

# SIGNAL TIMING & PHASING

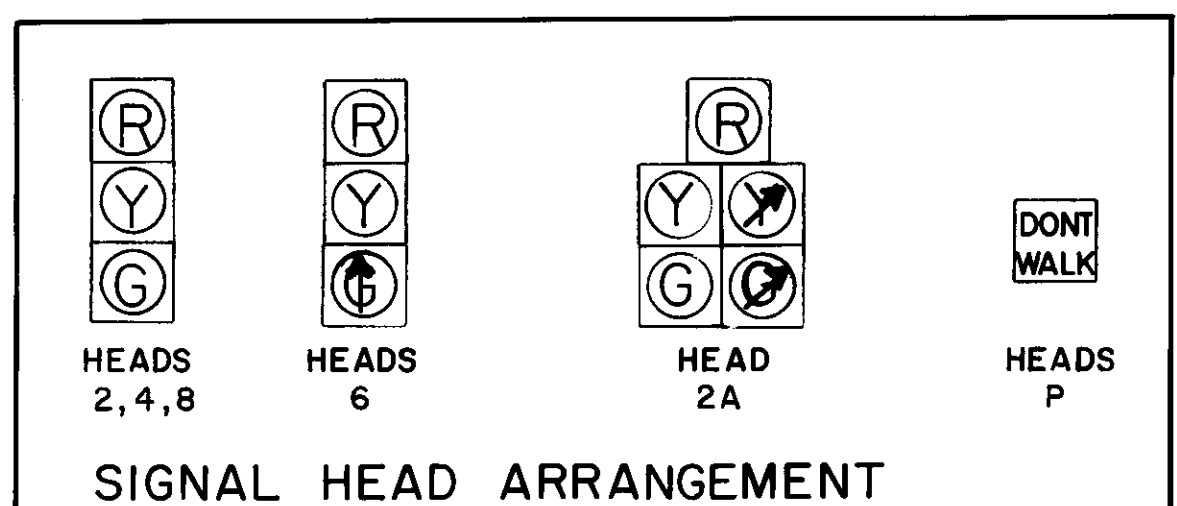
PHASE	PHASE A				PHASE B				PHASE C (PEDS)				PHASE D			
	W	O	B	C	W	O	B	C	W	O	B	C	W	O	B	C
MIN. GRN	10				8								10			
VEH. EXT.	1				1								1			
MIN. EXT.	3				3								3			
MAX 1	47.35	3.52	3.52	3.52	18.335	3.35	3.35	3.35	4.102	10.2	10.2	10.2	20.435	4.35	4.35	4.35
MAX 2	1.9												1.9			
MIN. GRN	10				8								10			
VEH. EXT.	1				1								1			
MIN. EXT.	3				3								3			
MAX 1	47.35	3.52	3.52	3.52	18.335	3.35	3.35	3.35	4.102	10.2	10.2	10.2	20.435	4.35	4.35	4.35
MAX 2	1.9												1.9			
MIN. GRN	10				8								10			
VEH. EXT.	1				1								1			
MIN. EXT.	3				3								3			
MAX 1	47.35	3.52	3.52	3.52	18.335	3.35	3.35	3.35	4.102	10.2	10.2	10.2	20.435	4.35	4.35	4.35
MAX 2	1.9												1.9			
FACE 2	G Y R	Y R Y R	Y R	Y R	R R R	R R R	R R	R R	R R R	R R R	R R	R R	R R R	R R R	R R	R R
FACE 2A	R R R	R R R	R R	R R	R R R	R R R	R R	R R	R R R	R R R	R R	R R	R R R	R R R	R R	R R
FACE 4	R R R	R R R	R R	R R	R R R	R R R	R R	R R	R R R	R R R	R R	R R	R R R	R R R	R R	R R
FACE 6	G Y R	Y R Y R	Y R	Y R	R R R	R R R	R R	R R	R R R	R R R	R R	R R	R R R	R R R	R R	R R
FACE 8	R R R	R R R	R R	R R	R R R	R R R	R R	R R	R R R	R R R	R R	R R	R R R	R R R	R R	R R
FACE P	D W D W	D W D W	D W	D W	D W D W	D W D W	D W	D W	D W D W	D W D W	D W	D W	D W D W	D W D W	D W	D W

W=STEADY WALK DW=DONT WALK F=FLASHING DONT WALK B=BLANK  
 PM PEAK=3-5:30 AM PEAK=7-8 OFF PEAK=REST OF DAY  
**SIGNAL TIMING NOTES:**

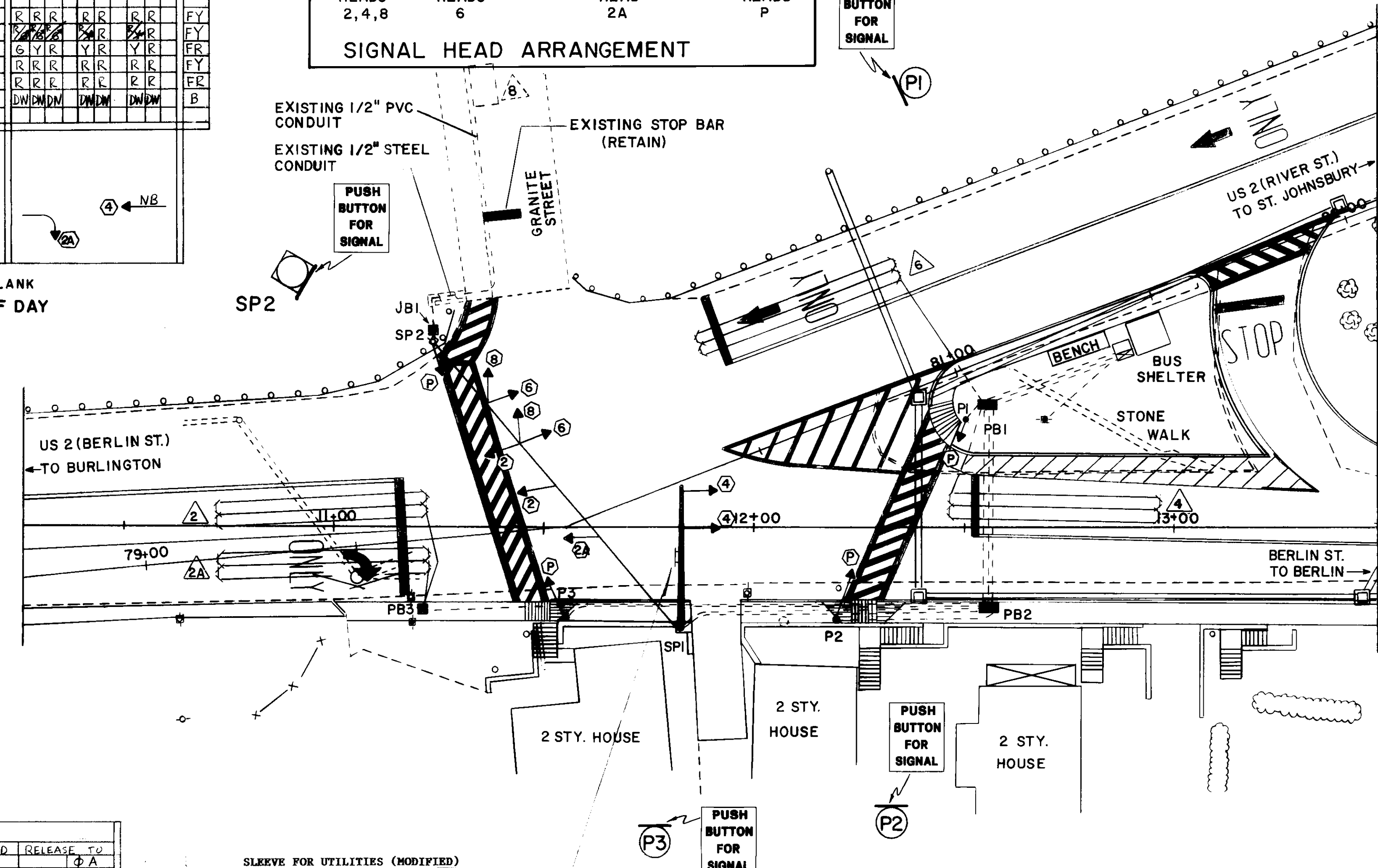
- THE SIGNAL SYSTEM SHALL RUN FULLY ACTUATED AND SHALL BE EQUIPPED WITH A TIME BASED COORDINATOR FOR FUTURE USE.
- THE SIGNAL SHALL DWELL ON MOVEMENTS 2 AND 6 WHEN THERE IS LACK OF CALL ON THE OTHER PHASES (SOFT RECALL).
- THE RIGHT TURN MOVEMENT 2A RUNS AS AN OVERLAP WITH MOVEMENT 4 AND IS CONTROLLED BY A FIVE SECTION SIGNAL HEAD.
- THE FIBEROPTIC "NO TURN ON RED" SIGN SHALL BE ACTIVATED DURING THE EXCLUSIVE PEDESTRIAN PHASE C AND SHALL REMAIN ON DURING THE STEADY WALK AND THE FLASHING DONT WALK INDICATIONS. THIS SIGN SHALL BE POWERED THROUGH THE SIGNAL CONTROLLER CABINET.
- THE PEDESTRIAN PHASE SHALL BE PROVIDED WITH AUDIO SIGNALS WHICH SHALL OPERATE DURING THE STEADY WALK INDICATION ONLY.
- ALL MOVEMENTS SHALL RUN WITH NON-LOCKING MEMORY FOR PRESENCE DETECTION, EXCEPT LOOP 8 WHICH IS PULSE.
- THE OFF-PEAK SETTINGS SHALL BE RUN FROM 7AM TO 10 PM ON WEEKENDS (SAT.-SUN.). THIS WILL REQUIRE A DIFFERENT DAY-OF-WEEK PROGRAM.

## FIRE PRE-EMPT

PHASE	DELAY	CLEAR FROM:				HOLD	RELEASE TO
		Φ A	Φ B	Φ C	Φ D		
MIN/MAX	0	3.52	3.35	10.2	4.35	45	10
OFF PEAK	0	3.52	3.35	10.2	4.35	45	10
AM PEAK	0	3.52	3.35	10.2	4.35	45	10
FACE 2		G	R	R	R	G	G
FACE 2A		R	R	R	R	R	R
FACE 4		R	R	R	R	R	R
FACE 6		Y	R	R	R	Y	R
FACE 8		R	R	R	R	R	R
FACE P		DW	DW	DW	DW	DW	DW



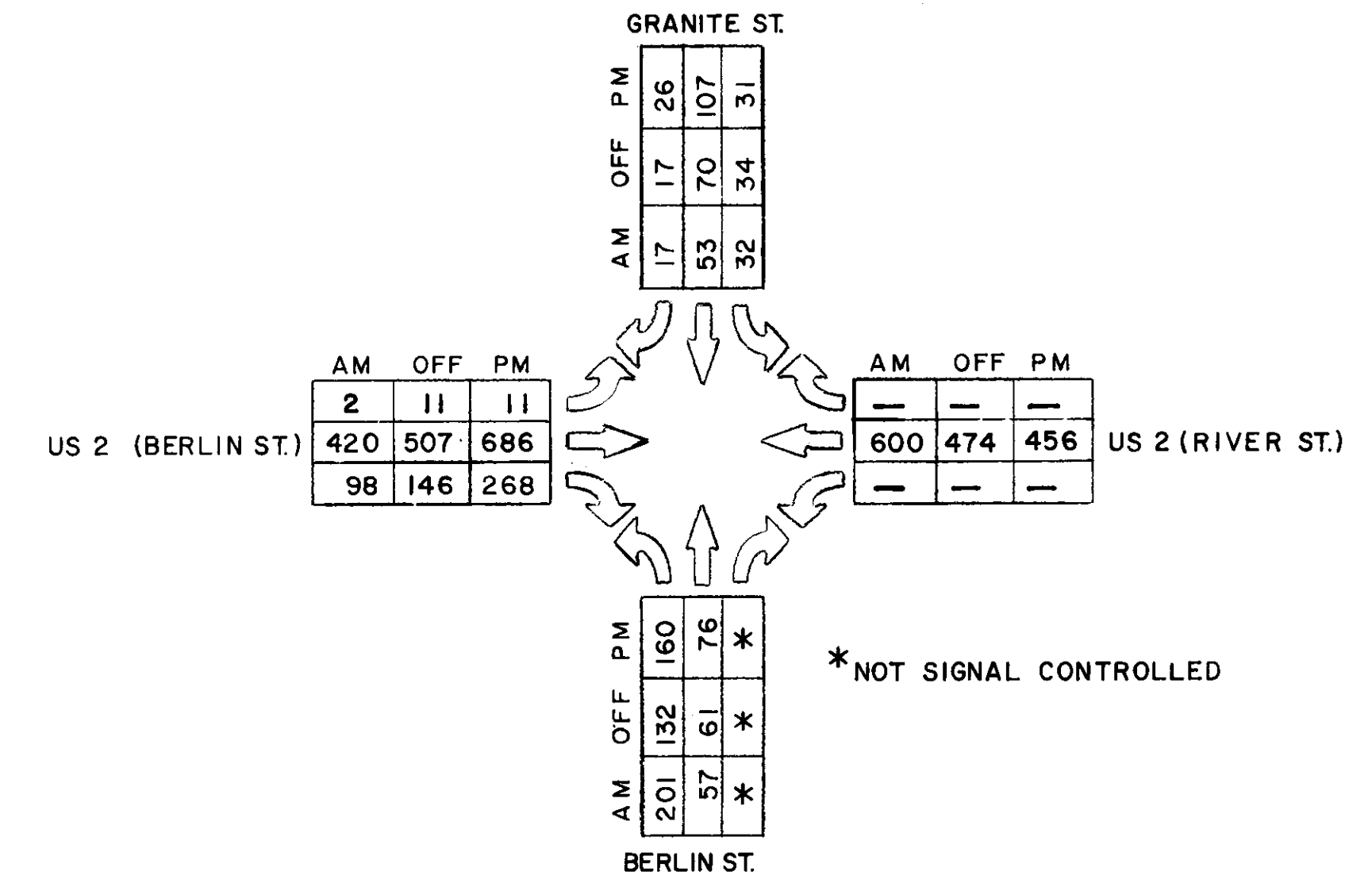
NOTE: LOUVERED BACK PLATES SHALL BE INSTALLED ON ALL SIGNAL HEADS DESIGNATED AS "2", "2A" AND "6". THE TOP SECTION OF THE BACKPLATE MAY BE REMOVED OR MODIFIED TO PROVIDE ACCESS TO THE DISCONNECT HANGER(S). THE SPAN WIRE ATTACHMENT HEIGHT MAY NEED TO BE RAISED, DUE TO THE USE OF THE BACKPLATES, IN ORDER TO PROVIDE THE MINIMUM CLEARANCE OF 16.5 FEET.



VEHICLE DETECTOR LOOPS						
LOOP NO.	LANE	CALL	SIZE	TYPE & NO. TURNS	INDUCTANCE CALC. ACTUAL	RESISTANCE CALC. ACTUAL
2	US 2 EB	A	6' X 50'	QUAD 1-TURN	192	.905
2A	US 2 EB RT	A	6' X 50'	QUAD 1-TURN	184	.875
4	BERLIN NB	D	6' X 50'	QUAD 1-TURN	146	.539
6	US 2 WB	A	6' X 50'	QUAD 1-TURN	149	.559
8	GRANITE	B	EXISTING LOOP			

## LOOP NOTES:

- EACH LOOP SHALL BE BROUGHT BACK TO THE CONTROLLER SEPARATELY AND HAVE ITS OWN AMPLIFIER.
- ALL LOOPS AND LEAD-INS SHALL BE NO. 12 AWG WIRE.
- ALL LOOP SPLICES SHALL BE SOLWELDED AND INDIVIDUALLY SEALED IN AN EPOXY SPLICE KIT.



1989 AVERAGE WEEKDAY TRAFFIC VOLUMES FOR SIGNAL TIMING

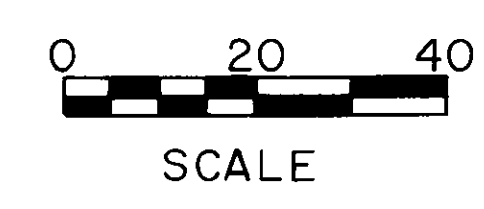
## SLEEVE FOR UTILITIES (MODIFIED)

- 10" PVC
- PB2 TO PB1
- ELECTRICAL CONDUIT
- 1" GALVANIZED STEEL
- JB1 TO SP2 (LOOP 8 LEAD-IN)
- SP2 (POLE RISER FOR LOOP 8)
- SP2 (POLE RISER FOR PED. SIGNALS)
- 1 1/2" PVC
- PB3 TO CUREB (LOOP 2 & 2A LEAD-IN)
- PB1 TO CUREB (LOOP 4 LEAD-IN)
- PB1 TO CUREB (LOOP 6 LEAD-IN)
- 2" PVC
- P1 TO PB1
- PB3 TO PB2 (LOOP 2 & 2A LEAD-IN)
- P3 TO PB2 (P3 WIRING)
- SP1 TO PB2 (LOOP 8 LEAD-IN)
- P2 TO PB2 (P2 WIRING)
- PB2 TO PB1 (LOOP 2 & 2A & 8 LEAD-IN)
- PB2 TO PB1 (SP1 & SP2 WIRING)
- PB2 TO PB1 (P2 & P3 WIRING)
- PB1 TO CONTROLLER (LOOP 2 & 2A & 8 LEAD-IN)
- PB1 TO CONTROLLER (LOOP 4 & 6 LEAD-IN)
- PB1 TO CONTROLLER (SP1 & SP2 WIRING)
- PB1 TO CONTROLLER (P1 & P2 & P3 WIRING)
- UTILITY POLE TO CONTROLLER (POWER FEED)
- UTILITY POLE (POLE RISER FOR POWER FEED)

NO TURN ON RED  
 30" X 30" FIBEROPTIC MOUNT OVERHEAD, AS SHOWN. ACTIVATED BY PEDESTRIAN CALL, ON ONLY DURING PED. PHASE.

## VEHICLE LOOP DETECTORS

- AS NOTED TO RIGHT
- PULLBOX
- PB3, AS SHOWN
- PULLBOX (MODIFIED)
- PB1, AS SHOWN
- PB2, AS SHOWN



## LEGEND

- NEW TRAFFIC SIGNAL CONDUIT
- NEW PULLBOX (PB) OR JUNCTION BOX (JB)
- ⊙ NEW SIGNAL POLE (SP)
- ⊙ NEW PEDESTAL POST (P)
- ⊙ NEW LUMINAIRE (SL)
- ⊙ NEW TRAFFIC OR PEDESTRIAN SIGNAL HEAD
- ⊙ PEDESTRIAN
- ⊙ TRAFFIC (BY MOVEMENT)
- ⊙ NEW SIGNAL CONTROLLER (GROUND MOUNT)
- △ NEW LOOP DETECTOR NUMBER
- △ EXISTING LOOP DETECTOR NUMBER
- NEW UTILITY POLE
- EXISTING UTILITY POLE

## TRAFFIC SIGNAL LAYOUT & TIMING

DONE BY DSP DATE 06/89  
 CKD BY DATE  
 T.D. LEADER  
 DESIGN FILE NO. DATE PLOTTED  
 PROJ. NAME MONTPELIER  
 PROJ. NO. M 6400(7)  
 SHEET 1-8 OF 35 SHEETS