

MANAGEMENT STRATEGIES

PROJ. REFERENCE NO.	SHEET NO.
I-5710	TMP-1B

PROJECT WILL INSTALL RAMP METER SIGNALING EQUIPMENT AND ASSOCIATED SIGNS AND MARKINGS ON WESTBOUND ENTRANCE RAMPS TO I-540 AT THE LEESVILLE ROAD, CREEDMOOR ROAD, SIX FORKS ROAD AND FALLS OF NEUSE ROAD INTERCHANGES. TO FACILITATE RAMP METER OPERATIONS, PROJECT WILL WIDEN THE WESTBOUND ENTRANCE RAMP PAVEMENT AT ALL LOCATIONS EXCEPT SIX FORKS ROAD WHERE THE RAMP HAS ALREADY BEEN WIDENED. THE DEPARTMENT HAS A CRITICAL NEED TO COLLECT UP-TO-DATE TRAFFIC DATA PRIOR TO COMPLETING CONSTRUCTION AND COMMENCING OPERATION OF THE RAMP METERS. THE DEPARTMENT NEEDS TO USE THE DETECTION LOOPS AND RAMP METER CABINETS AND CONTROLLERS TO COLLECT THIS EARLY TRAFFIC DATA. TO THAT END, CONSTRUCTION WILL BE PHASED TO PROVIDE FOR INSTALLATION OF DETECTION LOOPS AND RAMP METER CONTROLLERS AND CABINETS AS EARLY AS POSSIBLE AT THE FOLLOWING INTERCHANGES AND PRIOR TO COMPLETION OF ALL ROADWAY CONSTRUCTION WORK ON THIS PROJECT: LEESVILLE ROAD, CREEDMOOR ROAD AND SIX FORKS ROAD. SUBJECT TO THE ENGINEER'S APPROVAL, THE CONTRACTOR MAY BE ALLOWED TO BEGIN LIMITED ROAD CONSTRUCTION WORK AT THE FALLS OF NEUSE ROAD INTERCHANGE WHILE WORK IS UNDERWAY AT THE OTHER THREE INTERCHANGES PROVIDED THAT IT DOES NOT DELAY EARLY INSTALLATION OF THE DESIGNATED RAMP METER SIGNAL EQUIPMENT NEEDED FOR UPFRONT DATA COLLECTION AT THE OTHER THREE INTERCHANGES.

CONSTRUCTION WILL BE PERFORMED AWAY FROM TRAFFIC ON THE RAMPS WHENEVER POSSIBLE BEHIND SHOULDER CLOSURES. FOR THE FALLS OF NEUSE ROAD ON-RAMP ONLY, PORTABLE CONCRETE BARRIER (P.C.B) WILL BE INSTALLED ON THE NORTH SIDE OF THE RAMP DUE TO THE INSTALLATION OF THE MSE RETAINING WALL; THE CREEDMOOR ROAD AND LEESVILLE ROAD RAMPS WILL USE DRUMS FOR SHOULDER CLOSURES AND TEMPORARY LANE CLOSURES. WHERE THERE ARE TWO EXISTING LANES ON THE RAMP, THE CONTRACTOR WILL BE ALLOWED DURING NON-PEAK PERIODS TO CLOSE THE RAMP LANE ADJACENT TO ACTIVE CONSTRUCTION ALONG WITH THE CORRESPONDING UPSTREAM LEFT TURN LANE OF THE NORTHBOUND DUAL LEFT FROM THE CROSSING STREET. CERTAIN ACTIVITIES, PARTICULARLY THOSE WITHIN THE EXISTING RAMP PAVEMENT, WILL REQUIRE TEMPORARY RAMP CLOSURES AND DETOURING OF RAMP TRAFFIC TO AN ADJACENT I-540 INTERCHANGE, EITHER DURING AN OVERNIGHT PERIOD OR FOR A SINGLE WEEKEND, TO EXPEDITE CONSTRUCTION AND MINIMIZE WORKER AND MOTORIST EXPOSURE TO HAZARDS. ONLY ONE RAMP CLOSURE AND DETOUR WILL BE PERMITTED AT ANY GIVEN TIME.

- * FOR THE FALLS OF NEUSE ROAD ON-RAMP, OVERNIGHT RAMP CLOSURES AND DETOURS WILL BE USED FOR THE INSTALLATION AND SUBSEQUENT REMOVAL OF P.C.B., MILLING AND WEDGING OF EXISTING PAVEMENT, PAVING THE FINAL SURFACE LAYER AND INSTALLING FINAL PAVEMENT MARKINGS.
- * FOR THE CREEDMOOR ROAD AND LEESVILLE ROAD ON-RAMPS, A SINGLE WEEKEND RAMP CLOSURE AND DETOUR WILL BE USED FOR EACH LOCATION TO EXPEDITIOUSLY PERFORM ALL PAVEMENT WIDENING, GUARDRAIL WORK, MILLING, WEDGING AND RESURFACING, UP TO BUT NOT INCLUDING THE FINAL SURFACE LAYER, AND TEMPORARY PAVEMENT MARKINGS. FILL MATERIAL WILL BE PLACED AND GRADING WILL BE PERFORMED AS MUCH AS POSSIBLE AWAY FROM TRAFFIC PRIOR TO THE WEEKEND RAMP CLOSURES.
- * FOR THE SIX FORKS ROAD ON-RAMP, AN OVERNIGHT RAMP CLOSURE AND DETOUR WILL ONLY BE USED TO INSTALL LOOP DETECTORS AND PAVEMENT MARKINGS (STOP BARS).
- * CONSTRUCTION ALONG SINGLE-LANE PORTIONS OF RAMPS IN THE VICINITY OF AND DOWNSTREAM OF GORE AREAS WILL REQUIRE CLOSURES OF THE ADJACENT RIGHT LANE OF I-540 WB DURING OFF-PEAK HOURS AND WILL BE PERFORMED IN CONJUNCTION WITH CLOSURE OF THE RAMP. THERE IS INSUFFICIENT ROOM TO MAINTAIN RAMP TRAFFIC WHEN PERFORMING CONSTRUCTION WHERE THE RAMP AND I-540 MAINLINE CONVERGE.

CONSTRUCTION WILL BE STAGED TO PLACE FILL, PERFORM GRADING AND GRADED SHOULDER WIDENING FIRST. FOR THE FALLS OF NEUSE ROAD ON-RAMP, THE MSE RETAINING WALL CONSTRUCTION WOULD ALSO OCCUR BEHIND P.C.B. IN THE FIRST STAGE. NEXT WOULD BE THE PAVEMENT WIDENING, THE MILLING AND WEDGING OF THE EXISTING PAVEMENT AND INSTALLATION OF THE RAMP METER SIGNAL EQUIPMENT. THE FINAL STAGE WILL INCLUDE PAVING OF THE FINAL SURFACE LAYER AND INSTALLATION OF THE FINAL SIGNS AND PAVEMENT MARKINGS AND COMPLETION OF ANY REMAINING RAMP METER SIGNAL CONSTRUCTION.

P.C.B. AND TEMPORARY SHORING WILL BE INSTALLED ALONG THE NORTH SIDE OF THE FALLS OF NEUSE ON-RAMP TO FACILITATE CONSTRUCTION OF THE MSE RETAINING WALL AND WIDENING ON THE NORTH SIDE. THE LENGTH OF THE TWO-LANE PORTION OF THIS RAMP AND THE LENGTH OF THE MERGE FROM TWO LANES TO ONE WILL BE MAINTAINED IN CURRENT CONDITIONS TO PRESERVE EXISTING RAMP CAPACITY. WORK REQUIRING USE OF P.C.B. ON THE FALLS OF NEUSE ROAD RAMP WILL BE PERFORMED UNDER AN INTERMEDIATE CONTRACT TIME (ICT) TO MINIMIZE THE LENGTH OF TIME RAMP TRAFFIC IS EXPOSED TO THE P.C.B. LOOP DETECTORS WILL BE INSTALLED IN THE WESTBOUND LANES OF I-540 UPSTREAM OF EACH OF THE FOUR WESTBOUND RAMPS USING TEMPORARY OFF-PEAK LANE CLOSURES. LOOP DETECTORS WILL BE INSTALLED ON THE TWO-LANE PORTION OF THE ON-RAMPS USING EITHER TEMPORARY RAMP LANE CLOSURES DURING OFF-PEAK HOURS OR A SINGLE OVERNIGHT RAMP CLOSURE. SIGNAL PEDESTALS AND EQUIPMENT CABINETS WILL BE INSTALLED USING OFF-PEAK SHOULDER OR LANE CLOSURES ON THE RAMPS. ALL OTHER SIGNAL WORK IS EXPECTED TO OCCUR ON THE SHOULDER WITHOUT THE NEED TO CLOSE THE ADJACENT LANE OF TRAFFIC. THE RAMP METER SIGNALS WILL REMAIN DARK AND WILL NOT BE PLACED INTO OPERATION UNTIL ALL CONSTRUCTION WORK HAS BEEN COMPLETED AT ALL FOUR LOCATIONS.

GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
I - 540	MONDAY THROUGH SUNDAY FROM 6:00 AM TO 9:00 PM
LEESVILLE ROAD	MONDAY THROUGH FRIDAY FROM 6:00 AM TO 10:00 AM
NC 50-CREEDMOOR ROAD	MONDAY THROUGH FRIDAY FROM 6:00 AM TO 10:00 AM
SIX FORKS ROAD	MONDAY THROUGH FRIDAY FROM 6:00 AM TO 10:00 AM AND FROM 4:00 PM TO 7:00 PM
FALLS OF NEUSE ROAD	MONDAY THROUGH FRIDAY FROM 6:00 AM TO 10:00 AM AND FROM 4:00 PM TO 7:00 PM
-RB1- LEESVILLE ROAD WB ENTRANCE RAMP	MONDAY THROUGH FRIDAY FROM 6:00 AM TO 10:00 AM
-RB2- CREEDMOOR ROAD WB ENTRANCE RAMP	MONDAY THROUGH FRIDAY FROM 6:00 AM TO 10:00 AM
-RB3- SIX FORKS ROAD WB ENTRANCE RAMP	MONDAY THROUGH FRIDAY FROM 6:00 AM TO 10:00 AM AND FROM 4:00 PM TO 7:00 PM
-RB4- FALLS OF NEUSE WB ENTRANCE RAMP	MONDAY THROUGH FRIDAY FROM 6:00 AM TO 10:00 AM AND FROM 4:00 PM TO 7:00 PM

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On Transportation\Roadway\NCDOT\I-540 Ramp Metering\TrafficControl\TCPN-5710_TC_TCP_01B.dgn
WILE2054 AT DUS300019

ATKINS 1616 EAST MILLBROOK ROAD, SUITE 310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBES #F-0326

<p>APPROVED: <small>DocuSigned by: 8E587B90A2A2466</small></p> <p>DATE: 8/1/2016</p> <p style="text-align: center;">SEAL</p>			<p>TRANSPORTATION OPERATIONS PLAN</p>
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>			