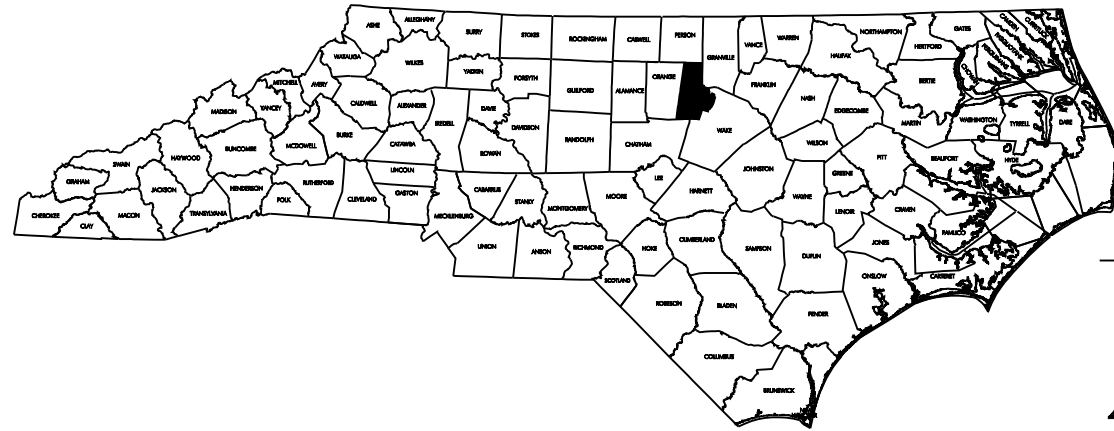


CONTRACT NO. D000069 TIP PROJECT: BK-5102G

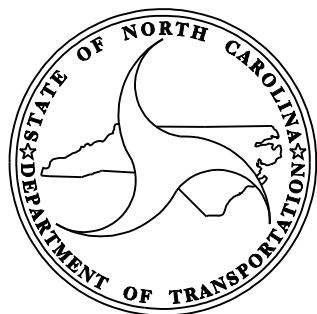
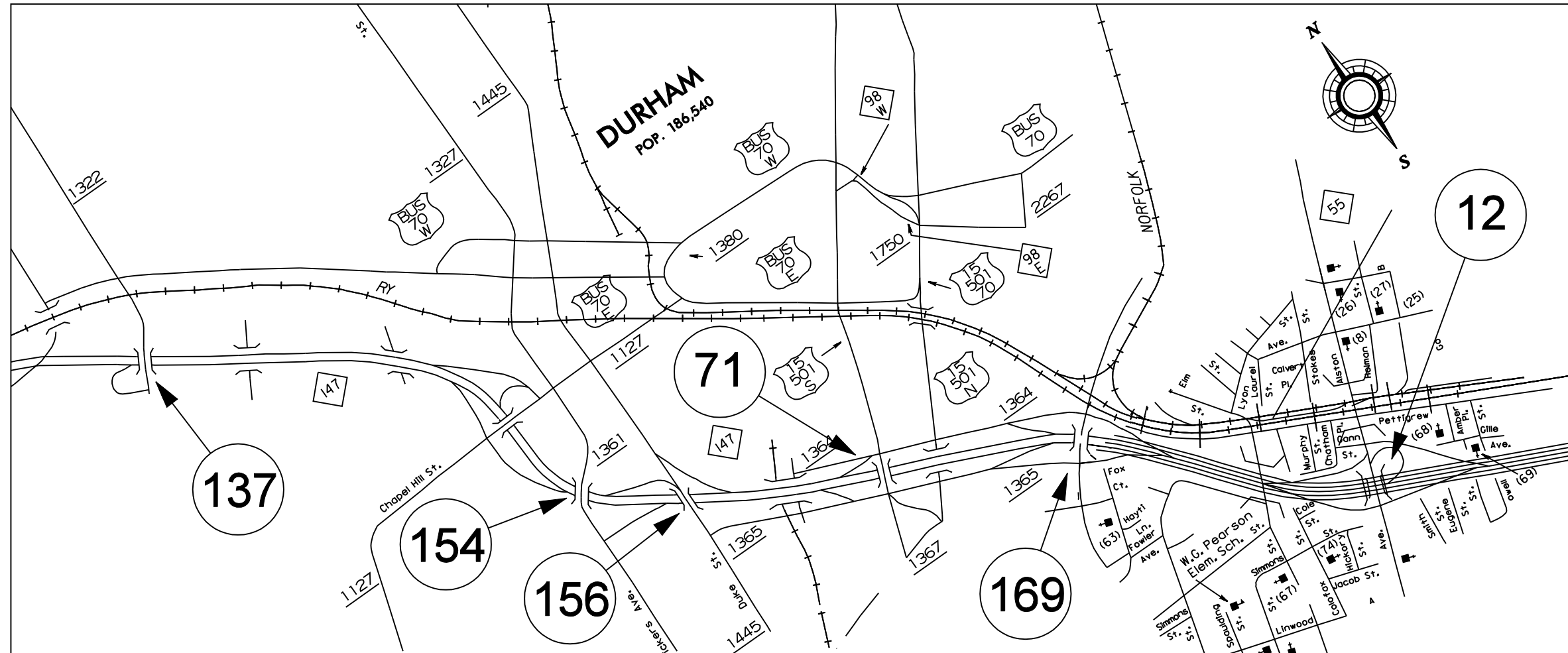


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

DURHAM COUNTY

LOCATION: NC 25, US 15BUS, SR 1322, SR 1361
TYPE OF WORK: BRIDGE PRESERVATION: CLEANING
AND PAINTING OF BRIDGES #12, #71, #137, #154, #156 AND #169
IN DURHAM COUNTY.

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BK-5102G	1	1
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
42580.1.1	BRNHS-0147(4)	P.E.	
42580.3.7	BRNHS-0147(4)	CONST	



DESIGN DATA

PROJECT LENGTH

Prepared In the Office of:
BRIDGE MANAGEMENT UNIT
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2006 STANDARD SPECIFICATIONS

LETTING DATE:
AUGUST 19, 2010

DAN HOLDERMAN, PE
STATE BRIDGE
MANAGEMENT ENGINEER

MIKE SUMMERS
BRIDGE MANAGEMENT
PROJECT MANAGER



7/7/2010
U:\Traffic\TrafficControl\BK-5102G Durham\TCP\Plan Sheets\BK-5102G-tc-psh_01.dgn
gkarageorge

TIP PROJECT: BK-5102G

WBS 42580.3.7

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
TRAFFIC CONTROL

DURHAM COUNTY

LOCATION: BRIDGE NO.S 12, 71, 137, 154, 156 AND 169.

TYPE OF WORK: TRAFFIC CONTROL FOR BRIDGE PAINTING

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" -
PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C.,
DATED JULY 2006 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE
CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW PANELS
1130.01	DRUMS
1145.01	BARRICADES
1165.01	TRUCK MOUNTED IMPACT ATTENUATOR
1180.01	SKINNY DRUMS

SHEETS NOT INCLUDED
IN PRE-BID SET
WILL BE INCLUDED
IN FINAL PLAN

INDEX OF SHEETS

SHEET NO.	TITLE
TCP-1	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, AND INDEX OF SHEETS
TCP-2	GENERAL NOTES
TCP-3	TRAFFIC CONTROL PHASING
TCP-4	BRIDGE #12-ALSTON AVE./NC 147 NB LOOP CLOSURE
TCP-5	BRIDGE #137-SWIFT AVE./NC 147 SB LOOP CLOSURE
TCP-6	BRIDGE #154-CLOSURE OF DUKE ST./NC 147 NB RAMP
TCP-6A	BRIDGE #154-CLOSURE OF RAMP FROM CHAPEL HILL ST. TO NC 147 SB
TCP-7	BRIDGE #156-CLOSURE OF RAMP FROM PARKER ST. TO NC 147 SB
TCP-8	BRIDGE #169-CLOSURE OF NC 147 NB EXIT 12B
TCP-8A	BRIDGE #169-CLOSURE OF RAMP FROM MOREHEAD AVE. TO NC 147 SB
TCP-9	TEMPORARY LANE CLOSURES

STATE PROJECT REFERENCE NO.







BK-5102G

SHEET NO.















TCP-1

LEGEND

GENERAL

-  DIRECTION OF TRAFFIC FLOW
-  NORTH ARROW
-  WORK AREA
-  REMOVAL OF EXISTING PAVEMENT
-  PROPOSED PAVEMENT
-  EXISTING PAVEMENT

TRAFFIC CONTROL DEVICES

-  TYPE III BARRICADE
-  CONE
-  DRUM  SKINNY DRUM
-  FLASHING ARROW PANEL (TYPE C)
-  STATIONARY SIGN
-  PORTABLE SIGN
-  STATIONARY OR PORTABLE SIGN
-  PORTABLE CONCRETE BARRIER
-  TEMPORARY CRASH CUSHION
-  CHANGEABLE MESSAGE SIGN
-  TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
-  LAW ENFORCEMENT
-  FLAGGER

APPROVED:
DATE:



PLAN PREPARED BY:



Stantec Consulting Services Inc.
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27606
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Fax. 919.851.7024
www.stantec.com

BETSY L. WATSON, PE

TRAFFIC CONTROL ENGINEER

GEORGE KARAGEORGE

TRAFFIC CONTROL DESIGNER

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.

LANE CLOSURE TIME RESTRICTIONS

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

ROAD NAME	DAY AND TIME RESTRICTIONS
NC 147	6:00 A.M. - 7:00 P.M. MONDAY-FRIDAY

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME
ALL ROADS

HOLIDAY

- FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 31st TO 7:00 P.M. JANUARY 2nd. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 7:00 P.M. THE FOLLOWING TUESDAY.
- FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 7:00 P.M. MONDAY.
- FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.
- FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE DAY AFTER INDEPENDENCE DAY. IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY; THEN BETWEEN THE HOURS OF 6:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.
- FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 7:00 P.M. TUESDAY.
- FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 7:00 P.M. MONDAY.
- FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.
- FOR EVENTS AT THE DURHAM BULLS ATHLETIC PARK, TWO HOURS PRIOR TO THE EVENT AND TWO HOURS FOLLOWING THE EVENT, AS DIRECTED BY THE ENGINEER.

C) DO NOT CLOSE RAMPS OR LOOPS AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
ALL RAMPS & LOOPS	6:00 A.M. - 7:00 P.M. MONDAY-FRIDAY

LANE AND SHOULDER CLOSURE REQUIREMENTS

- LANE CLOSURES ARE REQUIRED WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN ANY PORTION OF A TRAVEL LANE. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.
- INSTALL ALL LANE CLOSURES ACCORDING TO THE TRAFFIC CONTROL PLAN, ROADWAY STANDARD DRAWINGS (1101.02), OR AS DIRECTED BY THE ENGINEER.
- REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
- INSTALL LANE CLOSURES WITH THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE UPSTREAM SIDE OF TRAFFIC. REMOVE LANE CLOSURES AGAINST THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE DOWNSTREAM SIDE OF TRAFFIC.
- WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

TRAFFIC CONTROL DEVICES

- SPACE CHANNELIZING DEVICES ALONG WORK AREAS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH). USE A 10 FT SPACING IN RADII OR WHEN THEY ARE USED TO CLOSE A DRIVEWAY OR ROADWAY. IN ALL CASES, CHANNELIZING DEVICES ARE TO BE SPACED IN SUCH A MANNER AS TO POSITIVELY ACHIEVE THE INTENDED VISUAL CHANNELIZATION.

CHANNELIZING DEVICES SHOULD BE Laterally OFFSET 3 FT FROM THE EDGE OF A TRAVELWAY AS ROOM PERMITS.

WHEN SKINNY DRUMS ARE ALLOWED, REFER TO SECTION 1180 OF STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES OR AS SHOWN IN THE PLANS.

- PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS ALONG A CLOSED LANE.
- PLACE ARROW PANELS ON THE ROADWAY SHOULDER. IF SHOULDERS DO NOT EXIST, PLACE ARROW PANELS WITHIN THE MERGE TAPER BEHIND THE CHANNELIZING DEVICES OF THE LANE CLOSURE.

TRAFFIC PATTERN ALTERATIONS






- NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

- PROVIDE SIGNING AND DEVICES FOR ROAD CLOSURES ACCORDING TO THE TRAFFIC CONTROL PLAN. COVER OR REMOVE ALL SIGNS AND DEVICES FOR ROAD CLOSURES WHEN NOT IN EFFECT.
- PROVIDE OFFSITE DETOUR ROUTE SIGNING AS SHOWN IN THE TRAFFIC CONTROL PLANS. COVER OR REMOVE OFFSITE DETOUR SIGNING WHEN THE DETOUR IS NOT IN OPERATION.
- ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

MISCELLANEOUS

- LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.
- ALL DIMENSIONS AND STATIONS IN THE TRAFFIC CONTROL PLAN AND PHASING ARE APPROXIMATE (+/-); FIELD ADJUST AS NECESSARY OR AS DIRECTED BY THE ENGINEER.
- ENSURE THE OVERSIZE/OVERWEIGHT PERMIT UNIT (919) 733-4740 HAS BEEN ADVISED OF THE ONGOING TRAFFIC OPERATIONS THROUGH THE DIVISION OFFICE.

 Stantec Stantec Consulting Services Inc. 801 Jones Franklin Road Suite 300 Raleigh, NC 27606 Tel. (919) 851-6866 Fax. (919) 851-7024 www.stantec.com License No. F-0672	SEAL  _____ SIGNATURE	GENERAL NOTES <table><tr><td>SCALE: NONE</td><td rowspan="5"></td><td>REVISIONS</td></tr><tr><td>DATE: JULY 2010</td><td></td></tr><tr><td>DWG. BY: GK</td><td></td></tr><tr><td>DESIGN BY: GK</td><td></td></tr><tr><td>REVIEWED BY: BLW</td><td></td></tr></table>		SCALE: NONE		REVISIONS	DATE: JULY 2010		DWG. BY: GK		DESIGN BY: GK		REVIEWED BY: BLW	
	SCALE: NONE		REVISIONS											
DATE: JULY 2010														
DWG. BY: GK														
DESIGN BY: GK														
REVIEWED BY: BLW														
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TRAFFIC CONTROL PHASING

PERFORM BRIDGE PAINTING OPERATIONS USING THE FOLLOWING WORK ZONE TRAFFIC CONTROL METHODS:

DO NOT INSTALL MORE THAN 1 LANE CLOSURE AT A TIME ON NC 147.

WHEN WORKING OVER NC 147 USE LEFT AND RIGHT LANE CLOSURES [TCP-9] IN CONJUNCTION WITH RAMP CLOSURES AS DESCRIBED BELOW:

BRIDGE NO. 12 - ALSTON AVE. OVER NC 147

NC 147 NB - RIGHT LANE CLOSURE [TCP-9] WITH CLOSURE OF ENTRANCE RAMP LOOP FROM ALSTON AVE. DETOUR VIA DUNN ST., CHATHAM PL., PETTIGREW ST. TO BRIGGS AVE.[TCP-4].

BRIDGE NO. 71 - S. MANGUM ST. OVER NC 147

NC 147 NB & SB - LEFT AND RIGHT LANE CLOSURES [TCP-9]

BRIDGE NO. 137 - SWIFT AVE. OVER NC 147

NC 147 SB - RIGHT LANE CLOSURE [TCP-9] WITH CLOSURE OF ENTRANCE RAMP LOOP FROM SWIFT AVE. DETOUR VIA DUKE UNIV. RD., CHAPEL HILL ST. TO NC 147 SB.[TCP-5].

BRIDGE NO. 154 - VICKERS AVE. OVER NC 147

NC 147 NB - RIGHT LANE CLOSURE [TCP-9] WITH CLOSURE OF ENTRANCE RAMP FROM DUKE ST. DETOUR VIA DUKE ST. TO CHAPEL HILL ST. TO NC 147 NB AT CHAPEL HILL ST. INTERCHANGE.[TCP-6].

NC 147 SB - RIGHT LANE CLOSURE [TCP-9] WITH CLOSURE OF ENTRANCE RAMP FROM CHAPEL HILL ST. DETOUR VIA GREGSON ST., VICKERS AVE., PARKER ST. TO NC 147 SB AT DUKE ST. INTERCHANGE.[TCP-6A].

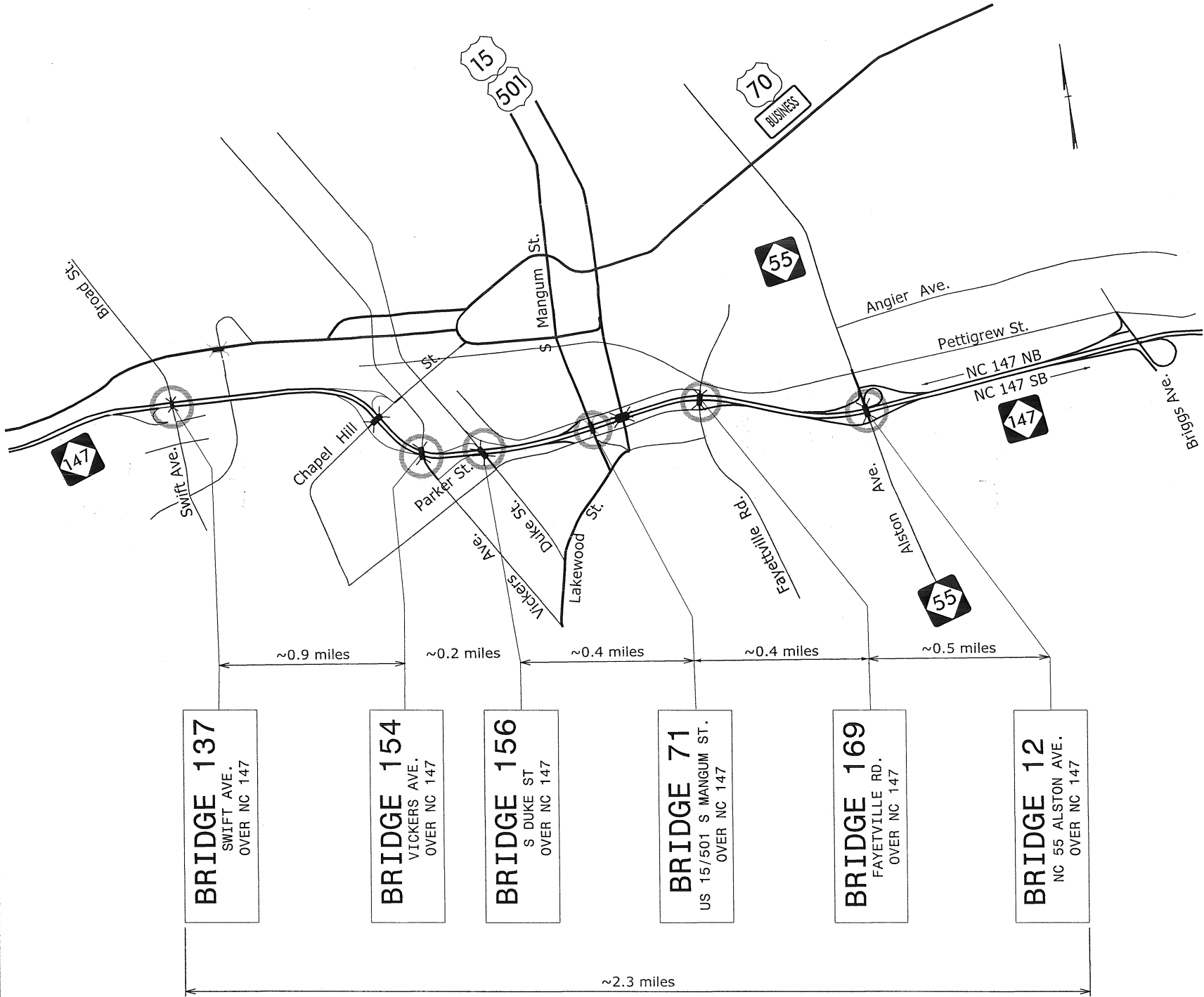
BRIDGE NO. 156 - S. DUKE ST. OVER NC 147

NC 147 SB - RIGHT LANE CLOSURE [TCP-9] WITH CLOSURE OF ENTRANCE RAMP FROM PARKER ST. DETOUR VIA VICKERS AVE., MOREHEAD AVE., TO NC 147 SB AT THE FAYETTEVILLE RD. INTERCHANGE.[TCP-7].

BRIDGE NO. 169 - FAYETTEVILLE RD. OVER NC 147

NC 147 NB - RIGHT LANE CLOSURE [TCP-9] WITH CLOSURE OF EXIT RAMP 12B. DETOUR VIA EXIT 12A TO JACKIE ROBINSON DR.[TCP-8].

NC 147 SB - RIGHT LANE CLOSURE [TCP-9] WITH CLOSURE OF ENTRANCE RAMP FROM MOREHEAD AVE. DETOUR VIA ENTRANCE RAMP ON THE SOUTH SIDE OF FAYETTEVILLE RD.[TCP-8A].



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SEAL



SIGNATURE

DATE

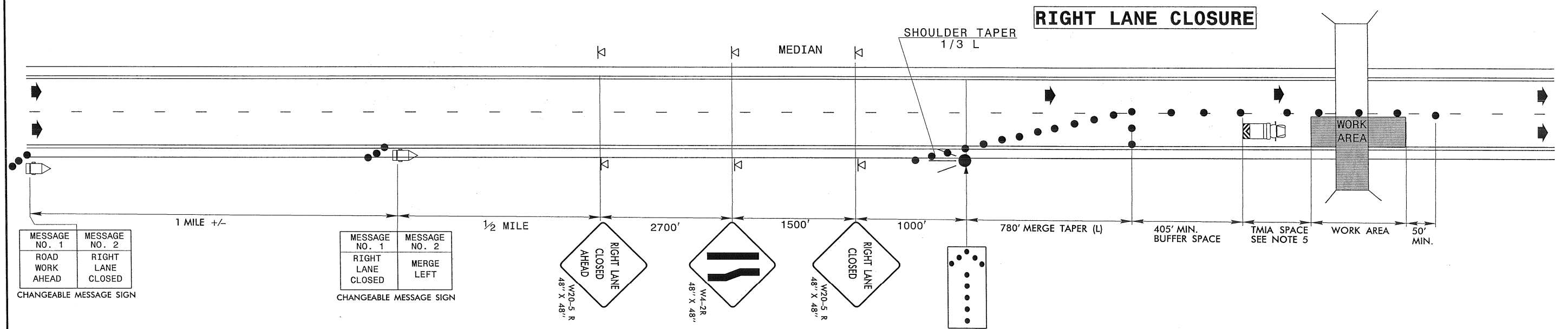
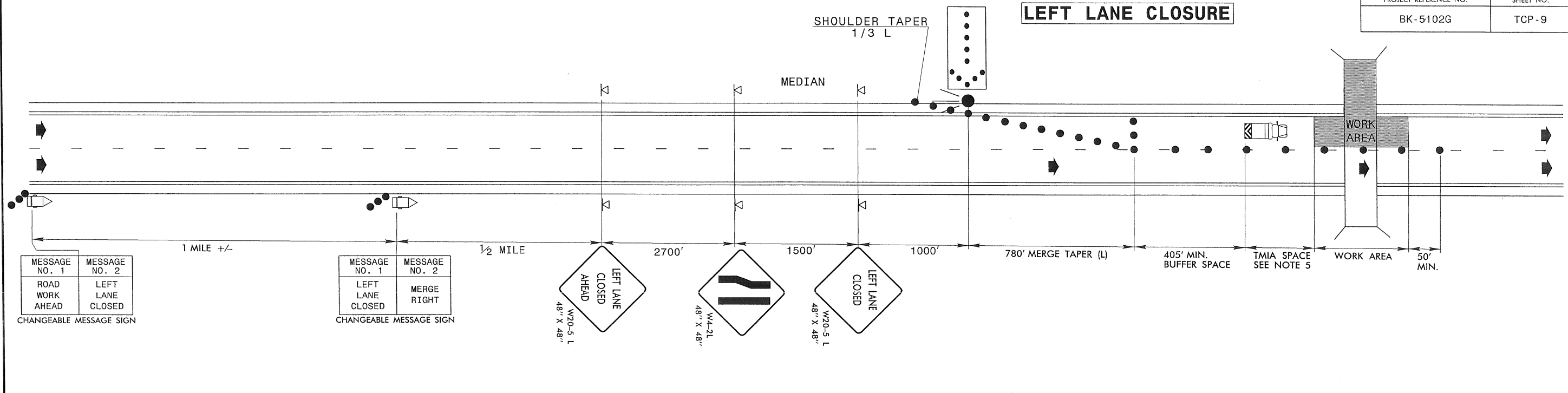
TRAFFIC CONTROL PHASING
VICINITY MAP

SCALE: NONE
DATE: JULY 2010
DWG. BY: GK
DESIGN BY: GK
REVIEWED BY: BLW



REVISIONS	

CAUTION



NOTES

1. USE THIS DRAWING FOR LANE CLOSURES ALONG NC-147.
2. PLACE ARROW PANELS ON THE SHOULDER (PAVED OR UNPAVED). PLACE ARROW PANELS WITHIN THE TAPER IF SHOULDERS DO NOT EXIST. MEET THE REQUIREMENTS FOR STOPPING SIGHT DISTANCE AT THE ARROW PANEL LOCATION. IF NEEDED, EXTEND LANE CLOSURES AT THE BUFFER SPACE, SUCH THAT STOPPING SIGHT DISTANCE TO THE ARROW PANEL IS MET. (SEE STD. 1101.11 SHEET 2).
3. PLACE DRUMS IN TAPERS AT THE MAXIMUM SPACING EQUAL IN FEET TO THE POSTED SPEED LIMIT. PLACE DRUMS ALONG THE BUFFER SPACE AND WORK AREA AT THE MAXIMUM SPACING EQUAL IN FEET TO 2 TIMES THE POSTED SPEED LIMIT.
4. INSTALL LANE CLOSURES WITH THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE UPSTREAM SIDE OF TRAFFIC. REMOVE LANE CLOSURES AGAINST THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE DOWNSTREAM SIDE OF TRAFFIC.
5. TMIA'S ARE REQUIRED ONLY WHEN A BUFFER SPACE CANNOT BE ATTAINED, OR WHEN DIRECTED BY THE ENGINEER OR THE PLANS. WHEN USED, POSITION THE TMIA TO MAINTAIN A ROLL-AHEAD DISTANCE AS RECOMMENDED BY THE MANUFACTURER.
6. PLACE CHANGEABLE MESSAGE SIGN (CMS) ON THE OUTSIDE OF THE TRAVELWAY AS DIRECTED BY THE ENGINEER. PLACE CMS APPROXIMATELY 1/2 MILE IN ADVANCE OF THE W20-5 SIGNS. IF TRAFFIC BACKS UP TO WHERE THE CMS IS INITIALLY PLACED, RELOCATE CMS 1/2 MILE FROM ANTICIPATED BACKUP. CONTINUE TO MONITOR TRAFFIC AND MOVE CMS APPROXIMATELY 1/2 MILE IN CONJUNCTION WITH ANTICIPATED BACKUP.



SEAL



SIGNATURE

DATE

TEMPORARY LANE CLOSURES

SCALE: NONE
DATE: JULY 2010
DWG. BY: GK
DESIGN BY: GK
REVIEWED BY: BLW



REVISIONS	

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FILE