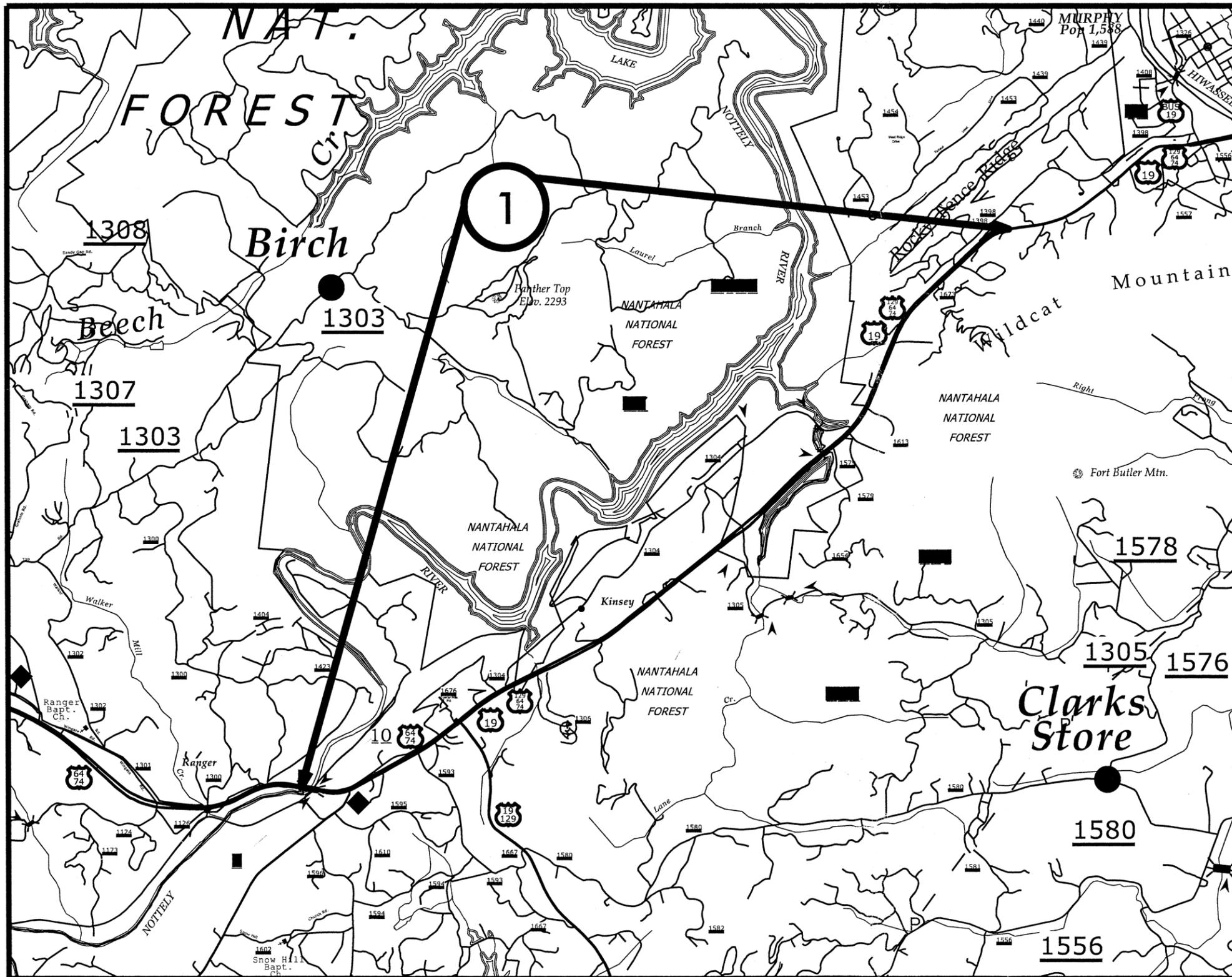


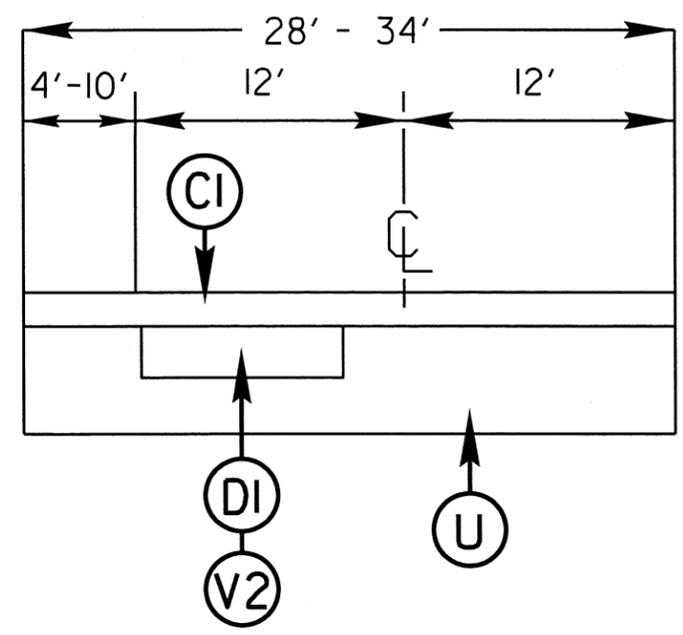
# CHEROKEE COUNTY

PROJECT REFERENCE NO.	SHEET NO.	
14CR.10201.6	1	
STATE PROJECT	F.A. PROJECT NO.	DESCRIPTION
14CR.10201.6		



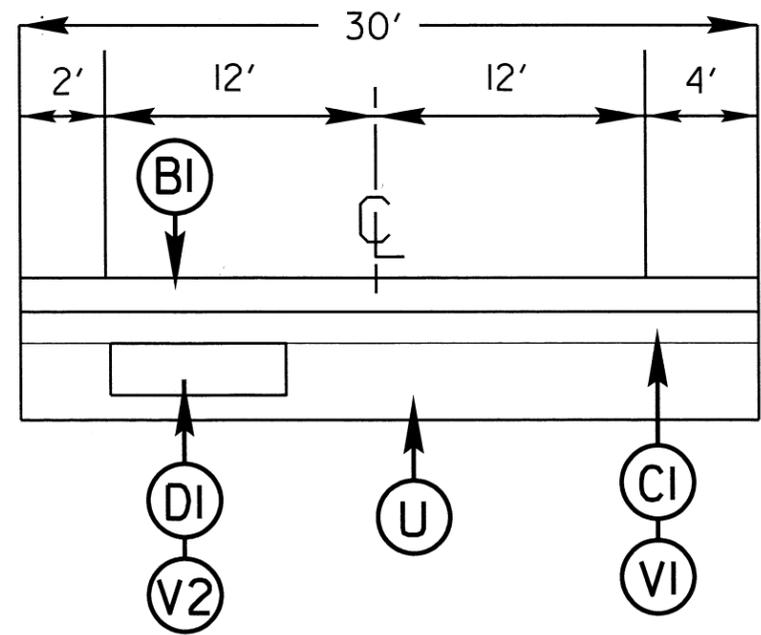
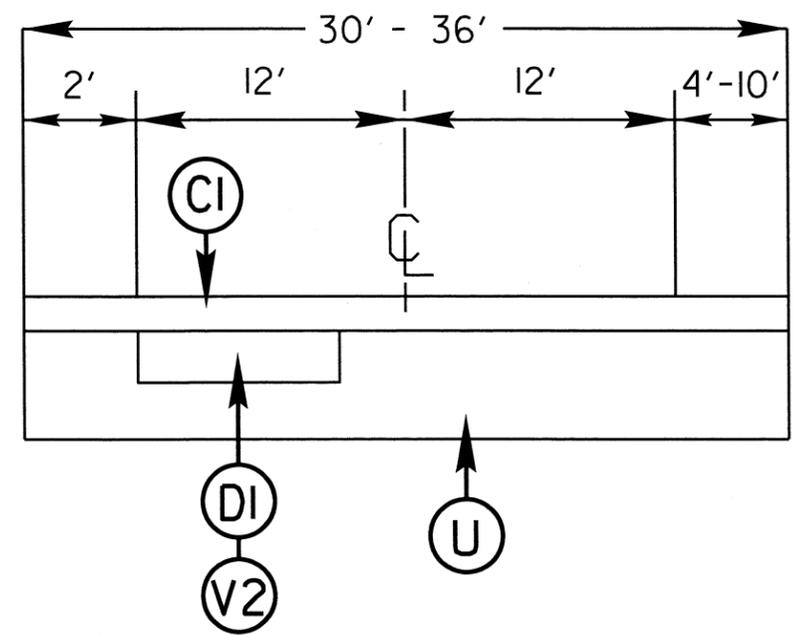
PROJECT REFERENCE NO.		SHEET NO.
14CR.10201.6		2
STATE PROJECT	F.A. PROJECT NO.	DESCRIPTION
14CR.10201.6		

### TYPICAL 1 CHEROKEE WEST



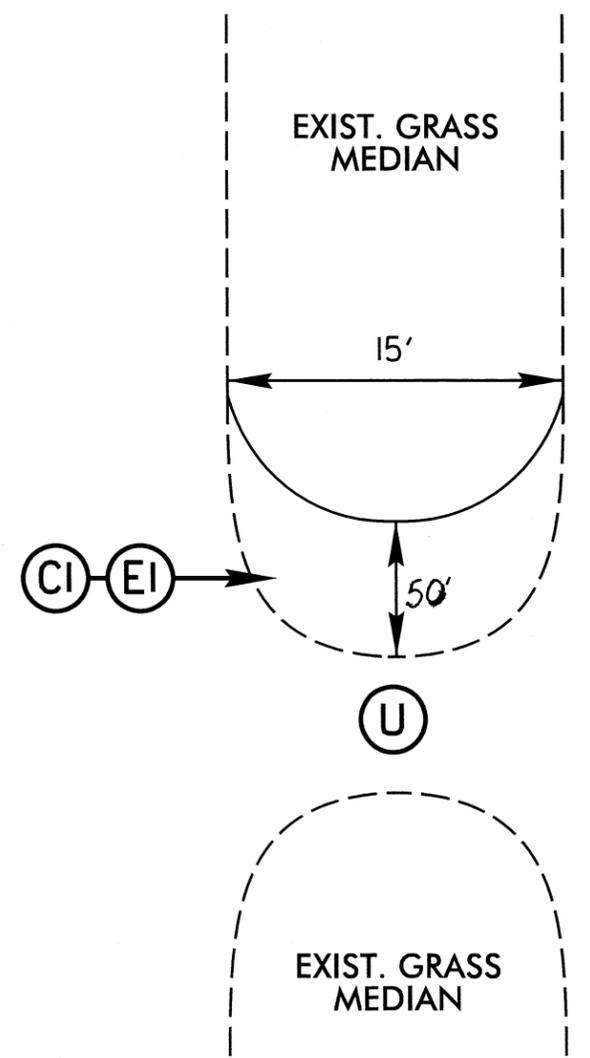
NOTE: TO BE USED WITH TYPICAL 2,  
FROM STA +/- 18+00 TO STA +/- 26+00  
OPEN GRADE FRICTION COURSE FC-1 MOD  
OVERLAY DETAIL.

### TYPICAL 2 CHEROKEE EAST



NOTE: CROSS-OVER WIDENING FROM  
STA. +/- 167+00 TO STA. +/- 167+50.

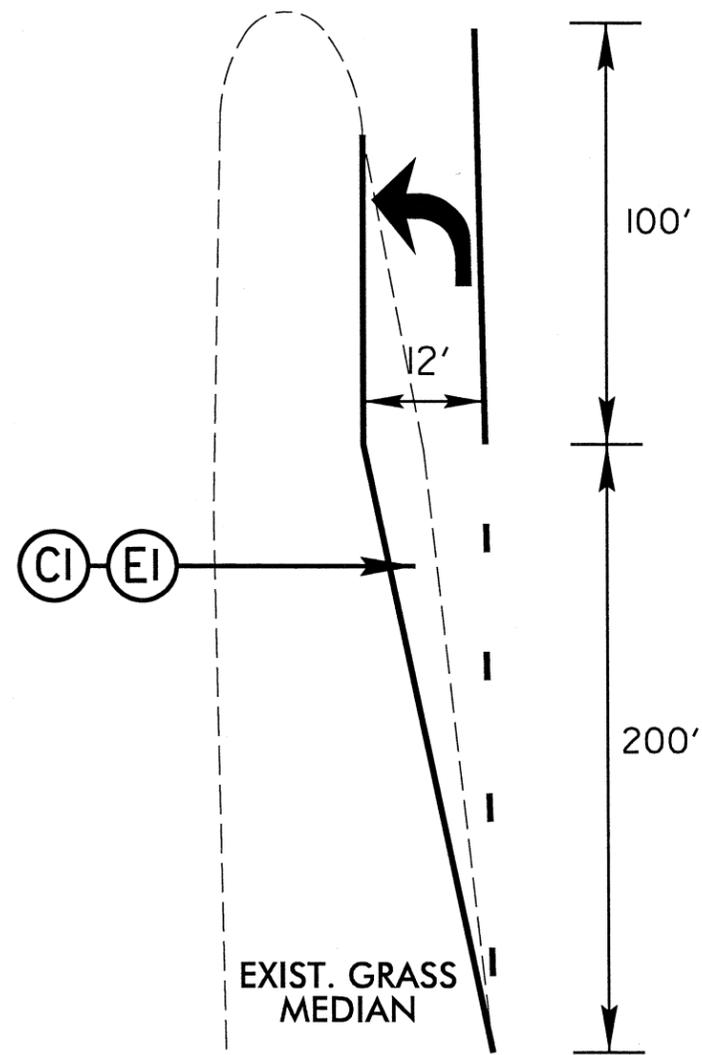
NOTE: ADDITIONAL CROSS-OVERS QUANTITY INCLUDED  
IN 3" MILLING AND ASPHALT.



PLAN VIEW

PROJECT REFERENCE NO.		SHEET NO.
14CR.10201.6		3
STATE PROJECT	F.A. PROJECT NO.	DESCRIPTION
14CR.10201.6		

# TURN LANE DETAIL



PLAN VIEW

NOTE:

DECELERATION LANE EXTENSION FROM STA. +/- 178+00 TO STA. +/- 181+00.

NOTE:

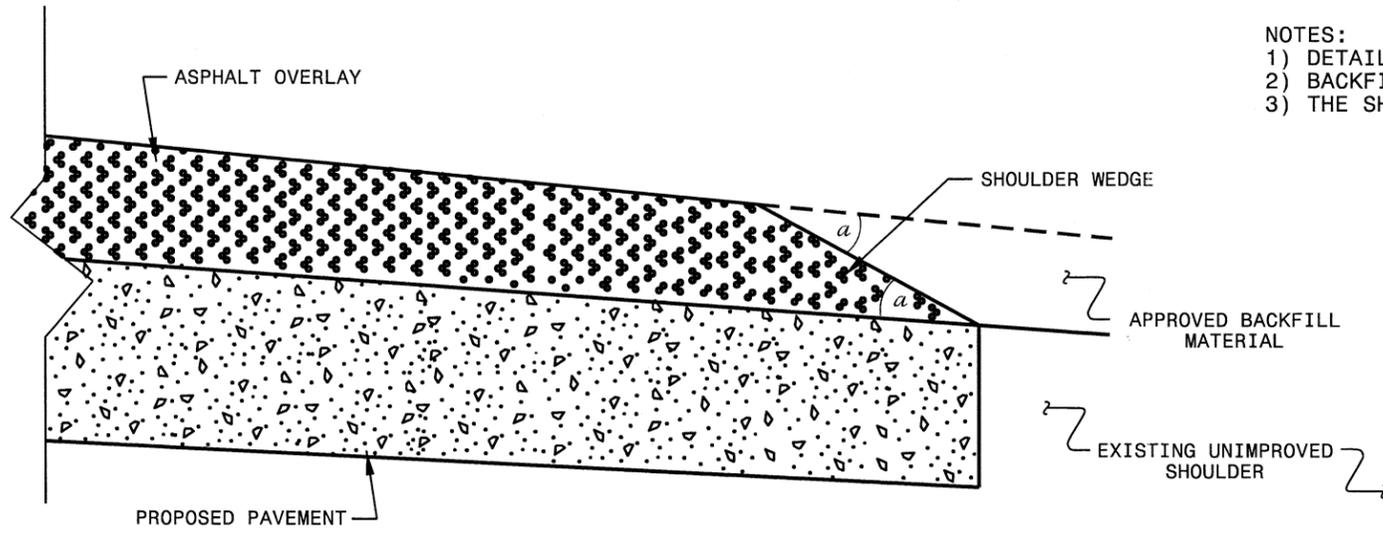
ADDITIONAL TURN LANE QUANTITY INCLUDED IN MILLING AND ASPHALT.

## SURFACING SCHEDULE

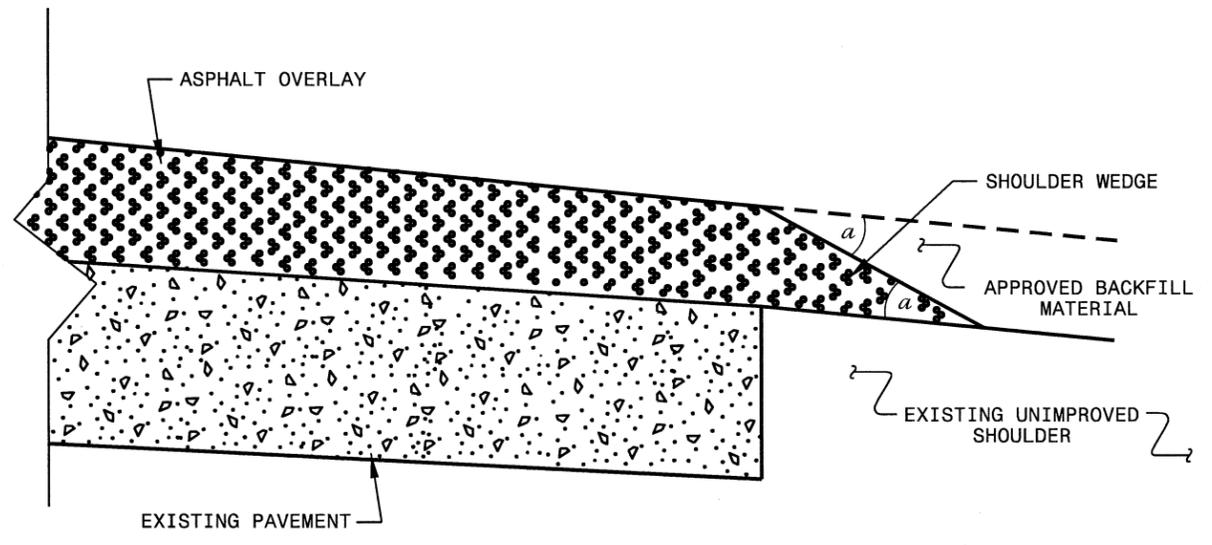
PROJECT REFERENCE NO.		SHEET NO.
14CR.10201.6		4
STATE PROJECT	F.A. PROJECT NO.	DESCRIPTION
14CR.10201.6		

ITEM NO	DESCRIPTION
B1	PROP. OPEN GRADED ASPHALT FRICTION COURSE, TYPE FC-1 MODIFIED, AT AN AVERAGE RATE OF 70 LBS. PER SQ. YD.
C1	PROP. APPROX. 1 ½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
E1	PROP. APPROX. 8" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. IN EACH OF TWO LAYERS AT LOCATIONS AS DIRECTED BY PROJECT ENGINEER
V1	MILLED ASPHALT PAVEMENT 1 ½" AT LOCATIONS AS DIRECTED BY PROJECT ENGINEER
V2	MILLED ASPHALT PAVEMENT 3" AT DISTRESSED AREAS AS DIRECTED BY PROJECT ENGINEER
U	EXISTING PAVEMENT

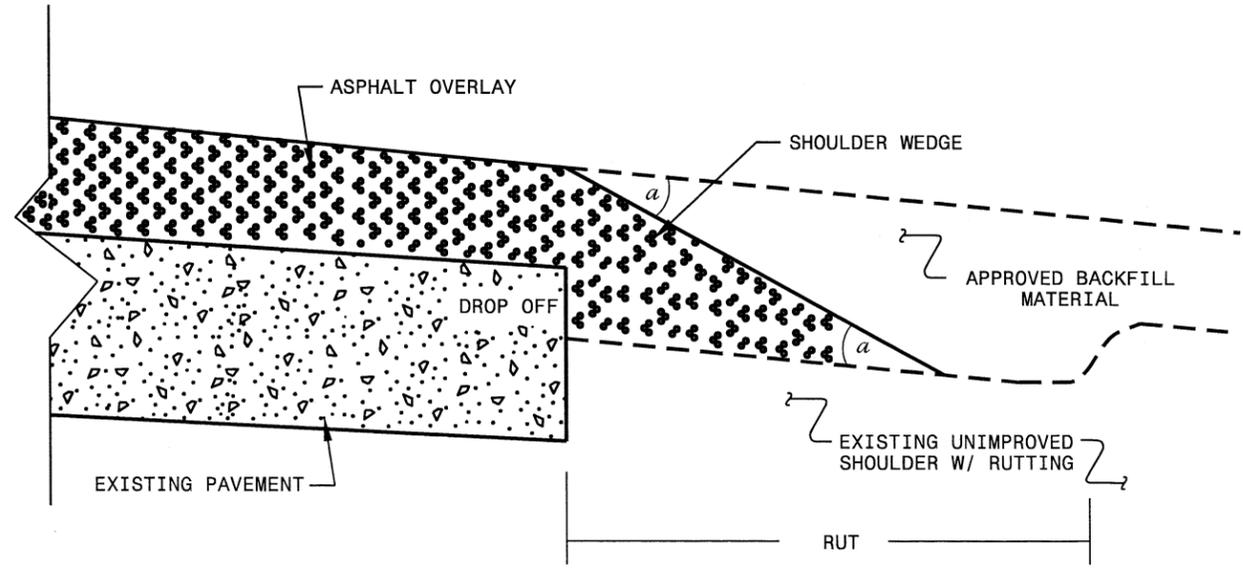
- NOTES:
- 1) DETAIL DOES NOT APPLY TO OGAFB AND ULTRA-THIN BONDED WEARING COURSE.
  - 2) BACKFILL SHOULDER WITH APPROVED MATERIAL.
  - 3) THE SHOULDER WEDGE DEVICE MAY BE DISENGAGED AT PAVED DRIVEWAYS AND SIDE STREETS.



**SHOULDER WEDGE DETAIL**  
 (Resurfacing Projects w/ Widening or  
 with Existing Paved Shoulder having no dropoffs)



**SHOULDER WEDGE DETAIL**  
 (Resurfacing Projects w/ NO Widening)



**SHOULDER WEDGE DETAIL**  
 (Resurfacing Adjacent to  
 Rutted Shoulder)

- SHOULDER WEDGE ANGLE = 30°

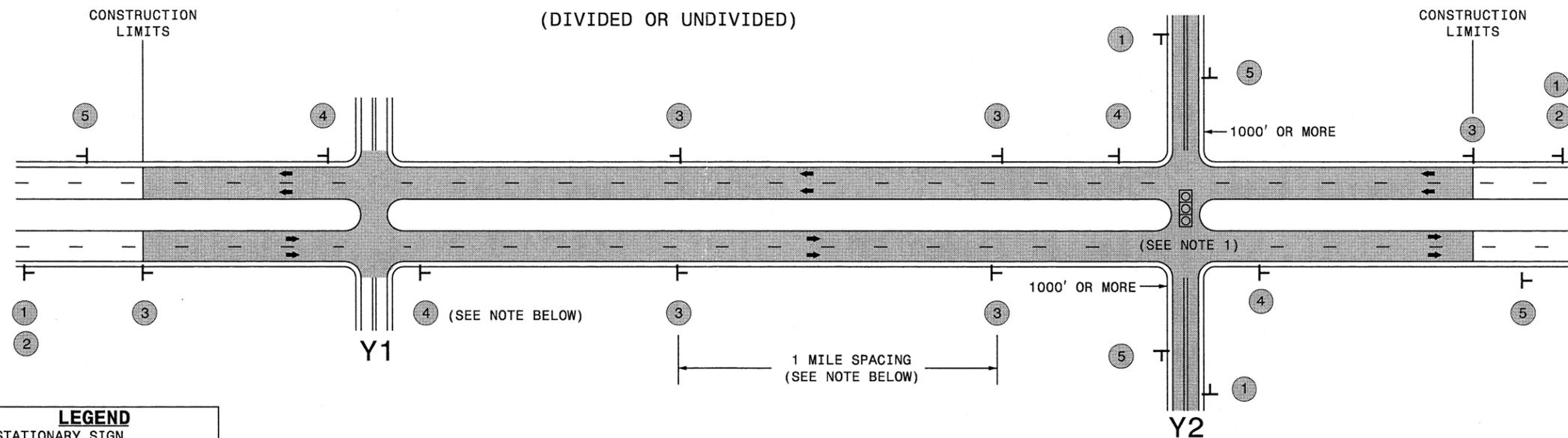
CONTRACT STANDARDS  
 AND DEVELOPMENT UNIT  
 Office 919-707-6950 FAX 919-250-4119

**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

\*\*\*\*\*  
 SYSTEMS  
 \*\*\*\*\*

# SIGNING FOR RURAL AND SUBURBAN MULTI-LANE ROADWAYS WITH SHOULDER SECTIONS (DIVIDED OR UNDIVIDED)



**LEGEND**  
 T STATIONARY SIGN  
 ← DIRECTION OF TRAFFIC FLOW

## MAINLINE (-L-) SIGNING

## -Y- LINE SIGNING

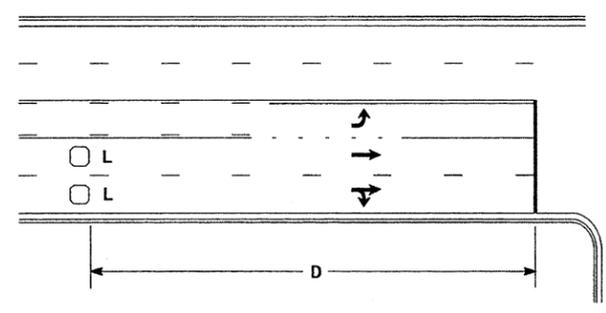
SIGNING NOTES AND PLACEMENT PER DIRECTION	1	 W20-1 48" X 48"	PLACE 1000' PRIOR TO BEGINNING OF CONSTRUCTION LIMITS. ONLY USED ON -Y- LINES IF RESURFACING LIMITS EXTEND 1000' ALONG -Y- LINE.	<p>NO REQUIRED STATIONARY SIGNING FOR THE FOLLOWING -Y- LINE CONDITIONS:</p> <ol style="list-style-type: none"> <li>1) LESS THAN 1000' OF RESURFACING ALONG -Y- LINE</li> <li>2) SUBDIVISION ROADS</li> <li>3) DEAD END ROADS</li> </ol> <p>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;">             W20-1            48" X 48"         </div> <div style="text-align: center;">             W20-7 A            48" X 48"         </div> </div> <p>PLACED 500' IN ADVANCE OF FLAGGER. PLACED 250' IN ADVANCE OF FLAGGER.</p> <p><b>NOTES:</b></p> <ol style="list-style-type: none"> <li>1) MAY USE LAW ENFORCEMENT TO CONTROL TRAFFIC AT SIGNALIZED INTERSECTIONS AS DIRECTED BY THE ENGINEER. PROVIDE PORTABLE "ROAD WORK AHEAD" (W20-1) SIGNS 500' IN ADVANCE ALONG BOTH APPROACHES FROM THE SIDE STREETS WHEN PAVING PROCEEDS THROUGH THE INTERSECTION.</li> </ol>
	2	 W7-3aP 24" X 18"	#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	 SP 13107 48" X 48"	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	 SP 13106 48" X 48"	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	 G20-2 A 48" X 24"	PLACE 500' FOLLOWING THE END OF CONSTRUCTION LIMITS.	

2/24/2014 5:17:00 PM S:\TJW\WZTC\Resurfacing\2013\Documents\New\_Procedures\_05\_09\_2013\Resurfacing\_AdvWarn\_UrSu\_Shldr.dgn User:rmgrrr



**RESURFACING ADVANCE WARNING SIGNS FOR RURAL AND SUBURBAN MULTI-LANE ROADWAYS W/ SHOULDER SECTIONS (DIVIDED OR UNDIVIDED)**

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

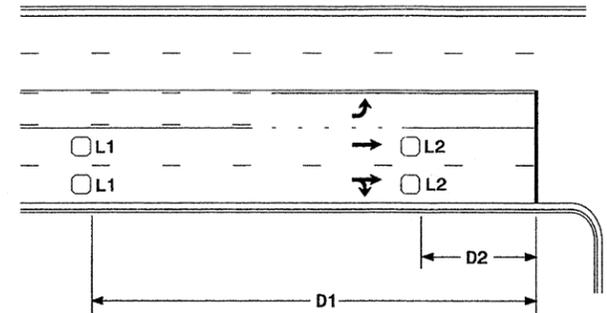


Speed Limit mph (km/hr)	D ft (m)
40 (64)	250 (75)
45 (72)	300 (90)
50 (80)	355 (110)
55 (88)	420 (130)

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

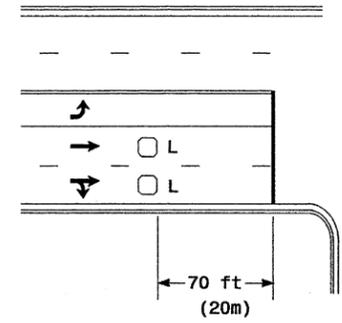


Speed Limit mph (km/hr)	D1 ft (m)	D2 ft (m)
40 (64)	250 (75)	80 (25)
45 (72)	300 (90)	90 (27)
50 (80)	355 (110)	100 (30)
55 (88)	420 (130)	110 (35)

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

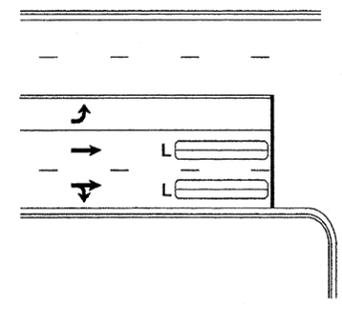
"Stretch" Operation

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



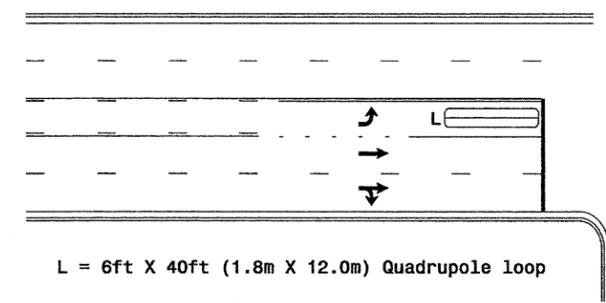
L = 6ft X 6ft (1.8m X 1.8m)  
Wired in series

OR



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

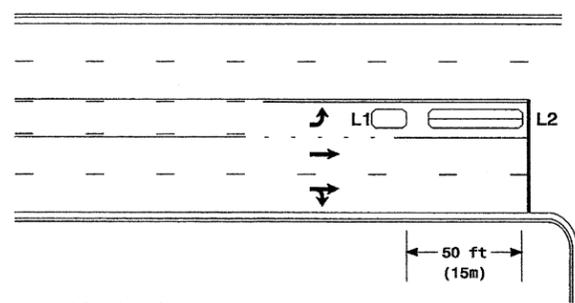
### Left Turn Lane Detection



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

Presence Loop Detection

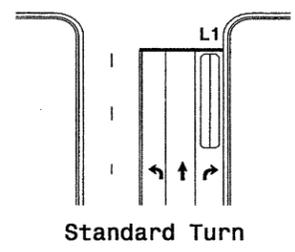
OR



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

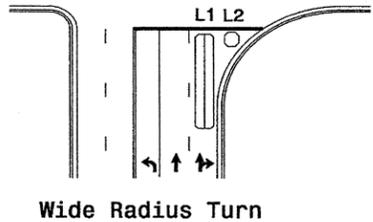
Queue Loop Detection

### Right Turn Lane Detection

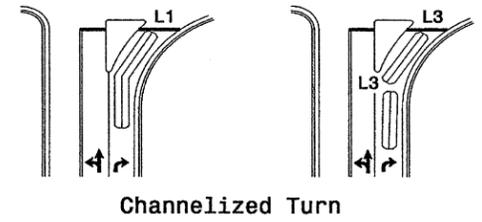


Standard Turn

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

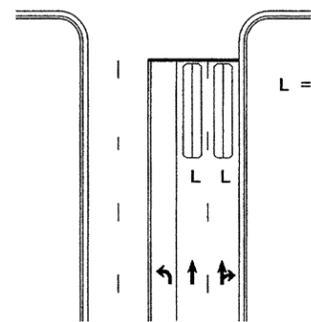


Wide Radius Turn



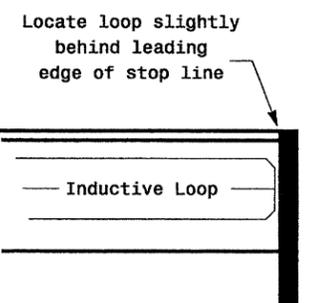
Channelized Turn

### 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

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

19-DEC-2006 14:29  
s:\its\signal\1b\turn\_inh\loop\typical\2006.dgn  
P. Alexander

	Typical Loop Locations		
	PLAN DATE: June 2006 PREPARED BY: P. L. Alexander	REVIEWED BY: REVIEWED BY:	
REVISIONS V. Pavise pavement markings		INT. DATE DATE	SIGNATURE DATE
		SIG. INVENTORY NO.	

PROJECT NO.	SHEET NO.	TOTAL NO.
14CR.10201.6	6	

### SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	FINAL SURFACE TESTING REQUIRED	WARM MIX ASPHALT REQUIRED	LENGTH MI	WIDTH FT	GRADING LS	3" MILLING SY	1½" MILLING SY	INCIDENTAL MILLING SY	BASE COURSE, B25.0B WIDENING TONS	INTERMEDIATE COURSE, I19.0B TONS	SURFACE COURSE, S9.5B TONS	ASPHALT SURFACE COURSE (LEVELING) TYPE SF9.5A TN	ASPHALT BINDER FOR PLANT MIX TONS	POLYMER MODIFIED ASPHALT BINDER FOR PLANT MIX TONS	OGAFC, TYPE FC-1 MOD TONS	INDUCTIVE LOOP LF
14CR.10201.6	Cherokee	1	US 19/64 WEST	FROM .02 MILES WEST OF BRIDGE #10 TO END DIVIDED HIGHWAY	1	2	MD	NO	YES	5	28	1.00	33,866		120	50	5,791	7,900	2,877	947			560
TOTAL FOR MAP NO. 1										5			33,866		120	50	5,791	7,900	2,877	947			560
14CR.10201.6	Cherokee	2	US 19/64 EAST	FROM .02 MILES WEST OF BRIDGE #9 TO END DIVIDED HIGHWAY	2	2	MD	NO	YES	5	30		26,733	2,667	120	90	4,578	8,462	3,082	934	9	145	560
TOTAL FOR MAP NO. 2										5			26,733	2,667	120	90	4,578	8,462	3,082	934	9	145	560
TOTAL FOR PROJ NO. 14CR.10201.6										10		1.00	60,599	2,667	240	140	10,369	16,362	5,959	1,881	9	145	1,120
GRAND TOTAL										10		1.00	60,599	2,667	240	140	10,369	16,362	5,959	1,881	9	145	1,120

### THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	TYP	LANES	LANE TYPE	LENGTH	WIDTH	4413000000-E	4457000000-N	4685000000-E		4686000000-E		4695000000-E	4710000000-E	4725000000-E			4810000000-E		4835000000-E	4845000000-N			4905000000-N
										WORK ZONE ADVANCE GENERAL WARNING SIGNING SF	TEMPORARY TRAFFIC CONTROL LS	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 90 M WHITE THERMO LF	24" X 120 M WHITE THERMO LF	THERMO LT ARROW 90 M EA	THERMO STR ARROW 90 M EA	THERMO RT ARROW 90 M EA	4" WHITE PAINT LF	4" YELLOW PAINT LF	24" WHITE PAINT LF	PAINT LT ARROW EA	PAINT STR ARROW EA	PAINT RT ARROW EA	SNOW PLOWABLE MARKERS EA
14CR.10201.6	Cherokee	1	US 19/64 WEST	FROM .02 MILES WEST OF BRIDGE #10 TO END DIVIDED HIGHWAY	1	2	MD	5	28	560	1	26,425	26,425	9,400		400	340	22	3	8	35,030	27,200	340	22	3	8	380
TOTAL FOR MAP NO. 1										560	1	26,425	26,425	9,400		400	340	22	3	8	35,030	27,200	340	22	3	8	380
14CR.10201.6	Cherokee	2	US 19/64 EAST	FROM .02 MILES WEST OF BRIDGE #9 TO END DIVIDED HIGHWAY	2	2	MD	5	30	560	*	26,400	26,400	9,400	1,100	400	170	15	3	2	35,030	27,200	340	15	3	2	380
TOTAL FOR MAP NO. 2										560	*	26,400	26,400	9,400	1,100	400	170	15	3	2	35,030	27,200	340	15	3	2	380
TOTAL FOR PROJ NO. 14CR.10201.6										1,120	1	52,825	52,825	18,800	1,100	800	510	37	6	10	70,060	54,400	680	37	6	10	760
GRAND TOTAL										1,120	1	52,825	52,825	18,800	1,100	800	510	37	6	10	70,060	54,400	680	37	6	10	760