STATE OF MAINE DEPARTMENT OF TRANSPORTATION



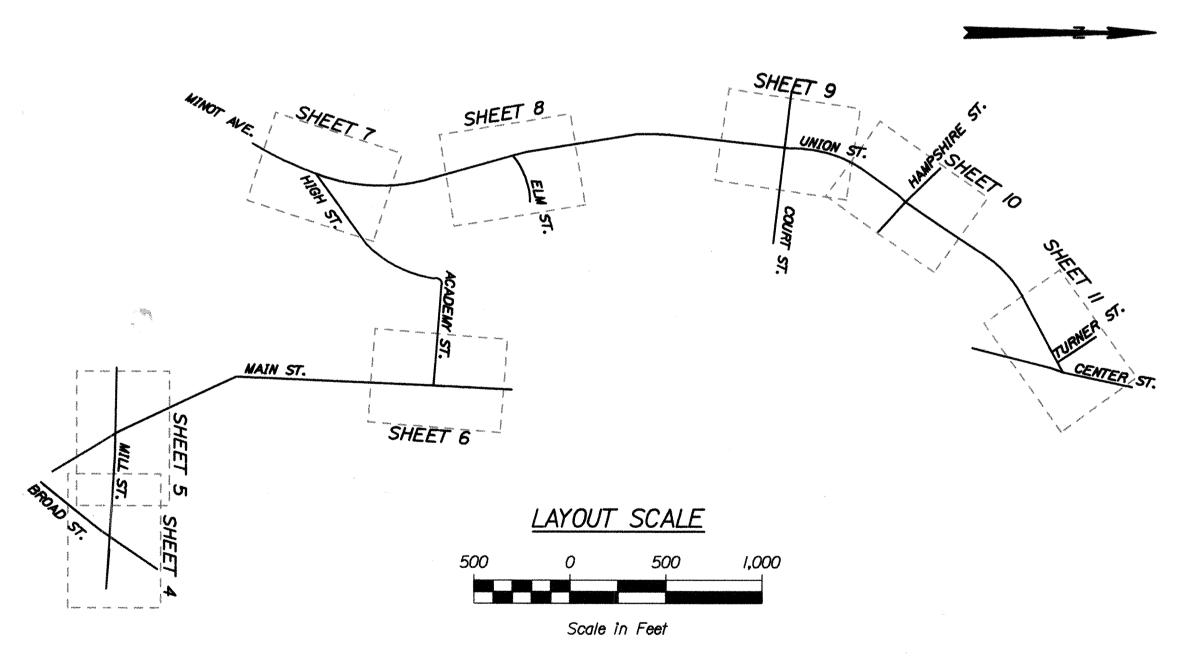
AUBURN

ANDROSCOGGIN COUNTY

UNION ST./MINOT AVE. & MAIN ST.

US DOE ARRA FUNDING

PROJECT LENGTH: 1.263 MILES TRAFFIC SIGNAL SYSTEM IMPROVEMENTS



TRAFFIC DATA

Current Main St. (2008) AADT	18,160
DHV - 10% of AADT	1,820
Current Mill St. (2008) AADT	13,280
DHV - 10% of AADT	1,330
Current Academy St. (2008) AADT	4,470
DHV - 10% of AADT	447
Current Minot Ave. (2008) AADT	9,910
DHV - 10% of AADT	991
Current Union Bypass. (2008) AAD'	r
DHV - 10% of AADT	1,910
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INDEX OF SHEETS

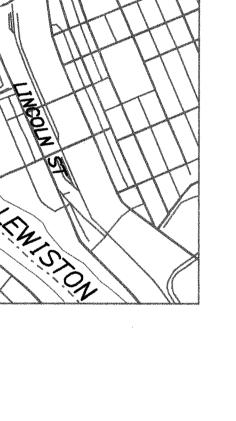
Description	Sheet No.
Title Sheet	
General Notes & Special Details	
Interconnect Plan	3
Traffic Signal Plans	4-11

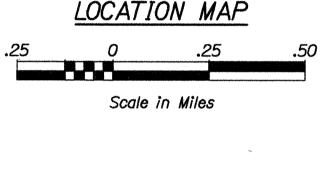
PROGRAM AREA: MAINTENANCE AND OPERATIONS SCOPE OF WORK: SIGNAL EQUIPMENT AND

COMMUNICATION UPGRADES

SHEET NUMBER

OF 11





PLAN L	<u>EGEND</u>
Town, County, State———————————————————————————————————	Centerline-Existing Centerline-Proposed
Culvert-Existing ————————————————————————————————————	Catch Basins Existing Proposed Manholes Existing Proposed Proposed Underdrain Proposed Ditch Existing Ditch
Type 3 Type 5 Outline of Bodies of Water——— Ledge ————— Buildings————————————————————————————————————	Utility Poles ϕ Existing ϕ Proposed Fire Hydrants ϕ Existing ϕ Proposed Existing Water Line Existing San. Sewer Manhole ϕ
Trees • Conifer (3) Deciduous Tree Line Clearing Limit Line————————————————————————————————————	Guardrail-Existing ————————————————————————————————————

GENERAL NOTES:

- I. PRIOR TO ANY CONSTRUCTION, EXCAVATION, TEST BORINGS, ETC. DIG SAFE MUST BE NOTIFIED AND A SITE IDENTIFICATION NUMBER ALONG WITH A SAFE TO DIG DATE OBTAINED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING THE LOCATION, DEPTH, AND MATERIAL OF ALL SUBSURFACE UTILITY LINES LOCATED WITHIN THE CONSTRUCTION AREA.
- 2. THE INTERSECTION BASE PLANS SHOWN ON SHEETS 4-II WERE DIGITIZED BY SEBAGO TECHNICS, INC. BASED ON 2006 AERIAL PHOTOGRAPHY. SUPPLEMENTAL INFORMATION WAS OBTAINED BY SEBAGO TECHNICS, INC. FROM FIELD REVIEWS AND SIGNAL INVENTORIES CONDUCTED ON APRIL IST. 7TH AND 8TH. 2010
- 3. ROW PLAN REFERENCES:
- A. MAINE DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP. MAIN ST. AND ACADEMY ST. FEDERAL AID PROJECT NO. M-020/(2), DOT FILE NO.I-164, SHEET I OF I. DATED JANUARY 1983.
- B.MAINE DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP STATE HIGHWAY "17", FEDERAL AID PROJECT NO. DP-020S(I), DOT FILE NO I-133, SHEETS 3-4 OF 4, DATED OCTOBER, 1979.
- C. MAINE STATE HIGHWAY COMMISSION RIGHT OF WAY MAP STATE HIGHWAY "21" FEDERAL AID PROJECT NO. U-02K(15), SHC FILE NO 1-10I, SHEET 1-10 OF 10. DATED JUNE 1971.
- D. MAINE DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP, STATE HIGHWAY "IT" FEDERAL AID PROJECT NO. F-017-1(58), DOT FILE NO. 1-192, SHEETS I AND 3 OF 4, AUGUST 1989.
- E. MAINE DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP, HIGH STREET, FEDERAL AID PROJECT NO. M-0204(2). DOT FILE NO 1-179, SHEET 1 OF 2, APRIL 1986.

TRAFFIC SIGNALS GENERAL NOTES

- I. EXISTING TRAFFIC SIGNAL SHALL REMAIN OPERATIONAL UNTIL NEW EQUIPMENT IS IN PLACE AND READY FOR SWITCHOVER.
- 2. ALL REMOVED EQUIPMENT SHALL BE SALVAGED TO THE CITY OF AUBURN, ME ELECTRICAL DEPARTMENT.
- 3. EQUIPMENT AND CONSTRUCTION SHALL MEET MAINE DOT AND CITY OF AUBURN, ME STANDARDS.
- 4. THE CONTRACTOR SHALL MEET ALL UTILITY REQUIREMENTS FOR NEW (AND RENEWED) SERVICE CONNECTIONS.
- 5. DIG SAFE SHALL BE CONTACTED BY SIGNAL CONTRACTOR PRIOR TO ANY EXCAVATION.
- 6. TRAFFIC SIGNAL WORK SHALL BE COMPLETED IN A MANNER AND ORDER THAT WILL CAUSE A MINIMUM DISRUPTION TO TRAFFIC.
- 7. SIGNAL CONTRACTOR SHALL NOTIFY DESIGN ENGINEER THREE (3) DAYS PRIOR TO THE NEW TRAFFIC SIGNAL BEING PUT INTO OPERATION.

DETECTION

I. INSTALL TRAFICON TRAFICAM (OR APPROVED EQUAL) CMOS PRESENCE SENSORS (BLACK AND WHITE) AS SHOWN ON THE PLANS, AND RELATED HARDWARE IN THE CABINET. VIDEO DETECTORS SHALL BE MOUNTED AT THE OPTIMAL HEIGHT AS DETERMINED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE RESIDENT ENGINEER. SPECIAL CARE SHALL BE TAKEN TO INSURE THAT THE TRAFFIC IS FULLY DETECTED AS INTENDED, AS NOTED ON THE SIGNAL PLAN CAMERAS SHALL BE EQUIPPED WITH A SPECIFIED LENS. REPLACEMENT INDUCTIVE LOOPS SHALL BE USED AT ONE INTERSECTION

<u>SIGNAL HEADS/INDICATIONS</u>

I. SHALL BE I2" DIAMETER WITH LED LENSES.

SIGNAL HEAD MOUNTING

I. BOTTOM OF HOUSING OF NEW SIGNAL HEADS SHALL BE AT LEAST 16', BUT NOT MORE THAN 19', ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY.

CONTROLLER CABINET FOUNDATION

- I. PROPOSED NEW P-44 CABINET FOUNDATIONS SHALL MEET MAINEDOT SPECIFICATIONS.
- 2. PROPOSED NEW P-44 CABINET FOUNDATIONS AT EXISTING PEDESTAL MOUNTED CABINETS SHALL BE "SKIRTED" AROUND EXISTING PEDESTAL FOUNDATIONS.

CABINET AND CONTROLLER

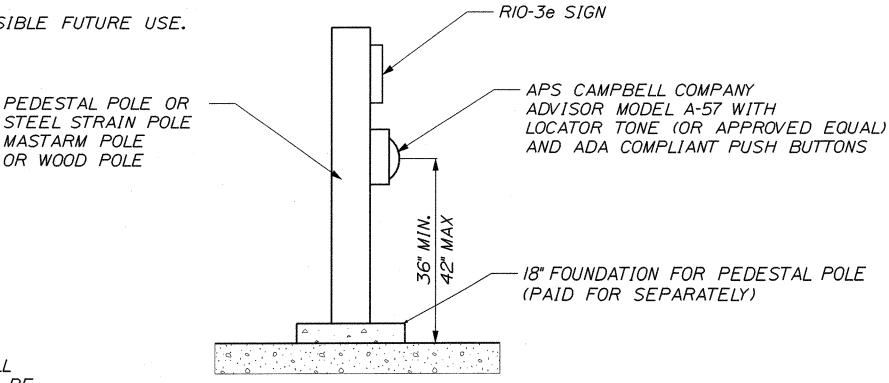
- I. INSTALL NAZTEC TS-2 TYPE I CONTROLLER AND NEMA P-44 CABINET CABINETS WITH 15" EXTENSIONS OR AS NOTED ON PLANS.
- 2. ALL SPLICES WILL BE MADE IN THE CABINET AND MEET MAINEDOT'S SPECIFICATIONS.
- 3. ONE COPY OF AS-BUILT PLANS, WIRING DIAGRAMS, BOX PRINTS AND EQUIPMENT MANUALS FOR EACH PIECE OF EQUIPMENT SHALL BE LEFT IN THE CABINET.
- 4. ALL MAJOR COMPONENTS OF THE CONTROLLER CABINET ASSEMBLY SHALL BE FROM THE SAME MANUFACTURER. THIS INCLUDES CABINET ASSEMBLY, CONTROLLER, MMU, BIU'S, AND CABINET POWER SUPPLY.
- 5. PROPOSED CABINETS SHALL HAVE A FULL COMPLEMENT OF LOAD PAKS, TRANSFER RELAYS.
- 6. PROPOSED CABINETS SHALL BE PROVIDED BY 4-WAY OPTICAL PREEMPTIOIN, EXISTING OPTICAL DETECTORS SHALL REMAIN.
- 7. EXISTING DETECTION SHALL BE TESTED AND TAGGED IN NEW CABINET FOR POSSIBLE FUTURE USE.

<u>PEDESTRIAN SIGNALS & PUSH BUTTONS</u>

- I. HEADS SHALL BE I-WAY I-SECTION 16" X 18" HAND/MAN WITH COUNTDOWN MODULE BY GE LUMINATION GTI SERIES - MCCAIN MODEL 1000 SERIES (OR EQUAL) HOUSING, HAND/MAN SYMBOL SHALL BE FILLED AND NOT OUTLINED.
- 2. HEADS SHALL BE EQUIPPED WITH CAP (CUT-AWAY) VISORS.
- 3. HEADS SHALL BE CONSTRUCTED OF YELLOW POLYCARBONATE MATERIAL WITH BLACK FACES.
- 4. INSTALL ACCESSIBLE PEDESTRIAN SIGNAL (APS) PUSH BUTTONS CAMPBELL COMPANY ADVISOR MODEL (A-57) (OR EQUAL) WITH RIO-3e PUSH BUTTON SIGNS AT LOCATIONS SHOWN ON TRAFFIC SIGNAL PLAN SHEETS, SIGNS SHALL BE POSTED AT EACH AUDIBLE SIGNAL PUSH BUTTON STATING WHICH STREET MAY BE CROSSED BASED UPON THE RELATED PUSH BUTTON.
- THE AUDIBLE WALK INTERVAL MESSAGES USED SHALL BE, FOR INSTANCE, AS FOLLOWS:
 - "UNION, WALK SIGN IS ON TO CROSS UNION".
- THE NAME OF THE STREET TO CROSS WILL CHANGE WITH EACH AUDIBLE PUSH BUTTON.
- THE AUDIBLE PUSH BUTTON IDENTIFICATION INFORMATION MESSAGES USED DURING THE NON-WALK PHASES SHALL BE, FOR INSTANCE, AS FOLLOWS:
- "WAIT TO CROSS UNION AT TURNER"
- ALL CONTROLLERS MUST HAVE "STOP IN WALK" SET "ON". PAYMENT FOR RIO-3e SIGNS AND PUSH BUTTONS SHALL BE INCLUDED IN THE RESPECTIVE 4' PEDESTAL POLE (ITEM 643.92) OR STEEL STRAIN POLES (ITEM 643.93) ITEMS.
- 5. PEDESTRIAN SIGNALS SHALL BE BLANK DURING FLASHING OPERATION.
- 6. LOCATOR TONES FOR ALL PUSH BUTTONS ARE REQUIRED. VOLUME IS TO AUTOMATICALLY ADJUST TO AMBIENT NOISE LEVELS.

PREEMPTION

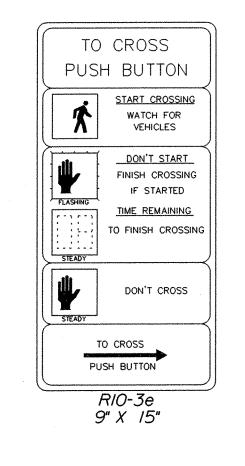
- I. EMERGENCY VEHICLE PREEMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS (BY OTHERS) MOUNTED IN EMERGENCY VEHICLES AND RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
- 2. PREEMPTION SIGNALS SHALL BE SERVICED ON A FIRST DETECTED, FIRST SERVED BASIS.
- 3. IN RESPONSE TO A PREEMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL HOLD IN OR ADVANCE TO AND HOLD IN THE EMERGENCY PREEMPTION PHASE FOR A MINIMUM OF SEVEN (7) SECONDS OR UNTIL PREEMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME APPROPRIATE CLEARANCES AND ADVANCE TO THE NEXT DETECTED PREEMPTION CALL OR RESUME NORMAL OPERATION.
- 4. A (6) SIX SECOND MINIMUM GREEN & NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PREEMPTION DEMAND.
- 5. EMERGENCY VEHICLE PREEMPTION OVERRIDES COORDINATION.
- 6. CONFIRMATION STROBE SHALL BE ILLUMINATED WHENEVER ANY EMERGENCY PREEMPTION PHASE GREEN IS ON.



PUSH BUTTON ASSEMBLY SINGLE MOUNTED DETAIL

MASTARM POLE

OR WOOD POLE



EXISTING

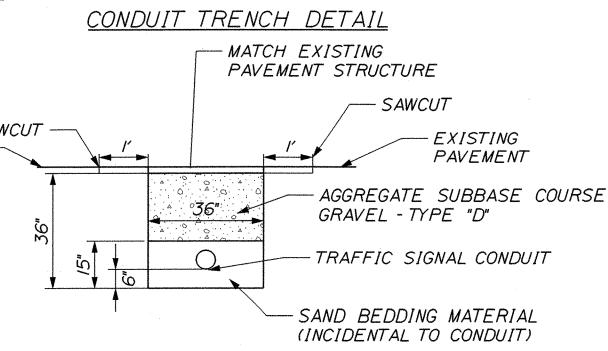
PAVEMENT

TACK COAT VERTICAL EDGES

INCIDENTAL TO OTHER ITEMS)

PRIOR TO PLACING NEW

PAVEMENT (PAYMENT



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