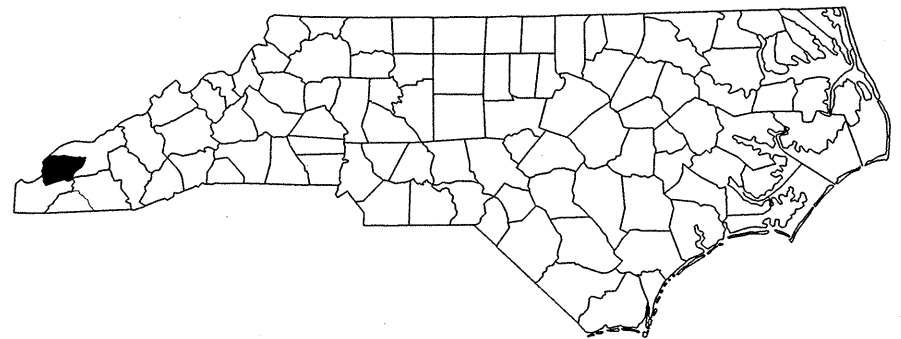
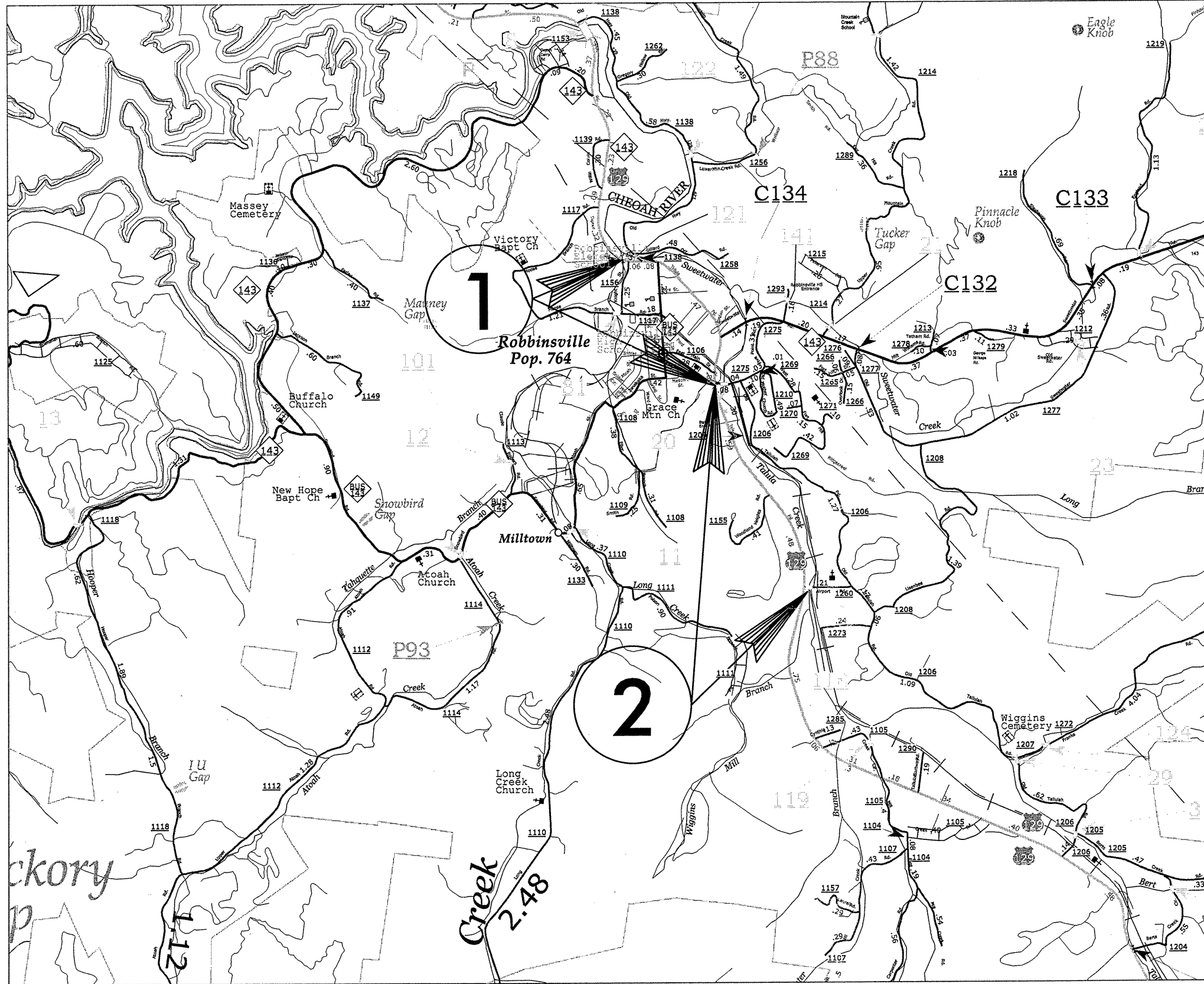
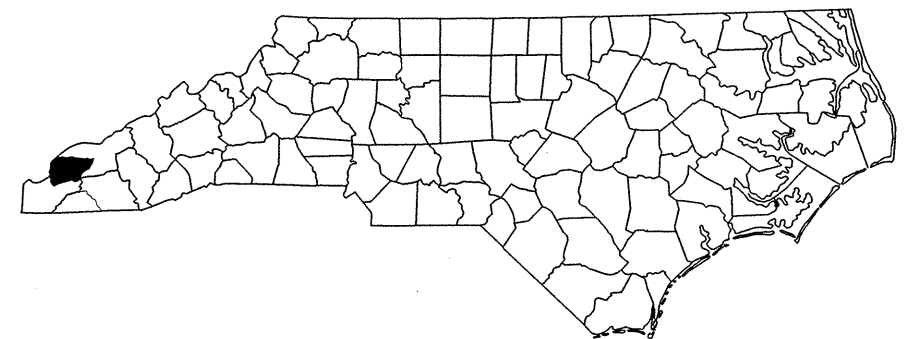
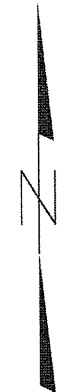
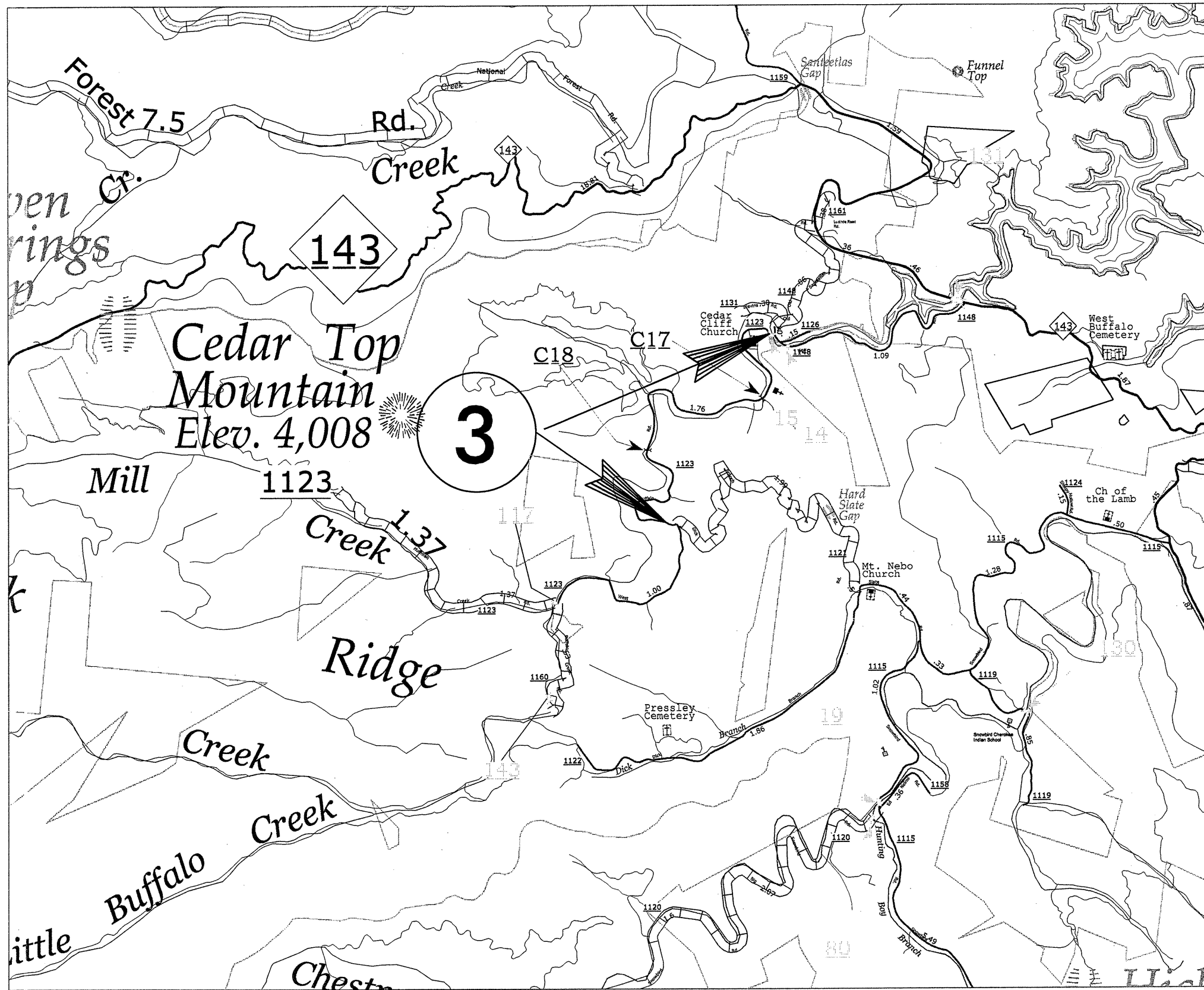


PROJECT REFERENCE NO.	SHEET NO.	
14.103817	1 OF 8	
14CR.10381.5	F.A. PROJECT NO.	DESCRIPTION
14CR.20381.8		
43545		

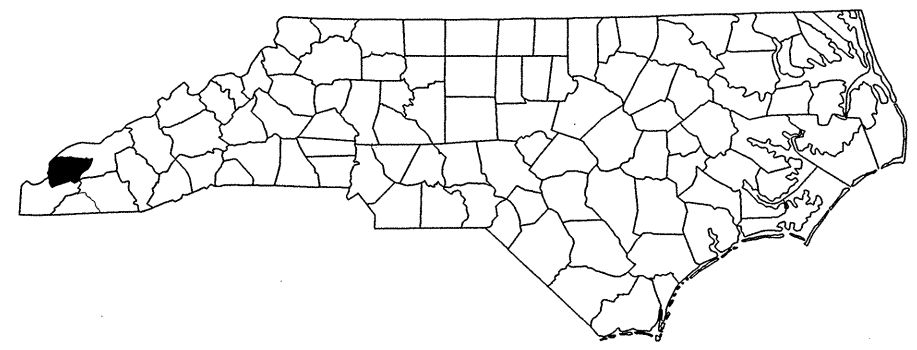
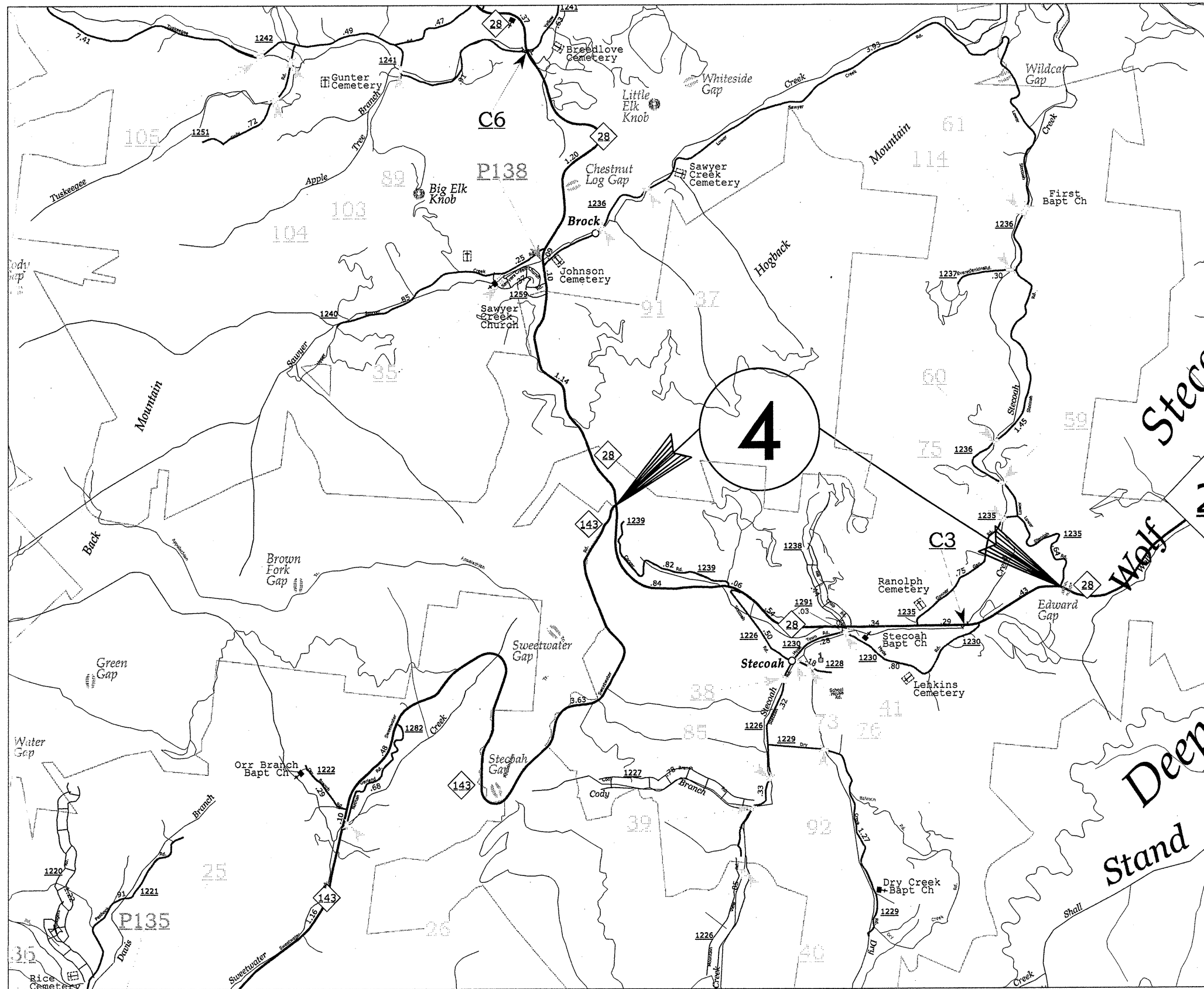
GRAHAM COUNTY



GRAHAM COUNTY



GRAHAM COUNTY



050197

PROJECT REFERENCE NO.		SHEET NO.
14.103817		4 OF 8
STATE PROJECT	F.A. PROJECT NO.	DESCRIPTION
14CR.10381.5		
14CR.20381.5		
43545		

SURFACING SCHEDULE

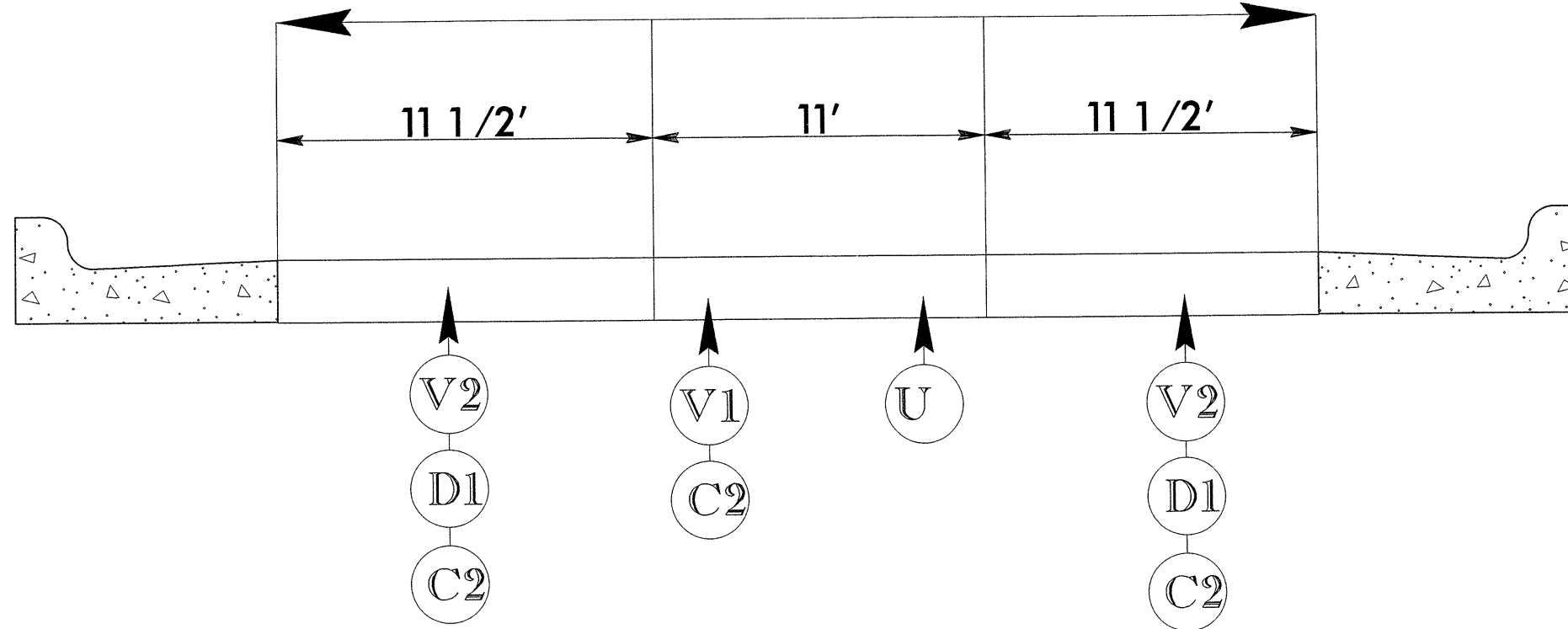
ITEM NO	DESCRIPTION
C1	ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A (1 1/4") AT AN AVERAGE RATE OF 140 LBS. PER SQ. YD.
C2	ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. (1 1/2")
D1	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B AT A RATE OF 399 LBS. PER SQ. YD. (3 1/2")
D2	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B AT A RATE OF 570 LBS. PER SQ. YD. (5"), IN 2 EQUAL 2 1/2" LIFTS
T	SHOULDER RECONSTRUCTION AS DIRECTED BY THE ENGINEER. SEE SPECIAL PROVISIONS
U	EXISTING PAVEMENT
V1	MILLING ASPHALT PAVEMENT, 1 1/2" IN DEPTH AS DIRECTED BY THE ENGINEER
V2	MILLING ASPHALT PAVEMENT, 5" IN DEPTH AS DIRECTED BY THE ENGINEER

050187

PROJECT REFERENCE NO.		SHEET NO.
14CR.103817		5 OF 8
STATE PROJECT	F.A. PROJECT NO.	DESCRIPTION
14CR.10381.5		
14CR.20381.7		
43545		

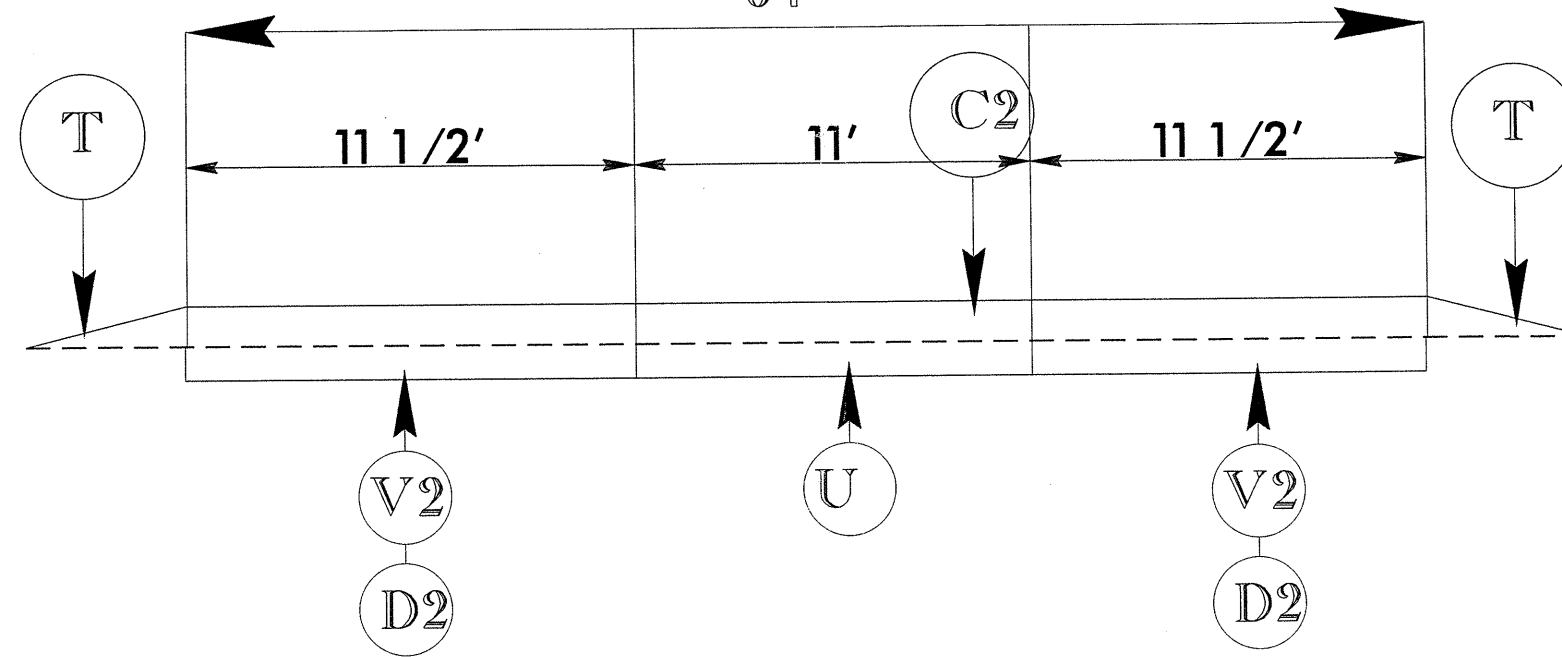
TYPICAL 1

34'



TYPICAL 2

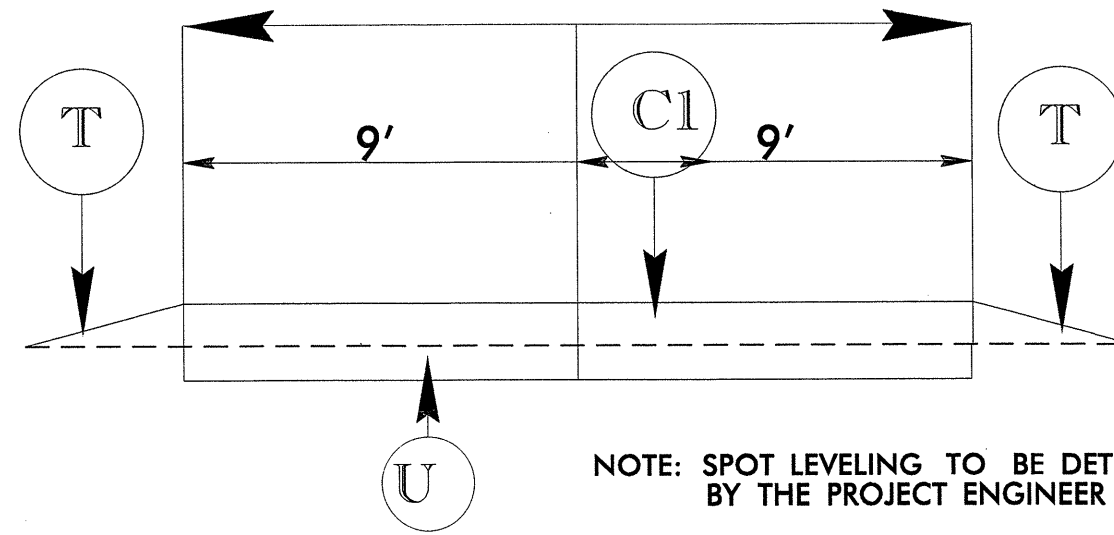
34'



05/01/97

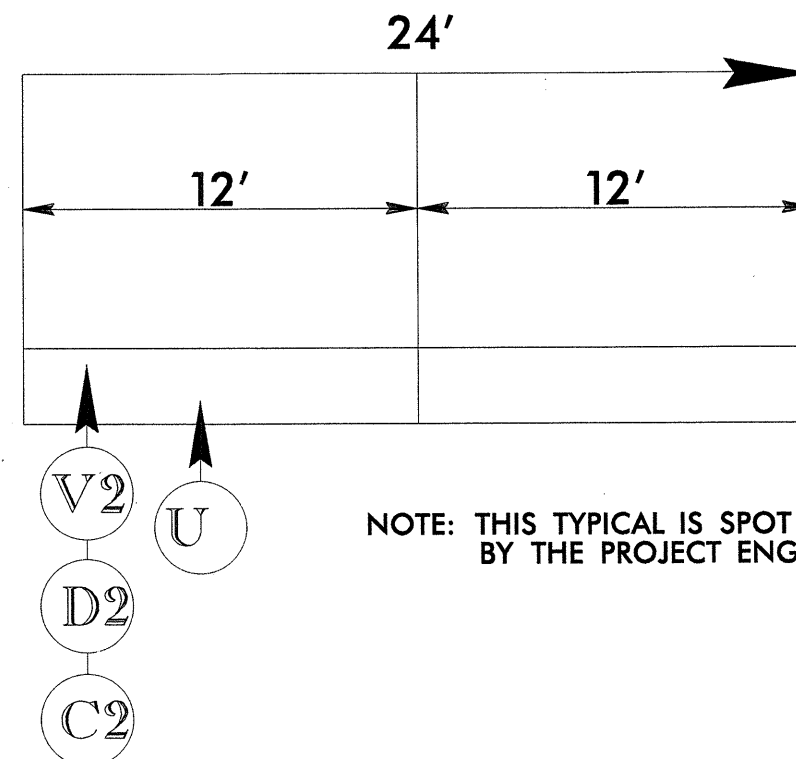
TYPICAL 3

PROJECT REFERENCE NO.		SHEET NO.
14.103817		6 OF 8
14CR.10381.5	F.A. PROJECT NO.	DESCRIPTION
14CR.20381.8		
43545		



NOTE: SPOT LEVELING TO BE DETERMINED BY THE PROJECT ENGINEER

TYPICAL 4



NOTE: THIS TYPICAL IS SPOT MILLING ONLY TO BE DIRECTED BY THE PROJECT ENGINEER

PROJECT NO.	SHEET NO.
43545, 14CR.10381.5 14CR.20381.8, ETC.	7

SUMMARY OF QUANTITIES

PROJECT NO	COUNTY	MAP	ROUTE	DESCRIPTION	TYP	FINAL SURFACE TESTING REQUIRED	LENGTH MI	WIDTH FT	SHOULDER RECONSTRUCTION SMI	5" MILLING SY	1½" MILLING SY	INTERMEDIATE COURSE, I19.0B TONS	SURFACE COURSE, S9.5B TONS	SURFACE COURSE, SF9.5A TONS	ASPHALT BINDER FOR PLANT MIX TONS	4" CONCRETE SIDEWALK SY	CONCRETE CURB RAMP EA	ADJ. OF MANHOLES EA	ADJ. OF METER OR VALVE BOX EA	PEDESTRIAN SIGNAL HEAD (16") EA	SIGNAL CABLE 16-7 GAUGE WIRE LF	MESSENGER CABLE (3/8") LF	
43545	Graham	1	US 129 BY PASS	FROM SOUTH CITY LIMITS TO NORTH CITY LIMITS	1	NO	0.87	34		5,958	19,354	1,080	1,740		156	13.30	6.00			10	2420	180	
TOTAL FOR MAP NO. 1							0.87			5,958	19,354	1,080	1,740		156	13.30	6.00			10	2420	180	
TOTAL FOR PROJ NO. 43545							0.87			5,958	19,354	1,080	1,740		156	13.30	6.00			10	2420	180	
14CR.10381.5	Graham	2	US 129	FROM SCL TO .01 MILES SOUTH OF SR-1260	2	NO	1.2	34	2.40	3,562	25,344	1,087	2,307		191			1	11				
TOTAL FOR MAP NO. 2							1.2		2.40	3,562	25,344	1,087	2,307		191			1	11				
TOTAL FOR PROJ NO. 14CR.10381.5							1.2		2.40	3,562	25,344	1,087	2,307		191			1	11				
14CR.20381.8	Graham	3	SR-1223	FROM BRIDGE # 15 TO SR-1260	3	NO	2.2	18	4.20					2,142	144								
TOTAL FOR MAP NO. 3							2.2		4.20					2,142	144								
TOTAL FOR PROJ NO. 14CR.20381.8							2.2		4.20					2,142	144								
14.103817	Graham	4	NC 28	FROM NC 143 TO SR-1235	4	NO	1.6	2 - 10		4,500		1,020	408		73								
TOTAL FOR MAP NO. 4							1.6				4,500		1,020	408		73							
TOTAL FOR PROJ NO. 14.103817							1.6				4,500		1,020	408		73							
GRAND TOTAL							5.87		6.60		14,020	44,698	3,187	4,455	2,142	564	13.30	6.00	1	11	10	2420	180

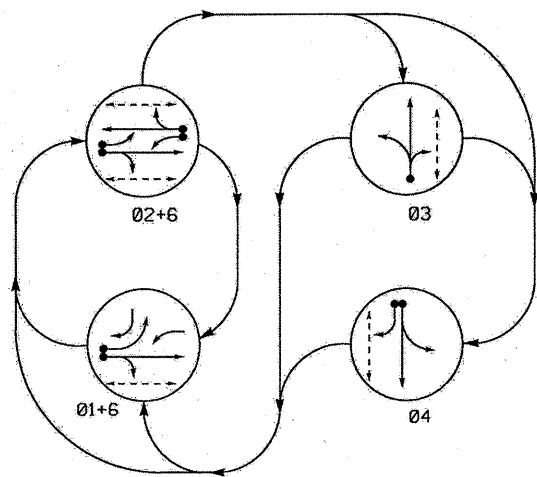
PROJECT NO	COUNTY	MAP	ROUTE	DESCRIPTION	TYP	FINAL SURFACE TESTING REQUIRED	LENGTH MI	WIDTH FT	UNPAVED TRENCHING (1,2) LF	UNPAVED TRENCHING (2,2) LF	WOOD POLE (35') EA	GUY ASSEMBLY EA	1/2" RISER WITH WEATHERHEAD EA	1" RISER WITH WEATHERHEAD EA	2" RISER WITH WEATHERHEAD EA	INDUCTIVE LOOP SAWCUT LF	CABINET BASE EXTENDER EA	LEAD-IN CABLE (14-2) LF	TYPE II PEDESTAL WITH FOUNDATION EA	SIGNAL CABINET FOUNDATION EA	CONTROLLER WITH CABINET (TYPE 2070L, BASE MOUNTED) EA	DETECTOR CARD (TYPE 2070L) EA	
43545	Graham	1	US 129 BY PASS	FROM SOUTH CITY LIMITS TO NORTH CITY LIMITS	1	NO	0.87	34	90	115	1	2	4	5	2	870	1	3010	4	1	1	4	
TOTAL FOR MAP NO. 1							0.87		90	115	1	2	4	5	2	870	1	3010	4	1	1	4	
TOTAL FOR PROJ NO. 43545							0.87		90	115	1	2	4	5	2	870	1	3010	4	1	1	4	
14CR.10381.5	Graham	2	US 129	FROM SCL TO .01 MILES SOUTH OF SR-1260	2	NO	1.2	34															
TOTAL FOR MAP NO. 2							1.2																
TOTAL FOR PROJ NO. 14CR.10381.5							1.2																
14CR.20381.8	Graham	3	SR-1223	FROM BRIDGE # 15 TO SR-1260	3	NO	2.2	18															
TOTAL FOR MAP NO. 3							2.2																
TOTAL FOR PROJ NO. 14CR.20381.8							2.2																
14.103817	Graham	4	NC 28	FROM NC 143 TO SR-1235	4	NO	1.6	6															
TOTAL FOR MAP NO. 4							1.6																
TOTAL FOR PROJ NO. 14.103817							1.6																
GRAND TOTAL							5.87		90	115	1	2	4	5	2	870	1	3010	4	1	1	4	

PROJECT NO.	SHEET NO.	TOTAL NO.
43545, 14CR.10381.5	8	8
14CR.20381.8, ETC.		

THERMOPLASTIC AND PAINT QUANTITIES

PROJECT NO	COUNTY	MAP NO	ROUTE	DESCRIPTION	LENGTH	WIDTH	4400000000-E	4405000000-E	4415000000-N	4420000000-N	4430000000-N	4516000000-N	4685000000-E	4686000000-E				4697000000-E	4702000000-E	4710000000-E	4725000000-E			4810000000-E		4905000000-N
							STATIONARY WORK ZONE SIGN SF	PORTABLE WORK ZONE SIGN SF	FLASHING ARROW PANELS, TYPE C EA	CHANGEABLE MESSAGE SIGN EA	DRUMS EA	SKINNY DRUMS EA	4" X 90 M WHITE THERMO LF	4" X 120 M YELLOW THERMO LF	8" X 120 M WHITE THERMO LF	4" X 120 M WHITE THERMO LF	8" X 120 M YELLOW THERMO LF	12" X 120 M WHITE THERMO LF	24" X 120 M WHITE THERMO LF	THERMO LT ARROW 90 M EA	THERMO STR & RT ARROW 90 M EA	THERMO RT ARROW 90 M EA	4" YELLOW PAINT LF	4" WHITE PAINT LF	SNOW PLOWABLE MARKERS EA	
43545	Graham	1	US 129 BY PASS	FROM SOUTH CITY LIMITS TO NORTH CITY LIMITS	0.87	34	648	96	1	3	25	100	10,052	14,508	267	400		231	385	22	2	8	14,508	500		
TOTAL FOR MAP NO. 1					0.87		648	96	1	3	25	100	10,052	14,508	267	400		231	385	22	2	8	14,508	500		
TOTAL FOR PROJ NO. 43545					0.87		648	96	1	3	25	100	10,052	14,508	267	400		231	385	22	2	8	14,508	500		
													15,175				32			15,008						
14CR.10381.5	Graham	2	US 129	FROM SCL TO .01 MILES SOUTH OF SR-1260	1.2	34							12,912				268		225	37					162	
TOTAL FOR MAP NO. 2					1.2								12,912				268		225	37					162	
TOTAL FOR PROJ NO. 14CR.10381.5					1.2								12,912				268		225	37					162	
													37				94,688									
14CR.20381.8	Graham	3	SR-1223	FROM BRIDGE # 15 TO SR-1260	2.2	18																	47,344	47,344		
TOTAL FOR MAP NO. 3					2.2																		47,344	47,344		
TOTAL FOR PROJ NO. 14CR.20381.8					2.2																		47,344	47,344		
													94,688				3,600									
14.103817	Graham	4	NC 28	FROM NC 143 TO SR-1235	1.6	6																	2,400	1,200		
TOTAL FOR MAP NO. 4					1.6																		2,400	1,200		
TOTAL FOR PROJ NO. 14.103817					1.6																		2,400	1,200		
													3,600				113,296									
GRAND TOTAL					5.87		648	96	1	3	25	100	22,964	14,508	267	400	268	231	610	59	2	8	64,252	49,044	162	
													15,175				69			113,296						

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

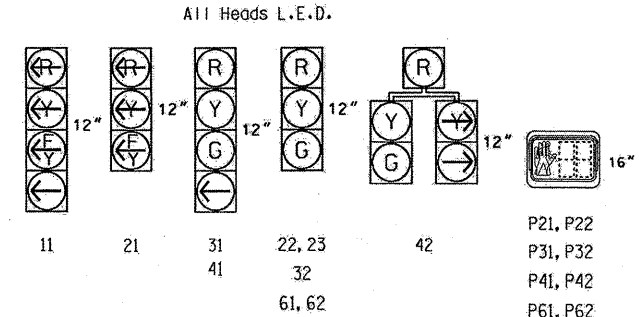
- ←●→ DETECTED MOVEMENT
- ←○→ UNDETECTED MOVEMENT (OVERLAP)
- ←---→ UNSIGNALIZED MOVEMENT
- ←---> PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE				
	01+6	02+6	03	04	F
11	←	←	←	←	←
21	←	←	←	←	←
22,23	R	G	R	R	Y
31	R	R	G	R	R
32	R	R	G	R	R
41	R	R	R	G	R
42	R	R	R	G	R
61,62	G	G	R	R	Y
P21, P22	DW	W	DW	DW	DRK
P31, P32	DW	DW	W	DW	DRK
P41, P42	DW	DW	DW	W	DRK
P61, P62	W	W	DW	DW	DRK

F = Flashing Yellow Arrow
 W - Walk
 DW - Don't Walk
 DRK - Dark

SIGNAL FACE I.D.



OASIS 2070L LOOP & DETECTOR INSTALLATION CHART

LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	DETECTOR PROGRAMMING				SYSTEM LOOP	NEW CARD	
					PHASE	CALLING	EXTENSION	FULL TIME DELAY			
1A	6X40	0	2-4-2	Y	1	Y	Y	-	15	-	Y
2A	6X6	70	4	Y	2	Y	Y	-	-	-	Y
2B	6X40	0	2-4-2	Y	2	Y	Y	-	-	-	Y
3A	6X40	0	2-4-2	Y	3	Y	Y	-	10	-	Y
4A	6X40	0	2-4-2	Y	4	Y	Y	-	-	-	Y
4B	6X40	0	2-4-2	Y	4	Y	Y	-	15	-	Y
6A	6X6	70	4	Y	6	Y	Y	-	-	-	Y

STANDARD SIGNAL FACE CLEARANCES FOR FLASHING LEFT TURN SIGNAL

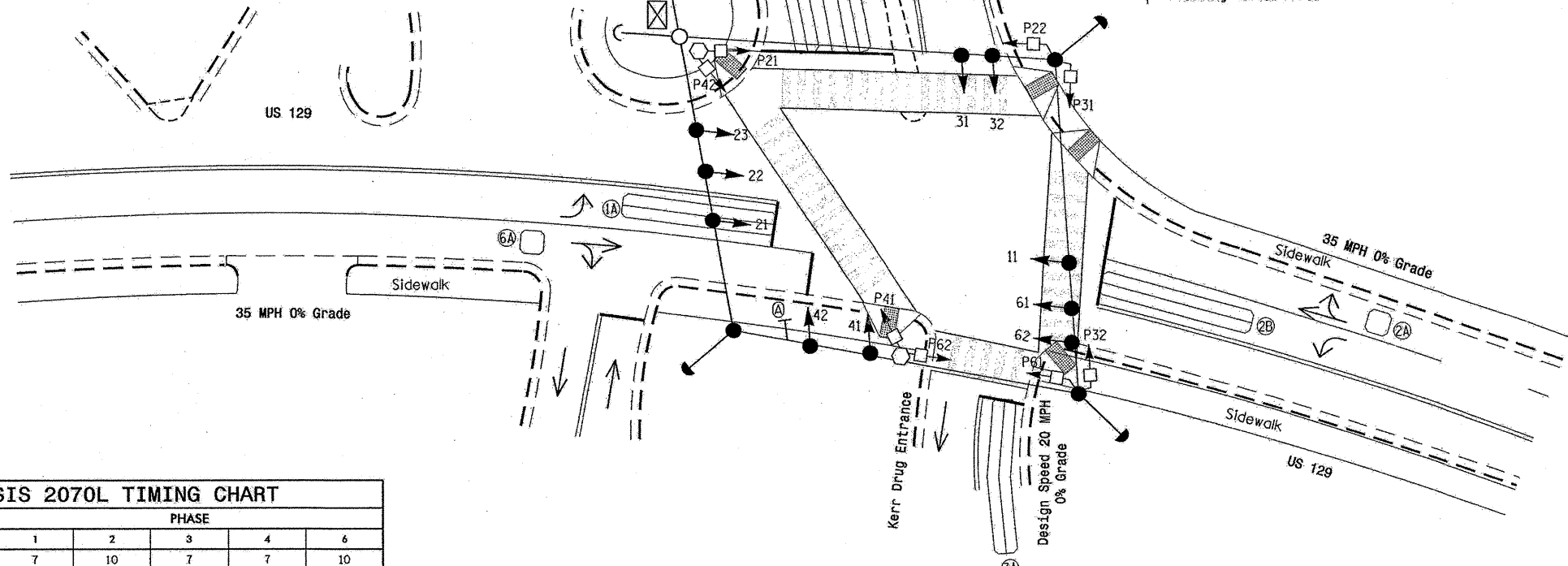
TO	FROM			
	1	2	2	1
←	←	←	←	←
→	→	→	→	→
↔	↔	↔	↔	↔
↔	↔	↔	↔	↔

F = Flashing Yellow Arrow

4 Phase Fully Actuated Isolated

NOTES

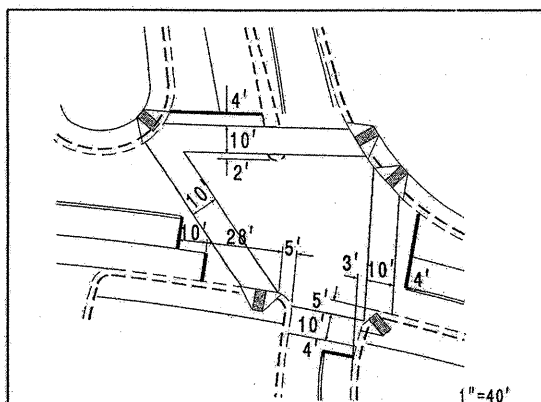
- Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 may be lagged.
- The order of phase 3 and phase 4 may be reversed.
- Set all detector units to presence mode.
- Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- Program pedestrian heads to countdown the flashing "Don't Walk" time only.



OASIS 2070L TIMING CHART

FEATURE	PHASE				
	1	2	3	4	6
Min Green 1 *	7	10	7	7	10
Extension 1 *	2.0	3.0	2.0	2.0	3.0
Max Green 1 *	15	45	15	25	45
Yellow Clearance	3.0	3.8	3.0	3.8	3.8
Red Clearance	1.9	1.5	2.8	2.1	1.5
Walk 1 *	-	7	7	7	7
Don't Walk 1	-	18	11	19	5
Seconds Per Actuation *	-	-	-	-	-
Max Variable Initial *	-	-	-	-	-
Time Before Reduction *	-	-	-	-	-
Time To Reduce *	-	-	-	-	-
Minimum Gap	-	-	-	-	-
Recall Mode	-	MIN RECALL	-	-	MIN RECALL
Vehicle Call Memory	-	YELLOW	-	-	YELLOW
Dual Entry	-	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.



STOPBAR AND CROSSWALK LOCATION

LEGEND

	PROPOSED Traffic Signal Head		EXISTING N/A
	PROPOSED Modified Signal Head		EXISTING N/A
	PROPOSED Sign		EXISTING N/A
	PROPOSED Pedestrian Signal Head With Push Button & Sign		EXISTING N/A
	PROPOSED Signal Pole with Guy		EXISTING N/A
	PROPOSED Signal Pole with Sidewalk Guy		EXISTING N/A
	PROPOSED Inductive Loop Detector		EXISTING N/A
	PROPOSED Controller & Cabinet		EXISTING N/A
	PROPOSED Junction Box		EXISTING N/A
	PROPOSED 2-in Underground Conduit		EXISTING N/A
	PROPOSED Right of Way with Marker		EXISTING N/A
	PROPOSED Directional Arrow		EXISTING N/A
	PROPOSED Right Arrow "ONLY" Sign (R3-SR)		EXISTING N/A
	PROPOSED Pedestrian Signal Pedestal		EXISTING N/A

Signal Upgrade

Prepared in the Office of:

 TRANSPORTATION MOBILITY AND SAFETY DIVISION
 DIVISION OF TRANSPORTATION
 SIGNAL DESIGN SECTION
 750 N. Greenfield Pkwy, Garner, NC 27529

US 129 at NC 143 (Sweetwater Road) / Kerr Drug Entrance

Division 14 Graham County Robbinsville

PLANNING DATE: May 2012 REVIEWED BY: [Signature]

PREPARED BY: G. Pierce REVIEWED BY: [Signature]

SCALE: 0 20 1"=20'

REVISIONS: [Table]

INIT. DATE

[Signature] 5/22/12

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 24393 [Signature] ENGINEER

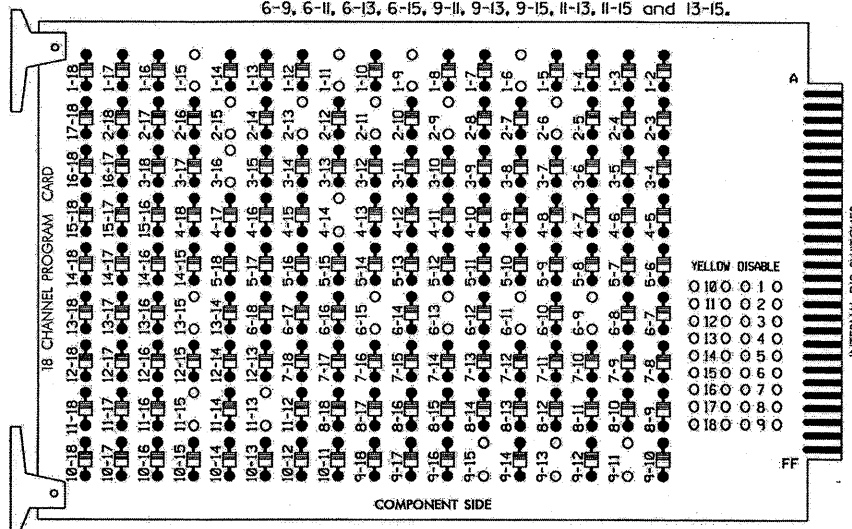
SIG. INVENTORY NO. 14-0750

22-MAY-2012 09:52 S:\ITS\618175_Signals\Signal_Design_Section\Western_Regional\14-143-0750\140750_sig_dgn_2011.mxd-dgn

EDI MODEL 2018ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS: 1-6, 1-9, 1-11, 1-15, 2-6, 2-9, 2-11, 2-13, 2-15, 3-16, 4-14, 6-9, 6-11, 6-13, 6-15, 9-11, 9-13, 9-15, 11-13, 11-15 and 13-15.



REMOVE JUMPERS AS SHOWN

NOTES:

- Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
- Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
- Ensure that Red Enable is active at all times during normal operation.
- Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

NOTES

- To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans.
- Enable Simultaneous Gap-Out for all phases.
- Program phases 2 and 6 for Start Up In Green.
- Program phases 2, 3, 4 and 6 for 'STARTUP PED CALL'.
- Program phases 2 and 6 for Yellow Flash, and overlap 1 as a Wag Overlaps.

EQUIPMENT INFORMATION

CONTROLLER.....2070L
 CABINET.....332 /W/ AUX
 SOFTWARE.....ECONOLITE DASTS
 CABINET MOUNT.....BASE
 OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
 LOAD SWITCHES USED.....S1,S2,S3,S4,S5,S6,S8,S9,S12,AUXS1,AUXS4
 PHASES USED.....1,2,3,4,6,2PED,3PED,4PED,6PED
 OVERLAP "A".....1+2
 OVERLAP "B".....NOT USED
 OVERLAP "C".....6
 OVERLAP "D".....NOT USED

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6	
CMU CHANNEL NO.	1	2	13	3	4	14	5	6	15	7	8	16	9	10	17	11	12	18	
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	3 PED	OLA	OLB	SPARE	OLC	OLD	SPARE	
SIGNAL HEAD NO.	11*	42	22,23	P21, P22	31	32	41	42	P41, P42	NU	61,62	P61, P62	NU	NU	P31, P32	11*	NU	21	NU
RED		*	128		116	116	101	101			134								
YELLOW			129		117	117	102	102			135								
GREEN			130		118	118	103	103			136								
RED ARROW																A121		A114	
YELLOW ARROW		126														A122		A115	
FLASHING YELLOW ARROW																A123		A116	
GREEN ARROW	127	127			118		103												
Hand icon					113				104		119		110						
Hand icon					115				106		121		112						

NU = Not Used
 * Denotes install load resistor. See load resistor installation detail this sheet.
 * See pictorial of head wiring in detail below.

COUNTDOWN PEDESTRIAN SIGNAL OPERATION

Countdown Ped Signals are required to display timing only during Ped Clearance Interval. Consult Ped Signal Module user's manual for instructions on selecting this feature.

PED 3 PROGRAMMING DETAIL

(program controller as shown below)

CHANGING OUTPUT ASSIGNMENTS

- FROM MAIN MENU SELECT '6' (OUTPUTS), THEN '1' (OUTPUT ASSIGNMENTS)
- ENTER 17 (PHASE 8 DW) FOR OUTPUT ASSIGNMENT #.
- SCROLL DOWN TO 'PEDESTRIAN PHASE' AND ENTER 'Y' REGARDLESS OF DEFAULT PROGRAMMING
- ENTER '3' FOR 'SELECT PEDESTRIAN PHASE'. NO CHANGE NEEDED FOR 'SELECT COLOR'
- BACKUP TO 'OUTPUT ASSIGNMENTS AND SETTINGS MENU:' BY PRESSING THE 'ESC' BUTTON ON KEYBOARD.
- SELECT '1' (OUTPUT ASSIGNMENTS)
- ENTER 18 (PHASE 8 W) FOR OUTPUT ASSIGNMENT #.
- REPEAT STEPS # 3 AND # 4.

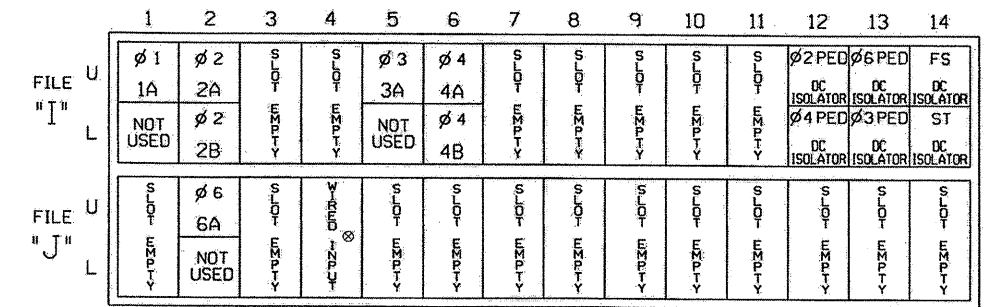
CHANGING INPUT ASSIGNMENTS

- FROM MAIN MENU SELECT '7' (DETECTORS), THEN '2' (PEDESTRIAN DETECTOR ASSIGNMENTS)
- CYCLE TO PED DETECTOR #8 BY REPEATEDLY DEPRESSING '+' KEY
- MODIFY PHASE ASSIGNED TO PED DETECTOR # 8 FROM PHASE 8 TO PHASE 3

PROGRAMMING COMPLETE

INPUT FILE POSITION LAYOUT

(front view)



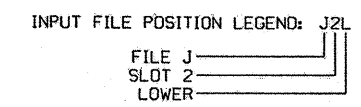
EX: 1A, 2A, ETC. = LOOP NO.'S
 FS = FLASH SENSE
 ST = STOP TIME
 * Wired Input - Do not populate slot with detector card

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
1A	TB2-1,2	I1U	56	18	1	1	Y	Y			15
		J4U	48	10	26	6	Y	Y			
2A	TB2-5,6	I2U	39	1	2	2	Y	Y			
2B	TB2-7,8	I2L	43	5	12	2	Y	Y			
3A	TB4-5,6	I5U	58	20	3	3	Y	Y			10
4A	TB4-9,10	I6U	41	3	4	4	Y	Y			
4B	TB4-11,12	I6L	45	7	14	4	Y	Y			15
6A	TB3-5,6	J2U	40	2	6	6	Y	Y			

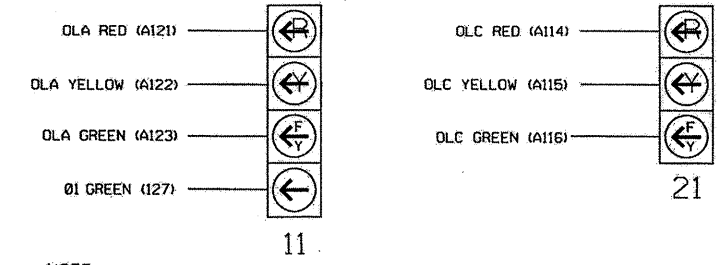
NOTE:
 INSTALL DC ISOLATORS IN INPUT FILE SLOTS 112 AND 113.

*Add jumper from 11-W to J4-W, on rear of input file.



3 AND 4 SECTION FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)



NOTE

The sequence display for signal head 11 requires special logic and output remapping. See sheet 2 of 2 for programming instructions.

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 14-0750
 DESIGNED: May 2012
 SEALED: 5-22-12
 REVISED: N/A

ELECTRICAL DETAIL SHEET 1 OF 2

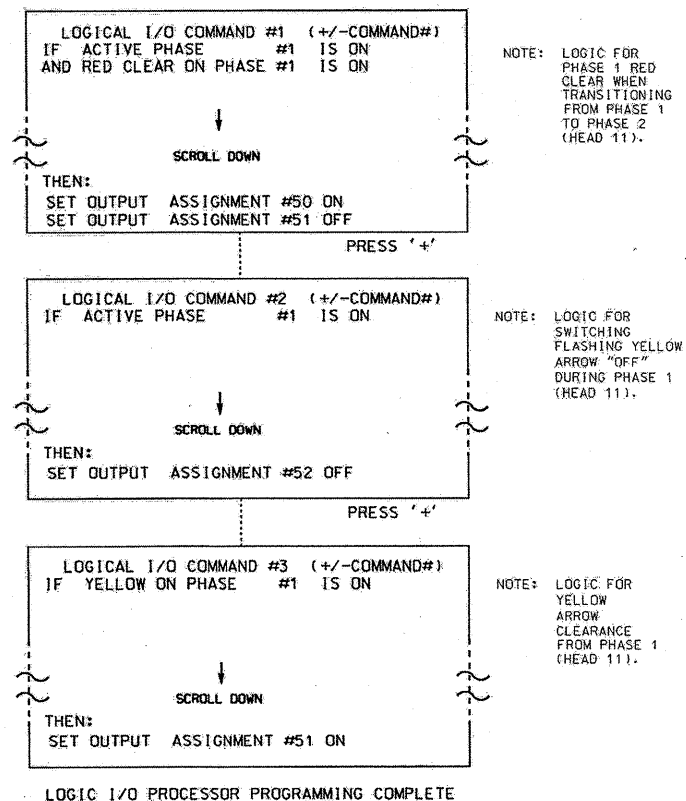
	US 129 at NC 143 (Sweetwater Road) / Kerr Drug Entrance	
	Division 14 PLAN DATE: 5-11-12 PREPARED BY: D.H. Spaulding	Robbinsville REVIEWED BY: T.V.G. REVIEWED BY:
	REVISIONS INIT. DATE	SIGNATURE DATE

24-MAY-2012 13:23 S:\IT\ASSETS\Sigal\work\out\sigal_mon\pou\dring\in-progress\40750_sm.dwg 2012.dwg

LOGICAL I/O PROCESSOR PROGRAMMING DETAIL TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE

(program controller as shown below)

- FROM MAIN MENU PRESS '2' (PHASE CONTROL), THEN '1' (PHASE CONTROL FUNCTIONS), SCROLL TO THE BOTTOM OF THE MENU AND ENABLE ACT LOGIC COMMANDS 1, 2, AND 3.
- FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).



LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE

- OUTPUT 50 = Overlap A Red
- OUTPUT 51 = Overlap A Yellow
- OUTPUT 52 = Overlap A Green

OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS).

```

    PAGE 1: VEHICLE OVERLAP 'A' SETTINGS
    PHASE: 12345678910111213141516
    VEH OVL PARENTS: XX
    VEH OVL NOT VEH:
    VEH OVL NOT PED:
    VEH OVL GRN EXT:
    STARTUP COLOR: _ RED _ YELLOW _ GREEN
    FLASH COLORS: _ RED _ YELLOW X GREEN
    SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
    FLASH YELLOW IN CONTROLLER FLASH?...Y
    GREEN EXTENSION (0-255 SEC)...0.0
    YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
    RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
    OUTPUT AS PHASE # (0=NONE, 1-16)...0
  
```

← NOTICE GREEN FLASH

PRESS '+' TWICE

```

    PAGE 1: VEHICLE OVERLAP 'C' SETTINGS
    PHASE: 12345678910111213141516
    VEH OVL PARENTS: X
    VEH OVL NOT VEH:
    VEH OVL NOT PED:
    VEH OVL GRN EXT:
    STARTUP COLOR: _ RED _ YELLOW _ GREEN
    FLASH COLORS: _ RED _ YELLOW X GREEN
    SELECT VEHICLE OVERLAP OPTIONS: (Y/N)
    FLASH YELLOW IN CONTROLLER FLASH?...Y
    GREEN EXTENSION (0-255 SEC)...0.0
    YELLOW CLEAR (0=PARENT,3-25.5 SEC)...0.0
    RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
    OUTPUT AS PHASE # (0=NONE, 1-16)...0
  
```

← NOTICE GREEN FLASH

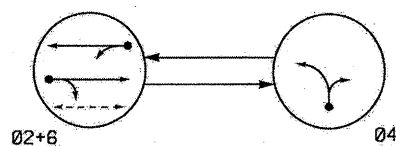
OVERLAP PROGRAMMING COMPLETE

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 14-0750
DESIGNED: May 2012
SEALED: 5-22-12
REVISED: N/A

ELECTRICAL DETAIL SHEET 2 OF 2

	US 129 at NC 143 (Sweetwater Road) / Kerr Drug Entrance		
	Division 14 PLAN DATE: 5-11-12 PREPARED BY: D.H. Spaulding	REVIEWED BY: <i>[Signature]</i> REVIEWED BY:	
REVISIONS			SIGNATURE: <i>[Signature]</i> 5/24/12 DATE:
750 N. Greenfield Pkwy, Corner, NC 27529			SIG. INVENTORY NO. 14-0750

PHASING DIAGRAM



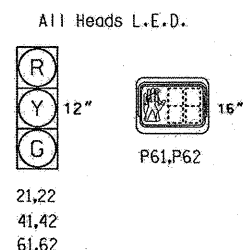
- PHASING DIAGRAM DETECTION LEGEND**
- DETECTED MOVEMENT
 - UNDETECTED MOVEMENT (OVERLAP)
 - UNSIGNALIZED MOVEMENT
 - PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE		
	Q	R	Y
21,22	G	R	Y
41,42	R	G	R
61,62	G	R	Y
P61,P62	W	DW	DRK

W - Walk
DW - Don't Walk
DRK - Dark

SIGNAL FACE I.D.



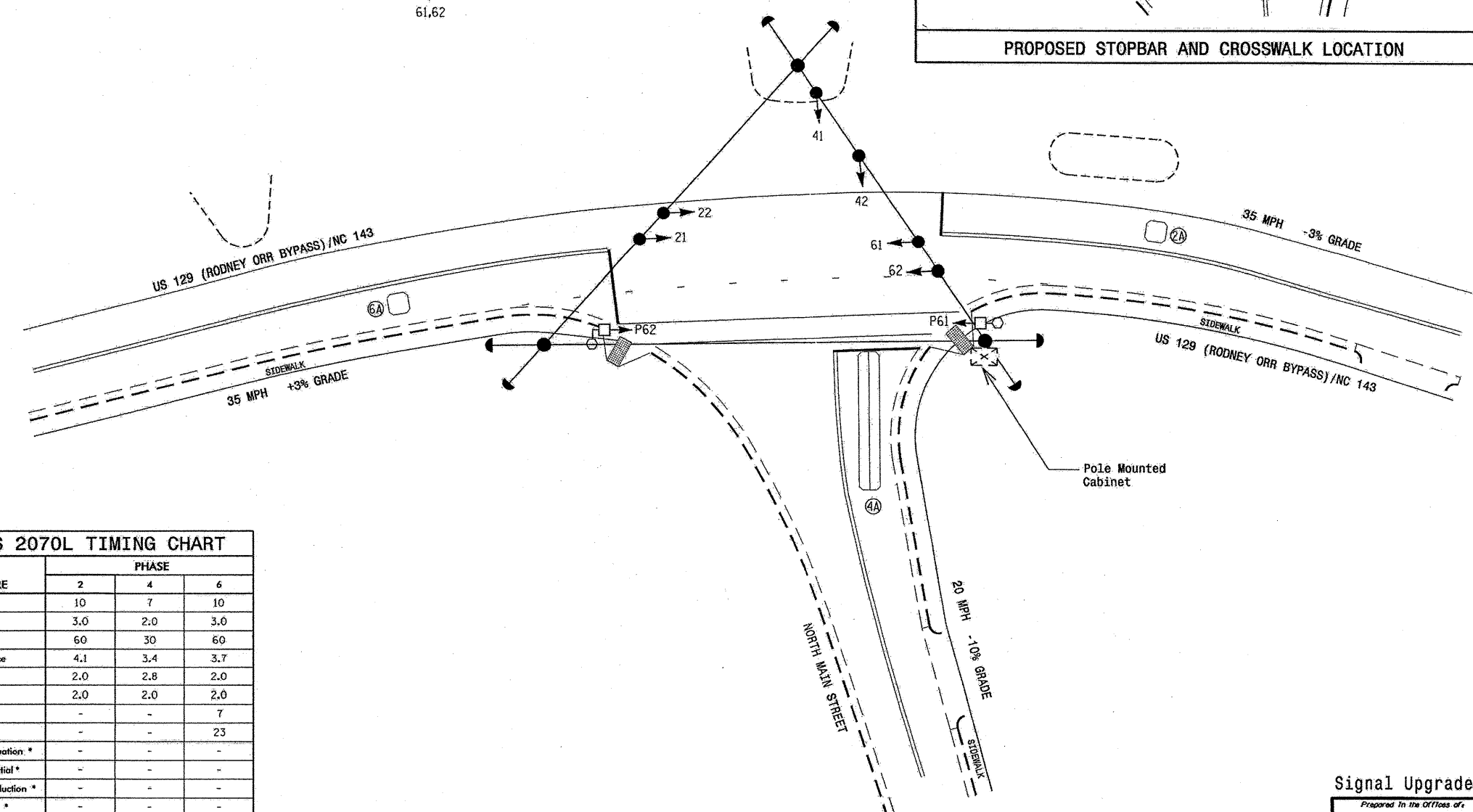
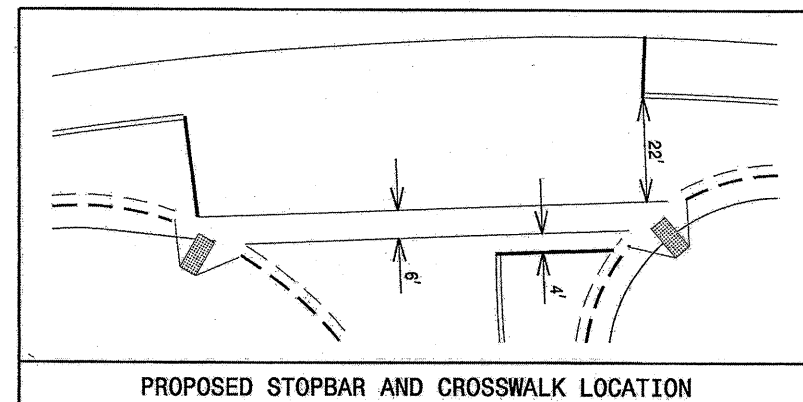
OASIS 2070L LOOP & DETECTOR INSTALLATION CHART

LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	DETECTOR PROGRAMMING					
					PHASE	CALLING	EXTENSION	STRETCH TIME	DELAY TIME	SYSTEM LOOP NEW CARD
2A	6X6	70	4	Y	2	Y	Y	-	-	-
4A	6X40	0	2-4-4	Y	4	Y	Y	-	10	-
6A	6X6	70	3	Y	6	Y	Y	-	-	-

2 Phase
Fully Actuated
(Isolated)

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Abandon existing loop 4B.
- Set all detector units to presence mode.



OASIS 2070L TIMING CHART

FEATURE	PHASE		
	2	4	6
Min. Green 1*	10	7	10
Extension 1*	3.0	2.0	3.0
Max Green 1*	60	30	60
Yellow Clearance	4.1	3.4	3.7
Red Clearance	2.0	2.8	2.0
Red Revert	2.0	2.0	2.0
Walk 1*	-	-	7
Don't Walk 1	-	-	23
Seconds Per Actuation *	-	-	-
Max Variable Initial *	-	-	-
Time Before Reduction *	-	-	-
Time To Reduce *	-	-	-
Minimum Gap	-	-	-
Recall Mode	MIN RECALL	-	MIN RECALL
Vehicle Call Memory	YELLOW	-	YELLOW
Dual Entry	-	-	-
Simultaneous Gap	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

LEGEND

PROPOSED	EXISTING
	Traffic Signal Head
	Modified Signal Head
	Sign
	Pedestrian Signal Head
	Signal Pole with Guy
	Signal Pole with Sidewalk Guy
	Inductive Loop Detector
	Controller & Cabinet
	Junction Box
	2-in Underground Conduit
	Right of Way
	Directional Arrow
	Signal Pedestal

Signal Upgrade

Prepared in the Office of:
Transportation Mobility and Safety Division
DIVISION OF TRANSPORTATION
Signal Design Section

750 N. Greenfield Pkwy., Garner, NC 27529

NC 129 (Rodney Orr Byp.)/NC 143
at
North Main Street

Division 14 Graham County Robbinsville

PLANNED BY: B. E. Wynn
REVIEWED BY: B. E. Wynn

DATE: April 2012

SCALE: 1"=20'

REVISIONS

SIGNATURE:

DATE: 5/1/12

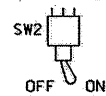
SIG. INVENTORY NO. 14-1001

15-MAY-2012 09:40
 S:\MTCSS\Signal Design\Signal\Western\Region\14-1001\411001_11g.dgn, 2012.may.dgn
 Wynn

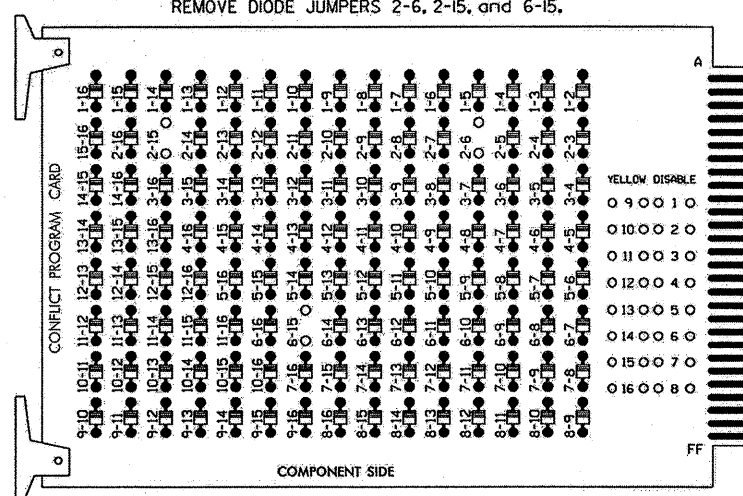
EDI MODEL 2010ECL CONFLICT MONITOR

PROGRAMMING DETAIL

WD ENABLE



(remove jumpers and set switches as shown)

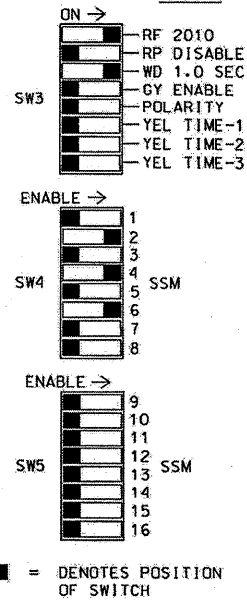


REMOVE JUMPERS AS SHOWN

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Make sure jumpers SEL2-SEL5 are present on the monitor board.

OPTIONS



NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans.
2. Ensure that Red Enable is active at all times during normal operation. To prevent Red Failures on unused monitor channels, tie unused red monitor inputs 1,3,5,7,8,9,10,11,12,13,14,15 & 16 to load switch AC+ per the cabinet manufacturer's instructions.
3. Enable Simultaneous Gap-Out for all phases.
4. Program phases 2 and 6 for Start Up In Green.
5. Program phase 6 for 'STARTUP PED CALL'.
6. Program phases 2 and 6 for Yellow Flash.

EQUIPMENT INFORMATION

CONTROLLER.....2070L
 CABINET.....336
 SOFTWARE.....ECONOLITE OASIS
 CABINET MOUNT.....POLE
 OUTPUT FILE POSITIONS...12
 LOAD SWITCHES USED.....S2,S4,S6,S6P
 PHASES USED.....2,4,6,6PED
 OVERLAPS.....NONE

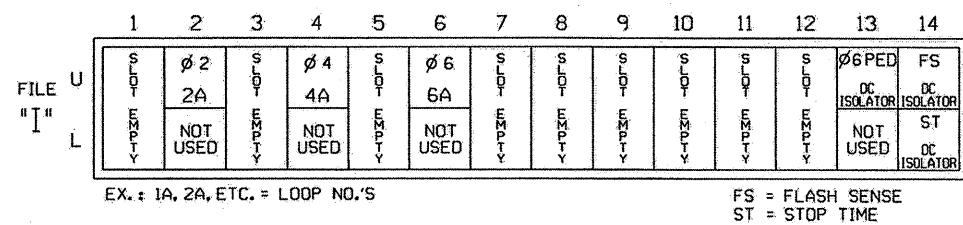
SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S2P	S3	S4	S4P	S5	S6	S6P	S7	S8	S8P
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED
SIGNAL HEAD NO.	NU	21,22	NU	NU	41,42	NU	NU	61,62	PE1, P62	NU	NU	NU
RED		128			101			134				
YELLOW		129			102			135				
GREEN		130			103			136				
RED ARROW												
YELLOW ARROW												
GREEN ARROW												
									119			
									121			

NU = Not Used

INPUT FILE POSITION LAYOUT

(front view)

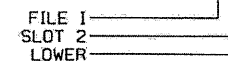


INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
2A	TB21-3,4	12U	39	1	2	2	Y	Y			
4A	TB21-7,8	14U	41	3	4	4	Y	Y			10
6A	TB21-11,12	16U	40	2	6	6	Y	Y			
PED PUSH BUTTONS											
P61,P62	TB22-11,12	113U	68	30	PED 6	6 PED					

NOTE:
 INSTALL DC ISOLATORS IN INPUT FILE SLOT 113.

INPUT FILE POSITION LEGEND: 12L



THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 14-1001
 DESIGNED: April 2012
 SEALED: 5/17/12
 REVISED: N/A

Signal Upgrade

ELECTRICAL AND PROGRAMMING DETAILS FOR: **NC 129 (Rodney Orr Byp.)/NC 143 at North Main Street**

Prepared in the Office of:

Division 14 Graham County Robbinsville

PLAN DATE: **May 2012** REVIEWED BY: **JTR**

PREPARED BY: **S. Armstrong** REVIEWED BY:

REVISIONS: _____ INIT. DATE

SIGNATURE: DATE: **5-18-12**

SIG. INVENTORY NO. 14-1001