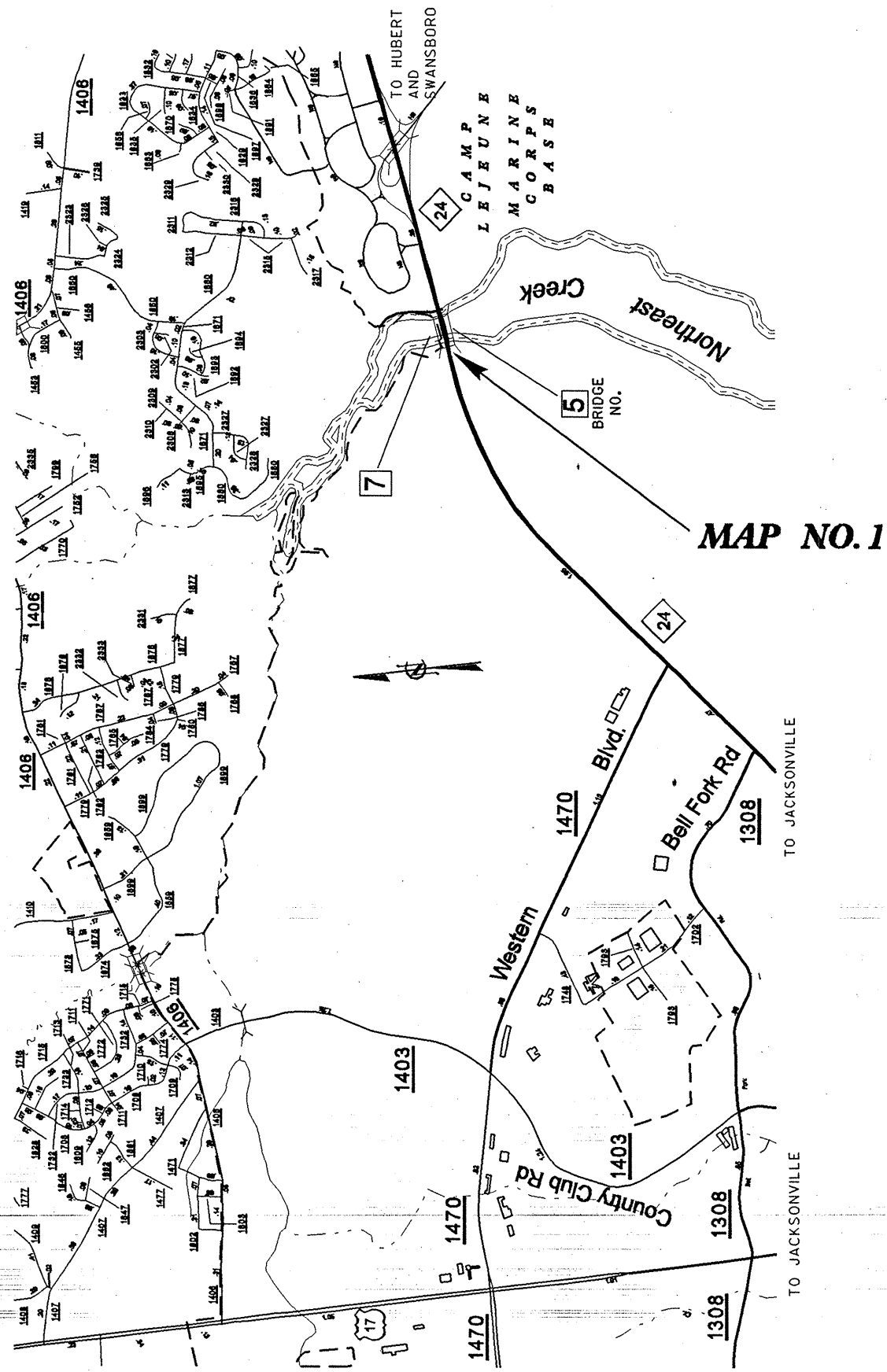
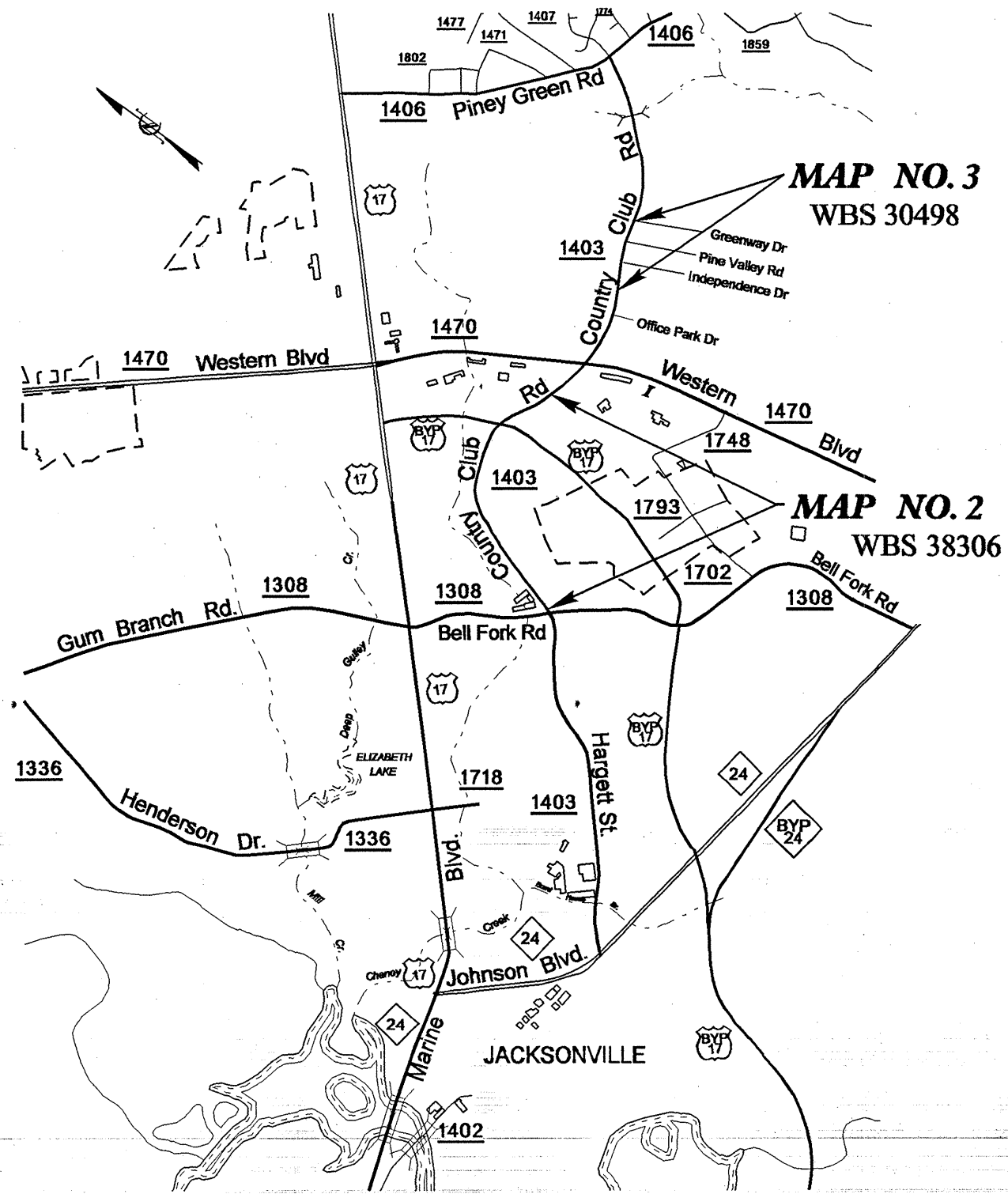


VICINITY MAP  
WBS ELEMENT: 3.106717



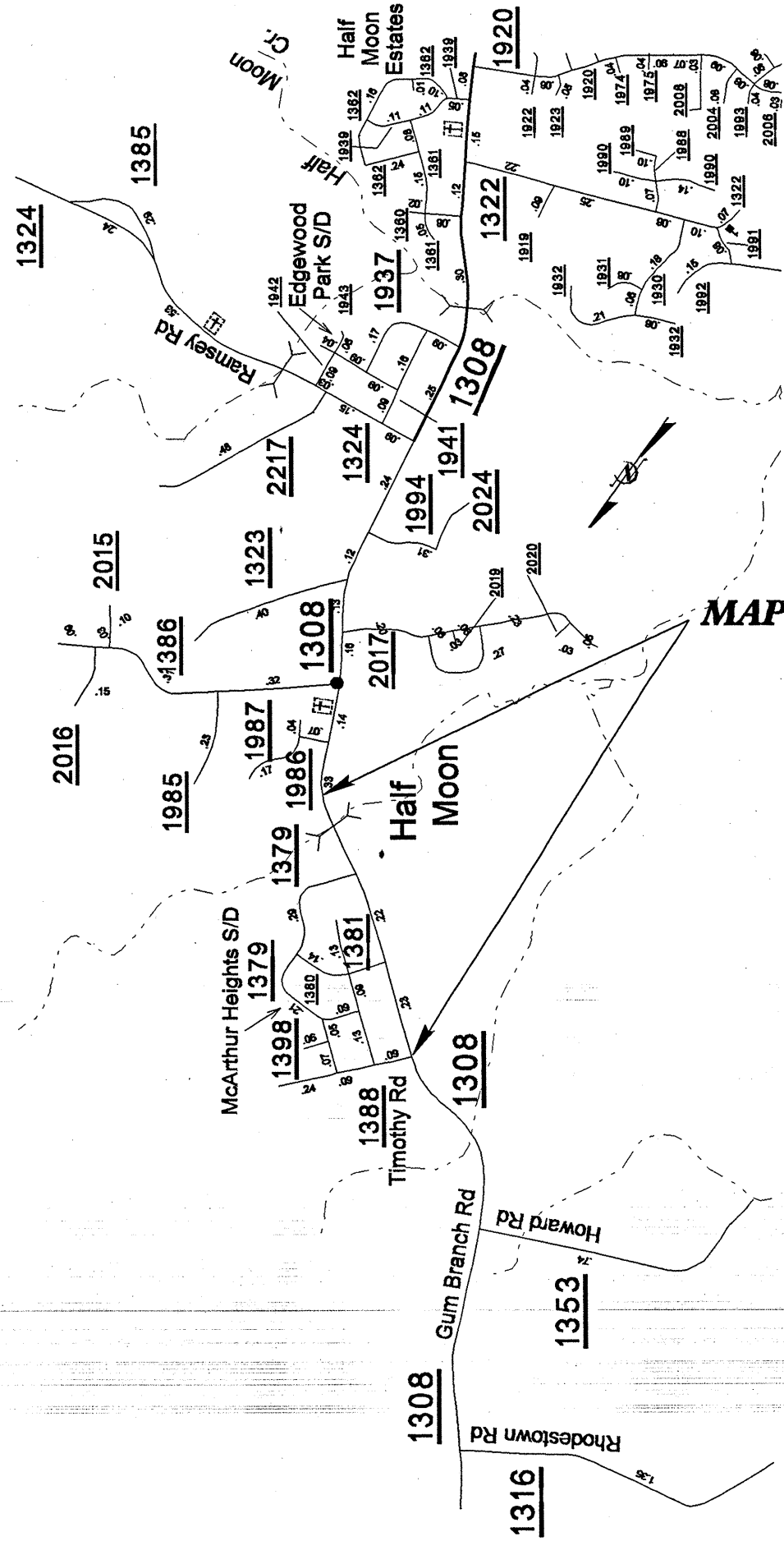
# VICINITY MAP

WBS ELEMENTS: 38306 and 30498



VICINITY MAP

WBS ELEMENT: 40920

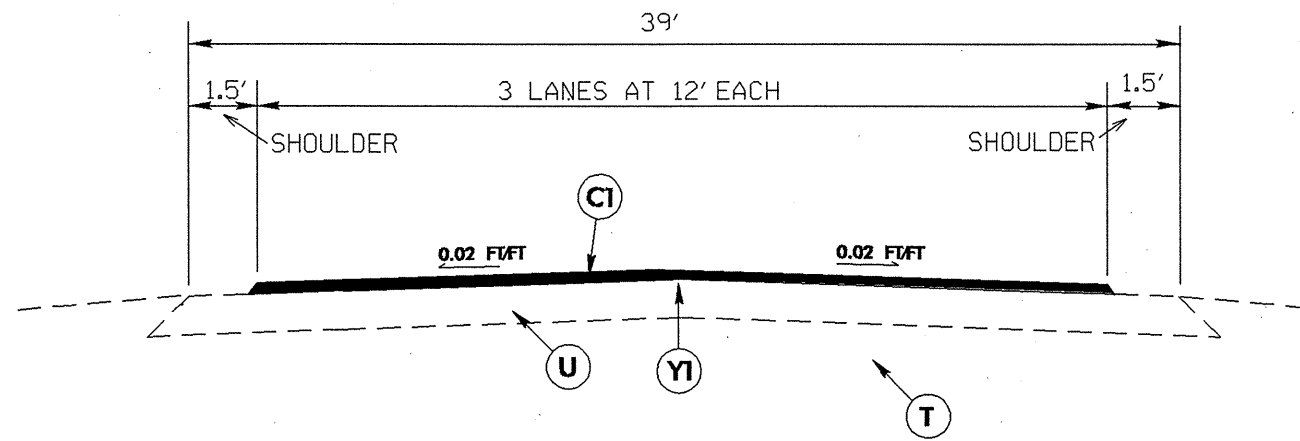


MAP NO. 4

# TYPICAL SECTIONS

WBS ELEMENTS: 3.106717 and 38306

## MAP NO. 1

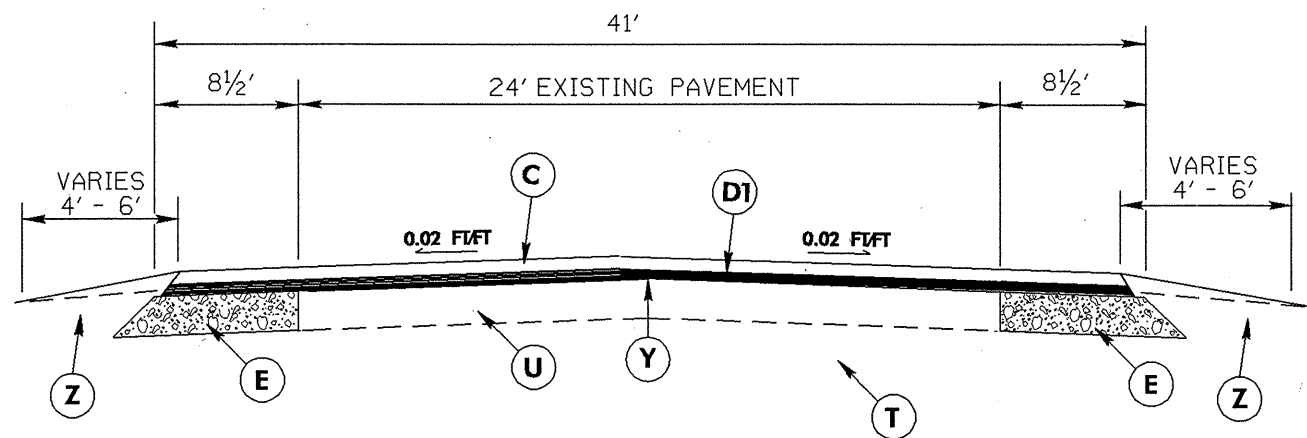


### TYPICAL SECTION NO. 1

RESURFACING AFTER MILLING

USE ON NC 24 EASTBOUND APPROACH LANES AT NORTHEAST CREEK BRIDGE.

## MAP NO. 2



### TYPICAL SECTION NO. 2

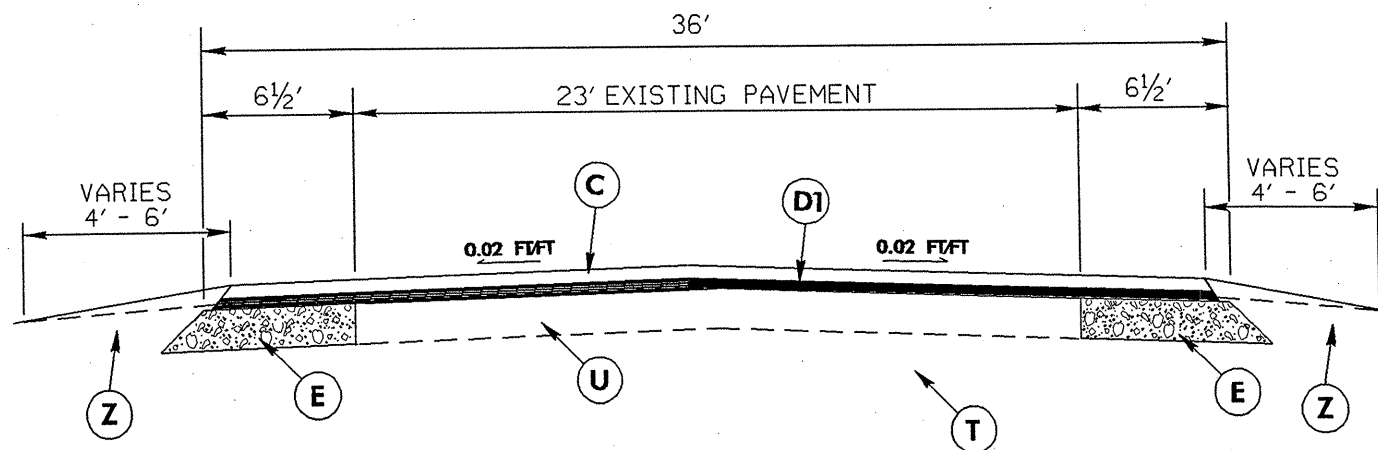
RESURFACING AFTER CHANNELIZATION

USE ON SR 1403 FROM SR 1308 TO NEAR SR 1470.

# TYPICAL SECTIONS

WBS ELEMENTS: 30498 and 40920

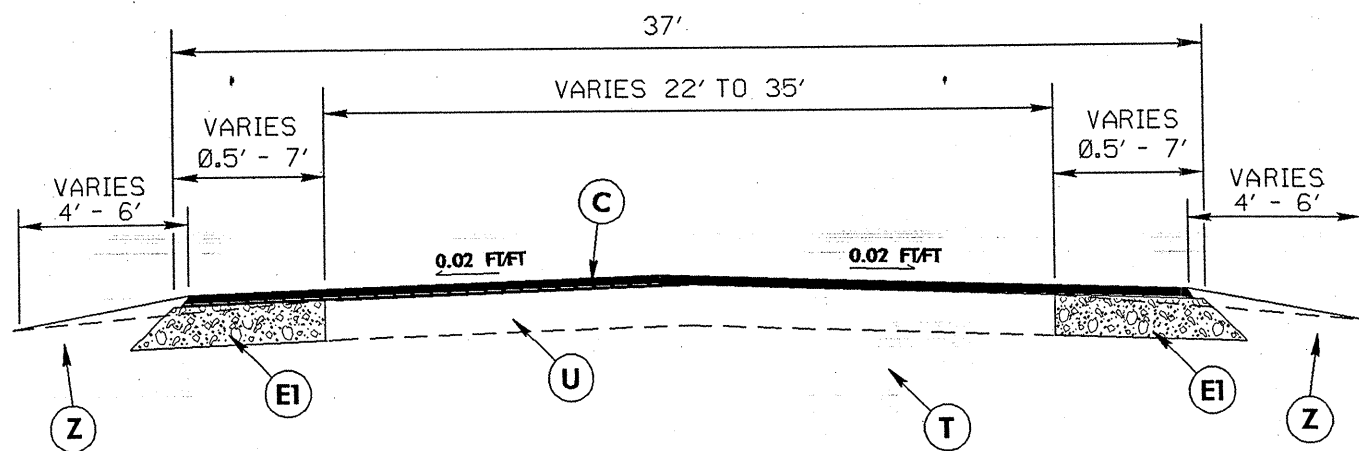
## MAP NO. 3



### TYPICAL SECTION NO. 3

CHANNEL FOR WIDENING. THEN RESURFACE.  
 USE ON SR 1403 FROM ASHLEY PARK APTS TO GREENWAY DR.

## MAP NO. 4



### TYPICAL SECTION NO. 4

CHANNEL FOR WIDENING. THEN RESURFACE.  
 USE ON SR 1308 FROM SR 1388 TO NEAR MENDOVER DR (NON-SYSTEM).

# PAVEMENT SCHEDULE

WBS ELEMENTS: 3.106717, 38306, 30498, and 40920

C	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF 2 LIFTS.
D1	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
E	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E1	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
T	EXISTING SUBGRADE MATERIAL
U	EXISTING PAVEMENT
V	EXISTING BASE
Y	MILL 2" OF EXISTING PAVEMENT
Y1	MILL 3" OF EXISTING PAVEMENT
Z	SHOULDER RECONSTRUCTION

PROJECT NO.	SHEET NO.	TOTAL NO.
3.106717, 38306 30498, ETC.		

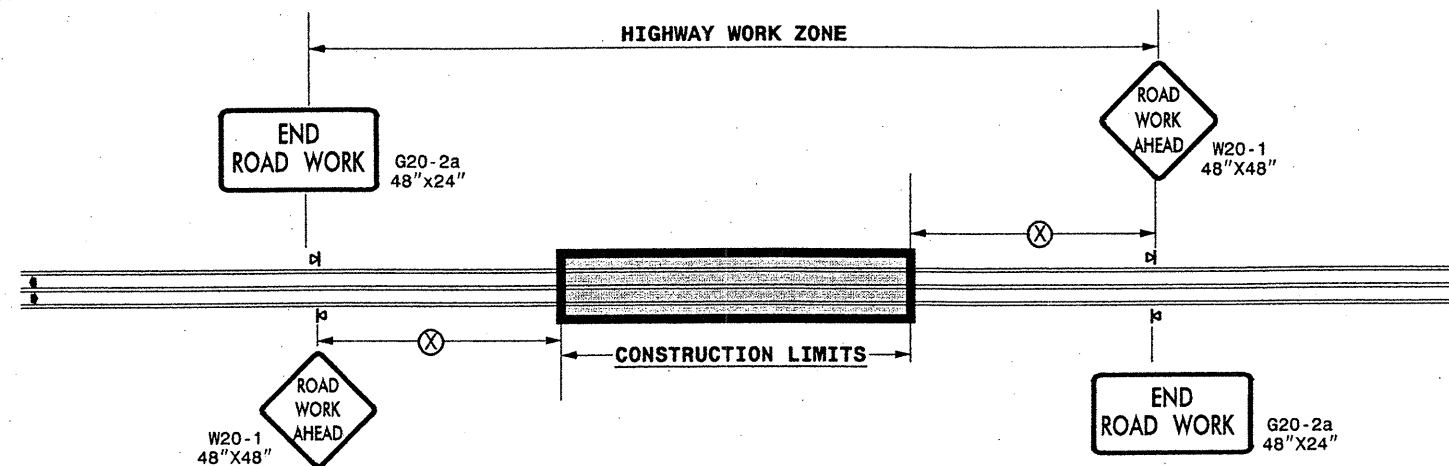
### SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LENGTH MI	WIDTH FT	MOBILIZATION LS	INCIDENTAL CONCRETE SY	INCIDENTAL STONE BASE TONS	SHOULDER RECONSTRUCTION SMI	3" MILLING SY	2" MILLING SY	BASE COURSE, B25.0B TONS	INTERMEDIATE COURSE, I19.0B TONS	SURFACE COURSE, S9.5B TONS	SURFACE COURSE, S9.5C TONS	PG 64-22 PLANT MIX TONS	PG 70-22 PLANT MIX TONS	PATCHING EXISTING PAVEMENT (MILL) TONS	ADJUST OF MANHOLES EA	ADJUST OF METER OR VALVE BOX EA	PORTABLE LIGHTING LS	SEED & MULCHING AC	INDUCTIVE LOOP LF	
3.106717	Onslow	1	NC 24	EBL BRIDGE APPROACH AT NORTHWEST CREEK	1	0.1	36	*				2,125					365		22				0.25			
<b>TOTAL FOR PROJ NO. 3.106717</b>							0.1					2,125					365		22				0.25			
38306	Onslow	2	SR 1403	SR 1308 TO 650' FROM SR 1470	2	1.16	41	*	384	400	2.32		16,331	2,932	4,175	2,578		477				5	11	0.25	2.53	225
<b>TOTAL FOR PROJ NO. 38306</b>							1.16		384	400	2.32	0	16,331	2,932	4,175	2,578	0	477				5	11	0.25	2.53	225
30498	Onslow	3	SR 1403	ASHLEY PARK APTS TO GREENWAY DR.	3	0.29	36	*	0	100	0.58	0	0	535	920	570	0	100		330	1	1	0.25	0.40	225	
<b>TOTAL FOR PROJ NO. 30498</b>							0.29		0	100	0.58	0	0	535	920	570	0	100		330	1	1	0.25	0.40	225	
40920	Onslow	4	SR 1308	FROM SR 1388 TO NEAR MENDOVER DR.	4	0.6	37	*	0	100	1.2	0	0	1,550	0	1,225	0	140					0.25	1.10		
<b>TOTAL FOR PROJ NO. 40920</b>							0.6		0	100	1.2	0	0	1,550	0	1,225	0	140					0.25	1.10		
<b>GRAND TOTAL</b>							2.15		LS	384	600	4.1	2,125	16,331	5,017	5,095	4,373	365	717	22	330	6	12	1.00	4.03	450

### THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	4685000000-E		4686000000-E		4697000000-E	4710000000-E	4725000000-E			4810000000-E	4900000000-N		4905000000-N		
					4" X 90 M WHITE THERMO LF	4" X 90 M YELLOW THERMO LF	4" X 120 M WHITE THERMO LF	4" X 120 M YELLOW THERMO LF	8" X 120 M YELLOW THERMO LF	24" X 120 M WHITE THERMO LF	THERMO LT ARROW 90 M EA	THERMO RT ARROW 90 M EA	THERMO STR ARROW 90 M EA	THERMO BICYCLE SYMBOL EA	THERMO STR & RT ARROW 90 M EA	4" YELLOW PAINT LF	RAISED PAVEMENT MARKERS (Y/Y) EA	RAISED PAVEMENT MARKERS (C/R) EA	SNOW PLOWABLE MARKERS (Y/Y) EA
3.106717	Onslow	1	NC 24	EBL AT NORTHWEST CREEK	640	580	420										18		
<b>TOTAL FOR PROJ NO. 3.106717</b>					640	580	420										18		
					1,220		420												
38306	Onslow	2	SR 1403	SR 1308 TO 650' FROM SR 1470	14,500		14,500		22	36	2	22	16		24,500	143	7		
<b>TOTAL FOR PROJ NO. 38306</b>					14,500		14,500		22	36	2	22	16		24,500	143	7		
					14,500		14,500					76				150			
30498	Onslow	3	SR 1403	ASHLEY PARK APTS TO GREENWAY DR.	3,455		3,455		68	12				2	3,100	70	6		
<b>TOTAL FOR PROJ NO. 30498</b>					3,455		3,455		68	12				2	3,100	70	6		
					3,455		3,455					14				76			
40920	Onslow	4	SR 1308	FROM SR 1388 TO NEAR MENDOVER DR.	6,800		8,400	26		20						97	3		
<b>TOTAL FOR PROJ NO. 40920</b>					6,800		8,400	26		20						97	3		
					6,800		8,400					20				100			
<b>GRAND TOTAL</b>					25,395	580	420	26,355	26	90	68	2	22	16	2	27,600	310	16	18
					25,975			26,775					110			326			

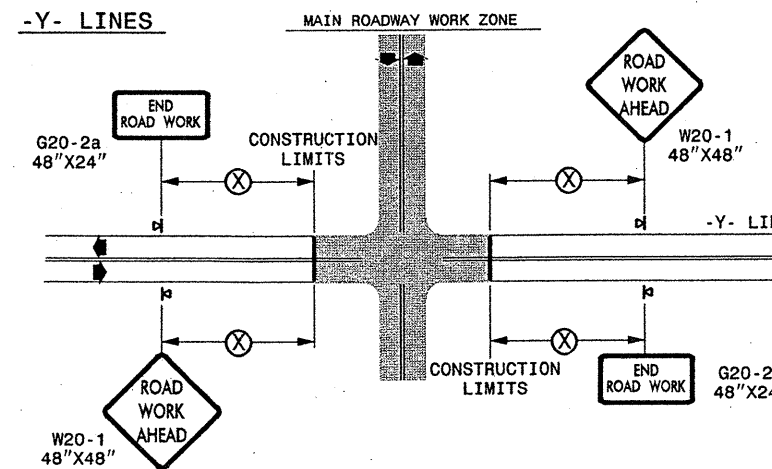
**TWO-WAY UNDIVIDED \*\* (L-LINES)**



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**

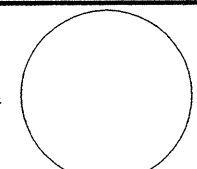

- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCED WORK ZONE SIGNS.
- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE PORTABLE WORK ZONE SIGNS ONLY WITH 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

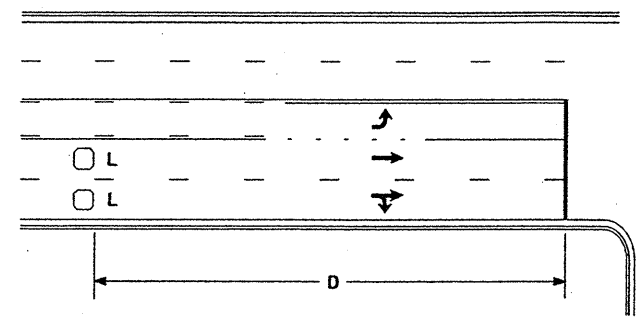
DETAIL DRAWING  
 FOR TWO-WAY UNDIVIDED  
 WORK ZONE WARNING SIGNS

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: _____	CHD PFE		

03-MAY-2007 11:04  
 \\DOT\DESIGN\GROUPS\WZT\CC\design\resurfacing\resurfacing\resurfacing\div03\3106717\etc2wayundivurb-fr.wys\july2006.dgn  
 P88ymore AT WZT206427



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

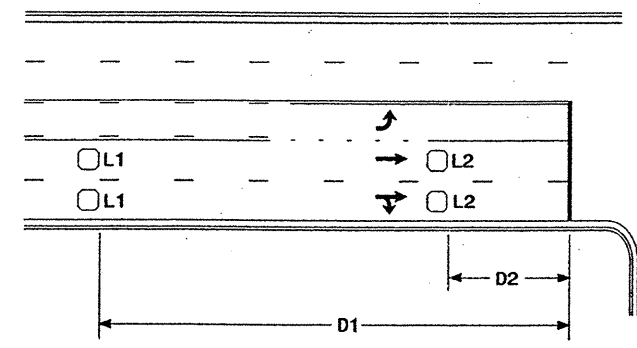


Speed Limit mph (km/hr)	D ft (m)
40 (64)	250 (75)
45 (72)	300 (90)
50 (80)	355 (110)
55 (88)	420 (130)

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

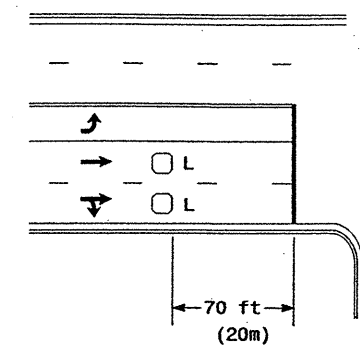


Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

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

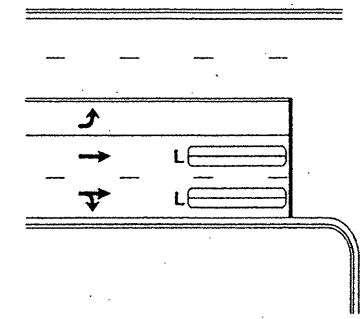
"Stretch" Operation

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



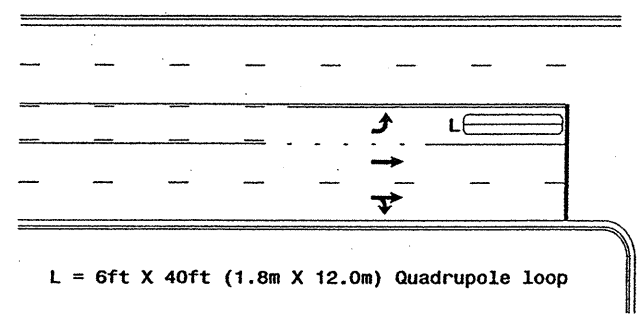
L = 6ft X 6ft (1.8m X 1.8m)  
Wired in series

OR



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

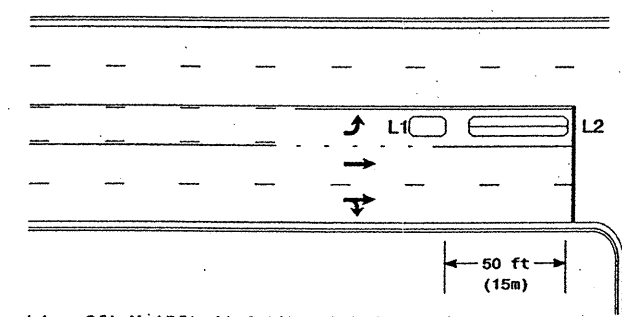
### Left Turn Lane Detection



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

Presence Loop Detection

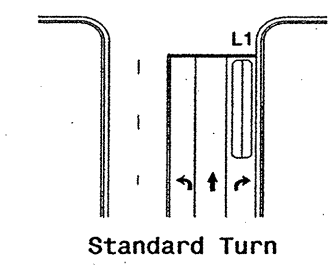
OR



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

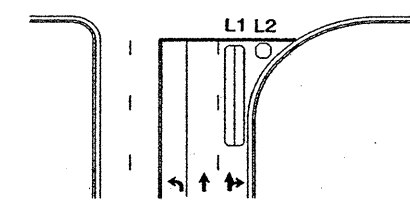
Queue Loop Detection

### Right Turn Lane Detection

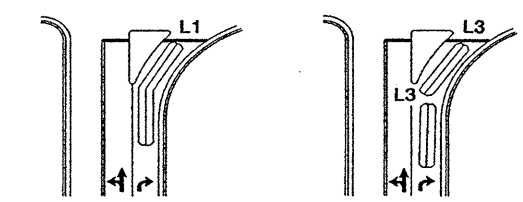


Standard Turn

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

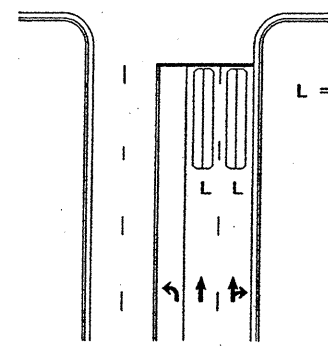


Wide Radius Turn



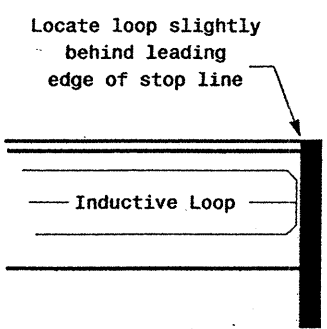
Channelized Turn

### 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

	<p>Typical Loop Locations</p>	
	<p>PLAN DATE: June 2006 PREPARED BY: P. L. Alexander</p>	<p>REVIEWED BY: REVIEWED BY:</p>
<p>SCALE N/A</p>	<p>REVISIONS Revise pavement markings</p>	<p>INIT. DATE 12/1/06</p>
<p>SIG. INVENTORY NO.</p>		<p>DATE</p>