

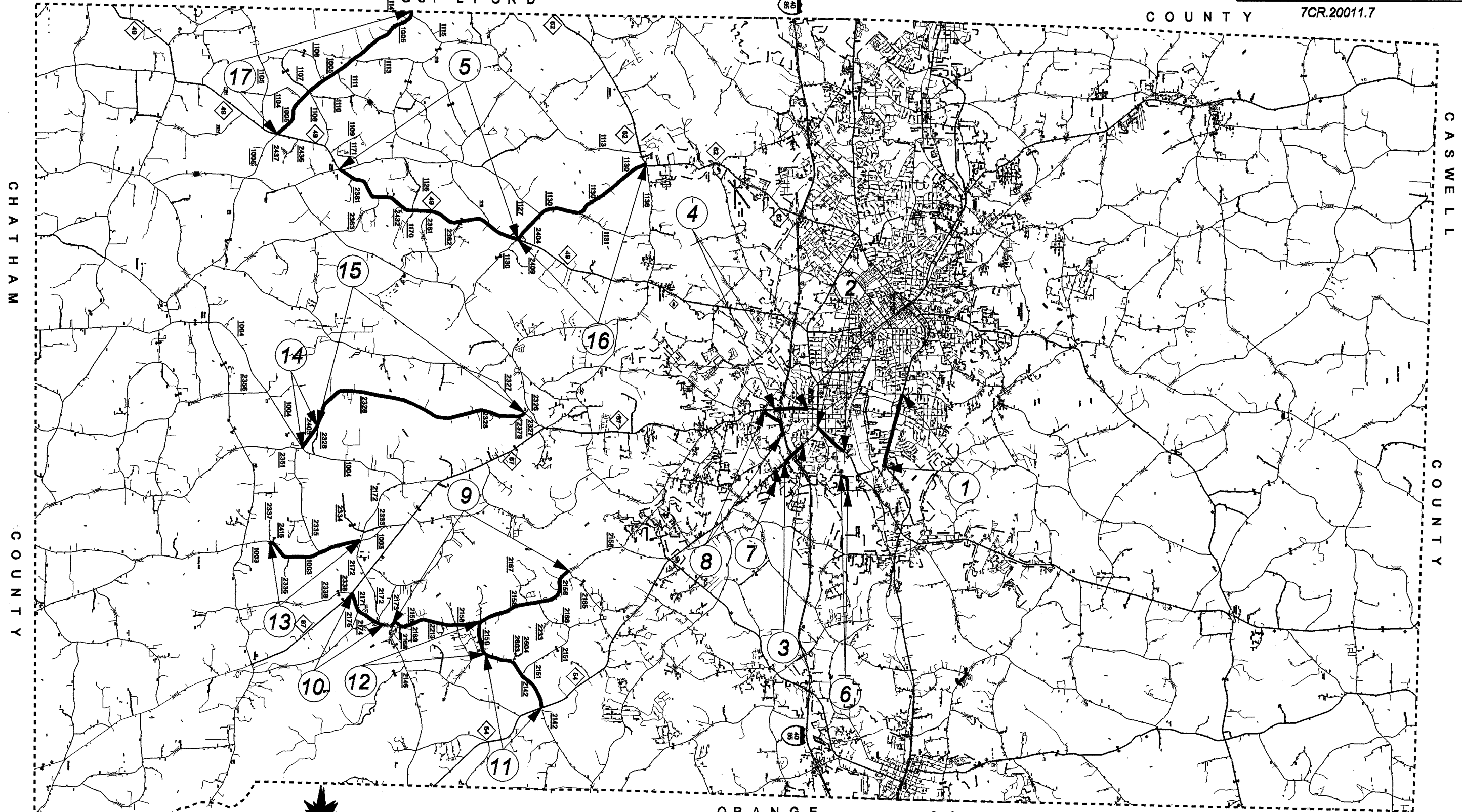
2001665

RANDOLPH COUNTY

GUILFORD

COUNTY

PROJECT REFERENCE NO. 7CR.10011.7, Etc.	SHEET NO. 1 of 10
7CR.20011.7	



CHATHAM

CASWELL

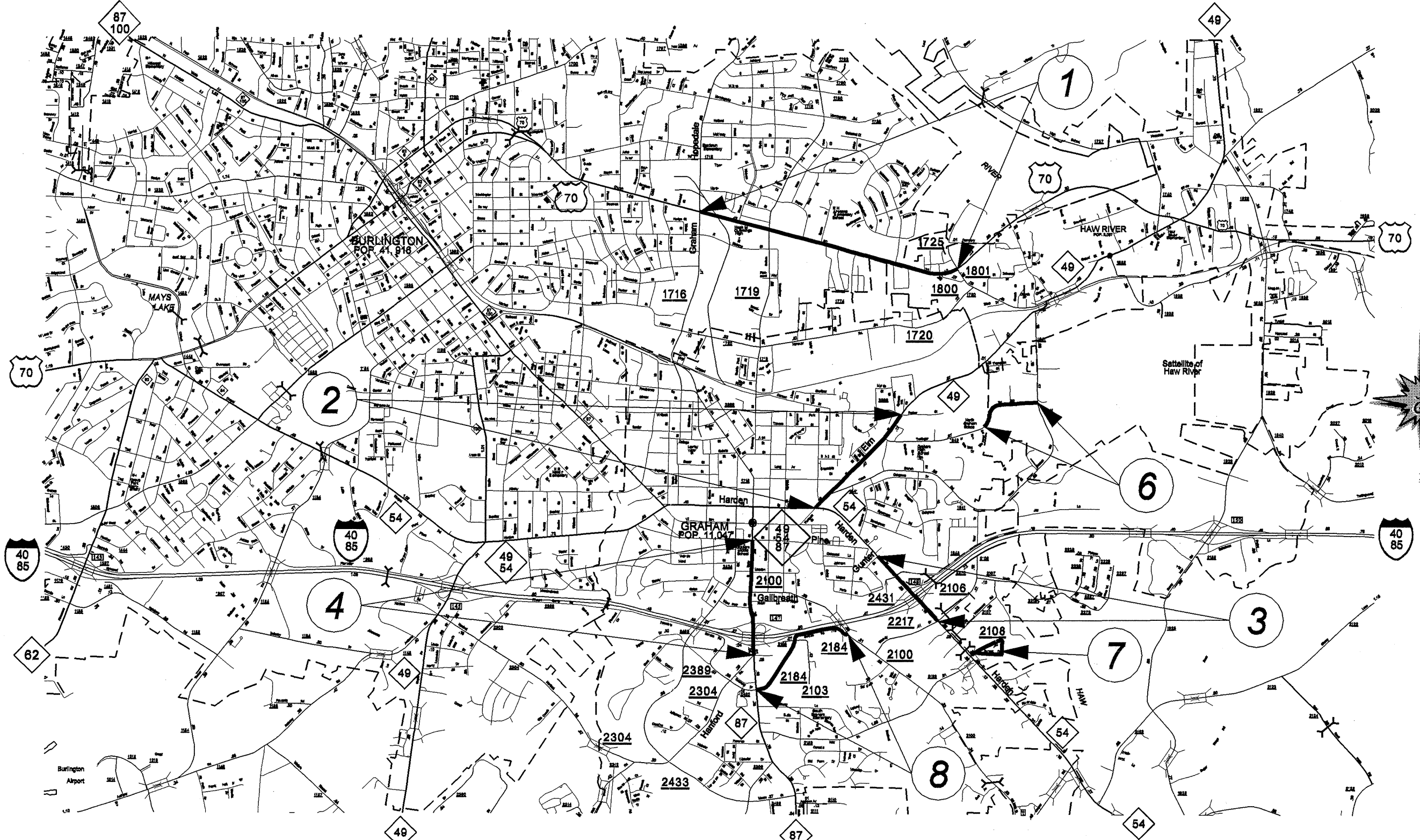
COUNTY

ORANGE COUNTY

ALAMANCE COUNTY

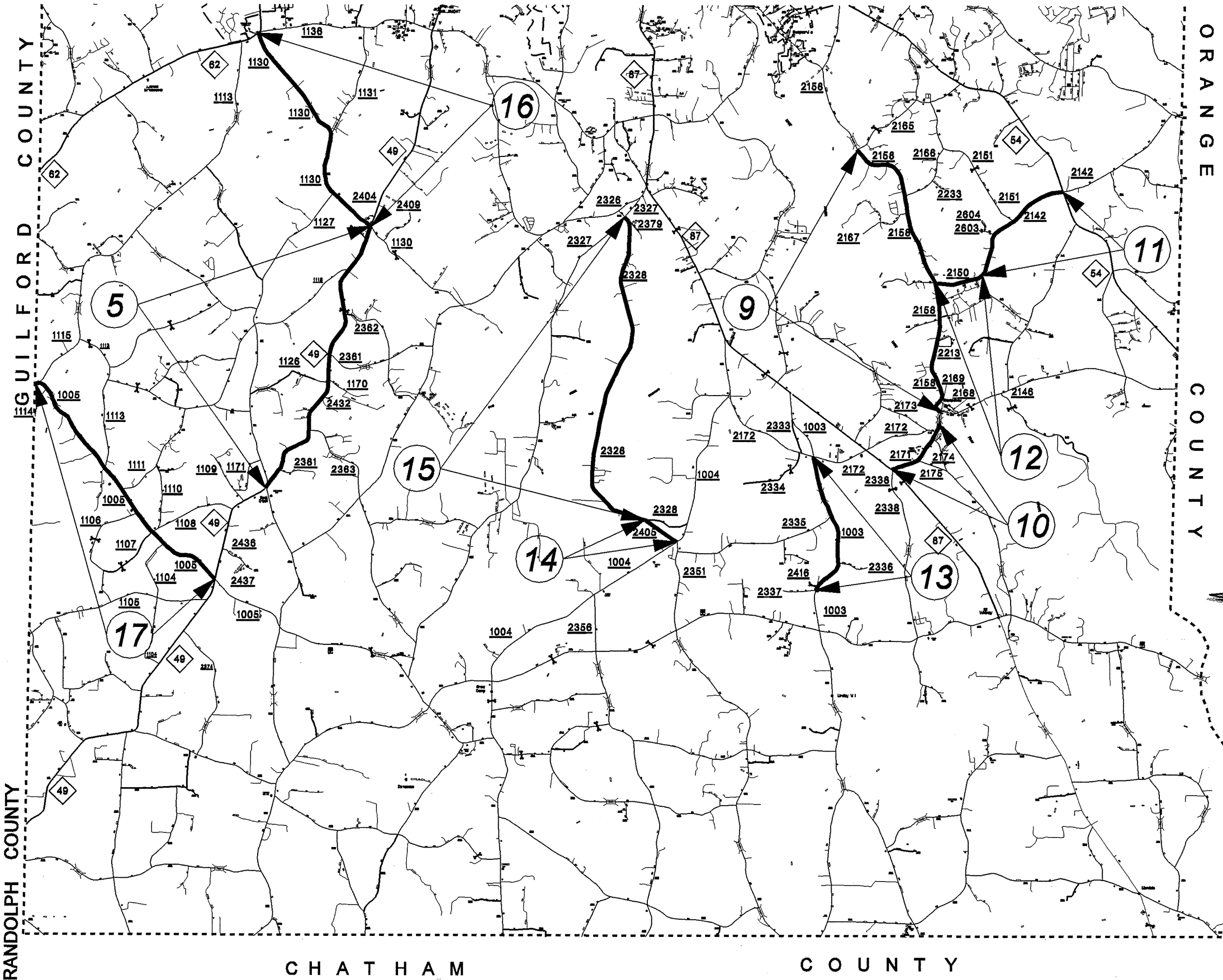
ALAMANCE COUNTY
COMMISSIONERS
TO THE PUBLIC AT A PUBLIC HEARING
HELD AT THE COURTHOUSE
IN RALEIGH, N.C.
ON THE 15TH DAY OF
AUGUST, 1988
AT 10:00 A.M.

ALAMANCE COUNTY
COMMISSIONERS
TO THE PUBLIC AT A PUBLIC HEARING
HELD AT THE COURTHOUSE
IN RALEIGH, N.C.
ON THE 15TH DAY OF
AUGUST, 1988
AT 10:00 A.M.



ALAMANCE COUNTY

ALAMANCE COUNTY
 7/2/2009 10:00 AM



ALAMANCE COUNTY

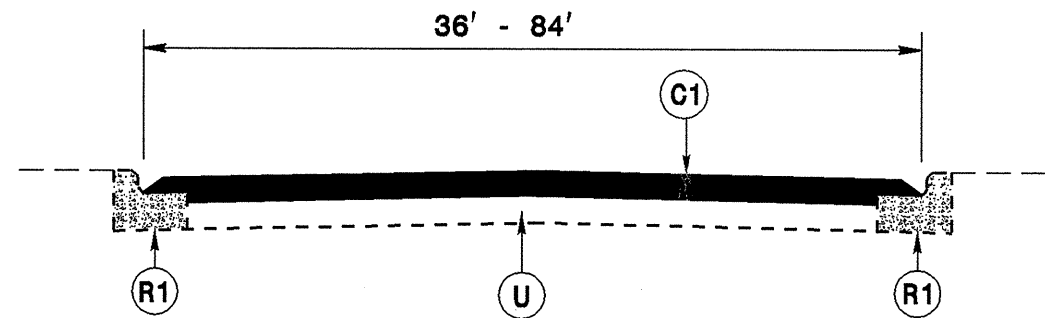
COUNTY OF ALAMANCE, NORTH CAROLINA
 DIVISION OF PUBLIC WORKS
 100 SOUTH MAIN STREET
 RALEIGH, NC 27601
 PHONE: 919.972.1000
 FAX: 919.972.1001
 WWW.ALAMANCECOUNTY.GOV

CHATHAM

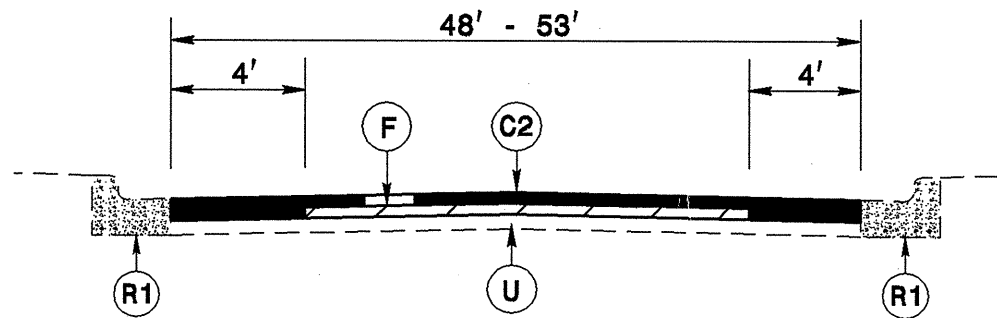
COUNTY

5/28/99

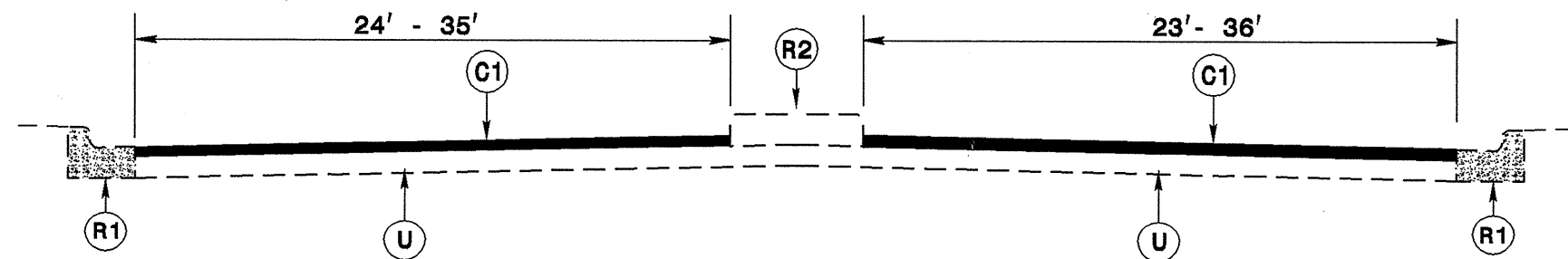
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.10011.7, ETC	4	10
7CR.20011.7			



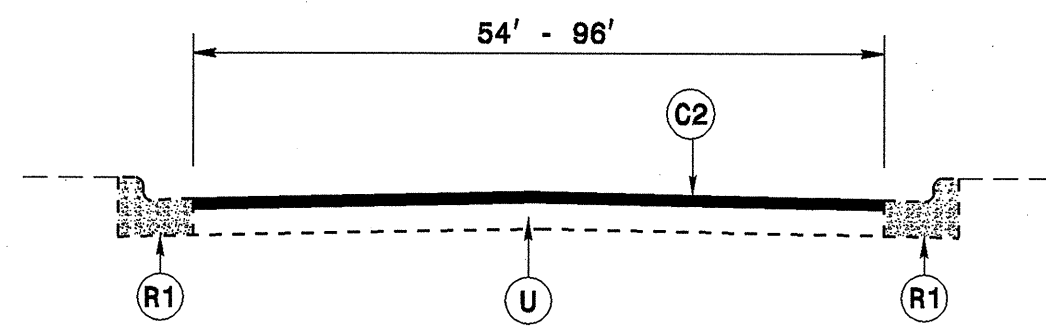
TYPICAL SECTION NO. 1



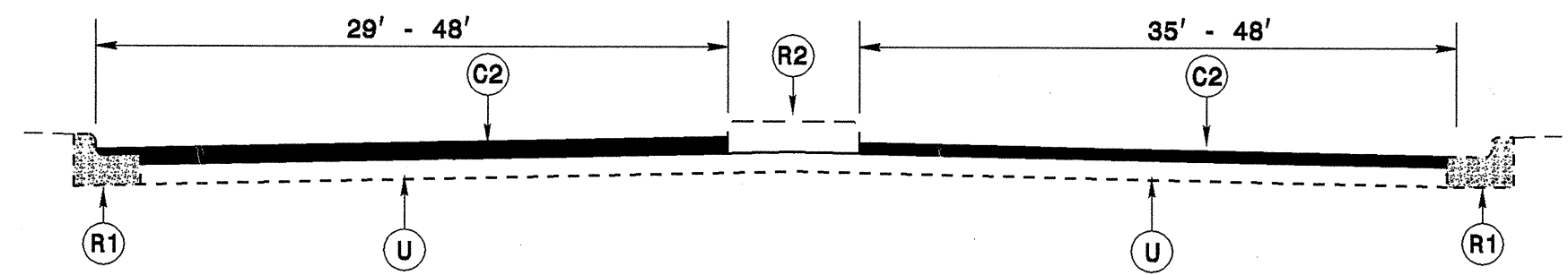
TYPICAL SECTION NO. 2



TYPICAL SECTION NO. 3



TYPICAL SECTION NO. 4



TYPICAL SECTION NO. 5

PAVEMENT SCHEDULE

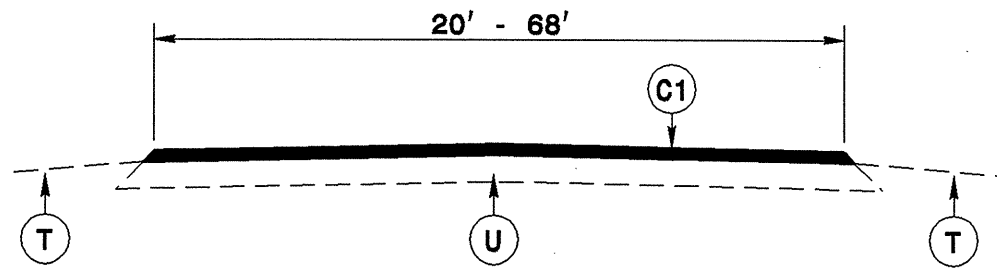
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 188 LBS. PER SQ. YD.
C2	PROP. APPROX. 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 140 LBS. PER SQ. YD.
C3	PROP. APPROX. 1" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD.
C4	PROP. APPROX. 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
D	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
F	AST MAT COAT, 78M
R1	EXISTING 2'-6" CURB AND GUTTER OR EXPRESSWAY GUTTER OR VALLEY GUTTER
R2	EXISTING MONOLITHIC CONCRETE ISLAND
T	SHOULDER RECONSTRUCTION
U	EXISTING PAVEMENT.

25-OCT-2006 16:42
 su...
 7\7cr.10011.7rev\staff_eng-tyr.cals.dgn

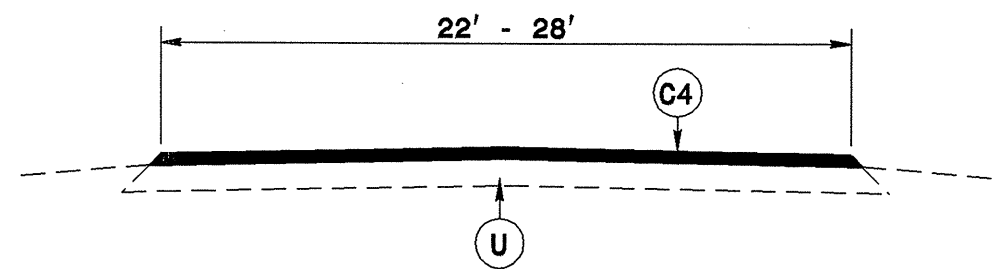
5/28/99

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.10011.7, ETC	5	10

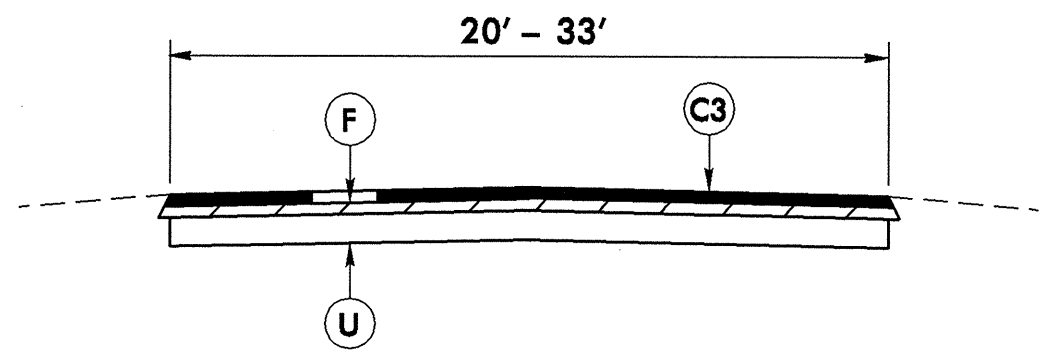
7CR.20011.7



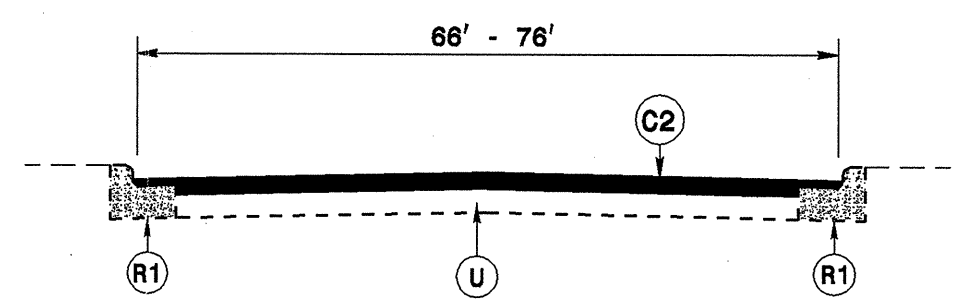
TYPICAL SECTION NO. 6



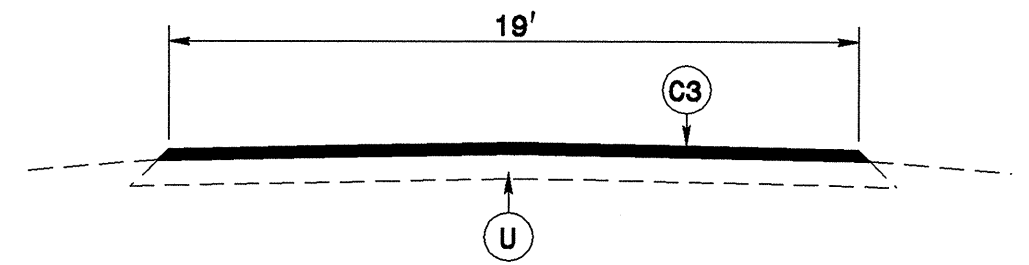
TYPICAL SECTION NO. 10



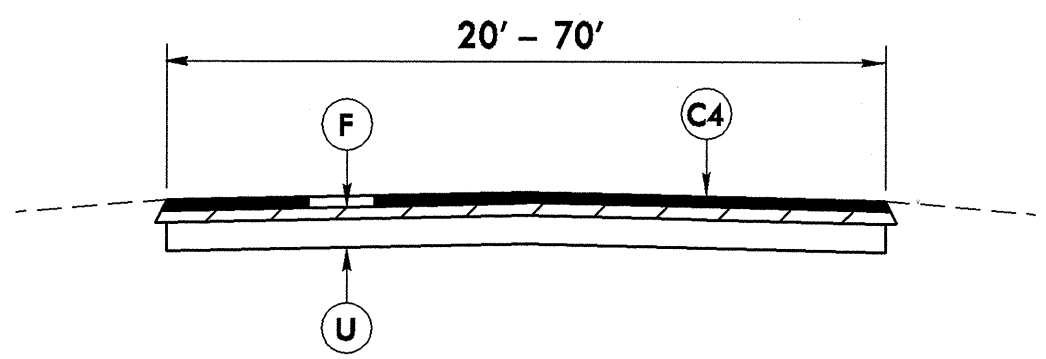
TYPICAL SECTION NO. 7



TYPICAL SECTION NO. 11



TYPICAL SECTION NO. 8



TYPICAL SECTION NO. 9

PAVEMENT SCHEDULE

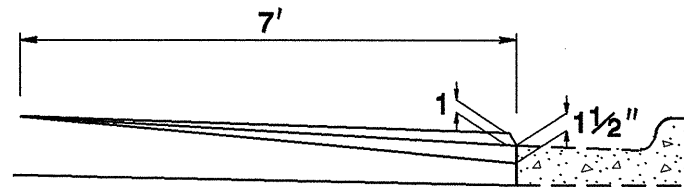
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 140 LBS. PER SQ. YD.
C3	PROP. APPROX. 1" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD.
C4	PROP. APPROX. 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
D	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
F	AST MAT COAT, 78M
R1	EXISTING 2'-6" CURB AND GUTTER OR EXPRESSWAY GUTTER OR VALLEY GUTTER
R2	EXISTING MONOLITHIC CONCRETE ISLAND
T	SHOULDER RECONSTRUCTION
U	EXISTING PAVEMENT.

26-OCT-2006 16:42
 surfacing Projects Division 7\7cr-10011.7\rev\staff_eng-tyjacols.dgn
 5/28/99

STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.10011.7, ETC	6	10

7CR.20011.7

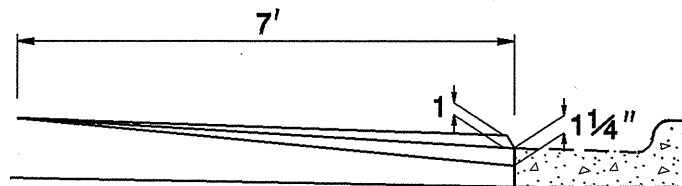
MILLING DETAIL 1



MILL EXISTING ASPHALT PAVEMENT 0-2 1/2" AT LOCATIONS AS DIRECTED BY THE ENGINEER

NOTE:
TO BE USED IN CONJUNCTION WITH
TS. NO. 1 ON MAP 1
TS. NO. 1 ON MAP 3

MILLING DETAIL 2

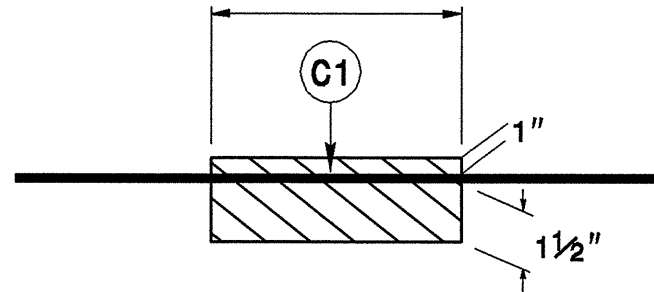


MILL EXISTING ASPHALT PAVEMENT 0-2 1/4" AT LOCATIONS AS DIRECTED BY THE ENGINEER

NOTE:
TO BE USED IN CONJUNCTION WITH
TS. NO. 2 ON MAP 2
TS. NO. 4 ON MAP 4 (0" - 1 1/4" ONLY)

MILLING DETAIL 3

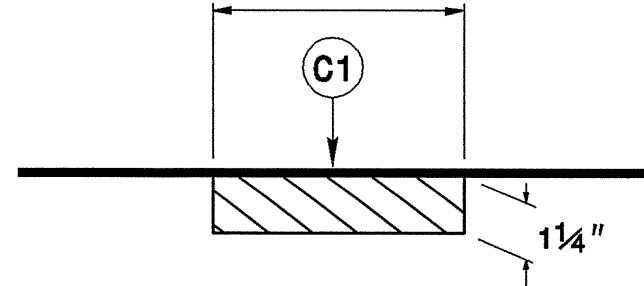
FULL LANE WIDTH UNDER BRIDGE



MILL EXISTING ASPHALT PAVEMENT 2 1/2" IN DEPTH TO BE USED ON MAP 3 IN CONJUNCTION WITH TS. 1

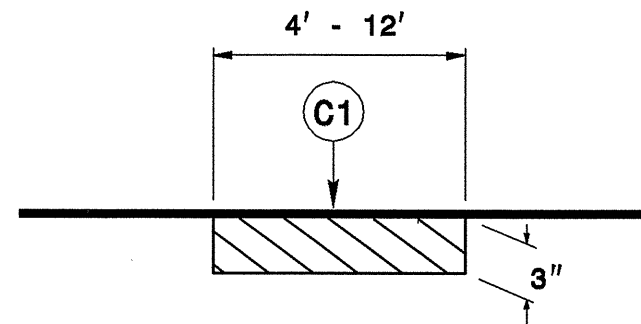
MILLING DETAIL 4

FULL LANE WIDTH UNDER BRIDGE



MILL EXISTING ASPHALT PAVEMENT 1 1/4" IN DEPTH TO BE USED ON MAP 4 IN CONJUNCTION WITH TS. 5

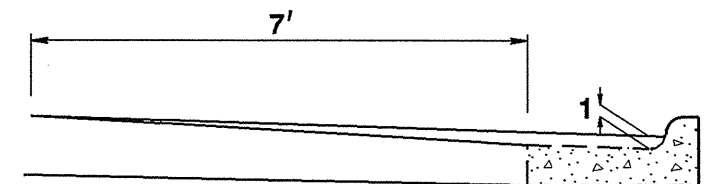
MILLING DETAIL 5



MILL EXISTING ASPHALT PAVEMENT 3" IN DEPTH, REPLACE WITH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B AT LOCATIONS AS DIRECTED BY THE ENGINEER.

NOTE:
TO BE USED IN CONJUNCTION WITH MAPS 1 & 4

MILLING DETAIL 6



MILL EXISTING ASPHALT PAVEMENT 0-1" AT LOCATIONS AS DIRECTED BY THE ENGINEER

NOTE:
TO BE USED IN CONJUNCTION WITH
TS. NO. 11 ON MAP 4

PAVEMENT SCHEDULE

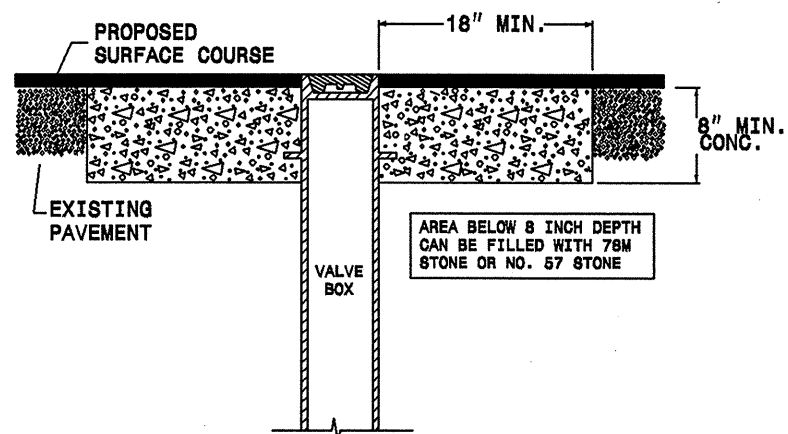
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 140 LBS. PER SQ. YD.
C3	PROP. APPROX. 1" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD.
C4	PROP. APPROX. 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
D	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
F	AST MAT COAT, 78M
R1	EXISTING 2'-6" CURB AND GUTTER OR EXPRESSWAY GUTTER OR VALLEY GUTTER
R2	EXISTING MONOLITHIC CONCRETE ISLAND
T	SHOULDER RECONSTRUCTION
U	EXISTING PAVEMENT.

5/28/99

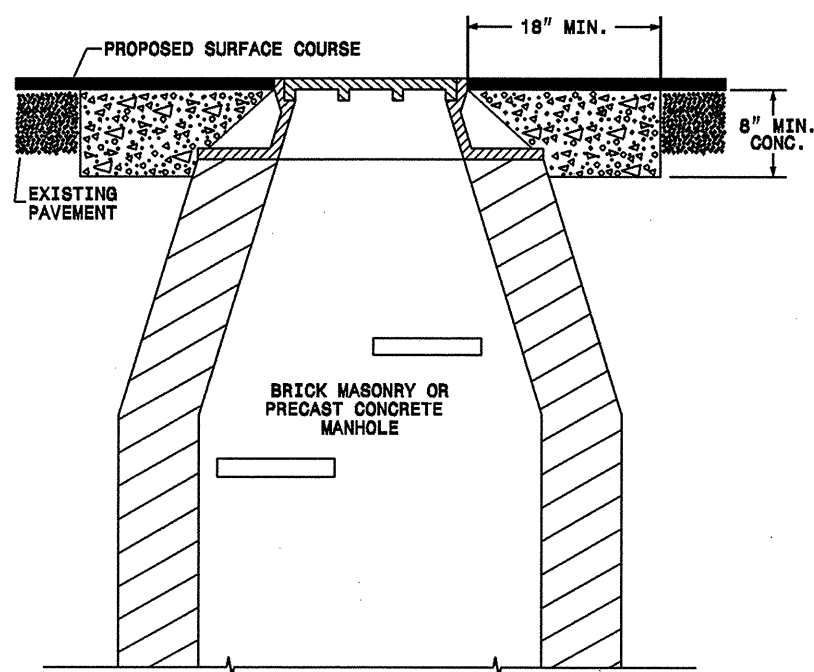
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	7CR.10011.7, ETC	7	10

7CR.20011.7

STANDARD CONCRETE ENCASEMENT FOR MANHOLE & VALVE CASTINGS IN PAVEMENT
DETAIL DRAWING NO. 858.01

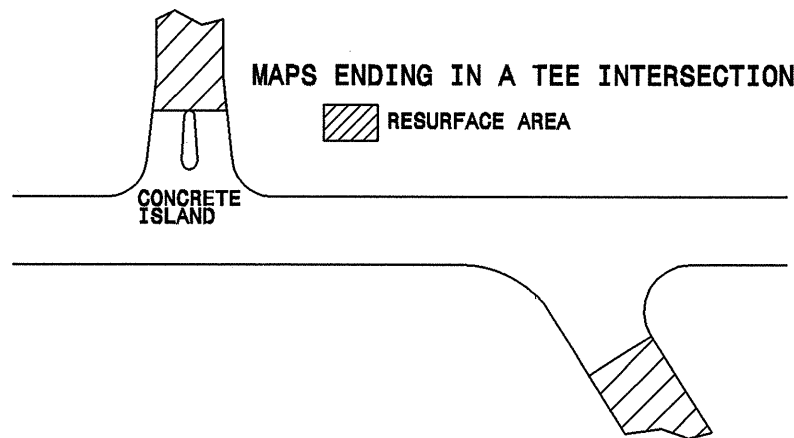


USE RAPID SET GROUT, MORTAR, OR CONCRETE
 CLASS B CONCRETE MAY BE USED WHEN ADJUSTMENTS
 ARE NOT IN THE TRAVEL LANE.

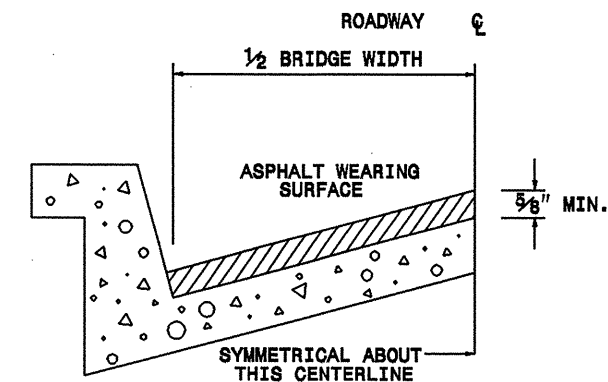
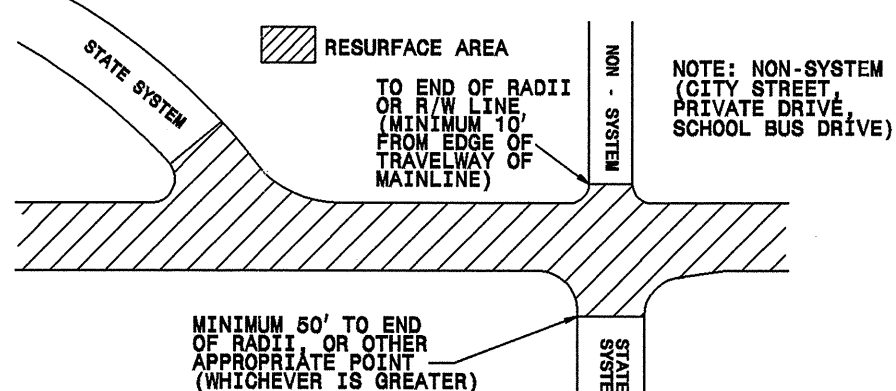


- NOTES:**
- MORTAR SHALL BE MIXED TO NCDOT SPECIFICATIONS.
 - ALL FAULTY EXISTING BRICKWORK TO BE REMOVED AND REPLACED WITH NEW BRICK MASONRY.
 - EXCAVATION FOR THE ADJUSTMENT SHALL BE SHEER CUT ON ALL SIDES.
 - RAPID SET GROUT, MORTAR, OR CONCRETE SHALL BE USED

PAVING DETAIL 1
MAIN LINE IS NOT BEING RESURFACED



PAVING DETAIL 2
MAIN LINE IS BEING RESURFACED



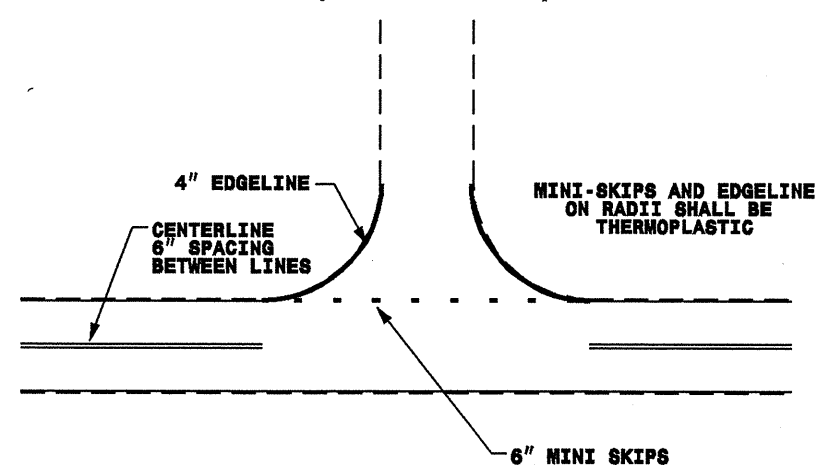
BRIDGE HALF TYPICAL SECTION

FOR BRIDGES WITH FLOOR DRAINS, CARE SHALL BE EXERCISED IN PLACING THE WEARING SURFACE AROUND FLOOR DRAINS SO AS NOT TO HINDER EFFECTIVE DRAINAGE. ALL DRAINS SHALL BE LEFT OPEN. THE PROPOSED WEARING SURFACE SHALL VARY IN THICKNESS AS NECESSARY TO PROVIDE A SMOOTH RIDING SURFACE. A THICKNESS OF NOT LESS THAN 5/8" SHALL BE PROVIDED. THE MAXIMUM THICKNESS SHALL PREFERABLY BE 1-1/2" UNLESS IT IS IMPRACTICAL TO PROVIDE A SMOOTH RIDING SURFACE OTHERWISE.

NOTES

ALL UNPAVED S.R. ROUTES TO BE SURFACED 50' FROM EDGE OF PAVEMENT OF MAIN PROJECT.
 ALL PAVED S.R. ROUTES TO BE RESURFACED TO END OF RADDII, OR AS DIRECTED BY THE ENGINEER. EDGES, PAVEMENT WIDENING, INTERSECTIONS AND BRIDGE FLARES ARE INCLUDED IN THE SUMMARY OF QUANTITIES. BRIDGES TO BE RESURFACED AT LOCATIONS AND DEPTH AS DIRECTED BY THE ENGINEER.

**TO BE USED AT ALL
 NON-SIGNALIZED INTERSECTIONS
 (NOT TO SCALE)**



NOTE: MINI SKIPS SHALL BE PLACED ON A 10' CYCLE, CONTAINING AN 8' AND 2' SKIP, THE WIDTH OF THE SKIP SHALL BE 6".

26-OCT-2006 17:35
 Surfacing Projects Division 7/7er-10011.7rev\steff_eng_typicals.dgn
 11/22/07

PROJECT NO. 7CR.10011.7, 7CR.20011.7	SHEET NO. 9	TOTAL NO. 10
--	-----------------------	-----------------

SUMMARY OF QUANTITIES

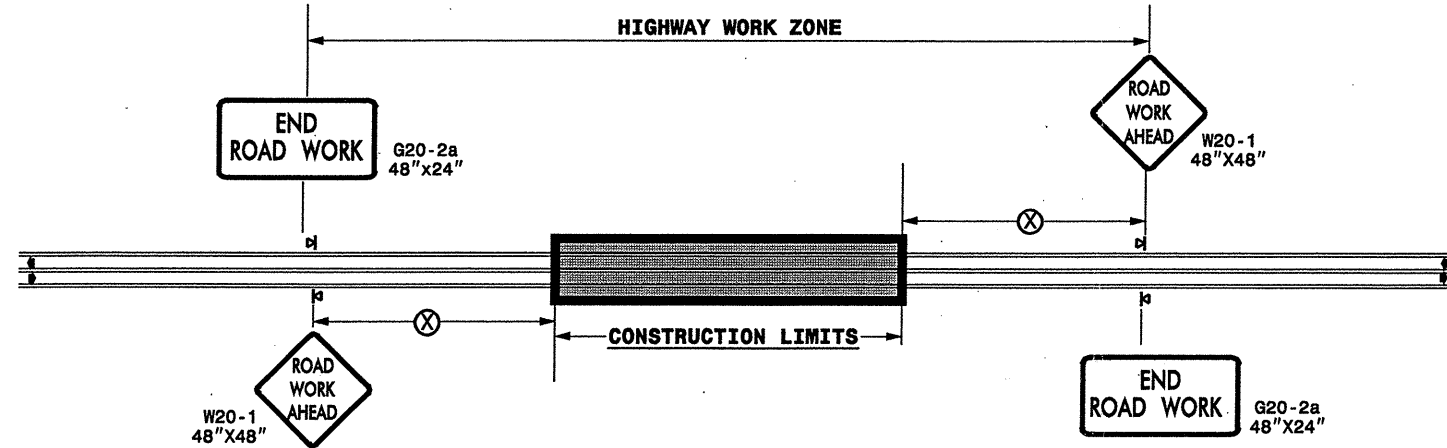
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LENGTH MI	WIDTH FT	INCIDENTAL STONE BASE TONS	SHOULDER RECONSTR SMI	3" MILLING SY	2.5" MILLING SY	0" TO 1" MILLING SY	1.25" MILLING SY	0" TO 2.5" MILLING SY	0" TO 2.25" MILLING SY	0" TO 1.25" MILLING SY	INCIDENTAL MILLING SY	INTERMEDIATE COURSE I19.0B TONS	SURFACE COURSE, S9.5B TONS	SURFACE COURSE, SF9.5A TONS	PG 64-22 PLANT MIX TONS	AST,MAT COAT 78M SY	WHEEL- CHAIR RAMPS EA	RETROFIT EXIST. WHEEL- CHAIR RAMPS EA	ADJ. OF MH EA	ADJ. OF METER OR VALVE BOX EA	PORTABLE LIGHTING LS	SEED & MULCHING AC	RESIDENTIAL SEEDING AC	TRENCHING (UNPAVED (1) (2") LF	JUNC TION BOX EA	INDUCTIVE LOOP SAW CUT LF	LEAD-IN CABLE (18-2) LF	LEAD-IN CABLE (18-4) LF										
7CR.20011.7	Alamance	10	SR 2171 (CHURCH STREET)	FROM NC 87 TO SOUTH EDGE OF BRIDGE OVER HAW RIVER	9	0.75	20	75									139		648.15	39.00																								
					9	0.02	22.5															38.23	2.00	264.00																				
					9	0.07	23.5																66.64	4.00	965.10																			
					9	0.02	25																20.25	1.00	293.30																			
TOTAL FOR MAP NO. 10						0.86		75	0	0	0	0	0	0	0	0	139		773.27	46.00	1,522.40																							
"	"	11	SR 2142	SALEM CHURCH ROAD - FROM JOINT WEST OF NC 54 TO JOINT EAST OF SR 2150 (PAYNE ROAD)	7	0.02	27.5	105												17.80	1.00	306.00																						
					7	0.02	21																13.61	1.00	233.00																			
					7	1.63	20																1,096.28	66.00	19,173.00																			
TOTAL FOR MAP NO. 11						1.67		105	0	0	0	0	0	0	0	0				1,127.69	68.00	19,712.00																						
"	"	12	SR 2150	PAYNE ROAD - FROM SR 2142 (SALEM CHURCH ROAD) TO SR 2158 (SWEPSOONVILLE SAXAPAHAW ROAD)	7	0.653	20	48												483.16	29.00																							
					TOTAL FOR MAP NO. 12																																							
"	"	13	SR 1003	LINDLEY MILL ROAD - FROM JOINT AT SR 2337 (WHITE DRIVE) TO SR 2172 (MOORE'S CHAPEL CEMETARY ROAD)	10	1.411	20	55												1,224.13	73.00																							
					10	0.021	25.5																21.69	1.00																				
					10	0.011	28																12.47	1.00																				
					10	0.011	25																	11.14	1.00																			
TOTAL FOR MAP NO. 13						2.001		55	0	0	0	0	0	0	0	0	311			1,752.97	105.00																							
"	"	14	SR 2405 (BETHEL SOUTHFORK ROAD)	FROM SR 1004 (SNOW CAMP ROAD) TO SR 2328 (THOMPSON MILL ROAD)	9	0.02	45	10												36.38	2.00	528.00																						
					9	0.51	20																433.54	26.00	5,984.00																			
TOTAL FOR MAP NO. 14						0.53		10	0	0	0	0	0	0	0	0				469.92	28.00	6,512.00																						
"	"	15	SR 2328 (THOMPSON MILL ROAD)	FROM SR 2351 BETHEL SOUTHFORK ROAD) TO SR 2327 (BASS MOUNTAIN ROAD)	9	1.85	20	103												1,500.11	90.00	21,706.70																						
					9	2.23	21	125															1,898.18	114.00	27,473.60																			
					9	0.03	24.5																29.77	2.00	431.20																			
					9	0.02	27																	21.86	1.00	316.80																		
					9	0.02	24																	19.44	1.00	281.60																		
TOTAL FOR MAP NO. 15						4.71		228	0	0	0	0	0	0	0				3,943.45	236.00	56,780.60																							
"	"	16	SR 1130 (FRIENDSHIP PATTERSON MILL ROAD)	FROM NC 62 TO NC 49	6	1.22	24	83												1,450.43	87.00																							
					6	0.01	26																12.87	1.00																				
					6	0.03	26																12.87	1.00																				
					6	0.01	26																	59.44	4.00																			
					6	0.05	24																	2,046.19	123.00																			
TOTAL FOR MAP NO. 16						3.16		83	0	0	0	0	0	0	0	244			3,581.80	216.00																								
"	"	17	SR 1005 (GSO CHAPEL HILL ROAD)	FROM NC 49 TO THE GUILFORD COUNTY LINE	6	1.1	20	10												1,150.94	69.00																							
					6	2.23	22	140															2,491.41	149.00																				
					6	0.01	24																	11.89	1.00																			
					6	0.32	23.5																	392.56	24.00																			
					6	0.02	33.5																	33.14	2.00																			
					6	0.01	56																	27.66	2.00																			
					6	0.01	23																	11.40	1.00																			
TOTAL FOR MAP NO. 17						3.78		150												4,229.23	255.00																							
TOTAL FOR PROJ NO. 7CR.20011.7						21.766		1013	0.46											8,949.10	11,740.49	1,243.00	126,821.30				1																	
GRAND TOTAL						29.32		1196	4.59	132	1080	3224	1526	17106	5911	3056	927	24	25,121.00	11,764.00	2,275.00	161,970.00	1.00	10.00	84	83	1	2	2	7,150	4	4,670	350	300										

PROJECT NO.	SHEET NO.	TOTAL NO.
7CR.10011.7, 7CR.20011.7	10	10

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT	COUNTY	MAP	ROUTE	DESCRIPTION	4685000000-E		4686000000-E			4690000000-E		4695000000-E		4702000000-E	4710000000-E		4721000000-E		4725000000-E					4810000000-E	4810000000-E	
					4" X 90 M WHITE THERMO	4" X 90 M YELLOW THERMO	4" X 120 M YELLOW THERMO	4" X 120 M WHITE THERMO	8" X 120 M WHITE THERMO	6" X 120 M WHITE THERMO	6" X 120 M YELLOW THERMO	8" X 90 M YELLOW THERMO	8" X 90 M WHITE THERMO	12" X 120 M WHITE THERMO	24" X 120 M WHITE THERMO	24" X 120 M YELLOW THERMO	THERMO MSG ONLY 120 M	THERMO MSG SCHOOL 120 M	THERMO LT ARROW 90 M	THERMO RT ARROW 90 M	THERMO STR ARROW 90 M	THERMO MERGE LEFT ARROW 90 M	THERMO STR & RT ARROW 90 M	THERMO STR & LT ARROW 90 M	4" WHITE PAINT	4" YELLOW PAINT
7CR.10011.7	Alamance	1	US 70 (NORTH CHURCH STREET)	FROM SR 1802 (STONE QUARRY ROAD) TO SR 1716 (GRAHAM-HOPEDALE ROAD)			13,656	5,479					218	120	405		4		67	6	24	2	10			
"	"	2	NC 49 (ELM STREET)	FROM NC 54 (EAST HARDEN STREET) TO A PAVEMENT JOINT NORTH OF SR 2396 (PARKER STREET)			3,960	2,454		44					75		12		3	7	9		3			
"	"	3	NC 54 (EAST HARDEN STREET)	FROM PAVEMENT JOINT NORTH OF GUNTER STREET (NON-SYSTEM) TO PAVEMENT JOINT NORTH OF SR 2217 (WOODY DRIVE)			5,321	2,413					415		303				7	27			9	7		
"	"	4	NC 87 (SOUTH MAIN STREET)	FROM SR 2304 (AUTO PARK DRIVE) TO PINE STREET (NON-SYSTEM)	66	256	7,477	3,151							350		572		48		29	13	45		6	
"	"	5	NC 49	FROM PAVEMENT JOINT SOUTH OF SR 1117 (FRIENDSHIP ROCK CREEK ROAD) TO SR 1130 (FRIENDSHIP PATTERSON MILL ROAD)																						
TOTAL FOR PROJ NO. 7CR.10011.7					43,610	256	68,113	13,497		178	64	633	350	120	1,355		64		106	53	78	2	28	7		
					43,932		81,610			286	983			1,355		64		106	53	78	2	28	7			
7CR.20011.7	Alamance	6	SR 1943	TROLLINGER ROAD - FROM SR 1941 (TOWN BRANCH ROAD) TO NEW PAVEMENT JOINT .34 MILES WEST OF SR 1941 (TOWN BRANCH ROAD)																				7,120	7,120	
"	"	7	SR 2108	CONSTRUCTION JOINT TO CONSTRUCTION JOINT																						
"	"	8	SR 2184/SR 2420	INTERSTATE SERVICE ROAD EAST/CRESCENT SQUARE DRIVE - FROM SR 2100 (GILBREATH STREET) TO NC 87	8,220		11,739	124					200		26	12			9				2			
"	"	9	SR 2158	SWEPSONVILLE SAXAPAHAW ROAD - FROM SR 2166 (DAVIS ROAD) TO SR 2171 (CHURCH STREET)	1,100					182														64,268	64,616	
"	"	10	SR 2171 (CHURCH STREET)	FROM NC 87 TO SOUTH EDGE OF BRIDGE OVER HAW RIVER	300					124					124			12						17,764	15,412	
"	"	11	SR 2142	SALEM CHURCH ROAD - FROM JOINT WEST OF NC 54 TO JOINT EAST OF SR 2150 (PAYNE ROAD)	200					36														35,312	32,431	
"	"	12	SR 2150	PAYNE ROAD - FROM SR 2142 (SALEM CHURCH ROAD) TO SR 2158 (SWEPSONVILLE SAXAPAHAW ROAD)	300					48														13,500	12,743	
"	"	13	SR 1003	LINDLEY MILL ROAD - FROM JOINT AT SR 2337 (WHITE DRIVE) TO SR 2172 (MOORE'S CHAPEL CEMETARY ROAD)	600					102														41,680	36,329	
"	"	14	SR 2405 (BETHEL SOUTHFORK ROAD)	FROM SR 1004 (SNOW CAMP ROAD) TO SR 2328 (THOMPSON MILL ROAD)	100					16														11,040	8,375	
"	"	15	SR 2328 (THOMPSON MILL ROAD)	FROM SR 2351 BETHEL SOUTHFORK ROAD TO SR 2327 (BASS MOUNTAIN ROAD)																				39,040	29,250	
"	"	16	SR 1130 (FRIENDSHIP PATTERSON MILL ROAD)	FROM NC 62 TO NC 49	200					38														66,300	53,679	
"	"	17	SR 1005 (GREENSBORO CHAPEL HILL ROAD)	FROM NC 49 TO THE GUILFORD COUNTY LINE	500					98														78,600	71,412	
TOTAL FOR PROJ NO. 7CR.20011.7					11,520		11,739	124		644		200			150	12		12	9			2		374,624	331,367	
					11,520		11,863			644		200			162		12		11			2		374,624	331,367	
GRAND TOTAL					55,196	256	79,852	13,621		866	64	833	350	120	1,505	12	64	12	115	53	78	2	30	7	374,624	331,367
					55,452		93,473			930		1,183			1,517		76		285					705,991		

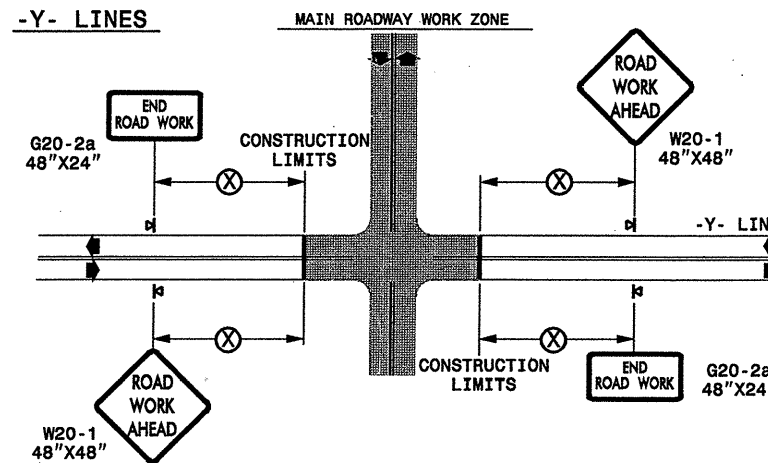
TWO-WAY UNDIVIDED ** (L-LINES)



POSTED SPEED LIMIT (M.P.H.)	RECOMMENDED MINIMUM SIGN SPACING
≤ 50	500'
≥ 55	1000'

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAYS INTERSECTING ALONG 2 WAY UNDIVIDED WORK ZONE (Y-LINES)



GENERAL NOTES

- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCED WORK ZONE SIGNS.
- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE PORTABLE WORK ZONE SIGNS ONLY WITH PORTABLE WORK ZONE SIGN STANDS SPECIFICALLY DESIGNED FOR ONE ANOTHER. PORTABLE WORK ZONE SIGNS MAY BE ROLL UP OR APPROVED COMPOSITE.
- PROVIDE PORTABLE WORK ZONE SIGN STANDS, PORTABLE SIGNS AND SIGN SHEETING WHICH ARE LISTED ON THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION'S APPROVED PRODUCT LIST OR ACCEPTED AS TRAFFIC QUALIFIED BY THE TRAFFIC CONTROL UNIT.
- ** TWO-WAY UNDIVIDED ADVANCE WARNING SIGN CONFIGURATION MAY BE USED ON URBAN MULTI-LANE FACILITIES WHERE CONDITIONS LIMIT THE USE OF DUAL MOUNTED SIGNS AS DETERMINED BY THE ENGINEER.

LEGEND

- ◀ PORTABLE SIGN
- ➔ DIRECTION OF TRAFFIC FLOW

DETAIL DRAWING
FOR TWO-WAY UNDIVIDED
WORK ZONE WARNING SIGNS

SHEET 1 OF 1

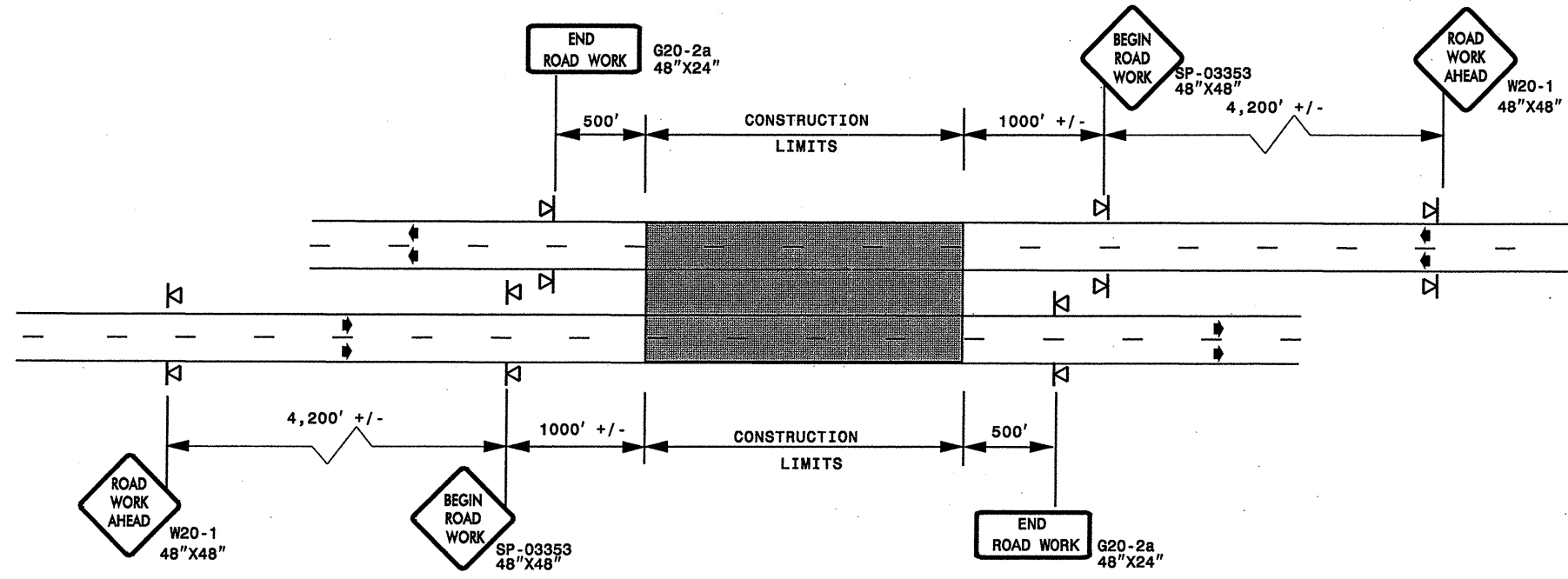
APPROVED: _____	DATE: _____
DETAIL DRAWING FOR TWO-WAY UNDIVIDED ADVANCED WORK ZONE WARNING SIGNS	
SCALE: NONE	REVISIONS
DATE: 7-98	10/01
DWG. BY:	10-98 03/04
DESIGN BY:	01/01 11/04
REVIEWED BY:	



04-OCT-2006 10:07
 \\dot\dfs\00101\GROUPS-WZT\CC\design\resurfacing\resurfacing2006\div07\7cr10011\2wayundivurbfrwys\july2006.dgn
 pseymore AT WZTC206427

ADVANCED WORK ZONE WARNING SIGNING FOR FREEWAYS (4 LANES OR GREATER)

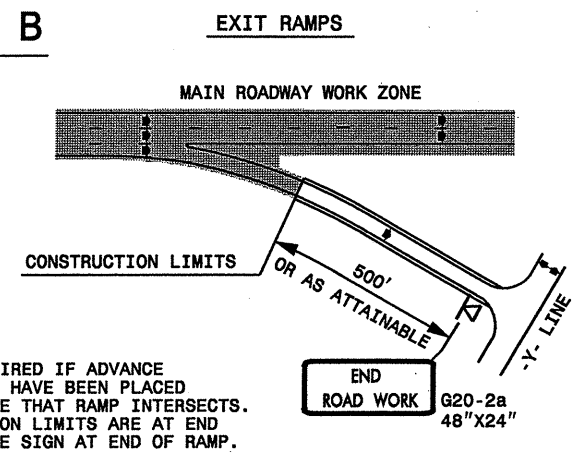
DETAIL A



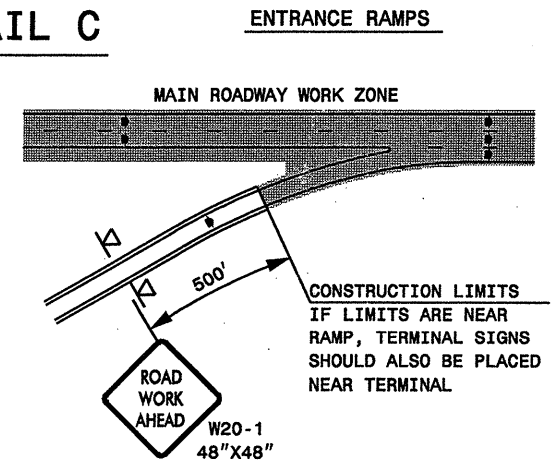
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAYS INTERSECTING ALONG FREEWAY WORK ZONE (Y-LINES)

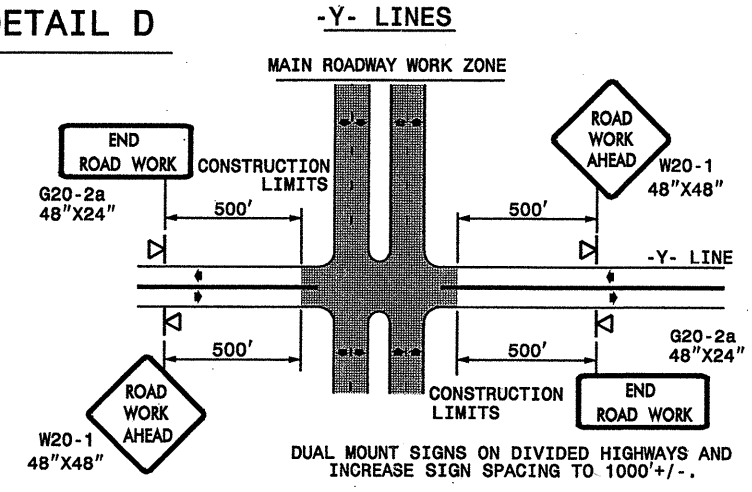
DETAIL B



DETAIL C



DETAIL D



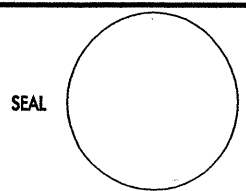
GENERAL NOTES

- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCED WORK ZONE SIGNS.
- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE PORTABLE WORK ZONE SIGNS ONLY WITH PORTABLE WORK ZONE SIGN STANDS SPECIFICALLY DESIGNED FOR ONE ANOTHER. PORTABLE WORK ZONE SIGNS MAY BE ROLL UP OR APPROVED COMPOSITE.
- PROVIDE PORTABLE WORK ZONE SIGN STANDS, PORTABLE SIGNS AND SIGN SHEETING WHICH ARE LISTED ON THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION'S APPROVED PRODUCT LIST OR ACCEPTED AS TRAFFIC QUALIFIED BY THE TRAFFIC CONTROL UNIT.
- ** TWO-WAY UNDIVIDED ADVANCE WARNING SIGN CONFIGURATION MAY BE USED ON MULTI-LANE FACILITIES WHERE CONDITIONS LIMIT THE USE OF DUAL MOUNTED SIGNS AS DETERMINED BY THE ENGINEER.

LEGEND

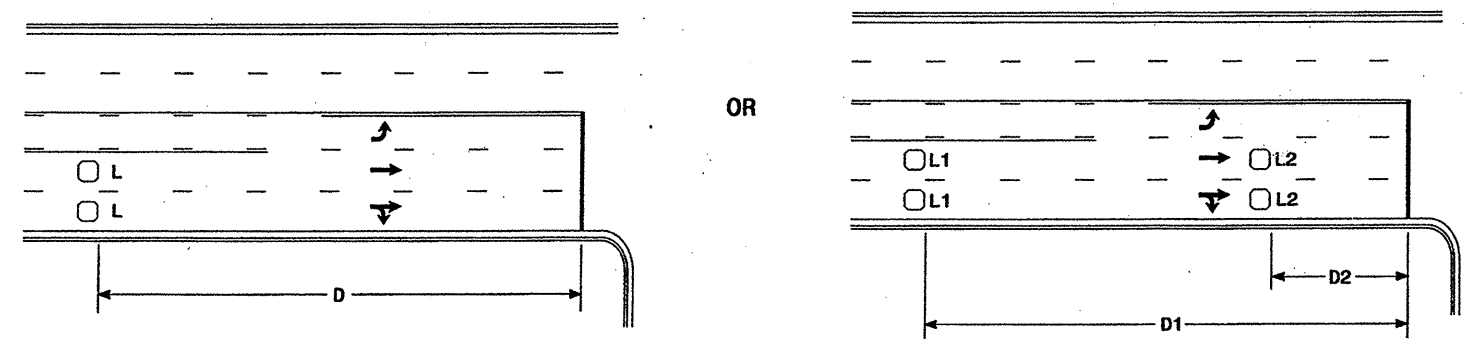
- ◁ PORTABLE SIGN
- ➔ DIRECTION OF TRAFFIC FLOW

**DETAIL DRAWING
FOR FREEWAYS
WORK ZONE WARNING SIGNS
(SHORT-DURATION LANE CLOSURES)**

APPROVED: _____	DATE: _____
	
DETAIL DRAWING FOR FREEWAYS WORK ZONE WARNING SIGNS	
SCALE: NONE	REVISIONS
DATE: _____	7-98 10/01
DWG. BY: _____	10-98 03/04
DESIGN BY: _____	01/01 11/04
REVIEWED BY: _____	

03-OCT-2006 16:48 \\001\DFS\ROOT\GROUPS-WZTCCC\design\group4\Common4\Resurfacing\Resurfacing2006\01v07\TCR100117freewayesgrreatJuly2006.dgn

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

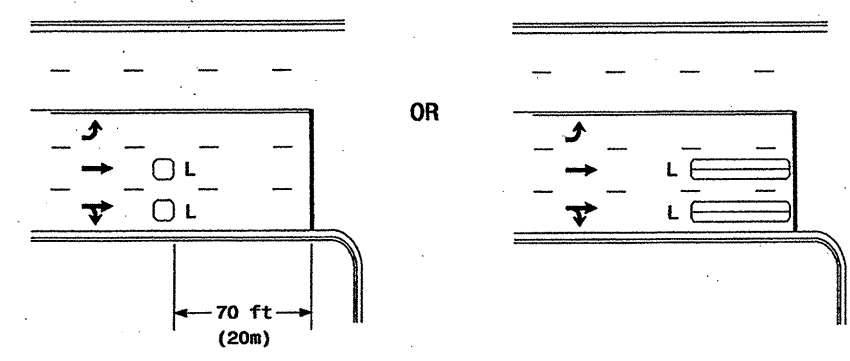
Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

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

Volume Density Operation

"Stretch" Operation

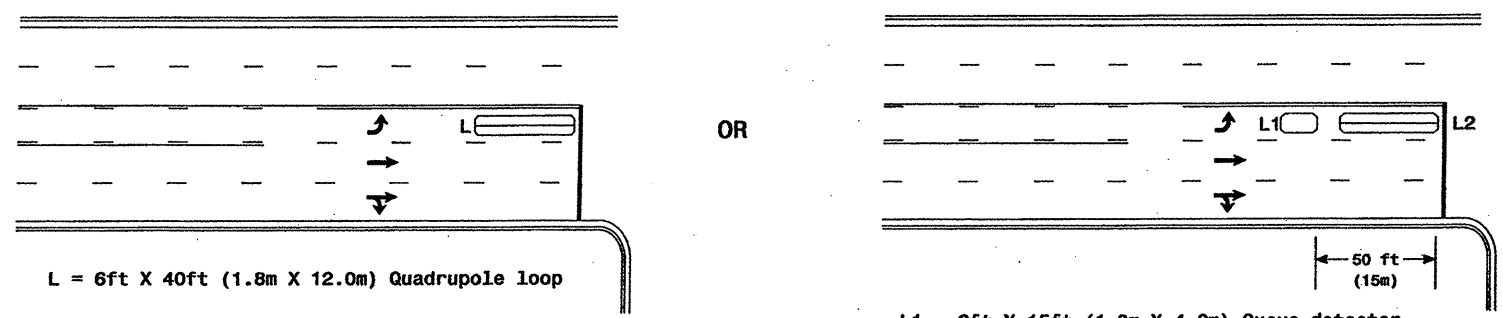
Low Speed Detection [≤35 mph (56 km/hr)]



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

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

Left Turn Lane Detection



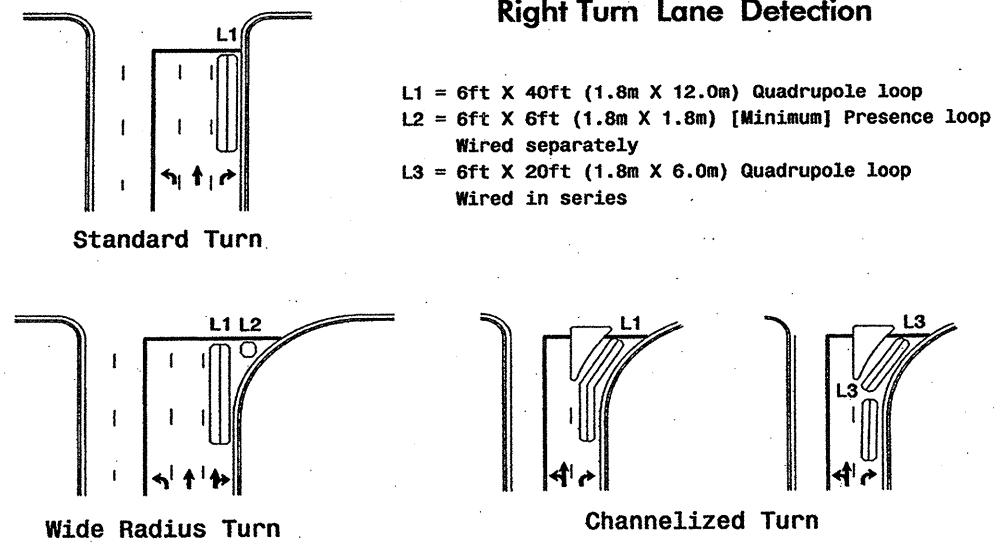
L = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop

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

Presence Loop Detection

Queue Loop Detection

Right Turn Lane Detection



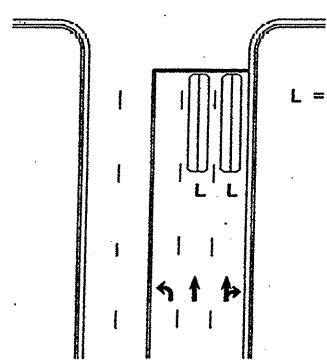
L1 = 6ft X 40ft (1.8m X 12.0m) Quadrupole loop
L2 = 6ft X 6ft (1.8m X 1.8m) [Minimum] Presence loop
Wired separately
L3 = 6ft X 20ft (1.8m X 6.0m) Quadrupole loop
Wired in series

Standard Turn

Wide Radius Turn

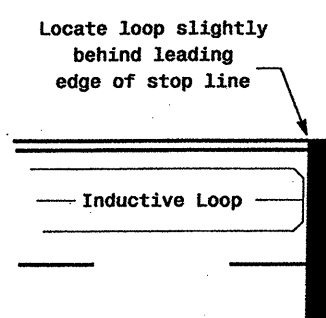
Channelized Turn

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

Inductive Loop


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

Prepared in the Office of

 STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 SAFETY AND GEOMETRIC SERVICES
 122 N. McDowell St., Raleigh, NC 27603

PLAN DATE: June 2006 REVIEWED BY:
 PREPARED BY: P. L. Alexander REVIEWED BY:
 REVISIONS: INIT. DATE
 SCALE: N/A
 SIGNATURE: DATE
 SIG. INVENTORY NO.

Typical Loop Locations

SEAL
 STATE OF NORTH CAROLINA
 PROFESSIONAL ENGINEER
 SEAL 23489
 P. L. Alexander
 DATE 6/6/06