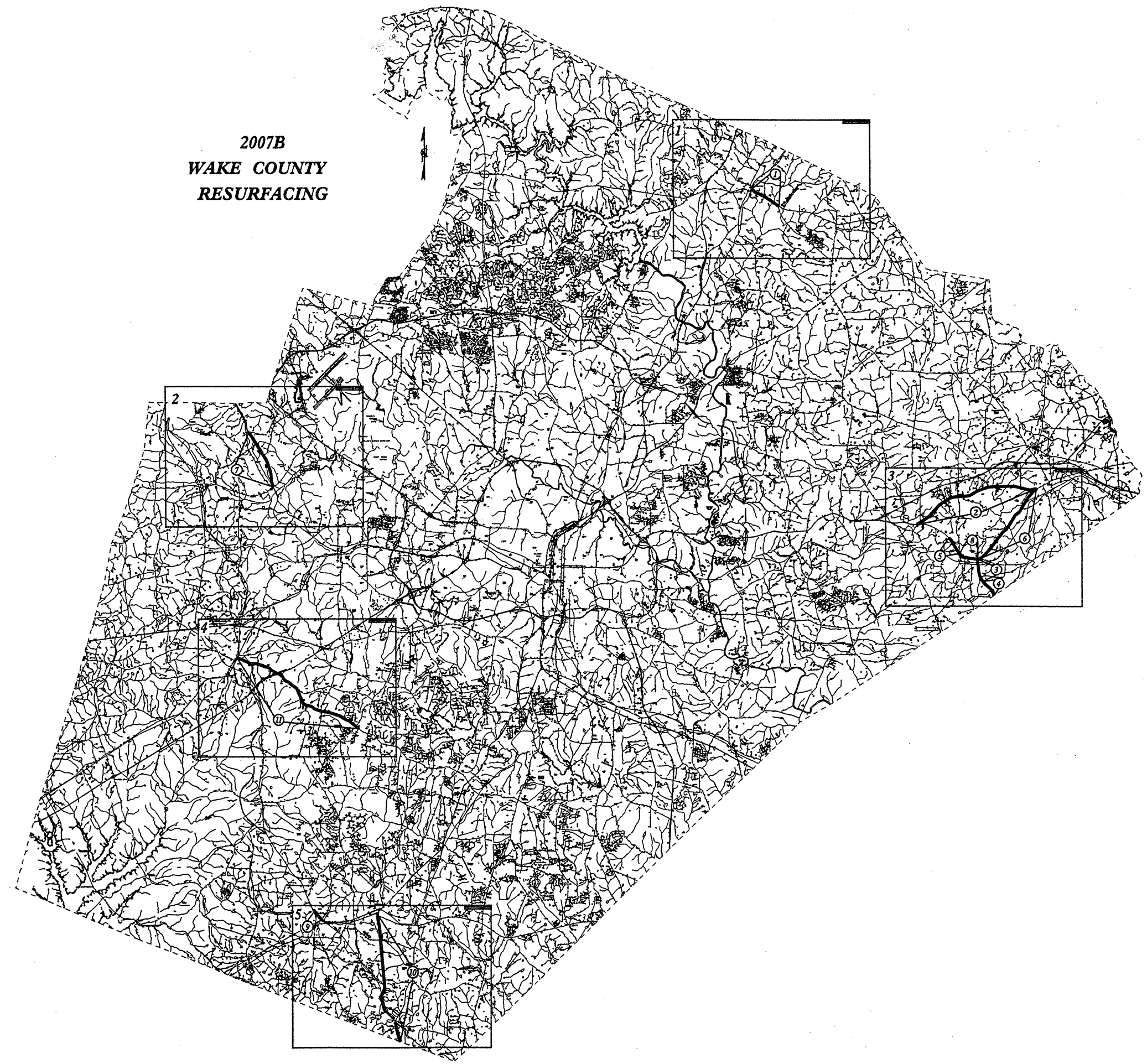


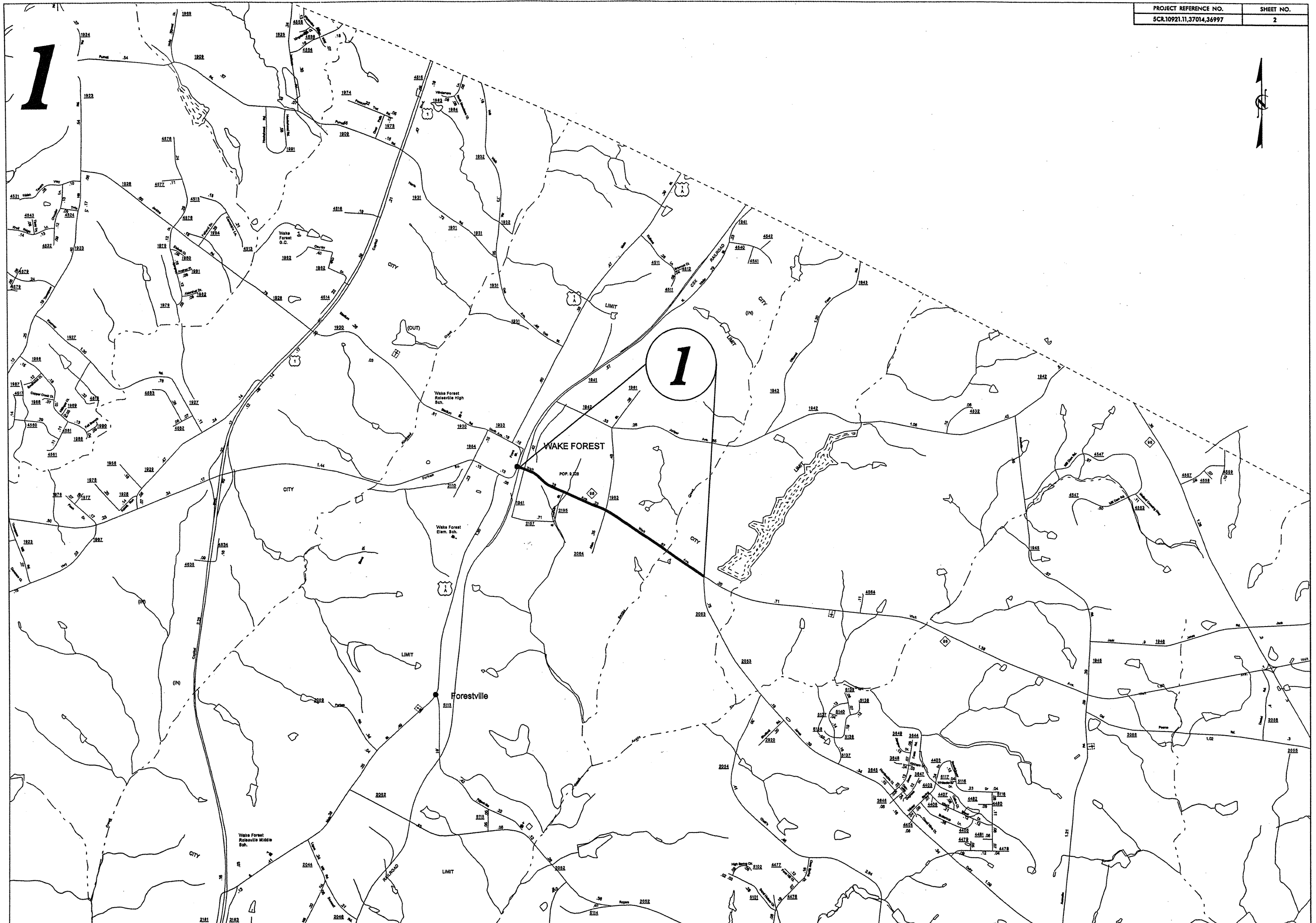
**2007B
WAKE COUNTY
RESURFACING**

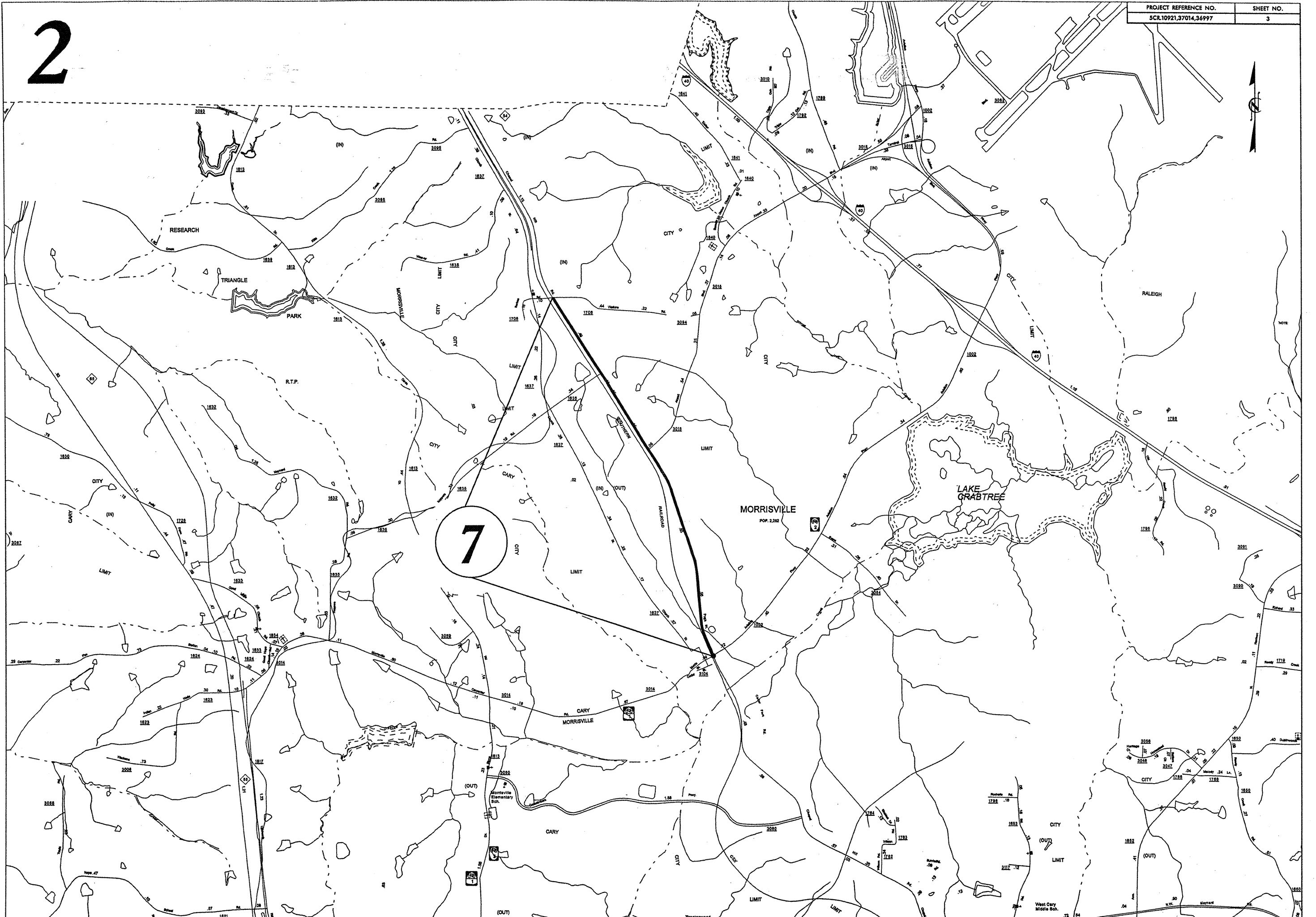


1



1





3

2

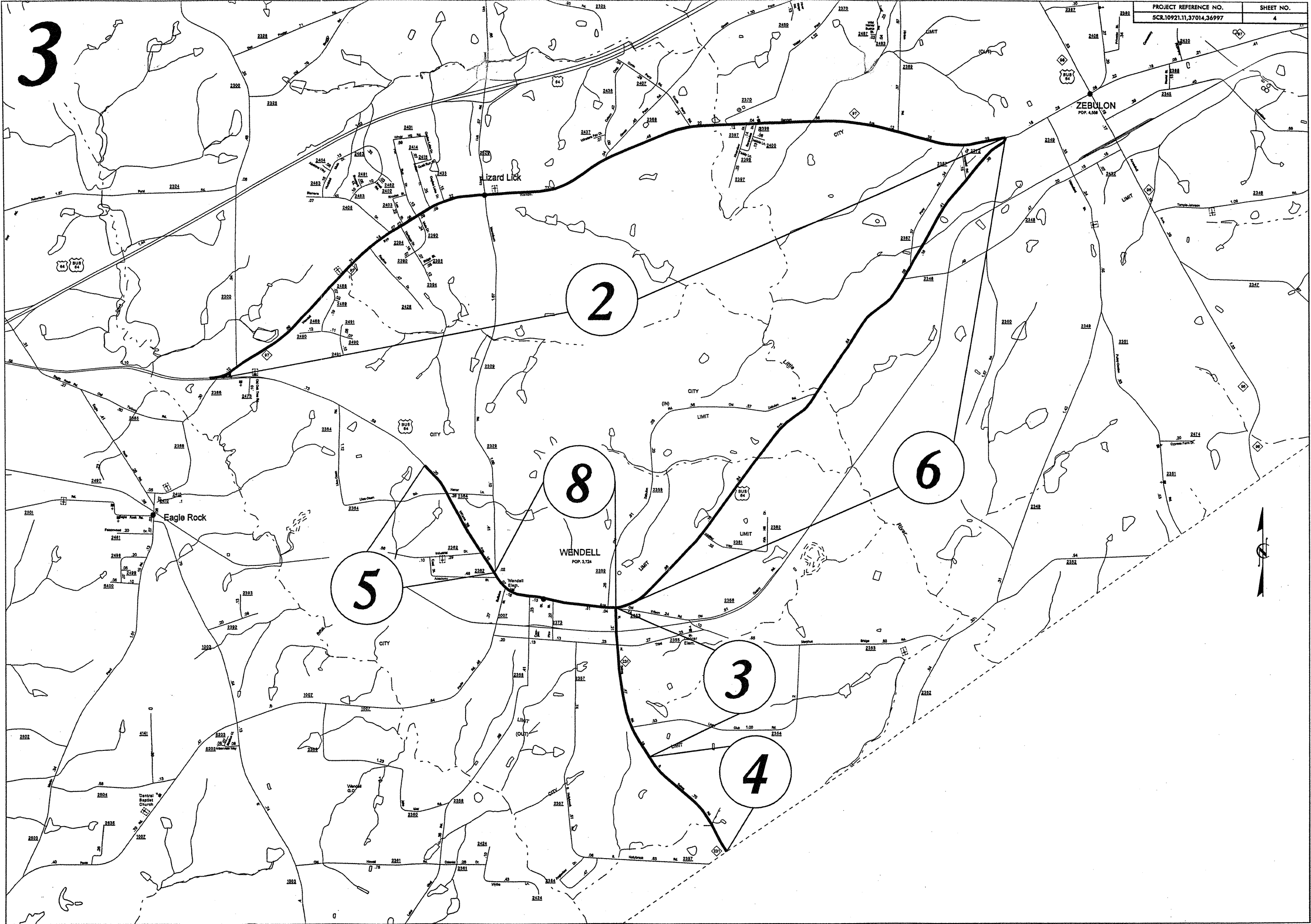
8

6

5

3

4



Lizard Lick

ZEBULON
POP. 4,500

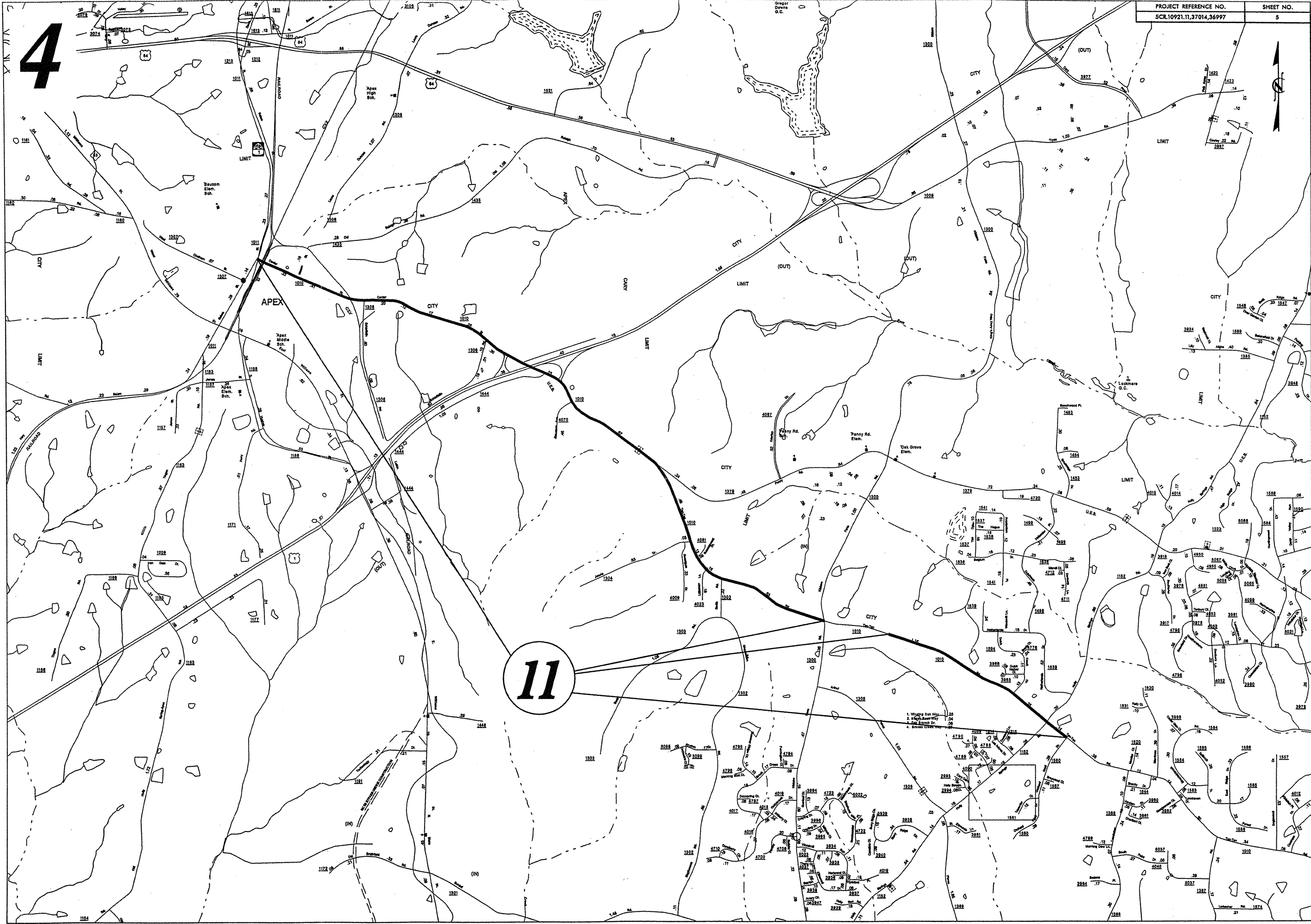
Eagle Rock

WENDELL
POP. 3,724

Central Baptist Church

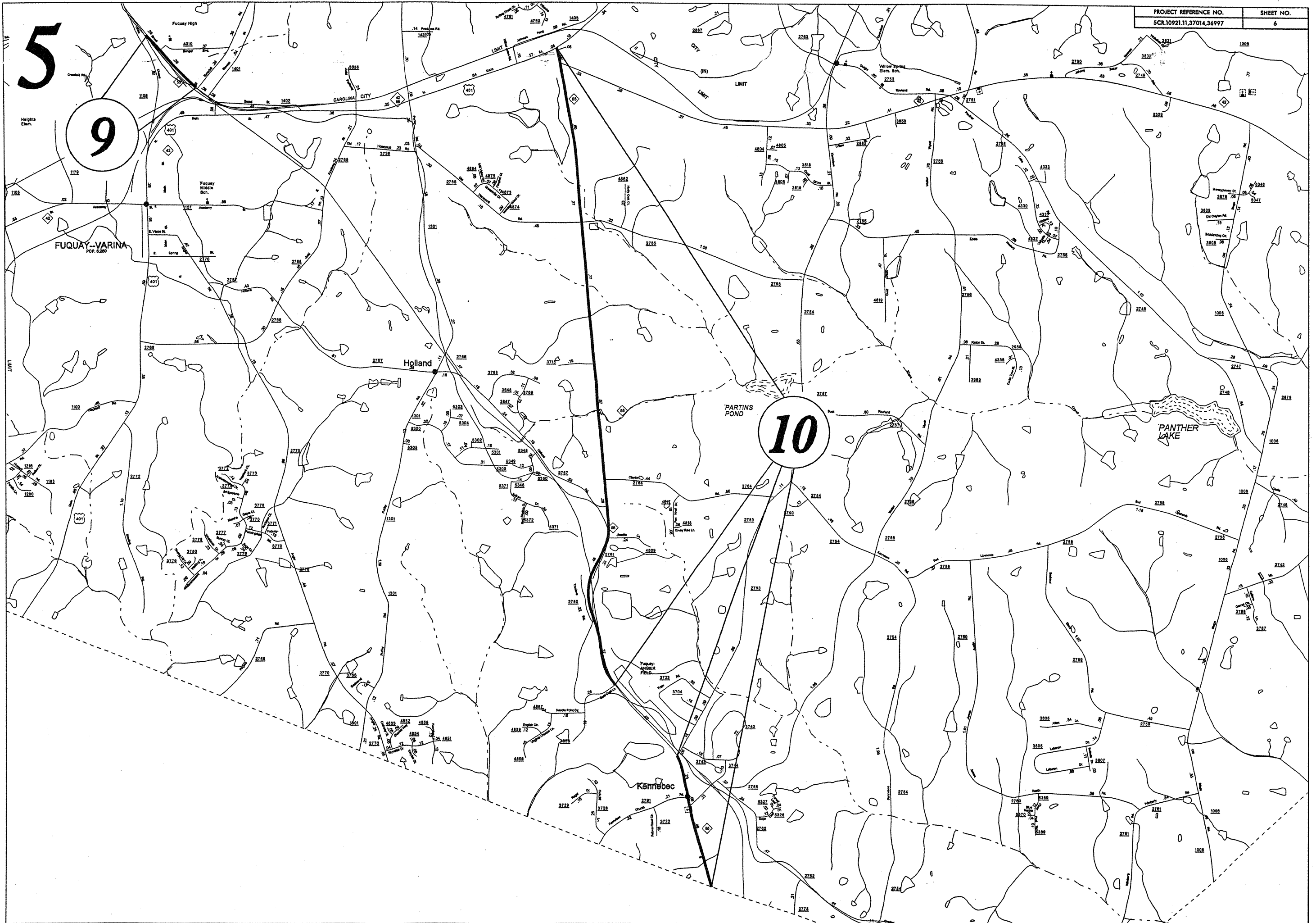


4



11

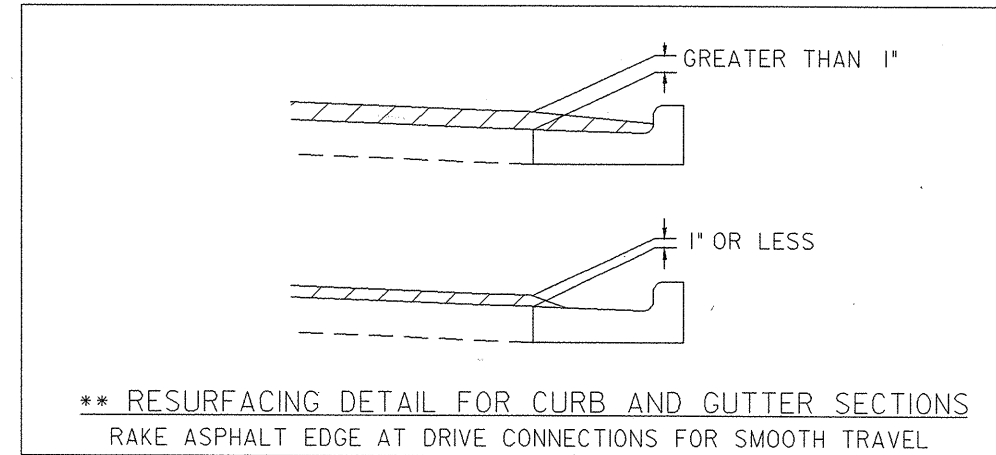
5
9



PAVEMENT SCHEDULE

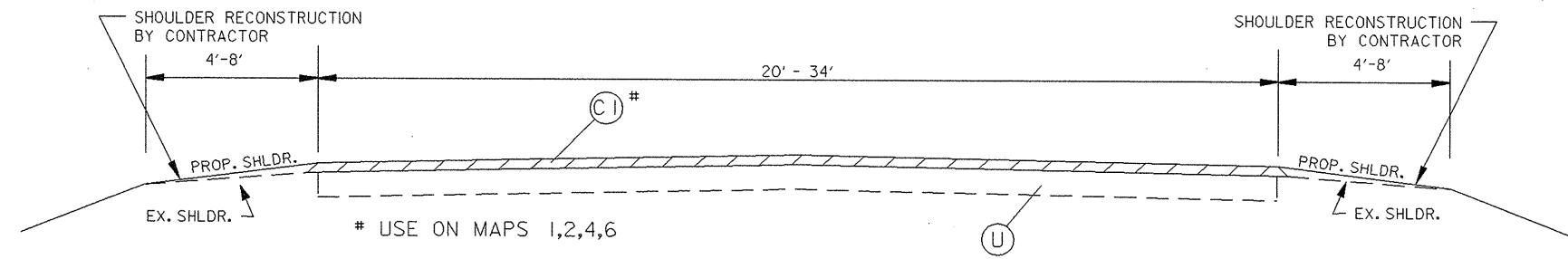
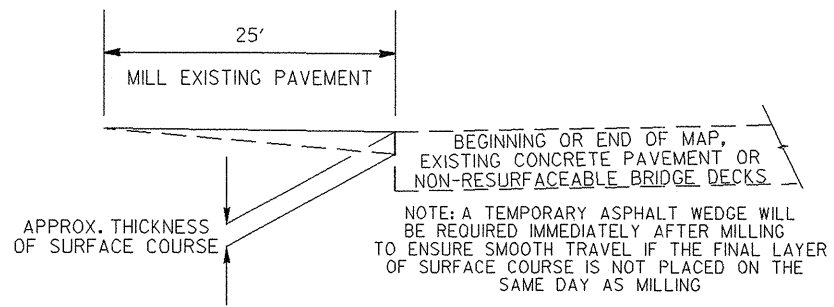
(C1)	PROP. APPROX. 1-1/2" ASPH. CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
(C2)	PROP. APPROX. 2" ASPH. CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
(V1)	MILL 0" TO 3" IN DEPTH
(V2)	MILL 1.5" IN DEPTH
(U)	EXISTING PAVEMENT

PROJ. REFERENCE NO. 5CR. 10921.11, etc.	SHEET NO. 7	TOTAL SHEETS 10
STATE PROJ. NO. 37014	F.A. PROJ. NO.	DESCRIPTION
36997		

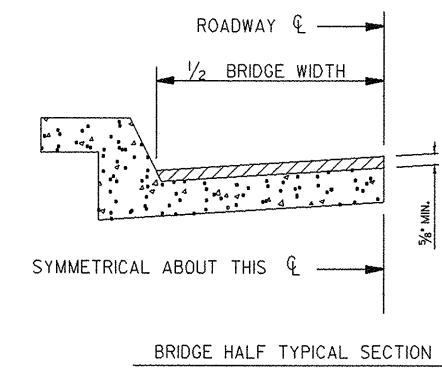


NOTES

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

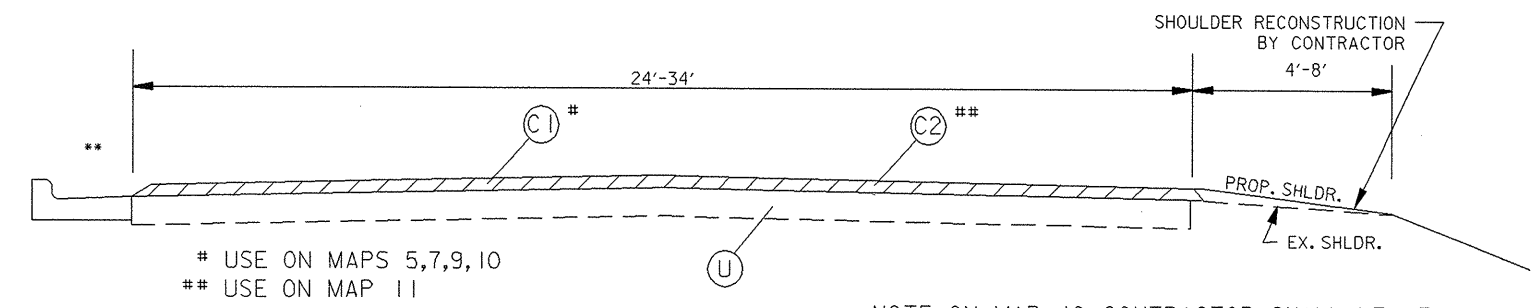


TYPICAL SECTION NO. 1



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.

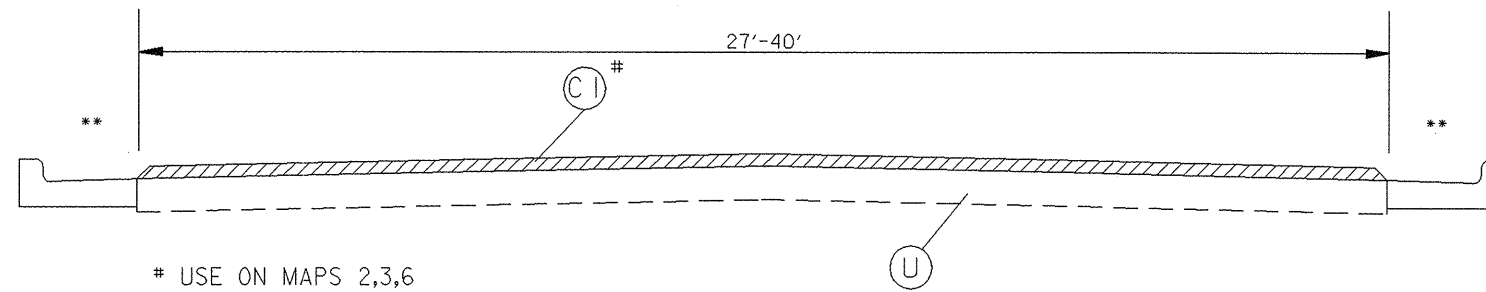
THE PROPOSED WEARING SURFACE SHALL VARY IN THICKNESS AS NECESSARY TO PROVIDE A SMOOTH RIDING SURFACE. A THICKNESS OF NOT LESS THAN 5/8" SHALL BE PROVIDED. THE MAXIMUM THICKNESS SHALL PREFERABLY BE 1 1/2" UNLESS IT IS IMPRACTICAL TO PROVIDE A SMOOTH RIDING SURFACE OTHERWISE.



NOTE: ON MAP 10, CONTRACTOR SHALL LEAVE SECTION OUT THAT WILL BE RESURFACED BY THE DEVELOPER AT THE AIRPORT

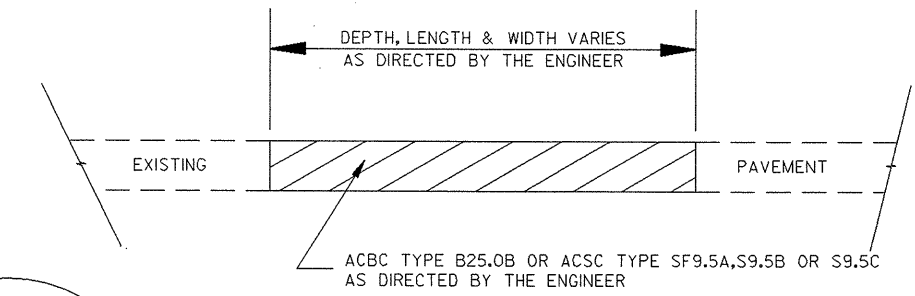
TYPICAL SECTION NO. 2

PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
5CR.10921.11, etc.	8	10
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
370 14		
36997		

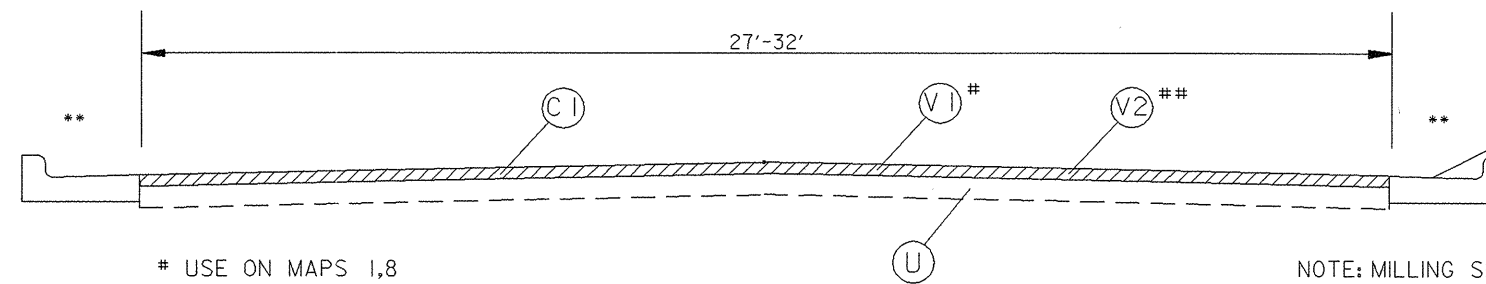
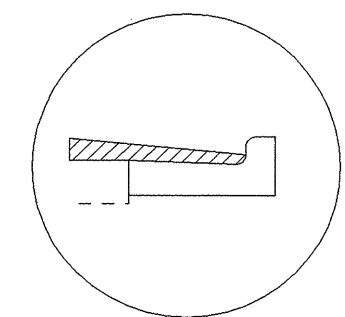


USE ON MAPS 2,3,6

TYPICAL SECTION NO. 3



PATCHING EXISTING PAVEMENT



USE ON MAPS 1,8
USE ON MAP 11

NOTE: MILLING SHOULD INCLUDE THE AREAS OF CURB AND GUTTER THAT HAS ASPHALT CONC. SURFACE COURSE WITHIN IT, AS DIRECTED BY THE ENGINEER

TYPICAL SECTION NO. 4

NOTE: MILLING ON MAP 10 SHOULD BE FROM NORTH SALEM ST. TO END OF CURB AND GUTTER SECTION OR AS DIRECTED BY THE ENGINEER, THEN CONTINUE WITH MAP 10 USING TYPICAL SECTION NO. 2

PROJECT NO.	SHEET NO.	TOTAL NO.
5CR.10921.11, 37014, 36997	9	10

SUMMARY OF QUANTITIES

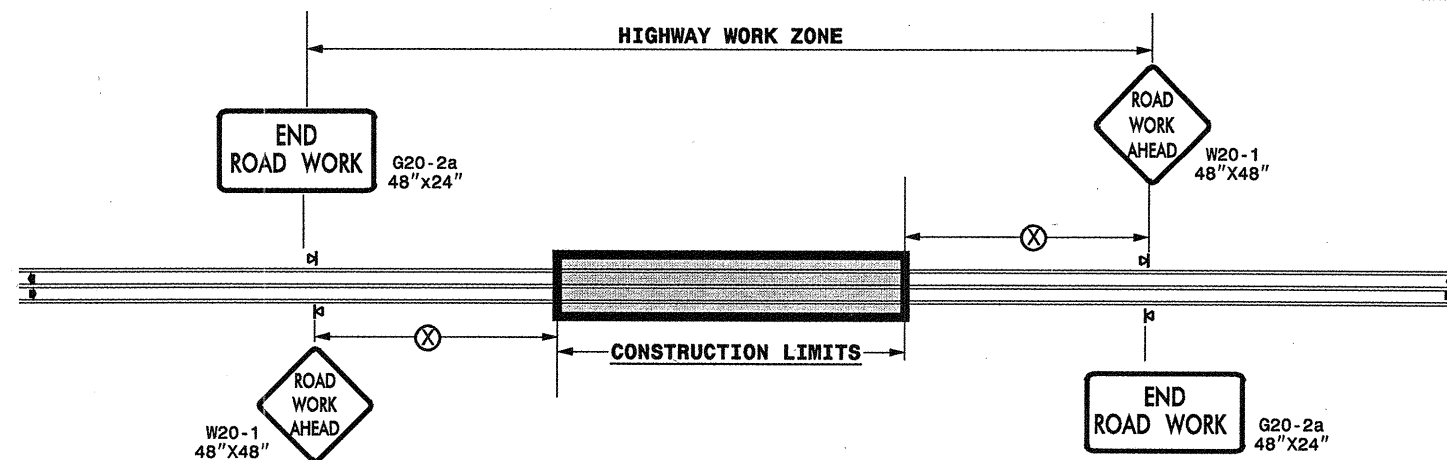
PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP NO	LENGTH MI	WIDTH FT	INCIDENTAL STONE BASE TONS	SHOULDER RECONSTRUCTION SMI	1½" MILLING SY	0" TO 3" MILLING SY	INCIDENTAL MILLING SY	SURFACE COURSE, S9.5B TONS	PG 64-22 PLANT MIX TONS	PATCHING EXISTING PAVEMENT TONS	ADJ. OF CATCH BASIN EA	ADJ. OF MANHOLES EA	ADJ. OF METER OR VALVE BOX EA	SEED & MULCHING AC	INDUCTIVE LOOP LF
5CR.10921.11	Wake	1	NC98	FROM FRONT ST. TO NC98 BYPASS	1,4	1.07	26	25	1.06		9,504		1,561	94	131		18	11	0.79	100
		2	NC97	FROM US64 BUSINESS TO C&G SECTION IN ZEBULON	1,3	4.64	29	232	9.28			1,500	6,310	379	1,044		1	5	6.77	
		3	NC231	FROM US64 BUSINESS TO WENDELL CITY LIMITS	1,3	0.85	27	32	0.65			200	1,207	72	211		1		1.00	
		4	NC231	FROM WENDELL CITY LIMITS TO JOHNSTON COUNTY LINE	1	0.6	20	30	1.2			130	655	39	149				0.88	
		5	US64 BUSINESS	FROM WENDELL CITY LIMITS TO SR2329 - MARSHBURN RD.	2	0.71	28	10	0.78			265	1,096	66	105		6	4	0.60	
		6	US64 BUSINESS	FROM NC231 TO NC97	1,3	3.44	24 - 32	160	6.4			330	4,817	289	792		2	4	4.67	
		7	NC54	FROM SR1002 - AVIATION PARKWAY TO I-540 PROJECT	2	2.47	24	124	4.94			265	4,512	271	611		4	14	3.61	
		8	US64 BUSINESS	FROM SR2329 - MARSHBURN RD. TO NC231	1,4	0.7	27				9,030		1,029	62			18	14		200
		9	NC55	FROM PAVEMENT JOINT IN FRONT OF FUQUAY HIGH SCHOOL TO PAVEMENT JOINT IN FUQUAY	2	0.3	24	10	0.4			400	499	30	75		3	1	0.30	
TOTAL FOR PROJ NO. 5CR.10921.11						14.78		623	24.71		18,534	3,090	21,686	1,302	3,118		53	53	18.62	300
37014	Wake	10	NC 55	FROM US 401 TO HARNETT COUNTY LINE - RESTRIPE W/ CONTINUOUS CENTER TURN LANE	1,2	4.43	34	222	8.61			1,600	8,831	530	880		2		6.47	
TOTAL FOR PROJ NO. 37014						4.43		222	8.61			1,600	8,831	530	880		2		6.47	
36997	Wake	11	SR1010	FROM NORTH SALEM ST. IN APEX TO CONSTRUCTION JOINT AT ORCHARD KNOLL DR.	2,4	5.5	28	100	4	6,571		1,386	15,000	900	500	1	15	16	2.92	100
TOTAL FOR PROJ NO. 36997						5.5		100	4	6,571		1,386	15,000	900	500	1	15	16	2.92	100
GRAND TOTAL						24.71		945	37.32	6,571	18,534	6,076	45,517	2,732	4,498	1	70	69	28.01	400

PROJECT NO.	SHEET NO.	TOTAL NO.
5CR.10921.11, 37014, 36997	10	10

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	4685000000-E	4686000000-E		4695000000-E	4697000000-E		4705000000-E	4710000000-E	4721000000-E			4725000000-E					4810000000-E	4900000000-N		
					4" X 90 M WHITE THERMO LF	4" X 120 M YELLOW THERMO LF	4" X 120 M WHITE THERMO LF	8" X 90 M YELLOW THERMO LF	8" X 120 M WHITE THERMO LF	8" X 120 M YELLOW THERMO LF	16" X 120 M WHITE THERMO LF	24" X 120 M WHITE THERMO LF	THERMO MSG SCHOOL 120 M EA	THERMO MSG ONLY 120 M EA	THERMO RXR 120 M EA	THERMO LT ARROW 90 M EA	THERMO RT ARROW 90 M EA	THERMO STR & RT ARROW 90 M EA	THERMO STR ARROW 90 M EA	THERMO STR & LT ARROW 90 M EA	4" YELLOW PAINT LF	YELLOW & YELLOW MARKERS EA	CRYSTAL & RED MARKERS EA	
5CR.10921.11	Wake	1	NC98	FROM FRONT ST. TO NC98 BYPASS	5,703	7,062		200				88				14	2	6				3,564	71	
		2	NC97	FROM US64 BUSINESS TO C&G SECTION IN ZEBULON	49,926	36,498		500				120	6			40	2	2					365	
		3	NC231	FROM US64 BUSINESS TO WENDELL CITY LIMITS	9,146	5,610						30				2	2						56	
		4	NC231	FROM WENDELL CITY LIMITS TO JOHNSTON COUNTY LINE	6,456	3,960																	40	
		5	US64 BUSINESS	FROM WENDELL CITY LIMITS TO SR2329 - MARSHBURN RD.	4,160	7,200		240	48			190	6			22		6	3				75	
		6	US64 BUSINESS	FROM NC231 TO NC97	34,432	22,704		500				70	12			9							454	
		7	NC54	FROM SR1002 - AVIATION PARKWAY TO I-540 PROJECT	26,577	16,302				200		125				25	11	2	3				163	10
		8	US64 BUSINESS	FROM SR2329 - MARSHBURN RD. TO NC231	100	4,620						126	6			4		5	1			4,620	46	
		9	NC55	FROM PAVEMENT JOINT IN FRONT OF FUQUAY HIGH SCHOOL TO PAVEMENT JOINT IN FUQUAY	2,152	2,000						24	6			7							20	
TOTAL FOR PROJ NO. 5CR.10921.11					138,652	105,956		1,440	210	200		773	36		123	17	21	7			8,184	1,290	10	
					105,956			410				36			168						1,300			
37014	Wake	10	NC 55	FROM US 401 TO HARNETT COUNTY LINE - RESTRIPE W/ CONTINUOUS CENTER TURN LANE	47,667	58,476	1,200	200				136				160	7	5	5	3			585	10
TOTAL FOR PROJ NO. 37014					47,667	58,476	1,200	200				136				160	7	5	5	3			585	10
					59,676							8			180						595			
36997	Wake	11	SR1010	FROM NORTH SALEM ST. IN APEX TO CONSTRUCTION JOINT AT ORCHARD KNOLL DR.	22,000	52,400		500	64		20	400			12	4	70	32	10	34		2,310	515	10
TOTAL FOR PROJ NO. 36997					22,000	52,400		500	64		20	400			12	4	70	32	10	34		2,310	515	10
					52,400				64			16		146						525				
GRAND TOTAL					208,319	216,832	1,200	2,140	274	200	20	1,309	36	20	4	353	56	36	46	3		10,494	2,390	30
					218,032				474			60			494						2,420			

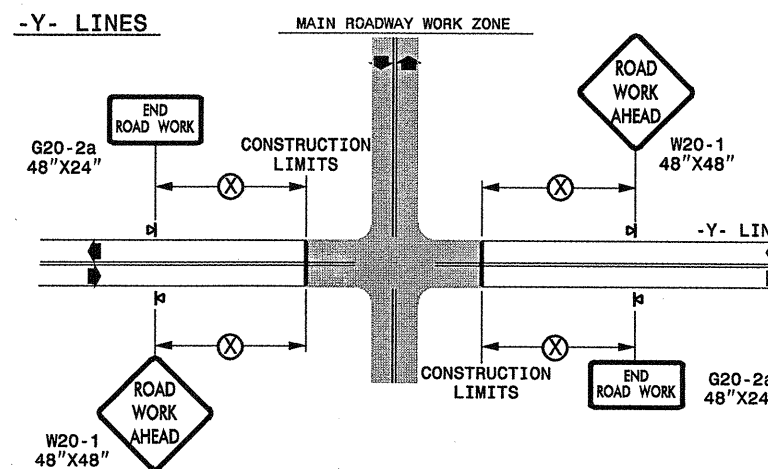
TWO-WAY UNDIVIDED ** (L-LINES)



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	
SEAL	SCALE: NONE	REVISIONS	
	DATE: _____	7-98	10/01
	DWG. BY: _____	10-98	03/04
	DESIGN BY: _____	01/01	11/04
REVIEWED BY: _____	CADD FILE		

01-DEC-2006 15:09
 \DOT\DFSROOT\GROUPS-WZTCCC\design\group4\resurfacing\resurfacing2006\div05\36997\etwowe\36997_2wayundivurbfrwys\july2006.dgn
 pseymore AT WZTCC06427

TWO LANE, TWO WAY WORK ZONE (L-LINES)

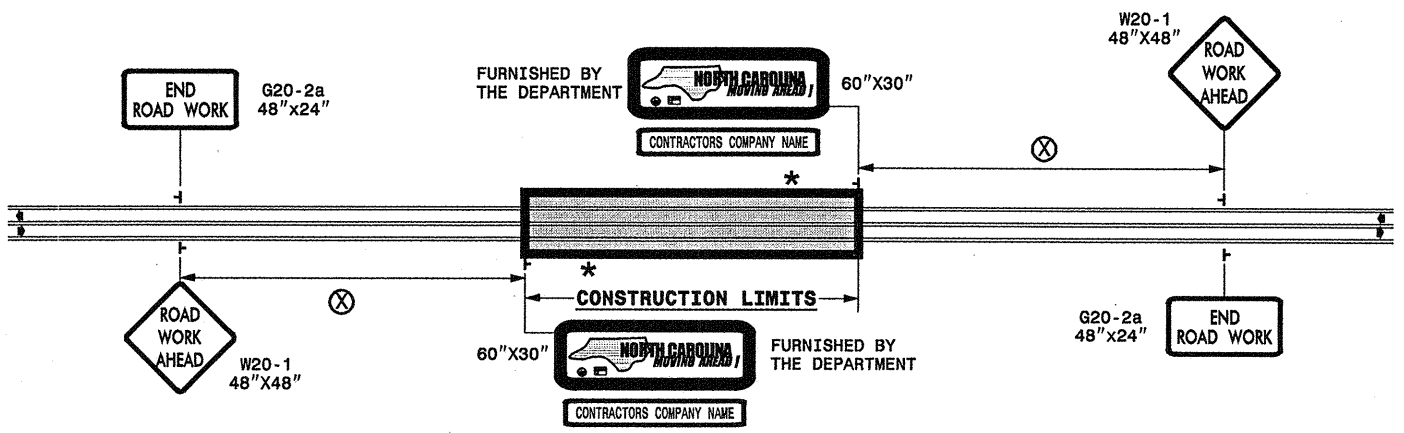
WBS Elements: 36997, 37014 & 5CR.10921.11

PROJ. REFERENCE NO. See to the Left	SHEET NO. NCMA-1
--	---------------------

POSTED SPEED LIMIT (M.P.H.)	RECOMMENDED MINIMUM SIGN SPACING
P.S.L. ≤ 50	350'
P.S.L. ≥ 55	500'

*** ROAD WORK NEXT XX MILES** G20-1A 60"x24"

THIS SIGN TO BE USED ON PROJECTS LONGER THAN 2 MILES. THE NUMBER DISPLAYED ON THE SIGN IS TO BE A WHOLE NUMBER ROUNDED UP TO THE NEXT MILE. IT'S TO BE LOCATED 1,500 FEET INSIDE OF THE CONSTRUCTION LIMITS.



FURNISHED BY THE DEPARTMENT

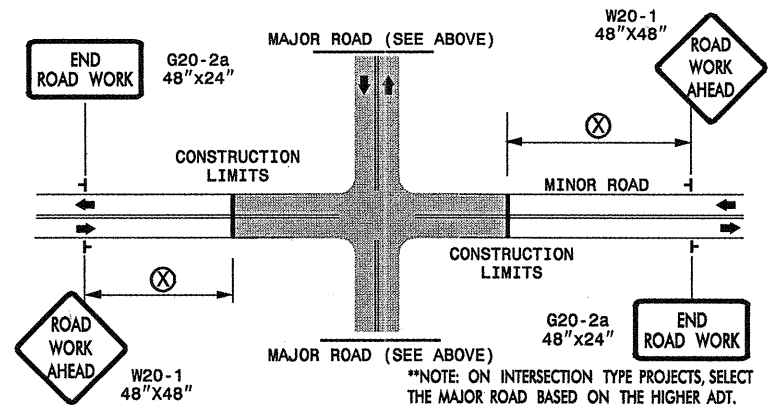
60"x30"

CONTRACTORS COMPANY NAME

60" Max. X 12"

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

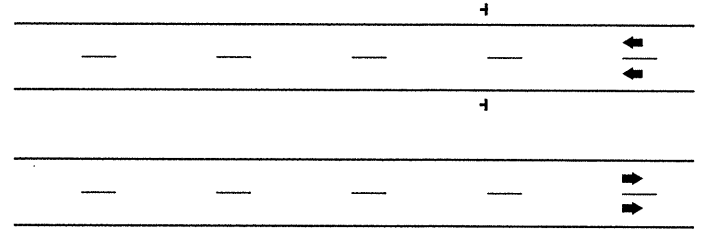
INTERSECTIONS (-Y- LINES)



FREEWAYS / INTERSTATES

DUAL MOUNT "ROAD WORK AHEAD" SIGNS 1,000' IN ADVANCE OF PROJECT LIMITS

DUAL MOUNT "MOVING AHEAD" SIGNS 500' IN ADVANCE OF PROJECT LIMITS



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.
- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT OVERNIGHT. FOR SHORT-TERM DAILY MAINTENANCE TYPE OPERATIONS, THIS SIGNING APPLICATION IS OPTIONAL; MAY USE ONLY APPLICABLE ROADWAY STANDARD DRAWINGS INSTEAD. HOWEVER, IF THIS SIGNING APPLICATION IS USED, SIGNS MAY BE PORTABLE MOUNTED. 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.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE 3LB STEEL U-CHANNEL POST OR 4" X 4" WOOD POST FOR ALL WORK ZONE SIGNS. 3LB STEEL U-CHANNEL POSTS MUST MEET THE REQUIREMENTS OF STANDARD SPECIFICATION SECTION 1094-1(B), MAY BE GALVANIZED STEEL, OR MAY BE PAINTED GREEN BY THE POST MANUFACTURER. SQUARE STEEL TUBING POSTS HAVING EQUIVALENT STRENGTH OF THE 3 LB STEEL U-CHANNEL POST ARE ALSO ACCEPTABLE FOR USE. ERECT SIGNS PER ROADWAY STANDARD DRAWING 1110.01. PAYMENT FOR WOOD POSTS, 3LB STEEL U-CHANNEL AND SQUARE STEEL TUBING POSTS WITH SIGNS WILL BE MADE ACCORDING TO STANDARD SPECIFICATION "WORK ZONE SIGNS" SECTION 1110.
- WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1110.01. REMOVE ENTIRE POST WHEN REMOVING SIGNS WITH SPLICED POSTS.
- DO NOT BACK BRACE SIGN SUPPORTS.

LEGEND

┆ STATIONARY SIGN

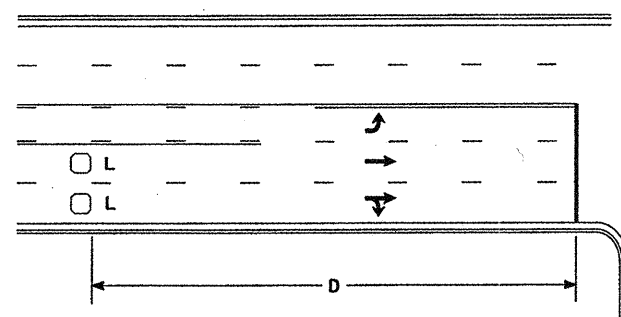
◀ DIRECTION OF TRAFFIC FLOW

DETAIL DRAWING FOR ADVANCE
WARNING WORK ZONE SIGNS

SHEET 1 OF 1

APPROVED: _____ DATE: _____	ADVANCE WARNING WORK ZONE SIGNS FOR "MOVING AHEAD"	
SEAL	SCALE: NONE	REVISIONS
	DATE: 07/03	11/04
	DWG. BY: JSK	12/04
	DESIGN BY: JSK	
REVIEWED BY: SK		CAD FILE

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

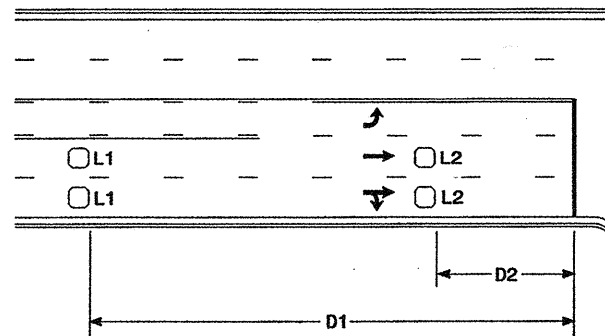


Speed Limit mph (km/hr)	D ft (m)
40 (64)	250 (75)
45 (72)	300 (90)
50 (80)	355 (110)
55 (88)	420 (130)

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

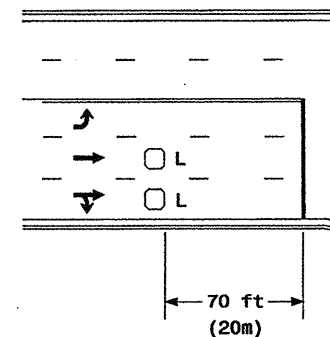


Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

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

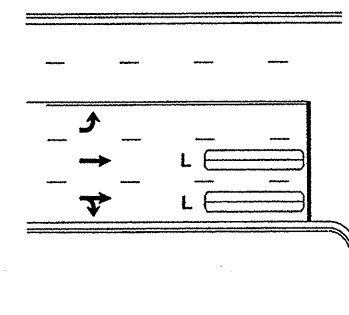
"Stretch" Operation

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



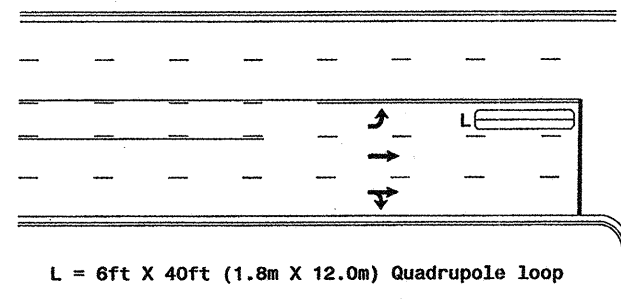
L = 6ft X 6ft (1.8m X 1.8m)
Wired in series

OR



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

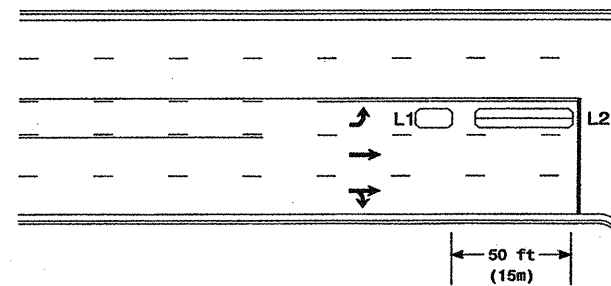
Left Turn Lane Detection



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

Presence Loop Detection

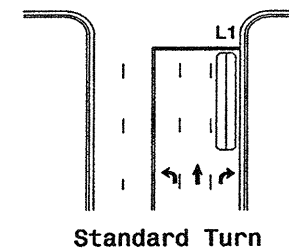
OR



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

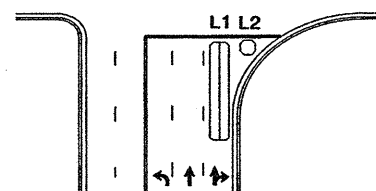
Queue Loop Detection

Right Turn Lane Detection

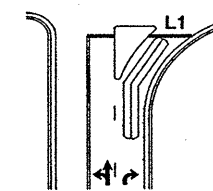


Standard Turn

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

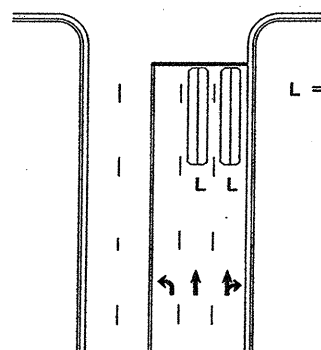


Wide Radius Turn



Channelized Turn

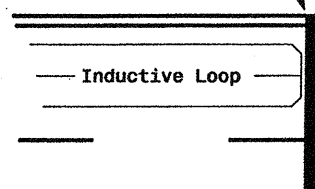
Side Street Detection



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



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: REVIEWED BY:	
REVISIONS:		INIT. DATE:	SIGNATURE: P. L. Alexander DATE: 6/16/06
SIG. INVENTORY NO.			