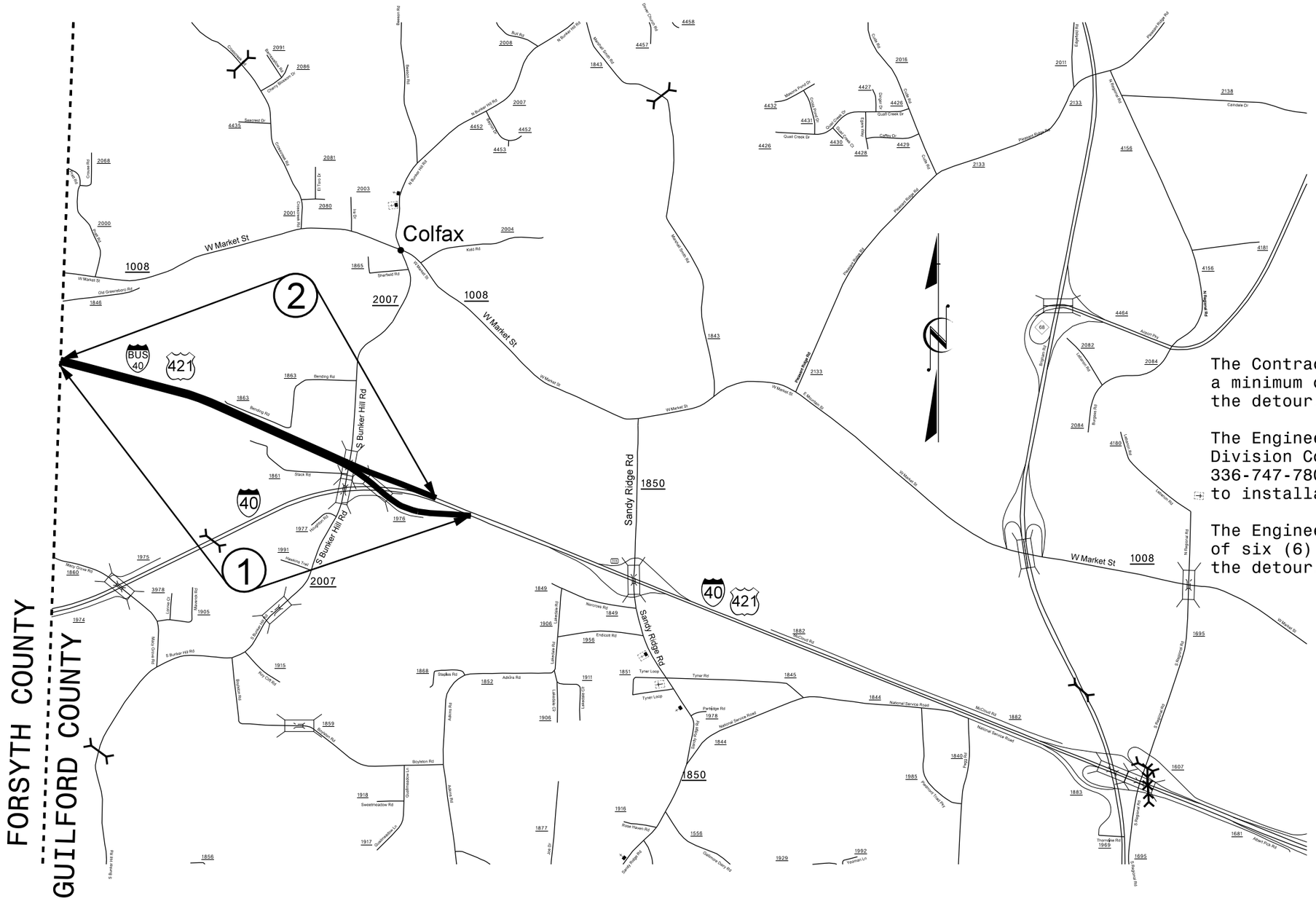
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2016CPT.07.18.10411		
F.A. PROJ. NO.			

2016 GUILFORD COUNTY



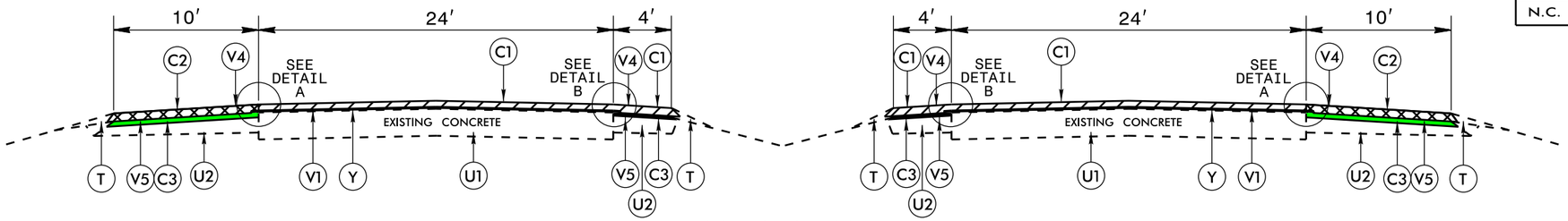
The Contractor shall notify the Engineer a minimum of one week prior to installing the detour.

The Engineer shall notify Keith Raulston, Division Construction Engineer, Division 9, 336-747-7800, a minimum of 48 hours prior to installation of the detour.

The Engineer shall contact Fed-Ex a minimum of six (6) days prior to installation of the detour.

27-JUN-2016 12:12
S:\Resurfacing Projects\2017 PO Contracts\Guilford\I-40 Bus._US 421 from I-40 to Forsyth County Line\CADD\vicinity.dgn
cthuskins AT D7CADD271374

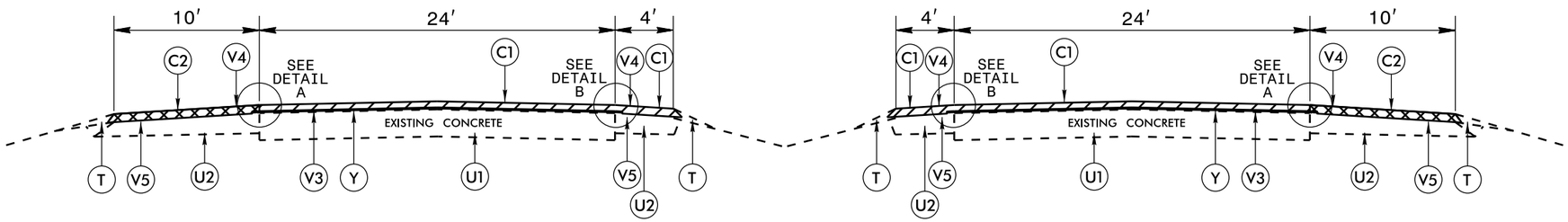
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2016CPT.07.18.10411		



TYPICAL SECTION 1

TO BE USED ON MAPS: 1, 2

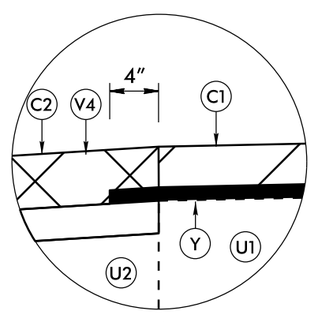
MAP 1: STA. 0+00 TO STA. 58+60
MAP 2: STA. 20+00 TO STA. 80+92



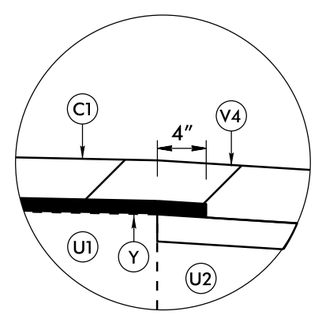
TYPICAL SECTION 2

TO BE USED ON MAPS: 1, 2

MAP 1: STA. 58+60 TO STA. 95+25
MAP 2: STA. 0+00 TO STA. 20+00



DETAIL A



DETAIL B

PAVEMENT SCHEDULE

C1	PROP. APPROX. 2″ ASPHALT CONCRETE SURFACE COURSE TYPE S9.5D, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.		
C2	PROP. APPROX. 2″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.		
C3	PROP. APPROX. 1½″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.		
D	PROP. APPROX. 4½″ ASPHALT CONCRETE INTERMEDIATE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD. IN ONE LIFT		
T	SHOULDER RECONSTRUCTION		
U1	EXISTING PAVEMENT.	U2	EXISTING SHOULDER.
V1	FINE MILL EXISTING UBWC (APPROX.⅝″)	V2	4½″ MILLING
V3	2″ FINE MILL EXISTING PAVEMENT	V4	MILLED RUMBLE STRIPS
V5	1½″ MILLING	Y	PAVEMENT INTERLAYER

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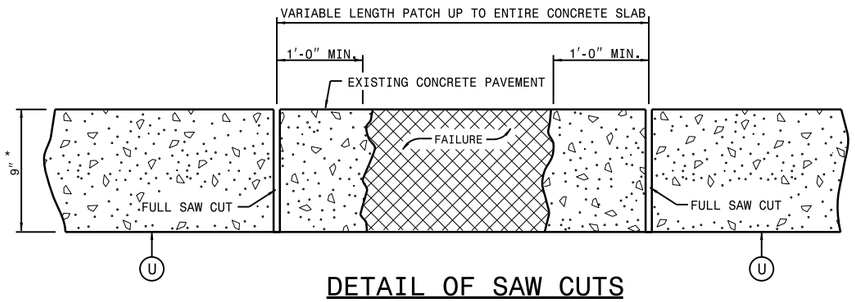
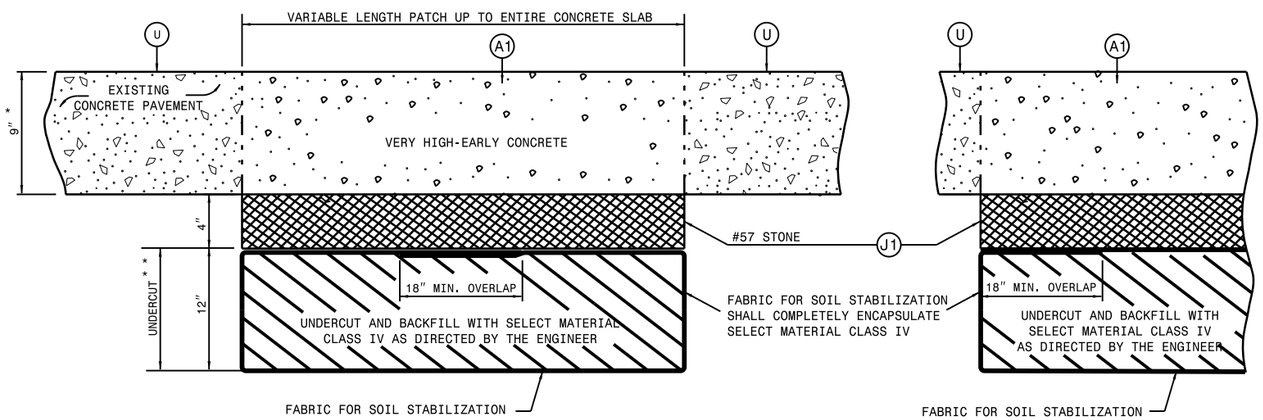
sthuskins AT DTCADD27T374

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	2016CPT.07.18.10411		

DETAIL FOR REPAIR OF CONCRETE PAVEMENT



DETAIL OF SAW CUTS



DETAIL OF CONCRETE PAVEMENT REPAIR

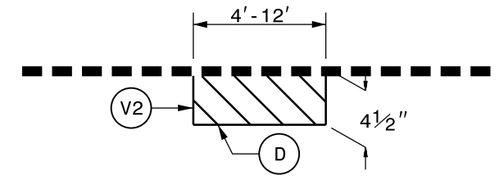
* DIMENSIONS ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED

** UNDERCUT REQUIRED IN AREAS AS DIRECTED BY THE ENGINEER

PAVEMENT SCHEDULE	
A1	9" VERY HIGH-EARLY CONCRETE
J1	#57 STONE
U	EXISTING PAVEMENT

Refer to the North Carolina Department of Transportation "Partial and Full Depth Repair Manual" when Replacing Slabs and when Repairing Concrete Pavement.

PATCHING DETAIL 1



MILL EXISTING ASPHALT PAVEMENT 4½" IN DEPTH AND FILL WITH INTERMEDIATE COURSE, TYPE I19.0B AT LOCATIONS AS DIRECTED BY THE ENGINEER.

TO BE USED IN CONJUCTION WITH MAPS 1 AND 2

MAP 1: 4½" MILLING = 390 SYD
INTERMEDIATE COURSE, TYPE I19.0B = 100 TONS
MAP 2: 4½" MILLING = 390 SYD
INTERMEDIATE COURSE, TYPE I19.0B = 100 TONS

PAVEMENT SCHEDULE

C1	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5D, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.		
C2	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.		
C3	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.		
D	PROP. APPROX. 4½" ASPHALT CONCRETE INTERMEDIATE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD. IN ONE LIFT		
T	SHOULDER RECONSTRUCTION		
U1	EXISTING PAVEMENT.	U2	EXISTING SHOULDER.
V1	FINE MILL EXISTING UBWC (APPROX.⅝")	V2	4½" MILLING
V3	2" FINE MILL EXISTING PAVEMENT	V4	MILLED RUMBLE STRIPS
V5	1½" MILLING	Y	PAVEMENT INTERLAYER

27-JUN-2016 12:12
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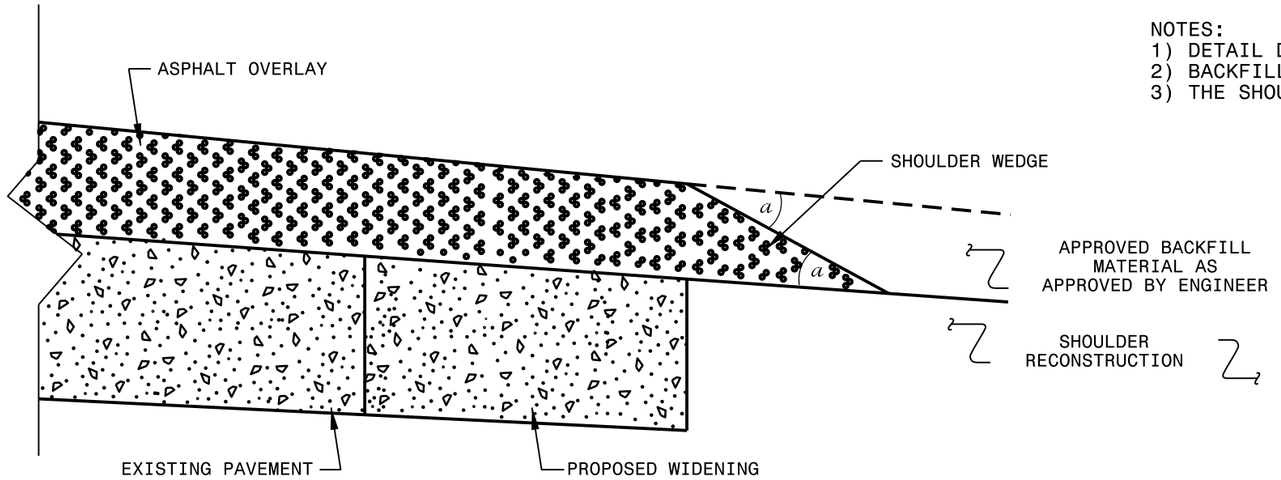
cthuskins AT DTCADD271374

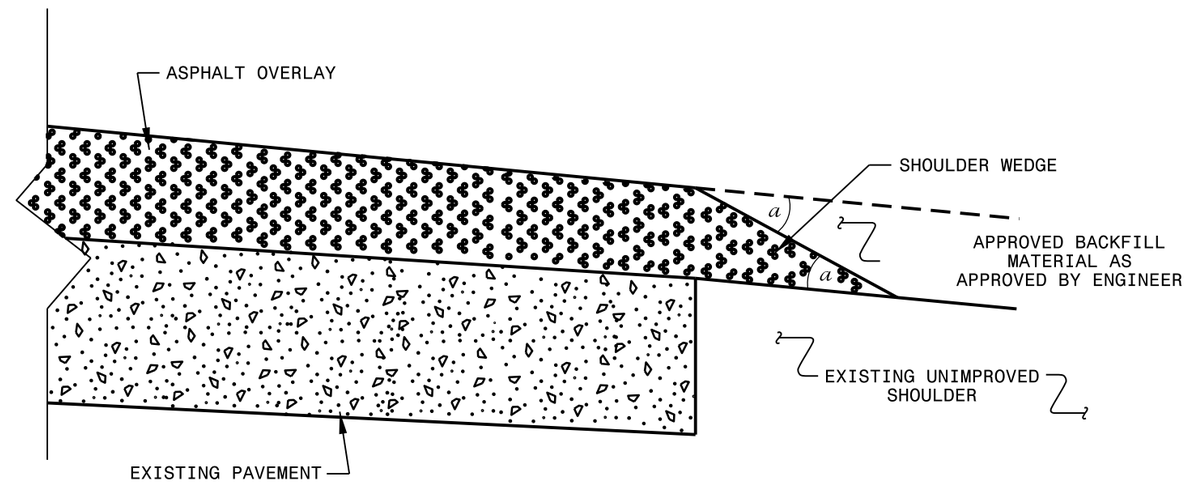
PROJECT REFERENCE NO.	SHEET NO.
2017CPT.07.10.20411	

NOTES:
1) DETAIL DOES NOT APPLY TO OGAFC AND ULTRA-THIN BONDED WEARING COURSE.
2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



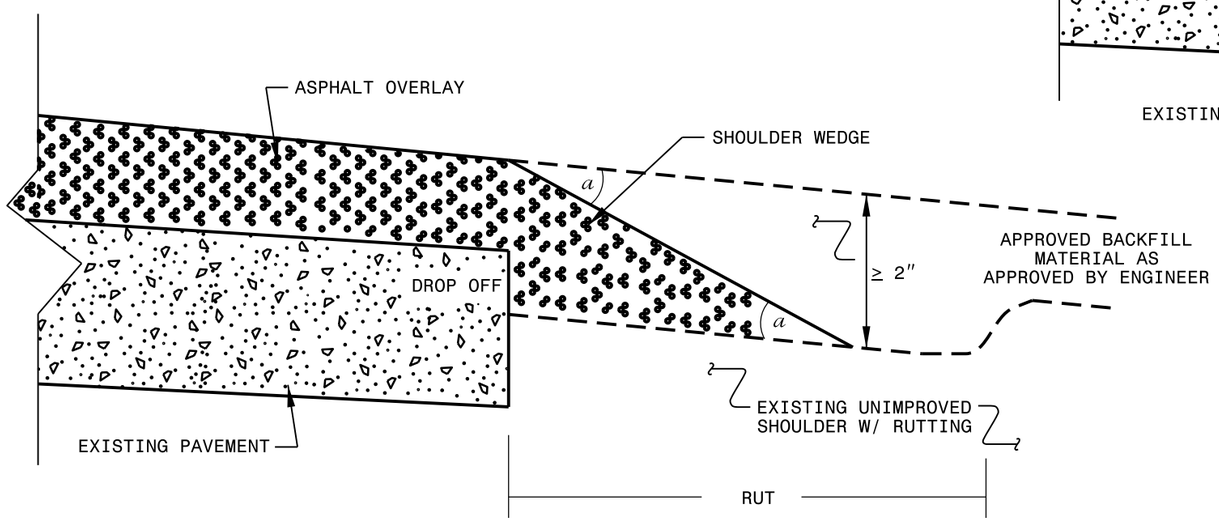
SHOULDER WEDGE DETAIL

(Resurfacing Projects w/ Widening)



SHOULDER WEDGE DETAIL

(Resurfacing Projects w/ NO Widening Or Existing Paved Shoulder having no dropoffs)



SHOULDER WEDGE DETAIL

(Resurfacing Adjacent to Rutted Shoulder)

- SHOULDER WEDGE ANGLE = 30°

REV. DIV 7 5/6/2016

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SHOULDER WEDGE DETAILS

ORIGINAL BY:	T.SPELL	DATE:	7-19-11
MODIFIED BY:		DATE:	10/16/12
CHECKED BY:		DATE:	
FILE SPEC.:	s:usr/details/stand/shoulderwedgedetail.dgn		

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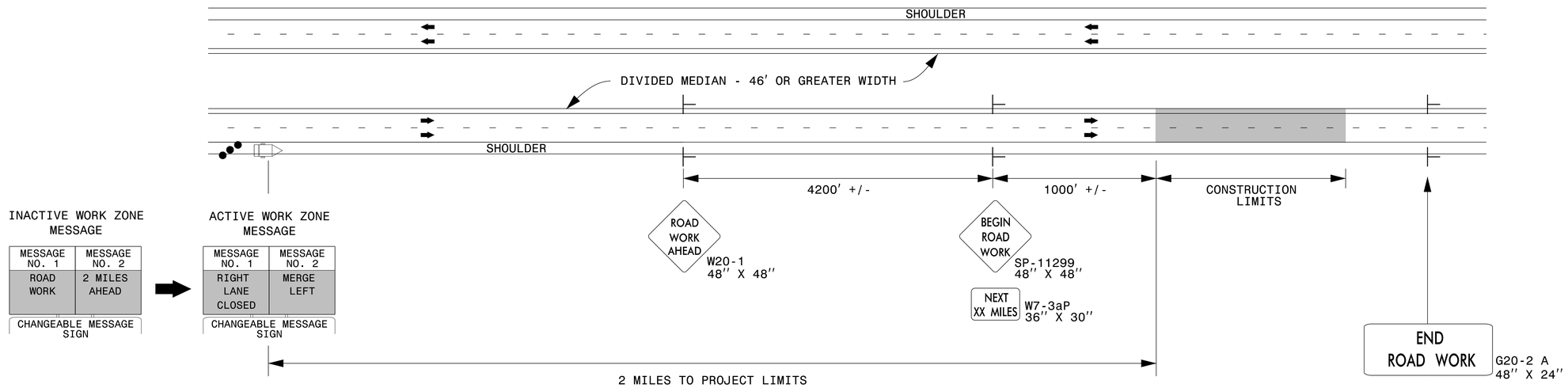
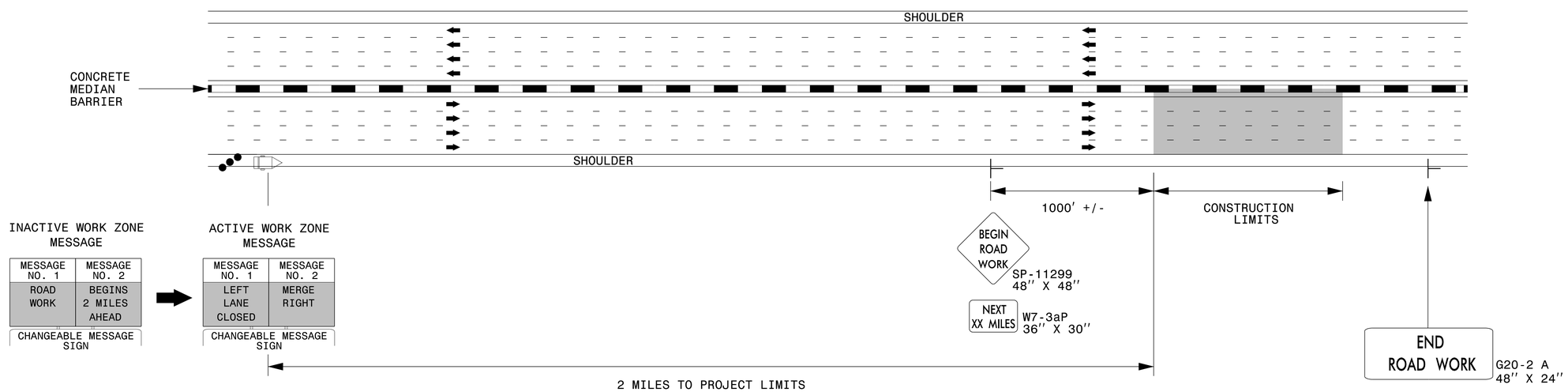
cthuskins AT D7CADD271374

PROJ. REFERENCE NO.	SHEET NO.
2016CPT.07.18.10411	WK NIGHT

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 RAMPS 500′ PRIOR TO RAMP TERMINAL, AND "END ROAD WORK" (G20-2a) AT THE END OF EXIT RAMPS 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

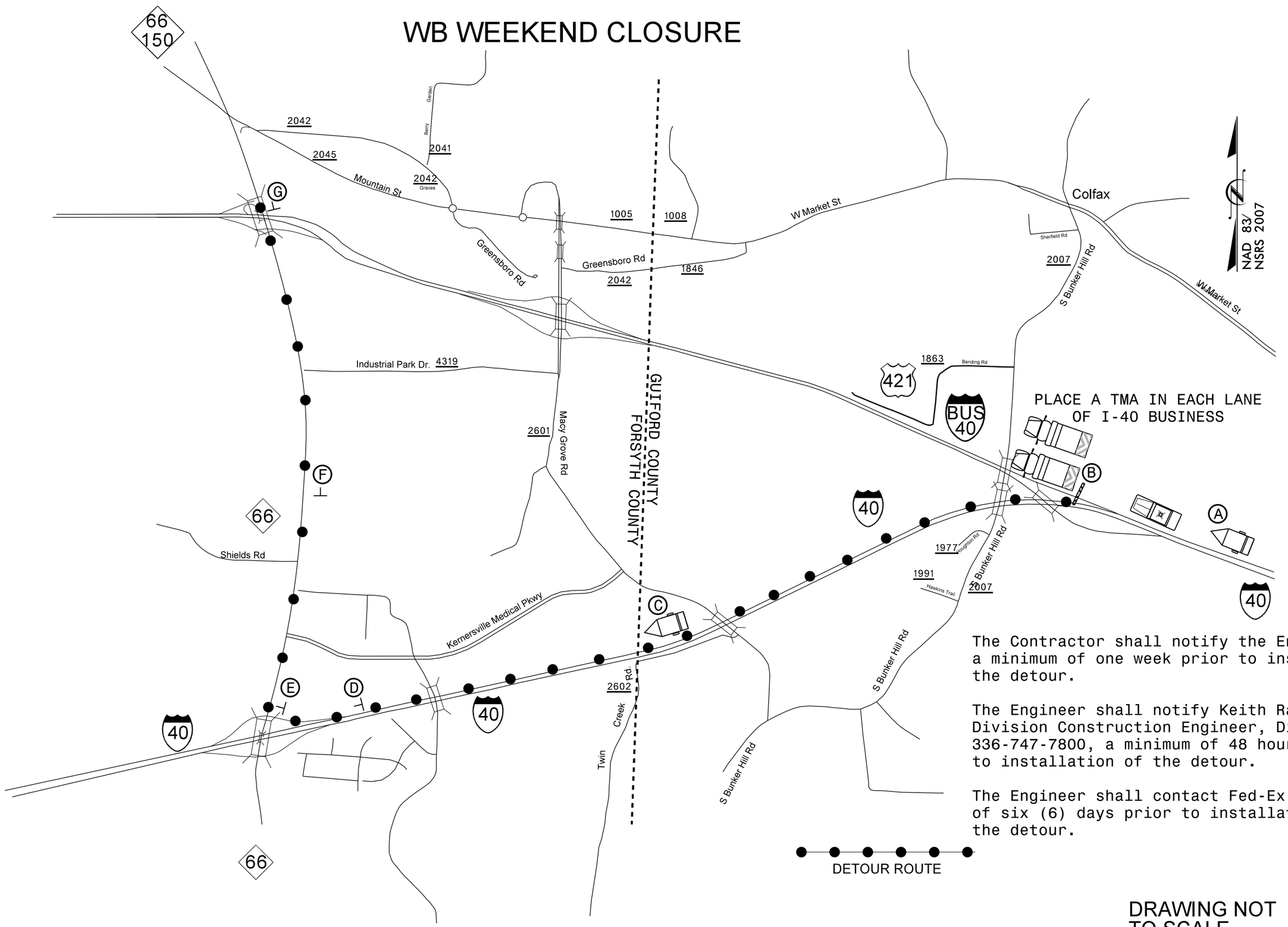
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

RESURFACING ADVANCE WARNING SIGNS FOR HIGH SPEED FACILITIES ≥ 60 MPH

3/23/2015
C:\Users\rmgarrett\Downloads\Resurfacing_AdvWarn_HSpd.dgn
User:rmgarrett

PROJECT REFERENCE NO.	SHEET NO.
2016CPT.07.18.10411	WB WK END1

WB WEEKEND CLOSURE



The Contractor shall notify the Engineer a minimum of one week prior to installing the detour.

The Engineer shall notify Keith Raulston, Division Construction Engineer, Division 9, 336-747-7800, a minimum of 48 hours prior to installation of the detour.

The Engineer shall contact Fed-Ex a minimum of six (6) days prior to installation of the detour.

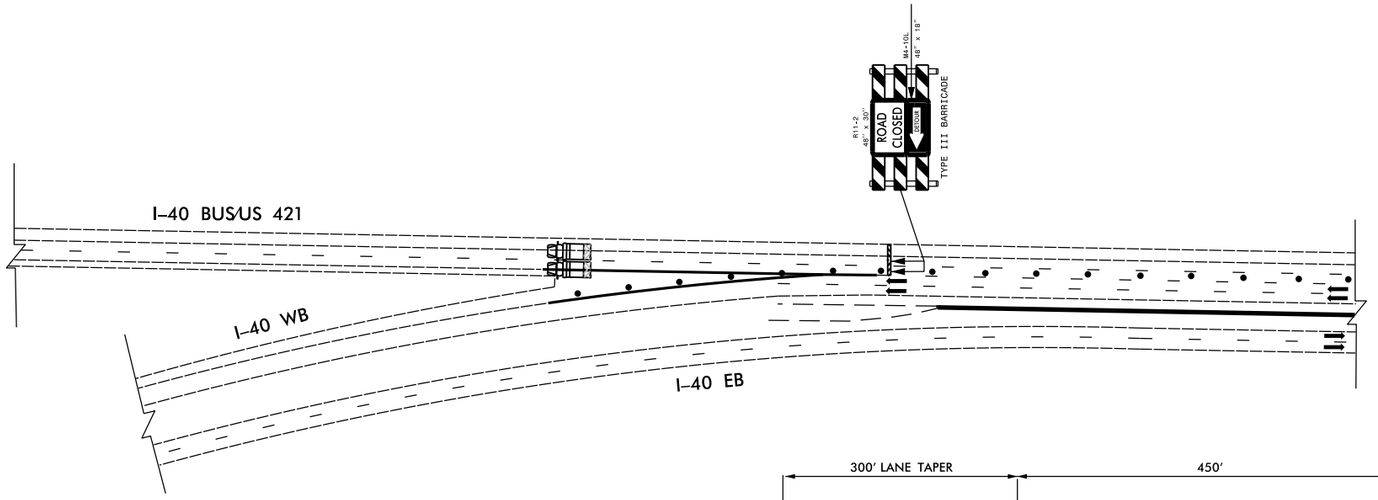
DRAWING NOT
TO SCALE

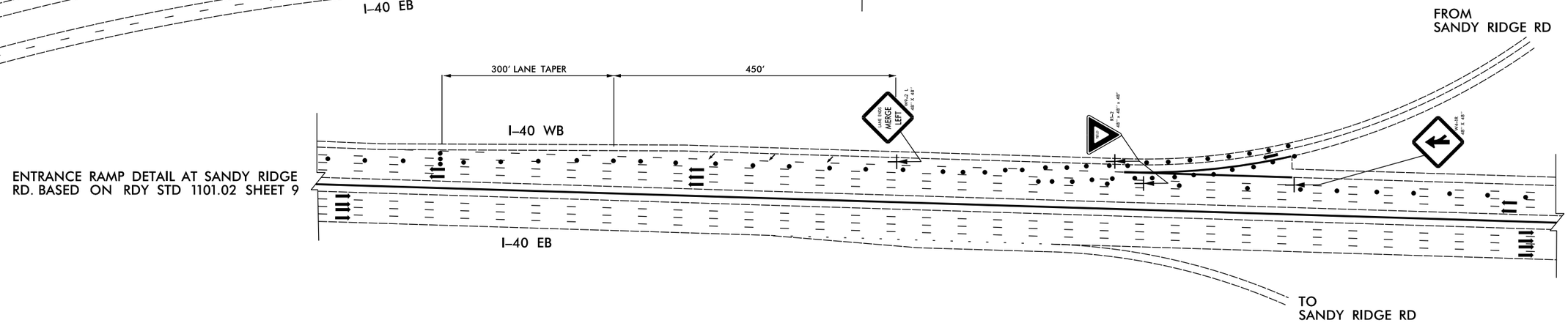
REVISIONS

27-JUN-2016 12:12
S:\Design\Proj\2017 PO Contracts\Guilford\I-40 Bus.US 421 from Forsyth.Guilford County Line to I-40\CADD\Detour 1.dgn
cjhuskins

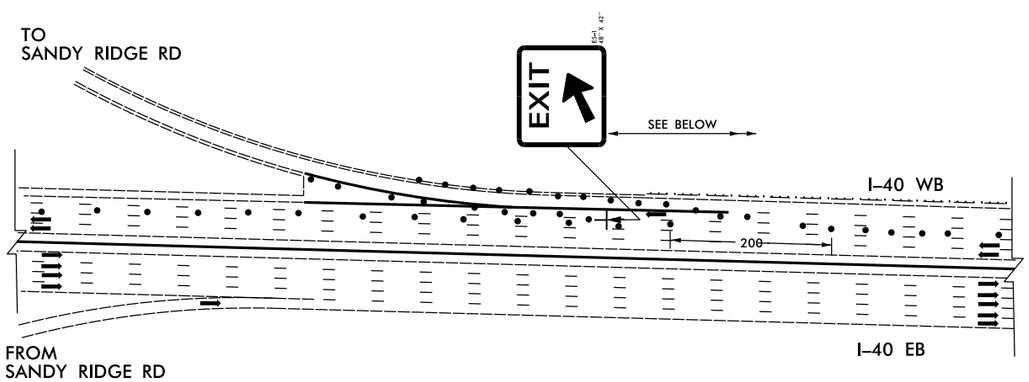
PROJECT REFERENCE NO.	SHEET NO.
2016CPT.07.18.10411	WB WK END2

DRAWING NOT TO SCALE





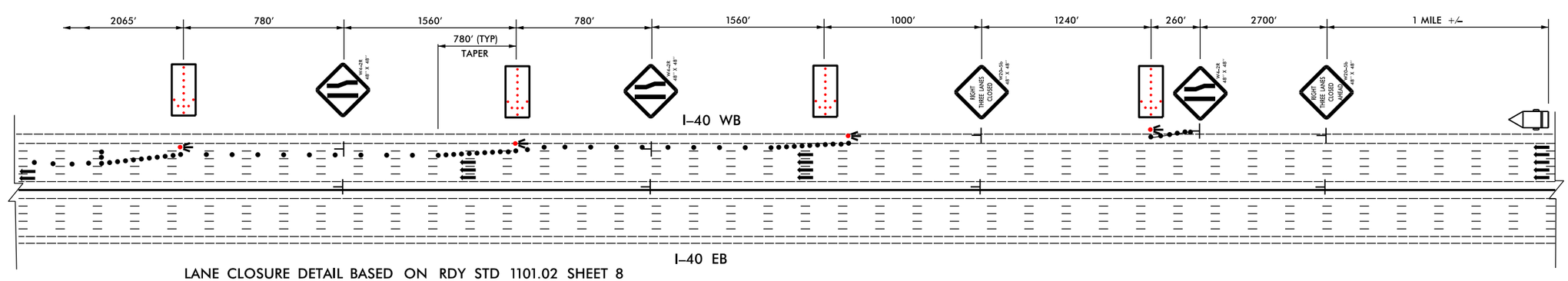
ENTRANCE RAMP DETAIL AT SANDY RIDGE RD. BASED ON RDY STD 1101.02 SHEET 9



EXIT RAMP DETAIL AT SANDY RIDGE RD. BASED ON RDY STD 1101.02 SHEET 10

MESSAGE NO. 1	MESSAGE NO. 2
RIGHT THREE LANES	CLOSED NEXT 4 MILES

CHANGEABLE MESSAGE SIGN



LANE CLOSURE DETAIL BASED ON RDY STD 1101.02 SHEET 8

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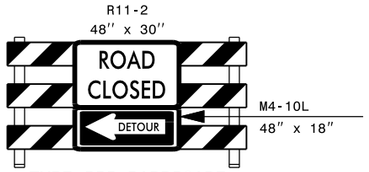
cbhaskins

PROJECT REFERENCE NO.	SHEET NO.
2016CPT.07.18.10411	SIGNS

MESSAGE NO. 1	MESSAGE NO. 2
WB BUS I-40 CLOSED	USE I-40 BUS DETOUR

CHANGEABLE MESSAGE SIGN

(A)



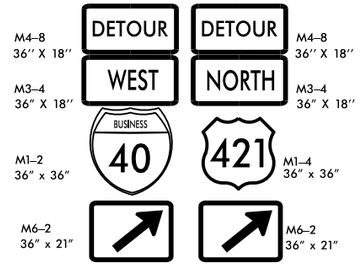
TYPE III BARRICADE

(B)

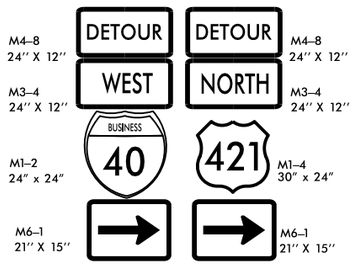
MESSAGE NO. 1	MESSAGE NO. 2
TO I-40 BUS US 421	NEXT EXIT

CHANGEABLE MESSAGE SIGN

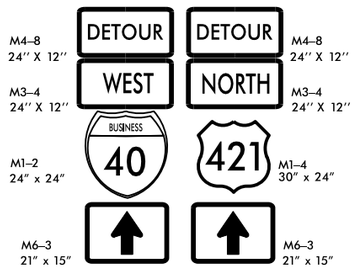
(C)



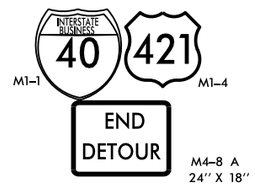
(D)



(E)



(F)



(G)

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ehiskins
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PROJECT NO.	SHEET NO.	TOTAL NO.
2016CPT.07.18.10411		

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	REPAIR OF JOINTED CONCRETE PAVEMENT SLAB SYD	#57 STONE TON	SHALLOW UNDERCUT CY	CLASS IV SUBGRADE STABILIZATION TON	GEOTEXTILE FOR PAVEMENT STABILIZATION SY	SHOULDER RECONSTRUCTION SMI	MILLING ASPHALT PAVEMENT, 1½" DEPTH SY	MILLING ASPHALT PAVEMENT, 2"DEPTH SY	INCIDENTAL MILLING SY	ASPHALT CONC SURFACE COURSE, TYPE S9.5B TONS
2016CPT.07.18.10411	Guilford	1	I-40 BUS./US 421 EASTBOUND	FROM JOINT JUST EAST OF FORSYTH/GUILFORD COUNTY LINE TO BRIDGE OVER I-40	1	2	MD	NO	NO	1.11	24	80	24	27	72	160	2.22	9,117		635	1,514
					2	2		NO	NO	0.23	24								5,127		154
				SKIP BRIDGE OVER I-40 (#616)		2	MD	NO	NO	0.07	24										
				FROM BRIDGE OVER I-40 TO I-40	2	2	MD	NO	NO	0.366	24								8,159		244
TOTAL FOR MAP NO. 1										**1.776**		**80**	**24**	**27**	**72**	**160**	**2.22**	**9,117**	**13,286**	**635**	**1,912**
2016CPT.07.18.10411	Guilford	2	I-40 BUS/US 421 WESTBOUND	FROM I-40 TO JOINT JUST WEST OF GUILFORD/FORSYTH COUNTY LINE	2	2	MD	NO	NO	0.379	24	720	216	240	648	1,440			8,449		253
					1	2		NO	NO	1.154	24						2.31	9,478		635	1,574
TOTAL FOR MAP NO. 2										**1.533**		**720**	**216**	**240**	**648**	**1,440**	**2.31**	**9,478**	**8,449**	**635**	**1,827**
TOTAL FOR PROJ NO. 2016CPT.07.18.10411										**3.309**		**800**	**240**	**267**	**720**	**1,600**	**4.53**	**18,595**	**21,735**	**1,270**	**3,739**
GRAND TOTAL										**3.309**		**800**	**240**	**267**	**720**	**1,600**	**4.53**	**18,595**	**21,735**	**1,270**	**3,739**

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	SURFACE COURSE, S9.5D TON	ASPHALT BINDER FOR PLANT MIX TONS	POLYMER MODIFIED ASPHALT BINDER FOR PLANT MIX TONS	4 1/2" PATCHING EXISTING PAVEMENT TONS	PATCHING CONCRETE PAVEMENT SPALLS SF	MILLED RUMBLE STRIPS LF	FINE MILLING ASPHALT PAVEMENT, 5/8" (UBWC) SY	PVT INTERLAYER SY	SEALING EX PVT CRACKS (POLYMER PATCH) LB	PORTABLE LIGHTING LS
2016CPT.07.18.10411	Guilford	1	I-40 BUS./US 421 EASTBOUND	FROM JOINT JUST EAST OF FORSYTH/GUILFORD COUNTY LINE TO BRIDGE OVER I-40	1	2	MD	NO	NO	1.11	24	2,054	91	117	100	200	11,720	15,629	15,629	5,700	1
					2	2		NO	NO	0.23	24	426	9	24			2,430		3,238		
				SKIP BRIDGE OVER I-40 (#616)		2	MD	NO	NO	0.07	24										
				FROM BRIDGE OVER I-40 TO I-40	2	2	MD	NO	NO	0.366	24	677	15	39			3,865		5,153		
TOTAL FOR MAP NO. 1										**1.776**		**3,157**	**115**	**180**	**100**	**200**	**18,015**	**15,629**	**24,020**	**5,700**	**1**
2016CPT.07.18.10411	Guilford	2	I-40 BUS/US 421 WESTBOUND	FROM I-40 TO JOINT JUST WEST OF GUILFORD/FORSYTH COUNTY LINE	2	2	MD	NO	NO	0.379	24	701	15	40	100	270	4,000		5,336	11,000	
					1	2		NO	NO	1.154	24	2,136	94	122			12,186	16,248	16,248		
TOTAL FOR MAP NO. 2										**1.533**		**2,837**	**109**	**162**	**100**	**270**	**16,186**	**16,248**	**21,584**	**11,000**	
TOTAL FOR PROJ NO. 2016CPT.07.18.10411										**3.309**		**5,994**	**224**	**342**	**200**	**470**	**34,201**	**31,877**	**45,604**	**16,700**	**1**
GRAND TOTAL										**3.309**		**5,994**	**224**	**342**	**200**	**470**	**34,201**	**31,877**	**45,604**	**16,700**	**1**

PROJECT NO.	SHEET NO.	TOTAL NO.
2016CPT.07.18.10411		

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LANES	LANE TYPE	LENGTH	WIDTH	WORK ZONE SIGNS (STATIONARY) SF	TEMPORARY TRAFFIC CONTROL LS	6" X 90 M WHITE THERMO LF	6" X 90 M YELLOW THERMO LF	6" X 120 M WHITE THERMO LF	6" WHITE PAINT LF	6" YELLOW PAINT LF	SNOWPLOWABLE PAVEMENT MARKERS CRYSTAL/RED EA
2016CPT.07.18.10411	Guilford	1	I-40 BUS./US 421 EASTBOUND	FROM JOINT JUST EAST OF FORSYTH/GUILFORD COUNTY LINE TO BRIDGE OVER I-40	1	2	MD	1.11	24	72	1	9,525	9,525	2,400	11,925	9,525	113
		"	"			2		0.23	24								
		"	"	SKIP BRIDGE OVER I-40 (#616)		2	MD	0.07	24								
		"	"	FROM BRIDGE OVER I-40 TO I-40	1	2	MD	0.366	24								
TOTAL FOR MAP NO. 1								**1.776**		**72**	**1**	**9,525**	**9,525**	**2,400**	**11,925**	**9,525**	**113**
2016CPT.07.18.10411	Guilford	2	I-40 BUS/US 421 WESTBOUND	FROM I-40 TO JOINT JUST WEST OF GUILFORD/FORSYTH COUNTY LINE	1	2	MD	0.379	24	48		8,092	8,092	2,023	10,115	8,092	105
		"	"			2		1.154	24								
TOTAL FOR MAP NO. 2								**1.533**		**48**		**8,092**	**8,092**	**2,023**	**10,115**	**8,092**	**105**
TOTAL FOR PROJ NO. 2016CPT.07.18.10411								**3.309**		**120**	**1**	**17,617**	**17,617**	**4,423**	**22,040**	**17,617**	**218**
												35,234			**39,657**		
GRAND TOTAL								**3.309**		**120**	**1**	**17,617**	**17,617**	**4,423**	**22,040**	**17,617**	**218**
												35,234			**39,657**		