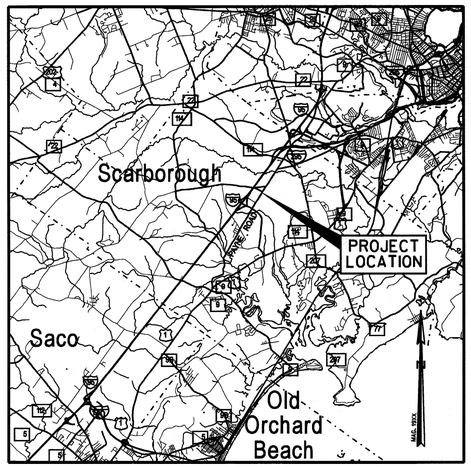
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



LOCATION MAP

2 0 2 4

Scale in Miles

SCARBOROUGH

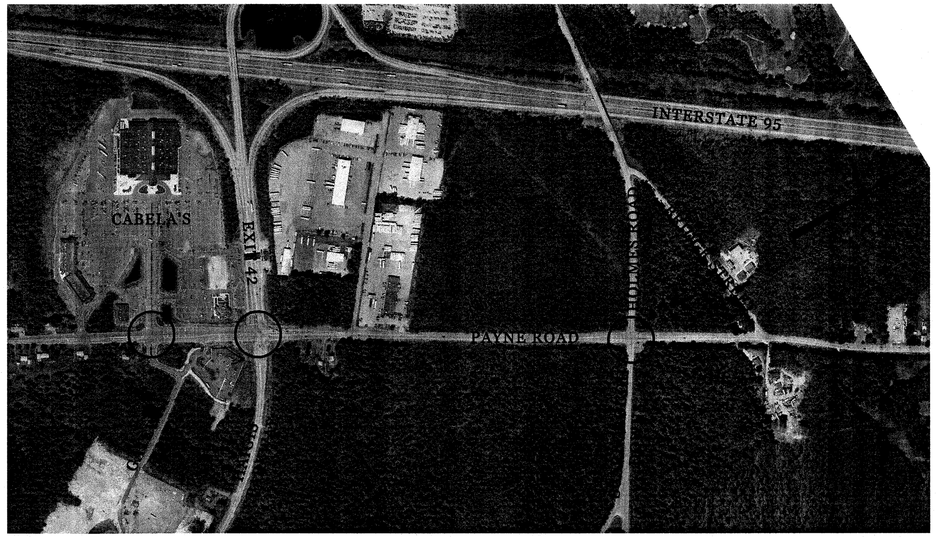
CUMBERLAND COUNTY

PAYNE ROAD AT HOLMES ROAD
PAYNE ROAD AT GATEWAY BOULEVARD
PAYNE ROAD AT HAIGIS PARKWAY

STP-1785(500)X

INTERSECTION SIGNALIZATION IMPROVEMENTS

INDEX OF SHEETS



LAYOUT SCALE

500 0 500 100

Scale in Feet

PLAN LEGEND

Town, County, State
Property Lines
R/W Lines-Existing
R/W Lines-Proposed
Culvert-Existing
Culvert Proposed
Curbing — Existing — Proposed
Type 1
Type 3
Type 5
Outline of Bodies of Water
Ledge
Buildings
Trees — Conifer — Deciduous
Tree Line
Clearing Limit Line — CL
Centerline-Existing
Centerline-Proposed 10+00
Travelway-Existing
Travelway-Proposed
Railroad
Catch Basins Existing ■ Proposed
Manholes ○ Existing ● Proposed
Proposed Underdrain
Proposed Ditch
Existing Ditch
Utility Poles ◊ Existing ◆ Proposed
Fire Hydrants ⊕ Existing ⊕ Proposed
Existing Water Line
Existing San. Sewer
Existing San. Sewer Manhole
Guardrail-Existing
Guardrail-Proposed
Guardrail-Cable, Other

PIN 17855.00

STP-1785(500)X

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
APPROVED
COMMISSIONER: [signature] DATE 6/2/11
CHIEF ENGINEER: [signature] DATE 6/2/11

PROJECT INFORMATION

PROGRAM	TRAFFIC
PROJECT MANAGER	J.MANSIR
DESIGNER	R.NORWOOD
CONSULTANT	
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

STATE OF MAINE — RALPH C. NORWOOD IV — No. 9999 — REGISTERED PROFESSIONAL ENGINEER

SIGNATURE [signature] DATE

P.E. NUMBER 9999 DATE 5-25-11

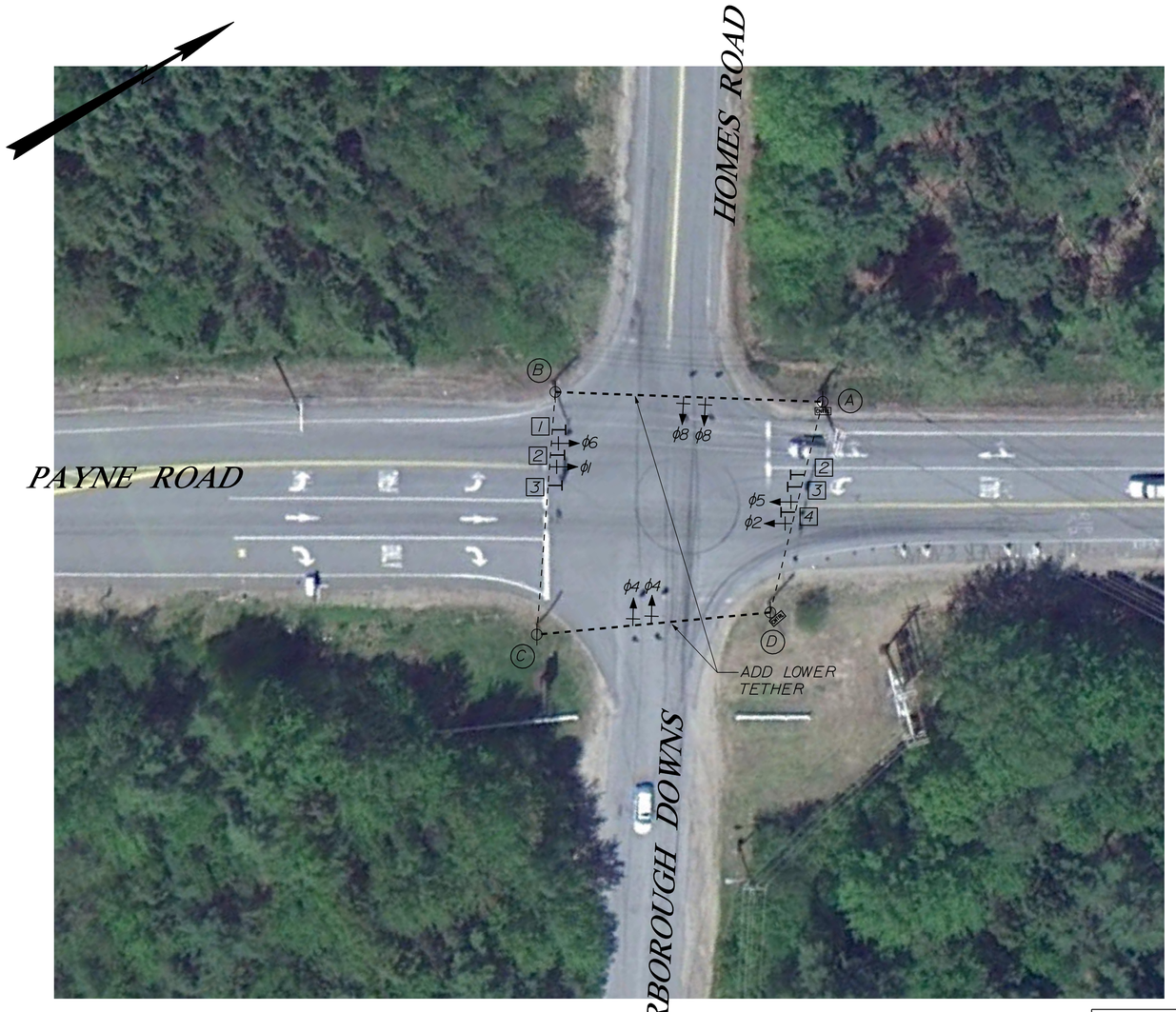
SCARBOROUGH
PAYNE ROAD AT HOLMES ROAD

TITLE SHEET

SHEET NUMBER 1 OF 3

Gorrill-Palmer Consulting Engineers, Inc.
Engineering Excellence Since 1998
PO Box 1237
15 Shaker Road
Gray, ME 04039
207-657-6910
FAX: 207-657-6912
E-Mail: mailbox@gorrillpalmer.com

Filename: ...\dgn\HIGHWAY\MSTA\001_Title.dgn Username: common Division: HIGHWAY Date:5/25/2011



NOTES:

1. THE CONTRACTOR MUST MEET ALL UTILITY REQUIREMENTS FOR THE SERVICE CONNECTION.

2. ALL SPLICES WILL BE MADE IN THE CABINETS OR POLES MEETING MAINEDOT SPECIFICATIONS.

3. ALL MATERIALS AND WORK COMPLETED UNDER THIS CONTRACT SHALL CONFORM TO THE MAINEDOT STANDARD SPECIFICATIONS. SUPPLEMENTAL SPECIFICATIONS AND STANDARD DETAILS AND WITH THE FEDERAL HIGHWAY ADMINISTRATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".

4. UTILITY LOCATIONS SHOWN ARE APPROXIMATE ONLY AND THE CONTRACTOR IS RESPONSIBLE FOR FINDING EXACT LOCATIONS OF UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CONTACT DIG SAFE AT 1-888-DIG-SAFE.

5. CONTRACTOR SHALL CONTACT AND COORDINATE WITH UTILITIES UPON AWARD OF THE CONTRACT. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES SO THAT THE TRAFFIC SIGNAL INSTALLATION IS DONE AFTER THE UTILITIES HAVE BEEN RELOCATED BY THE RESPECTIVE UTILITY COMPANIES.

6. CONTRACTOR IS RESPONSIBLE FOR OBTAINING MAINEDOT AND TOWN OPENING PERMITS, IF NECESSARY.

7. IT IS THE INTENT OF THIS WORK TO HAVE A COMPLETE OPERATIONAL, TESTED AND ACCEPTED TRAFFIC SIGNAL UPON COMPLETION OF THIS CONTRACT.

8. THE PROPOSED TRAFFIC SIGNAL TIMING AND PHASING PLAN SHALL BE INPUT BY THE CONTRACTOR UNDER OBSERVATION BY THE MAINEDOT. THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE TO THE MAINEDOT.

9. DELETED.

10. ALL TRAFFIC SIGNAL EQUIPMENT REMOVED AND NOT RESET SHALL BE RETURNED TO THE TOWN OF SCARBOROUGH PUBLIC WORKS DEPARTMENT.

11. A NEW TRAFFIC SIGNAL CABINET AND CONTROLLER SHALL BE PROVIDED AND INSTALLED. NEW TRAFFIC SIGNAL CONTROLLER SHALL BE A NAZTEC TS2 TYPE I WITH ETHERNET. CONTROLLER SHALL BE FULLY COMPATIBLE WITH THE EXISTING MASTER AT THE INTERSECTION OF PAYNE ROAD AND HAIGIS PARKWAY. IN ADDITION CONTROLLER CABINET SHALL INCLUDE NECESSARY HARDWARE FOR FUTURE INTERCONNECTION VIA AN EXTENSION OF THE EXISTING FIBER OPTIC INTERCONNECT AT PAYNE ROAD AND HAIGIS PARKWAY. A FIBER OPTIC PATCH PANEL AND SWITCH SHALL BE PROVIDED IN THE CABINET. EXISTING PREEMPTION EQUIPMENT SHALL BE RELOCATED FROM EXISTING CABINET TO THE NEW CABINET. ALL EXISTING TRAFFIC SIGNAL CABLES SHALL BE REROUTED AS REQUIRED TO THE NEW TRAFFIC SIGNAL CONTROLLER CABINET.

12. A GPS TIME CLOCK SHALL BE INSTALLED TO MAINTAIN TIME CLOCK SYNCHRONIZATION BETWEEN THE CONTROLLER AND THE MASTER CONTROLLER AT PAYNE ROAD/HAIGIS PARKWAY.

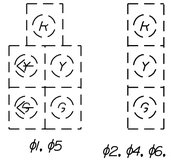
13. A GRAVEL PAD SHALL BE CONSTRUCTED ADJACENT TO THE NEW CONTROLLER CABINET TO STAND ON WHILE SERVICING THE CABINET. SIDE SLOPES SHALL NOT BE STEEPER THAN 3:1.

14. THE TRAFFIC SIGNAL HEADS AND SIGNS FOR THE PAYNE ROAD APPROACHES SHALL BE ADJUSTED TO THE LOCATIONS SHOWN ON THE PLANS.

EQUIPMENT SCHEDULE

DESIGNATION	ITEM	DESCRIPTION
A	EXISTING WOOD UTILITY POLE	REMOVE EXISTING CONTROLLER CABINET
B	EXISTING WOOD SIGNAL POLE	EXISTING TRAFFIC SIGNAL EQUIPMENT
C	EXISTING WOOD SIGNAL POLE	EXISTING TRAFFIC SIGNAL EQUIPMENT
D	EXISTING WOOD SIGNAL POLE	EXISTING TRAFFIC SIGNAL EQUIPMENT, PLACE NEW CONTROLLER CABINET ON BACK SIDE OF UTILITY POLE

EXISTING TRAFFIC SIGNAL HEADS



EXISTING SIGN LEGEND

R3-6R 30"x36"	R3-5L 30"x36"	R10-12 30"x36"	R10-6S 30"x36"
1	2	3	4

LEGEND

- CNTRL — EXISTING CONTROLLER WITH CABINET
- CNTRL — PROPOSED CONTROLLER WITH CABINET
- EXISTING POLE
- EXISTING VEHICULAR SIGNAL HEAD
- EXISTING VEHICULAR HEAD
- EXISTING SPAN WIRE
- PROPOSED SPAN WIRE
- PROPOSED CULVERT

PLAN

25 0 25 50

SCALE: 1"=25'

GP Gorrill-Palmer Consulting Engineers, Inc.
Engineering Excellence Since 1998
PO Box 1237, 15 Shaker Road, Gray, ME 04039
207-657-6910 FAX: 207-657-6912 E-Mail: mailbox@gorrillpalmer.com

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STP-1785(500)X

PIN 17855.00 HIGHWAY PLANS

BY	DATE
D.BURGESS	FEB 2011
	FEB 2011

SIGNATURE

P.E. NUMBER

DATE

PROJ. MANAGER	J. MANSIR
DESIGN-DETAILED	J.BARTLETT
CHECKED-REVIEWED	R.NORWOOD
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	
REVISIONS 1	
REVISIONS 2	
REVISIONS 3	
REVISIONS 4	
FIELD CHANGES	

CUMBERLAND COUNTY
SCARBOROUGH
PAYNE ROAD AT HOLMES ROAD

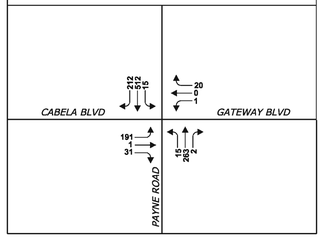
TRAFFIC SIGNAL PLAN

SHEET NUMBER 2 OF 3

PAYNE ROAD/GATEWAY BOULEVARD

SIGNAL TIMING SCHEDULE								
ITEM / PHASE	1	2	3	4	5	6	7	8
MINIMUM INITIAL	4	15	–	7	5	15	5	7
PASSAGE TIME	3	3	–	3	3	3	3	3
MAXIMUM GREEN I	7	21	–	32	10	18	19	8
MAXIMUM GREEN II	7	24	–	34	8	23	17	12
YELLOW	4	4	–	4	4	4	4	4
ALL RED	2	2	–	2	2	2	2	2
WALK	–	–	–	7	–	–	–	–
PEDESTRIAN CLEARANCE	–	–	–	18	–	–	–	–
FLASH	R	Y	–	R	R	Y	R	R
PHASE RECALL	–	SOFT	–	–	–	SOFT	–	–
MEMORY	–	–	–	–	–	–	–	–
DETECTOR MODE	PRESENCE	PRESENCE	–	PRESENCE	PRESENCE	PRESENCE	PRESENCE	PRESENCE
DETECTOR DELAY	–	–	–	–	–	–	–	–

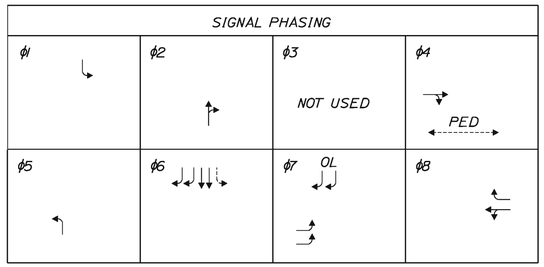
PM PEAK HOUR DESIGN VOLUMES



CYCLE/SPLIT/OFFSET DATA		
	PLAN 1	PLAN 2
CYCLE LENGTH	75	85
OFFSET	12	16
SPLIT TIME ϕ1	11	13
SPLIT TIME ϕ2	33	39
SPLIT TIME ϕ3	–	–
SPLIT TIME ϕ4	31	33
SPLIT TIME ϕ5	12	14
SPLIT TIME ϕ6	32	38
SPLIT TIME ϕ7	15	18
SPLIT TIME ϕ8	16	15

OFFSET REFERENCED TO BEGIN OF GREEN, PHASE 2

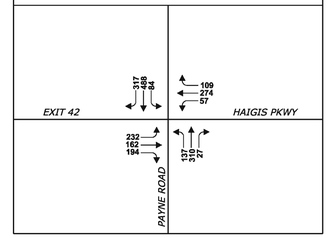
SIGNAL PHASING



MASTER INTERSECTION – PAYNE ROAD/MTA EXIT 42/HAIGIS PARKWAY

SIGNAL TIMING SCHEDULE								
ITEM / PHASE	1	2	3	4	5	6	7	8
MINIMUM INITIAL	4	8	4	4	–	–	4	4
PASSAGE TIME	3	3	3	3	–	–	3	3
MAXIMUM GREEN I	25	25	15	20	–	–	20	20
MAXIMUM GREEN II	30	30	20	25	–	–	25	25
YELLOW	4	4	4	4	–	–	4	4
ALL RED	2	2	2	2	–	–	2	2
WALK	–	–	–	–	–	–	–	–
PEDESTRIAN CLEARANCE	–	–	–	–	–	–	–	–
FLASH	R	R	R	R	–	–	R	R
PHASE RECALL	–	SOFT	–	–	–	–	–	–
MEMORY	–	–	–	–	–	–	–	–
DETECTOR MODE	PRESENCE	PRESENCE	PRESENCE	PRESENCE	–	–	PRESENCE	PRESENCE
DETECTOR DELAY	–	–	–	–	–	–	–	–

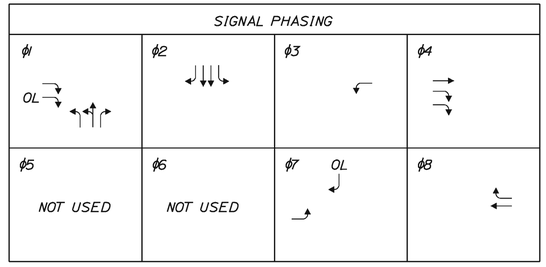
PM PEAK HOUR DESIGN VOLUMES



CYCLE/SPLIT/OFFSET DATA		
	PLAN 1	PLAN 2
CYCLE LENGTH	75	85
OFFSET	0	0
SPLIT TIME ϕ1	17	19
SPLIT TIME ϕ2	22	24
SPLIT TIME ϕ3	12	13
SPLIT TIME ϕ4	24	29
SPLIT TIME ϕ5	–	–
SPLIT TIME ϕ6	–	–
SPLIT TIME ϕ7	20	24
SPLIT TIME ϕ8	16	18

OFFSET REFERENCED TO BEGIN OF GREEN, PHASE 2

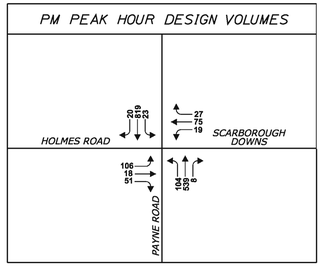
SIGNAL PHASING



PAYNE ROAD/HOLMES ROAD/SCARBOROUGH DOWNS

SIGNAL TIMING SCHEDULE								
ITEM / PHASE	1	2	3	4	5	6	7	8
MINIMUM INITIAL	3	10	–	5	3	10	–	5
PASSAGE TIME	3	5	–	3	3	5	–	3
MAXIMUM GREEN I	15	45	–	20	15	45	–	20
MAXIMUM GREEN II	20	50	–	25	20	50	–	25
YELLOW	4	4	–	4	4	4	–	4
ALL RED	2	2	–	2	2	2	–	2
WALK	–	–	–	–	–	–	–	–
PEDESTRIAN CLEARANCE	–	–	–	–	–	–	–	–
FLASH	R	Y	–	R	R	Y	–	R
PHASE RECALL	–	SOFT	–	–	–	SOFT	–	–
MEMORY	–	–	–	–	–	–	–	–
DETECTOR MODE	PRESENCE	PRESENCE	–	PRESENCE	PRESENCE	PRESENCE	–	PRESENCE
DETECTOR DELAY	–	–	–	–	–	–	–	5

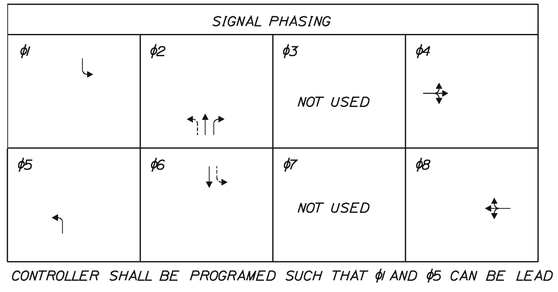
PM PEAK HOUR DESIGN VOLUMES



CYCLE/SPLIT/OFFSET DATA		
	PLAN 1	PLAN 2
CYCLE LENGTH	75	85
OFFSET	13	28
SPLIT TIME ϕ1	11	11
SPLIT TIME ϕ2	47	54
SPLIT TIME ϕ3	–	–
SPLIT TIME ϕ4	17	20
SPLIT TIME ϕ5	11	11
SPLIT TIME ϕ6	47	54
SPLIT TIME ϕ7	–	–
SPLIT TIME ϕ8	17	20

OFFSET REFERENCED TO BEGIN OF GREEN, PHASES 2 AND 6

SIGNAL PHASING



CONTROLLER SHALL BE PROGRAMED SUCH THAT ϕ1 AND ϕ5 CAN BE LEAD PHASES ONLY

NOTES:

1. THE PROPOSED TRAFFIC SIGNAL TIMING AND PHASING PLAN SHALL BE INPUT BY THE CONTRACTOR UNDER OBSERVATION BY THE MAINEDOT. THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE TO THE MAINEDOT.

2. A GPS TIME CLOCK SHALL BE INSTALLED TO MAINTAIN TIME CLOCK SYNCHRONIZATION BETWEEN THE INTERSECTION OF PAYNE ROAD/HOLMES ROAD AND THE MASTER CONTROLLER AT PAYNE ROAD/HAIGIS PARKWAY. A GPS TIME CLOCK SHALL BE PROVIDED AT BOTH OF THE ABOVE INTERSECTIONS.

TIME OF DAY PLAN				
PLAN	CYCLE LENGTH	WEEKDAY	SATURDAY	SUNDAY
1	75 SECONDS	7:00 AM–8:30 AM	–	–
2	85 SECONDS	3:00 PM–6:00 PM	10:00 AM–6:00 PM	10:00 AM–5:00 PM
3	FREE	8:30 AM–3:00 PM 6:00 PM–7:00 AM	6:00 PM–10:00 AM	5:00 PM–10:00 AM

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STP-1785(500)X

PIN 17855.00

HIGHWAY PLANS

		BY	DATE
PROJ. MANAGER	J. MANSIR		
DESIGN-DETAILED	J.BARTLETT	D.BURGESS	FEB 2011
CHECKED-REVIEWED	J.BARTLETT	R.NORWOOD	FEB 2011
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

CUMBERLAND COUNTY
SCARBOROUGH
PAYNE ROAD AT HOLMES ROAD
TRAFFIC SIGNAL PHASING PLAN

SHEET NUMBER
3
OF 3

Filename: ...\HIGHWAY\MSTA\004_SIGNAL02.dgn Division: HIGHWAY Username: common Date:5/25/2011