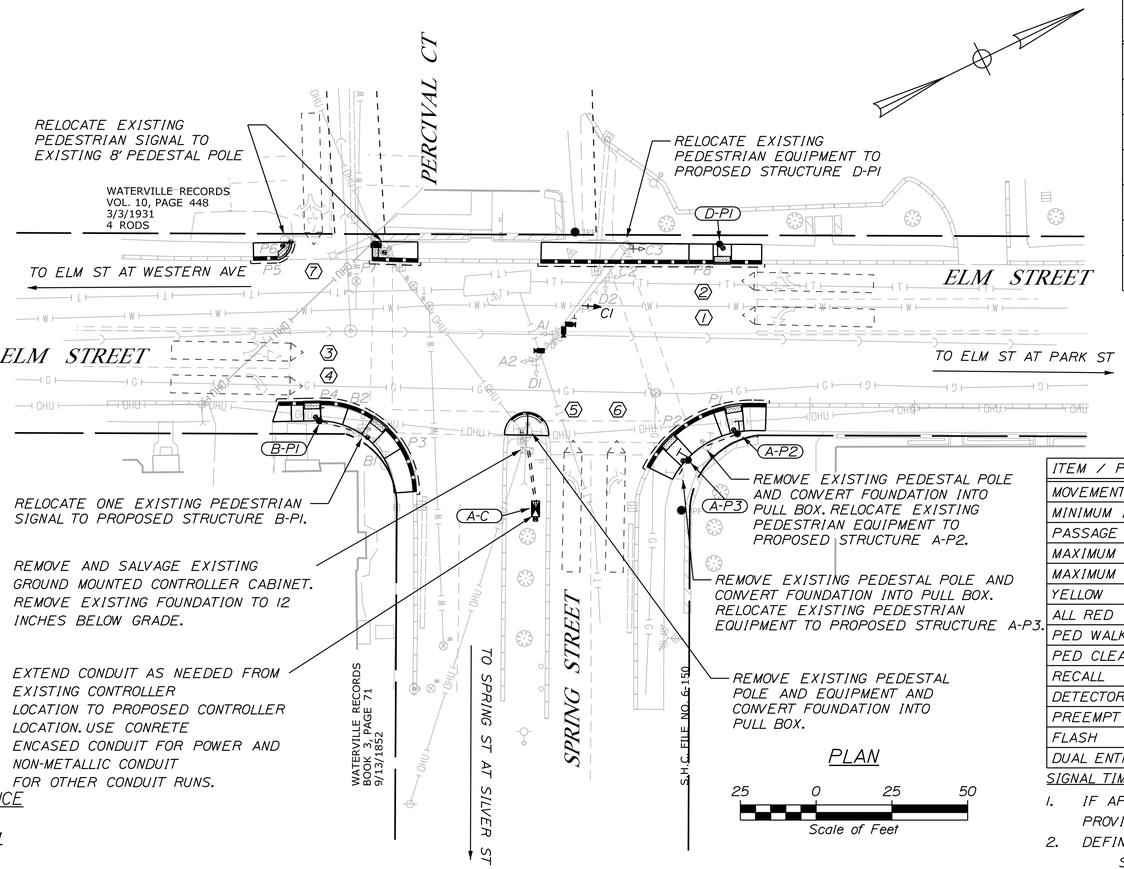


BI A1,B2,C2,C3, D1 A2,D2 P1-P8

ALL EXISTING INDICATION MODULES TO BE REPLACED WITH NEW LIGHT EMITTING DIODES (LED) MODULES

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADV. B=S.BAR	DELAY TIME	EXT. TIME
①	ELM STREET SB LEFT	1	1	B	-	-
②	ELM STREET SB THU/RIGHT	6	6	B	-	-
③	ELM STREET NB LEFT/THRU	2	2	B	-	-
④	ELM STREET NB RIGHT	2	2	B	-	-
⑤	SPRING STREET LEFT/THRU	3	3	B	-	-
⑥	SPRING STREET RIGHT	3	3	B	10	-
⑦	PERCIVAL COURT	4	4	B	-	-



PLAN

25 0 25 50
Scale of Feet

STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"
A-P2	8' PEDESTAL POLE	24" DIAMETER
A-P3	8' PEDESTAL POLE	24" DIAMETER
B-PI	8' PEDESTAL POLE	24" DIAMETER
D-PI	8' PEDESTAL POLE	24" DIAMETER

SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ1	φ2	φ3	φ4	φ5	φ6	φ7	φ8
MOVEMENT	C(LT)	A	D	B	-	C	-	-
MINIMUM INITIAL	5.0	10.0	5.0	5.0	-	10.0	-	-
PASSAGE TIME	2.0	2.0	2.0	1.0	-	2.0	-	-
MAXIMUM 1	10.0	23.0	20.0	19.0	-	40.0	-	-
MAXIMUM 2	-	-	-	-	-	-	-	-
YELLOW	3.0	3.0	2.5	3.0	-	3.0	-	-
ALL RED	4.0	4.0	4.0	3.0	-	4.0	-	-
PED WALK	-	7.0	5.0	5.0	-	5.0	-	-
PED CLEAR	-	23.0	12.0	10.0	-	6.0	-	-
RECALL	0	S	0	0	-	S	-	-
DETECTOR	PR	PR	PR	PR	-	PR	-	-
PREEMPT PRIORITY	4	3	5	6	-	4	-	-
FLASH	R	Y	R	R	-	Y	-	-
DUAL ENTRY	OFF	ON	OFF	OFF		ON		

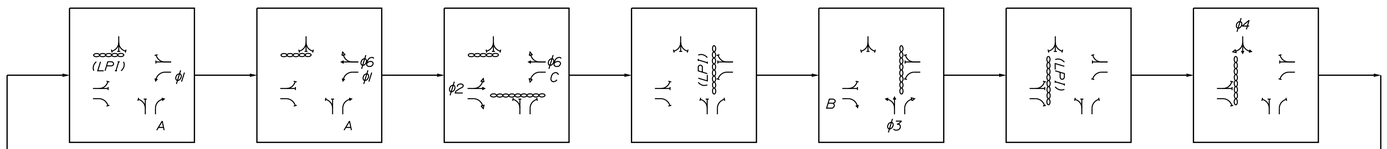
SIGNAL TIMING NOTES:

1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONCTRACT AWARD.
2. DEFINITIONS
   - S = SOFT RECALL
   - 0 = RECALL OFF
   - PR = PRESENCE
   - Y = YELLOW
   - R = RED
   - D = DARK

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

1 2 | 3 4
6 | 5



OVERLAP PHASING:
OVL A = φ1
OVL B = φ3
OVL C = φ2

PHASING NOTES:
1. EACH PEDESTRIAN PHASE SHALL HAVE A MINIMUM OF A 4 SECOND LEADING PEDESTRIAN INTERVAL(LPI).
2. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY

2. OVERLAP C SHALL BE PROGRAMMED FOR FLASHING YELLOW ARROW

NOTE:
RIGHT-OF-WAY SHOWN ON THIS PLAN IS APPROXIMATE AND ACQUISTIONS (POST BID AND BY OTHERS) MAY BE REQUIRED TO COMPLETE THE WORK.

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED ON 9-17-19 FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 24301.00.

* - RIGHT-OF-WAY REFERENCE: THE RIGHT-OF-WAY INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED ON 10-2-19 FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 24301.00.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
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75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

B.KEEZER	BY	DATE
PROJ. MANAGER		
DESIGN-DETAILED	CMT	11\20
CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
ELM ST AT SPRING ST

TRAFFIC SIGNAL PLAN

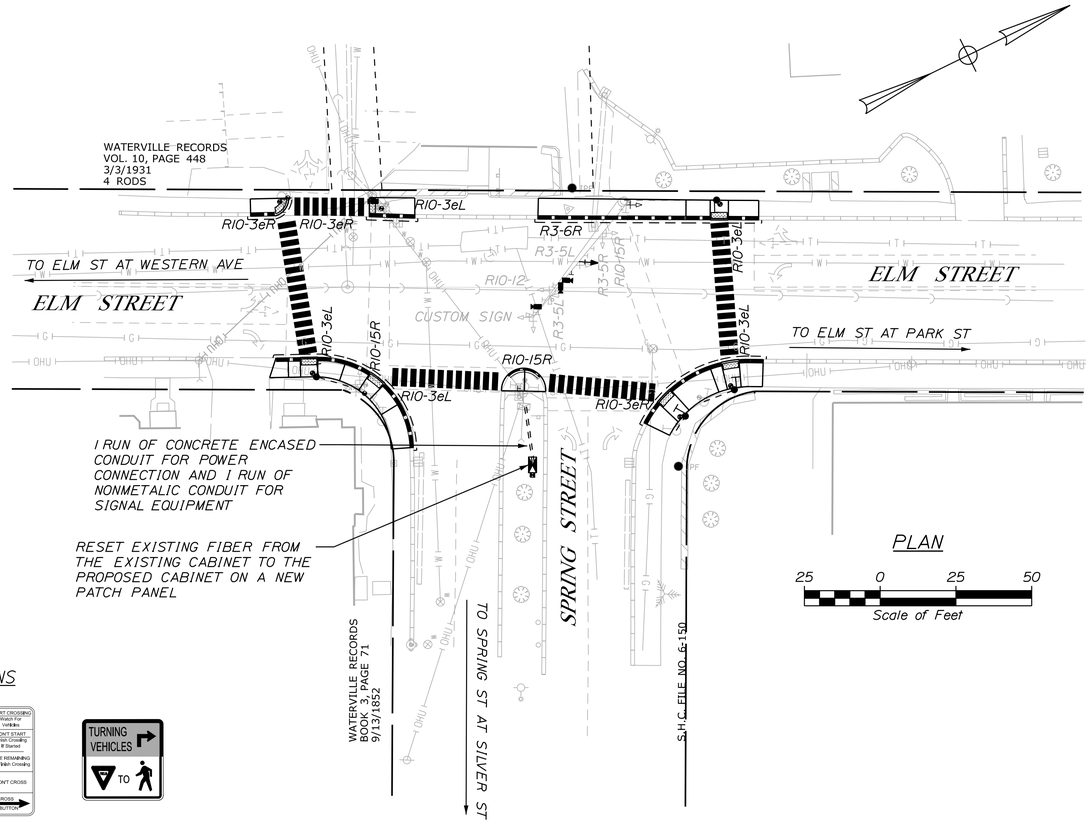
SHEET NUMBER
89
OF 358

Filename: ...\Waterville\089_Signal_89.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	85 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	20 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL 24-INCH DIAMETER FOUNDATION (ITEM 626.421)	28 LF
FURNISH AND INSTALL WHITE PAVEMENT AND CURB MARKING (ITEM 627.75)	744 SF
REMOVE EXISTING PAVEMENT MARKING (ITEM 627.77)	744 SF
FURNISH AND INSTALL 8-FOOT PEDESTAL POLE (ITEM 643.92)	4 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

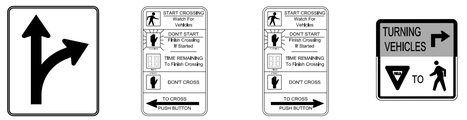


PLAN

25 0 25 50

Scale of Feet

PROPOSED SIGNS



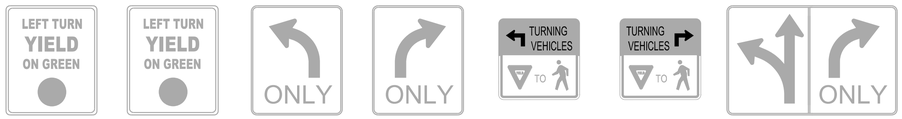
R3-6R 30"x36" 1-PROPOSED

R10-3eL 9"x15" 5-PROPOSED

R10-3eR 9"x15" 3-PROPOSED

R10-15R 30"x30" 2-PROPOSED

EXISTING SIGNS



R10-12 30"x36" 1-REMOVED

R10-12 30"x36" 1-RETAINED

R3-5L 30"x36" 2-RETAINED

R3-5R 30"x36" 1-RETAINED

R10-15L 30"x30" 1-REMOVED

R10-15R 30"x30" 1-RETAINED

CUSTOM SIGN 18"x24" 1-RETAINED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2
R4	4	2	ϕ1&ϕ6
R5	5	3	ϕ3
R6	6	4	ϕ4

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.

2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 6 = LOWEST)

3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.

4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.

5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

NOTE:

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* - RIGHT-OF-WAY REFERENCE: THE RIGHT-OF-WAY INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED ON 10-2-19 FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 24301.00.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

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Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

PROJ. MANAGER	B.KEEZER
DESIGN-DETAILED	CMT
CHECKED-REVIEWED	BRL
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	

	BY	DATE
REVISIONS 1		
REVISIONS 2	CMT	11\20
REVISIONS 3	BRL	11\20
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
ELM ST AT SPRING ST

TRAFFIC SIGNAL PLAN

SHEET NUMBER

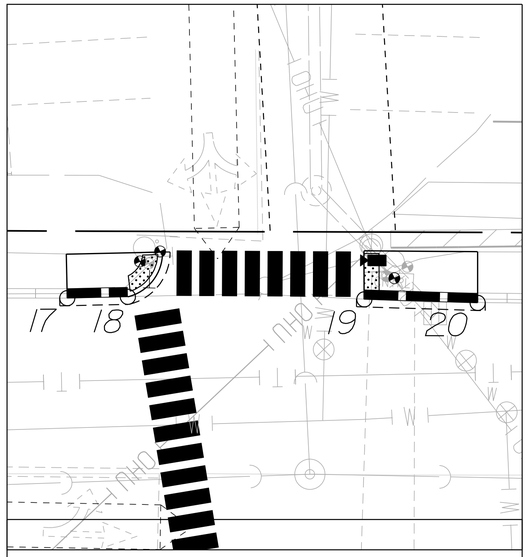
89A

OF 358

Filename: ...\Waterville\089A_Signal_89.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

Filename: ...\Waterville\089C_Signol_89.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

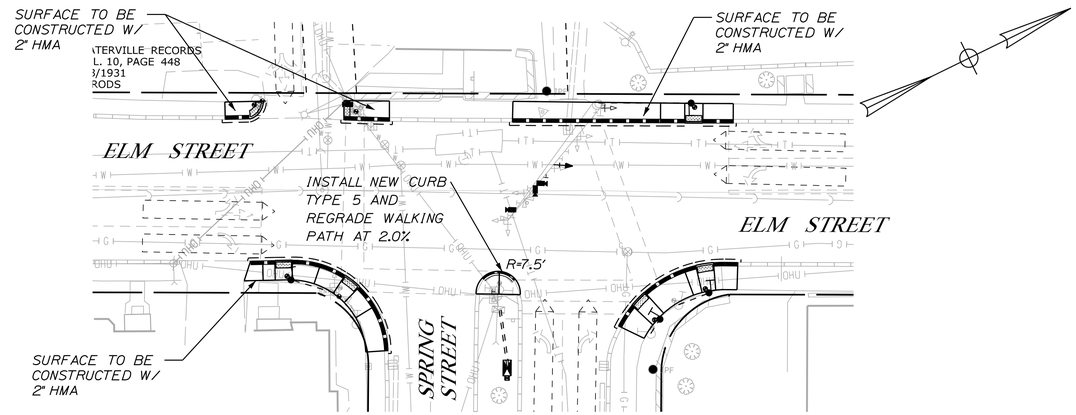
C CORNER - NW DETAIL



RECONSTRUCT CURB RAMPS AND LANDINGS IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(22).

PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD (SF)		ITEM 609.11 - VERTICAL CURB TYPE 1 (LF)	ITEM 609.12 - VERTICAL CURB TYPE 1 - CIRCULAR (LF)	ITEM 609.221 - TERMINAL CURB TYPE 1 (LF)	ITEM 609.222 - TERMINAL CURB TYPE 1 - CIRCULAR (LF)	COMMENT
		LENGTH (FT)	QTY (SF)					
1 TO 2	39.00						8.0	
* 2 TO 3	39.00	6.0	10.6					4.3% CROSS SLOPE
3 TO 4	39.00						15.0	3" CURB REVEAL
4 TO 5	39.00						4.0	3" CURB REVEAL
* 5 TO 6	39.00	6.0	10.6					3.0% CROSS SLOPE
6 TO 7	-					8.0		
8 TO 9	-					4.0		3" CURB REVEAL
9 TO 10	-					4.0		3" CURB REVEAL
10 TO 11	-	6.0	10.6					
11 TO 12	31.00						9.5	
12 TO 13	31.00						9.0	
* 13 TO 14	31.00	6.0	10.0					3.5% CROSS SLOPE
14 TO 15	31.00						8.0	4" CURB REVEAL
15 TO 16	31.00				15.5			
17 TO 18	-		10.0			8.0		
19 TO 20	-		10.6			15.0		
21 TO 22	-			48.8				
22 TO 23	-					8.0		
23 TO 24	-	6.0	10.6					
24 TO 25	-					10.0		

* NON-COMPLIANT CURB RAMP ELEMENT - THE SLOPE NOTED IN THE COMMENT IS THE MAXIMUM VALUE FOR PROPOSED LEVEL OF COMPLIANCE.



ALL DETECTABLE WARNING FIELDS AT THIS INTERSECTION SHALL BE "COLONIAL / CLAY RED" IN COLOR.

ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED, AS WELL AS DETAILS PROVIDED ON SHEET H.

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
REGRADING SIDEWALK (ITEM 608.46)	170.6 SY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	22.4 TONS
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	43.4 SY
VERTICAL CURB TYPE 1 (ITEM 609.11)	48.8 LF
TERMINAL CURB TYPE 1 (ITEM 609.221)	57 LF

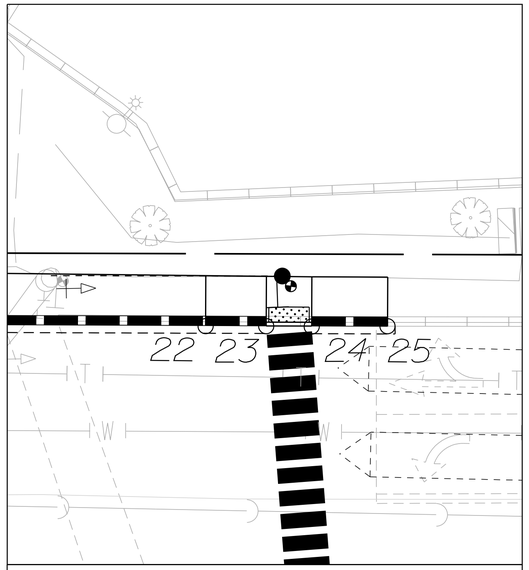
EQUIPMENT AND WORK ITEMS	QUANTITY
VERTICAL CURB TYPE 1 - CIRCULAR (ITEM 609.12)	15.5 LF
TERMINAL CURB TYPE 1 - CIRCULAR (ITEM 609.222)	53.5 LF
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	72.4 SF
CURB TYPE 5 - CIRCULAR (ITEM 609.35)	12.5 LF

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

PLAN

25 0 25 50
Scale of Feet

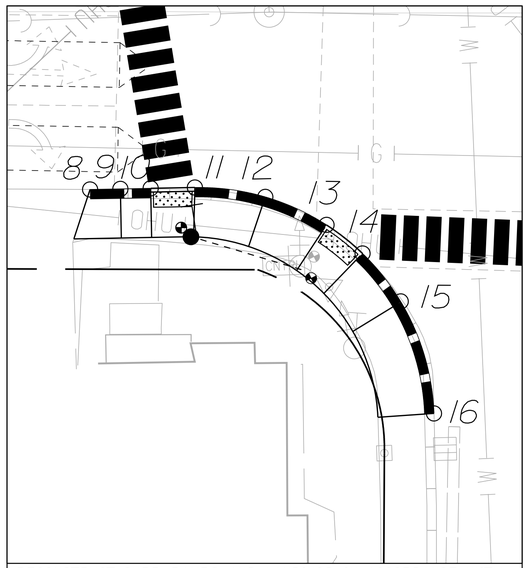
D CORNER - NE DETAIL



RECONSTRUCT CURB RAMPS AND LANDINGS IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

10 0 10 20
Scale of Feet

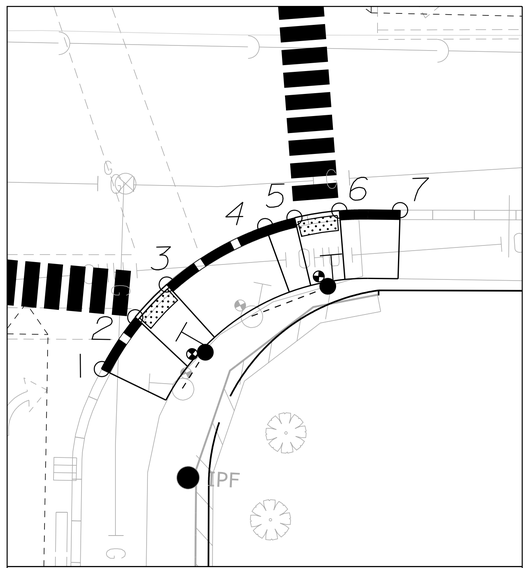
B CORNER - SW DETAIL



RECONSTRUCT CURB RAMPS AND LANDINGS IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(18).

10 0 10 20
Scale of Feet

A CORNER - SE DETAIL



RECONSTRUCT CURB RAMPS AND LANDINGS IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(18).

10 0 10 20
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

	BY	DATE
B.KEEZER		
PROJ. MANAGER	NLS	11\20
DESIGN-DETAILED	NLS	11\20
CHECKED-REVIEWED	BRL	
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
ELM ST AT SPRING ST

CURB RAMP LAYOUT AND DETAIL PLAN

SHEET NUMBER

89C

OF 358

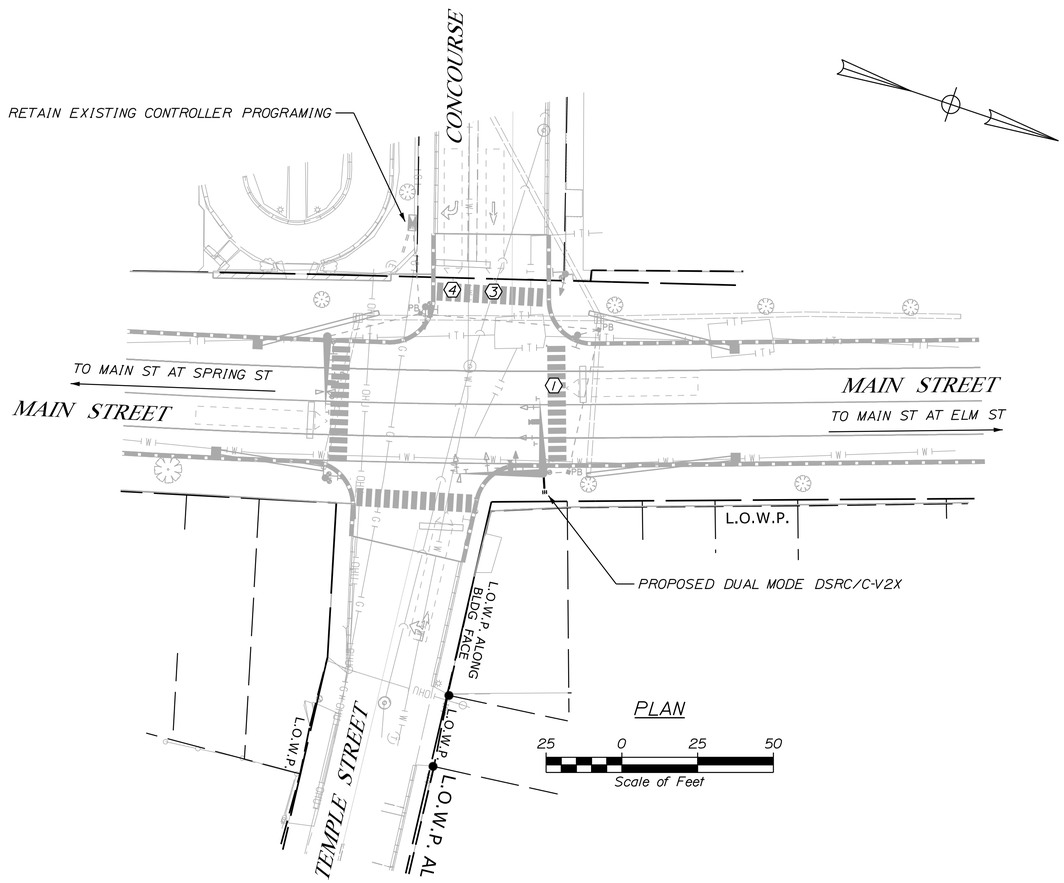
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LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL NEW ATC CONTROLLER WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM. (ITEM 643.71)	1 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

NOTE:
PROPOSED ROADWAY RECONFIGURATION AND SIGNAL WORK SHOWN ON THIS PLAN SHALL BE PERFORMED BY OTHERS UNDER WIN 24371.00 AND THEREFORE HAS BEEN "GRAY SCALED" ON THIS PLAN FOR CLARITY. THE CONTRACTOR UNDER THIS PROJECT. WIN 24301.00. SHALL SOLELY BE RESPONSIBLE FOR THE ITEMS LISTED UNDER THE LIST OF WORK ITEMS CONTAINED ON THIS SHEET



NOTE:
RIGHT-OF-WAY SHOWN ON THIS PLAN IS APPROXIMATE AND ACQUISTIONS (POST BID AND BY OTHERS) MAY BE REQUIRED TO COMPLETE THE WORK.

NOTE:
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STATE OF MAINE
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PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

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South Portland, ME 04106
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	B.KEEZER	BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	CMT	CMT	11\20
CHECKED-REVIEWED	BRL	BRL	11\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WATERVILLE
MAIN ST AT TEMPLE ST

TRAFFIC SIGNAL PLAN

SHEET NUMBER

90

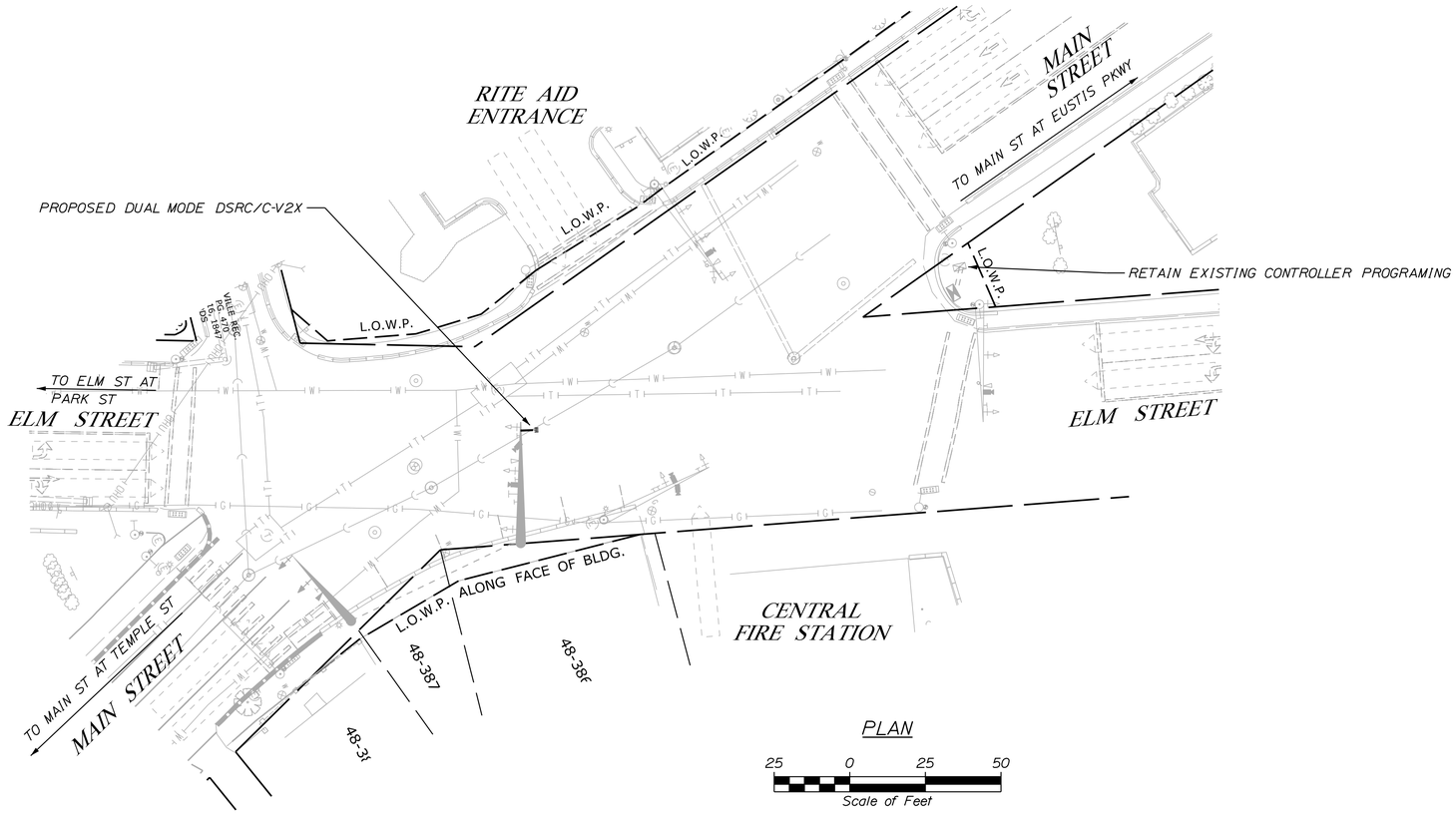
OF 358

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL NEW ATC CONTROLLER WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM. (ITEM 643.71)	1 EA
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PLAN

25 0 25 50
Scale of Feet

NOTE:
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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

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PROJ. MANAGER	B.KEEZER	BY	DATE
DESIGN-DETAILED	CMT	CMT	11\20
CHECKED-REVIEWED	BRL	BRL	11\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WATERVILLE
MAIN ST AT ELM ST

TRAFFIC SIGNAL PLAN

SHEET NUMBER

91

OF 358

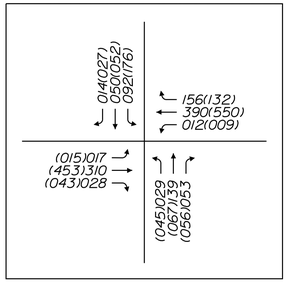
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LIST OF WORK ITEMS

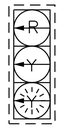
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT $^{32}/_{48}$ SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ONE-WAY, CIRCULAR LED MODULES TO BE INSTALLED INTO EXISTING SIGNAL HEADS.	24
FURNISH AND INSTALL ONE-WAY, LED MODULES TO BE INSTALLED INTO EXISTING PEDESTRIAN SIGNAL HEADS.	6
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEAD(S), WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE(S) WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	3
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3e INFORMATIONAL SIGN	6
RESET VEHICULAR SIGNAL	1
RESET PEDESTRIAN SIGNAL	3
RESET PREEMPTION PHASE SELECTOR	1
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1 RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
FURNISH AND INSTALL NEW SIGNAL CABLE	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON- INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.21)	1 LS

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2020 SYSTEM DESIGN VOLUMES AM (PM)



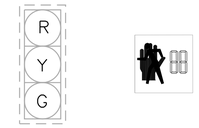
PROPOSED INDICATIONS



A1,B1,D1

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES

EXISTING INDICATIONS
TO REMAIN

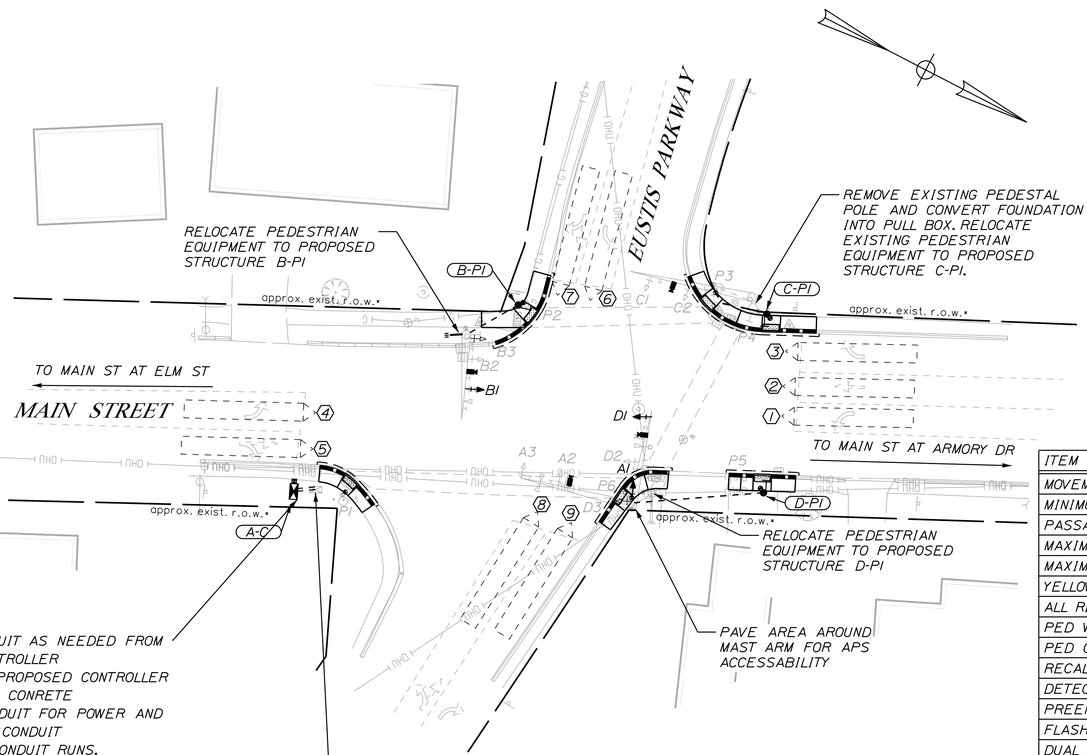


A2,A3,B2,B3, C1,C2,D2,D3 P1-P6

ALL EXISTING INDICATION MODULES TO BE REPLACED WITH NEW LIGHT EMITTING DIODES (LED) MODULES

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	ϕ CALLED	ϕ EXT.	MODE A=ADV. B=S.BAR	DELAY TIME	EXT. TIME
①	MAIN STREET SB LEFT	1	1	B	-	-
②	MAIN STREET SB THRU	6	6	B	-	-
③	MAIN STREET SB RIGHT	6	6	B	-	-
④	MAIN STREET NB LEFT	2	2	B	-	-
⑤	MAIN STREET NB THRU/RIGHT	2	2	B	-	-
⑥	EUSTIS PARKWAY EB LEFT	8	8	B	-	-
⑦	EUSTIS PARKKWAY EB THRU/RIGHT	8	8	B	-	-
⑧	EUSTIS PARKWAY WB LEFT/THRU	4	4	B	-	-
⑨	EUSTIS PARWAY WB RIGHT	4	4	B	-	-



PLAN

25 0 25 50
Scale of Feet

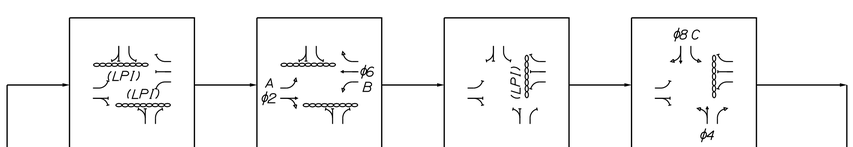
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"
B-PI	8' PEDESTAL POLE	24" DIAMETER
C-PI	8' PEDESTAL POLE	24" DIAMETER
D-PI	8' PEDESTAL POLE	24" DIAMETER

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

$\frac{2}{6}\|\frac{4}{8}$



OVERLAP PHASING:
OVL A = ϕ6
OVL B = ϕ2
OVL C = ϕ4

PHASING NOTES:
1. EACH PEDESTRIAN PHASE SHALL HAVE A MINIMUM OF A 4 SECOND LEADING PEDESTRIAN INTERVAL(LPI).
2. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY
3. OVERLAPS A, B, AND C SHALL BE PROGRAMMED FOR FLASHING YELLOW ARROW

SIGNAL TIMING SCHEDULE

ITEM / PHASE	ϕ1	ϕ2	ϕ3	ϕ4	ϕ5	ϕ6	ϕ7	ϕ8
MOVEMENT	-	D	-	C	-	B	-	A
MINIMUM INITIAL	-	10.0	-	5.0	-	10.0	-	5.0
PASSAGE TIME	-	2.0	-	2.0	-	2.0	-	2.0
MAXIMUM 1	-	33.5	-	13.5	-	33.5	-	13.5
MAXIMUM 2	-	-	-	-	-	-	-	-
YELLOW	-	3.0	-	3.0	-	3.0	-	3.0
ALL RED	-	4.0	-	2.0	-	4.0	-	2.0
PED WALK	-	7.0	-	5.0	-	5.0	-	-
PED CLEAR	-	22.0	-	12.0	-	15.0	-	-
RECALL	-	S	-	0	-	S	-	0
DETECTOR	-	PR	-	PR	-	PR	-	PR
PREEMPT PRIORITY	-	3	-	5	-	4	-	6
FLASH	-	Y	-	R	-	Y	-	R
DUAL ENTRY	-	ON	-	ON	-	ON	-	ON

SIGNAL TIMING NOTES:
1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONCTRACT AWARD.
2. DEFINITIONS
   S = SOFT RECALL
   0 = RECALL OFF
   PR = PRESENCE
   Y = YELLOW
   R = RED
   D = DARK

NOTE:
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NOTE:
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* - RIGHT-OF-WAY REFERENCE: PIN F25-00 (502) DOT FILE 6-218, SHEET 1 OF 1, 1980

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PROJECT NO. 2430100
WIN 024301.00
TRAFFIC PLANS

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PROJ. MANAGER	B.KEEZER		
DESIGN-DETAILED	CMT	11\20	1
CHECKED-REVIEWED	BRL	11\20	2
DESIGN2-DETAILED2			3
DESIGN3-DETAILED3			4
REVISIONS 1			FIELD CHANGES
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			

WATERVILLE
MAIN ST AT EUSTIS PKWY

TRAFFIC SIGNAL PLAN

SHEET NUMBER
92
OF 358

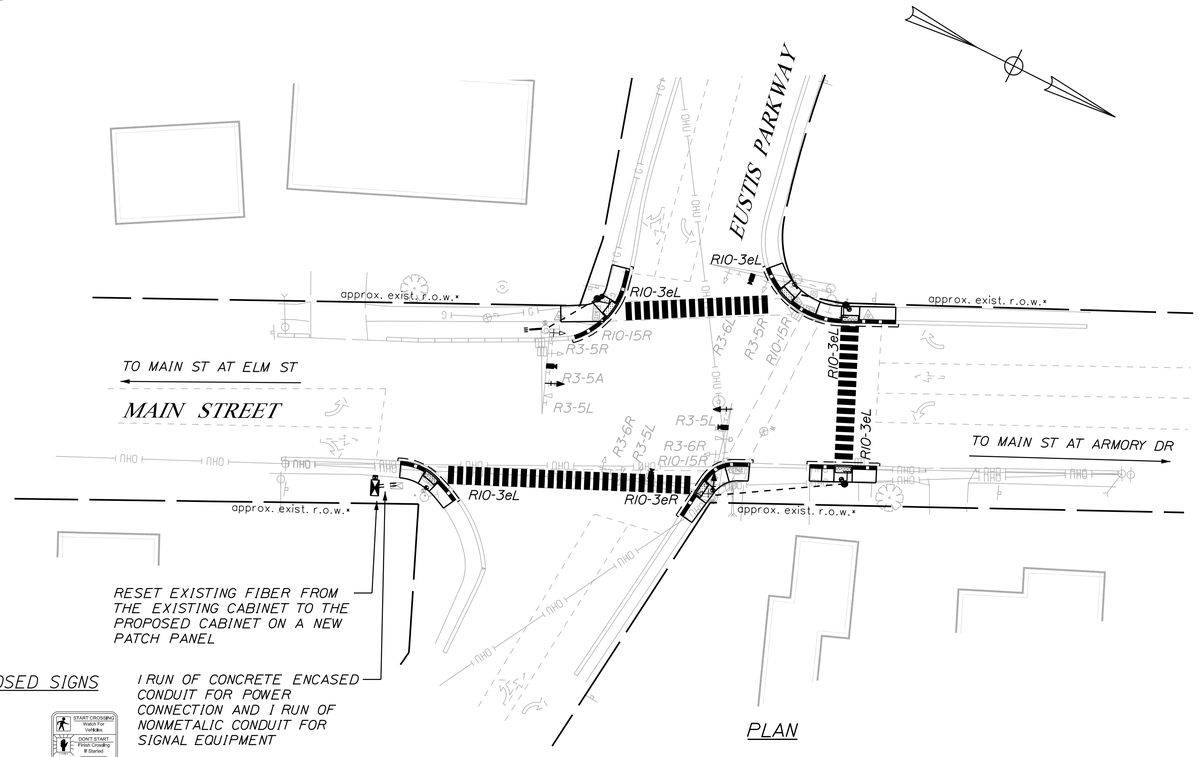
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Filename: ...\Waterville\092A_Signal_92.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	90 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	10 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL 24-INCH DIAMETER FOUNDATION (ITEM 626.421)	21 LF
FURNISH AND INSTALL WHITE PAVEMENT AND CURB MARKING (ITEM 627.75)	696 SF
REMOVE EXISTING PAVEMENT MARKING (ITEM 627.77)	696 SF
FURNISH AND INSTALL 8-FOOT PEDESTAL POLE (ITEM 643.92)	3 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

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PLAN

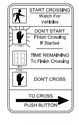
25 0 25 50

Scale of Feet

PROPOSED SIGNS

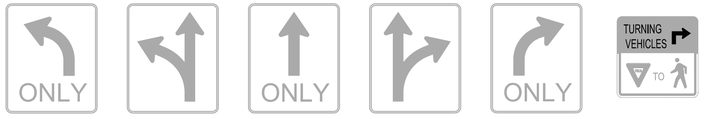


R10-3eL
9"x15"
5-PROPOSED



R10-3eR
9"x15"
1-PROPOSED

EXISTING SIGNS



R3-5L 30"x36" 3-RETAINED

R3-6L 30"x36" 1-RETAINED

R3-5a 30"x36" 1-RETAINED

R3-6R 30"x36" 2-RETAINED

R3-5R 30"x36" 2-RETAINED

R10-15R 30"x30" 3-RETAINED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2
R4	4	2	ϕ6
R5	5	3	ϕ4
R6	6	4	ϕ8

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.

2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 6 = LOWEST)

3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.

4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.

5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED ON 04-06-20 FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 24301.00.

* - RIGHT-OF-WAY REFERENCE: PIN F25-00 (502) DOT FILE 6-218, SHEET 1 OF 1, 1980

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

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PROJ. MANAGER	B.KEEZER		
DESIGN-DETAILED	CMT	BY	DATE
CHECKED-REVIEWED	BRL	CMT	11\20
DESIGN2-DETAILED2		BRL	11\20
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WATERVILLE
MAIN ST AT EUSTIS PKWY

TRAFFIC SIGNAL PLAN

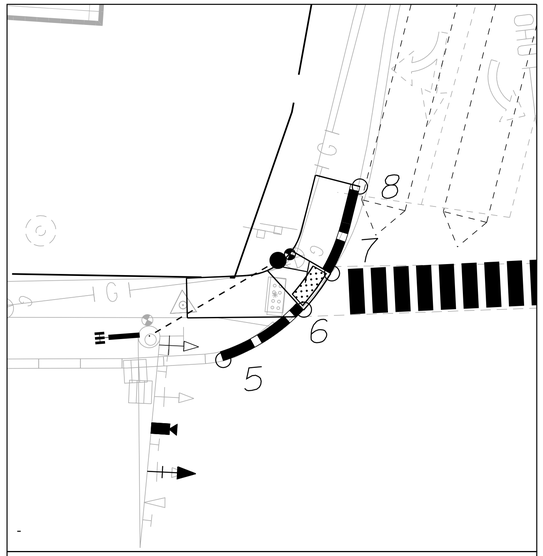
SHEET NUMBER

92A

OF 358

Filename: ...\Waterville\092C_Signal_92.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

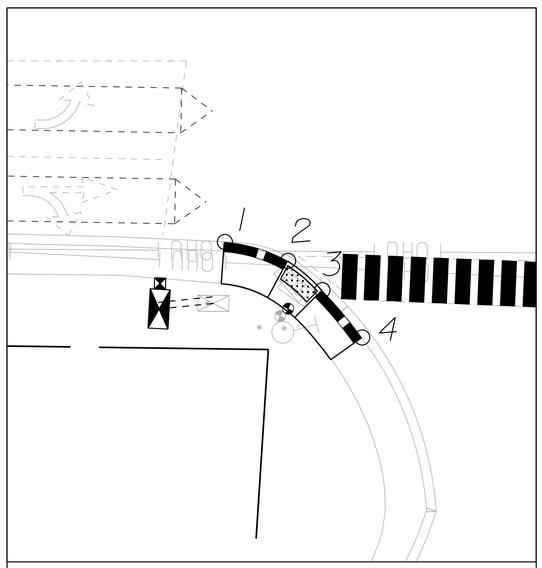
B CORNER - NW DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

10 0 10 20
Scale of Feet

A CORNER - SE DETAIL

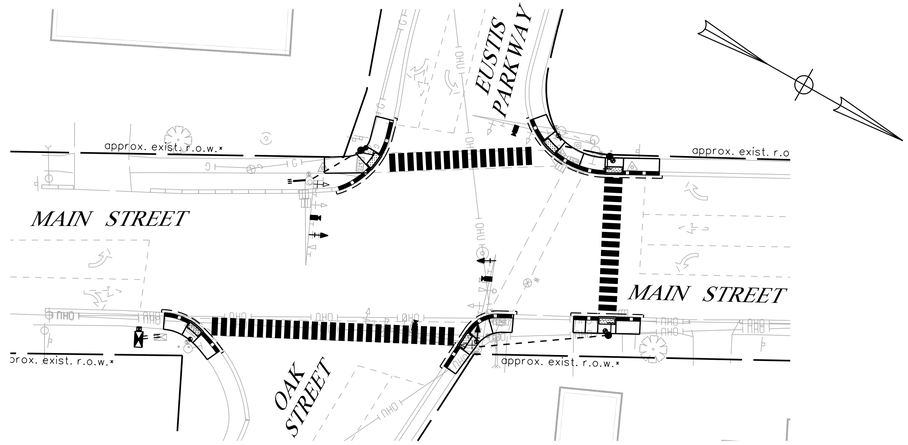


RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(18).

10 0 10 20
Scale of Feet

PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD (SF)		ITEM 609.221 - TERMINAL CURB TYPE 1 (LF)	ITEM 609.222 - TERMINAL CURB TYPE 1 - CIRCULAR (LF)	COMMENT
		LENGTH (FT)	QTY (SF)			
1 TO 2	20.00				8.0	
2 TO 3	20.00	6.0	10.0			
3 TO 4	50.00			8.0		
5 TO 6	25.00				12.0	
* 6 TO 7	30.00	6.0	10.0			3.2% CROSS SLOPE
7 TO 8	-			12.0		
9 TO 10	27.00				8.0	
* 10 TO 11	27.00	6.0	10.0			5.8% CROSS SLOPE
11 TO 12	27.00				9.0	5" CURB REVEAL
12 TO 13	27.00				9.0	5" CURB REVEAL
13 TO 14	-	6.0	10.6			
14 TO 15	-			12.0		
24 TO 25	-			8.0		
23 TO 24	-	6.0	10.6			
22 TO 23	-			4.0		3" CURB REVEAL
21 TO 22	-			4.0		3" CURB REVEAL
19 TO 20	-			8.5		
18 TO 19	12.00				8.5	
* 17 TO 18	-	6.0	10.6			6.5% CROSS SLOPE
16 TO 17	-			8.0		

* NON-COMPLIANT CURB RAMP ELEMENT - THE SLOPE NOTED IN THE COMMENT IS THE MAXIMUM VALUE FOR PROPOSED LEVEL OF COMPLIANCE.



ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED, AS WELL AS DETAILS PROVIDED ON SHEET H.

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
REGRADING SIDEWALK (ITEM 608.46)	91.3 SY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	6.2 TONS
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	91.3 SY

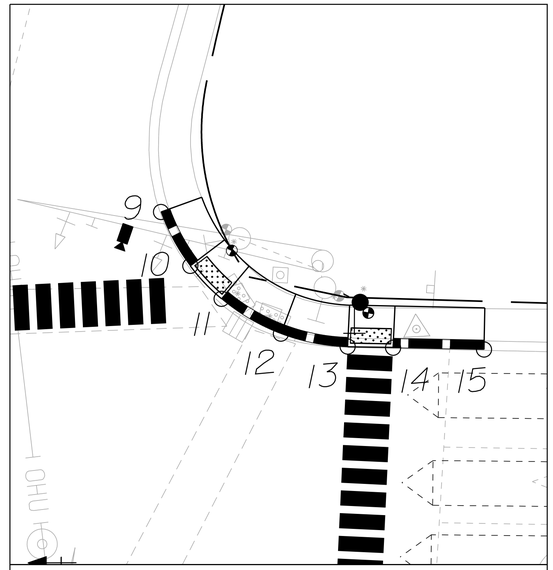
EQUIPMENT AND WORK ITEMS	QUANTITY
TERMINAL CURB TYPE 1 (ITEM 609.221)	64.5 LF
TERMINAL CURB TYPE 1 - CIRCULAR (ITEM 609.222)	54.5 LF
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	61.8 SF

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

PLAN

25 0 25 50
Scale of Feet

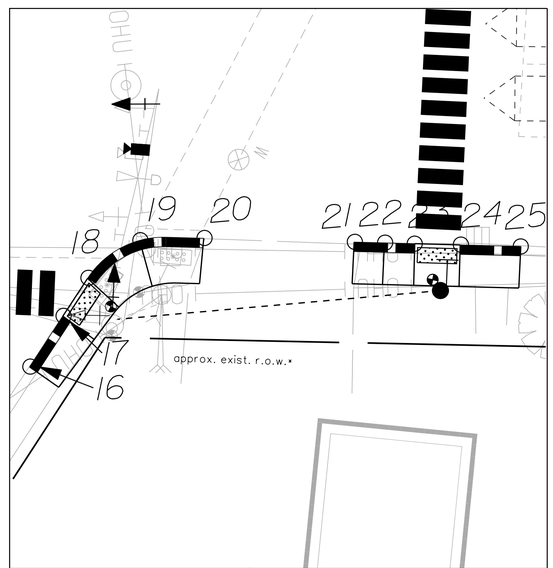
C CORNER - NW DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

10 0 10 20
Scale of Feet

D CORNER - NE DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

10 0 10 20
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

	BY	DATE
PROJ. MANAGER	B.KEEZER	
DESIGN-DETAILED	NLS	11\20
CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
MAIN ST AT EUSTIS PKWY
CURB RAMP LAYOUT AND DETAIL PLAN

SHEET NUMBER

92C

OF 358

Filename: ...\Waterville\093_Signal_93.dgn Username: CThompson Division: HIGHWAY Date:11/19/2020

LIST OF WORK ITEMS

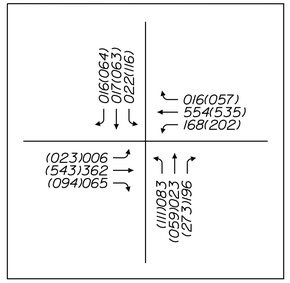
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ONE-WAY, CIRCULAR LED MODULES TO BE INSTALLED INTO EXISTING SIGNAL HEADS.	40
FURNISH AND INSTALL ONE-WAY, LED MODULES TO BE INSTALLED INTO EXISTING PEDESTRIAN SIGNAL HEADS.	2
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3e INFORMATIONAL SIGN	2
RESET PREEMPTION PHASE SELECTOR	1
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL NEW SIGNAL CABLE	-
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES. COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 3 APPROACHES. COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

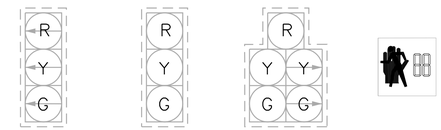
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"

SYSTEM DESIGN VOLUMES AM (PM)



EXISTING INDICATIONS TO REMAIN



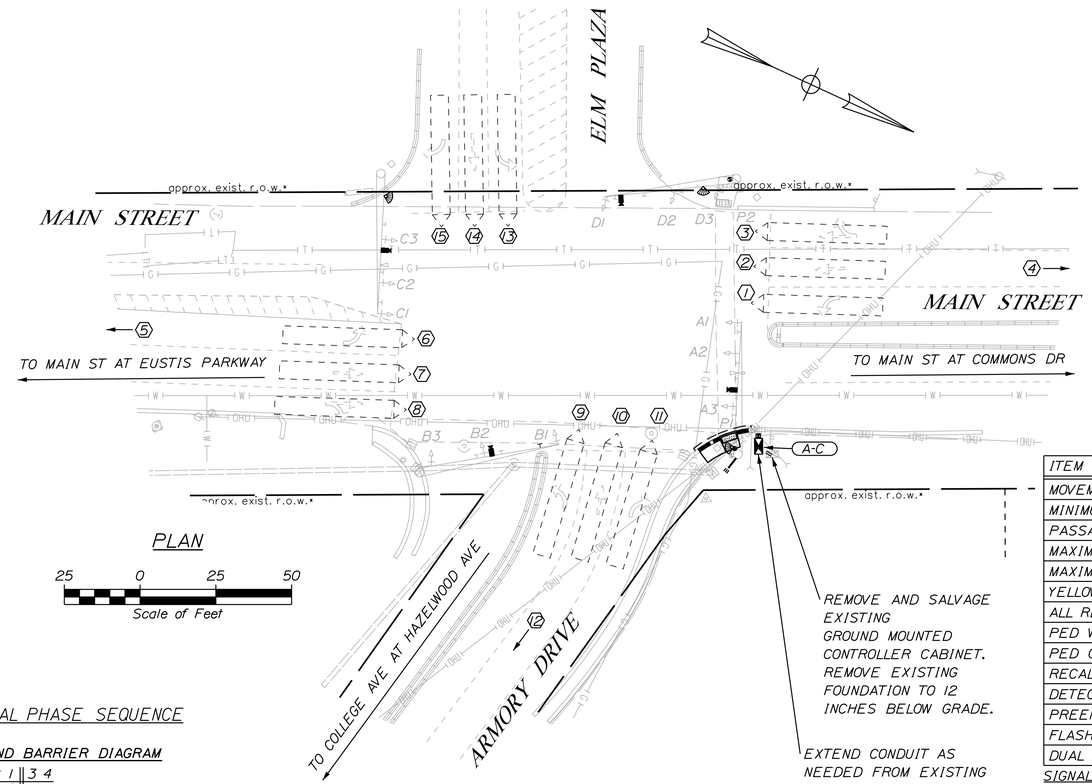
ALL EXISTING INDICATION MODULES TO BE REPLACED WITH NEW LIGHT EMITTING DIODES (LED) MODULES

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADV. B=S.BAR	DELAY TIME	EXT. TIME
①	MAIN STREET SB LEFT	1	1	B	-	-
②	MAIN STREET SB THRU	6	6	B	-	-
③	MAIN STREET SB THRU/RIGHT	6	6	B	-	-
④*	MAIN STREET SB ADVANCE	6	6	A	-	-
⑤*	MAIN STREET NB ADVANCE	2	2	A	-	-
⑥	MAIN STREET NB LEFT	5	5	B	-	-
⑦	MAIN STREET NB THRU	2	2	B	-	-
⑧	MAIN STREET NB THRU/RIGHT	2	2	B	-	-
⑨	ARMORY DRIVE LEFT	4	4	B	-	-
⑩	ARMORY DRIVE THRU	4	4	B	-	-
⑪	ARMORY DRIVE RIGHT	4	4	B	10	-
⑫*	ARMORY DRIVE ADVANCE	4	4	A	-	-
⑬	ELM PLAZA LEFT	3	3	B	-	-
⑭	ELM PLAZA THRU	3	3	B	-	-
⑮	ELM PLAZA RIGHT	3	3	B	10	-

*SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)

NOTE: LOCATION AND QUANTITY OF ADDITIONAL VEHICLE DETECTION ZONES TO BE DETERMINED BASED ON THE SPECIFIC ASCT SYSTEM REQUIREMENTS.



PLAN

25 0 25 50
Scale of Feet

REMOVE AND SALVAGE EXISTING GROUND MOUNTED CONTROLLER CABINET. REMOVE EXISTING FOUNDATION TO 12 INCHES BELOW GRADE.

EXTEND CONDUIT AS NEEDED FROM EXISTING CONTROLLER LOCATION TO PROPOSED CONTROLLER LOCATION. USE CONRETE ENCASED CONDUIT FOR POWER AND NON-METALLIC CONDUIT FOR OTHER CONDUIT RUNS.

SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ 1	φ 2	φ 3	φ 4	φ 5	φ 6	φ 7	φ 8
MOVEMENT	C(LT)	A	B	D	A(LT)	C	-	-
MINIMUM INITIAL	5.0	10.0	5.0	5.0	5.0	10.0	-	-
PASSAGE TIME	3.0	2.0	3.0	3.0	3.0	2.0	-	-
MAXIMUM 1	12.5	13.5	10.5	21.5	7.5	18.5	-	-
MAXIMUM 2	-	-	-	-	-	-	-	-
YELLOW	3.5	3.5	3.5	3.5	3.5	3.5	-	-
ALL RED	1.5	1.5	1.0	1.0	1.5	1.5	-	-
PED WALK	-	-	-	7.0	-	-	-	-
PED CLEAR	-	-	-	19.0	-	-	-	-
RECALL	0	S	0	0	0	S	-	-
DETECTOR	PR	PR	PR	PR	PR	PR	-	-
PREEMPT PRIORITY	4	3	5	6	3	4	-	-
FLASH	R	Y	R	R	R	Y	-	-
DUAL ENTRY	OFF	ON	ON	ON	OFF	ON	-	-

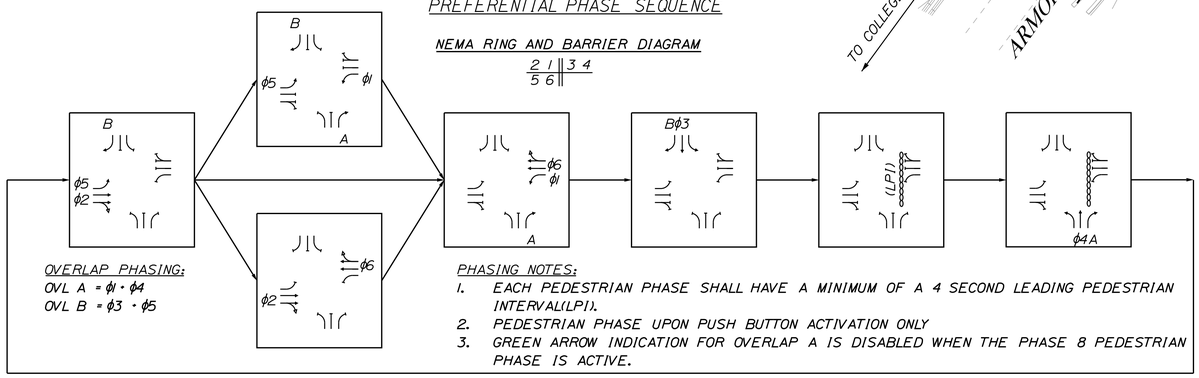
SIGNAL TIMING NOTES:

1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONCTRACT AWARD.
2. DEFINITIONS
   - S = SOFT RECALL
   - 0 = RECALL OFF
   - PR = PRESENCE
   - Y = YELLOW
   - R = RED
   - D = DARK

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

2 1 | 3 4
5 6 ‖



OVERLAP PHASING:
OVL A = φ1 + φ4
OVL B = φ3 + φ5

PHASING NOTES:

1. EACH PEDESTRIAN PHASE SHALL HAVE A MINIMUM OF A 4 SECOND LEADING PEDESTRIAN INTERVAL(LPI).
2. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY
3. GREEN ARROW INDICATION FOR OVERLAP A IS DISABLED WHEN THE PHASE 8 PEDESTRIAN PHASE IS ACTIVE.

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED ON 04-06-20 FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 24301.00.

* - RIGHT-OF-WAY REFERENCE: PIN M-7220(1) DOT FILE 6-220, SHEET 1 OF 4, 1980

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

PROJ. MANAGER	B.KEEZER		
DESIGN-DETAILED	CMT	11\20	
CHECKED-REVIEWED	BRL	11\20	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WATERVILLE
MAIN ST AT ARMORY DR

TRAFFIC SIGNAL PLAN

SHEET NUMBER

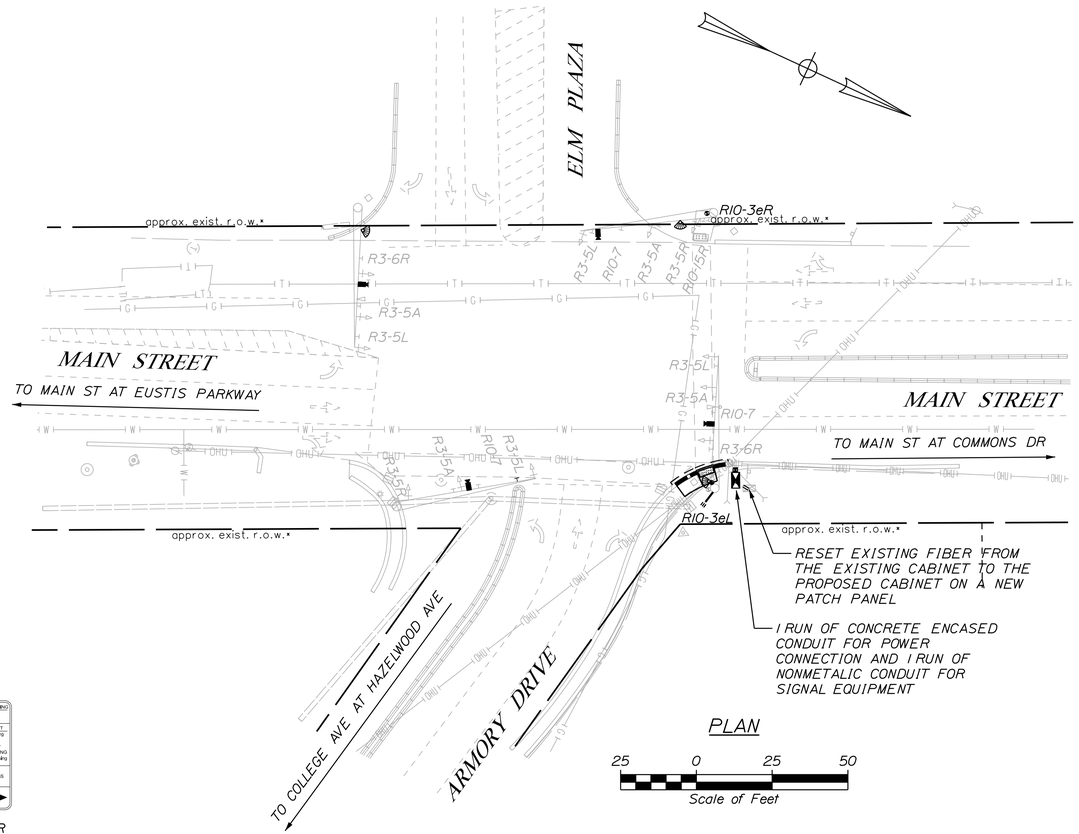
93

OF 358

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	20 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	10 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
REMOVE OR MODIFY CONCRETE FOUNDATION (ITEM 626.36)	7 EA
FURNISH AND INSTALL MAIN STREET BALANCED / CRITICAL PATHS BASED ASCT SYSTEM (ITEM 654.05)	1 LS
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PLAN

25 0 25 50

Scale of Feet

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2&ϕ5
R4	4	2	ϕ1&ϕ6
R5	5	3	ϕ3
R6	6	4	ϕ4

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 6 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

PROPOSED SIGNS



R10-3eL
9"x15"
1-PROPOSED



R10-3eR
9"x15"
1-PROPOSED

EXISTING SIGNS



R10-7
30"x36"
3-RETAINED



R3-5L
30"x36"
4-RETAINED



R3-5a
30"x36"
4-RETAINED



R3-6R
30"x36"
2-RETAINED



R3-5R
30"x36"
2-RETAINED



R10-15R
30"x30"
1-PROPOSED

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED ON 04-06-20 FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 24301.00.

* - RIGHT-OF-WAY REFERENCE: PIN M-7220(1) DOT FILE 6-220, SHEET 1 OF 4, 1980

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

PROJ. MANAGER	B.KEEZER	BY	DATE
DESIGN-DETAILED	CMT	CMT	11\20
CHECKED-REVIEWED	BRL	BRL	11\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WATERVILLE
MAIN ST AT ARMORY DR

TRAFFIC SIGNAL PLAN

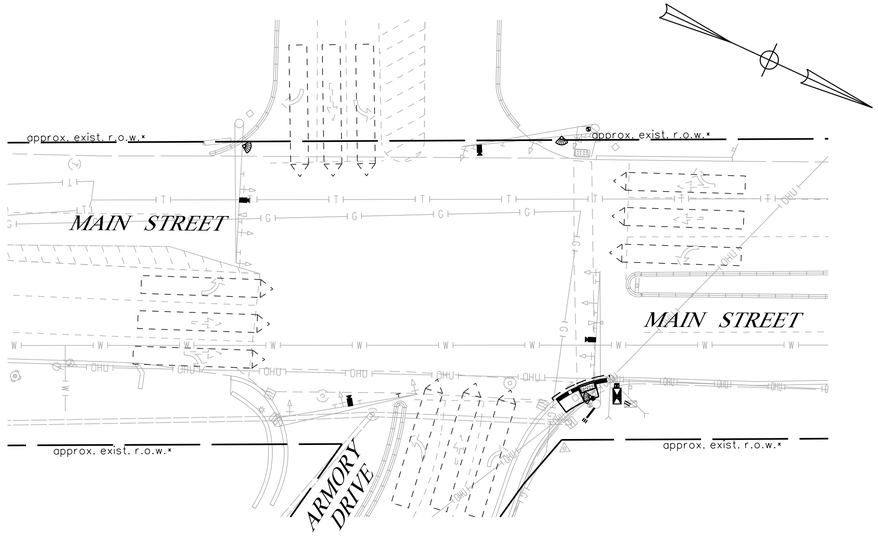
SHEET NUMBER

93A

OF 358

Filename: ...\Waterville\093A_Signal_93.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD (SF)		ITEM 609.222 - TERMINAL CURB TYPE 1 - CIRCULAR (LF)	COMMENT
		LENGTH (FT)	QTY (SF)		
1 TO 2	38.00			4.0	
2 TO 3	38.00	6.0	10.6		
3 TO 4	38.00			8.0	



ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED, AS WELL AS DETAILS PROVIDED ON SHEET H.

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
REGRADING SIDEWALK (ITEM 608.46)	8 SY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	0.7 TONS
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	8 SY

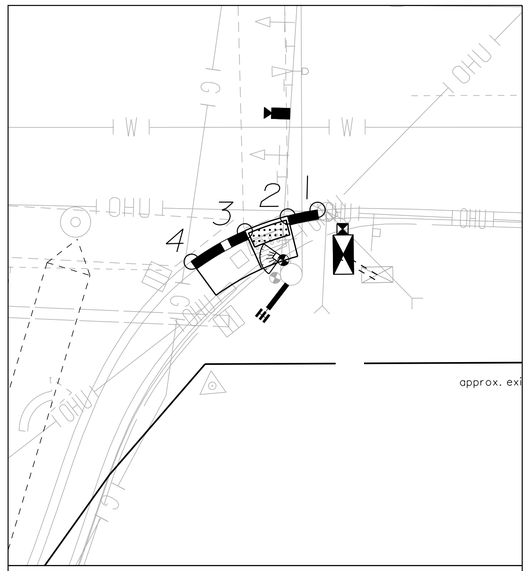
EQUIPMENT AND WORK ITEMS	QUANTITY
TERMINAL CURB TYPE 1 - CIRCULAR (ITEM 609.222)	12 LF
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	10 SF

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

PLAN

25 0 25 50
Scale of Feet

A CORNER - NE DETAIL



RECONSTRUCT CURB RAMP AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

10 0 10 20
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

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PROJ. MANAGER	B.KEEZER		
DESIGN-DETAILED	NLS	NLS	11\20
CHECKED-REVIEWED	BRL	BRL	11\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WATERVILLE
MAIN ST AT ARMORY DR

CURB RAMP LAYOUT AND DETAIL PLAN

SHEET NUMBER

93C

OF 358

Filename: ...\Waterville\093C_Signal_93.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

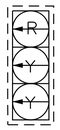
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT $^{32}/_{48}$ SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ONE-WAY, CIRCULAR LED MODULES TO BE INSTALLED INTO EXISTING SIGNAL HEADS.	35
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEAD(S), WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE(S) WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	1
FURNISH AND INSTALL MAST ARM MOUNTED SIGN	1
RESET PREEMPTION PHASE SELECTOR	1
RESET VEHICULAR SIGNAL	1
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1 RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL NEW SIGNAL CABLE	-
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 2 APPROACHES, COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"

PROPOSED INDICATIONS

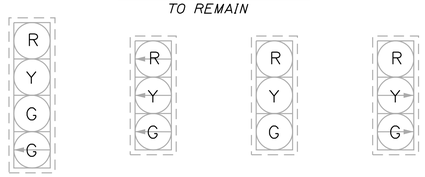


D2

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES

EXISTING INDICATIONS

TO REMAIN



A1,C1 B1,D1 A2,B2,B3, C2,D3,D4 B4

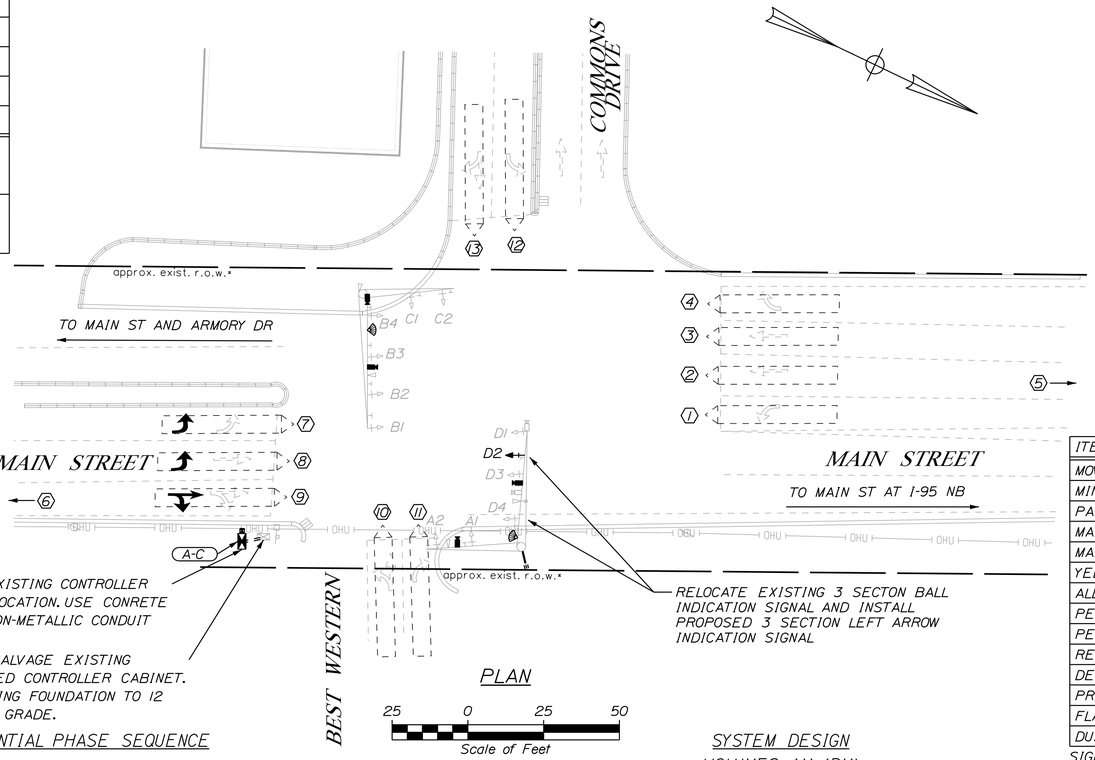
ALL EXISTING INDICATION MODULES TO BE REPLACED WITH NEW LIGHT EMITTING DIODES (LED) MODULES

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADV. B=S.BAR	DELAY TIME	EXT. TIME
①	MAIN STREET SB LEFT	1	1	B	-	-
②	MAIN STREET SB THRU	6	6	B	-	-
③	MAIN STREET SB THRU	6	6	B	-	-
④	MAIN STREET SB RIGHT	6	6	B	10	-
⑤*	MAIN STREET SB ADVANCE	6	6	A	-	-
⑥*	MAIN STREET NB ADVANCE	2	2	A	-	-
⑦	MAIN STREET NB LEFT	5	5	B	-	-
⑧	MAIN STREET NB LEFT	5	5	B	-	-
⑨	MAIN STREET NB THRU/RIGHT	2	2	B	-	-
⑩	BEST WESTERN LEFT/THRU	8	8	B	-	-
⑪	BEST WESTERN RIGHT	8	8	B	10	-
⑫	COMMONS DRIVE LEFT	4	4	B	-	-
⑬	COMMONS DRIVE THRU/RIGHT	4	4	B	-	-

*SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)

NOTE: LOCATION AND QUANTITY OF ADDITIONAL VEHICLE DETECTION ZONES TO BE DETERMINED BASED ON THE SPECIFIC ASCT SYSTEM REQUIREMENTS.



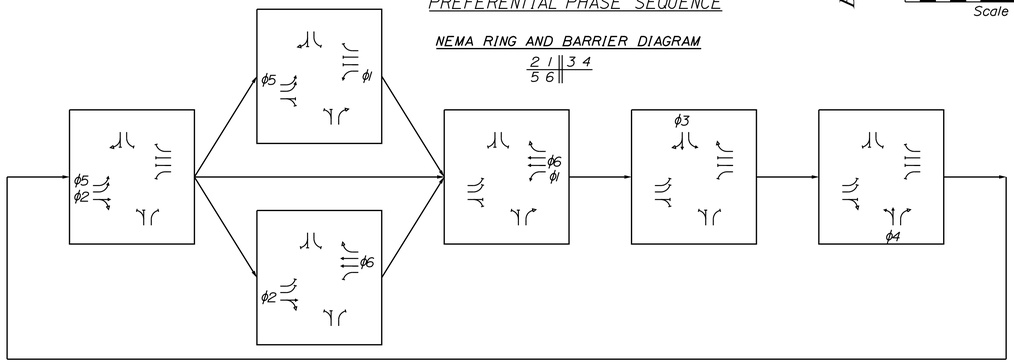
PLAN

25 0 25 50
Scale of Feet

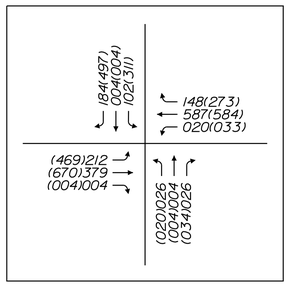
PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

2 1 3 4
5 6



SYSTEM DESIGN VOLUMES AM (PM)



SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ1	φ2	φ3	φ4	φ5	φ6	φ7	φ8
MOVEMENT	B(LT)	D	C	A	D(LT)	B	-	-
MINIMUM INITIAL	5.0	10.0	5.0	5.0	5.0	10.0	-	-
PASSAGE TIME	3.0	2.0	3.0	3.0	3.0	2.0	-	-
MAXIMUM 1	7.5	30.5	5.0	14.5	18.5	19.5	-	-
MAXIMUM 2	-	-	-	-	-	-	-	-
YELLOW	3.5	3.5	3.5	3.5	3.5	3.5	-	-
ALL RED	2.0	2.0	1.5	1.5	2.0	2.0	-	-
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
RECALL	0	S	0	0	0	S	-	-
DETECTOR	PR	PR	PR	PR	PR	PR	-	-
PREEMPT PRIORITY	4	3	6	5	3	4	-	-
FLASH	R	Y	R	R	R	Y	-	-
DUAL ENTRY	OFF	ON	OFF	OFF	OFF	ON	-	-

SIGNAL TIMING NOTES:

1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONCTRACT AWARD.
2. DEFINITIONS
   - S = SOFT RECALL
   - 0 = RECALL OFF
   - PR = PRESENCE
   - Y = YELLOW
   - R = RED
   - D = DARK

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN IS AN APPROXIMATE REPRESENTATION OF EXISTING CONDITIONS BASED ON INFORMATION FROM VARIOUS SOURCES, INCLUDING: GEO-LOCATED AERIAL IMAGERY, LIDAR DERIVED CONTOURS, AVAILABLE PROPERTY MAP INFORMATION, AND SCANNED RIGHT-OF-WAY INFORMATION FROM THE SOURCE LISTED BELOW FITTED TO THE OTHER SOURCES. THE INFORMATION WITHIN THIS PLAN IS NOT SUPPORTED BY FIELD SURVEY.

* - RIGHT-OF-WAY REFERENCE: PIN S-023(1) DOT FILE 6-111, SHEET 1 OF 2, 1960

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

	BY	DATE
PROJ. MANAGER	B.KEEZER	
DESIGN-DETAILED	CMT	11\20
CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
MAIN ST AT COMMONS DR

TRAFFIC SIGNAL PLAN

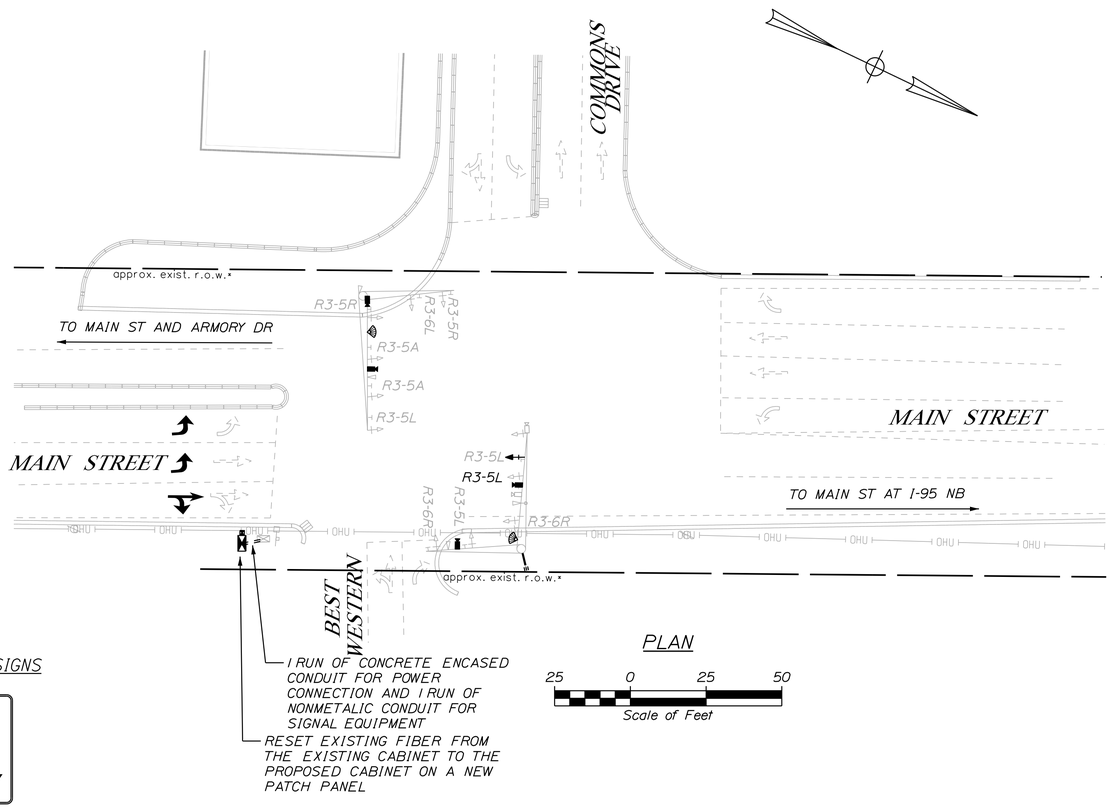
SHEET NUMBER
94
OF 358

Filename: ...\Waterville\094_Signal_94.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	20 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	10 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL WHITE PAVEMENT AND CURB MARKING (ITEM 627.75)	96 SF
REMOVE EXISTING PAVEMENT MARKING (ITEM 627.77)	96 SF
FURNISH AND INSTALL MAIN STREET BALANCED / CRITICAL PATHS BASED ASCT SYSTEM (ITEM 654.05)	1 LS
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PLAN

25 0 25 50

Scale of Feet

PROPOSED SIGNS



R3-5L
30"x36"
1-PROPOSED

EXISTING SIGNS



R3-5L	R3-6L	R3-5a	R3-6R	R3-5R
30"x36"	30"x36"	30"x36"	30"x36"	30"x36"
3-RETAINED	1-RETAINED	3-RETAINED	2-RETAINED	2-RETAINED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2&ϕ5
R4	4	2	ϕ1&ϕ6
R5	5	3	ϕ3
R6	6	4	ϕ4

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 6 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

NOTE:

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STATE OF MAINE
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WIN 024301.00

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DESIGN-DETAILED	CMT	11\20
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REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
MAIN ST AT COMMONS DR

TRAFFIC SIGNAL PLAN

SHEET NUMBER

94A

OF 358

Filename: ...\Waterville\094A_Signal_94.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

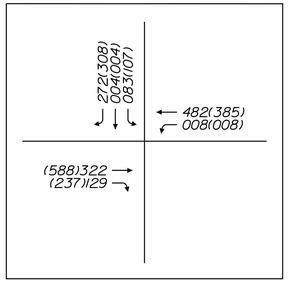
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT $^{32}/_{48}$ SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ONE-WAY, CIRCULAR LED MODULES TO BE INSTALLED INTO EXISTING SIGNAL HEADS.	18
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEAD(S), WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE(S) WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	1
FURNISH AND INSTALL MAST ARM MOUNTED SIGN	1
RESET VEHICULAR SIGNAL	1
RESET PREEMPTION PHASE SELECTOR	1
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1 RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL NEW SIGNAL CABLE	-
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 3 APPROACHES, COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 3 APPROACHES, COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

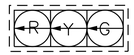
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"

SYSTEM DESIGN VOLUMES AM (PM)



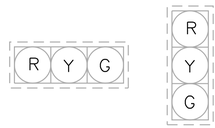
PROPOSED INDICATIONS



C1

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES

EXISTING INDICATIONS
TO REMAIN



C2 A1, A2, B1, B2, C3

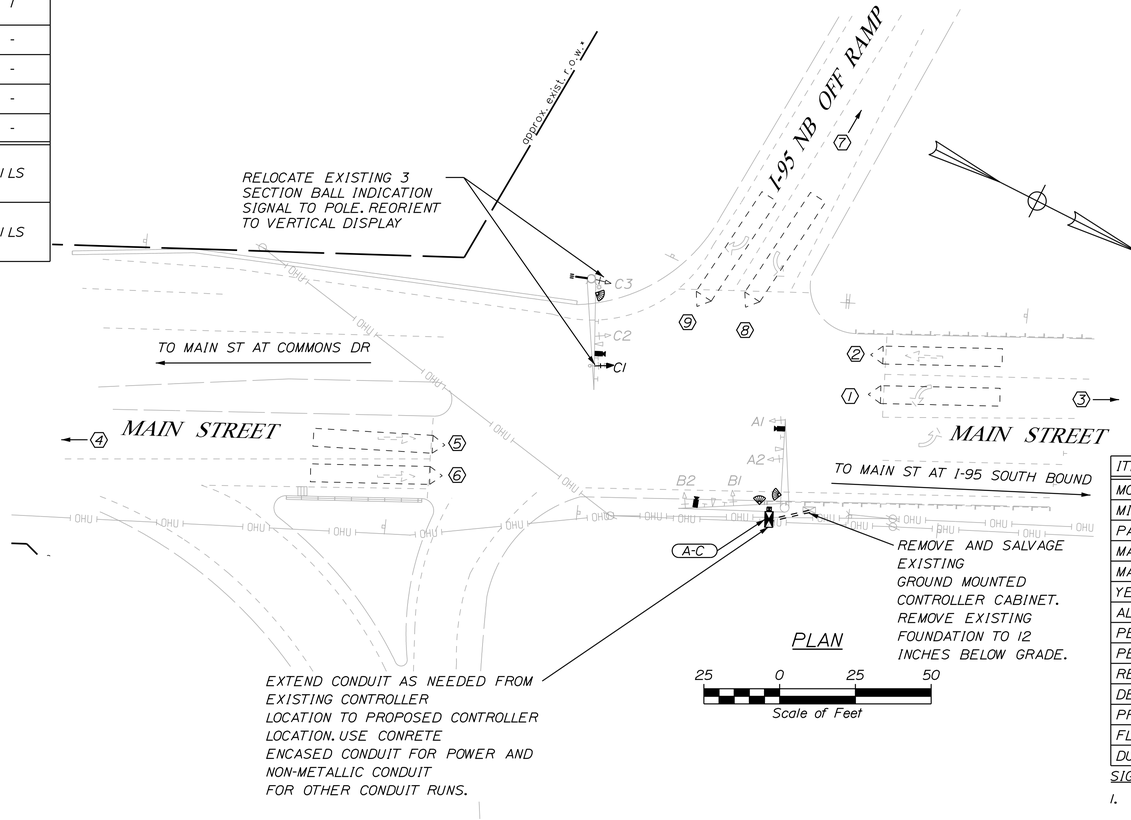
ALL EXISTING INDICATION MODULES TO BE REPLACED WITH NEW LIGHT EMITTING DIODES (LED) MODULES

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADV. B=S.BAR	DELAY TIME	EXT. TIME
①	MAIN STREET SB LEFT	1	1	B	-	-
②	MAIN STREET SB THRU	6	6	B	-	-
③*	MAIN STREET SB ADVANCE	6	6	A	-	-
④*	MAIN STREET NB ADVANCE	2	2	A	-	-
⑤	MAIN STREET NB THRU	2	2	B	-	-
⑥	MAIN STREET NB THRU	2	2	B	-	-
⑦	I-95 NB OFF RAMP ADVANCE	4	4	A	-	-
⑧	I-95 NB OFF RAMP LEFT	4	4	B	-	-
⑨	I-95 NB OFF RAMP RIGHT	4	4	B	10	-

*SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)

NOTE: LOCATION AND QUANTITY OF ADDITIONAL VEHICLE DETECTION ZONES TO BE DETERMINED BASED ON THE SPECIFIC ASCT SYSTEM REQUIREMENTS.



PLAN

25 0 25 50
Scale of Feet

SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ 1	φ 2	φ 3	φ 4	φ 5	φ 6	φ 7	φ 8
MOVEMENT	-	A	-	B	-	C	-	-
MINIMUM INITIAL	-	10.0	-	5.0	-	10.0	-	-
PASSAGE TIME	-	2.0	-	2.0	-	2.0	-	-
MAXIMUM 1	-	15.5	-	14.5	-	15.5	-	-
MAXIMUM 2	-	-	-	-	-	-	-	-
YELLOW	-	3.5	-	3.5	-	3.5	-	-
ALL RED	-	2.5	-	1.0	-	2.5	-	-
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
RECALL	-	S	-	O	-	S	-	-
DETECTOR	-	PR	-	PR	-	PR	-	-
PREEMPT PRIORITY	-	3	-	5	-	4	-	-
FLASH	-	Y	-	R	-	Y	-	-
DUAL ENTRY	-	ON	-	OFF	-	ON	-	-

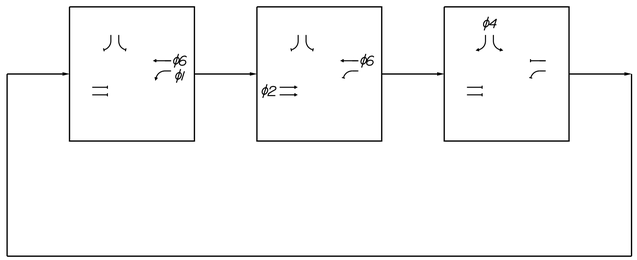
SIGNAL TIMING NOTES:

1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONCTRACT AWARD.
2. DEFINITIONS
   - S = SOFT RECALL
   - O = RECALL OFF
   - PR = PRESENCE
   - Y = YELLOW
   - R = RED
   - D = DARK

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

1 2 4
6



NOTE:

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* - RIGHT-OF-WAY REFERENCE: PIN 1-95-6(20) DOT FILE 6-87, SHEET 50 OF 54, 1958

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

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PROJ. MANAGER	B.KEEZER		
DESIGN-DETAILED	CMT	CMT	11\20
CHECKED-REVIEWED	BRL	BRL	11\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WATERVILLE
MAIN ST AT I-95 NB

TRAFFIC SIGNAL PLAN

SHEET NUMBER
95
OF 358

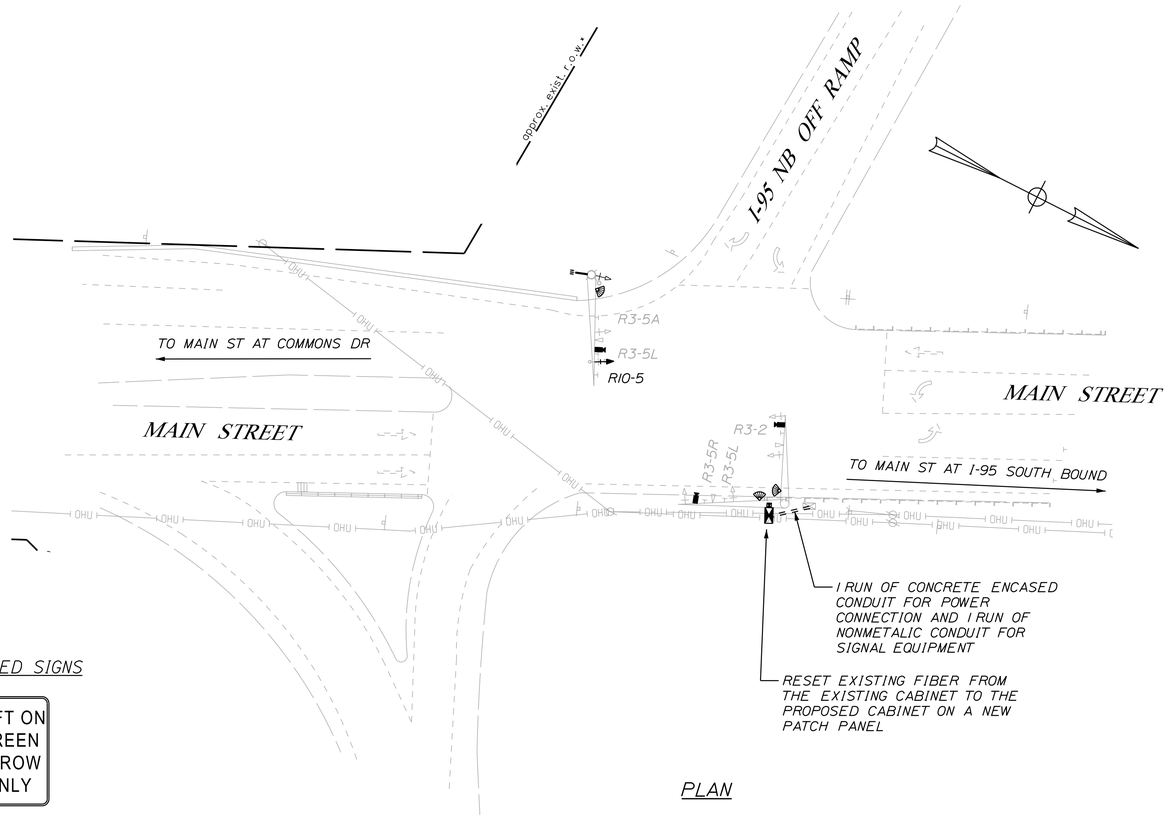
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Filename: ...\Waterville\095A_SignalL_95.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	30 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	15 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL WHITE PAVEMENT AND CURB MARKING (ITEM 627.75)	75 SF
REMOVE EXISTING PAVEMENT MARKING (ITEM 627.77)	75 SF
FURNISH AND INSTALL MAIN STREET BALANCED / CRITICAL PATHS BASED ASCT SYSTEM (ITEM 654.05)	1 LS
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PLAN

25 0 25 50

Scale of Feet

PROPOSED SIGNS



R10-5
30"x36"
1-PROPOSED

EXISTING SIGNS



R3-2
30"x30"
1-RETAINED



R3-5L
30"x36"
2-RETAINED



R3-5a
30"x36"
1-RETAINED



R3-5R
30"x36"
1-RETAINED



R10-12
30"x36"
1-REMOVED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2
R4	4	2	ϕ6
R5	5	3	ϕ4
R6	6	4	-

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.

2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 6 = LOWEST)

3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.

4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.

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DESIGN2-DETAILED2		REVISIONS 3	
DESIGN3-DETAILED3		REVISIONS 4	
		FIELD CHANGES	

BY	DATE
CMT	11\20
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WATERVILLE
MAIN ST AT I-95 NB

TRAFFIC SIGNAL PLAN

SHEET NUMBER

95A

OF 358

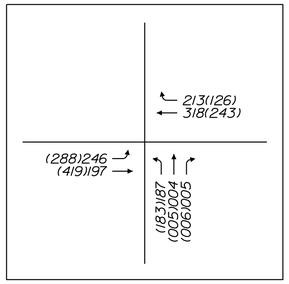
Filename: ...\Waterville\096_Signal_96.dgn Username: CThompson Date:11/19/2020 Division: HIGHWAY

LIST OF WORK ITEMS

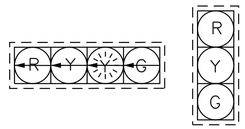
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT $^{32}/_{48}$ SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ONE-WAY, CIRCULAR LED MODULES TO BE INSTALLED INTO EXISTING SIGNAL HEADS.	15
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEAD(S), WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE(S) WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	1
FURNISH AND INSTALL ONE-WAY 4-SECTION, 12-INCH TRAFFIC SIGNAL HEAD(S), WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE(S) WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	1
FURNISH AND INSTALL MAST ARM MOUNTED SIGN	1
RESET PREEMPTION PHASE SELECTOR	1
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1 RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL NEW SIGNAL CABLE	-
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON- INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 3 APPROACHES, COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 3 APPROACHES, COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

SYSTEM DESIGN VOLUMES AM (PM)

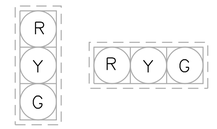


PROPOSED INDICATIONS



NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES

EXISTING INDICATIONS
TO REMAIN



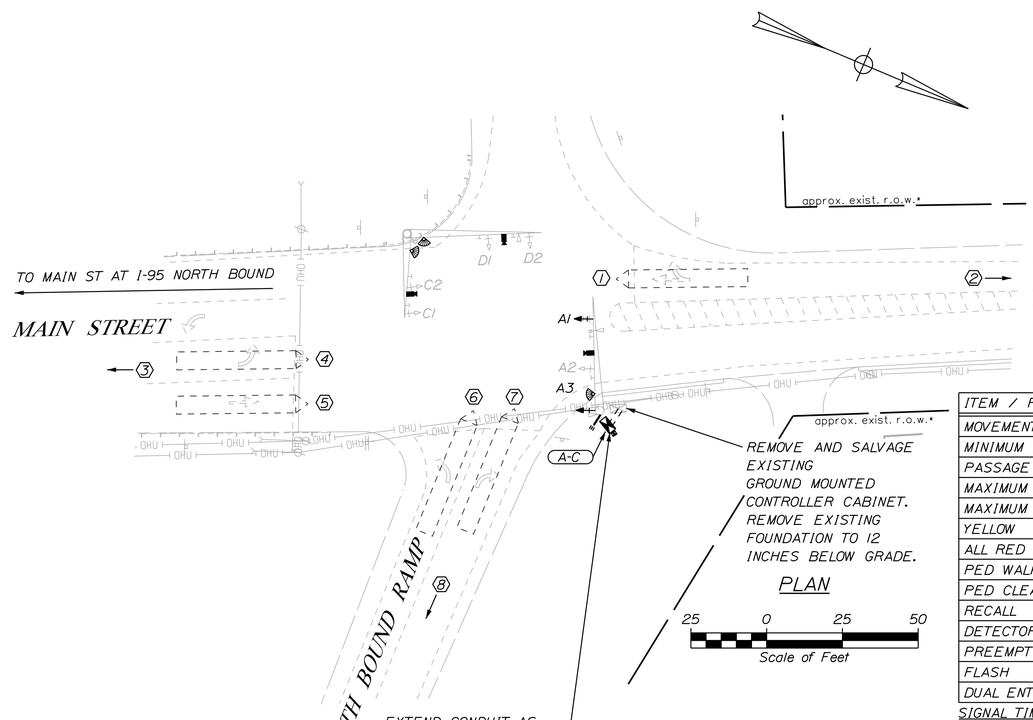
ALL EXISTING INDICATION MODULES TO BE REPLACED WITH NEW LIGHT EMITTING DIODES (LED) MODULES

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADV. B=S.BAR	DELAY TIME	EXT. TIME
①	MAIN STREET SB	6	6	B	-	-
②*	MAIN STREET SB ADVANCE	6	6	A	-	-
③*	MAIN STREET NB ADVANCE	2	2	A	-	-
④	MAIN STREET NB LEFT	5	5	B	-	-
⑤	MAIN STREET NB THRU	2	2	B	-	-
⑥	I-95 SB RAMP LEFT	3	3	B	-	-
⑦	I-95 SB RAMP RIGHT	3	3	B	10	-
⑧*	I-95 SB RAMP ADVANCE	3	3	A	-	-

*SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)

NOTE: LOCATION AND QUANTITY OF ADDITIONAL VEHICLE DETECTION ZONES TO BE DETERMINED BASED ON THE SPECIFIC ASCT SYSTEM REQUIREMENTS.



SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ1	φ2	φ3	φ4	φ5	φ6	φ7	φ8
MOVEMENT	-	A	D	-	A(LT)	C	-	-
MINIMUM INITIAL	-	10.0	5.0	-	5.0	10.0	-	-
PASSAGE TIME	-	2.0	2.0	-	2.0	2.0	-	-
MAXIMUM 1	-	22.0	8.5	-	8.0	8.0	-	-
MAXIMUM 2	-	-	-	-	-	-	-	-
YELLOW	-	3.5	3.5	-	3.5	3.5	-	-
ALL RED	-	1.5	1.0	-	1.5	1.5	-	-
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
RECALL	-	S	O	-	O	S	-	-
DETECTOR	-	PR	PR	-	PR	PR	-	-
PREEMPT PRIORITY	-	3	5	-	3	4	-	-
FLASH	-	Y	R	-	R	Y	-	-
DUAL ENTRY	-	ON	OFF	-	OFF	ON	-	-

SIGNAL TIMING NOTES:
1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONCTRACT AWARD.
2. DEFINITIONS
   S = SOFT RECALL
   O = RECALL OFF
   PR = PRESENCE
   Y = YELLOW
   R = RED
   D = DARK

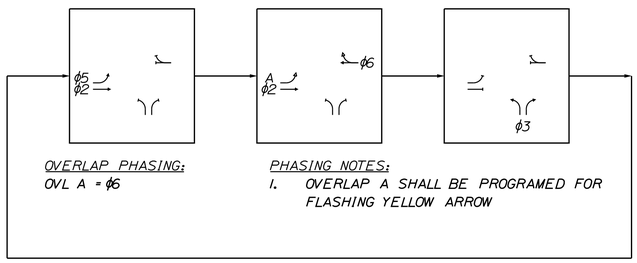
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

$\frac{2}{5}\,\frac{6}{6}\,\|\,\frac{3}{3}$



OVERLAP PHASING:
OVL A = φ6

PHASING NOTES:
1. OVERLAP A SHALL BE PROGRAMED FOR FLASHING YELLOW ARROW

NOTE:

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* - RIGHT-OF-WAY REFERENCE: PIN 1-95-6(20) DOT FILE 6-87, SHEET 50 OF 54, 1958

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

PROJ. MANAGER	B.KEEZER	BY	DATE
DESIGN-DETAILED	CMT	CMT	11\20
CHECKED-REVIEWED	BRL	BRL	11\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WATERVILLE
MAIN ST AT I-95 SB

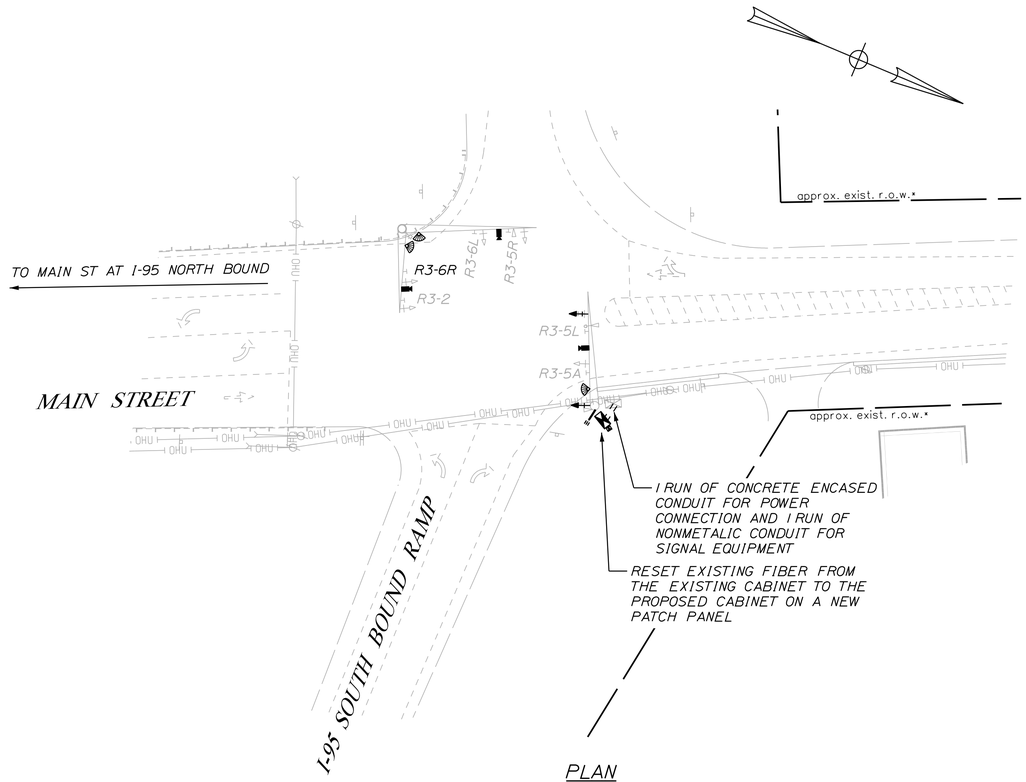
TRAFFIC SIGNAL PLAN

SHEET NUMBER
96
OF 358

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	20 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	10 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL MAIN STREET BALANCED / CRITICAL PATHS BASED ASCT SYSTEM (ITEM 654.05)	1 LS
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PLAN

25 0 25 50

Scale of Feet

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2&ϕ5
R4	4	2	ϕ6
R5	5	3	ϕ3
R6	6	4	-

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 6 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

PROPOSED SIGNS



R3-6R
30"x36"
1-PROPOSED

EXISTING SIGNS



R3-5a	R10-12	R3-2	R3-5L	R3-6L	R3-5a	R3-5R
30"x36"	30"x36"	30"x30"	30"x36"	30"x36"	30"x36"	30"x36"
1-REMOVED	1-REMOVED	1-RETAINED	1-RETAINED	1-RETAINED	1-RETAINED	1-RETAINED

NOTE:

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* - RIGHT-OF-WAY REFERENCE: PIN 1-95-6(20) DOT FILE 6-87, SHEET 50 OF 54, 1958

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
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South Portland, ME 04106
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PROJ. MANAGER	B.KEEZER	BY	DATE
DESIGN-DETAILED	CMT	CMT	11\20
CHECKED-REVIEWED	BRL	BRL	11\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WATERVILLE
MAIN ST AT I-95 SB

TRAFFIC SIGNAL PLAN

SHEET NUMBER

96A

OF 358

Filename: ...\Waterville\096A_Signol_96.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

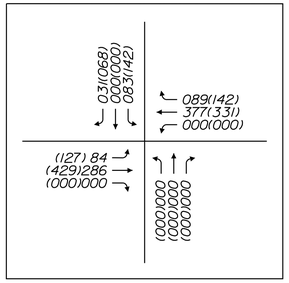
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT $^{32}/_{48}$ SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ONE-WAY, CIRCULAR LED MODULES TO BE INSTALLED INTO EXISTING SIGNAL HEADS.	24
FURNISH AND INSTALL ONE-WAY, LED MODULES TO BE INSTALLED INTO EXISTING PEDESTRIAN SIGNAL HEADS.	2
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3e INFORMATIONAL SIGN	2
FURNISH AND INSTALL SPAN WIRE MOUNTED SIGN	1
RESET PREEMPTION PHASE SELECTOR	1
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1 RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL NEW SIGNAL CABLE	-
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES. COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 2 APPROACHES. COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

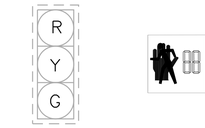
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"
C-P1	8' PEDESTAL POLE	24" DIAMETER

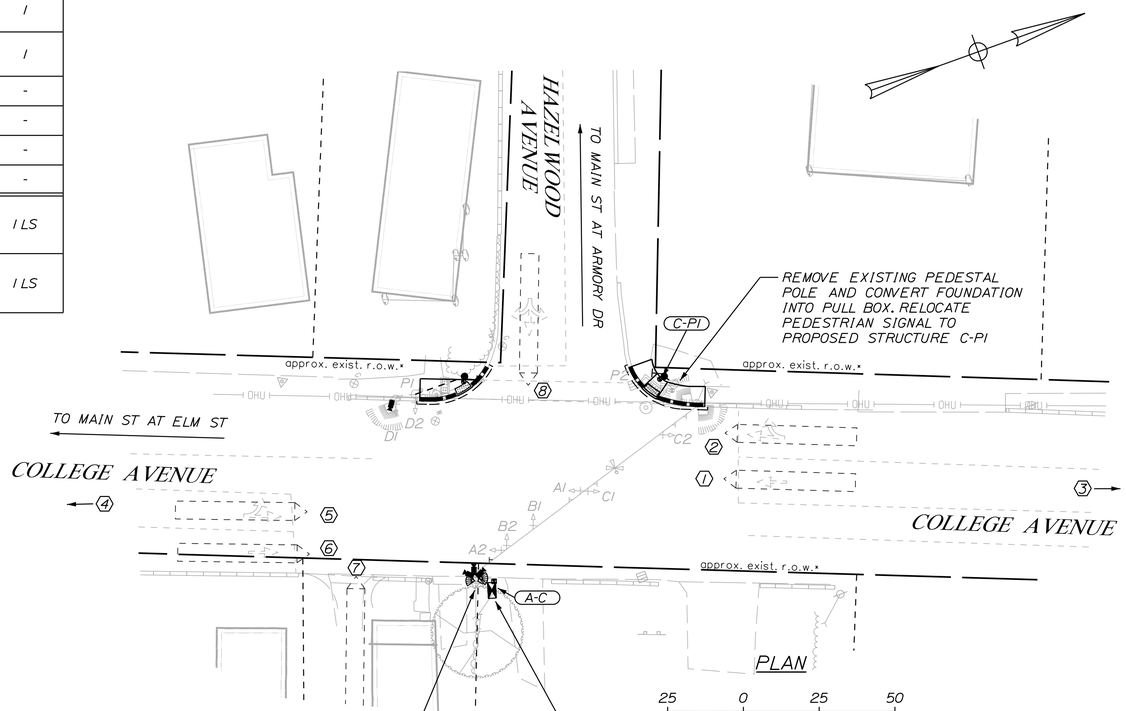
SYSTEM DESIGN VOLUMES AM (PM)



EXISTING INDICATIONS
TO REMAIN



ALL EXISTING INDICATION MODULES TO BE REPLACED WITH NEW LIGHT EMITTING DIODES (LED) MODULES



DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADV. B=S.BAR	DELAY TIME	EXT. TIME
1	COLLEGE AVENUE SB THRU	6	6	B	-	-
2	COLLEGE AVENUE SB THRU/RIGHT	6	6	B	-	-
3*	COLLEGE AVENUE SB ADVANCE	6	6	A	-	-
4*	COLLEGE AVENUE NB ADVANCE	2	2	A	-	-
5	COLLEGE AVENUE NB LEFT/THRU	2	2	B	-	-
6	COLLEGE AVENUE NB THRU	2	2	B	-	-
7	PRIVATE DRIVE	3	3	B	-	-
8	HAZELWOOD AVENUE	4	4	B	-	-

*SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)

SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ1	φ2	φ3	φ4	φ5	φ6	φ7	φ8
MOVEMENT	-	A	D	B	-	C	-	-
MINIMUM INITIAL	-	10.0	5.0	5.0	-	10.0	-	-
PASSAGE TIME	-	3.0	1.0	2.0	-	3.0	-	-
MAXIMUM 1	-	50.0	10.0	23.5	-	50.0	-	-
MAXIMUM 2	-	-	-	-	-	-	-	-
YELLOW	-	3.5	3.0	3.0	-	3.5	-	-
ALL RED	-	2.0	3.0	3.0	-	2.0	-	-
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
RECALL	-	S	0	0	-	S	-	-
DETECTOR	-	PR	PR	PR	-	PR	-	-
PREEMPT PRIORITY	-	3	-	5	-	4	-	-
FLASH	-	Y	R	R	-	Y	-	-
DUAL ENTRY	-	ON	OFF	OFF	-	ON	-	-

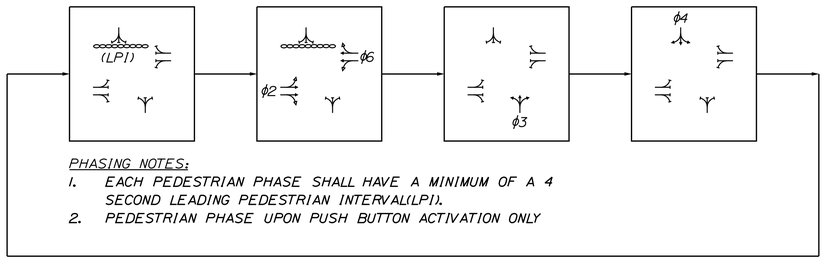
SIGNAL TIMING NOTES:

1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONCTRACT AWARD.
2. DEFINITIONS
   - S = SOFT RECALL
   - O = RECALL OFF
   - PR = PRESENCE
   - Y = YELLOW
   - R = RED
   - D = DARK

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

$\frac{2}{6} \| \frac{3}{} \frac{4}{}$



PHASING NOTES:

1. EACH PEDESTRIAN PHASE SHALL HAVE A MINIMUM OF A 4 SECOND LEADING PEDESTRIAN INTERVAL(LPI).
2. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY

NOTE:
RIGHT-OF-WAY SHOWN ON THIS PLAN IS APPROXIMATE AND ACQUISTIONS (POST BID AND BY OTHERS) MAY BE REQUIRED TO COMPLETE THE WORK.

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN FOR THE NORTH WEST AND SOUTH WEST CORNERS WAS RECEIVED ON 04-06-20 FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 24301.00.

THE REMAINING TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN IS AN APPROXIMATE REPRESENTATION OF EXISTING CONDITIONS BASED ON INFORMATION FROM VARIOUS SOURCES, INCLUDING: GEO-LOCATED AERIAL IMAGERY, LIDAR DERIVED CONTOURS, AVAILABLE PROPERTY MAP INFORMATION, AND SCANNED RIGHT-OF-WAY INFORMATION FROM THE SOURCE LISTED BELOW FITTED TO THE OTHER SOURCES. THE INFORMATION WITHIN THIS PLAN IS NOT SUPPORTED BY FIELD SURVEY.

* - RIGHT-OF-WAY REFERENCE: PIN M-7203(3) DOT FILE 6-243, SHEET 1 OF 1, 1982

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
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South Portland, ME 04106
Tel. 207-200-2100

	BY	DATE
PROJ. MANAGER	B.KEEZER	
DESIGN-DETAILED	CMT	11\20
CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WATERVILLE
COLLEGE AVE AT HAZELWOOD AVE

TRAFFIC SIGNAL PLAN

SHEET NUMBER

97

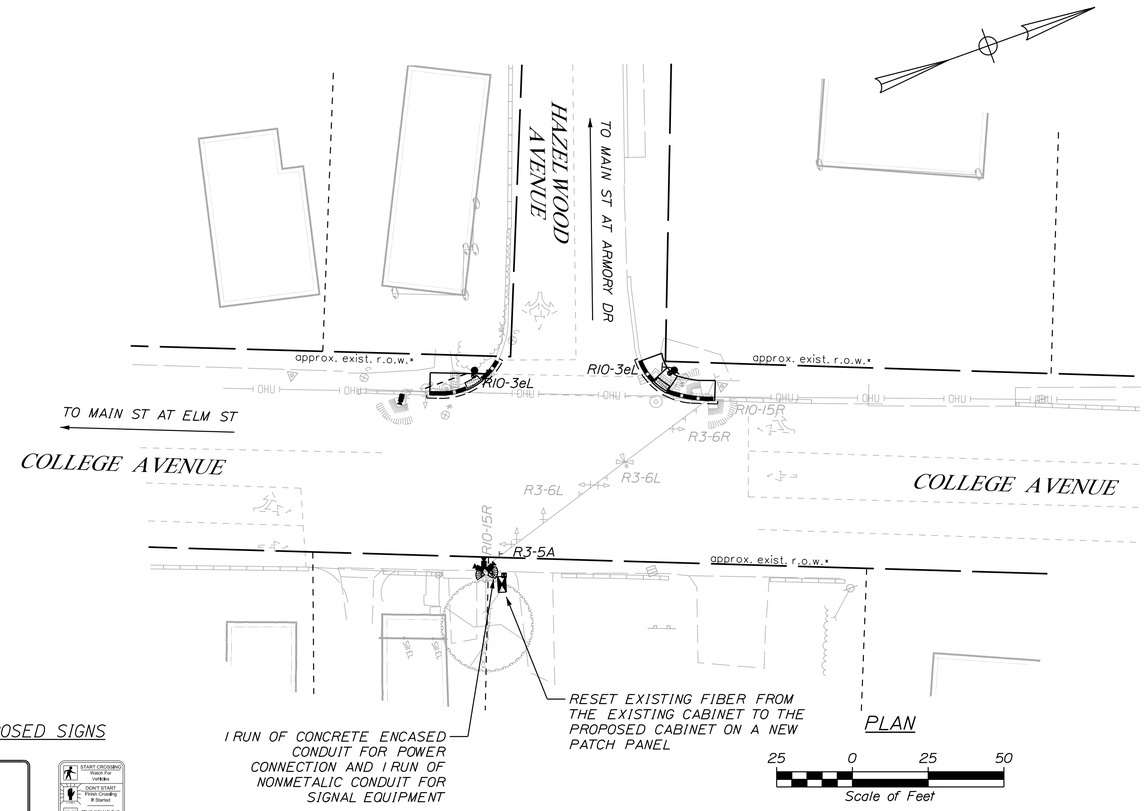
OF 358

Filename: ...\Waterville\097_Signal_97.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	20 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	10 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL 24-INCH DIAMETER FOUNDATION (ITEM 626.421)	7 LF
FURNISH AND INSTALL 8-FOOT PEDESTAL POLE (ITEM 643.92)	1 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PROPOSED SIGNS



R3-5a
30"x36"
1-PROPOSED

R10-3eL
9"x15"
2-PROPOSED

EXISTING SIGNS



R3-6L
30"x36"
2-RETAINED

R3-6R
30"x36"
1-RETAINED

R10-15R
30"x30"
2-RETAINED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2
R4	4	2	ϕ6
R5	5	3	ϕ4
R6	6	4	-

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.

2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 6 = LOWEST)

3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.

4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.

5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

NOTE:

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STATE OF MAINE
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WIN 024301.00

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PROJ. MANAGER	BKEEZER		
DESIGN-DETAILED	CMT	BY	DATE
CHECKED-REVIEWED	BRL	CMT	11\20
DESIGN2-DETAILED2		BRL	11\20
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WATERVILLE
COLLEGE AVE AT HAZELWOOD AVE

TRAFFIC SIGNAL PLAN

SHEET NUMBER

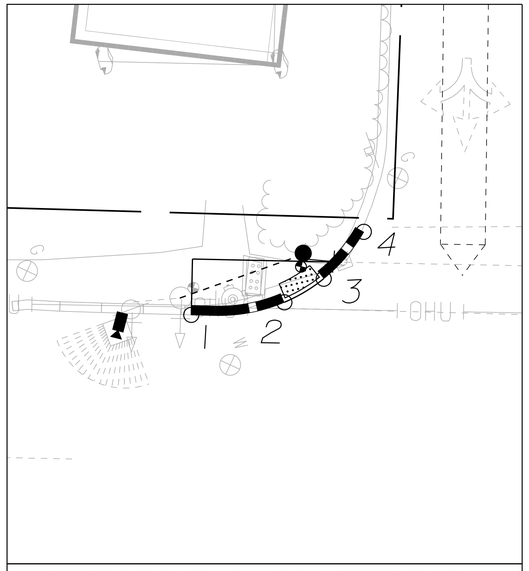
97A

OF 358

Filename: ...\Waterville\097A_Signal_97.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

Filename: ...\Waterville\097C_Signal_97.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

B CORNER - SW DETAIL

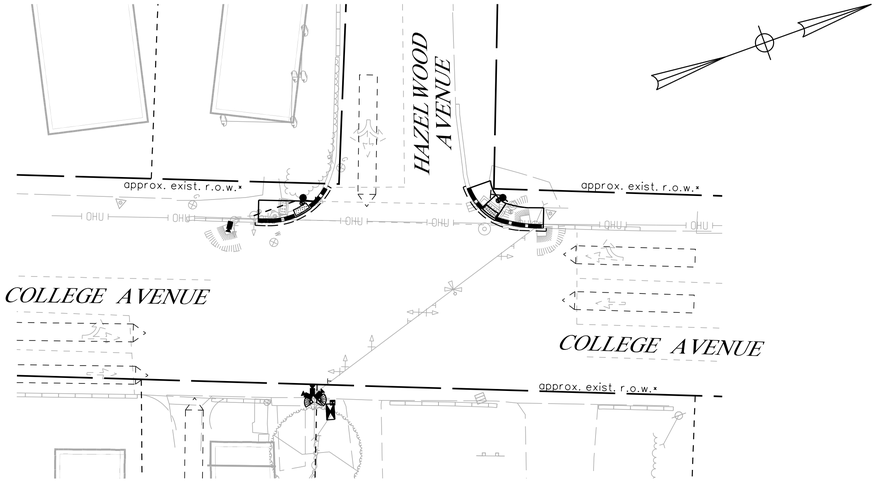


RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(22).

10 0 10 20
Scale of Feet

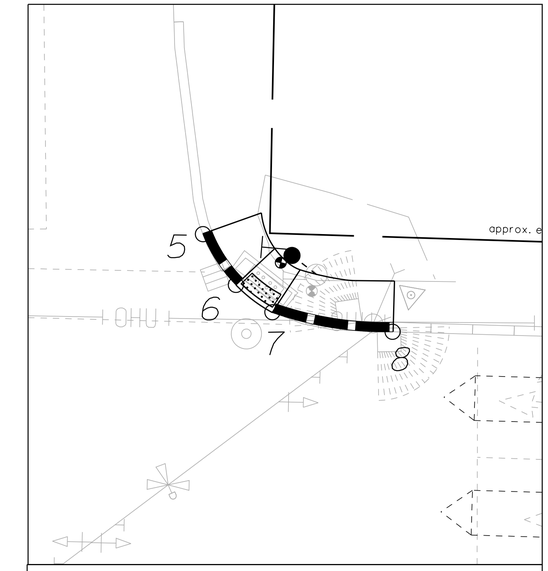
PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD (SF)		ITEM 609.222 - TERMINAL CURB TYPE 1 - CIRCULAR (LF)	COMMENT
		LENGTH (FT)	QTY (SF)		
1 TO 2	22.00			12.5	
2 TO 3	22.00	6.0	10.0		
3 TO 4	22.00			8.0	
5 TO 6	20.00			8.0	
* 6 TO 7	20.00	6.0	10.0		7.8% CROSS SLOPE
* 7 TO 8	45.00			15.0	9.8% RUNNING SLOPE

* NON-COMPLIANT CURB RAMP ELEMENT - THE SLOPE NOTED IN THE COMMENT IS THE MAXIMUM VALUE FOR PROPOSED LEVEL OF COMPLIANCE.



ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED, AS WELL AS DETAILS PROVIDED ON SHEET H.

C CORNER - NW DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

10 0 10 20
Scale of Feet

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
REGRADING SIDEWALK (ITEM 608.46)	32 SY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	2.3 TONS
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	32 SY

EQUIPMENT AND WORK ITEMS	QUANTITY
TERMINAL CURB TYPE 1 - CIRCULAR (ITEM 609.222)	43.5 LF
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	20 SF

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

PLAN

25 0 25 50
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

			DATE
PROJ. MANAGER	B.KEEZER	BY	
DESIGN-DETAILED	NLS	NLS	11\20
CHECKED-REVIEWED	BRL	BRL	11\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WATERVILLE
COLLEGE AVE AT HAZELWOOD AVE

CURB RAMP LAYOUT AND DETAIL PLAN

SHEET NUMBER

97C

OF 358

PLAN LEGEND

Town, County, State	New R/W Along Existing R/W	Sanitary Sewer	Traveled Way	Cut Line C—C—C	Fill Line F—F—F
Approx. Property Lines P.L.	Building / Clearing Limit Line	Telephone Line	Ditch	Stonewall	Retaining Wall
Existing Right of Way	Trees Conifer / Deciduous	Electric Line	Catch Basin	Baseline 10+00 11+00 12+00	
Limits of Wrought Portion L.O.W.P.	Tree Line / Bush Line	Water Line	Manhole	Monument	Traverse Point
Control Of Access C.O.A.	Water Edge	Underdrain Line	Sewer Manhole	Iron Rod Found ● IRF	Pipe Found ● IPF
New Right of Way	Ledge / Rock/Boulder / Flag Pole	Gas Line	Utility Pole	Replacement Pin Set	
New Easement	Fence CHAIN LINK / BARB WIRE / STOCKADE	Guardrail	Fire Hydrant		
New Temporary Rights	Sign / Well / Mailbox	Culvert	Curbing		
New R/W Within Existing R/W					

(Existing / Proposed)

THIS PLAN WAS PREPARED IN CONNECTION WITH THE DEPARTMENT'S ACQUISITION OF REAL PROPERTY FOR TRANSPORTATION PURPOSES. IT CANNOT BE USED TO ESTABLISH LEGAL BOUNDARIES BETWEEN ABUTTING PROPERTY OWNERS.

25 0 25 50 75 100
Scale of Feet

STATE OF MAINE
REGISTRY OF DEEDS

COUNTY _____
RECEIVED _____, _____
at _____h_____m_____M and
recorded in Plan Bk _____, Pg._____
Attest: _____
REGISTER

GRID
MAINE 2000 WEST ZONE

NOTE:
THE NORTH ARROW AND BASELINE COORDINATES SHOWN ARE BASED ON GRID NORTH, MAINE 2000 WEST ZONE. HOWEVER, THE BASELINE BEARING IS TAKEN FROM THE D.O.T. FILE NO. REFERENCED, AND MAY BE BASED ON MAGNETIC NORTH.

GREG AUCOIN

HAZELWOOD STREET

MPN, LLC
ITEM NO. (36)
CONST. & MAINT. EASE. = 158± S.F. (1)
TOTAL AREA = 0.4± AC. (CITY)

CONSTRUCTION & MAINTENANCE EASEMENT LIMITS

158± S.F.

N:632758.273
E:1180059.857

N:633039.709
E:1180172.358

TO MAIN STREET

NOTE:
BASE LINE ESTABLISHED UNDER S.H.C. FILE NO. 6-78

STATE HIGHWAY "33" / COLLEGE AVENUE / ROUTE 11 / U.S. ROUTE 201

55'

50 BEGIN B.L. N:632613.532 E:1180046.328
N34°40'E 300.00'
51 +38 +42± +50
52 +91± +18
53 END B.L. N:632892.835 E:1180155.827

37' 37'

TO FAIRFIELD

SEAVEY STREET

SIGNAL SYSTEM EASEMENT LIMITS

BHP 5, LLC
ITEM NO. (37)
SIGNAL SYS. EASE. = 24± S.F. (1)
TOTAL AREA = 0.18± AC. (CITY)

DOUGLAS DIXON
REBECCA DIXON
ITEM NO. (38)
SIGNAL SYS. EASE. = 84± S.F. (1)
TOTAL AREA = 0.44± AC. (CITY)

STURTEVANT STREET

R/W REF.

COLLEGE AVENUE
D.O.T. FILE NO. 6-243
(SEE ALSO 6-78)

WIN 024301.00

PRELIMINARY PLAN

ITEM	TECH	CHECKED
EXISTING CONDITION PLAN	B.S.	
FINAL RIGHT OF WAY	B.S.	
AREAS	B.S.	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION - AUGUSTA, ME 04333-0016 - 207-624-3460
WATERVILLE
RIGHT OF WAY MAP

REVISIONS			
NO.	DATE	DESCRIPTION	BY

PLAN FILED IN PLAN BOOK PAGE COUNTY RECORD					
NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE

BRUCE A. VAN NOTE
COMMISSIONER
JOYCE NOEL TAYLOR
CHIEF ENGINEER
DATE

STATE HIGHWAY "33"
COLLEGE AVENUE AT HAZELWOOD STREET
WATERVILLE KENNEBEC COUNTY
FEDERAL AID PROJECT NO. 2430100

NOVEMBER 2020 | RIGHT-OF-WAY MAP | D.O.T. FILE NO. 6-TBD
SCALE 1" = 25' | SHEET 2 OF 2

SHEET NUMBER
97R
OF 358

Filename: ...\ROW\MSTA\097_RWPLAN2.dgn Division: ROW Username: Benjamin.Singer Date:11/19/2020

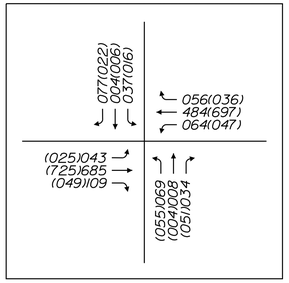
Filename: ...\Waterville\098_Signal_98.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

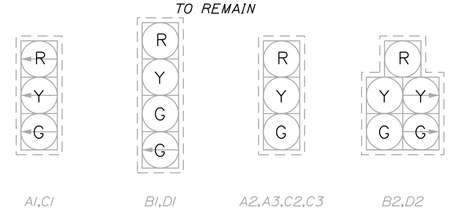
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ONE-WAY, CIRCULAR LED MODULES TO BE INSTALLED INTO EXISTING SIGNAL HEADS.	36
RESET PREEMPTION PHASE SELECTOR	1
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1 RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL NEW SIGNAL CABLE	-
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON- INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES. COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 2 APPROACHES. COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

SYSTEM DESIGN VOLUMES AM (PM)



EXISTING INDICATIONS TO REMAIN



ALL EXISTING INDICATION MODULES TO BE REPLACED WITH NEW LIGHT EMITTING DIODES (LED) MODULES

DETECTOR SCHEDULE

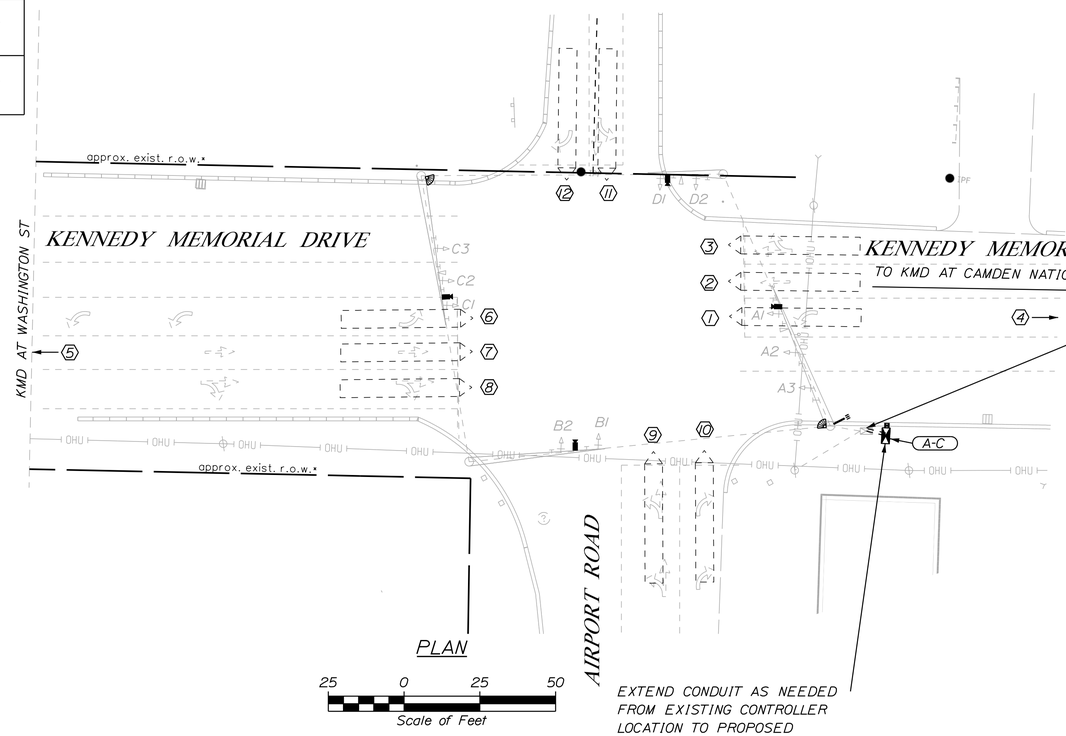
DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADV. B=S.BAR	DELAY TIME	EXT. TIME
①	KMD WB LEFT	1	1	B	-	-
②	KMD WB THRU	6	6	B	-	-
③	KMD WB THRU/RIGHT	6	6	B	-	-
④*	KMD WB ADVANCE	6	6	A	-	-
⑤*	KMD EB ADVANCE	2	2	A	-	-
⑥	KMD EB LEFT	5	5	B	-	-
⑦	KMD EB THRU	2	2	B	-	-
⑧	KMD EB THRU/RIGHT	2	2	B	-	-
⑨	AIRPORT ROAD LEFT/THRU	3	3	B	-	-
⑩	AIRPORT ROAD RIGHT	3	3	B	10	-
⑪	COMMERCIAL ENTRANCE LEFT/THRU	4	4	B	-	-
⑫	COMMERCIAL ENTRANCE RIGHT	4	4	B	10	-

*SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)

NOTE: LOCATION AND QUANTITY OF ADDITIONAL VEHICLE DETECTION ZONES TO BE DETERMINED BASED ON THE SPECIFIC ASCT SYSTEM REQUIREMENTS.

STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"



PLAN

25 0 25 50
Scale of Feet

REMOVE AND SALVAGE EXISTING GROUND MOUNTED CONTROLLER CABINET. REMOVE EXISTING FOUNDATION TO 12 INCHES BELOW GRADE.

EXTEND CONDUIT AS NEEDED FROM EXISTING CONTROLLER LOCATION TO PROPOSED CONTROLLER LOCATION. USE CONRETE ENCASED CONDUIT FOR POWER AND NON-METALLIC CONDUIT FOR OTHER CONDUIT RUNS.

SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ 1	φ 2	φ 3	φ 4	φ 5	φ 6	φ 7	φ 8
MOVEMENT	C(LT)	A	D	B	A(LT)	C	-	-
MINIMUM INITIAL	5.0	10.0	5.0	5.0	5.0	10.0	-	-
PASSAGE TIME	2.0	4.0	2.0	2.0	2.0	4.0	-	-
MAXIMUM 1	14.5	37.5	10.5	11.5	11.5	40.5	-	-
MAXIMUM 2	-	-	-	-	-	-	-	-
YELLOW	3.5	3.5	3.5	3.5	3.5	3.5	-	-
ALL RED	1.0	1.5	1.0	1.0	1.0	1.5	-	-
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
RECALL	O	S	O	O	O	S	-	-
DETECTOR	PR	PR	PR	PR	PR	PR	-	-
PREEMPT PRIORITY	4	3	5	6	3	4	-	-
FLASH	R	Y	R	R	R	Y	-	-
DUAL ENTRY	OFF	ON	OFF	OFF	OFF	ON	-	-

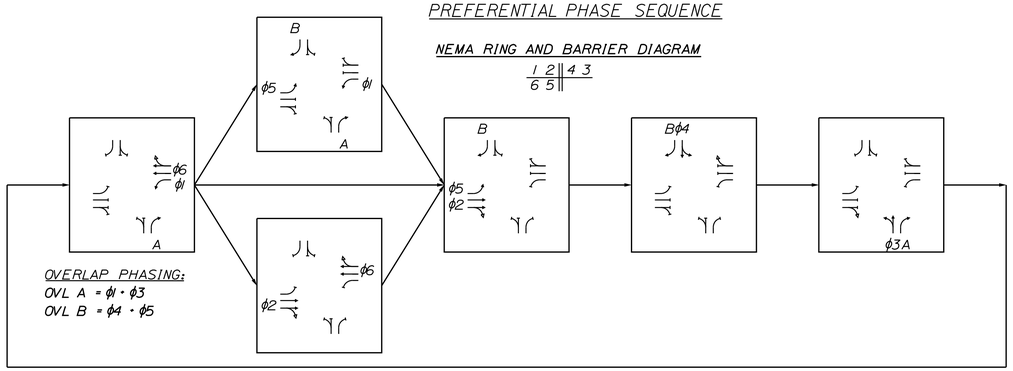
SIGNAL TIMING NOTES:

1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONCTRACT AWARD.
2. DEFINITIONS
   - S = SOFT RECALL
   - O = RECALL OFF
   - PR = PRESENCE
   - Y = YELLOW
   - R = RED
   - D = DARK

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

1 2 | 4 3
6 5 |



NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN IS AN APPROXIMATE REPRESENTATION OF EXISTING CONDITIONS BASED ON INFORMATION FROM VARIOUS SOURCES, INCLUDING: GEO-LOCATED AERIAL IMAGERY, LIDAR DERIVED CONTOURS, AVAILABLE PROPERTY MAP INFORMATION, AND SCANNED RIGHT-OF-WAY INFORMATION FROM THE SOURCE LISTED BELOW FITTED TO THE OTHER SOURCES. THE INFORMATION WITHIN THIS PLAN IS NOT SUPPORTED BY FIELD SURVEY.

* - RIGHT-OF-WAY REFERENCE: PIN HES-STP-031P(15) DOT FILE 6-337, SHEET 4 OF 4, 1993

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

PROJ. MANAGER	B.KEEZER	BY	DATE
DESIGN-DETAILED	CMT	CMT	11\20
CHECKED-REVIEWED	BRL	BRL	11\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WATERVILLE
KMD AT AIRPORT RD

TRAFFIC SIGNAL PLAN

SHEET NUMBER

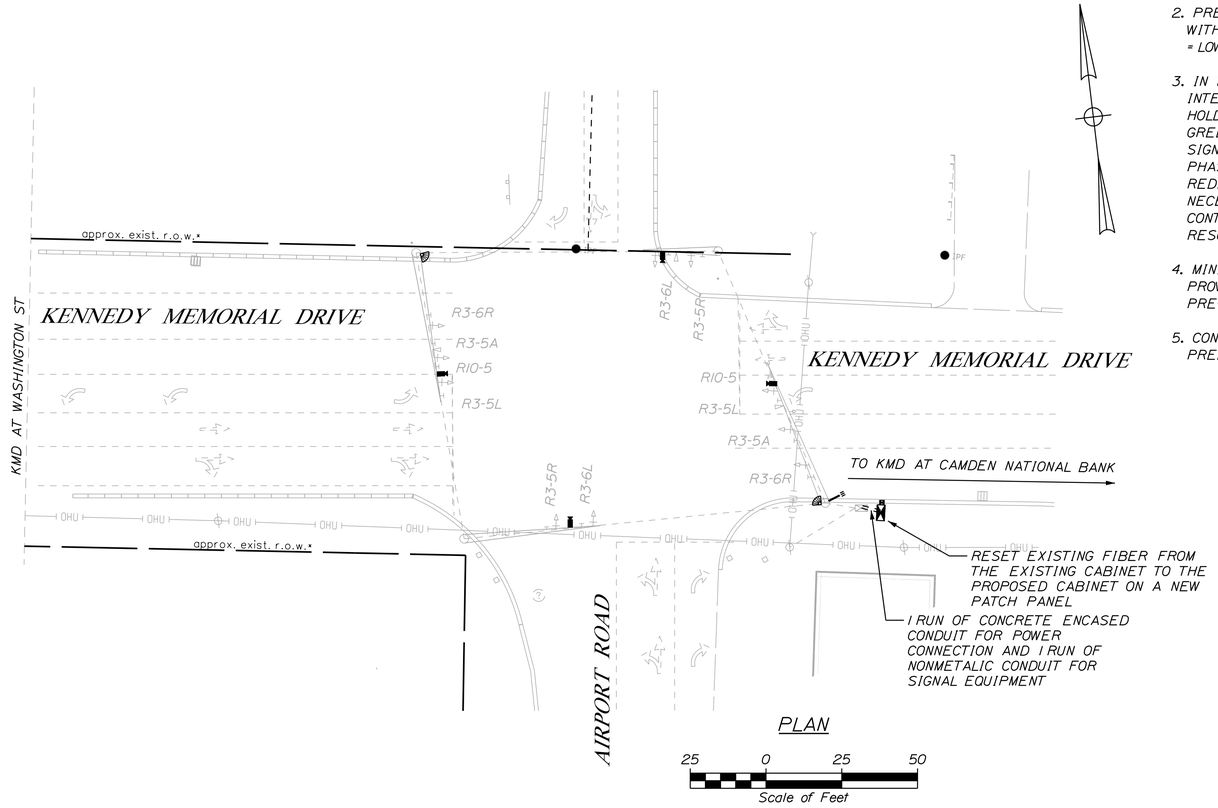
98

OF 358

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	20 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	10 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL MAIN STREET BALANCED / CRITICAL PATHS BASED ASCT SYSTEM (ITEM 654.05)	1 LS
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PLAN

25 0 25 50

Scale of Feet

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2&ϕ5
R4	4	2	ϕ1&ϕ6
R5	5	3	ϕ3
R6	6	4	ϕ4

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 6 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

EXISTING SIGNS



R10-5 30"x36" 2-RETAINED | R3-5L 30"x36" 2-RETAINED | R3-6L 30"x36" 2-RETAINED | R3-5a 30"x36" 2-RETAINED | R3-6R 30"x36" 2-RETAINED | R3-5R 30"x36" 2-RETAINED

NOTE:

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* - RIGHT-OF-WAY REFERENCE: PIN HES-STP-031P(15) DOT FILE 6-337, SHEET 4 OF 4, 1993

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

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75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
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PROJ. MANAGER	B.KEEZER		
DESIGN-DETAILED	CMT	REVISIONS 1	
CHECKED-REVIEWED	BRL	REVISIONS 2	
DESIGN2-DETAILED2		REVISIONS 3	
DESIGN3-DETAILED3		REVISIONS 4	
		FIELD CHANGES	

BY	DATE
CMT	11\20
BRL	11\20

WATERVILLE
KMD AT AIRPORT RD

TRAFFIC SIGNAL PLAN

SHEET NUMBER

98A

OF 358

Filename: ...\Waterville\098A_Signal_98.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

Filename: ...\MSTA\Winslow\099_Signal_99.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

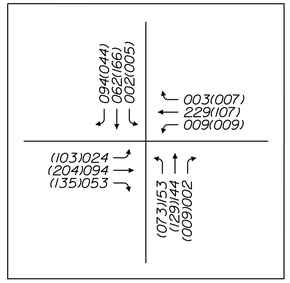
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT $^{32}/_{48}$ SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEAD(S), WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE(S) WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	4
RESET VEHICULAR SIGNAL	4
RESET PREEMPTION PHASE SELECTOR	1
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1 RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL NEW SIGNAL CABLE	-
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

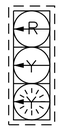
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"

SYSTEM DESIGN VOLUMES AM (PM)



PROPOSED INDICATIONS



A1,B1,C1,D1

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES

EXISTING INDICATIONS
TO REMAIN

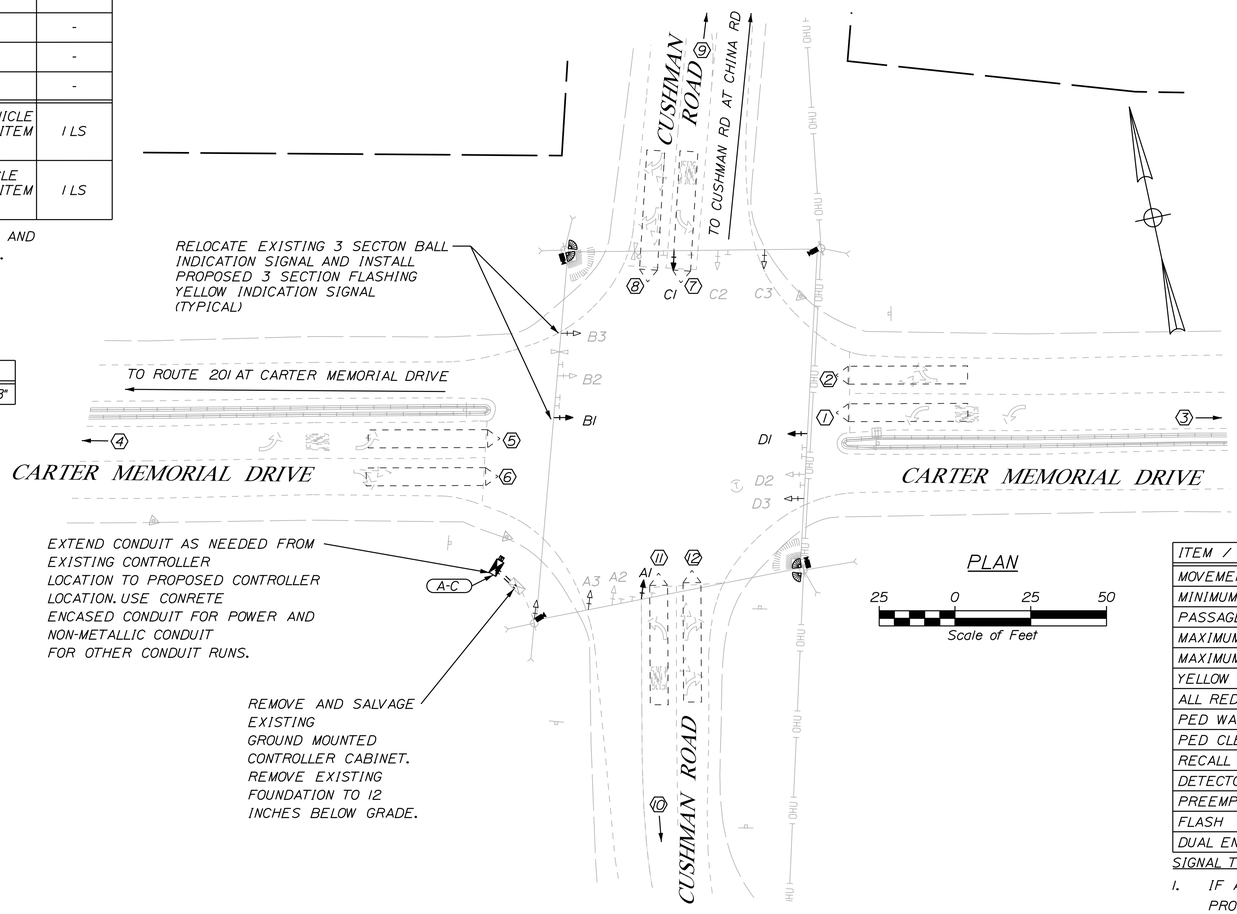


A2,A3,B2,B3, C2,C3,D2,D3

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	ϕ CALLED	ϕ EXT.	MODE A=ADV, B=S.BAR	DELAY TIME	EXT. TIME
①	CARTER MEM DR WB LEFT	6	6	B	-	-
②	CARTER MEM DR WB THRU/RIGHT	6	6	B	-	-
③***	CARTER MEM DR WB ADVANCE	6	6	A	-	-
④**	CARTER MEM DR EB ADVANCE	2	2	A	-	-
⑤	CARTER MEM DR EB LEFT	2	2	B	-	-
⑥	CARTER MEM DR EB THRU/RIGHT	2	2	B	-	-
⑦	CUSHMANN ROAD SB LEFT	8	8	B	-	-
⑧	CUSHMAN ROAD SB THRU/RIGHT	8	8	B	-	-
⑨*	CUSHMAN ROAD SB ADVANCE	8	8	A	-	-
⑩*	CUSHMAN ROAD NB ADVANCE	4	4	A	-	-
⑪	CUSHMAN ROAD NB LEFT	4	4	B	-	-
⑫	CUSHMAN ROAD NB THRU/RIGHT	4	4	B	-	-

*SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)
**SEE ADVANCED DILEMMA ZONE DETAIL (45 MPH)
***SEE ADVANCED DILEMMA ZONE DETAIL (50 MPH)



PLAN

25 0 25 50
Scale of Feet

SIGNAL TIMING SCHEDULE

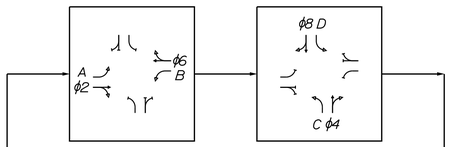
ITEM / PHASE	ϕ 1	ϕ 2	ϕ 3	ϕ 4	ϕ 5	ϕ 6	ϕ 7	ϕ 8
MOVEMENT	-	D	-	C	-	B	-	A
MINIMUM INITIAL	-	10.0	-	5.0	-	10.0	-	5.0
PASSAGE TIME	-	3.0	-	3.0	-	3.0	-	3.0
MAXIMUM 1	-	17.0	-	20.0	-	17.0	-	20.0
MAXIMUM 2	-	-	-	-	-	-	-	-
YELLOW	-	5.0	-	3.5	-	5.0	-	3.5
ALL RED	-	1.0	-	1.5	-	1.0	-	1.5
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
RECALL	-	S	-	O	-	S	-	O
DETECTOR	-	PR	-	PR	-	PR	-	PR
PREEMPT PRIORITY	-	3	-	5	-	4	-	6
FLASH	-	Y	-	R	-	Y	-	R
DUAL ENTRY	-	ON	-	ON	-	ON	-	ON

SIGNAL TIMING NOTES:
1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONCTRACT AWARD.
2. DEFINITIONS
   S = SOFT RECALL
   O = RECALL OFF
   PR = PRESENCE
   Y = YELLOW
   R = RED
   D = DARK

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

$\frac{2}{6} \| \frac{4}{8}$



OVERLAP PHASING:
OVL A = ϕ6
OVL B = ϕ2
OVL C = ϕ8
OVL D = ϕ4

PHASING NOTES:
1. OVERLAPS A, B, C, AND D SHALL BE PROGRAMED FOR FLASHING YELLOW ARROW

NOTE:

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

PROJ. MANAGER	B.KEEZER		
DESIGN-DETAILED	CMT	BY	DATE
CHECKED-REVIEWED	BRL	CMT	11\20
DESIGN2-DETAILED2		BRL	11\20
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WINSLOW
CARTER MEM DR AT CUSHMAN RD

TRAFFIC SIGNAL PLAN

SHEET NUMBER
99
OF 358

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	20 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	10 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

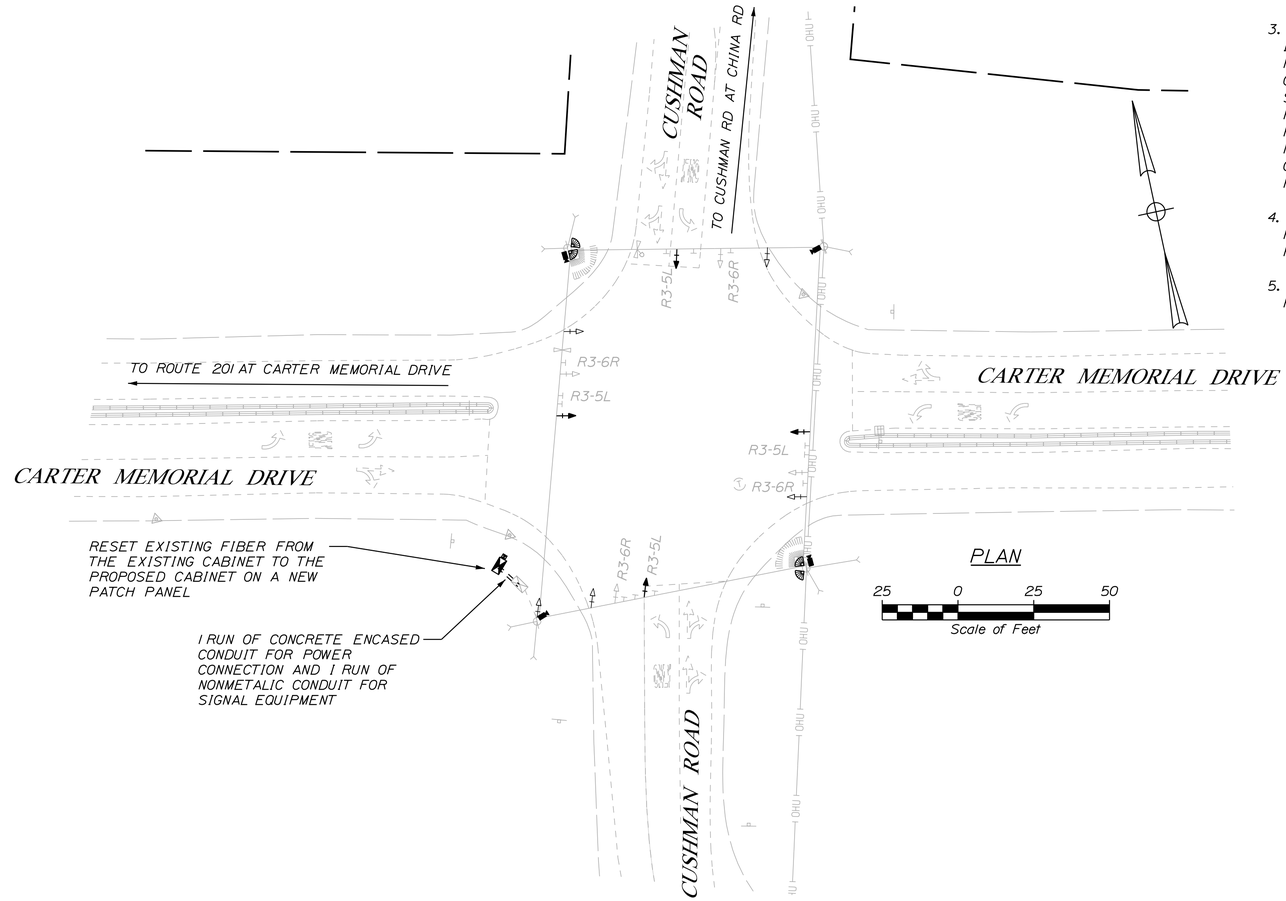
THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2
R4	4	2	ϕ6
R5	5	3	ϕ4
R6	6	4	ϕ8

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 6 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.



EXISTING SIGNS



R3-5L 30"x36" 4-RETAINED | R3-6R 30"x36" 4-RETAINED | R10-12 30"x36" 4-REMOVED

NOTE:

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STATE OF MAINE
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PROJECT NO. 2430100

WIN 024301.00

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PROJ. MANAGER	B.KEEZER		
DESIGN-DETAILED	CMT	11\20	
CHECKED-REVIEWED	BRL	11\20	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WINSLOW
CARTER MEM DR AT CUSHMAN RD

TRAFFIC SIGNAL PLAN

SHEET NUMBER

99A

OF 358

Filename: ...\Winslow\099A_Signal_99.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

Filename: ...\Winslow\100_Signal_100.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

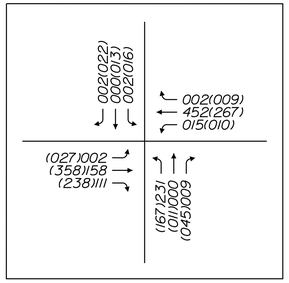
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT $^{32}/_{48}$ SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3e INFORMATIONAL SIGN	2
RESET PEDESTRIAN SIGNAL	1
RESET PREEMPTION PHASE SELECTOR	1
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL NEW SIGNAL CABLE	-
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.21)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

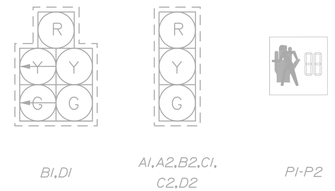
STRUCTURE LIST

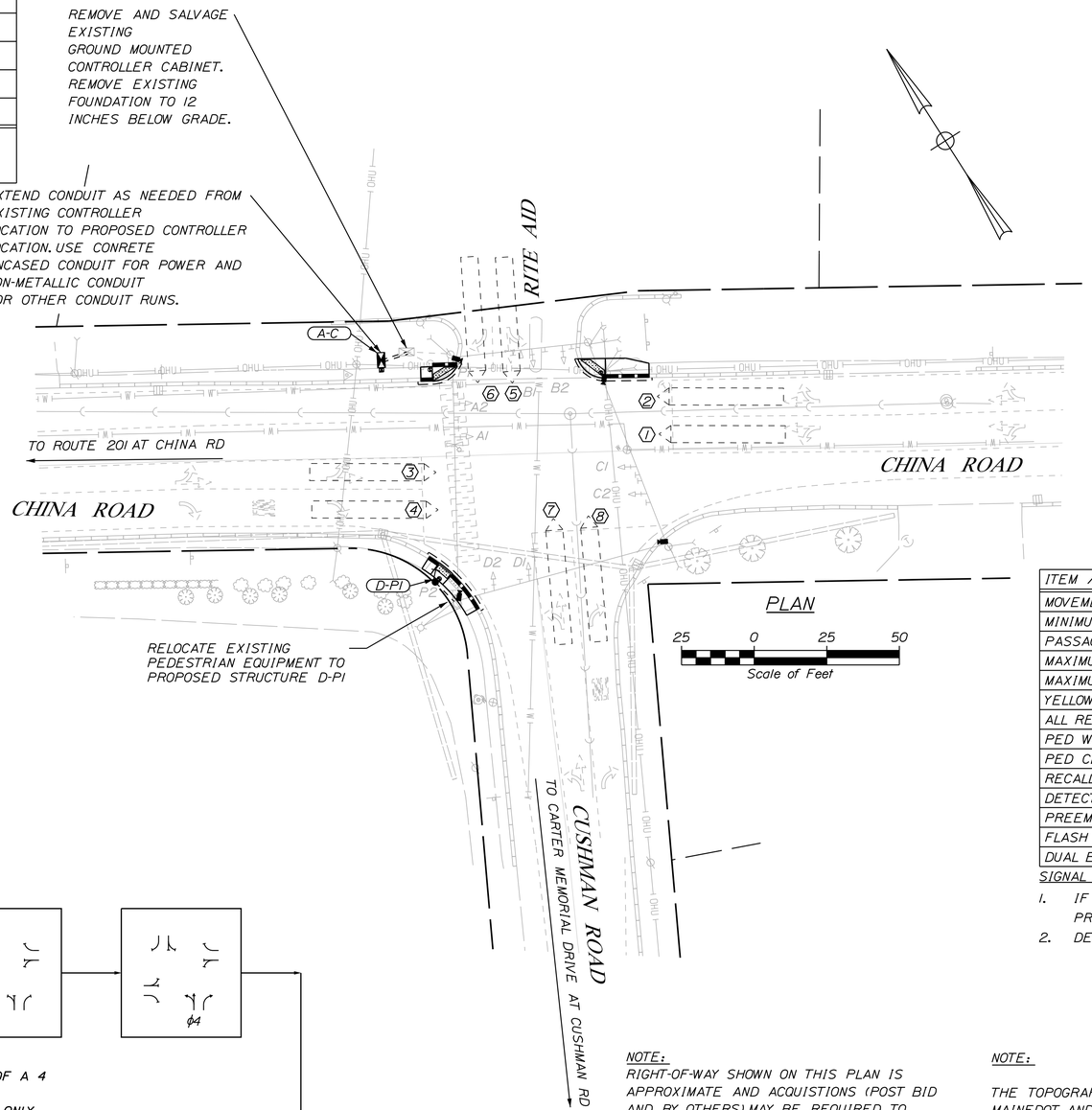
STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"
D-P1	8' PEDESTAL POLE	24" DIAMETER

SYSTEM DESIGN VOLUMES AM (PM)



EXISTING INDICATIONS
TO REMAIN





PLAN

25 0 25 50
Scale of Feet

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADV. B=S.BAR	DELAY TIME	EXT. TIME
①	CHINA ROAD EB LEFT/THRU	6	6	B	-	-
②	CCHINA ROAD EB LEFT/THRU	6	6	B	-	-
③	CHINA ROAD WB THRU/RIGHT	2	2	B	-	-
④	CHINA ROAD WB RIGHT	2	2	B	10	-
⑤	RITE AID ENT LEFT/THRU	3	3	B	-	-
⑥	RITE AID ENT RIGHT	3	3	B	10	-
⑦	CUSHMAN ROAD LEFT/THRU	4	4	B	-	-
⑧	CUSHMAN ROAD RIGHT	4	4	B	10	-

SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ1	φ2	φ3	φ4	φ5	φ6	φ7	φ8
MOVEMENT	-	D	D	B	-	A	-	-
MINIMUM INITIAL	-	10.0	5.0	5.0	-	10.0	-	-
PASSAGE TIME	-	3.0	3.0	3.0	-	3.0	-	-
MAXIMUM 1	-	22.0	20.0	18.0	-	22.0	-	-
MAXIMUM 2	-	-	-	-	-	-	-	-
YELLOW	-	3.0	2.5	3.0	-	3.0	-	-
ALL RED	-	2.0	2.0	1.5	-	2.0	-	-
PED WALK	-	-	5.0	-	-	-	-	-
PED CLEAR	-	-	16.0	-	-	-	-	-
RECALL	-	S	0	0	-	0	-	-
DETECTOR	-	PR	PR	PR	-	PR	-	-
PREEMPT PRIORITY	-	3	5	6	-	4	-	-
FLASH	-	Y	R	R	-	R	-	-
DUAL ENTRY	-	ON	OFF	OFF	-	ON	-	-

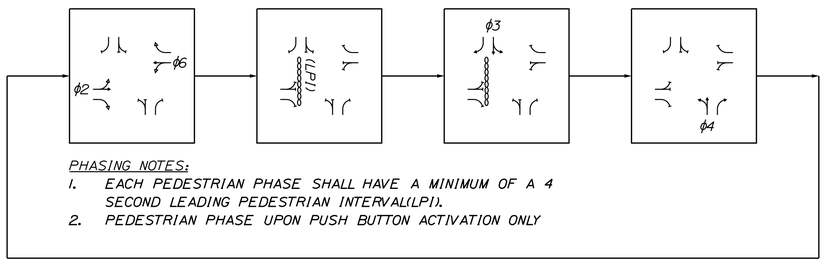
SIGNAL TIMING NOTES:

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2. DEFINITIONS
   - S = SOFT RECALL
   - O = RECALL OFF
   - PR = PRESENCE
   - Y = YELLOW
   - R = RED
   - D = DARK

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

2 | 3 4
6 | 5



PHASING NOTES:

1. EACH PEDESTRIAN PHASE SHALL HAVE A MINIMUM OF A 4 SECOND LEADING PEDESTRIAN INTERVAL(LPI).
2. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY

NOTE:
RIGHT-OF-WAY SHOWN ON THIS PLAN IS APPROXIMATE AND ACQUISTIONS (POST BID AND BY OTHERS) MAY BE REQUIRED TO COMPLETE THE WORK.

NOTE:

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

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75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

B.KEEZER	DATE
PROJ. MANAGER	
DESIGN-DETAILED	CMT 11\20
CHECKED-REVIEWED	BRL 11\20
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	
REVISIONS 1	
REVISIONS 2	
REVISIONS 3	
REVISIONS 4	
FIELD CHANGES	

WINSLOW
CHINA RD AT CUSHMAN RD

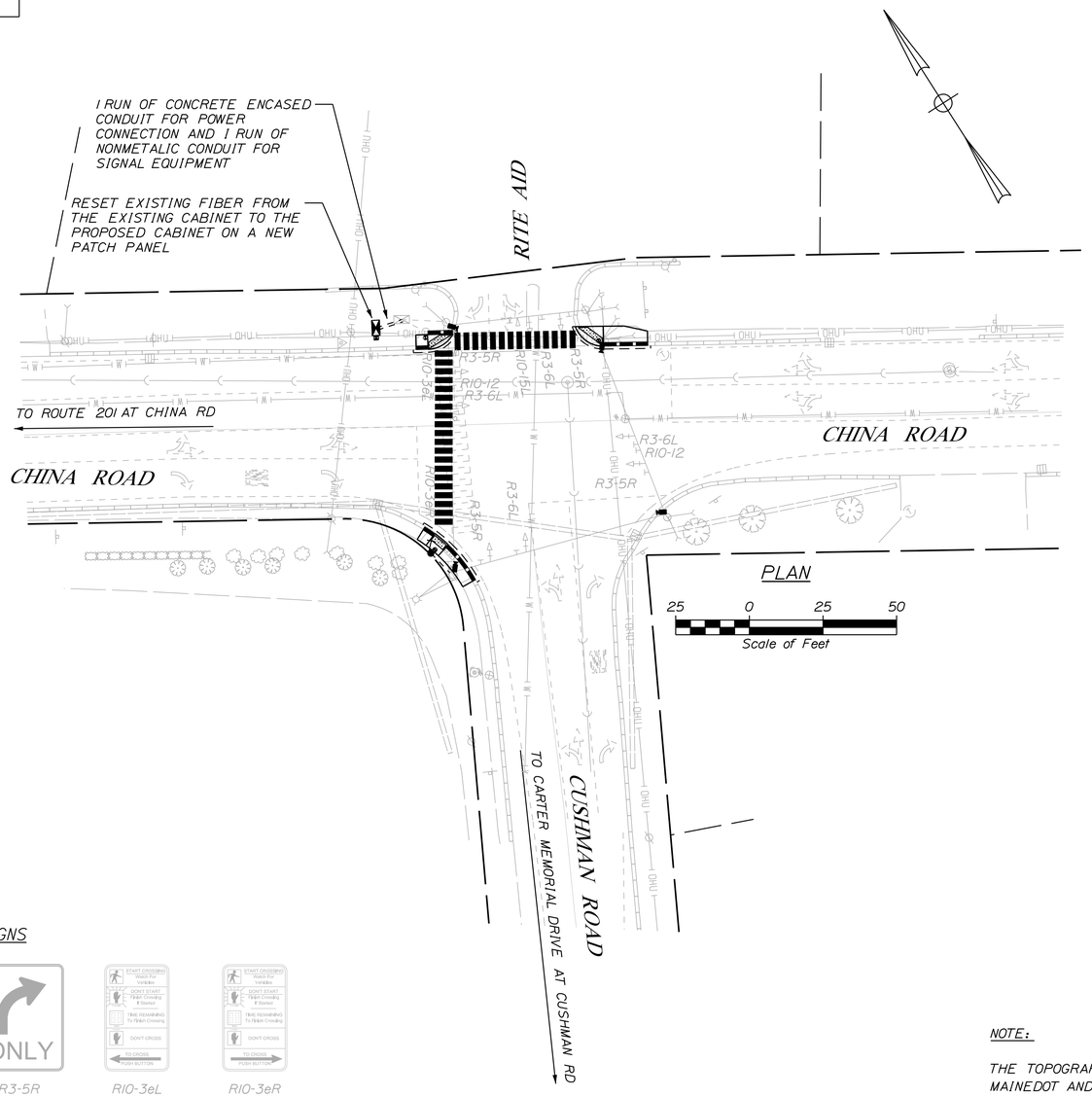
TRAFFIC SIGNAL PLAN

SHEET NUMBER
100
OF 358

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	25 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	10 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL 24-INCH DIAMETER FOUNDATION (ITEM 626.421)	7 LF
FURNISH AND INSTALL WHITE PAVEMENT AND CURB MARKING (ITEM 627.75)	408 SF
REMOVE EXISTING PAVEMENT MARKING (ITEM 627.77)	408 SF
FURNISH AND INSTALL 8-FOOT PEDESTAL POLE (ITEM 643.92)	1 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PLAN

25 0 25 50

Scale of Feet

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2
R4	4	2	ϕ6
R5	5	3	ϕ3
R6	6	4	ϕ4

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 6 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

EXISTING SIGNS



R10-15L 30"x30" 1-RETAINED | R10-12 30"x36" 2-RETAINED | R3-6L 30"x36" 4-RETAINED | R3-5R 30"x36" 4-RETAINED | R10-3eL 9"x15" 1-RETAINED | R10-3eR 9"x15" 1-RETAINED

NOTE:

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DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

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75 John Roberts Rd.
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	B.KEEZER
PROJ. MANAGER	
DESIGN-DETAILED	CMT
CHECKED-REVIEWED	BRL
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	
REVISIONS 1	
REVISIONS 2	
REVISIONS 3	
REVISIONS 4	
FIELD CHANGES	

BY	DATE
CMT	11\20
BRL	11\20

WINSLOW
CHINA RD AT CUSHMAN RD

TRAFFIC SIGNAL PLAN

SHEET NUMBER

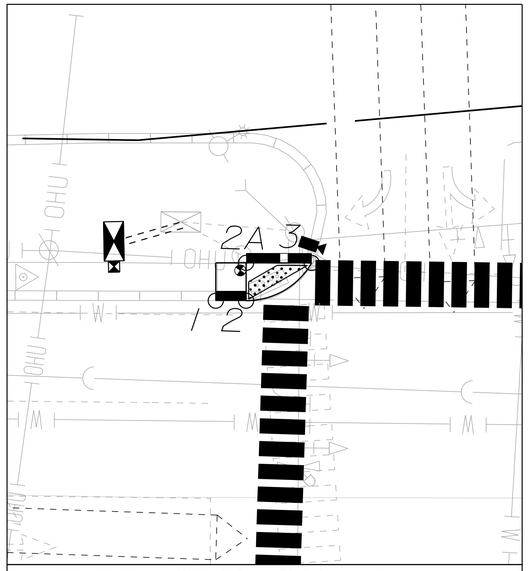
100A

OF 358

Filename: ...\Winslow\100A_Signal_100.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

Filename: ...\Winslow\100C_Signal_100.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

A CORNER - NW DETAIL



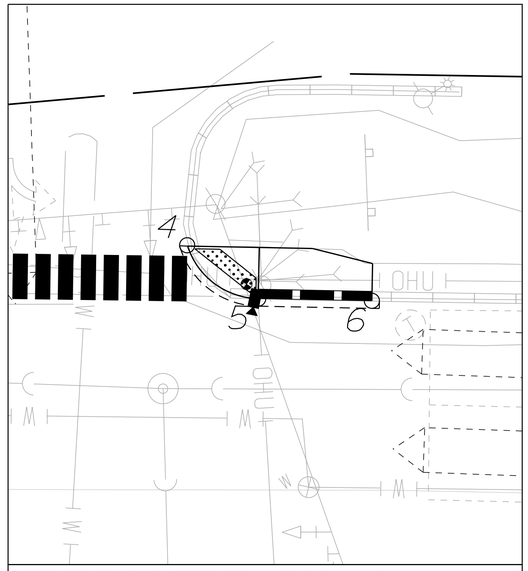
RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(22).

10 0 10 20
Scale of Feet

	PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD (SF)		ITEM 609.11 - VERTICAL CURB TYPE 1 (LF)	ITEM 609.221 - TERMINAL CURB TYPE 1 (LF)	ITEM 609.222 - TERMINAL CURB TYPE 1 - CIRCULAR (LF)	COMMENT
			LENGTH (FT)	QTY (SF)				
	1 TO 2	-				4.0		
	2 TO 3	10.00	10.5	13.3				
	2A TO 3	-			8.7			
	4 TO 5	10.00	10.5	16.3				
*	5 TO 6	-				15.0		8.8% RUNNING SLOPE
	7 TO 8	50.00					4.0	
	8 TO 9	50.00	6.0	10.6				
*	9 TO 10	50.00					15.0	11.1% RUNNING SLOPE BACK OF SW

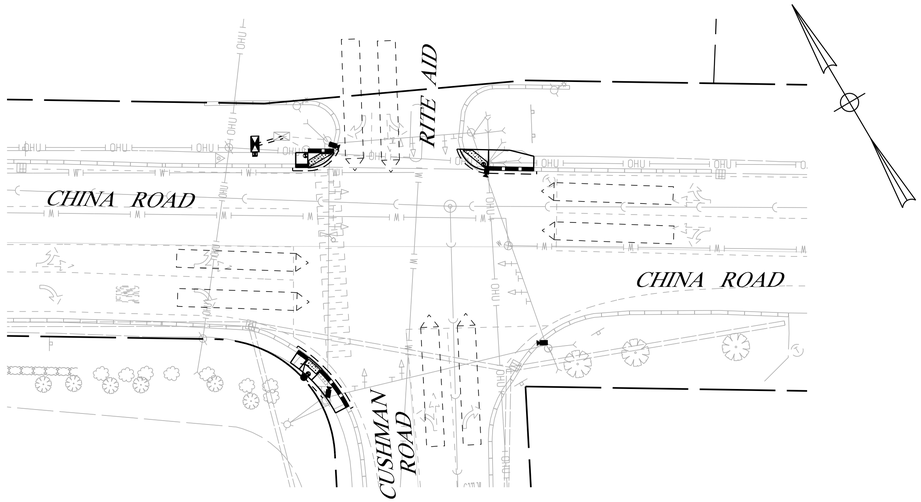
* NON-COMPLIANT CURB RAMP ELEMENT - THE SLOPE NOTED IN THE COMMENT IS THE MAXIMUM VALUE FOR PROPOSED LEVEL OF COMPLIANCE.

B CORNER - NE DETAIL

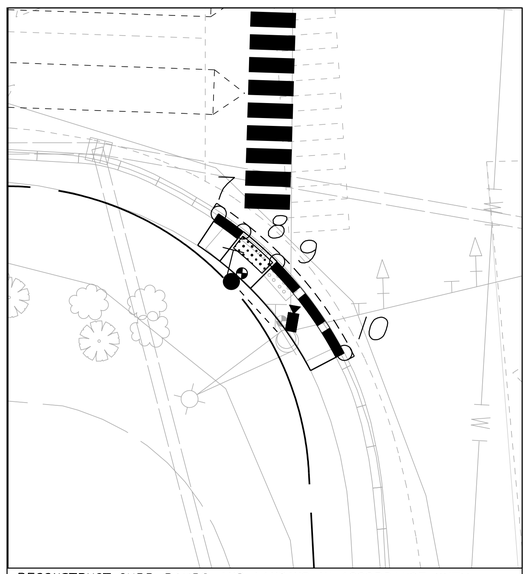


RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(22).

10 0 10 20
Scale of Feet



D CORNER - SW DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

10 0 10 20
Scale of Feet

ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED, AS WELL AS DETAILS PROVIDED ON SHEET H.

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
REGRADING SIDEWALK (ITEM 608.46)	34.4 SY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	2.7 TONS
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	34.4 SY
VERTICAL CURB TYPE 1 (ITEM 609.11)	8.7 LF

EQUIPMENT AND WORK ITEMS	QUANTITY
TERMINAL CURB TYPE 1 (ITEM 609.221)	19 LF
TERMINAL CURB TYPE 1 - CIRCULAR (ITEM 609.222)	19 LF
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	40.2 SF

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PLAN

25 0 25 50
Scale of Feet

STATE OF MAINE
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PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

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PROJ. MANAGER	B.KEEZER		
DESIGN-DETAILED	NLS	BY	DATE
CHECKED-REVIEWED	BRL	NLS	11\20
DESIGN2-DETAILED2		BRL	11\20
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WINSLOW
CHINA RD AT CUSHMAN RD

CURB RAMP LAYOUT AND DETAIL PLAN

SHEET NUMBER
100C
OF 358

LIST OF WORK ITEMS

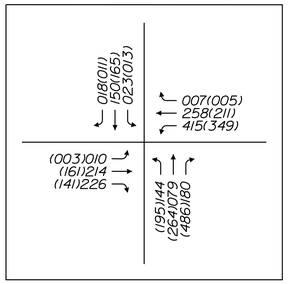
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT $^{32}/_{48}$ SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEAD(S), WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE(S) WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	1
FURNISH AND INSTALL ONE-WAY, CIRCULAR LED MODULES TO BE INSTALLED INTO EXISTING SIGNAL HEADS.	30
FURNISH AND INSTALL ONE-WAY, LED MODULES TO BE INSTALLED INTO EXISTING PEDESTRIAN SIGNAL HEADS.	8
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" RIO-3e INFORMATIONAL SIGN	8
FURNISH AND INSTALL MAST ARM MOUNTED SIGN	7
RESET MAST ARM MOUNTED SIGN	3
RESET VEHICULAR SIGNAL	9
RESET PEDESTRIAN SIGNAL	4
RESET PREEMPTION PHASE SELECTOR	1
RESET LIGHT-BASED PREEMPTION RECEIVER	3
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL NEW SIGNAL CABLE	-
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL TEMPORARY TRAFFIC SIGNAL (ITEM 643.72)	1 LS
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES. COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 2 APPROACHES. COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

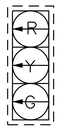
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"
A-P1	8' PEDESTAL POLE	24" DIAMETER
A-P2	8' PEDESTAL POLE	24" DIAMETER
B-M1	30' MAST ARM	48" DIAMETER
C-P1	8' PEDESTAL POLE	24" DIAMETER
D-P1	8' PEDESTAL POLE	24" DIAMETER
D-M1	35' MAST ARM	48" DIAMETER
D-M2	40' MAST ARM	48" DIAMETER

SYSTEM DESIGN VOLUMES AM (PM)



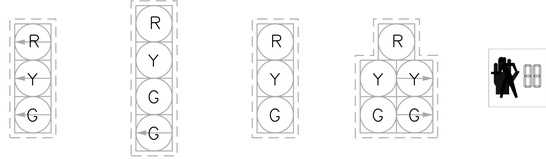
PROPOSED INDICATIONS



A1

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES

EXISTING INDICATIONS
TO REMAIN

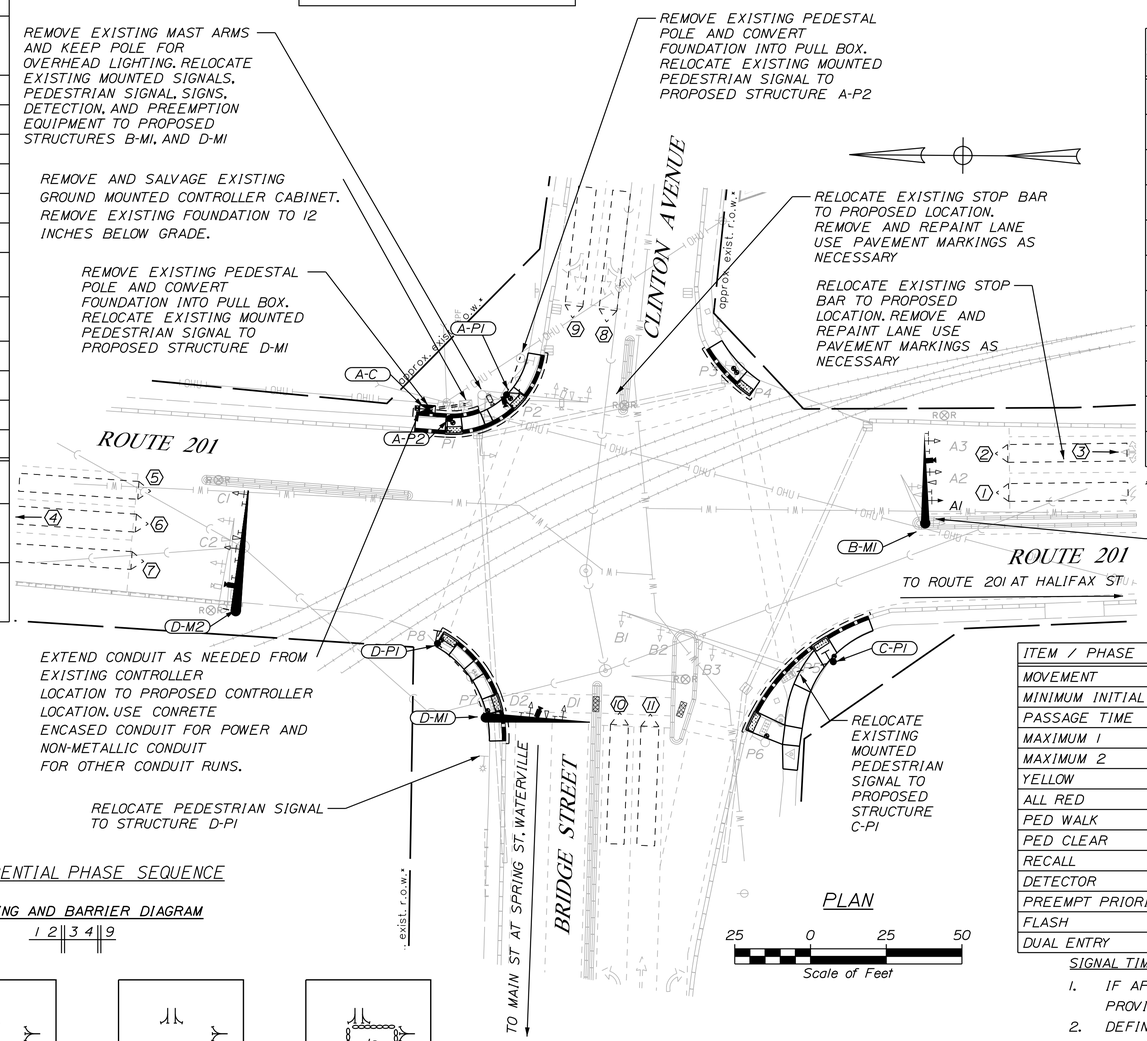


ALL EXISTING INDICATION MODULES TO BE REPLACED WITH NEW LIGHT EMITTING DIODES (LED) MODULES

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADV. B=S.BAR	DELAY TIME	EXT. TIME
1	ROUTE 201 NB LEFT	1	1	B	-	-
2	ROUTE 201 NB LEFT/THRU/RIGHT	1	1	B	-	-
3*	ROUTE 201 NB ADVANCE	1	1	A	-	-
4*	ROUTE 201 SB ADVANCE	2	2	A	-	-
5	ROUTE 201 SB LEFT/THRU	2	2	B	-	-
6	ROUTE 201 SB RIGHT	2	2	B	-	-
7	ROUTE 201 SB RIGHT	2	2	B	-	-
8	CLINTON AVENUE LEFT/THRU	3	3	B	-	-
9	CLINTON AVENUE THRU/RIGHT	3	3	B	-	-
10	BRIDGE STREET LEFT	4	4	B	-	-
11	BRIDGE STREET THRU	4	4	B	-	-

*SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)



PLAN

25 0 25 50
Scale of Feet

SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ 1	φ 2	φ 3	φ 4	φ 5	φ 6	φ 7	φ 8	φ 9
MOVEMENT	A	C	D	B	-	-	-	-	PED
MINIMUM INITIAL	5.0	5.0	5.0	5.0	-	-	-	-	-
PASSAGE TIME	3.0	6.0	3.0	3.0	-	-	-	-	-
MAXIMUM 1	20.0	10.0	10.0	15.0	-	-	-	-	-
MAXIMUM 2	-	-	-	-	-	-	-	-	-
YELLOW	2.5	3.0	4.0	2.5	-	-	-	-	2.0
ALL RED	4.5	5.5	4.0	3.0	-	-	-	-	1.0
PED WALK	-	-	-	-	-	-	-	-	7.0
PED CLEAR	-	-	-	-	-	-	-	-	20.0
RECALL	0	0	S	0	-	-	-	-	0
DETECTOR	PR	PR	PR	PR	-	-	-	-	-
PREEMPT PRIORITY	3	4	5	6	-	-	-	-	-
FLASH	R	R	R	R	-	-	-	-	-
DUAL ENTRY	OFF	OFF	OFF	OFF	-	-	-	-	-

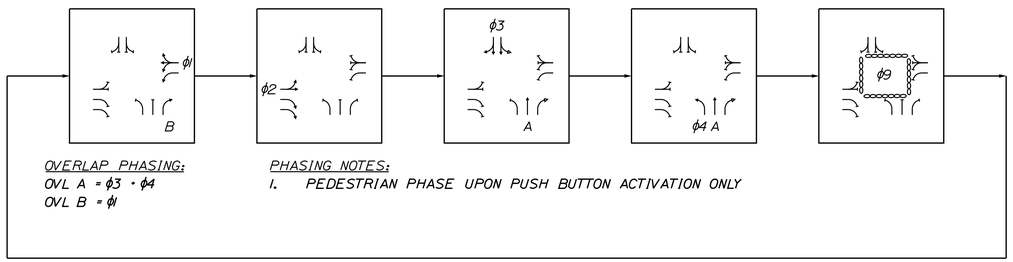
SIGNAL TIMING NOTES:

1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONCTRACT AWARD.
2. DEFINITIONS
   - S = SOFT RECALL
   - O = RECALL OFF
   - PR = PRESENCE
   - Y = YELLOW
   - R = RED
   - D = DARK

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

1 2 ‖ 3 4 ‖ 9



OVERLAP PHASING:
OVL A = φ3 + φ4
OVL B = φ1

PHASING NOTES:
1. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED ON 04-06-20 FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 24301.00.

* - RIGHT-OF-WAY REFERENCE: STATE PROJECT NO.9742.00 DOT FILE 6-163A, SHEET 1 OF 1, 2001

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

	BY	DATE
PROJ. MANAGER	B.KEEZER	
DESIGN-DETAILED	CMT	11\20
CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WINSLOW
ROUTE 201 AT CLINTON AVE

TRAFFIC SIGNAL PLAN

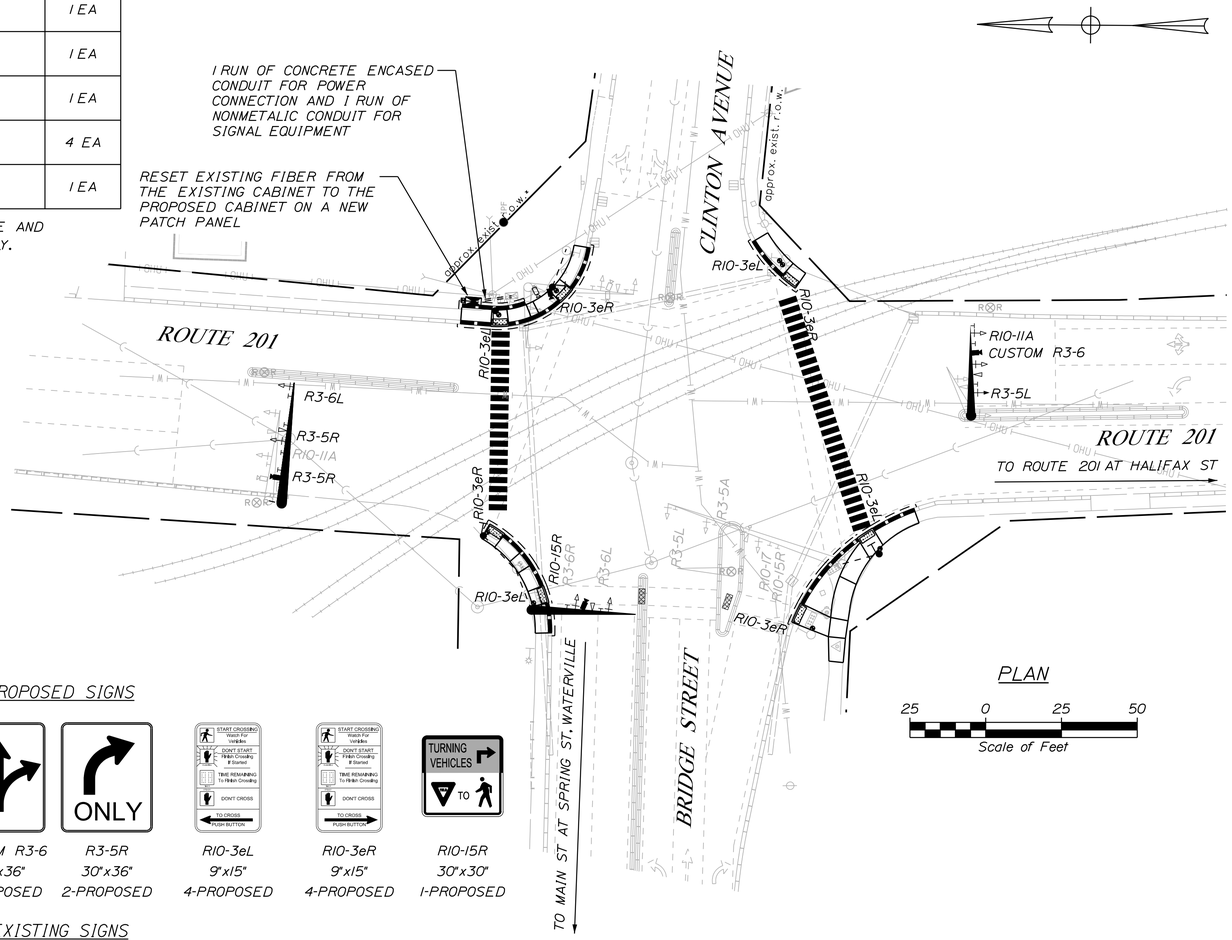
SHEET NUMBER
101
OF 358

Filename: ...\Winslow\101_Signal_101.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	75 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	15 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
REMOVE OR MODIFY CONCRETE FOUNDATION (ITEM 626.36)	3 EA
FURNISH AND INSTALL 24-INCH DIAMETER FOUNDATION (ITEM 626.421)	28 LF
FURNISH AND INSTALL 48-INCH DIAMETER FOUNDATION (ITEM 626.46)	33.5 LF
FURNISH AND INSTALL WHITE PAVEMENT AND CURB MARKING (ITEM 627.75)	564 SF
REMOVE EXISTING PAVEMENT MARKING (ITEM 627.77)	564 SF
FURNISH AND INSTALL 30' MAST ARM POLE (ITEM 643.91)	1 EA
FURNISH AND INSTALL 35' MAST ARM POLE (ITEM 643.91)	1 EA
FURNISH AND INSTALL 40' MAST ARM POLE (ITEM 643.91)	1 EA
FURNISH AND INSTALL 8-FOOT PEDESTAL POLE (ITEM 643.92)	4 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

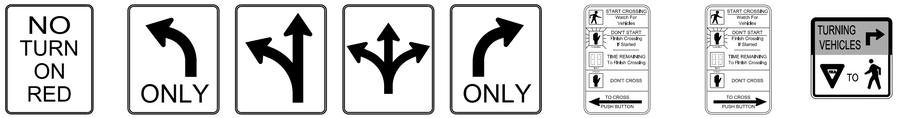


PLAN

25 0 25 50

Scale of Feet

PROPOSED SIGNS



R10-11A 30"x36" 1-PROPOSED
R3-5L 30"x36" 1-PROPOSED
R3-6L 30"x36" 1-PROPOSED
CUSTOM R3-6 30"x36" 1-PROPOSED
R3-5R 30"x36" 2-PROPOSED
R10-3eL 9"x15" 4-PROPOSED
R10-3eR 9"x15" 4-PROPOSED
R10-15R 30"x30" 1-PROPOSED

EXISTING SIGNS



R10-11A 30"x36" 1-RETAINED
R10-17 30"x36" 1-REMAINING
R3-5L 30"x36" 1-REMAINING
R3-6L 30"x36" 1-REMAINING
R3-5a 30"x36" 1-REMAINING
R3-6R 30"x36" 1-REMAINING
R10-15R 30"x30" 1-REMAINING

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	1	ALL RED
R2	2	RESERVED	
R3	3	2	ϕ1
R4	4	3	ϕ2
R5	5	4	ϕ3
R6	6	5	ϕ4

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 6 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN OR RAILROAD PREEMPTION IS ON.
6. THE CONTRACTOR OR HIS REPRESENTATIVE SHALL TRANSFER THE EXISTING RAILROAD PREEMPTION CABLE TO THE NEW CONTROLLER. EXISTING RAILROAD PREEMPTION FUNCTIONALITY SHALL BE RETAINED. IN THE EVENT OF AN UNFORESEEN DISCREPANCY WITH PROPOSED SIGNAL OPERATIONS, THE MOST CONSERVATIVE APPROACH TO RESOLVE DISCREPANCY SHALL BE APPLIED.
7. RAILROAD PREEMPTION #1 (R1) SHALL HOLD OR ADVANCE TO AND HOLD ALL RED. AT THE COMPLETION OF THE PREEMPTION CYCLE, THE CONTROLLER SHALL RETURN TO PHASE 1.
8. AT NO POINT SHALL A TRAFFIC SIGNAL CONTROLLER THAT PRESENTLY PROVIDES RAILROAD PREEMPTION BE LEFT IN A STATE WITHOUT RAILROAD PREEMPTION (OR POLICE CONTROL WHEN THE EXISTING TRAFFIC SIGNAL CONTROL IS TRANSFERRED TO THE NEW TRAFFIC SIGNAL CONTROL) DURING CONSTRUCTION.

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED ON 04-06-20 FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 24301.00.

* - RIGHT-OF-WAY REFERENCE: STATE PROJECT NO.9742.00 DOT FILE 6-163A, SHEET 1 OF 1, 2001

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

	B.KEEZER	DATE
PROJ. MANAGER		
DESIGN-DETAILED	CMT	11\20
CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WINSLOW
ROUTE 201 AT CLINTON AVE

TRAFFIC SIGNAL PLAN

SHEET NUMBER

101A

OF 358

Filename: ...\Winslow\101A_SignoL_101.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

Filename: ...\01B_BORING LOGS1_WIPHASE1.dgn Division: GEOTECH Username: Kate.Maguire Date:11/23/2020

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Intersection Improvements - Statewide
Location: Winslow, Maine

Boring No.: HB-WI100-101
WIN: 024301

Driller:	S. W. Cole Explorations, LLC	Elevation (ft.)		Auger ID/OD:	5" Solid Stem
Operator:	K. Hanscom / R. Hackett	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	R. Chaput	Rig Type:	Diedrich D-50 Track Mounted	Hammer Wt./Fall:	140# / 30"
Date Start/Finish:	9/13/2019	Drilling Method:	Auger	Core Barrel:	N/A
Boring Location:	See Boring Location Plan	Casing ID/OD:	N/A	Water Level*:	No water observed.
Hammer Efficiency Factor: 0.977		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample Attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample Attempt
V = Field Vane Shear Test. PP = Pocket Penetrometer
WV = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = Weight of 140lb. Hammer
WOR/C = Weight of Rods or Casing
WOH/P = Weight of One Person
S_u = Peak/Remolded Field Vane Unsrained Shear Strength (psf)
$S_{u(LAB)}$ = Lab Vane Unsrained Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw Field SPT N-value
Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
T_v = Pocket Torvane Shear Strength (psf)
WC = Water Content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in. Sheer Strength (psf) qp RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
								-0.5		6.5" of Pavement.	
	1D	24/12	0.80 - 2.80	11/12/13/8	25	41	SSA			Brown, damp, dense, SAND, some gravel, little silt. (Fill).	
5	2D	24/18	5.00 - 7.00	1/1/1/1	2	3		-5.0		2D/A: Dark brown, moist to wet, soft, Organic SILT. (Relic Topsoil).	
								-5.5		2D/B: Olive-grey, wet, soft, SILT, some sand.	
								-8.0		Grey, moist, medium dense, Silty SAND, some gravel. (Till).	
10	3D	24/14	10.00 - 12.00	4/8/7/7	15	24		-12.0		Bottom of Exploration at 12.0 feet below ground surface. No refusal.	
15											
20											
25											

Remarks:

Stratification lines represent approximate boundaries between soil typesl 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.

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Intersection Improvements - Statewide
Location: Winslow, Maine

Boring No.: HB-WI101-101
WIN: 024301

Driller:	S. W. Cole Explorations, LLC	Elevation (ft.)		Auger ID/OD:	5" Solid Stem
Operator:	K. Hanscom / R. Hackett	Datum:	NAVD88	Sampler:	Standard Split Spoon
Logged By:	R. Chaput	Rig Type:	Diedrich D-50 Track Mounted	Hammer Wt./Fall:	140# / 30"
Date Start/Finish:	9/13/2019	Drilling Method:	Cased Wash	Core Barrel:	N/A
Boring Location:	See Boring Location Plan	Casing ID/OD:	HW 4" / 4.5"	Water Level*:	7.8 feet (after drilling)
Hammer Efficiency Factor: 0.977		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample Attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample Attempt
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C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in. Sheer Strength (psf) qp RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
							SSA			11.5" of Pavement	
	1D	24/14	1.00 - 3.00	13/12/8/6	20	33		-1.0		1D/A: Brown, damp, dense, SAND, some gravel, little silt. (Fill).	
5	2D	24/18	5.00 - 7.00	3/4/3/4	7	11		-2.5		1D/B: Brown, moist, dense, fine to medium SAND, some silt, little gravel.	
										Grey-brown, wet, medium dense, fine to medium SAND, some silt, trace gravel.	
10	3D	24/18	10.00 - 12.00	WOH/1/1/1	2	3	14	-10.0		Grey, wet, soft, Silty CLAY.	
							15	-10.9			
							15				
							23				
							20				
15	4D	24/20	15.00 - 17.00	5/15/27/30	42	68	45	-15.0		Grey, moist, very dense, Silty SAND, some gravel. (Till).	
							138	-15.8			
							138				
	R1	48/16	18.80 - 22.80				158 NQ2			Advanced by rock core through cobbles.	
20								-22.8		Bottom of Exploration at 22.8 feet below ground surface. No refusal.	
25											

Remarks:

Stratification lines represent approximate boundaries between soil typesl 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.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. 2430100

WIN 24301.00 HIGHWAY PLANS

STATE OF MAINE ★ ENGINEER ★ Kathleen Maguire 7120 PROFESSIONAL

	BY	DATE
PROJ. MANAGER	-----	-----
DESIGN-DETAILED	-----	-----
CHECKED-REVIEWED	K.MAGUIRE	APR 2020
DESIGN2-DETAILED2	K.MAGUIRE	T.WHITE
DESIGN3-DETAILED3	-----	-----
REVISIONS 1	-----	-----
REVISIONS 2	-----	-----
REVISIONS 3	-----	-----
REVISIONS 4	-----	-----
FIELD CHANGES	-----	-----

SIGNATURE
P.E. NUMBER 7120
11/23/2020
DATE

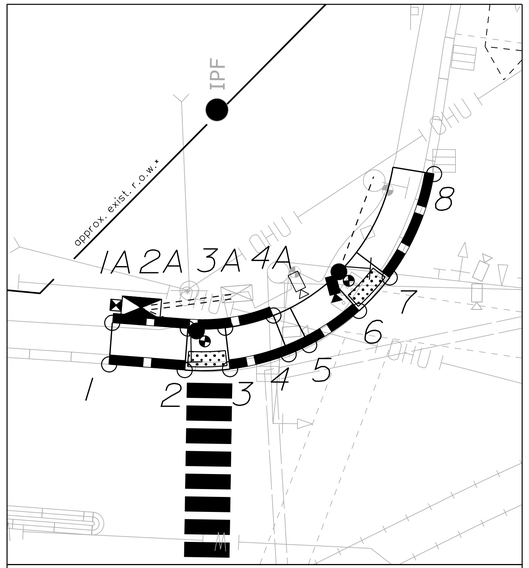
WINSLOW
CLINTON AVE., BRIDGE ST. & ROUTE 201

BORING LOGS

SHEET NUMBER
101B
OF 358

Filename: ...\Winslow\101C_Signal_101.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

A CORNER - NW DETAIL

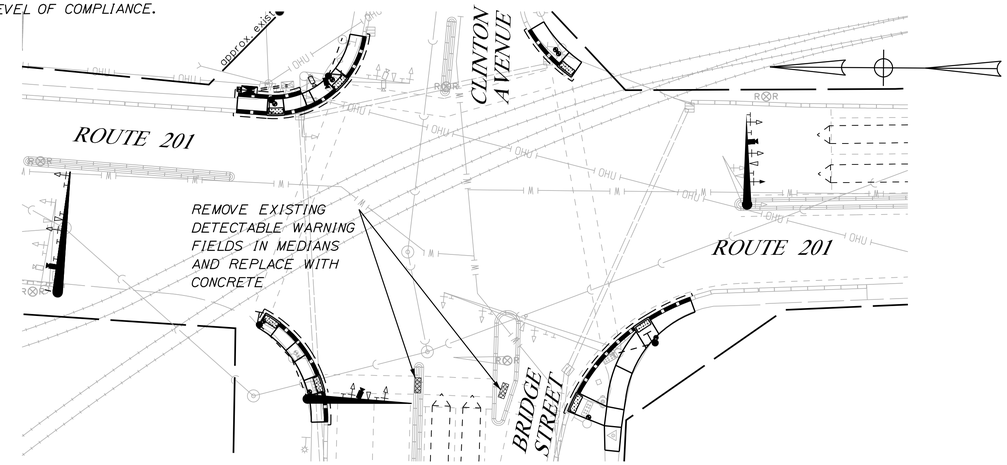


RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(22).

10 0 10 20
Scale of Feet

	PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD (SF)		ITEM 609.11 - VERTICAL CURB TYPE 1 (LF)	ITEM 609.12 - VERTICAL CURB TYPE 1 - CIRCULAR (LF)	ITEM 609.221 - TERMINAL CURB TYPE 1 (LF)	ITEM 609.222 - TERMINAL CURB TYPE 1 - CIRCULAR (LF)	COMMENT
			LENGTH (FT)	QTY (SF)					
	1 TO 2	-					10.0		
	2 TO 3	31.00	6.0	10.3					
	3 TO 4	31.00						8.0	
	4 TO 5	31.00				3.0			
	5 TO 6	31.00						8.0	
*	6 TO 7	31.00	6.0	10.3					8.7% CROSS SLOPE
*	7 TO 8	31.00						15.0	13.3% RUNNING SLOPE
	1A TO 2A	-					10.0		
	2A TO 3A	25.50				5.0			
	3A TO 4A	25.50						6.6	
*	9 TO 10	49.00						15.0	14.6% RUNNING SLOPE
*	10 TO 11	49.00	6.0	10.3					9.3% CROSS SLOPE
	12 TO 13	75.00					15.0		
*	13 TO 14	75.00	6.0	10.0					8.6% CROSS SLOPE
	14 TO 15	65.00					15.0		
	15 TO 16	65.00			5.7				
	16 TO 17	65.00					4.0		
	17 TO 18	65.00	6.0	12.0					
	19 TO 20	40.00						10.0	
*	20 TO 21	40.00	6.0	10.3					3.0% CROSS SLOPE
	21 TO 22	40.00						8.0	
	22 TO 23	40.00				5.5			3" CURB REVEAL
	23 TO 24	40.00						8.0	
*	24 TO 25	40.00	6.0	10.3					5.0% CROSS SLOPE

* NON-COMPLIANT CURB RAMP ELEMENT - THE SLOPE NOTED IN THE COMMENT IS THE MAXIMUM VALUE FOR PROPOSED LEVEL OF COMPLIANCE.



ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED, AS WELL AS DETAILS PROVIDED ON SHEET H.

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
REGRADING SIDEWALK (ITEM 608.46)	124.6 SY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	8.9 TONS
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	124.6 SY
VERTICAL CURB TYPE 1 (ITEM 609.11)	5.7 LF

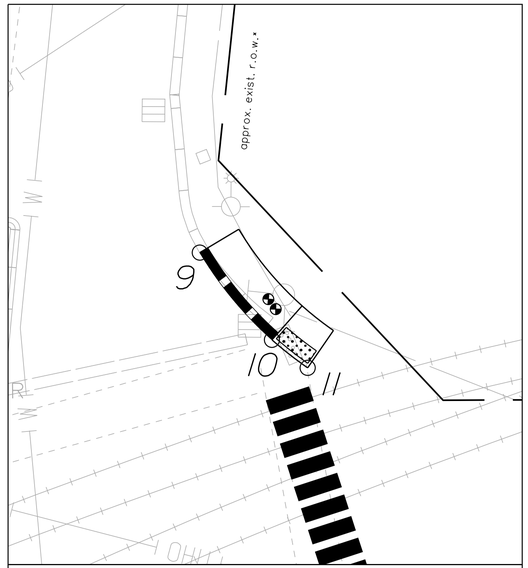
EQUIPMENT AND WORK ITEMS	QUANTITY
TERMINAL CURB TYPE 1 (ITEM 609.221)	54 LF
VERTICAL CURB TYPE 1 - CIRCULAR (ITEM 609.12)	13.5 LF
TERMINAL CURB TYPE 1 - CIRCULAR (ITEM 609.222)	78.6 LF
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	73.5 SF

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

PLAN

25 0 25 50
Scale of Feet

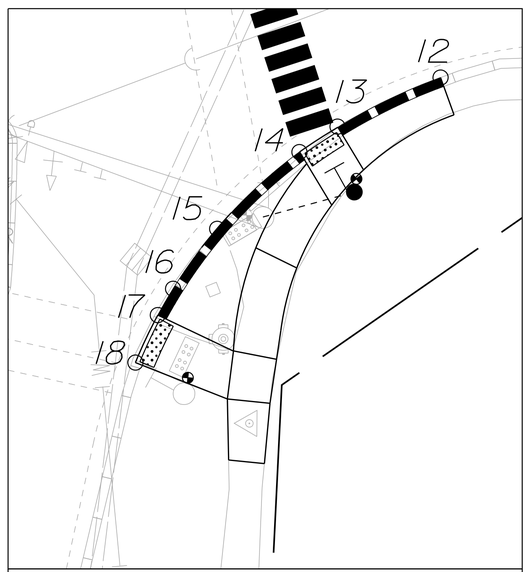
B CORNER - NE DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(22).

10 0 10 20
Scale of Feet

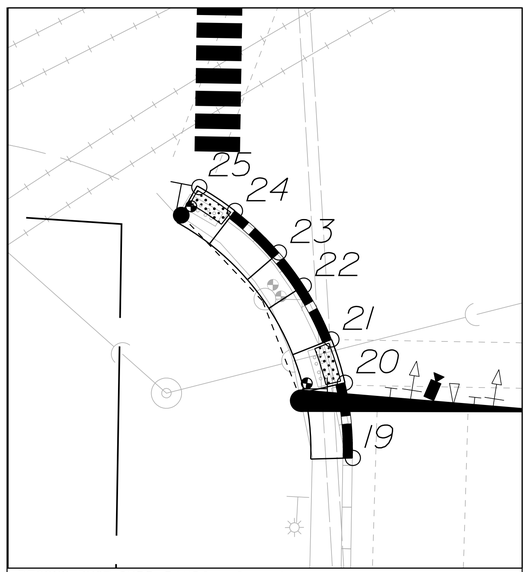
C CORNER - NE DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(22).

10 0 10 20
Scale of Feet

D CORNER - SW DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

10 0 10 20
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

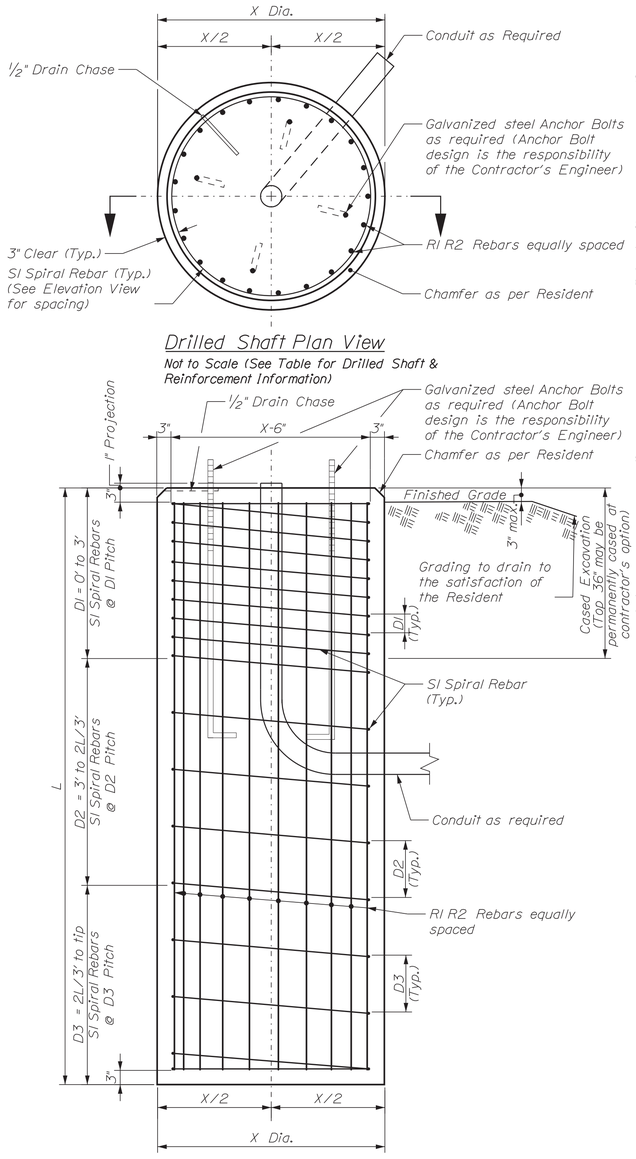
	BY	DATE
PROJ. MANAGER	B.KEEZER	
DESIGN-DETAILED	N.S	11\20
CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

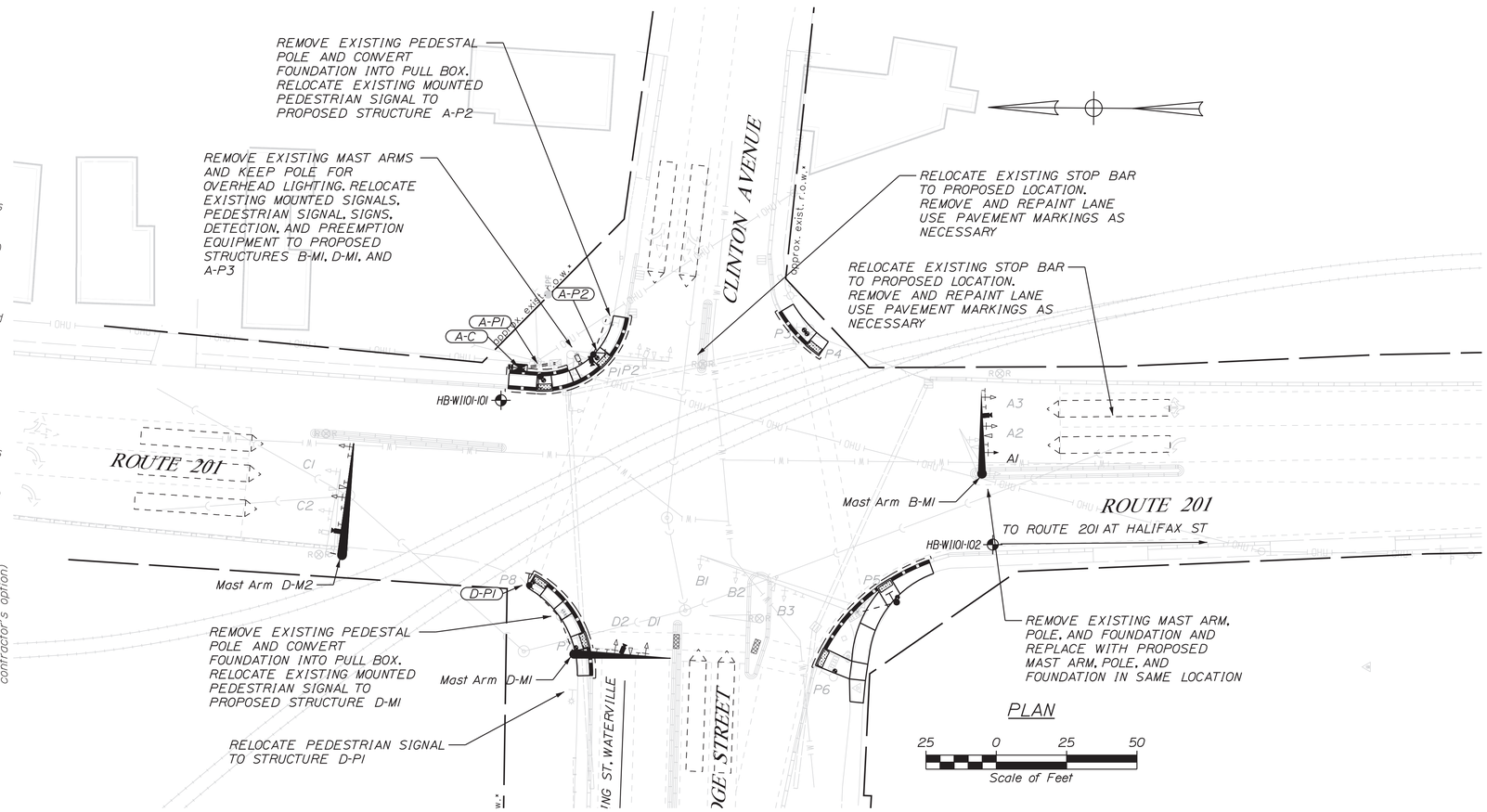
WINSLOW
ROUTE 201 AT CLINTON AVE
CURB RAMP LAYOUT AND DETAIL PLAN

SHEET NUMBER

101C

OF 358





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.
6. For Boring Logs see Sheet 101B of 358.

MAST ARMS B-MI, D-MI & D-M2

(B-MI) Clinton Avenue and Route 201
(D-MI) Bridge Street and Route 201
(D-M2) Bridge Street and Route 201

Mast Arm	Location	Drilled Shaft Dimensions		Reinforcing Steel			Spiral Bar Spacing		
		X	L	R1	R2	S1	D1 (in)	D2 (in)	D3 (in)
		Diameter (feet)	Length (feet)	Longitudinal Rebars Quantity	Longitudinal Rebars Size	Spiral Rebars Size	0 to 3 ft	3 ft to 2L/3 ft	2L/3 ft to tip
B-M1	Clinton Street and Route 201	4.0	11.0	21	#9	#5	4	12	12
D-M1	Bridge Street and Route 201	4.0	13.0	21	#9	#5	4	12	12
D-M2	Bridge Street and Route 201	4.0	11.5	21	#9	#5	4	12	12

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
FEDERAL PROJECT NO. 2430100
WIN 24301.00
HIGHWAY PLANS

STATE OF MAINE ★ Kathleen Maguire 7120 ★ PROFESSIONAL ENGINEER

SIGNATURE 7120
P.E. NUMBER
11/23/2020
DATE

	DATE	BY
PROJ. MANAGER		
DESIGN-DETAILED		
CHECKED-REVIEWED	APR 2020	T. WHITE
DESIGN2-DETAILED2		K. MAGUIRE
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WINSLOW
CLINTON AVE., BRIDGE ST. & ROUTE 201

MAST ARM FOUNDATION & BORING LOCATION PLAN

SHEET NUMBER
101F
OF 358

Filename: ...\101F_MAF&BLP2_WIPHASE1.dgn Division: GEOTECH Username: Kate.Maguire Date:11/23/2020

LIST OF WORK ITEMS

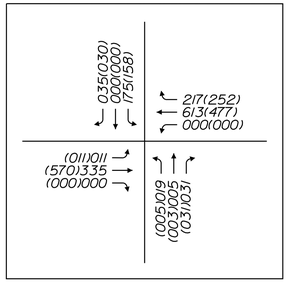
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEAD(S), WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE(S) WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	1
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"x15" R10-3e INFORMATIONAL SIGN	4
RESET PREEMPTION PHASE SELECTOR	1
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1 RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL NEW SIGNAL CABLE	-
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES, COMPLETE (ITEM 643.21)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

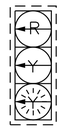
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"

SYSTEM DESIGN VOLUMES AM (PM)



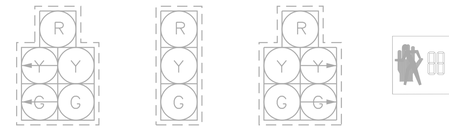
PROPOSED INDICATIONS



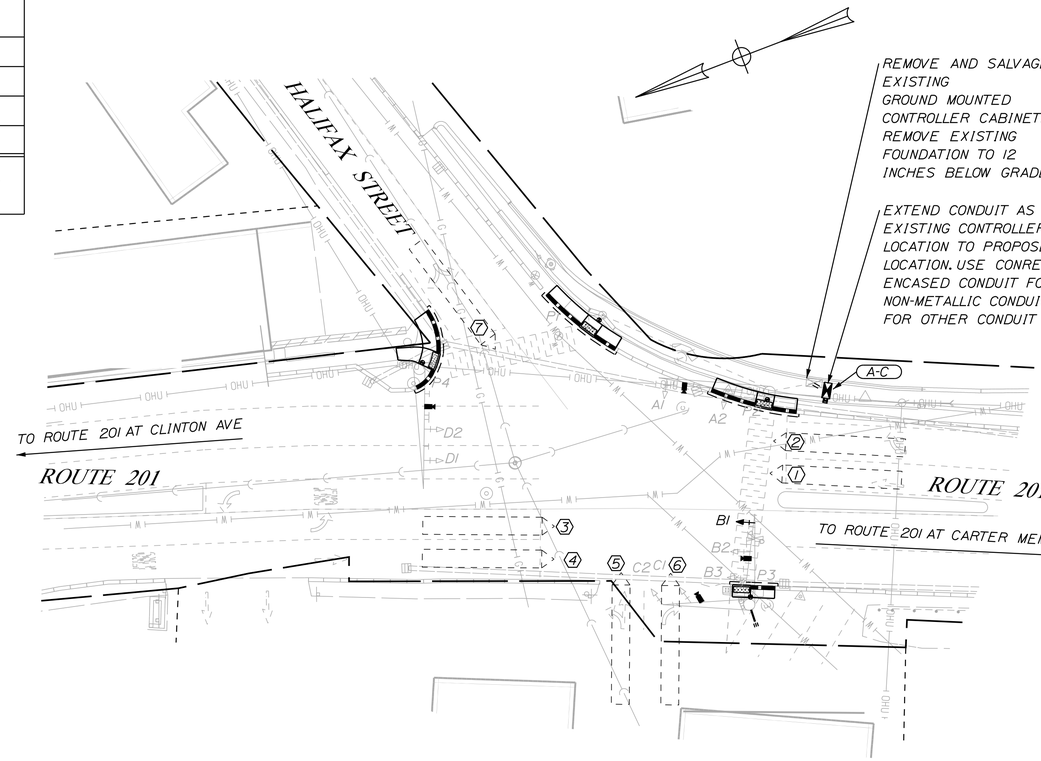
B1

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES

EXISTING INDICATIONS
TO REMAIN



A1,C1 A2,B2,B3,C2, D1 D2 P1-P4



REMOVE AND SALVAGE EXISTING GROUND MOUNTED CONTROLLER CABINET. REMOVE EXISTING FOUNDATION TO 12 INCHES BELOW GRADE.

EXTEND CONDUIT AS NEEDED FROM EXISTING CONTROLLER LOCATION TO PROPOSED CONTROLLER LOCATION. USE CONRETE ENCASED CONDUIT FOR POWER AND NON-METALLIC CONDUIT FOR OTHER CONDUIT RUNS.

PLAN

25 0 25 50
Scale of Feet

DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADV, B=S.BAR	DELAY TIME	EXT. TIME
1	ROUTE 201 NB THRU	6	6	B	-	-
2	ROUTE 201 NB RIGHT	6	6	B	-	-
3	ROUTE 201 SB LEFT	5	5	B	-	-
4	ROUTE 201 SB THRU	2	2	B	-	-
5	COMERCIAL ENTRANCE LEFT/THRU	3	3	B	-	-
6	COMERCIAL ENTRANCE RIGHT	3	3	B	-	-
7	HALIFAX STREET	4	4	B	-	-

SIGNAL TIMING SCHEDULE

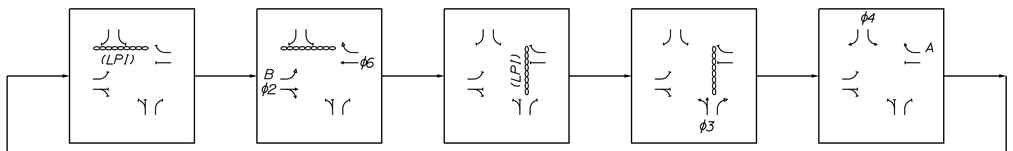
ITEM / PHASE	φ1	φ2	φ3	φ4	φ5	φ6	φ7	φ8
MOVEMENT	-	B	A	C	-	D	-	-
MINIMUM INITIAL	-	10.0	5.0	5.0	-	10.0	-	-
PASSAGE TIME	-	3.0	2.0	2.0	-	3.0	-	-
MAXIMUM 1	-	40.0	21.0	21.0	-	40.0	-	-
MAXIMUM 2	-	-	-	-	-	-	-	-
YELLOW	-	3.0	3.0	3.0	-	3.0	-	-
ALL RED	-	2.0	2.5	3.0	-	2.0	-	-
PED WALK	-	-	-	5.0	-	5.0	-	-
PED CLEAR	-	-	-	15.0	-	12.0	-	-
RECALL	-	S	0	0	-	S	-	-
DETECTOR	-	PR	PR	PR	-	PR	-	-
PREEMPT PRIORITY	-	3	5	6	-	4	-	-
FLASH	-	Y	R	R	-	Y	-	-
DUAL ENTRY	-	ON	OFF	OFF	-	ON	-	-

SIGNAL TIMING NOTES:
1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONCTRACT AWARD.
2. DEFINITIONS
   S = SOFT RECALL Y = YELLOW
   0 = RECALL OFF R = RED
   PR = PRESENCE D = DARK

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

2 | 3 4
6 | 5 8



OVERLAP PHASING:
OVL A = φ4
OVL B = φ6

PHASING NOTES:
1. EACH PEDESTRIAN PHASE SHALL HAVE A MINIMUM OF A 4 SECOND LEADING PEDESTRIAN INTERVAL(LPI).
2. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY
3. OVERLAP B SHALL BE PROGRAMMED FOR FLASHING YELLOW ARROW

NOTE:
RIGHT-OF-WAY SHOWN ON THIS PLAN IS APPROXIMATE AND ACQUISTIONS (POST BID AND BY OTHERS) MAY BE REQUIRED TO COMPLETE THE WORK.

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 22686.00.

* - RIGHT-OF-WAY REFERENCE: RIGHT-OF-WAY INFORMATION DISPLAYED WAS SURVEYED UNDER WIN 22686.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

	BY	DATE
PROJ. MANAGER	B.KEEZER	
DESIGN-DETAILED	CMT	11\20
CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WINSLOW
ROUTE 201 AT HALIFAX ST

TRAFFIC SIGNAL PLAN

SHEET NUMBER
102
OF 358

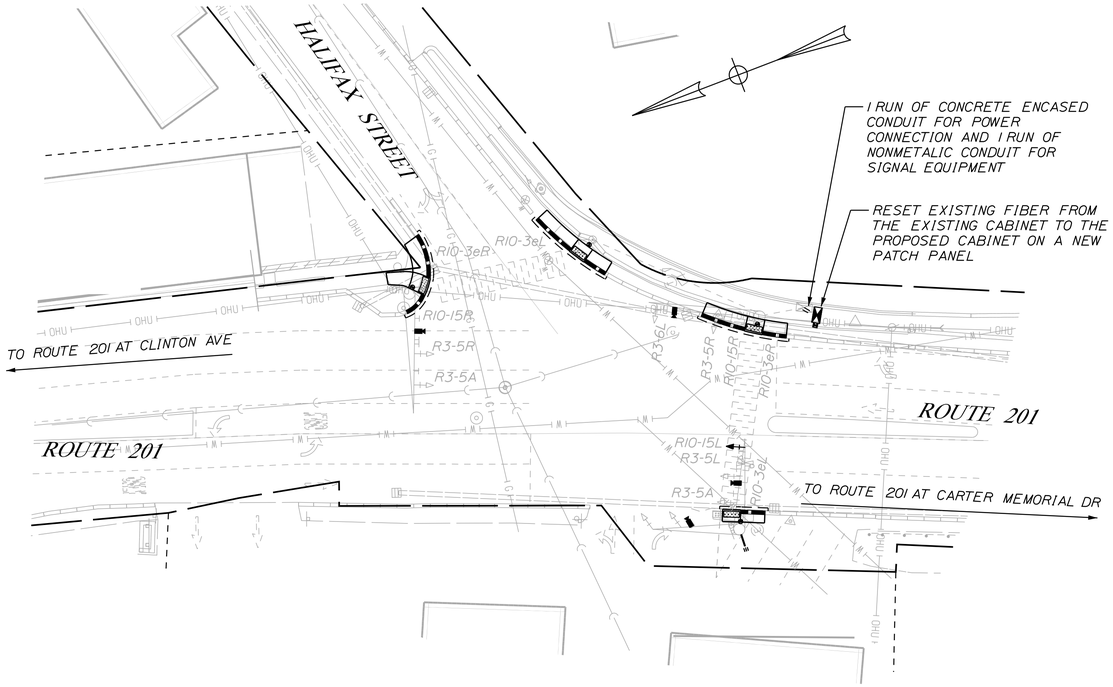
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Filename: ...\Winslow\102A_Signal_102.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	20 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	10 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PLAN

25 0 25 50

Scale of Feet

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2
R4	4	2	ϕ6
R5	5	3	ϕ3
R6	6	4	ϕ4

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.

2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 6 = LOWEST)

3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.

4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.

5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

EXISTING SIGNS



R10-12	R3-5L	R3-6L	R3-5a	R3-5R	R10-15R	R10-15L	R10-3eL	R10-3eR
30"x36"	30"x36"	30"x36"	30"x36"	30"x36"	30"x30"	30"x30"	9"x15"	9"x15"
1-REMOVED	1-RETAINED	1-RETAINED	2-RETAINED	2-RETAINED	2-RETAINED	1-RETAINED	2-RETAINED	2-RETAINED

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 22686.00.

* - RIGHT-OF-WAY REFERENCE: RIGHT-OF-WAY INFORMATION DISPLAYED WAS SURVEYED UNDER WIN 22686.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

	B.KEEZER	BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	CMT	CMT	11\20
CHECKED-REVIEWED	BRL	BRL	11\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WINSLOW
ROUTE 201 AT HALIFAX ST

TRAFFIC SIGNAL PLAN

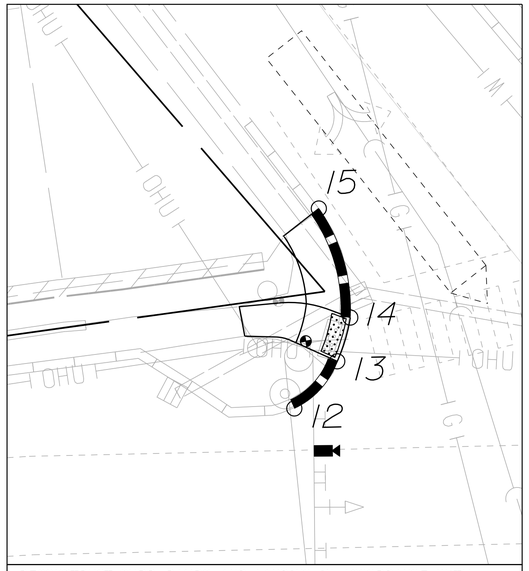
SHEET NUMBER

102A

OF 358

Filename: ...\Winslow\102C_Signal_102.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

D CORNER - NE DETAIL

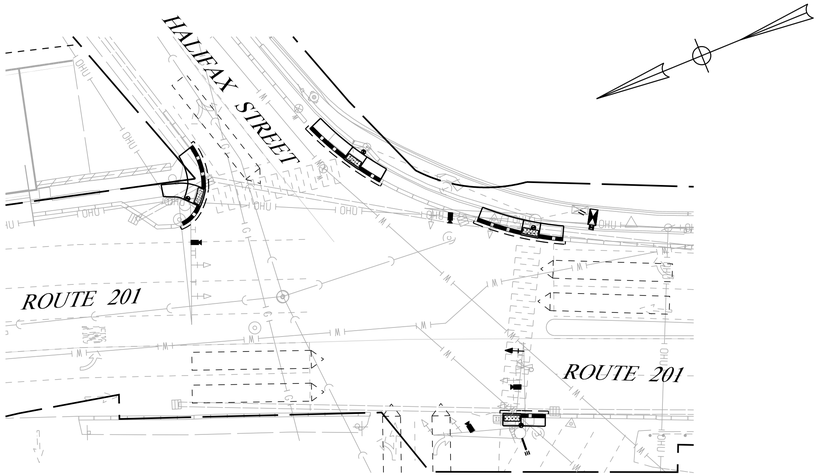


RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

10 0 10 20
Scale of Feet

	PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD (SF)		ITEM 609.221 - TERMINAL CURB TYPE 1 (LF)	ITEM 609.222 - TERMINAL CURB TYPE 1 - CIRCULAR (LF)	COMMENT
			LENGTH (FT)	QTY (SF)			
	1 TO 2	100.00			15.0		
	2 TO 3	100.00	6.0	10.6			
	3 TO 4	100.00			8.0		
*	5 TO 6	100.00			15.0		8.5% RUNNING SLOPE
*	6 TO 7	100.00	6.0	10.6			5.5% CROSS SLOPE
	7 TO 8	100.00			8.0		
*	9 TO 10	-	6.0	10.6			6.3% CROSS SLOPE
	10 TO 11	-			8.0		
	12 TO 13	11.00				9.0	
	13 TO 14	23.00	6.0	10.6			
*	14 TO 15	23.00				15.0	11.9% RUNNING SLOPE

* NON-COMPLIANT CURB RAMP ELEMENT - THE SLOPE NOTED IN THE COMMENT IS THE MAXIMUM VALUE FOR PROPOSED LEVEL OF COMPLIANCE.



ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(1) to 801(26) AS NOTED. AS WELL AS DETAILS PROVIDED ON SHEET H.

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
REGRADING SIDEWALK (ITEM 608.46)	53.4 SY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	4.1 TONS
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	53.4 SY

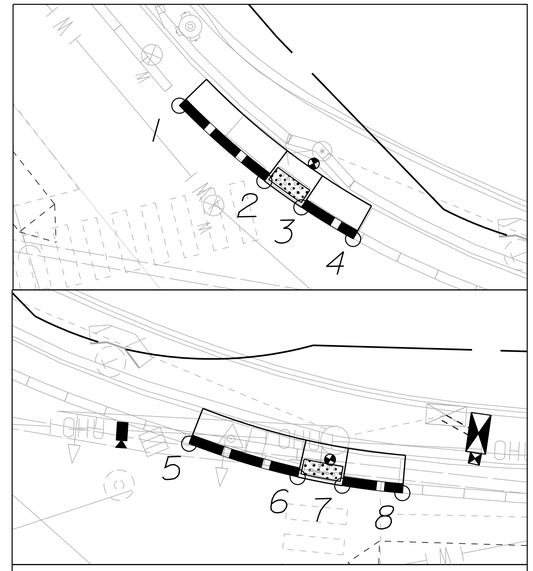
EQUIPMENT AND WORK ITEMS	QUANTITY
TERMINAL CURB TYPE 1 (ITEM 609.221)	54 LF
TERMINAL CURB TYPE 1 - CIRCULAR (ITEM 609.222)	24 LF
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	42.4 SF

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

PLAN

25 0 25 50
Scale of Feet

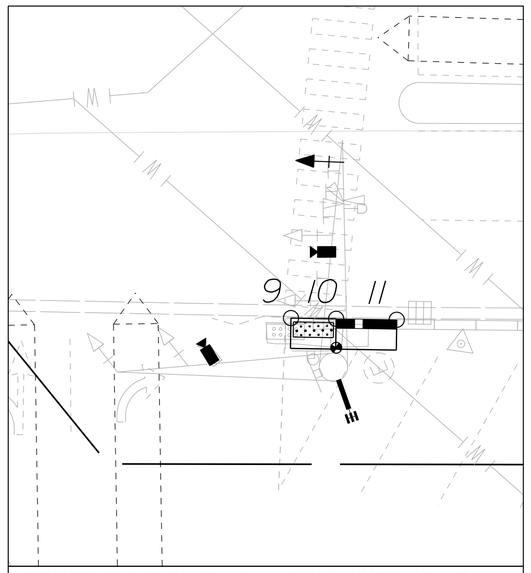
A CORNER - SE DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

10 0 10 20
Scale of Feet

B CORNER - NW DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

10 0 10 20
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

PROJ. MANAGER	B.KEEFER		
DESIGN-DETAILED	NLS	BY	DATE
CHECKED-REVIEWED	BRL	NLS	11\20
DESIGN2-DETAILED2		BRL	11\20
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WINSLOW
ROUTE 201 AT HALIFAX ST
CURB RAMP LAYOUT AND DETAIL PLAN

SHEET NUMBER
102C
OF 358

Filename: ...\Winslow\103_Signal_103.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

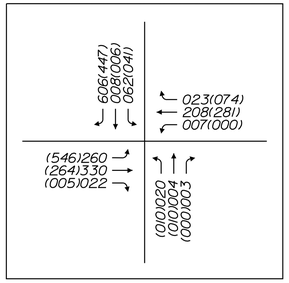
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT $^{32}/_{48}$ SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
FURNISH AND INSTALL ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) BUTTON WITH 9"X15" R10-3e INFORMATIONAL SIGN	6
RESET PREEMPTION PHASE SELECTOR	1
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL NEW SIGNAL CABLE	-
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES. COMPLETE (ITEM 643.21)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

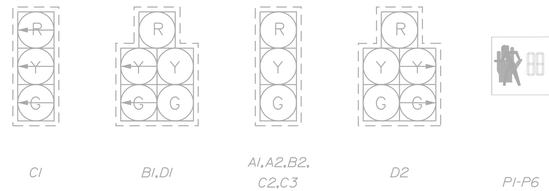
STRUCTURE LIST

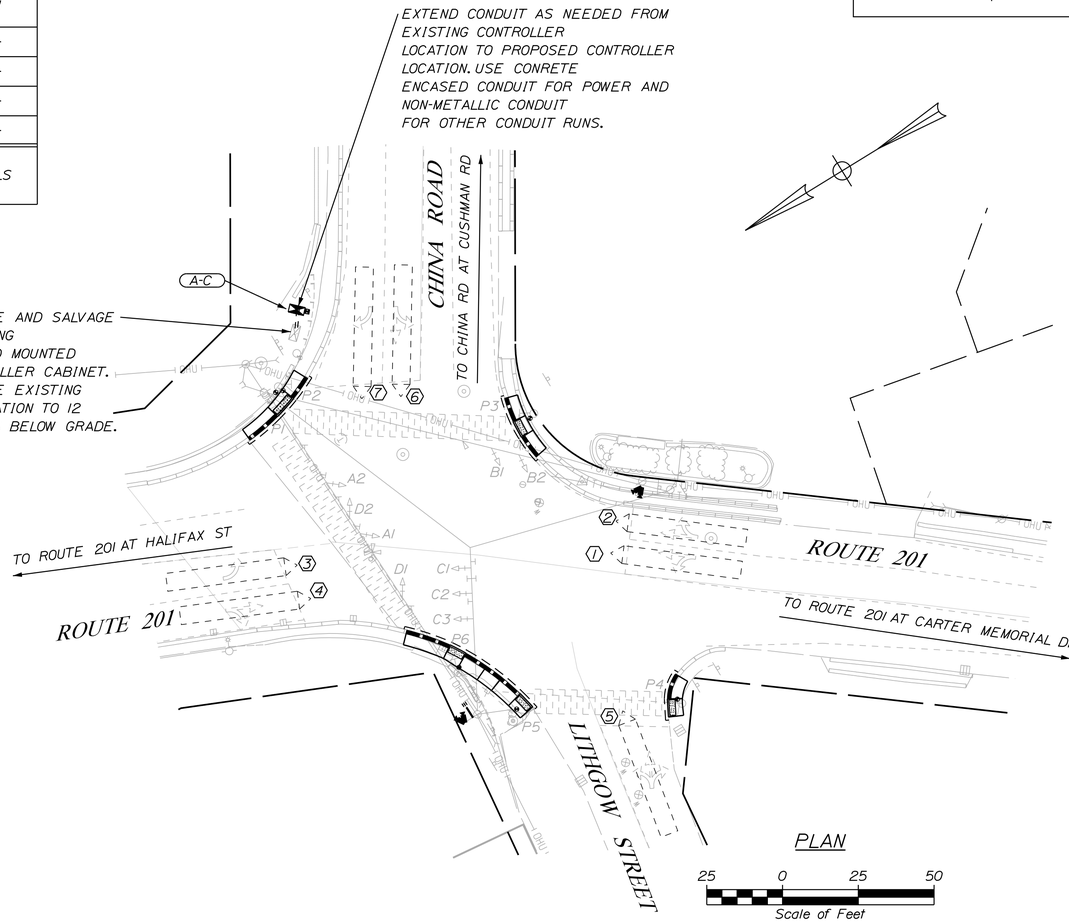
STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"

SYSTEM DESIGN VOLUMES AM (PM)



EXISTING INDICATIONS
TO REMAIN





PLAN

25 0 25 50
Scale of Feet

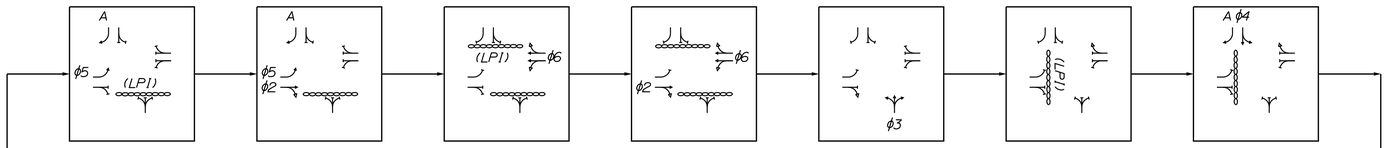
DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADV. B=S.BAR	DELAY TIME	EXT. TIME
1	ROUTE 201 NB LEFT/THRU	6	6	B	-	-
2	ROUTE 201 NB THRU/RIGHT	6	6	B	-	-
3	ROUTE 201 SB LEFT	5	5	B	-	-
4	ROUTE 201 SB THRU/RIGHT	2	2	B	-	-
5	LITHGOW STREET	3	3	B	-	-
6	CHINA ROAD LEFT/THRU	4	4	B	-	-
7	CHINA ROAD RIGHT	4	4	B	-	-

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

2 | 3 4
5 6 ||



OVERLAP PHASING:
OVL A = φ4 + φ5

PHASING NOTES:
1. EACH PEDESTRIAN PHASE SHALL HAVE A MINIMUM OF A 4 SECOND LEADING PEDESTRIAN INTERVAL(LPI).
2. PEDESTRIAN PHASE UPON PUSH BUTTON ACTIVATION ONLY.
3. GREEN ARROW INDICATION FOR OVERLAP A IS DISABLED WHEN THE PHASE 4 PEDESTRIAN PHASE IS ACTIVE.

SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ 1	φ 2	φ 3	φ 4	φ 5	φ 6	φ 7	φ 8
MOVEMENT	-	C	B	D	C(LT)	A	-	-
MINIMUM INITIAL	-	5.0	5.0	5.0	5.0	10.0	-	-
PASSAGE TIME	-	3.5	2.5	2.0	3.0	3.0	-	-
MAXIMUM 1	-	45.0	10.0	28.0	16.0	24.0	-	-
MAXIMUM 2	-	-	-	-	-	-	-	-
YELLOW	-	3.0	3.0	3.0	3.0	3.0	-	-
ALL RED	-	3.5	3.0	3.0	3.5	3.5	-	-
PED WALK	-	5.0	-	7.0	-	7.0	-	-
PED CLEAR	-	12.0	-	25.0	-	19.0	-	-
RECALL	-	S	0	0	0	S	-	-
DETECTOR	-	PR	PR	PR	PR	PR	-	-
PREEMPT PRIORITY	-	3	5	6	3	4	-	-
FLASH	-	Y	R	R	R	Y	-	-
DUAL ENTRY	-	ON	OFF	OFF	OFF	ON	-	-

SIGNAL TIMING NOTES:
1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONCTRACT AWARD.
2. DEFINITIONS
   S = SOFT RECALL Y = YELLOW
   0 = RECALL OFF R = RED
   PR = PRESENCE D = DARK

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 22686.00.

* - RIGHT-OF-WAY REFERENCE: RIGHT-OF-WAY INFORMATION DISPLAYED WAS SURVEYED UNDER WIN 22686.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

B:KEEZER	BY	DATE
PROJ. MANAGER		
DESIGN-DETAILED	CMT	11\20
CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WINSLOW
ROUTE 201 AT CHINA RD

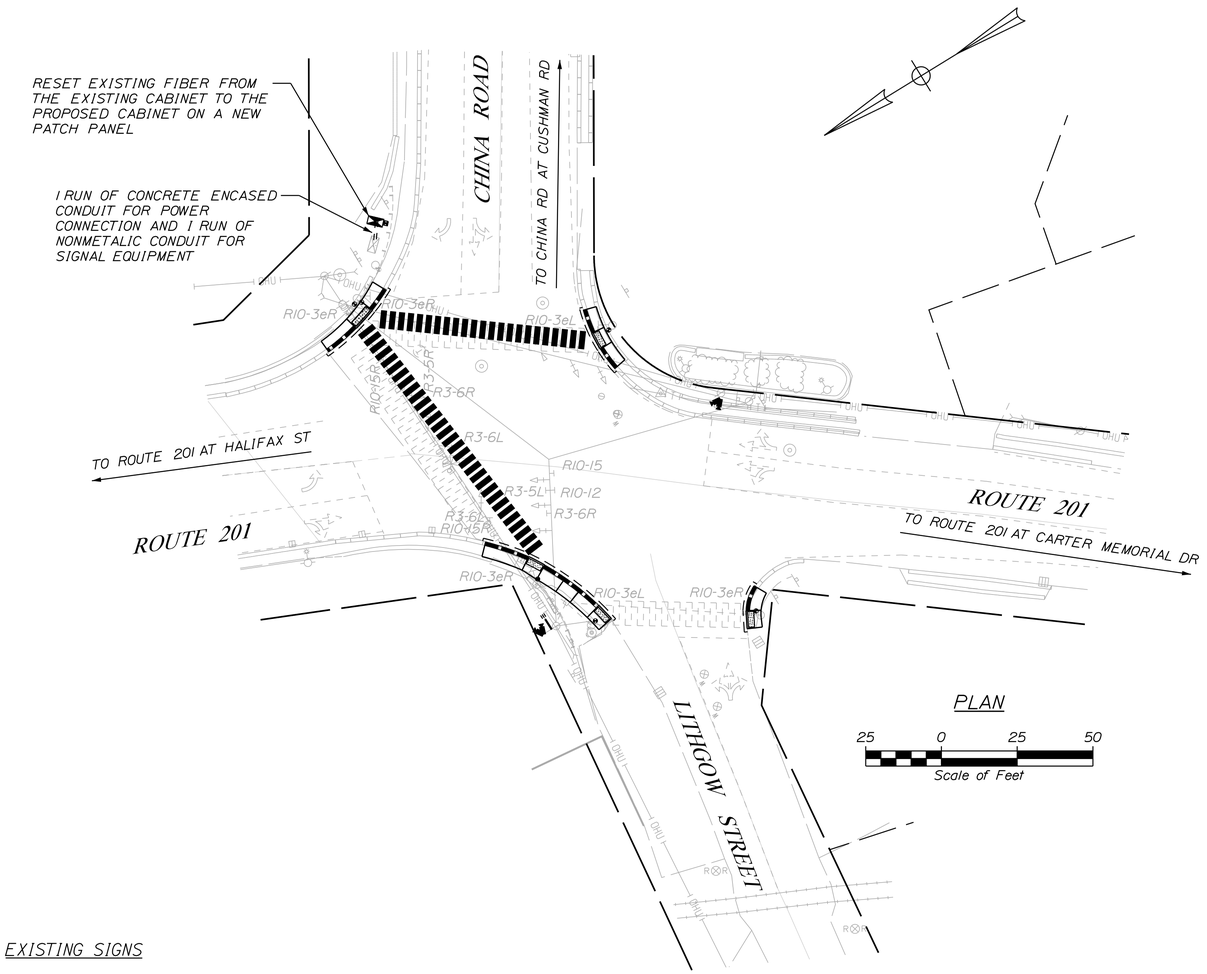
TRAFFIC SIGNAL PLAN

SHEET NUMBER
103
OF 358

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	20 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	10 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL WHITE PAVEMENT AND CURB MARKING (ITEM 627.75)	648 SF
REMOVE EXISTING PAVEMENT MARKING (ITEM 627.77)	648 SF
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PLAN

25 0 25 50

Scale of Feet

EXISTING SIGNS



RIO-12 30"x36" 1-RETAINED | R3-5L 30"x36" 1-RETAINED | R3-6L 30"x36" 2-RETAINED | R3-6R 30"x36" 2-RETAINED | R3-5R 30"x36" 1-RETAINED | RIO-15R 30"x30" 2-RETAINED | RIO-15 30"x30" 1-RETAINED | RIO-3eL 9"x15" 2-RETAINED | RIO-3eR 9"x15" 4-RETAINED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	1	ϕ3
R2	2	RESERVED	
R3	3	1	ϕ2&ϕ5
R4	4	2	ϕ6
R5	5	3	ϕ3
R6	6	4	ϕ4

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 6 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN OR RAILROAD PREEMPTION IS ON.
6. THE CONTRACTOR OR HIS REPRESENTATIVE SHALL TRANSFER THE EXISTING RAILROAD PREEMPTION CABLE TO THE NEW CONTROLLER. EXISTING RAILROAD PREEMPTION FUNCTIONALITY SHALL BE RETAINED. IN THE EVENT OF AN UNFORESEEN DISCREPANCY WITH PROPOSED SIGNAL OPERATIONS, THE MOST CONSERVATIVE APPROACH TO RESOLVE DISCREPANCY SHALL BE APPLIED.
7. PREEMPT ASSIGNMENT #1 (R1) SHALL CLEAR TO PROPOSED PHASE 3 (LITHGOW STREET) FOR A GREEN CLEAR DURATION PREVIOUSLY ASSIGNED IN THE EXISTING TRAFFIC SIGNAL CONTROLLER. AT THE COMPLETION OF THE TRACK CLEAR TIME, THE CONTROLLER SHALL DWELL (AND CYCLE) BETWEEN PROPOSED PHASES 2, 5, AND 6 UNTIL THE RAILROAD PREEMPTION TERMINATES. UPON TERMINATION OF THE RAILROAD PREEMPTION THE TRAFFIC SIGNAL CONTROLLER SHALL RESUME NORMAL OPERATIONS EXISTING TO PHASES 2 AND 6.
8. AT NO POINT SHALL A TRAFFIC SIGNAL CONTROLLER THAT PRESENTLY PROVIDES RAILROAD PREEMPTION BE LEFT IN A STATE WITHOUT RAILROAD PREEMPTION (OR POLICE CONTROL WHEN THE EXISTING TRAFFIC SIGNAL CONTROL IS TRANSFERRED TO THE NEW TRAFFIC SIGNAL CONTROL) DURING CONSTRUCTION.

NOTE:

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

	B.KEEZER	DATE
PROJ. MANAGER		
DESIGN-DETAILED	CMT	11\20
CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WINSLOW
ROUTE 201 AT CHINA RD

TRAFFIC SIGNAL PLAN

SHEET NUMBER

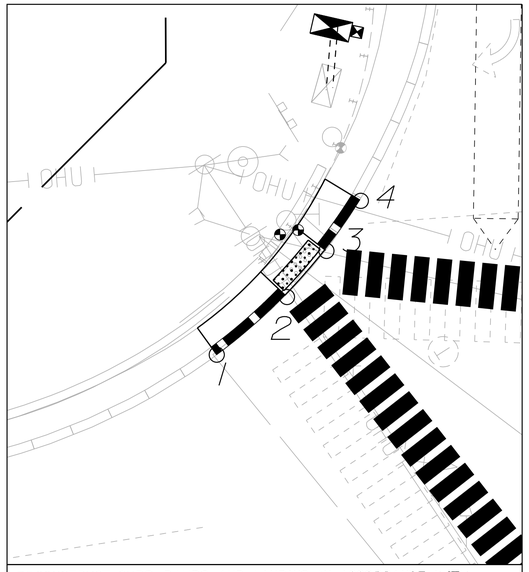
103A

OF 358

Filename: ...\Winslow\103A_Signal_103.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

Filename: ...\Winslow\103C_Signal_103.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

A CORNER - NE DETAIL

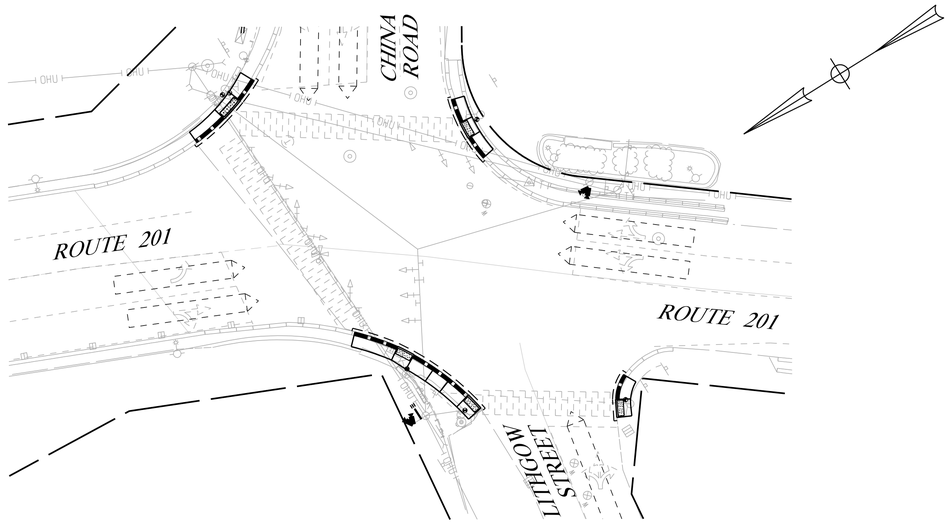


RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(20).

10 0 10 20
Scale of Feet

PT. TO PT.	RADIUS (FT)	ITEM 608.26 - CURB RAMP DETECTABLE WARNING FIELD (SF)		ITEM 609.11 - VERTICAL CURB TYPE 1 (LF)	ITEM 609.221 - TERMINAL CURB TYPE 1 (LF)	ITEM 609.222 - TERMINAL CURB TYPE 1 - CIRCULAR (LF)	COMMENT
		LENGTH (FT)	QTY (SF)				
1 TO 2	75.00				12.0		
* 2 TO 3	75.00	8.0	14.4				5.3% CROSS SLOPE
3 TO 4	75.00				8.0		
5 TO 6	50.00					8.0	
6 TO 7	50.00	6.0	10.6				
7 TO 8	50.00					8.0	
9 TO 10	6.00		10.6				
10 TO 11	15.00					9.0	
12 TO 13	87.00	6.0	10.6				
13 TO 14	87.00				8.0		
14 TO 15	87.00			6.3			4" CURB REVEAL
15 TO 16	87.00				8.0		
* 16 TO 17	87.00	6.0	10.6				3.2% CROSS SLOPE
* 17 TO 18	87.00				15.0		8.8% RUNNING SLOPE

* NON-COMPLIANT CURB RAMP ELEMENT - THE SLOPE NOTED IN THE COMMENT IS THE MAXIMUM VALUE FOR PROPOSED LEVEL OF COMPLIANCE.



ALL CURB RAMPS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND MAINEDOT STANDARD DETAILS 801(11) to 801(26) AS NOTED, AS WELL AS DETAILS PROVIDED ON SHEET H.

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
REGRADING SIDEWALK (ITEM 608.46)	59.9 SY
HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (ITEM 403.210)	4.5 TONS
PLAIN CONCRETE SIDEWALK (ITEM 608.07)	59.9 SY

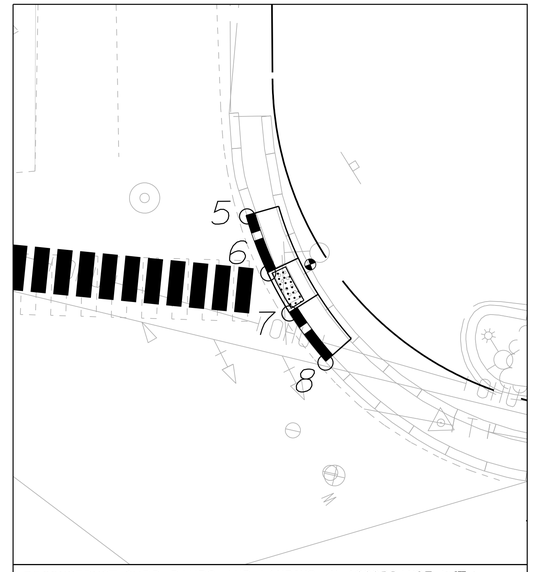
EQUIPMENT AND WORK ITEMS	QUANTITY
TERMINAL CURB TYPE 1 (ITEM 609.221)	51 LF
VERTICAL CURB TYPE 1 - CIRCULAR (ITEM 609.12)	6.3 LF
TERMINAL CURB TYPE 1 - CIRCULAR (ITEM 609.222)	25 LF
CURB RAMP DETECTABLE WARNING FIELD (ITEM 608.26)	56.8 SF

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PLAN

25 0 25 50
Scale of Feet

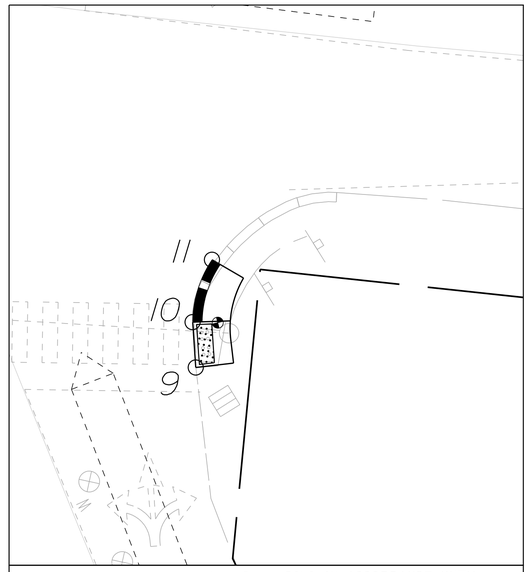
B CORNER - SE DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

10 0 10 20
Scale of Feet

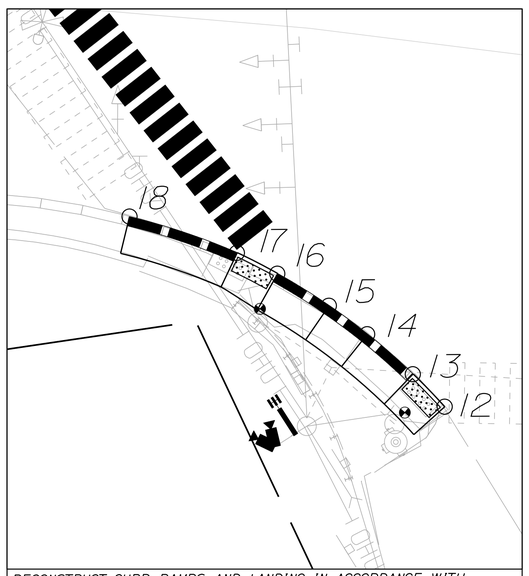
C CORNER - SW DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

10 0 10 20
Scale of Feet

D CORNER - NW DETAIL



RECONSTRUCT CURB RAMPS AND LANDING IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 801(14).

10 0 10 20
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

PROJ. MANAGER	B.KEEFER	BY	DATE
DESIGN-DETAILED	NLS	NLS	11\20
CHECKED-REVIEWED	BRL	BRL	11\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WINSLOW
ROUTE 201 AT CHINA ROAD
CURB RAMP LAYOUT AND DETAIL PLAN

SHEET NUMBER
103C
OF 358

LIST OF WORK ITEMS

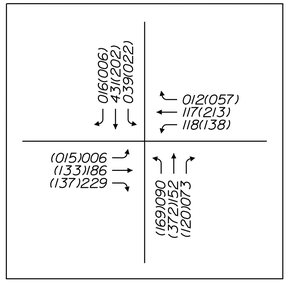
EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
FURNISH AND INSTALL NEW ATCC MAINEDOT $^{32}/_{48}$ SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM.	1
RESET PREEMPTION PHASE SELECTOR	1
RESET FIBER OPTIC ETHERNET SWITCH WITH FIBER OPTIC INTERFACES	1
FURNISH AND INSTALL 19-INCH 1 RU FIBER OPTIC 12-POSITION PATCH PANEL WITH PIGTAILS	1
FURNISH AND INSTALL NEW SIGNAL CABLE	-
RESET EXISTING 12-F FIBER IN PROPOSED CABINET	-
IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	-
REMOVE AND SALVAGE EXISTING SIGNAL EQUIPMENT	-
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 4 APPROACHES. COMPLETE (ITEM 643.21)	1 LS
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR 4 APPROACHES. COMPLETE (ITEM 643.22)	1 LS

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

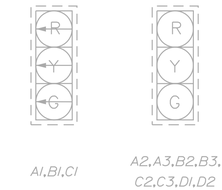
STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION
A-C	CONTROLLER CABINET	L48"xW36"xH48"

SYSTEM DESIGN VOLUMES AM (PM)



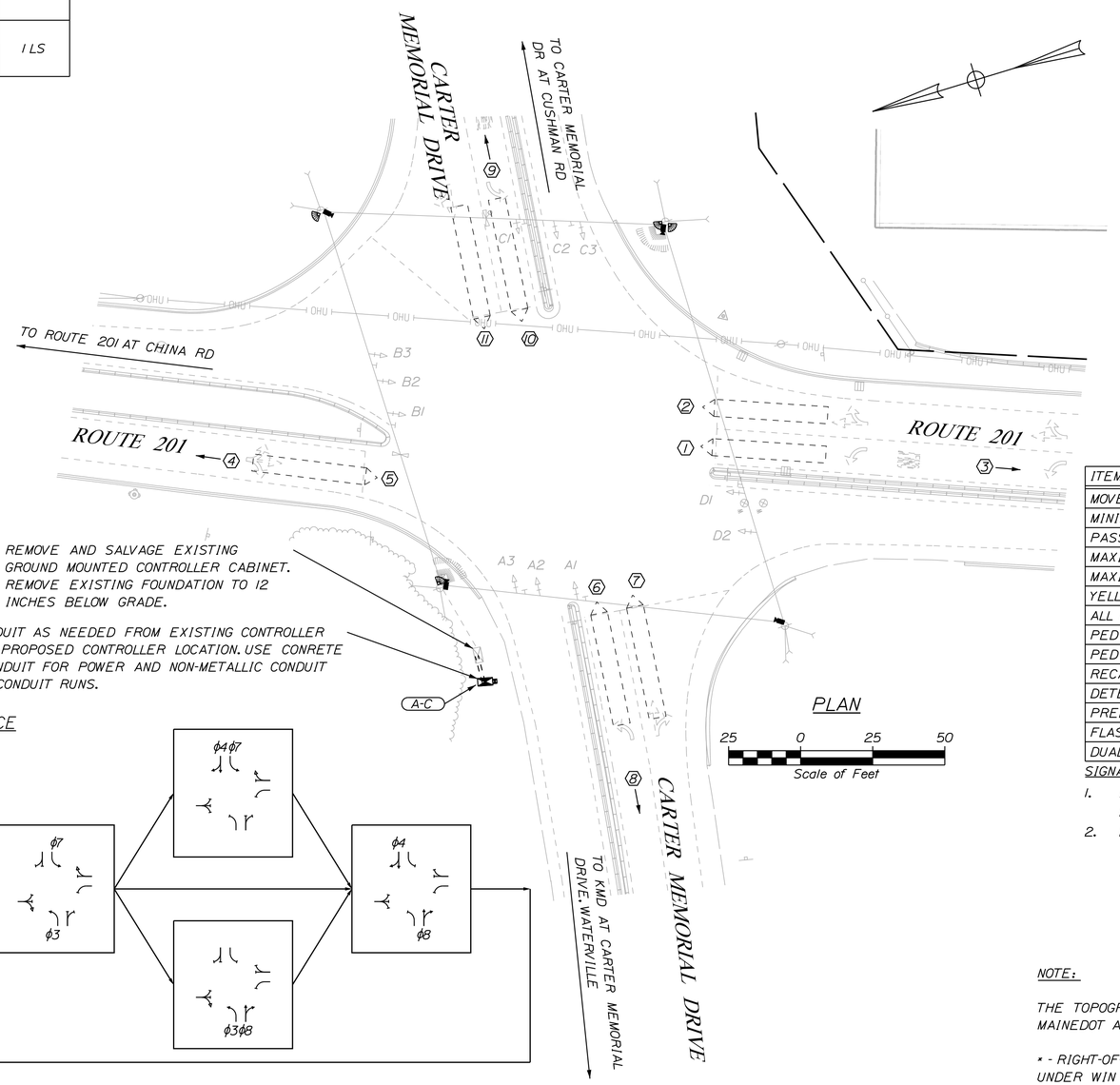
EXISTING INDICATIONS
TO REMAIN



DETECTOR SCHEDULE

DETECTOR ZONE NO.	LOCATION	φ CALLED	φ EXT.	MODE A=ADV. B=S.BAR	DELAY TIME	EXT. TIME
①	ROUTE 201 NB LEFT	1	1	B	-	-
②	ROUTE 201 NB THRU/RIGHT	6	6	B	-	-
③**	ROUTE 201 NB ADVANCE	6	6	A	-	-
④*	ROUTE 201 SB ADVANCE	2	2	A	-	-
⑤	ROUTE 201 SB	2	2	B	-	-
⑥	CARTER MEM DR EB LEFT	3	3	B	-	-
⑦	CARTER MEM DR EB THRU/RIGHT	8	8	B	-	-
⑧**	CARTER MEM DR EB ADVANCE	8	8	A	-	-
⑨**	CARTER MEM DR WB ADVANCE	7	7	A	-	-
⑩	CARTER MEM DR WB LEFT	4	4	B	-	-
⑪	CARTER MEM DR WB THRU/RIGHT	4	4	B	-	-

*SEE ADVANCED DILEMMA ZONE DETAIL (35 MPH)
**SEE ADVANCED DILEMMA ZONE DETAIL (45 MPH)



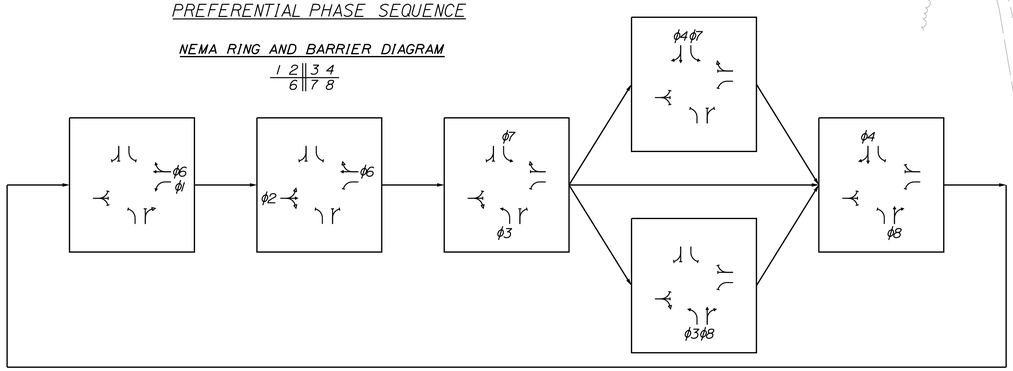
PLAN

25 0 25 50
Scale of Feet

PREFERENTIAL PHASE SEQUENCE

NEMA RING AND BARRIER DIAGRAM

$\frac{1\ 2}{6}\|\frac{3\ 4}{7\ 8}$



SIGNAL TIMING SCHEDULE

ITEM / PHASE	φ 1	φ 2	φ 3	φ 4	φ 5	φ 6	φ 7	φ 8
MOVEMENT	B(LT)	D	D(LT)	A	-	B	A(LT)	D
MINIMUM INITIAL	5.0	10.0	5.0	5.0	-	10.0	5.0	5.0
PASSAGE TIME	3.0	3.0	3.0	3.0	-	3.0	3.0	3.0
MAXIMUM 1	14.0	15.0	10.0	37.0	-	35.0	16.0	31.0
MAXIMUM 2	-	-	-	-	-	-	-	-
YELLOW	4.5	4.5	4.0	4.0	-	4.5	4.0	4.0
ALL RED	1.5	1.5	1.0	1.0	-	1.5	1.0	1.0
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
RECALL	0	S	0	0	-	S	0	0
DETECTOR	PR	PR	PR	PR	-	PR	PR	PR
PREEMPT PRIORITY	4	3	6	5	-	4	5	6
FLASH	R	Y	R	R	-	Y	R	R
DUAL ENTRY	OFF	ON	OFF	ON	-	ON	OFF	ON

SIGNAL TIMING NOTES:

1. IF APPLICABLE, COORDINATION PATTERNS AND TIME-OF-DAY PLANS SHALL BE PROVIDED AFTER CONCTRACT AWARD.
2. DEFINITIONS
   - S = SOFT RECALL
   - O = RECALL OFF
   - PR = PRESENCE
   - Y = YELLOW
   - R = RED
   - D = DARK

NOTE:

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TRAFFIC PLANS

SEBAGO TECHNICS
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75 John Roberts Rd.
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	BY	DATE
PROJ. MANAGER	B.KEEZER	
DESIGN-DETAILED	CMT	11\20
CHECKED-REVIEWED	BRL	11\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

WINSLOW
ROUTE 201 AT CARTER MEM DR

TRAFFIC SIGNAL PLAN

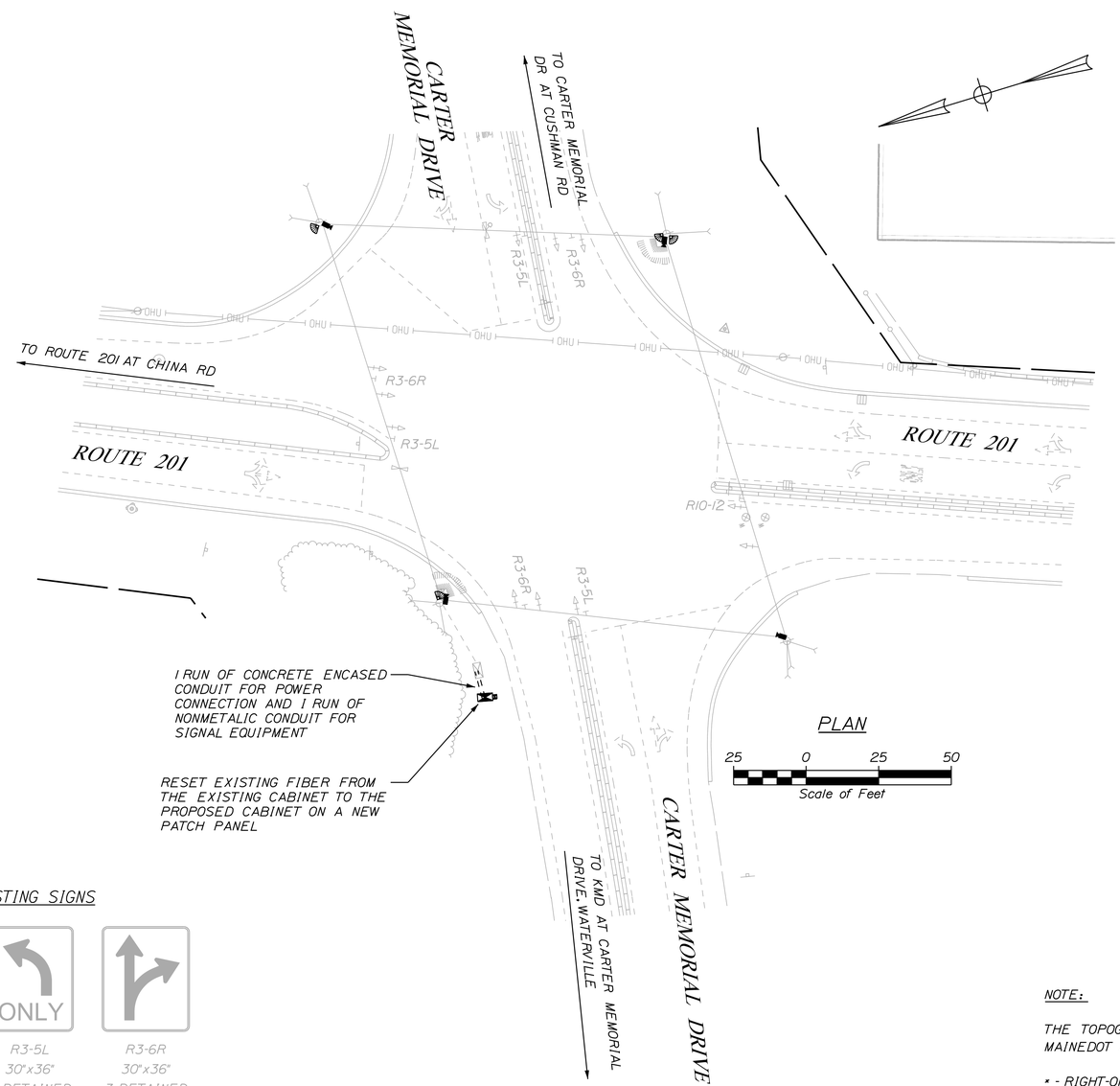
SHEET NUMBER
104
OF 358

Filename: ...\Winslow\104_Signal_104.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020

LIST OF WORK ITEMS

EQUIPMENT AND WORK ITEMS	QUANTITY
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	20 LF
FURNISH AND INSTALL NON-METALLIC CONDUIT, CONCRETE ENCASED (ITEM 626.221)	10 LF
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.35)	1 EA
FURNISH AND INSTALL DUAL MODE DSRC/C-V2X (ITEM 654.351)	1 EA

THE LISTED QUANTITIES ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.



PLAN

25 0 25 50

Scale of Feet

EXISTING SIGNS



R10-12	R3-5L	R3-6R
30"x36"	30"x36"	30"x36"
1-RETAINED	3-RETAINED	3-RETAINED

EMERGENCY VEHICLE PREEMPTION OPERATION

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	1	RESERVED	
R2	2	RESERVED	
R3	3	1	ϕ2
R4	4	2	ϕ1&ϕ6
R5	5	3	ϕ4&ϕ7
R6	6	4	ϕ3&ϕ8

PRE-EMPTION NOTES:

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (TYPICALLY EXISTING, BUT WHERE APPLICABLE PROVIDED BY OTHERS) AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 6 = LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECONDS OR UNTIL THE PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 2.5 SECONDS ALL RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PRE-EMPTION CYCLE, THE CONTROLLER SHALL TIME THE PRE-EMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

NOTE:

THE TOPOGRAPHIC INFORMATION DISPLAYED IN THIS PLAN WAS RECEIVED FROM THE MAINEDOT AND WAS SURVEYED UNDER WIN 22686.00.

* - RIGHT-OF-WAY REFERENCE: RIGHT-OF-WAY INFORMATION DISPLAYED WAS SURVEYED UNDER WIN 22686.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NO. 2430100

WIN 024301.00

TRAFFIC PLANS

SEBAGO TECHNICS
WWW.SEBAGOTECHNICS.COM
75 John Roberts Rd.
Suite 4A
South Portland, ME 04106
Tel. 207-200-2100

PROJ. MANAGER	B.KEEZER		
DESIGN-DETAILED	CMT	BY	DATE
CHECKED-REVIEWED	BRL	CMT	11\20
DESIGN2-DETAILED2		BRL	11\20
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

WINSLOW
ROUTE 201 AT CARTER MEM DR

TRAFFIC SIGNAL PLAN

SHEET NUMBER

104A

OF 358

Filename: ...\Winslow\104A_Signal_104.dgn Division: HIGHWAY Username: CThompson Date:11/19/2020