

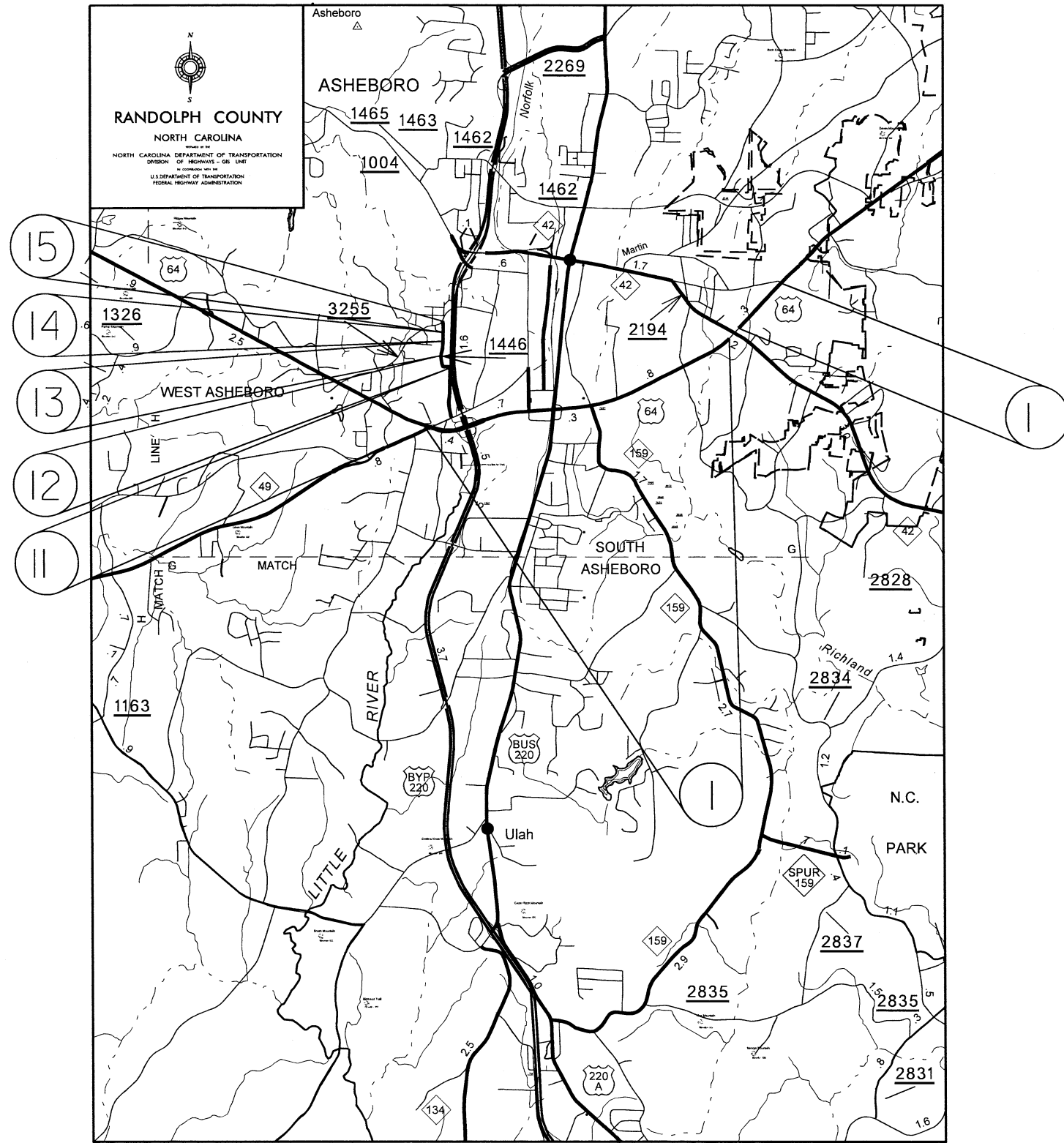
ALAMEDA COUNTY

CHATHAM COUNTY

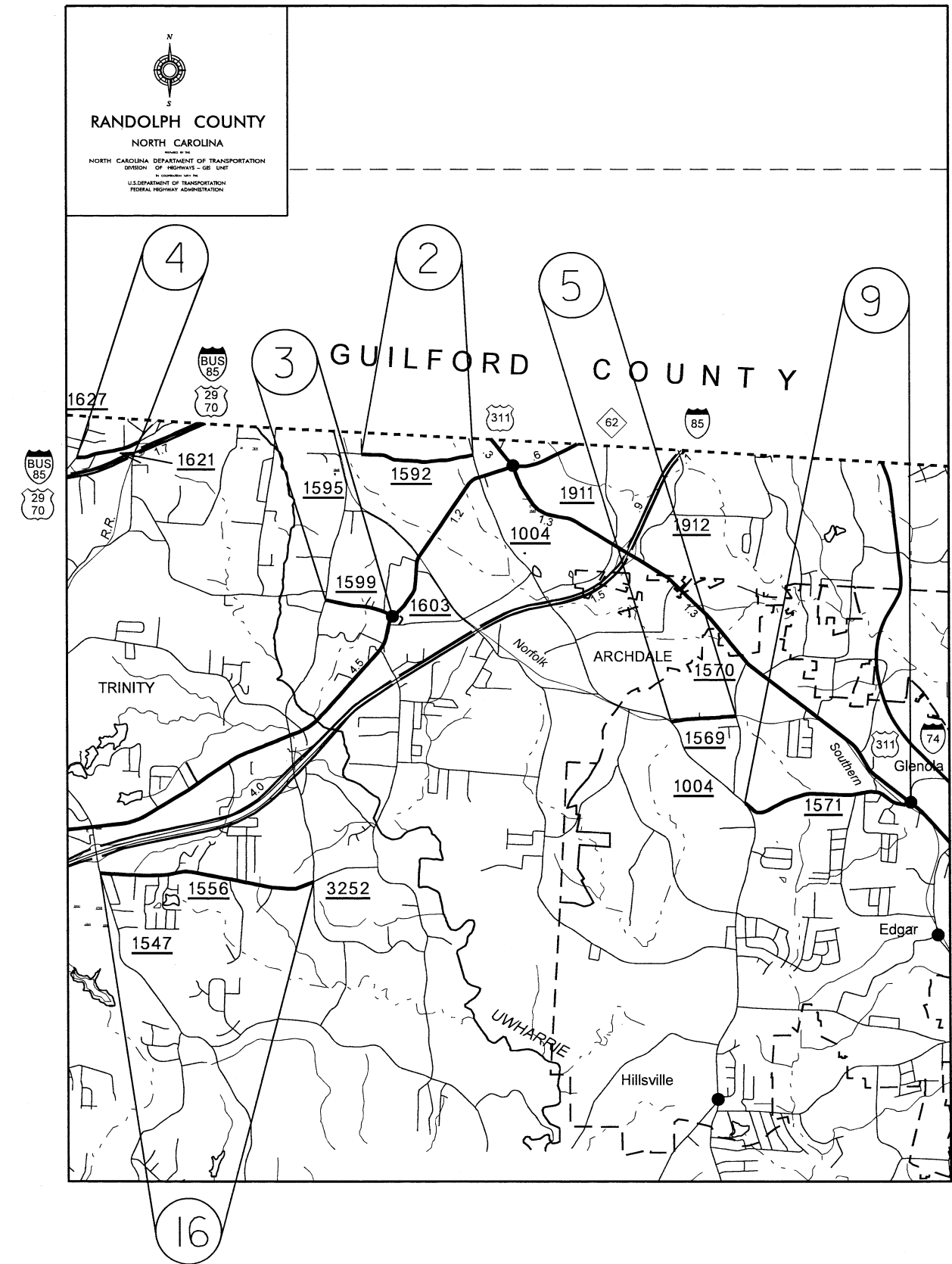


RANDOLPH COUNTY
PRIMARY AND SECONDARY RESURFACING MAP

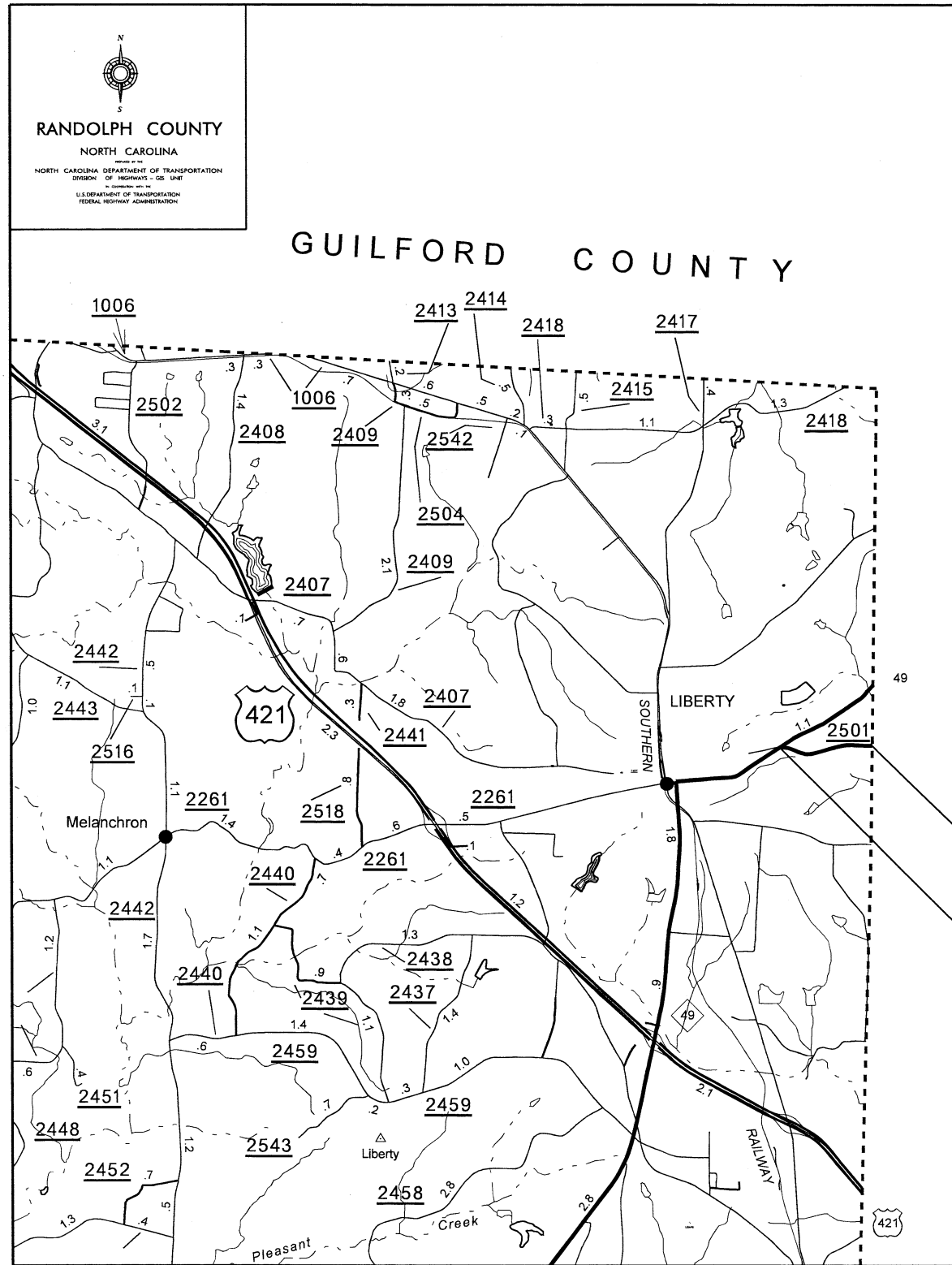
MAPS #1, #11-#15



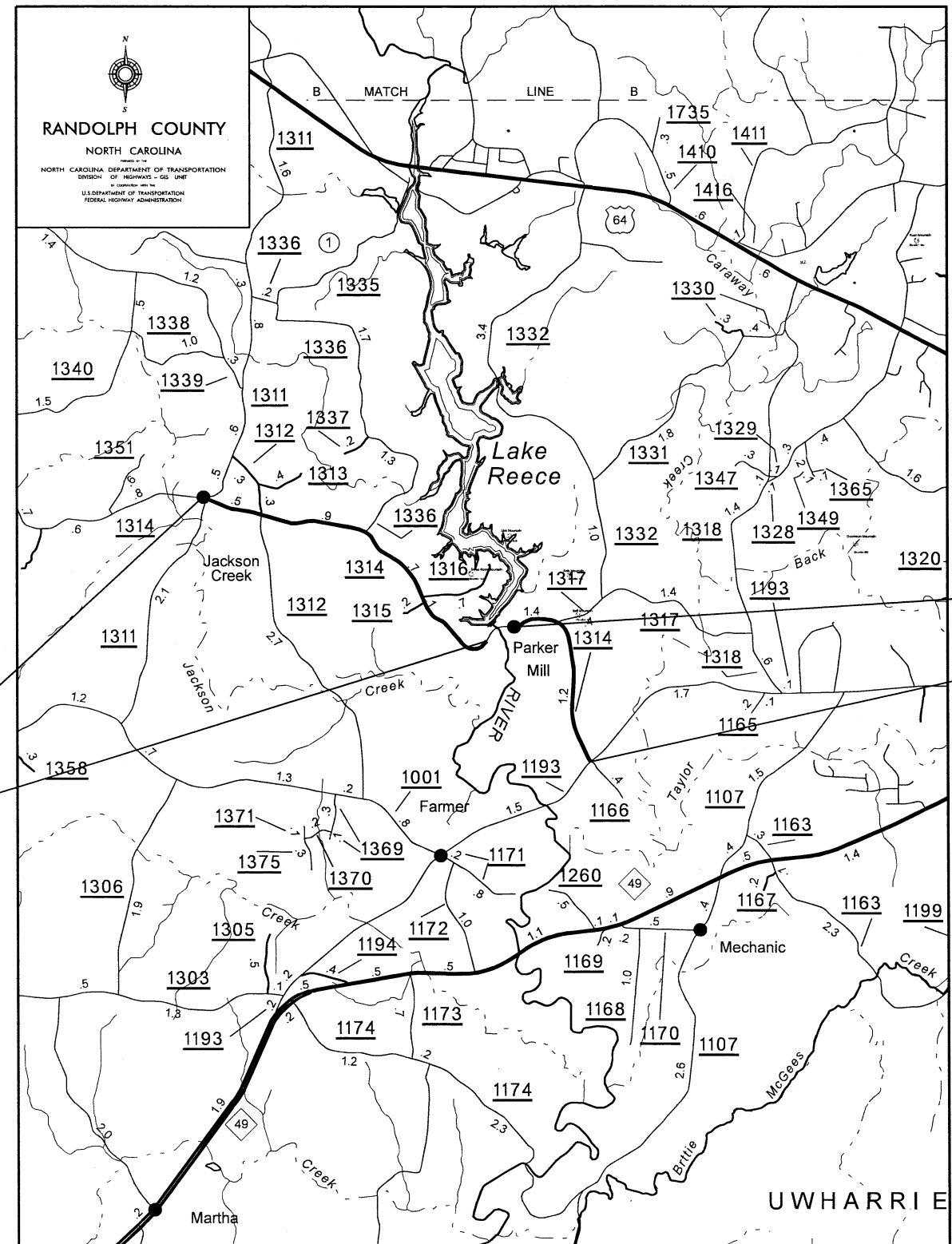
MAPS #2-#5, #9 & #16



MAPS #8



MAPS #6 & #7

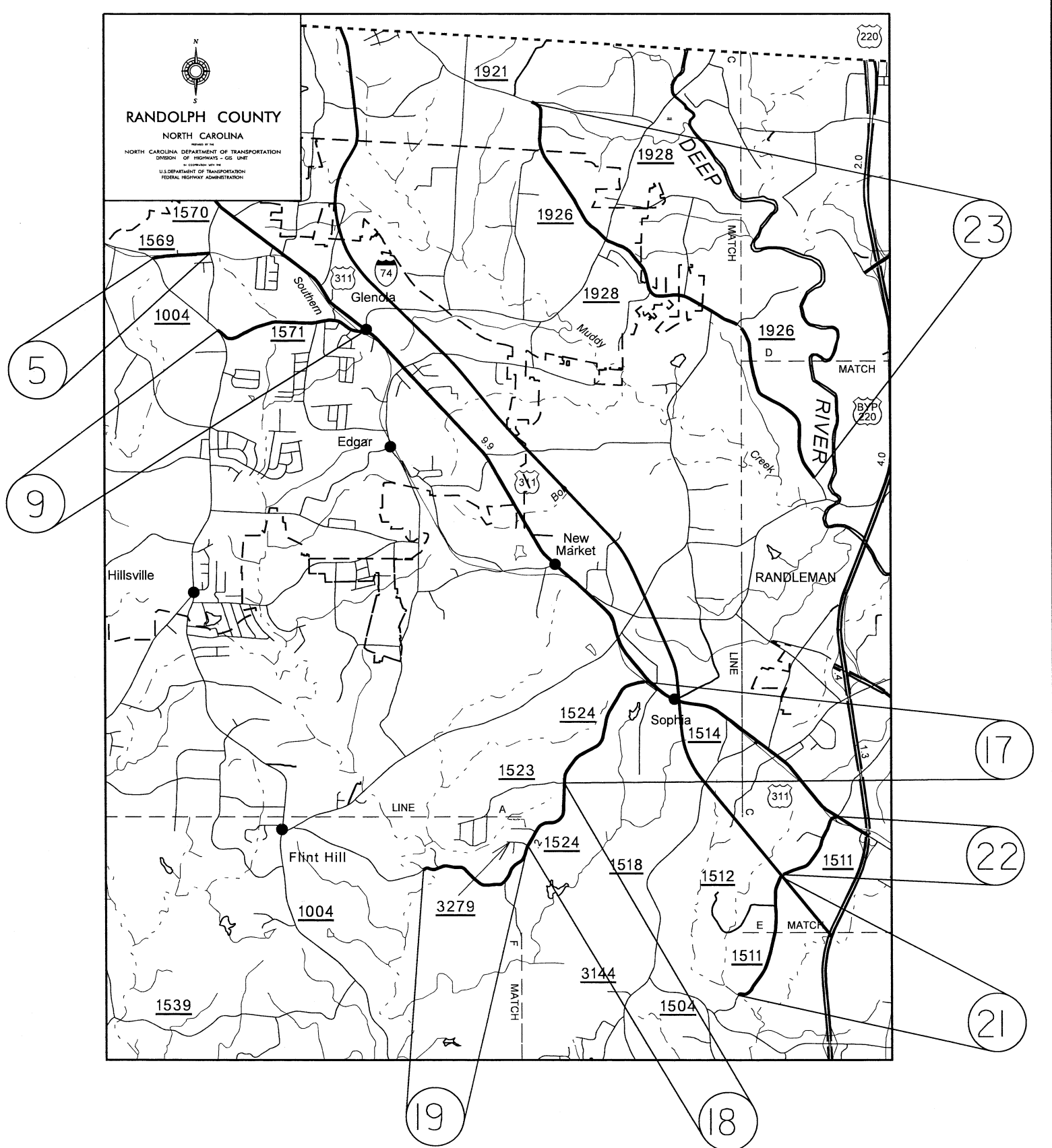
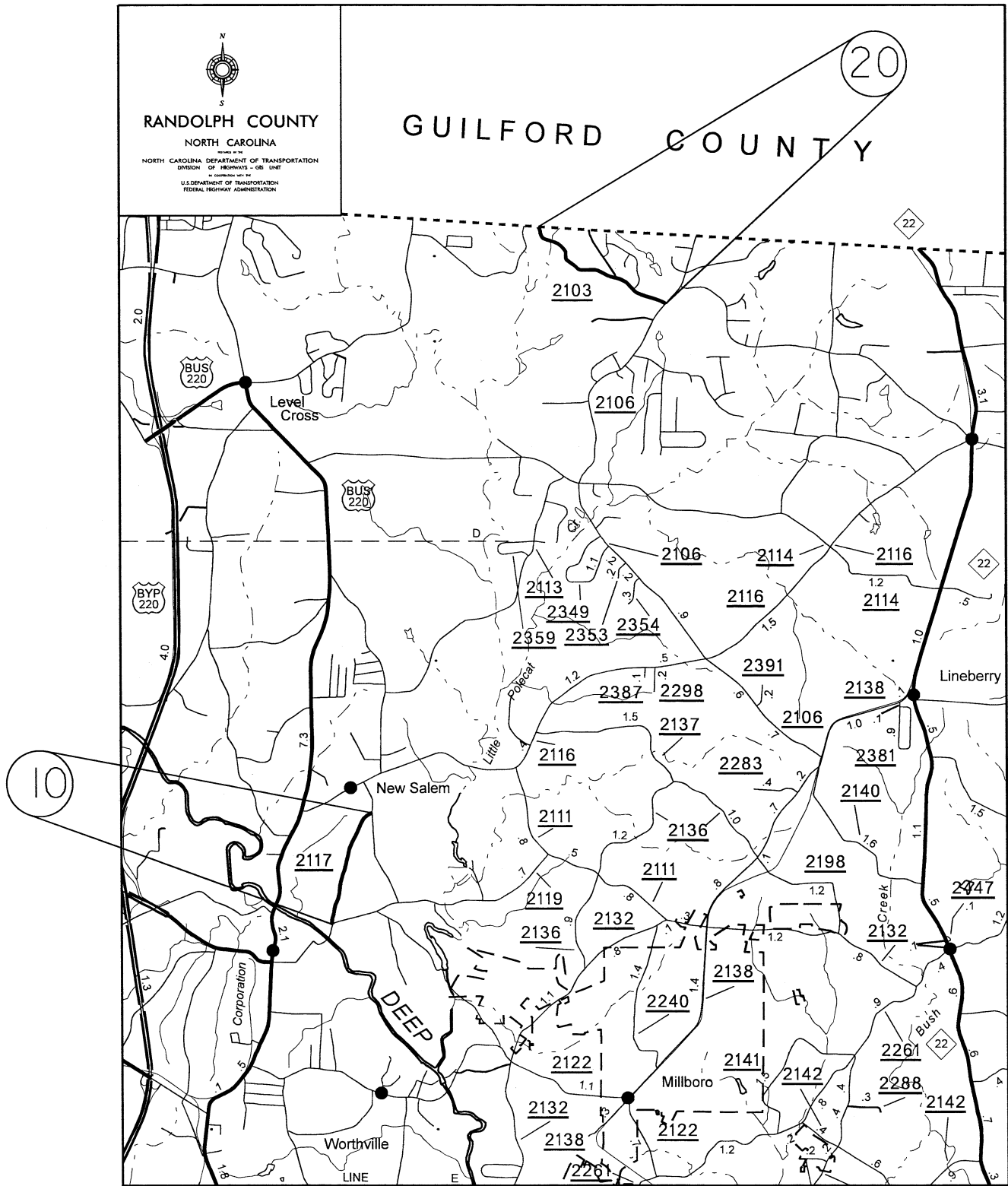


WBS ELEMENT	SHEET NO.
8CR.10761.24	3
8CR.20761.24	

040397
June 28, 2014 17:24
28-Jul-2014 17:24
August 2014
Randolph Vicinity map - SUMMER.dgn
11/24/14

MAPS #10 & #20

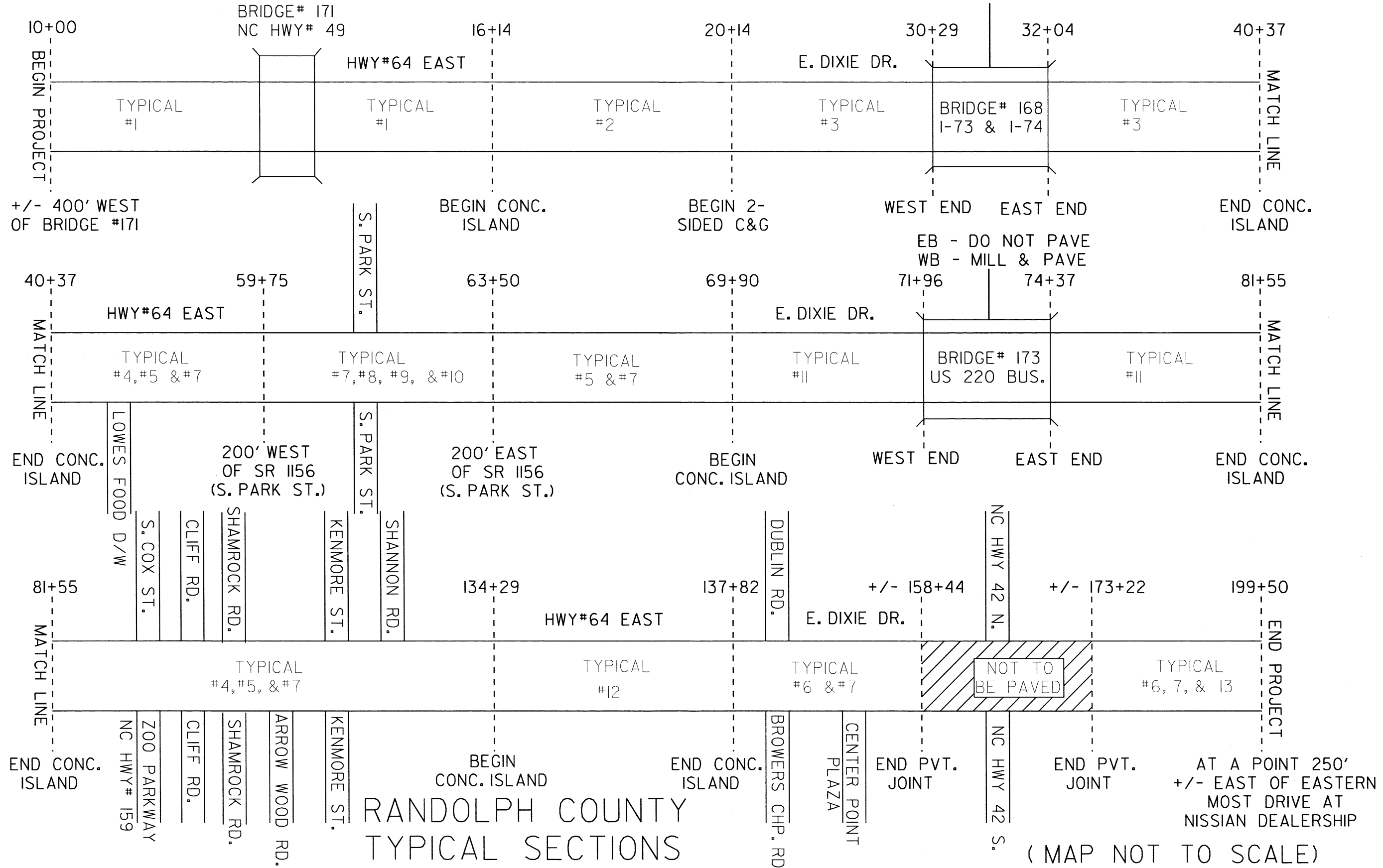
MAPS #5, #9, #17-#19, #21-#23



DETAIL MAP #1 (HWY#64)

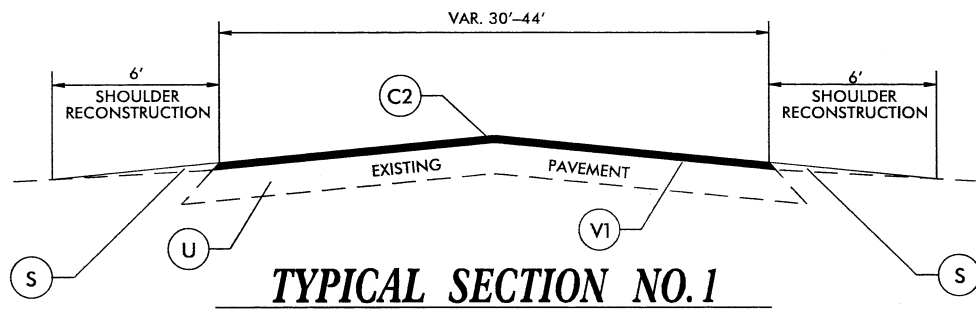
(E. DIXIE DR.)

DO NOT
PAVE-TIE
TO EXIST.
PVT. JOINTS



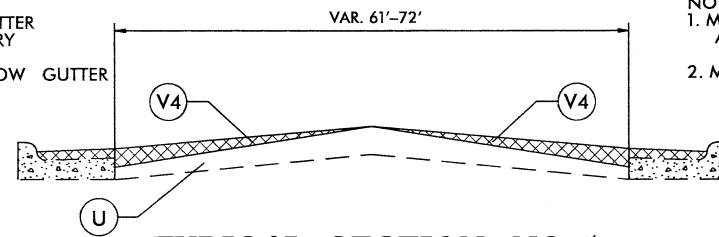
28-Jul-2014 17:24
 jr:facings\j...
 2014\Facings\...
 2014\Facings\...

(MAP NOT TO SCALE)



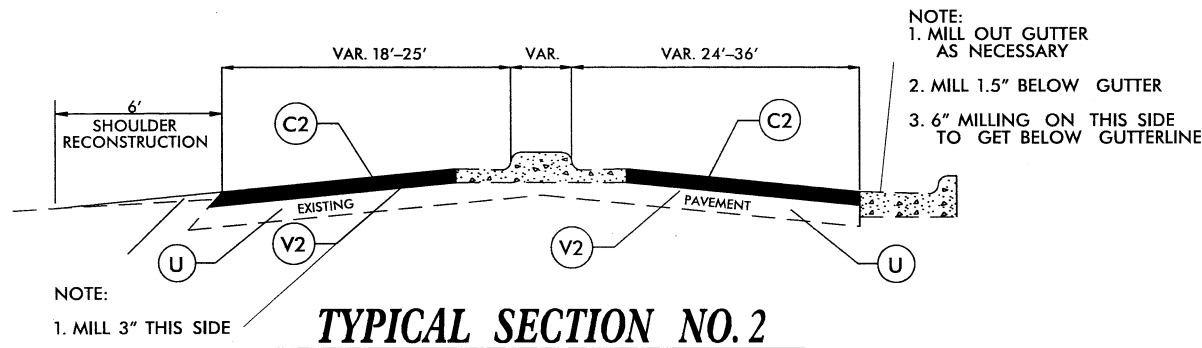
TYPICAL SECTION NO. 1

NOTE:
1. MILL OUT GUTTER AS NECESSARY
2. MILL 1.5" BELOW GUTTER



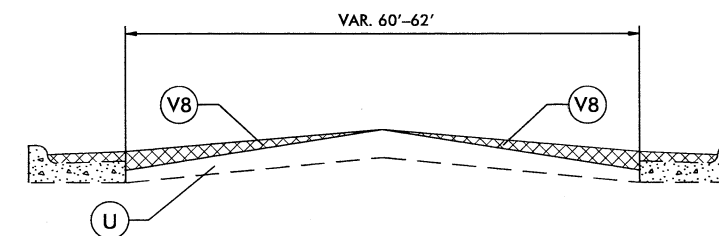
TYPICAL SECTION NO. 5

NOTE:
1. MILL OUT GUTTER AS NECESSARY
2. MILL 1.5" BELOW GUTTER



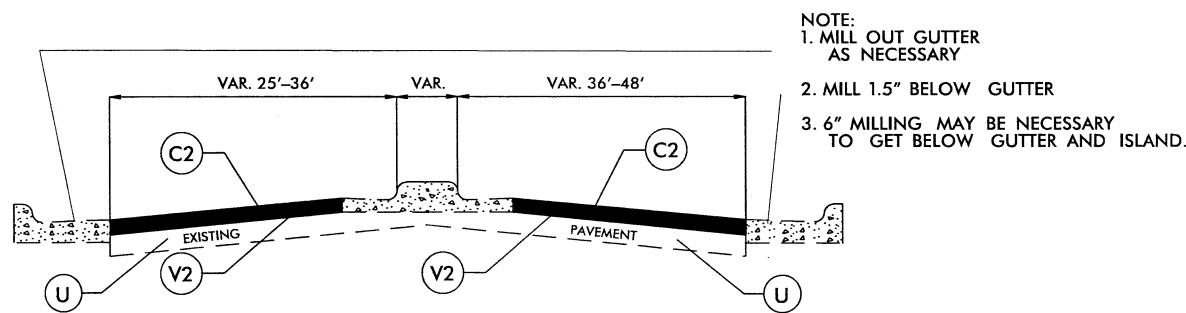
TYPICAL SECTION NO. 2

NOTE:
1. MILL OUT GUTTER AS NECESSARY
2. MILL 1.5" BELOW GUTTER
3. 6" MILLING ON THIS SIDE TO GET BELOW GUTTERLINE



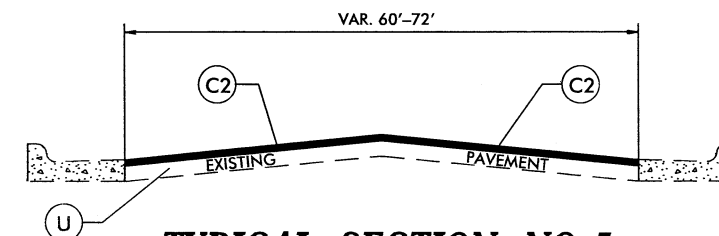
TYPICAL SECTION NO. 6

NOTE:
1. MILL OUT GUTTER AS NECESSARY
2. MILL 1.5" BELOW GUTTER



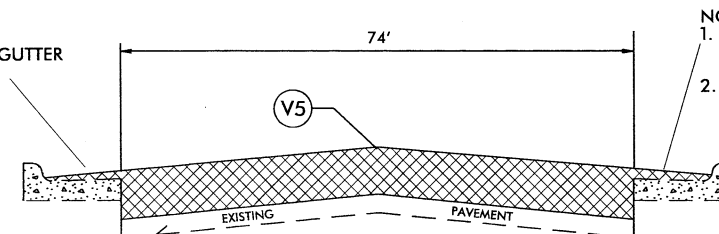
TYPICAL SECTION NO. 3

NOTE:
1. MILL OUT GUTTER AS NECESSARY
2. MILL 1.5" BELOW GUTTER
3. 6" MILLING MAY BE NECESSARY TO GET BELOW GUTTER AND ISLAND.



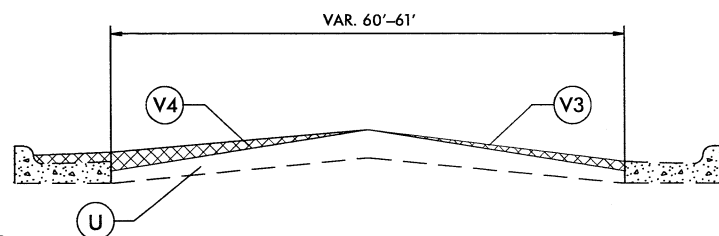
TYPICAL SECTION NO. 7

NOTE:
1. MILL OUT GUTTER AS NECESSARY
2. MILL 11" BELOW GUTTER



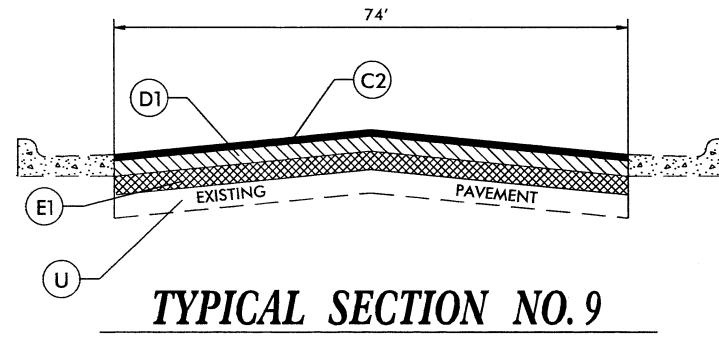
TYPICAL SECTION NO. 8

NOTE:
1. MILL OUT GUTTER AS NECESSARY
2. MILL 1.5" BELOW GUTTER

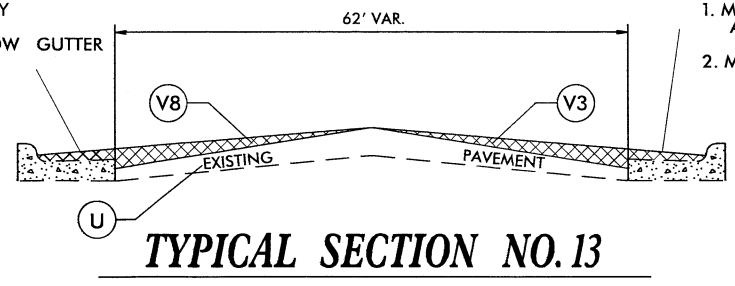


TYPICAL SECTION NO. 4

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D3	PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
E1	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
F1	PROPOSED ASPHALT SURFACE TREATMENT, MAT COAT WITH #6M STONE
S	AGGREGATE SHOULDER BORROW
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V1	MILLING 2" IN DEPTH
V2	MILLING 3" TO 6" IN DEPTH
V3	MILLING 0" TO 1.5" IN DEPTH
V4	MILLING 0" TO 4.5" IN DEPTH
V5	MILLING 14" IN DEPTH
V6	MILLING 3" IN DEPTH
V7	MILLING 1.5" TO 3" IN DEPTH
V8	MILLING 0" TO 3" DEPTH
Z	TRENCHING FOR INTERMEDIATE COURSE BEGIN 6" INSIDE EXISTING PAVEMENT

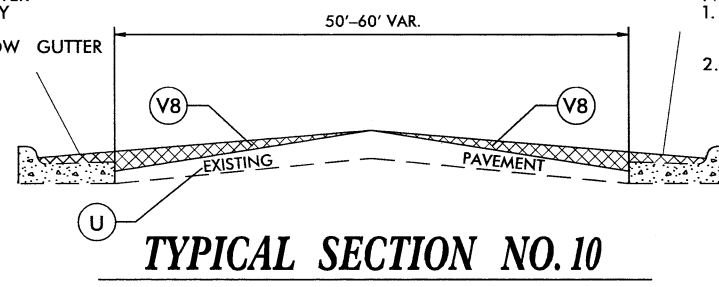


NOTE:
1. MILL OUT GUTTER AS NECESSARY
2. MILL 1.5" BELOW GUTTER



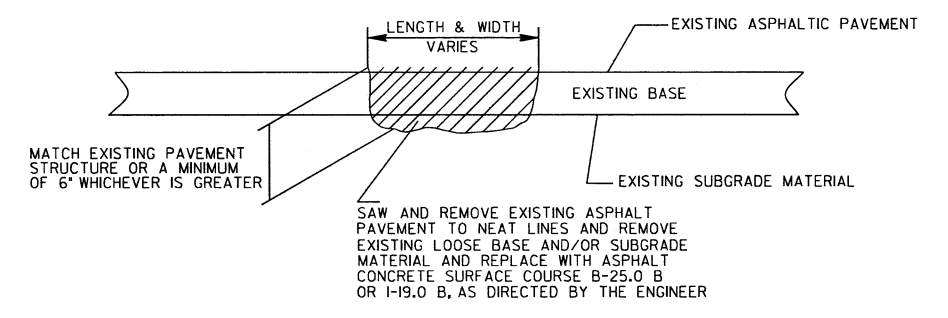
NOTE:
1. MILL OUT GUTTER AS NECESSARY
2. MILL 1.5" BELOW GUTTER

NOTE:
1. MILL OUT GUTTER AS NECESSARY
2. MILL 1.5" BELOW GUTTER

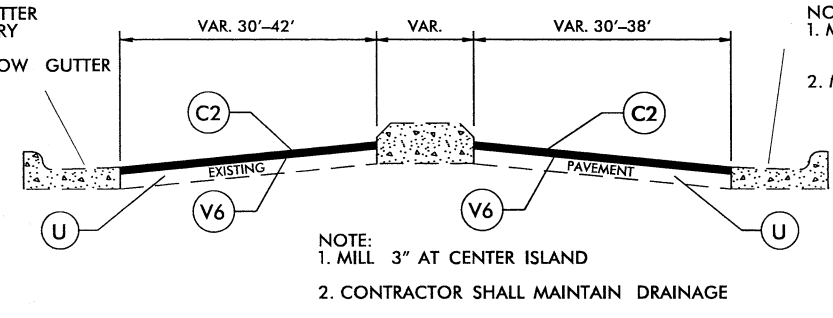


NOTE:
1. MILL OUT GUTTER AS NECESSARY
2. MILL 1.5" BELOW GUTTER

DETAILS OF PATCHING EXISTING PAVEMENT PRIOR TO RESURFACING
DETAIL NO. 1



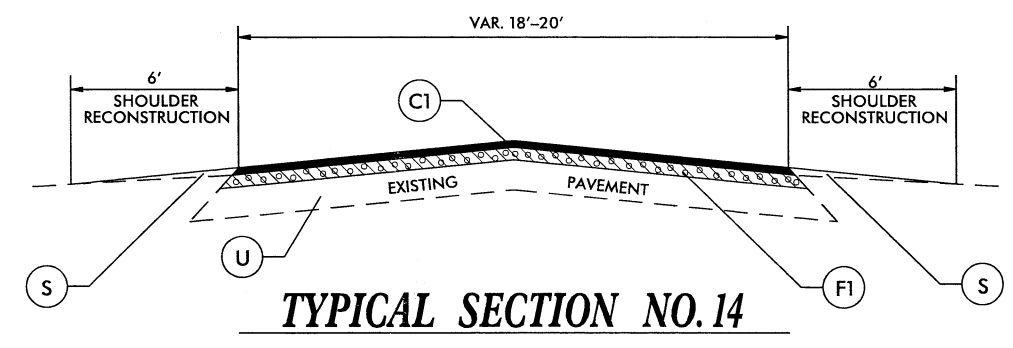
NOTE:
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NOTE:
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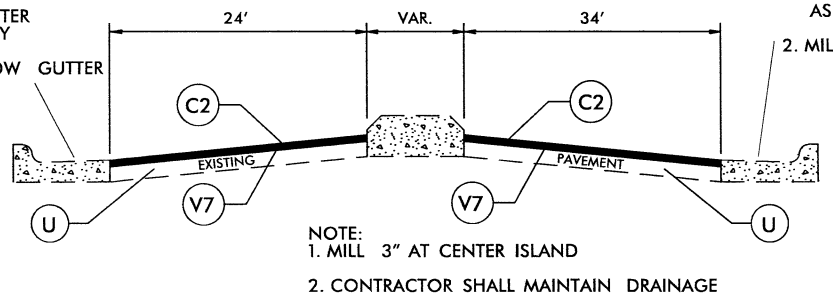
TYPICAL SECTION NO. 11

NOTE:
1. MILL 3" AT CENTER ISLAND
2. CONTRACTOR SHALL MAINTAIN DRAINAGE



TYPICAL SECTION NO. 14

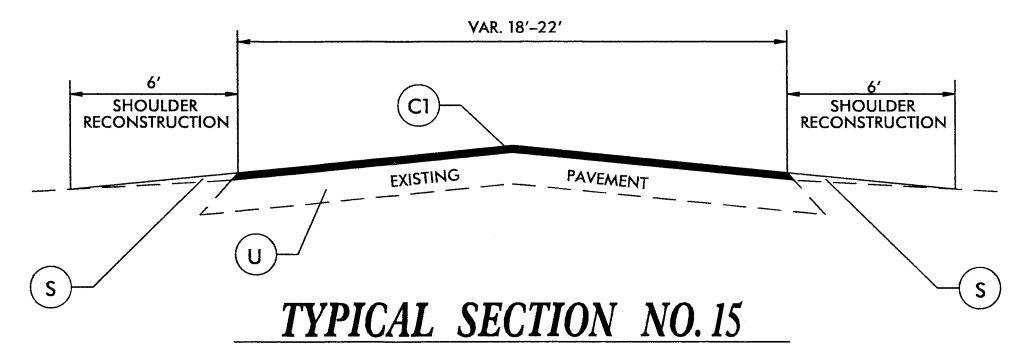
NOTE:
1. MILL OUT GUTTER AS NECESSARY
2. MILL 1.5" BELOW GUTTER



NOTE:
1. MILL OUT GUTTER AS NECESSARY
2. MILL 1.5" BELOW GUTTER

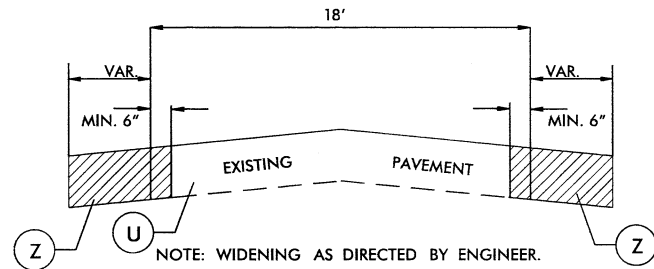
TYPICAL SECTION NO. 12

NOTE:
1. MILL 3" AT CENTER ISLAND
2. CONTRACTOR SHALL MAINTAIN DRAINAGE

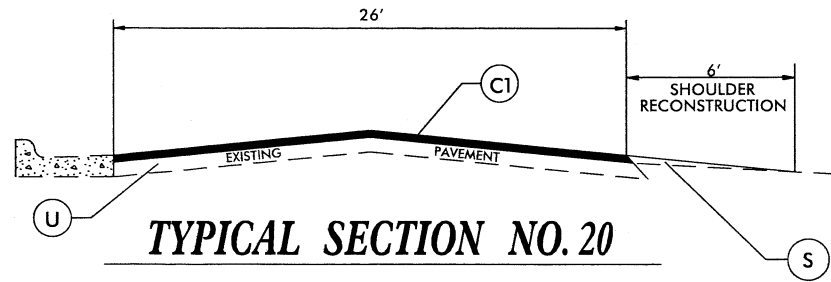


TYPICAL SECTION NO. 15

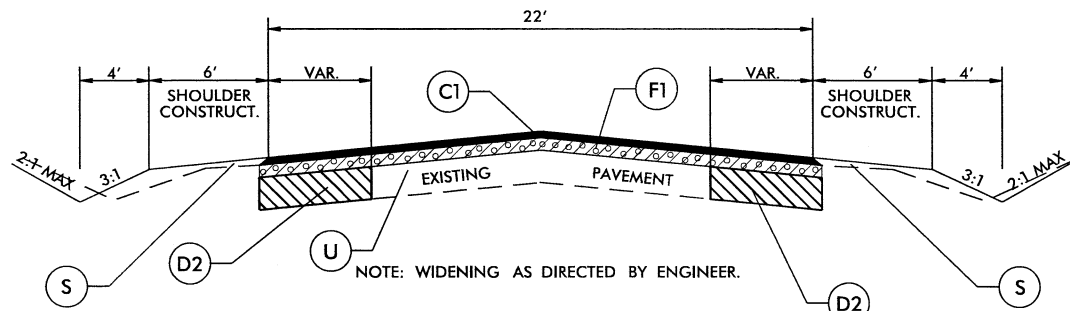
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D3	PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
E1	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
F1	PROPOSED ASPHALT SURFACE TREATMENT, MAT COAT WITH #6M STONE
S	AGGREGATE SHOULDER BORROW
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V1	MILLING 2" IN DEPTH
V2	MILLING 3" TO 6" IN DEPTH
V3	MILLING 0" TO 1.5" IN DEPTH
V4	MILLING 0" TO 4.5" IN DEPTH
V5	MILLING 14" IN DEPTH
V6	MILLING 3" IN DEPTH
V7	MILLING 1.5" TO 3" IN DEPTH
V8	MILLING 0" TO 3" DEPTH
Z	TRENCHING FOR INTERMEDIATE COURSE BEGIN 6" INSIDE EXISTING PAVEMENT



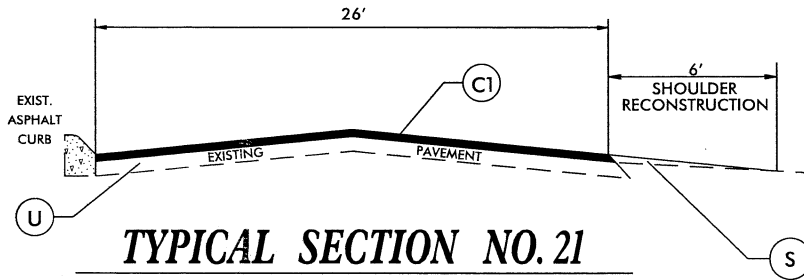
TYPICAL SECTION NO. 16



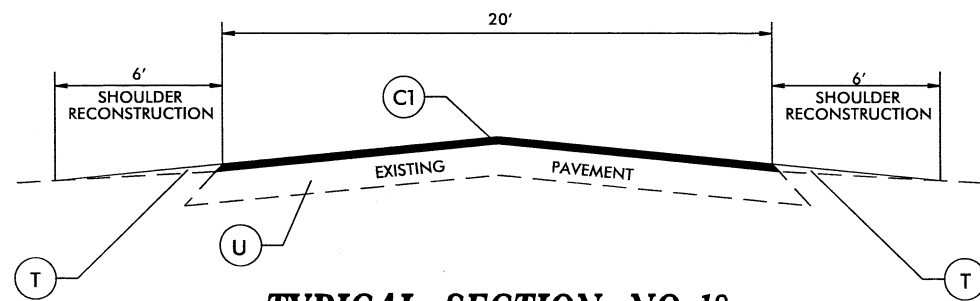
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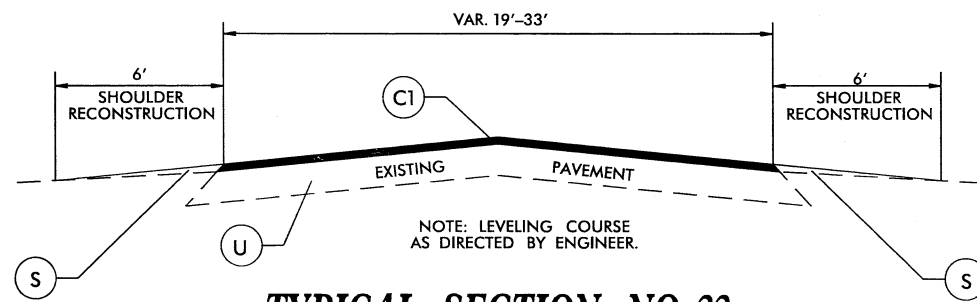
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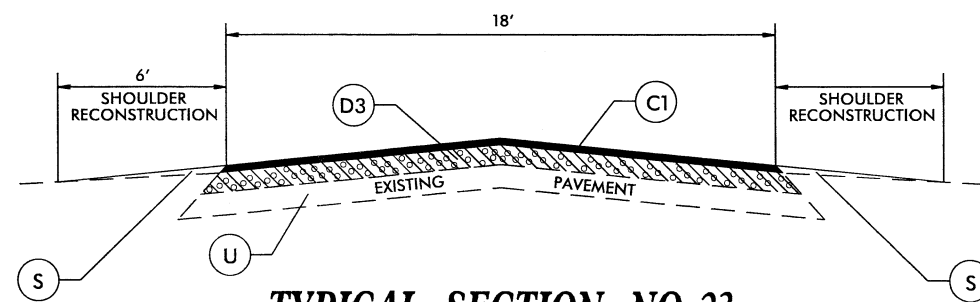
TYPICAL SECTION NO. 21



TYPICAL SECTION NO. 18

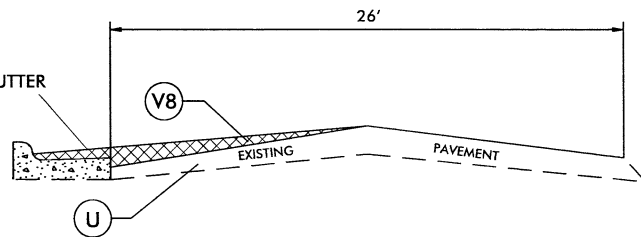


TYPICAL SECTION NO. 22



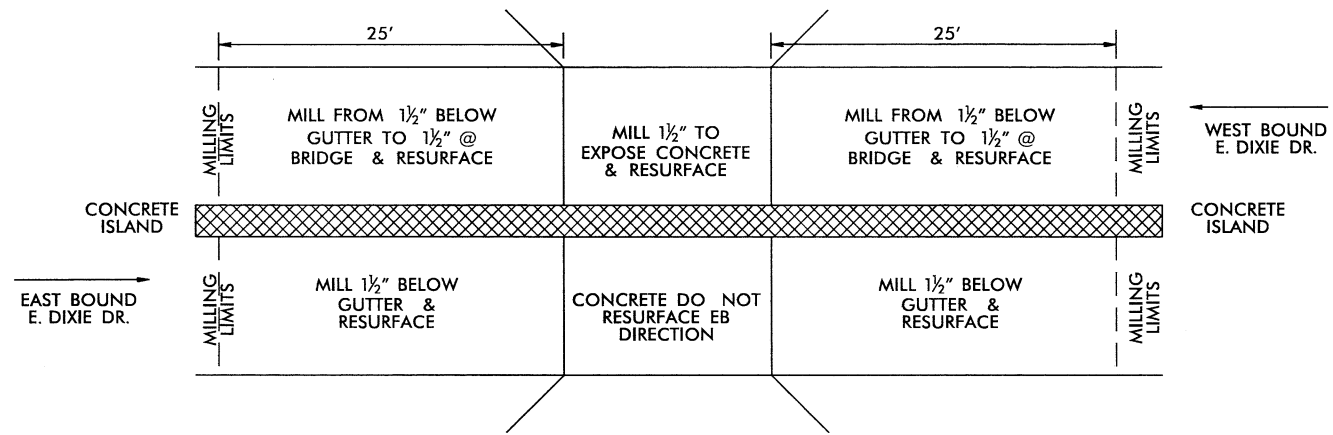
TYPICAL SECTION NO. 23

NOTE:
1. MILL OUT GUTTER AS NECESSARY
2. MILL 1.5" BELOW GUTTER

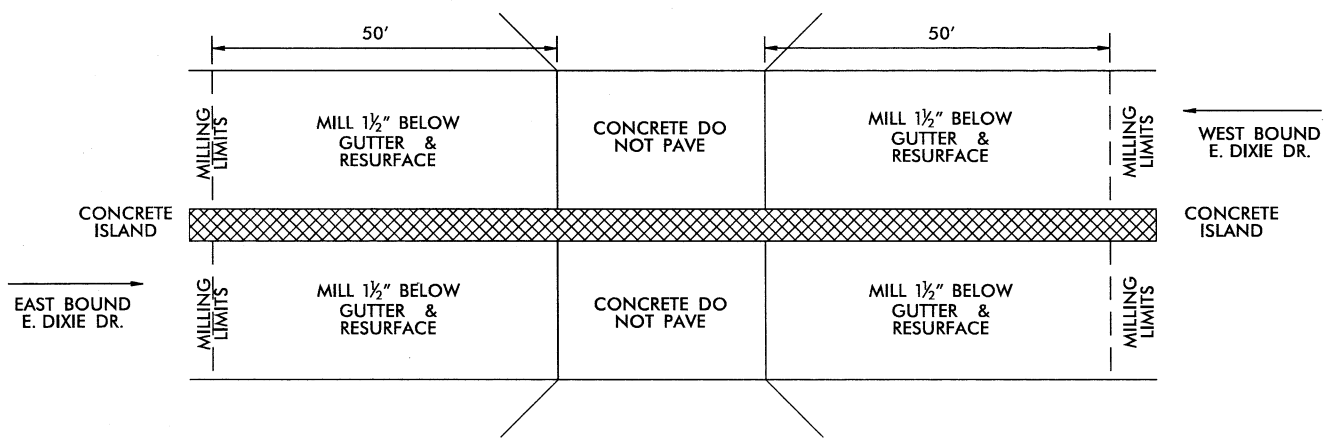


TYPICAL SECTION NO. 19

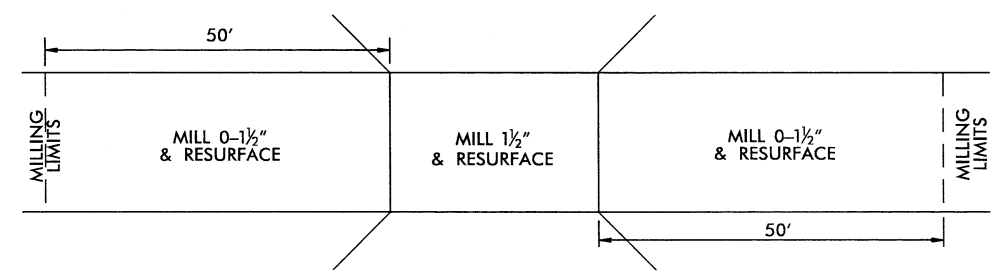
PAVEMENT SCHEDULE	
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S	AGGREGATE SHOULDER BORROW
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
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V3	MILLING 0" TO 1.5" IN DEPTH
V4	MILLING 0" TO 4.5" IN DEPTH
V5	MILLING 14" IN DEPTH
V6	MILLING 3" IN DEPTH
V7	MILLING 1.5" TO 3" IN DEPTH
V8	MILLING 0" TO 3" DEPTH
Z	TRENCHING FOR INTERMEDIATE COURSE BEGIN 6" INSIDE EXISTING PAVEMENT



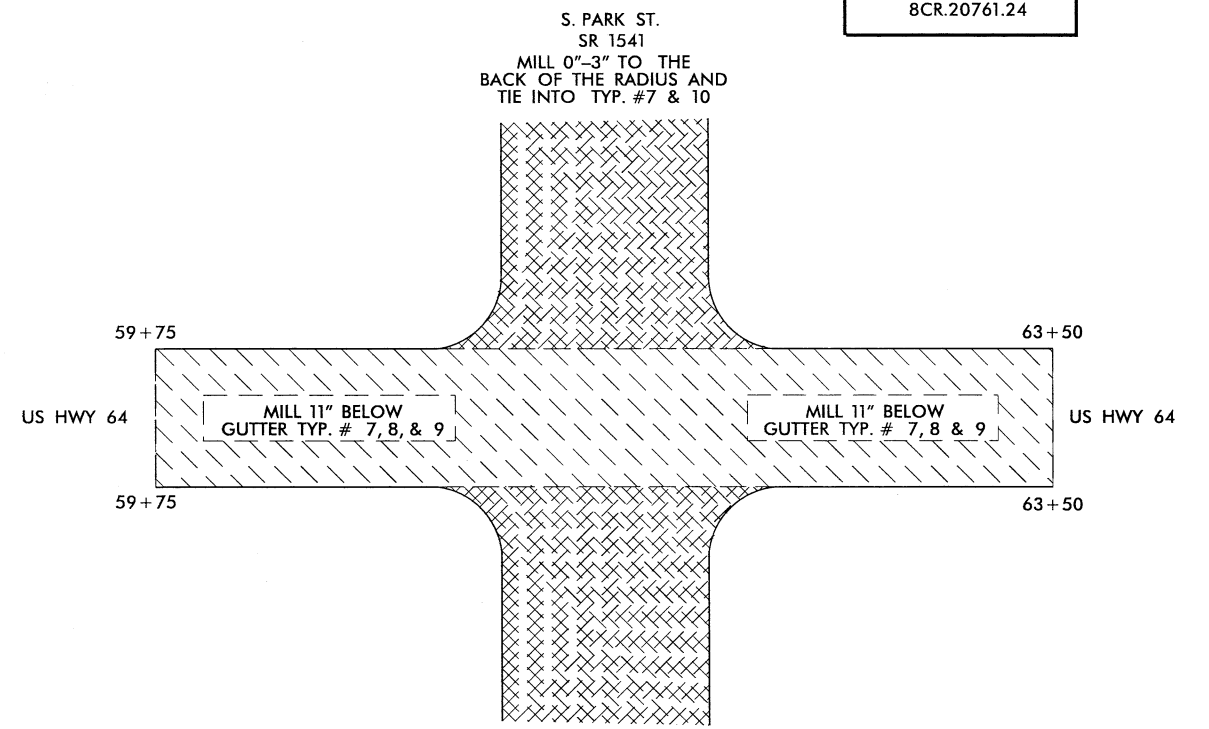
DRAWING FOR BRIDGE #173
USE FOR MAP #1
BETWEEN STA.# 71+71 - STA.# 74+62



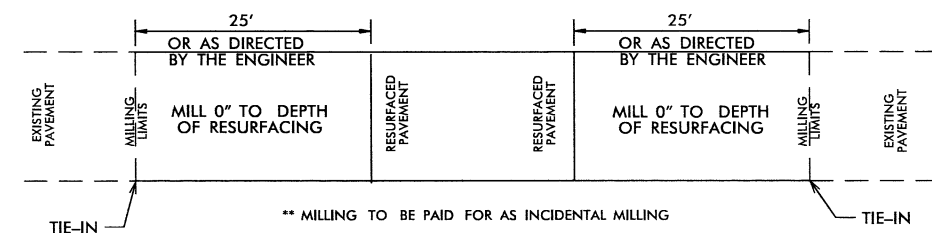
DRAWING FOR BRIDGE #168
USE FOR MAP #1
BETWEEN STA.# 29+79 - STA.# 32+54



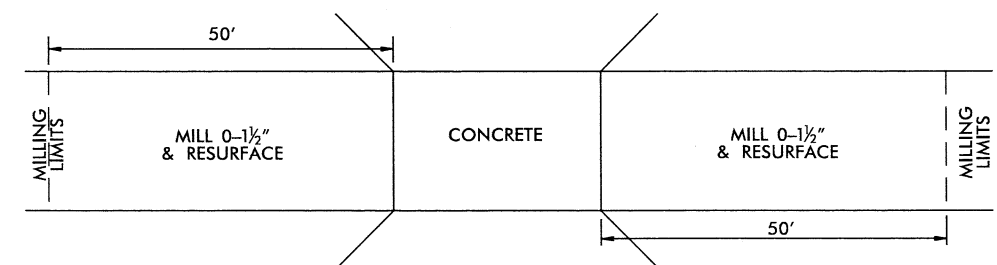
DRAWING FOR BRIDGE #106
USE FOR MAP #20
* MILLING SHALL BE PAID FOR UNDER INCIDENTAL MILLING



SR 1156
S. PARK ST.
INTERSECTION DETAILS FOR
SR 1541 & SR 1154 AND HWY 64



PAVEMENT TIE-IN DETAIL

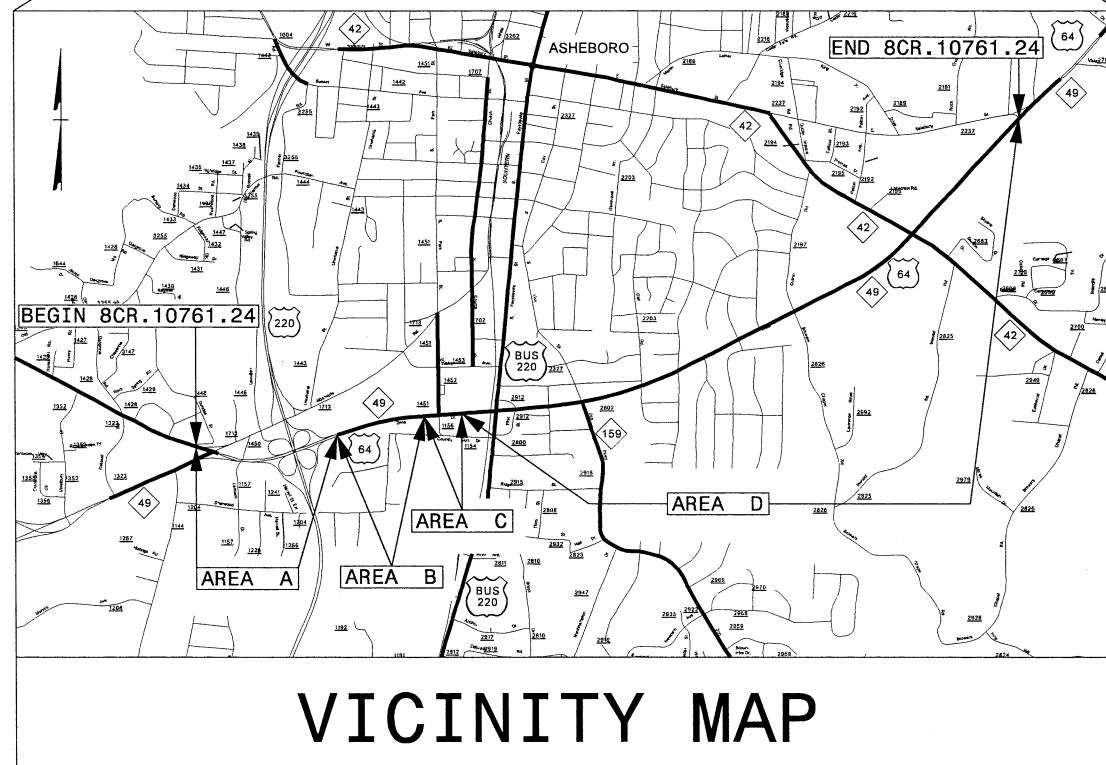
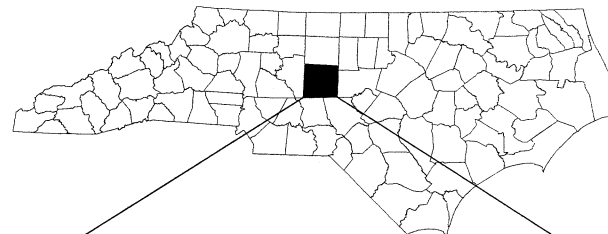


DRAWING FOR BRIDGE #78
USE FOR MAP #19
* MILLING SHALL BE PAID FOR UNDER INCIDENTAL MILLING

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

RANDOLPH COUNTY



VICINITY MAP

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS AND LEGEND
TMP-2	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES AND GENERAL NOTES)
TMP-3	PHASING
TMP-4	OFF-SITE DETOURS FOR US-64 EASTBOUND DIRECTIONAL ROAD CLOSURE
TMP-4A	INSET A
TMP-5	OFF-SITE DETOURS FOR US-64 WESTBOUND DIRECTIONAL ROAD CLOSURE
TMP-6	OFF-SITE DETOURS FOR US-64 ROAD CLOSURE AT SR-1156/1451 (S. PARK STREET)
TMP-7	OFF-SITE DETOUR FOR US-64 RAMP CLOSURE AT US-220 BUSINESS

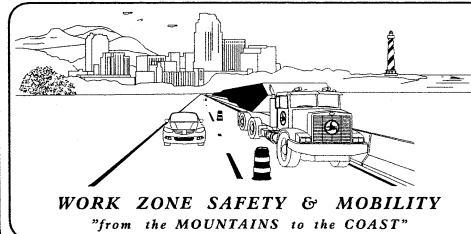
SHEET NO.

TMP-1

8CR.10761.24

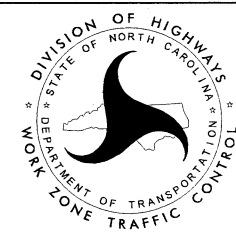
WBS PROJECT:

8/12/2014 8:41:11 AM WZTC:Resurfacing 2014 Central\2014_Div08\TBD_8CR.10761.24_Randolph_US-64_drk\Documents Out\TMPs\8CR.10761.24_TC_TMP_01_Title_Sheet.dgn User:drkennedy1



N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)
PHONE: (919) 773-2800 FAX: (919) 771-2745

J. S. BOURNE, P.E. STATE TRAFFIC MANAGEMENT ENGINEER
DAVID BISSETTE, P.E. TRAFFIC CONTROL PROJECT ENGINEER
MICHAEL STEELMAN TRAFFIC CONTROL PROJECT DESIGN ENGINEER
DURWOOD KENNEDY, P.E. TRAFFIC CONTROL DESIGN ENGINEER



APPROVED: *David Bissette*
DATE: 8/13/2014

SEAL

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.06	WARNING SIGNS FOR BLASTING ZONES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION
1170.01	POSITIVE PROTECTION
1180.01	SKINNY-DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.03	PAVEMENT MARKINGS - EXITS AND ENTRANCE RAMP
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.10	PAVEMENT MARKINGS - SCHOOL AREAS
1205.11	PAVEMENT MARKINGS - RAILROAD CROSSINGS
1205.12	PAVEMENT MARKINGS - BRIDGES
1205.13	PAVEMENT MARKINGS - LANE REDUCTIONS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- TEMP. SHORING (LOCATION PURPOSES ONLY)

WORK AREA

REMOVAL

USER DEFINED (IF NEEDED)

USER DEFINED (IF NEEDED)

SIGNALS

- EXISTING
- PROPOSED
- TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM
- SKINNY DRUM
- TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BOARD
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED ATTENUATOR (TMA)
- CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

- CRYSTAL/CRYSTAL
- CRYSTAL/RED
- YELLOW/YELLOW

PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

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APPROVED: DATE: 8/13/2014 <small>DESIGNED BY: David Bissette</small>		
<h3>ROADWAY STANDARD DRAWINGS & LEGEND</h3>		

MANAGEMENT STRATEGIES

THE OBJECTIVE OF THIS PROJECT IS MILLING AND RESURFACING OF THE EXISTING PAVEMENT ALONG US-64. US-64 RUNS EAST/WEST IN RANDOLPH COUNTY, FROM SR-1448 (DUNDEE STREET) TO SR-2237 (E. SALISBURY STREET).

THE EXISTING ROADWAY IS A MULTI-LANE DIVIDED/UNDIVIDED THOROUGHFARE WITH EITHER A CONCRETE MEDIAN OR CENTER TURNING LANE, RESPECTIVELY, THROUGHOUT THIS AREA.

THE PROPOSED PAVEMENT REHABILITATION ON US-64 WILL BE CONSTRUCTED USING A COMBINATION OF LANE CLOSURES, RAMP CLOSURES, ROAD CLOSURES AND FOLLOWING THE REQUIREMENTS OF PROJECT GENERAL NOTES AND PHASING.

LOCAL NOTES

- SHOULD THE NEED TO WINTERIZE THE PAVEMENT MARKINGS OCCUR, PLACE ONE (1) APPLICATION OF PAINT WITH STANDARD GLASS BEADS TO ACHIEVE AN OPTIMUM RETROREFLECTIVITY AS REQUIRED BY SECTION 1205, OR AS DIRECTED BY THE ENGINEER.
- FINISH ALL PATCHING BEFORE PLACING THE SURFACE COURSES IN THE ORDER AS AGREED UPON WITH THE ENGINEER AT THE FIRST PRE-CONSTRUCTION MEETING.
- WORK IN A CONTINUOUS MANNER WHEN ROAD CLOSURES ARE IN PLACE. RESTORE SAFE CONDITIONS, REMOVE ALL CLOSURES, AND RESTORE TRAFFIC TO ORIGINAL PATTERNS AT THE END OF EACH WORK PERIOD.

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
ANY ROADS & ANY RAMPS	MONDAY THRU SUNDAY FROM 6:00 A.M. TO 8:00 P.M.

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

ROAD NAME
ANY ROADS & ANY RAMPS

HOLIDAY

1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 31st TO 8:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 8:00 P.M. THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 8:00 P.M. MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 8:00 P.M. TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 8:00 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 8:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.

GENERAL NOTES CONT.

6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 8:00 P.M. TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY AND 8:00 P.M. MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 8:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.
9. FROM ONE (1) HOUR BEFORE TO ONE (1) HOUR AFTER ANY SPECIAL EVENTS OR SPORTING EVENTS HELD AT SOUTH ASHEBORO MIDDLE SCHOOL OR ASHEBORO HIGH SCHOOL.

- C) DO NOT CLOSE ROADS AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
ANY ROADS & ANY RAMPS	MONDAY THRU SUNDAY FROM 6:00 A.M. TO 8:00 P.M.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- D) 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.
- E) 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.
- F) 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 USING ROADWAY STANDARD DRAWING NO. 1101.02 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 USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.
- H) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.
- I) DO NOT INSTALL MORE THAN ONE LANE CLOSURE OR ROAD CLOSURE IN ANY ONE DIRECTION ON US-64.

PAVEMENT EDGE DROP OFF REQUIREMENTS

- J) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.
- K) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 500 FEET IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

- M) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- N) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRANSPORTATION MANAGEMENT PLANS.

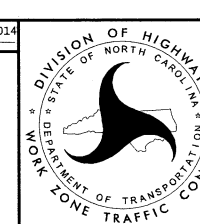
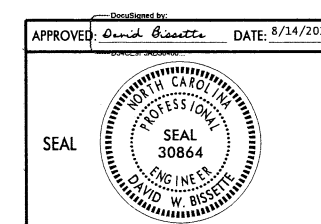
PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE(S) AS SHOWN IN THE TRANSPORTATION MANAGEMENT PLANS.
- O) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.
- P) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

PAVEMENT MARKINGS AND MARKERS

- Q) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
ANY ROADS & RAMPS	PAINT	TEMPORARY RAISED
- R) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS, AS DIRECTED BY THE ENGINEER.
- S) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- T) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.



TRANSPORTATION
OPERATIONS PLAN

PHASING

NOTE: THIS PROJECT HAS BEEN DIVIDED INTO THE FOLLOWING AREAS, AS SHOWN ON THE VICINITY MAP ON SHEET TMP-1:

- AREA A. FROM STA.10+00+/- TO STA.40+37+/-
- AREA B. FROM STA.40+37+/- TO STA.59+75+/-
- AREA C. FROM STA.59+75+/- TO STA.63+50+/-
- AREA D. FROM STA.63+50+/- TO STA.158+44+/- & FROM STA.173+27+/- TO STA.199+50+/-

STEP #1: USING RSD 1101.01, INSTALL REQUIRED ADVANCED WORK ZONE WARNING SIGNS.

FOR STEP #2, OPERATIONS MAY BE CONDUCTED/REPEATED IN ANY AREA, IN ANY ORDER, BUT MAY NOT BE CONDUCTED SIMULTANEOUSLY, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. HOWEVER, OPERATIONS ALONG THE CENTER TURN LANES LOCATED IN AREAS B AND D MAY NOT BE PERFORMED UNTIL A LEFT LANE CLOSURE IS INSTALLED IN EACH DIRECTION TO ALLOW TRUCKS TO SAFELY ENTER/EXIT THE WORK AREA.

AREA A

CONSTRUCT AREA A USING NIGHTLY ROAD CLOSURES

STEP #2: USING ROADWAY STANDARD DRAWING 1101.03, SHEETS 1 AND 2 OF 9 AND SHEETS TMP-4 OR TMP-5 INSTALL TRAFFIC CONTROL DEVICES AND CLOSE THE EASTBOUND OR WESTBOUND LANES OF US 64 TO TRAFFIC FROM STATION 10+00+/- TO STATION 40+37+/- AND DETOUR THE TRAFFIC OFF-SITE.

PERFORM THE PROPOSED WORK WITHING THE DIRECTIONAL ROAD CLOSURE.

PLACE TEMPORARY PAVEMENT MARKINGS AND REOPEN ALL LANES TO TRAFFIC AT THE END OF EACH WORK PERIOD.

NOTE: US-64 EASTBOUND AND US-64 WESTBOUND SHALL NOT BE CLOSED SIMULTANEOUSLY.

AREA B

CONSTRUCT AREA B USING NIGHTLY LANE CLOSURES WHILE MAINTAINING TWO-WAY TRAFFIC ON US 64

STEP #2: USING ROADWAY STANDARD DRAWING 1101.02, SHEETS 2, 3, AND 7 THRU 10 OF 15, INSTALL LANE CLOSURES ON US 64 AND PERFORM THE PROPOSED WORK WITHIN THE LANE CLOSURES.

PLACE TEMPORARY PAVEMENT MARKINGS AND REOPEN ALL LANES TO TRAFFIC AT THE END OF EACH WORK PERIOD.

AREA C

CONSTRUCT AREA C USING NIGHTLY LANE AND ROAD CLOSURES WHILE MAINTAINING TWO-WAY TRAFFIC ON US 64

STEP #2: USING ROADWAY STANDARD DRAWING 1101.03, SHEETS 1 AND 2 OF 9, AND SHEETS TMP-6 AND TMP-7 INSTALL TRAFFIC CONTROL DEVICES AND CLOSE S PARK STREET (SR-1156/SR-1451) AT THE INTERSECTION OF US 64 AND CLOSE THE BUSINESS US 220 LOOP TO US 64 WESTBOUND TO TRAFFIC AND DETOUR THE TRAFFIC OFF-SITE.

USING ROADWAY STANDARD DRAWING 1101.02, SHEETS 2, 3, AND 7 THRU 10 OF 15, INSTALL LANE CLOSURES ON US 64 AND PERFORM THE PROPOSED WORK WITHIN THE LANE CLOSURES.

PLACE TEMPORARY PAVEMENT MARKINGS AND REOPEN ALL LANES AND ROADS TO TRAFFIC AT THE END OF EACH WORK PERIOD.

AREA D

CONSTRUCT AREA B USING NIGHTLY LANE CLOSURES WHILE MAINTAINING TWO-WAY TRAFFIC ON US 64

STEP #2: USING ROADWAY STANDARD DRAWING 1101.02, SHEETS 2, 3, AND 7 THRU 10 OF 15, INSTALL LANE CLOSURES ON US 64 AND PERFORM THE PROPOSED WORK WITHIN THE LANE CLOSURES.



PLACE TEMPORARY PAVEMENT MARKINGS AND REOPEN ALL LANES TO TRAFFIC AT THE END OF EACH WORK PERIOD.

STEP #3: USING ROADWAY STANDARD DRAWING 1101.02, SHEETS 2, 3, AND 7 THRU 10 OF 15, PLACE THE FINAL PAVEMENT MARKINGS AND MARKERS AND REOPEN ALL LANES TO TRAFFIC.

STEP #4: REMOVE ALL REMAINING TRAFFIC CONTROL DEVICES.

NOTES:

- FOR EACH WORK PERIOD, INSTALL PORTABLE CHANGEABLE MESSAGE SIGNS (CMS) AT ALL REQUIRED LOCATIONS BEFORE NARROWING/CLOSING A TRAVEL LANE AND /OR RAMP (REFER TO RSD 1101.02, RSD 1101.03 & RSD 1101.04 AND SHEETS TMP-4 THRU TMP-6).
- WORK IN A CONTINUOUS MANNER WHILE LANE, ROAD AND/OR RAMP CLOSURES ARE IN PLACE.
- WORK WILL BE RESTRICTED TO ONE DIRECTION AT A TIME.
- WORK IN A MANNER THAT NO MORE THAN A 3" DROP-OFF IS ALLOWED BETWEEN AN OPEN TRAVEL LANE AND THE ADJACENT LANE BEING CONSTRUCTED.
- MILL AND PAVE BACK BY THE END OF EACH WORK PERIOD SUCH THAT DROP-OFFS BETWEEN TRAVEL LANES ARE 1½" OR LESS WHEN RE-OPENED TO TRAFFIC, OR AS DIRECTED BY THE ENGINEER.
- ALL PAVING OPERATIONS SHALL HAVE TEMPORARY PAVEMENT MARKINGS PLACED PRIOR TO RE-OPENING TO TRAFFIC.
- SHOULD MILLING AND/OR RESURFACING OPERATIONS INTERFERE WITH ACCESS TO OR FROM US-64, CLOSE THE AFFECTED (-Y- LINE) SIDE STREET AND/OR LOOP/RAMP AND DETOUR TRAFFIC OFF-SITE TO A ROUTE AGREED UPON WITH THE ENGINEER. THE CONTRACTOR SHALL COMPLETE THE REQUIRED WORK OF PROVIDING, INSTALLING, MAINTAINING AND REMOVING THE TRAFFIC CONTROL DEVICES FOR (-Y- LINE) SIDE STREET AND/OR LOOP/RAMP CLOSURES AND DETOUR ROUTES AND RESTORING TRAFFIC TO THE EXISTING TRAFFIC PATTERN BY THE END OF EACH WORK PERIOD. THE TRAFFIC CONTROL DEVICES ASSOCIATED WITH THESE ROAD CLOSURES AND/OR OFF-SITE DETOURS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE.
- LOOPS SHALL BE REPLACED WITHIN SEVEN (7) CALENDAR DAYS AFTER THEY HAVE BEEN CUT. REFER TO APPROVED SIGNAL PLAN LOCATED IN THE CABINET, OR AS PROVIDED BY NCDOT DIV. 8 TRAFFIC SERVICES (3 WORKING DAY TURNAROUND FOR REQUESTED PLANS).

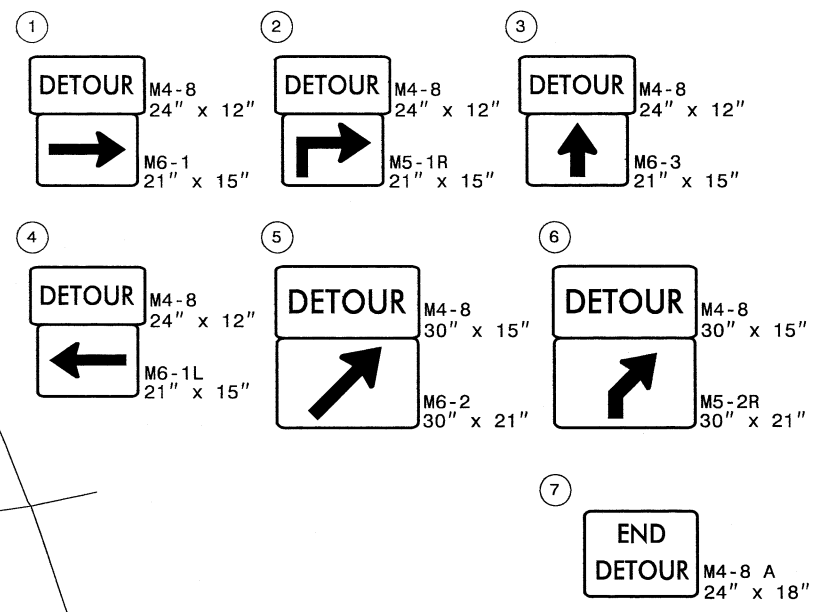
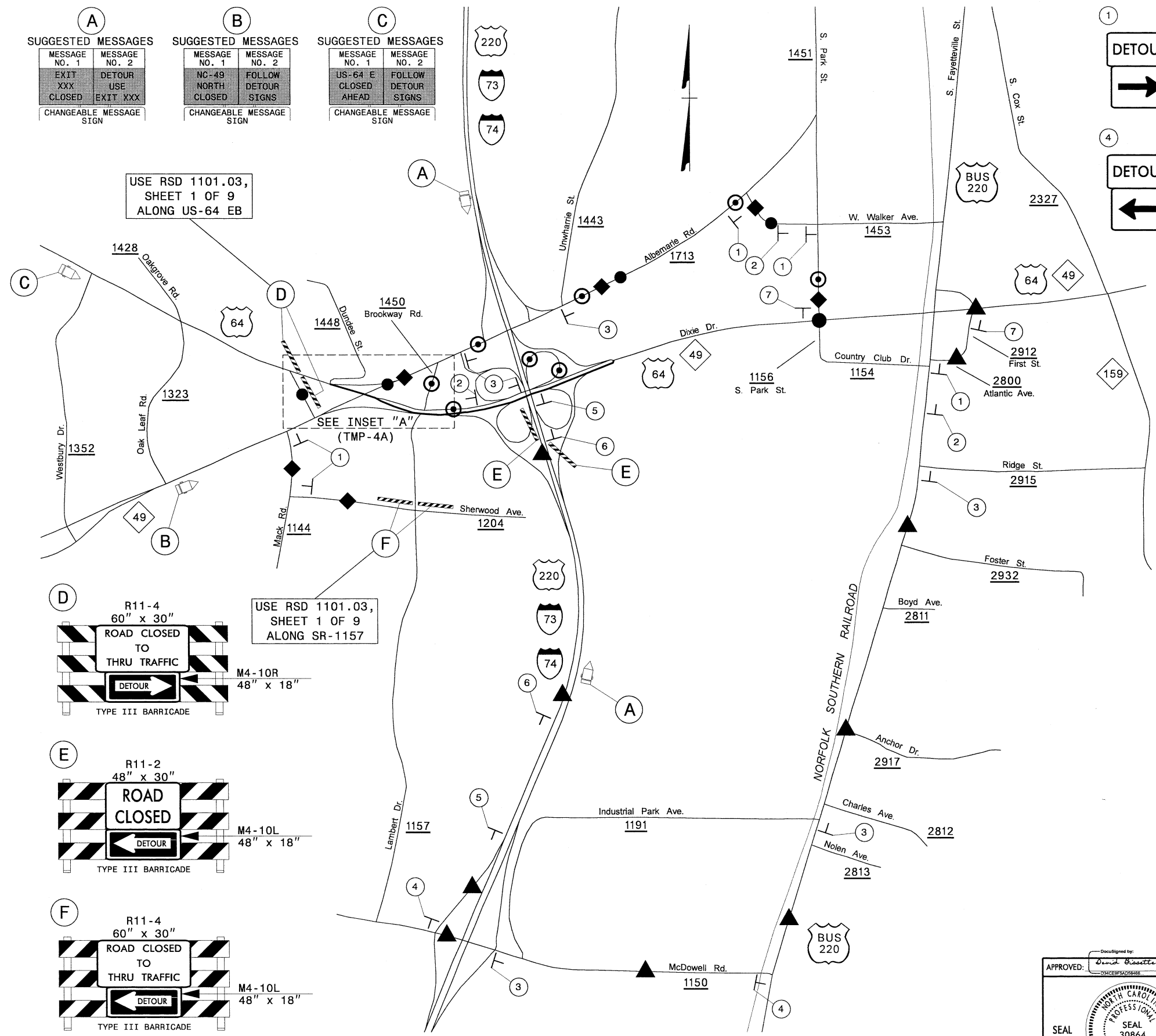
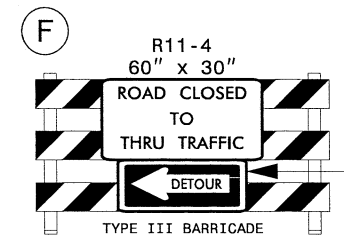
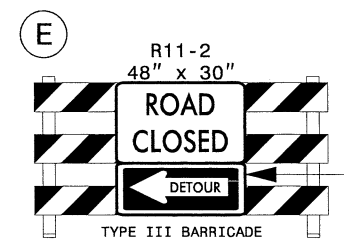
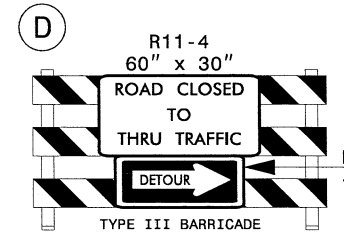
APPROVED: <i>David Bissett</i> DATE: 8/13/2014			PHASING
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A		B		C	
MESSAGE NO. 1	MESSAGE NO. 2	MESSAGE NO. 1	MESSAGE NO. 2	MESSAGE NO. 1	MESSAGE NO. 2
EXIT XXX	DETOUR USE	NC-49 NORTH CLOSED	FOLLOW DETOUR SIGNS	US-64 E CLOSED AHEAD	FOLLOW DETOUR SIGNS
CLOSED	EXIT XXX	CLOSED			
CHANGEABLE MESSAGE SIGN		CHANGEABLE MESSAGE SIGN		CHANGEABLE MESSAGE SIGN	

USE RSD 1101.03, SHEET 1 OF 9 ALONG US-64 EB

USE RSD 1101.03, SHEET 1 OF 9 ALONG SR-1157



OFF-SITE DETOUR ROUTE = ●—●—●
 US-64 EASTBOUND TO CONNECTOR ROAD TO SR-1713 (ALBEMARLE ROAD) TO W. WALKER AVENUE TO SR-1451 (SOUTH PARK STREET) BACK TO US-64 EASTBOUND

OFF-SITE DETOUR ROUTE = ◆—◆—◆
 SR-1157 (LAMBERT DRIVE) TO SR-1204 (SHERWOOD AVENUE) TO SR-1144 (MACK ROAD) TO SR-1713 (ALBEMARLE ROAD) TO W. WALKER AVENUE TO SR-1451 (SOUTH PARK STREET) TO US-64 EASTBOUND

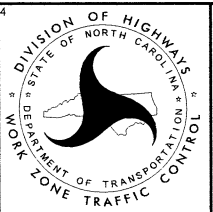
OFF-SITE DETOUR ROUTE = ▲—▲—▲
 I-73 SOUTHBOUND TO SR-1150 (MCDOWELL ROAD) TO US-220 BUSINESS TO SR-2800 (ATLANTIC AVENUE) TO SR-2912 (FIRST STREET) TO US-64 EASTBOUND

OFF-SITE DETOUR ROUTE = ⊙—⊙—⊙
 I-73 NORTHBOUND TO US-64 WESTBOUND TO SR-1450 (BROOKWAY ROAD) TO SR-1713 (ALBEMARLE ROAD) TO W. WALKER AVENUE TO SR-1451 (SOUTH PARK STREET) TO US-64 EASTBOUND

- NOTES:**
- 1) USE DRUMS AND TYPE III BARRICADES TO CLOSE I-73/US-64 EASTBOUND OFF-RAMPS, AS DIRECTED BY THE ENGINEER. NOTE THAT OFF-RAMPS ASSOCIATED WITH US-64 WESTBOUND SHALL NOT BE IMPEDED BY THE WORK REQUIRED ALONG US-64 EASTBOUND.
 - 2) ACCESS TO ALL DRIVEWAYS SHALL BE MAINTAINED, AS DIRECTED BY THE ENGINEER.
 - 3) REFER TO TMP-4A FOR "INSET A" AND ADDITIONAL BARRICADE PLACEMENT.

APPROVED: *David Bissett* DATE: 8/13/2014

SEAL: PROFESSIONAL ENGINEER SEAL 30864 DAVID W. BISSETT



**AREA A:
 OFF-SITE DETOURS
 FOR US-64 EASTBOUND
 ROAD CLOSURE**

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A

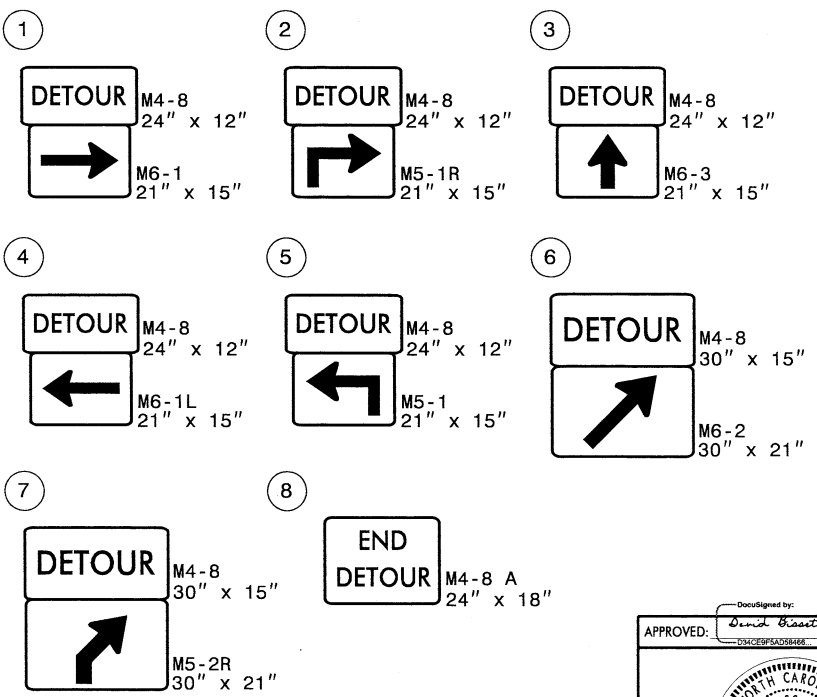
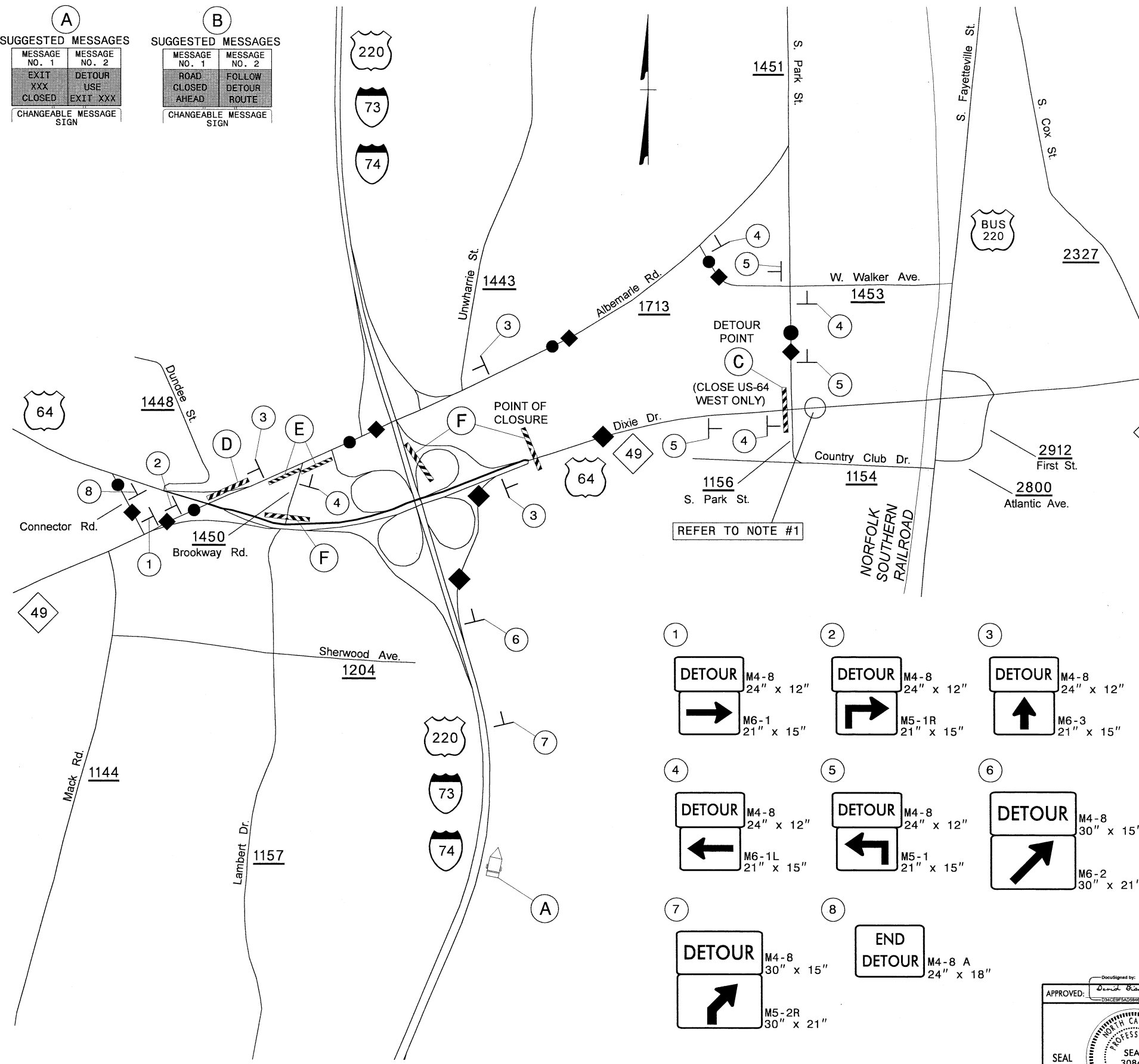
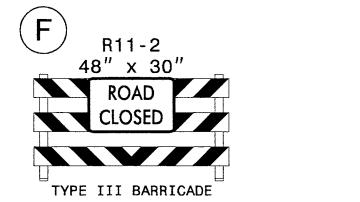
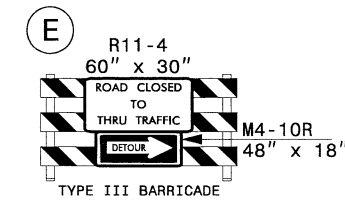
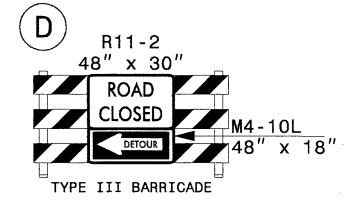
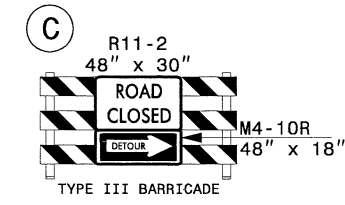
MESSAGE NO. 1	MESSAGE NO. 2
EXIT XXX	DETOUR USE
CLOSED	EXIT XXX

CHANGEABLE MESSAGE SIGN

B

MESSAGE NO. 1	MESSAGE NO. 2
ROAD CLOSED AHEAD	FOLLOW DETOUR ROUTE

CHANGEABLE MESSAGE SIGN



OFF-SITE DETOUR ROUTE = ●—●—●
 US-64 WESTBOUND TO SR-1451 (SOUTH PARK STREET) TO W. WALKER AVENUE TO SR-1713 (ALBEMARLE ROAD) TO CONNECTOR ROAD BACK TO US-64 WESTBOUND

OFF-SITE DETOUR ROUTE = ◆—◆—◆
 I-73 NORTHBOUND TO US-64 EASTBOUND TO SR-1451 (SOUTH PARK STREET) TO W. WALKER AVENUE TO SR-1713 (ALBEMARLE ROAD) TO CONNECTOR ROAD TO US-64 WESTBOUND

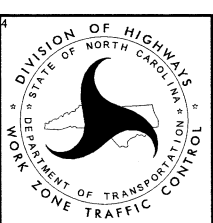
NOTES:

- 1) USING RSD 1101.02, SHEET 3 OF 15, INSTALL DEVICES TO CLOSE BOTH THRU LANES OF US-64 WESTBOUND IN ADVANCE OF OFF-SITE DETOUR, AND DETOUR TRAFFIC USING THE RIGHT TURN ONLY LANE, AS DIRECTED BY THE ENGINEER.
- 2) USE DRUMS TO CLOSE I-73 / US-64 WESTBOUND OFF-RAMPS, AS DIRECTED BY THE ENGINEER. NOTE THAT OFF-RAMPS ASSOCIATED WITH US-64 EASTBOUND SHALL NOT BE IMPEDED BY THE WORK REQUIRED ALONG US-64 WESTBOUND.
- 3) INSTALL R3-1 (NO RIGHT TURN) OR R3-2 (NO LEFT TURN) PORTABLE SIGNS AT DRIVEWAYS LOCATED ALONG US-64 BETWEEN THE DETOUR POINT AND THE POINT OF CLOSURE. ACCESS TO ALL DRIVEWAYS SHALL BE MAINTAINED, AS DIRECTED BY THE ENGINEER.

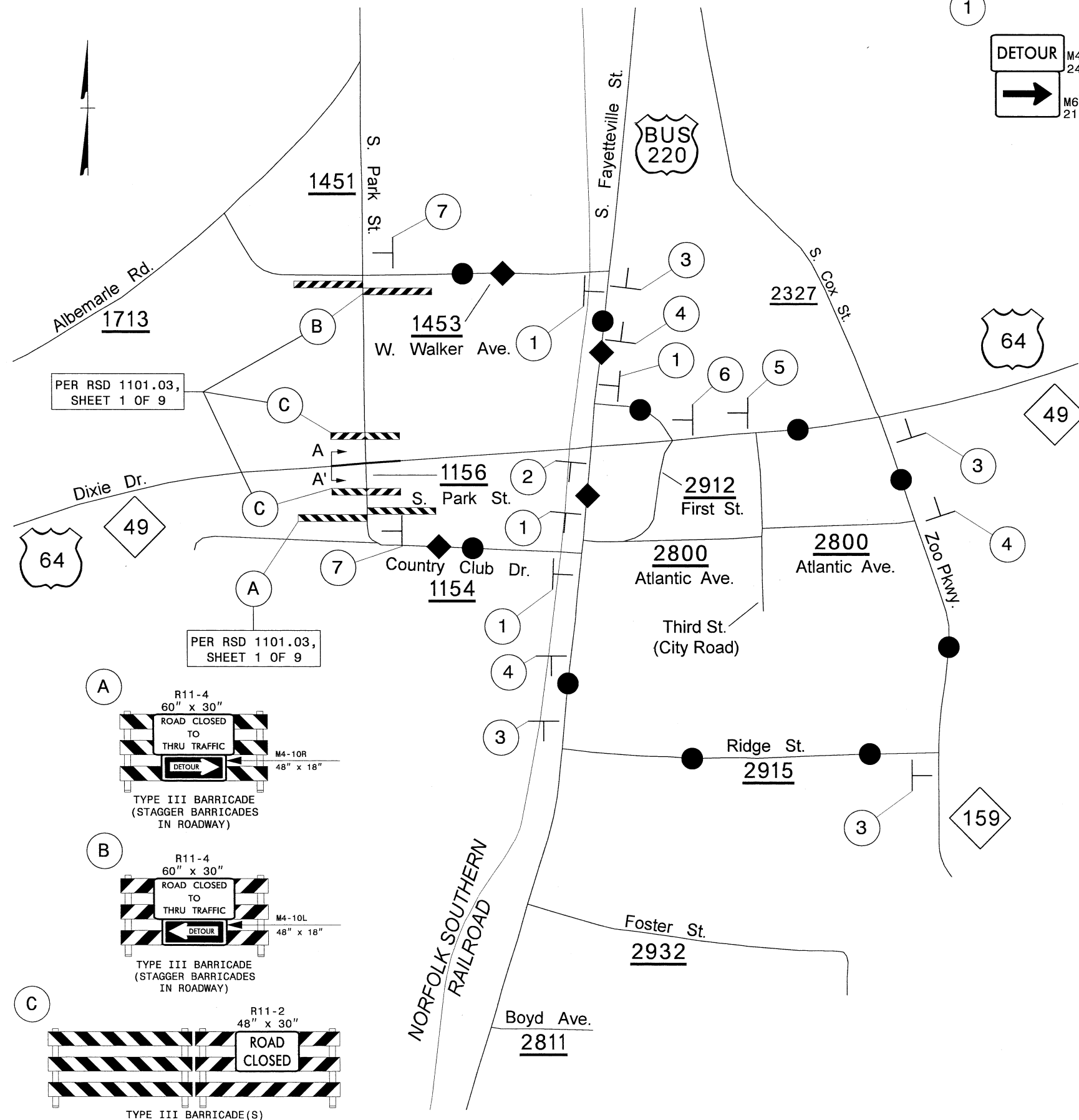
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APPROVED: *David W. Bisette* DATE: 8/13/2014

SEAL

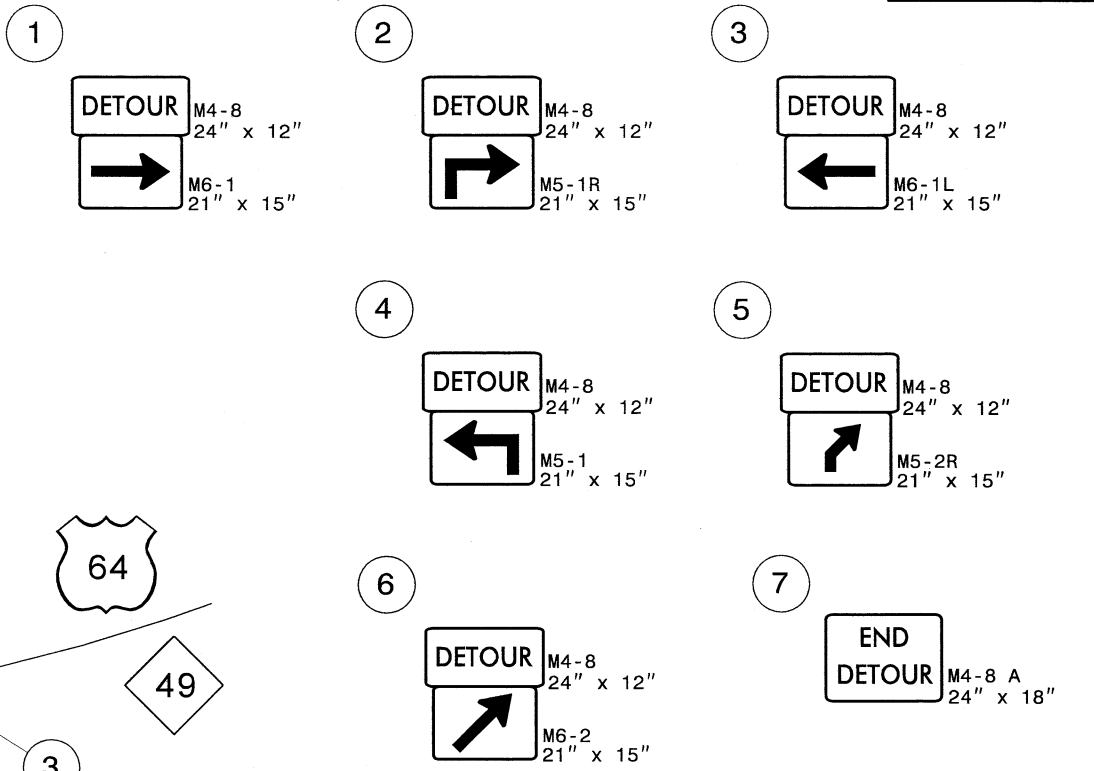
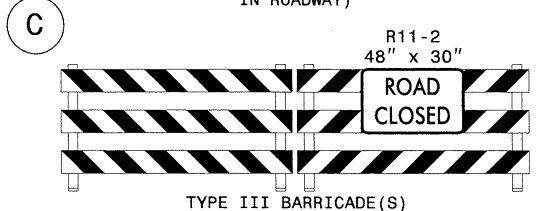
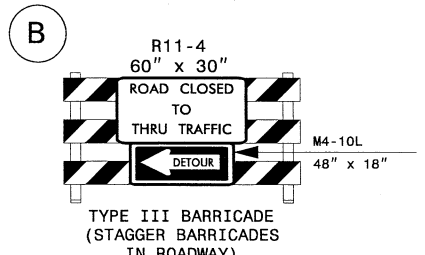
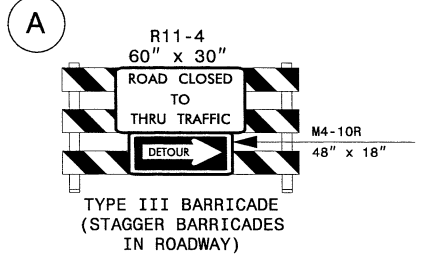


**AREA A:
 OFF-SITE DETOURS
 FOR US-64 WESTBOUND
 ROAD CLOSURE**



PER RSD 1101.03,
SHEET 1 OF 9

PER RSD 1101.03,
SHEET 1 OF 9



OFF-SITE DETOUR ROUTE = ●—●—●

SR-1156 (S. PARK STREET) TO SR-1154 (COUNTRY CLUB DRIVE) TO US-220 BUSINESS SOUTHBOUND TO SR-2915 (RIDGE ROAD) TO NC-159 TO US-64 WESTBOUND TO US-220 BUSINESS NORTHBOUND TO SR-1453 (W. WALKER AVENUE) BACK TO TO SR-1451 (S. PARK STREET)

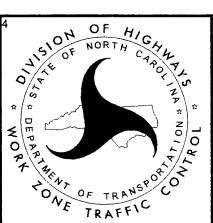
OFF-SITE DETOUR ROUTE = ◆—◆—◆

SR-1451 (S. PARK STREET) TO SR-1453 (W. WALKER AVENUE) TO US-220 BUSINESS SOUTHBOUND TO SR-1154 (COUNTRY CLUB DRIVE) BACK TO SR-1156 (S. PARK STREET)

- NOTES:
- 1) FOR EACH WORK PERIOD, INSTALL / UNCOVER ROAD CLOSURE SIGNING AND DEVICES ASSOCIATED WITH SR-1156/1451 (S. PARK STREET) IN ACCORDANCE WITH RSD 1101.03, PRIOR TO INSTALLING LANE CLOSURE DEVICES ALONG US-64 IN ACCORDANCE WITH RSD 1101.02, OR AS DIRECTED BY THE ENGINEER.
 - 2) ACCESS TO ALL DRIVEWAYS SHALL BE MAINTAINED, AS DIRECTED BY THE ENGINEER.
 - 3) REFER TO RSD 1101.03, SHEET 1 OF 9, FOR ADDITIONAL TRAFFIC CONTROL DEVICES.
 - 4) REFER TO SHEETS TMP-7 AND TMP-7A FOR CUT-SECTION(S) A-A'.

APPROVED: *David W. Bissette* DATE: 8/13/2014

SEAL



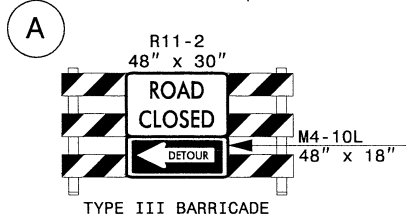
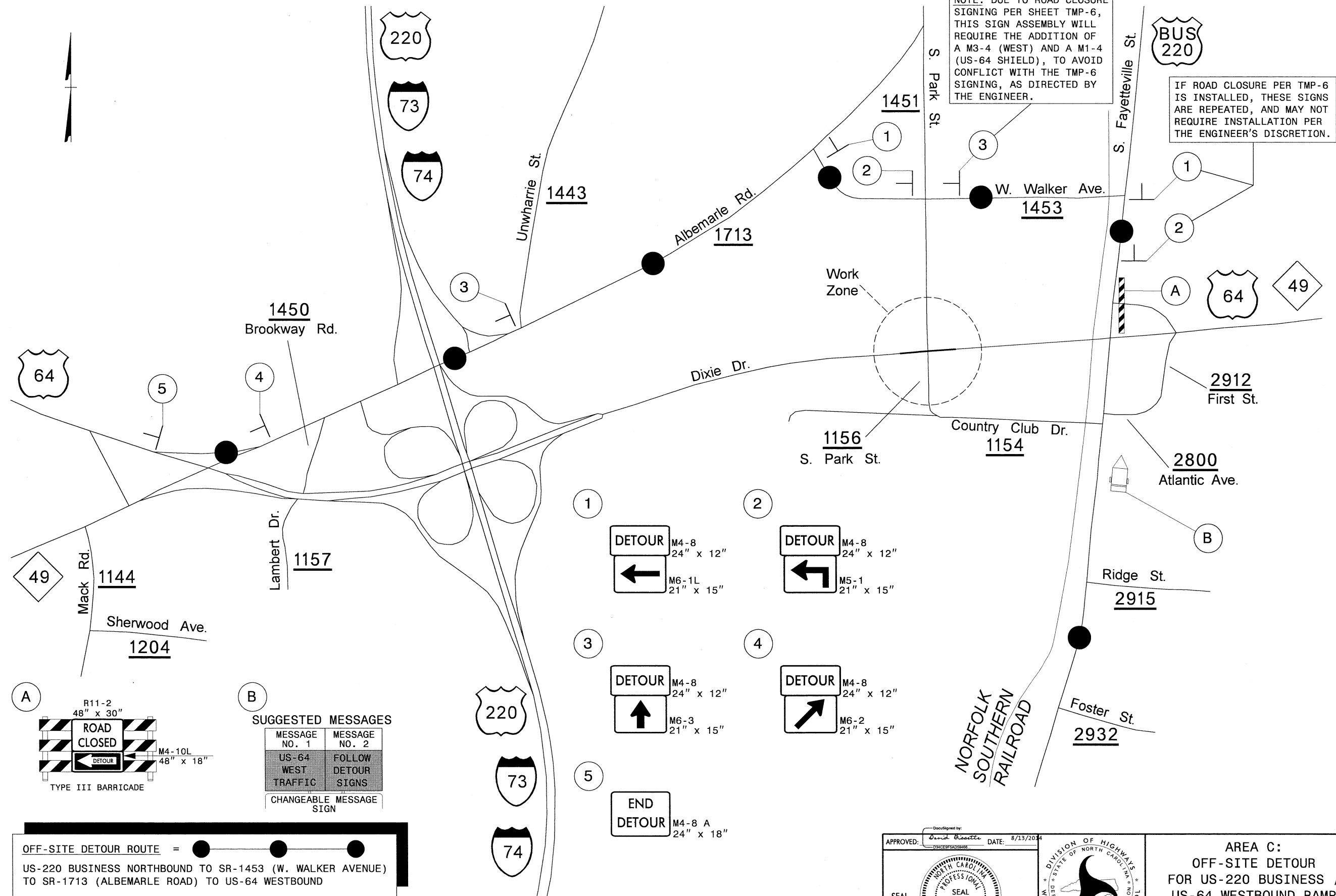
AREA C:
OFF-SITE DETOURS
FOR SR-1156/1451
(S. PARK STREET)
ROAD CLOSURE

8/12/2014 S:\TMU\WZTC\Resur\facng\2014_Centrd\2014_Div08\TBD_8CR1076124_Randolph_US-64_drk\Documents\Out\TMPs\8CR1076124_TC_TMP_06.dgn User:drkennedy

NOTE: DUE TO ROAD CLOSURE SIGNING PER SHEET TMP-6, THIS SIGN ASSEMBLY WILL REQUIRE THE ADDITION OF A M3-4 (WEST) AND A M1-4 (US-64 SHIELD), TO AVOID CONFLICT WITH THE TMP-6 SIGNING, AS DIRECTED BY THE ENGINEER.

IF ROAD CLOSURE PER TMP-6 IS INSTALLED, THESE SIGNS ARE REPEATED, AND MAY NOT REQUIRE INSTALLATION PER THE ENGINEER'S DISCRETION.

8/12/2014 S:\TMU\WZTC\Resur facing\2014\Div08\TBD_BCR1076124_Randolph_US-64_drk\Documents\Out\TMPs\BCR1076124_TC_TMP_06.dgn User:drkennedy



B

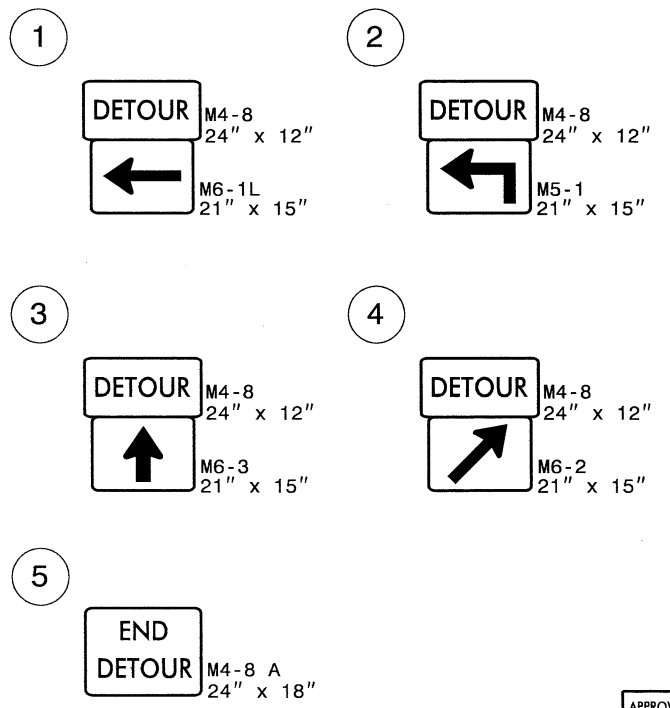
SUGGESTED MESSAGES

MESSAGE NO. 1	MESSAGE NO. 2
US-64 WEST TRAFFIC	FOLLOW DETOUR SIGNS

CHANGEABLE MESSAGE SIGN

OFF-SITE DETOUR ROUTE = ●—●—●

US-220 BUSINESS NORTHBOUND TO SR-1453 (W. WALKER AVENUE) TO SR-1713 (ALBEMARLE ROAD) TO US-64 WESTBOUND

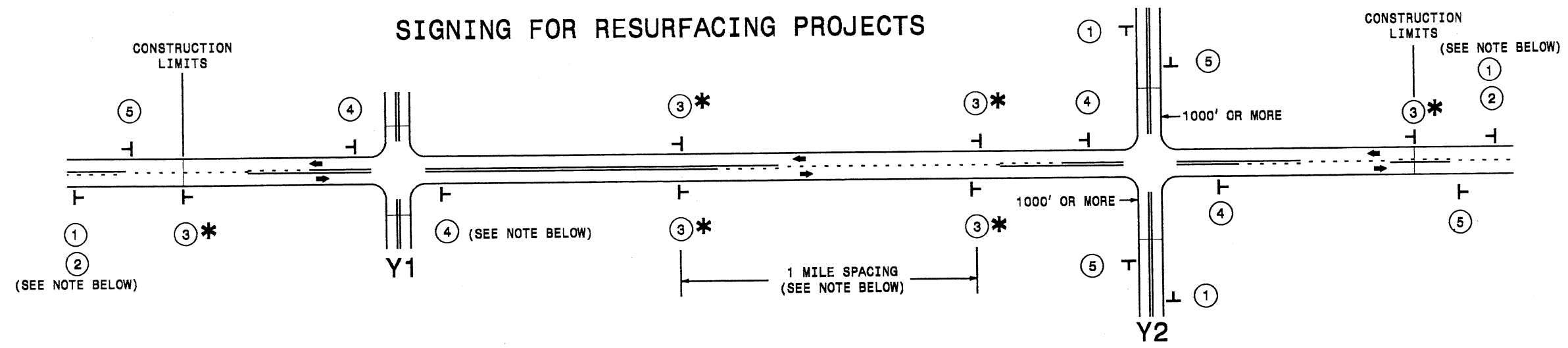


APPROVED: *David Bisette* DATE: 8/13/2014

SEAL

AREA C:
OFF-SITE DETOUR
FOR US-220 BUSINESS /
US-64 WESTBOUND RAMP
(S. PARK STREET)
ROAD CLOSURE

SIGNING FOR RESURFACING PROJECTS



LEGEND
 T STATIONARY SIGN
 ← DIRECTION OF TRAFFIC FLOW

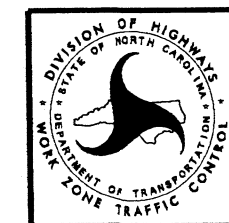
MAINLINE (-L-) SIGNING

-Y- LINE SIGNING

SIGNING NOTES AND PLACEMENT PER DIRECTION	①		PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.	<p style="text-align: center;">NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:</p> <ol style="list-style-type: none"> 1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE 2) SUBDIVISION ROADS 3) DEAD END ROADS <p style="text-align: center;">WHEN PAVING/CONSTRUCTION ACTIVITIES PROCEED ACROSS AN UNSIGNED -Y- LINE, ADVANCE WARNING PORTABLE SIGNS SHALL BE USED ALONG THE -Y- LINE AS SHOWN BELOW. REMOVE UPON COMPLETION OF WORK.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <small>W20-1 48" X 48"</small> </div> <div style="text-align: center;"> <small>W20-7 A 48" X 48"</small> </div> </div> <p style="text-align: center;">PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p>
	②		#2 SIGN ONLY USED WHEN RESURFACING LIMITS ARE 2 OR MORE MILES IN LENGTH. ROUND UP TO NEXT WHOLE NUMBER. (NO FRACTIONAL OR DECIMAL NUMBERS)	
	③*		PLACE INITIALLY AT THE CONSTRUCTION LIMITS AND SPACED 1 MILE APART THEREAFTER. IF NO -Y- LINES EXIST, PLACE 2ND SET 1/2 MILE FROM THE CONSTRUCTION LIMITS AND THEN SPACE 1 MILE THEREAFTER.	
	④		THESE ARE FOR -Y- LINES THAT ARE "THROUGH" ROADWAYS. DEAD END AND SUBDIVISION ROADS ARE NOT "THROUGH" ROADWAYS. INSTALL 500' +/- FROM EACH -Y- LINE APPROACH AS SHOWN ABOVE. FOR MULTIPLE -Y- LINES THAT ARE SEPARATED BY 0.25 MILES OR LESS, TREAT AS A SINGLE UNIT AND INSTALL WITHIN 500' OF EACH APPROACH. A MAXIMUM OF 2 SIGN SETS PER MILE. DO NOT INSTALL WHEN -Y- LINES ARE WITHIN 0.5 MILES FROM "END ROAD WORK" SIGN.	
	⑤		PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.	

* SIGNING FOR ASPHALT SURFACE TREATMENTS (ONLY)

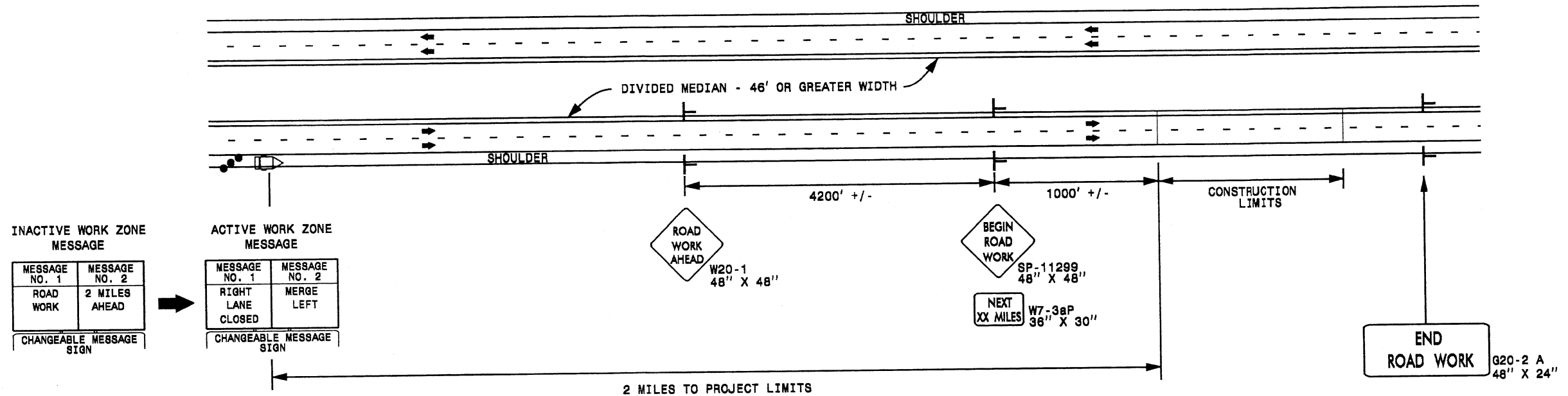
SUBSTITUTE LOW/SOFT SHOULDER SIGNS BY ALTERNATING THE FOLLOWING TWO SIGNS:
 STARTING WITH "UNMARKED PAVEMENT AHEAD" (SP 06026) FOLLOWED BY "LOOSE GRAVEL" (W8-7).



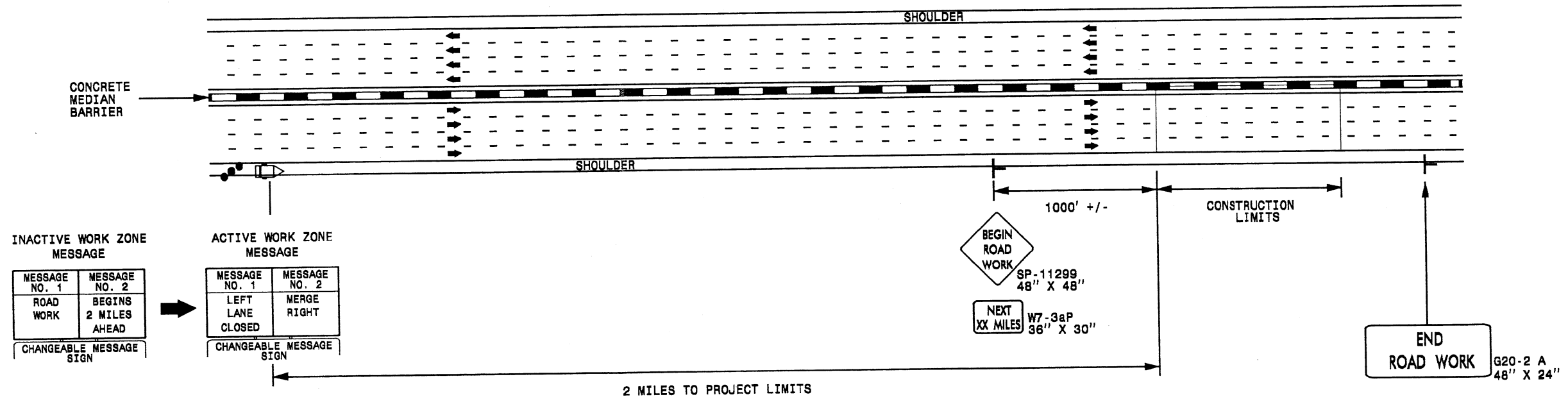
**RESURFACING
ADVANCE WARNING SIGNS
FOR
RURAL AND SUBURBAN
2 LANE ROADWAYS**

21-JUL-2014 15:38 C:\div8_projects\Resurfacing\June_2014\Randolph_August2014\Randolph_Submit\al_Sep\tember_2014\Resurfacing_AdvWarn_2Ln.dgn gsdavis AT D8CAD-27040

DIVIDED MEDIANS WITH WIDTHS 46' OR GREATER



DIVIDED MEDIANS WITH WIDTHS LESS THAN 46' OR WITH PERMANENT MEDIAN BARRIER

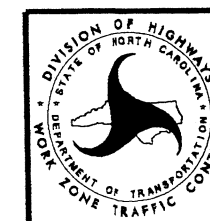


NOTES:

- 1) LATERAL CLEARANCE AT ALL SIGN LOCATIONS SHALL BE 6' AS MEASURED FROM THE EDGE OF PAVEMENT.
- 2) MOUNT SIGNS THAT ARE LARGER THAN 10 SQUARE FEET IN AREA ON TWO OR MORE WOOD OR U-CHANNEL SUPPORTS. PERFORATED SQUARE TUBING SUPPORT SYSTEMS MAY SUPPORT LARGER AREAS ON A SINGLE SUPPORT. FOLLOW MANUFACTURER'S RECOMMENDATIONS. THESE SYSTEMS SHALL BE NCHRP 350 COMPLIANT AND NCDOT APPROVED.
- 3) FOR MEDIAN WIDTHS LESS THAN 46' (MEASURED EDGELINE TO EDGELINE) USE THE BOTTOM DRAWING.
- 4) IF STATIONARY GENERAL WARNING SIGNS ARE USED, THEY WILL BE PAID FOR PER SECTION 104 OF THE NCDOT STANDARD SPECIFICATIONS AS EXTRA WORK.
- 5) INSTALL "ROAD WORK AHEAD" (W20-1) ALONG ENTRANCE RAMP 500' PRIOR TO RAMP TERMINAL, AND "END ROAD WORK" (G20-2a) AT THE END OF EXIT RAMP WITHIN THE WORK ZONE.
- 6) IF MILLED AREAS ARE NOT PAVED BACK BY THE END OF THE WORK DAY, PORTABLE SIGNS SHALL BE USED TO WARN DRIVERS OF THE PRESENT CONDITIONS. THESE ARE TO INCLUDE, BUT NOT LIMITED TO "ROUGH ROAD" W8-8, "UNEVEN LANES" W8-11, "GROOVED PAVEMENT" W8-15 w/MOTORCYCLE PLAQUE MOUNTED BELOW. THESE ARE TO BE DOUBLE INDICATED ON MULTI-LANE ROADWAYS WITH SPEED LIMITS 45 MPH AND GREATER AND WITH DIVIDED MEDIANS OF 46' OR GREATER. THESE PORTABLE SIGNS ARE INCIDENTAL TO THE OTHER ITEMS OF WORK INCLUDED IN THE TEMPORARY TRAFFIC CONTROL (LUMP SUM) PAY ITEM.

LEGEND

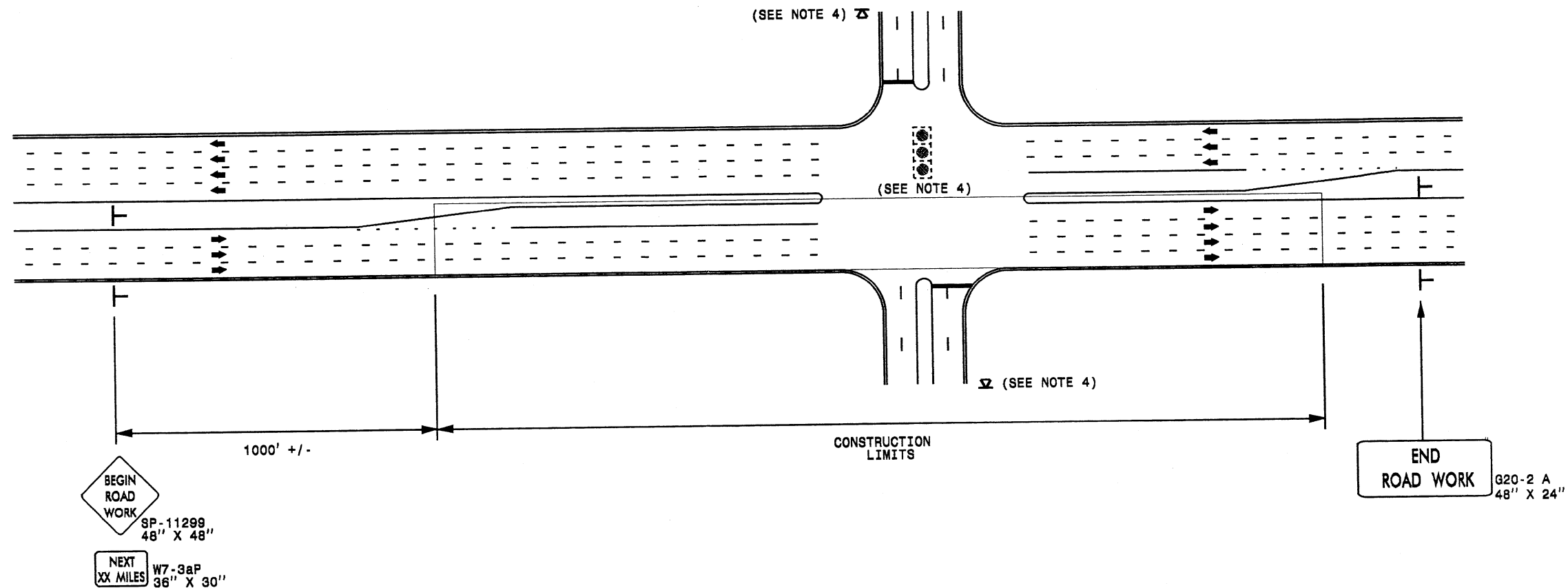
- CHANGEABLE MESSAGE SIGN (CMS)
- STATIONARY SIGN
- DIRECTION OF TRAFFIC FLOW
- TRAFFIC DRUM



RESURFACING ADVANCE WARNING SIGNS FOR HIGH SPEED FACILITIES ≥ 60 MPH

21-JUL-2014 15:38
 C:\divb_projects\Resurfacing\June_2014\Randolph_August2014\Randolph_Submittal_September_2014\Resurfacing_AdvWarn_HSpd.dgn
 gsdavis AT DBCAD-27040

URBAN / SUBURBAN WORKZONES



NOTES:

- 1) 48" x 48" SIZED SIGNS (SP- 11299) MAY BE REDUCED TO 36" X 36" ON ROADWAYS WITH SPEED LIMITS OF 40 MPH OR LESS.
- 2) MOUNT SIGNS THAT ARE LARGER THAN 10 SQUARE FEET IN AREA ON TWO OR MORE WOOD OR U-CHANNEL SUPPORTS. PERFORATED SQUARE TUBING SUPPORT SYSTEMS MAY SUPPORT LARGER AREAS ON A SINGLE SUPPORT. FOLLOW MANUFACTURER'S RECOMMENDATIONS. THESE SYSTEMS SHALL BE NCHRP 350 COMPLIANT AND NCDOT APPROVED.
- 3) ADVANCE WARNING SIGNS NOT REQUIRED ON NON-SIGNALIZED SIDE STREETS.
- 4) USE LAW ENFORCEMENT TO CONTROL TRAFFIC AT SIGNALIZED INTERSECTIONS AND PROVIDE PORTABLE "ROAD WORK AHEAD" (W20-1) SIGNS 500' IN ADVANCE ALONG BOTH APPROACHES FROM THE SIDE STREETS WHEN PAVING PROCEEDS THROUGH THE INTERSECTION.
- 5) LATERAL CLEARANCE AT ALL SIGN LOCATIONS SHALL BE 2' AS MEASURED FROM THE EDGE OF PAVEMENT OR THE FACE OF THE CURB. WHEN UNABLE TO OBTAIN THE LATERAL CLEARANCE WITHIN THE MEDIAN AREA USE SHOULDER MOUNTS ONLY.
- 6) SIGN MOUNT LOCATIONS SHALL NOT BLOCK SIDEWALKS OR DRIVEWAYS.
- 7) IF STATIONARY GENERAL WARNING SIGNS ARE USED, THEY WILL BE PAID FOR PER SECTION 104 OF THE NCDOT STANDARD SPECIFICATIONS AS EXTRA WORK.
- 8) IF MILLED AREAS ARE NOT PAVED BACK BY THE END OF THE WORK DAY, PORTABLE SIGNS SHALL BE USED TO WARN DRIVERS OF THE PRESENT CONDITIONS. THESE ARE TO INCLUDE, BUT NOT LIMITED TO "ROUGH ROAD" W8-8, "UNEVEN LANES" W8-11, "GROOVED PAVEMENT" W8-15 w/MOTORCYCLE PLAQUE MOUNTED BELOW. THESE ARE TO BE DOUBLE INDICATED ON MULTI-LANE ROADWAYS WITH SPEED LIMITS 45 MPH AND GREATER WHERE LATERAL CLEARANCE CAN BE OBTAINED WITHIN THE MEDIAN AREAS. THESE PORTABLE SIGNS ARE INCIDENTAL TO THE OTHER ITEMS OF WORK INCLUDED IN THE TEMPORARY TRAFFIC CONTROL (LUMP SUM) PAY ITEM.

LEGEND	
T	STATIONARY SIGN
➔	DIRECTION OF TRAFFIC FLOW

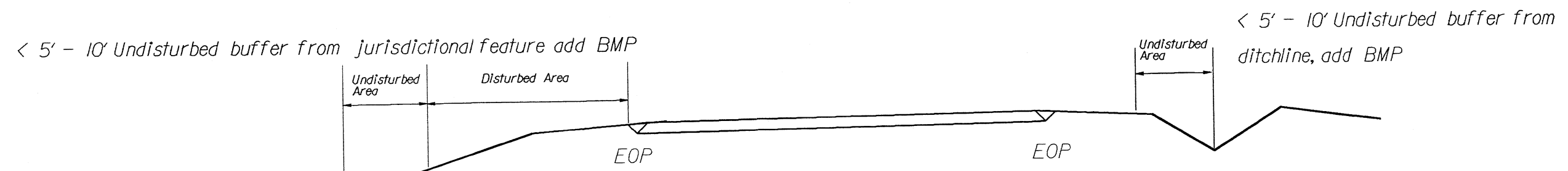
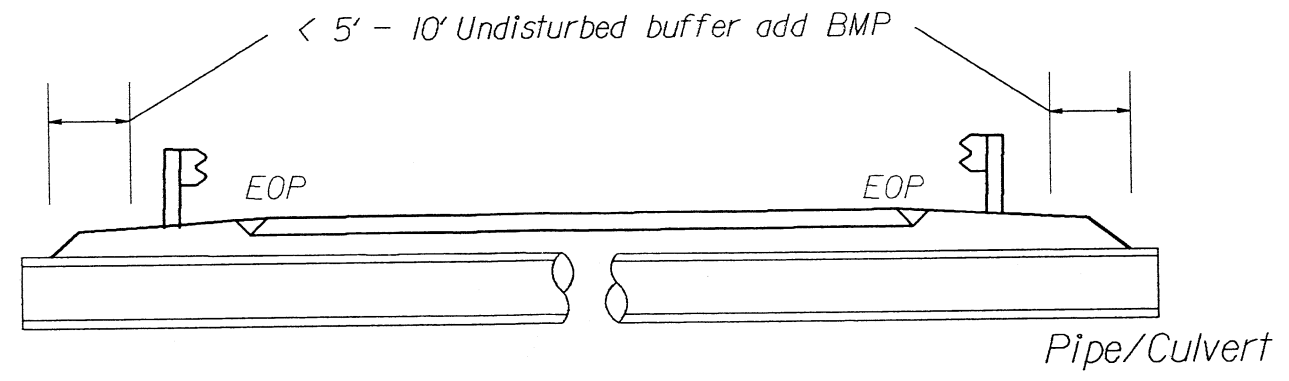


**RESURFACING ADVANCE
WARNING SIGNS FOR
URBAN / SUBURBAN
FACILITIES**

NOTES: Less than 5' - 10' undisturbed buffer from ROW, ditchline, water feature, or drainage inlet, add BMP.

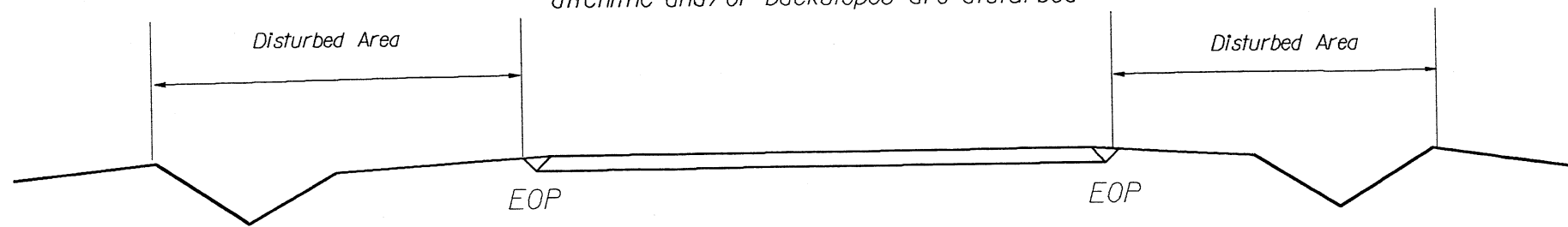
BMP Options: Wattle or Silt Fence

EROSION CONTROL DETAIL

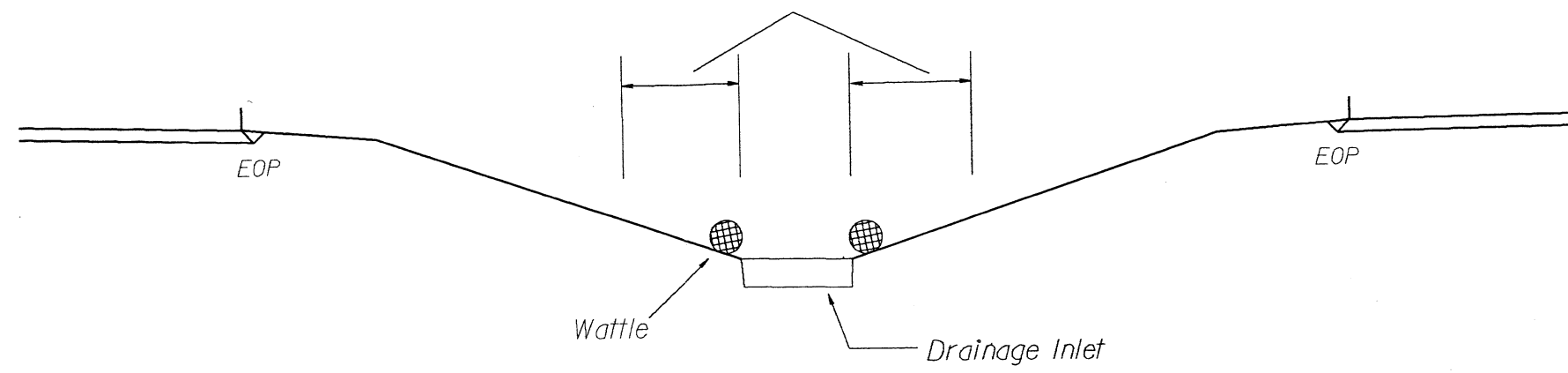


Jurisdictional Feature

Use BMP's if shoulders and/or frontslopes and/or ditchline and/or backslopes are disturbed

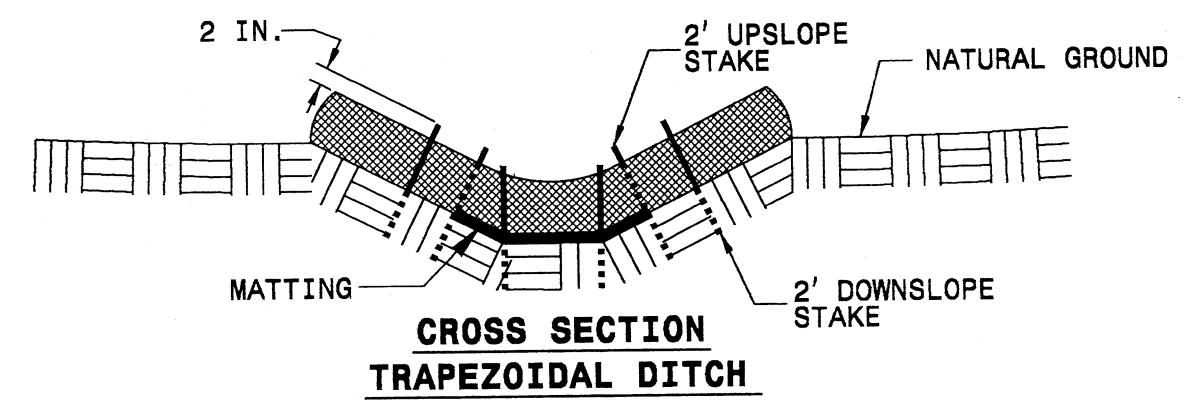
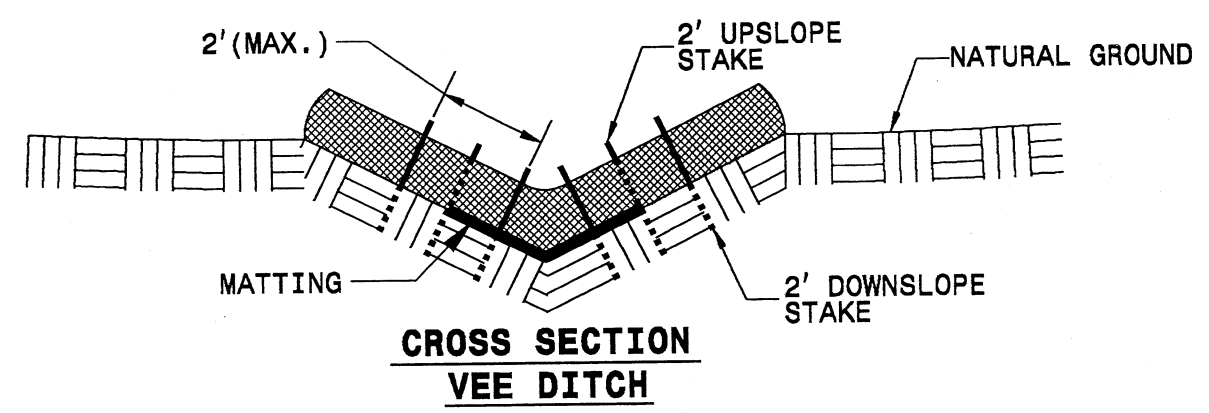
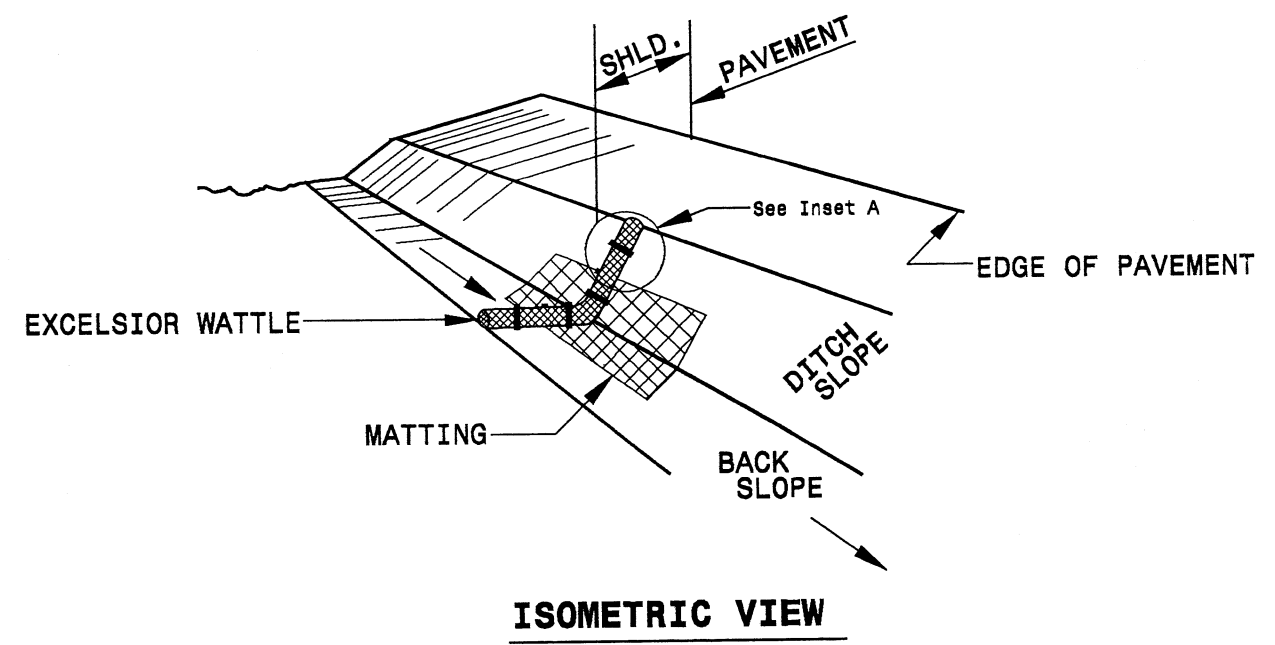


< 5' - 10' Undisturbed buffer from inlet, add wattle



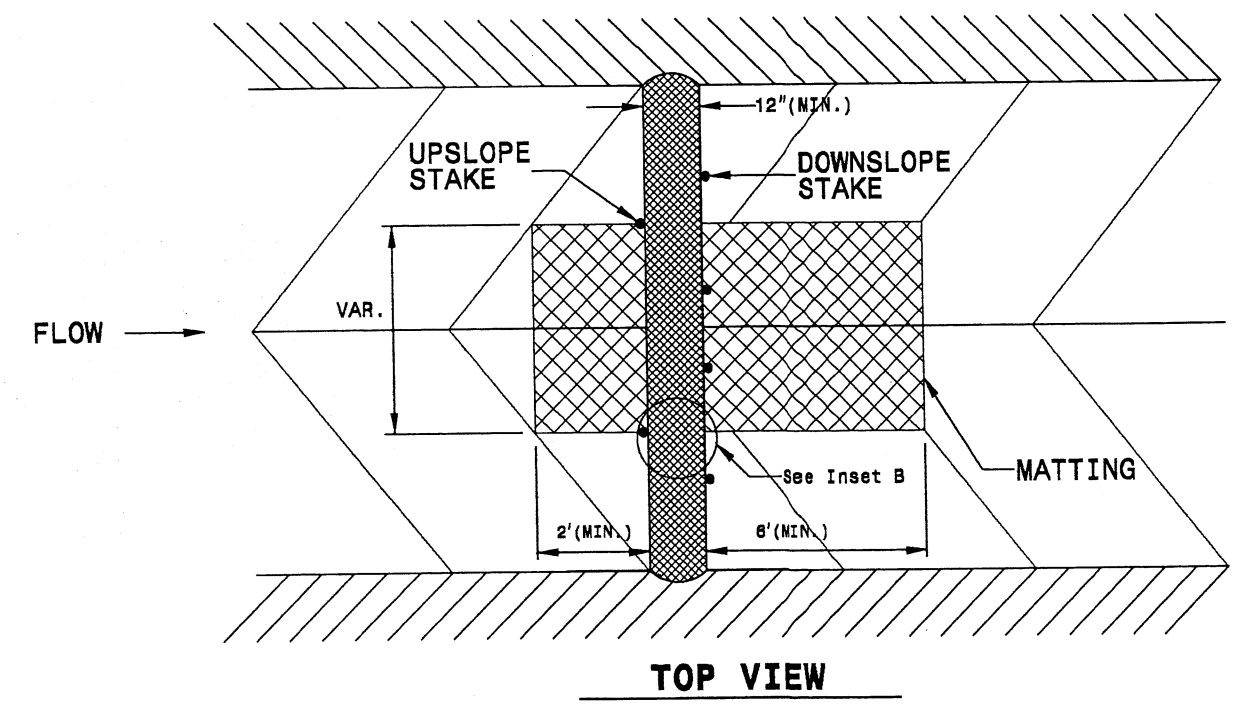
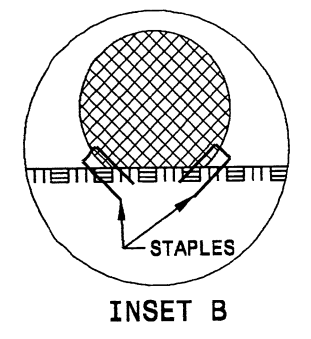
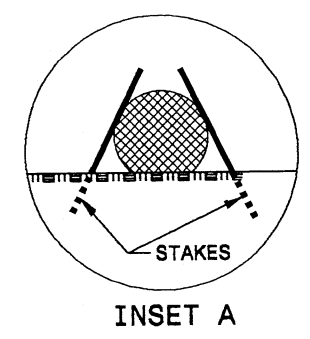
NOT TO SCALE

WATTLE DETAIL

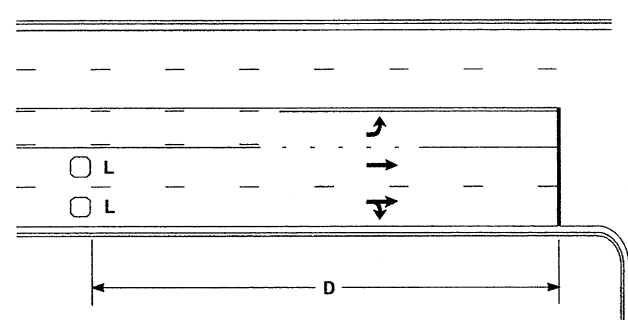


NOTES:

- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
- ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
- PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
- INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
- INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.



High Speed Detection [≥40 mph (64 km/hr)]

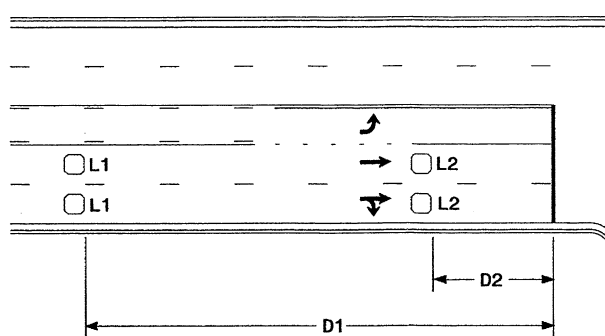


Speed Limit mph (km/hr)	D ft (m)
40 (64)	250 (75)
45 (72)	300 (90)
50 (80)	355 (110)
55 (88)	420 (130)

L = 6ft X 6ft (1.8m X 1.8m)
Wired in series for TS1
Controllers
Wired separately for TS2,
170, and 2070L Controllers

Volume Density Operation

OR

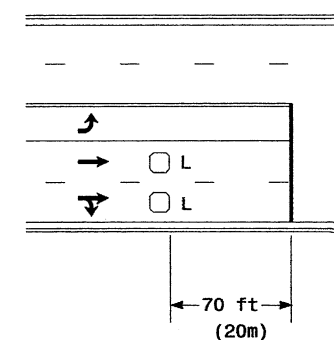


Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

L1 = 6ft X 6ft
(1.8m X 1.8m)
Wired in series
L2 = 6ft X 6ft
(1.8m X 1.8m)
Wired in series

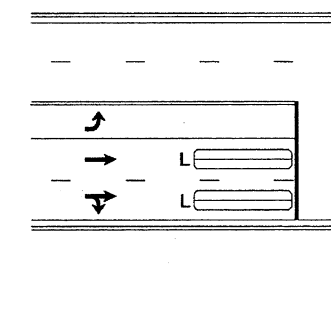
"Stretch" Operation

Low Speed Detection [≤35 mph (56 km/hr)]



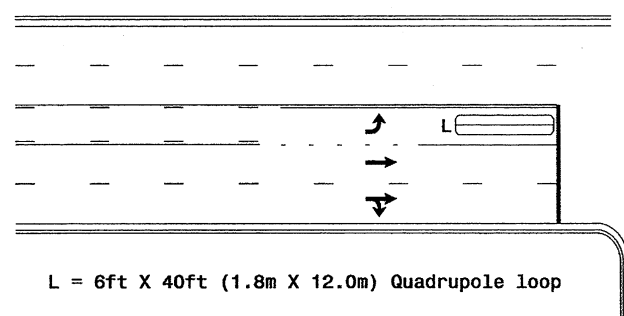
L = 6ft X 6ft (1.8m X 1.8m)
Wired in series

OR



L = 6ft X 40ft (1.8m X 12.0m)
Quadrupole loop, wired separately

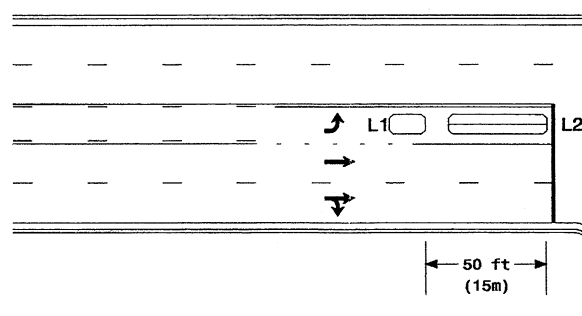
Left Turn Lane Detection



L = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

Presence Loop Detection

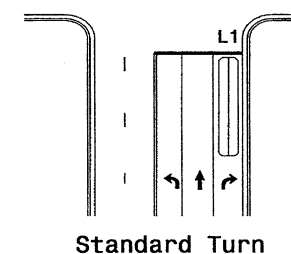
OR



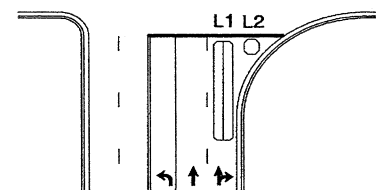
L1 = 6ft X 15ft (1.8m X 4.6m) Queue detector
L2 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

Queue Loop Detection

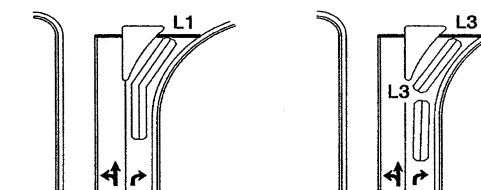
Right Turn Lane Detection



Standard Turn



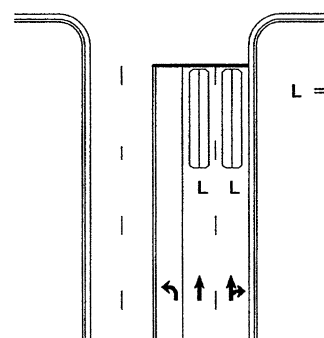
Wide Radius Turn



Channelized Turn

L1 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop
L2 = 6ft X 6ft (1.8m X 1.8m) [Minimum] Presence loop
Wired separately
L3 = 6ft X 20ft (1.8m X 6.0m) Quadrupole loop
Wired in series

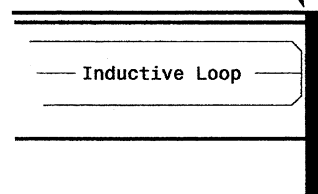
Side Street Detection



L = 6ft X 40ft (1.8m X 12.0m)
Quadrupole loop
Wired to separate
detectors/channels

Presence Loop Placement at Stop Lines

Locate loop slightly
behind leading
edge of stop line



Note:
Loop may be located in advance
of stop line when stop line is
greater than 15' (4.5m) from edge
of intersecting roadway; or, when
loop detects a permissive or
protected/permissive left turn.

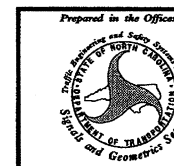
Recommended Number of Turns

Single 6' X 6' (1.8m X 1.8m)
loop (wired separately):

Length of Lead-in ft (m)	Number of Turns
< 250 (75)	3
250-375 (75-115)	4
375-525 (115-160)	5
> 525 (160)	6

Quadrupole loops: Use 2-4-2 turns

6' X 15' (1.8m X 4.6m) Loops:
Lead-in < 150' (45 m), use 2 turns
Lead-in > 150' (45 m), use 3 turns



Typical Loop Locations

PLAN DATE: June 2006
PREPARED BY: P. L. Alexander
REVIEWED BY:

SCALE
N/A

REVISIONS
REVISE pavement markings
INIT. DATE
DATE
SIGNATURE
DATE

SEAL
PROFESSIONAL ENGINEER
STATE OF NORTH CAROLINA
LICENSE NO. 23489
P. L. ALEXANDER
DATE