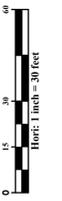


# BASIC TEMPORARY SIGNAL MODIFICATION EXAMPLE



CALCULATED  
ABC  
CHECKED  
ABC

MAINTENANCE OF TRAFFIC PLAN  
PHASE I

IMPROVEMENTS OF...  
STREET A FROM STREET B TO STREET C

XXXX-E

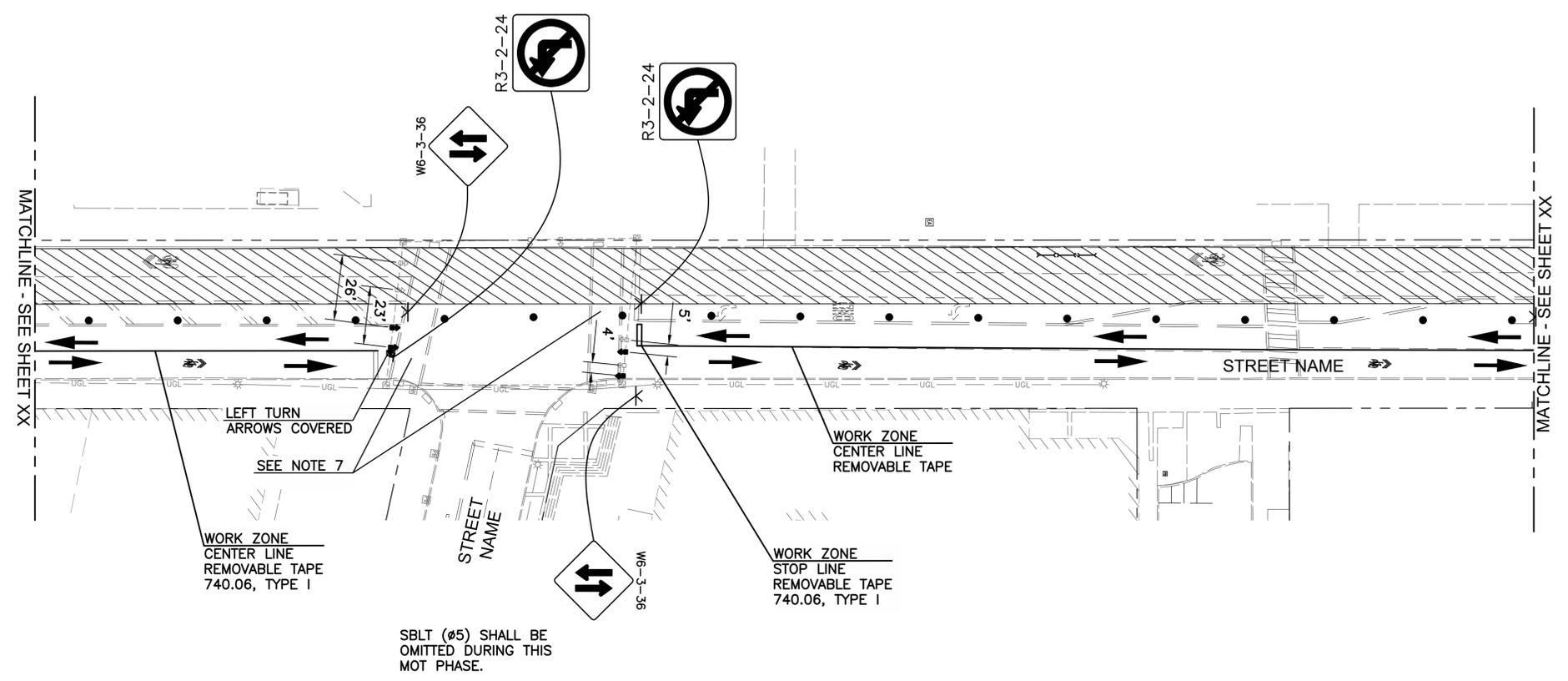


**NOTES:**

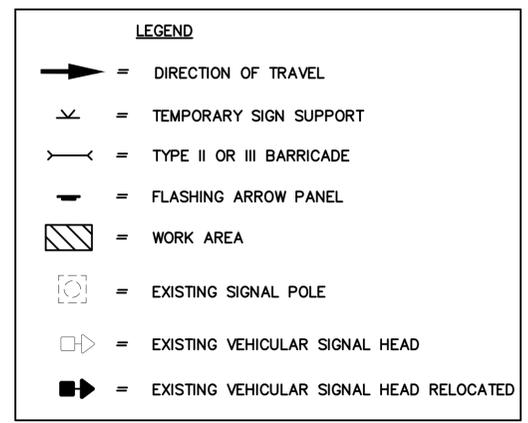
1. AN EXISTING TRAFFIC SIGNAL, OR ANY PART THEREOF, SHALL NOT BE TAKEN OUT OF SERVICE UNLESS ALTERNATE MEANS OF TRAFFIC CONTROL ARE IN PLACE AND OPERATIONAL. UNLESS DIRECTED BY THE CITY OF COLUMBUS, CITY ENGINEER OR APPOINTED DESIGNEE EXISTING TRAFFIC SIGNALS SHALL NOT BE TAKEN OUT OF SERVICE BETWEEN THE HOURS OF:
    - 7:00 AM TO 9:00 AM MONDAY THROUGH FRIDAY AND
    - 4:00 PM TO 6:00 PM, MONDAY THROUGH FRIDAY (3:30 PM – 6:00 PM FOR THE DOWNTOWN BUSINESS DISTRICT)
    - OR ONE HOUR BEFORE SUNSET THROUGH ONE-HALF HOUR AFTER SUN RISE, WHICHEVER IS THE LONGEST DURATION.
  2. ANY UNUSED SIGNAL HEAD, PEDESTRIAN SIGNAL HEAD, PEDESTRIAN PUSHBUTTON, OR POLE OR SPAN/ARM MOUNTED SIGN SHALL BE COVERED AND DISCONNECTED. VEHICULAR SIGNAL HEADS AND PEDESTRIAN SIGNAL HEADS SHALL BE COVERED PER THE REQUIREMENTS OF CMSC 632.25.
  3. VEHICULAR SIGNAL HEADS SHALL BE ALIGNED PER THE PLAN. NO TWO VEHICULAR SIGNAL HEADS SHALL BE LOCATED WITHIN EIGHT FEET OF ONE ANOTHER, MEASURED PERPENDICULAR TO THE TRAVEL LANE.
  4. SIK  
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  5. WE  
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  6. AL  
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- USE THE CURRENT VERSION OF THE TEMPORARY TRAFFIC SIGNAL NOTES AVAILABLE ON THE CITY OF COLUMBUS WEBSITE.
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OR  
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MAIN  
ARE  
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DEO
- DETECTION SHALL BE USED TO MAINTAIN DETECTION WHEN AN EXISTING LOOP CANNOT BE USED. IF THE EXISTING DETECTION IS RADAR OR VIDEO, THE ZONES ON THE EXISTING RADAR OR VIDEO UNIT SHALL BE RELOCATED TO THE NEW LANE ALIGNMENT. WHEN TEMPORARY RADAR DETECTION IS USED, DILEMMA ZONE DETECTION SHALL BE PROVIDED FOR APPROACHES WITH SPEEDS GREATER THAN 40 MPH.
7. EXISTING PEDESTRIAN PUSHBUTTONS, PUSHBUTTON SIGNS, AND SIGNAL HEADS SHALL BE MAINTAINED FOR ALL CROSSWALKS THAT REMAIN OPEN DURING CONSTRUCTION. TEMPORARY PUSHBUTTONS AND SIGNS OR RELOCATED PUSHBUTTONS AND SIGNS SHALL BE POSITIONED ACCORDING TO THE CITY OF COLUMBUS ADA RULES AND REGULATIONS. RELOCATED PEDESTRIAN SIGNAL HEADS SHALL BE POSITIONED SUCH THAT THE HEAD IS AIMED AT THE CENTER OF THE CROSSWALK AREA (NOT THE CURB RAMP) THAT IS OPPOSITE THE UNIT. A MINIMUM OF ONE CROSSWALK TO CROSS EACH STREET AT A SIGNALIZED INTERSECTION SHALL BE MAINTAINED AT ALL TIMES. FOR SIGNALIZED INTERSECTIONS WITH THREE LEGS, THE CROSSWALK TO CROSS THE DEAD END STREET MAY BE CLOSED AS LONG A PEDESTRIAN PATH IS PROVIDED ALONG THE "TOP SIDE" OF THE INTERSECTION.
  8. UNLESS NOTED IN THE PLANS, THE TRAFFIC SIGNAL SHALL UTILIZE THE EXISTING TIMING AND PHASING.
  9. IF ANY CHANGES ARE MADE TO THE SIGNAL OPERATION INCLUDING PHASING CHANGES, PHASE OMISSIONS, TIMING CHANGES, ETC., SIGNAL OPERATION CHANGED SIGNS (W23-H2B) SHALL BE INSTALLED ON THE SPAN OR ARM FOR ALL DIRECTIONS. CENTER THE SIGN OVER THE APPROACH. SIGN SHALL BE LEFT IN PLACE NO LONGER THAN THE DURATION SPECIFIED UNDER ITEM 630 SIGNING, MISC.: TRAFFIC SIGNAL SIGNS.

**DESIGNER NOTE:**

- BASIC TEMPORARY SIGNAL WORK MAY BE SHOWN ON THE TYPICAL MOT PLAN SHEETS. DEDICATED SHEETS FOR TEMPORARY SIGNAL WORK ARE NOT REQUIRED.
- SIGNAL HEAD SYMBOLS SHALL DISTINGUISH BETWEEN 3-SECTION, 5-SECTION AND 3-SECTION PROTECTED ONLY HEADS.
- SEE TRAFFIC SIGNAL DESIGN MANUAL ON THE CITY OF COLUMBUS WEBSITE FOR ALL REQUIREMENTS OF TEMPORARY SIGNALS.

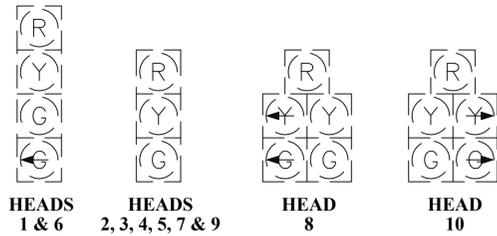


SBLT (#5) SHALL BE OMITTED DURING THIS MOT PHASE.

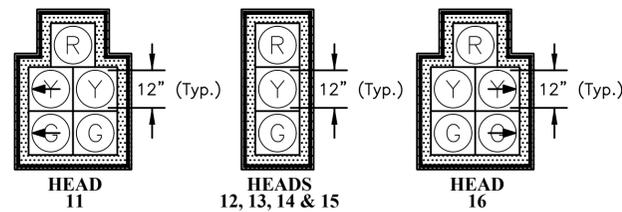


# DETAILED TEMPORARY SIGNAL MODIFICATION EXAMPLE

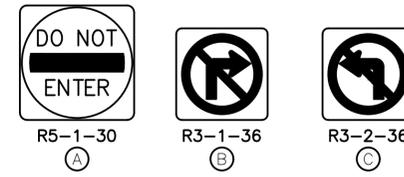
## EXISTING VEHICULAR TRAFFIC SIGNAL HEAD CONFIGURATION (REMOVE)



## TEMPORARY VEHICULAR TRAFFIC SIGNAL HEAD CONFIGURATION

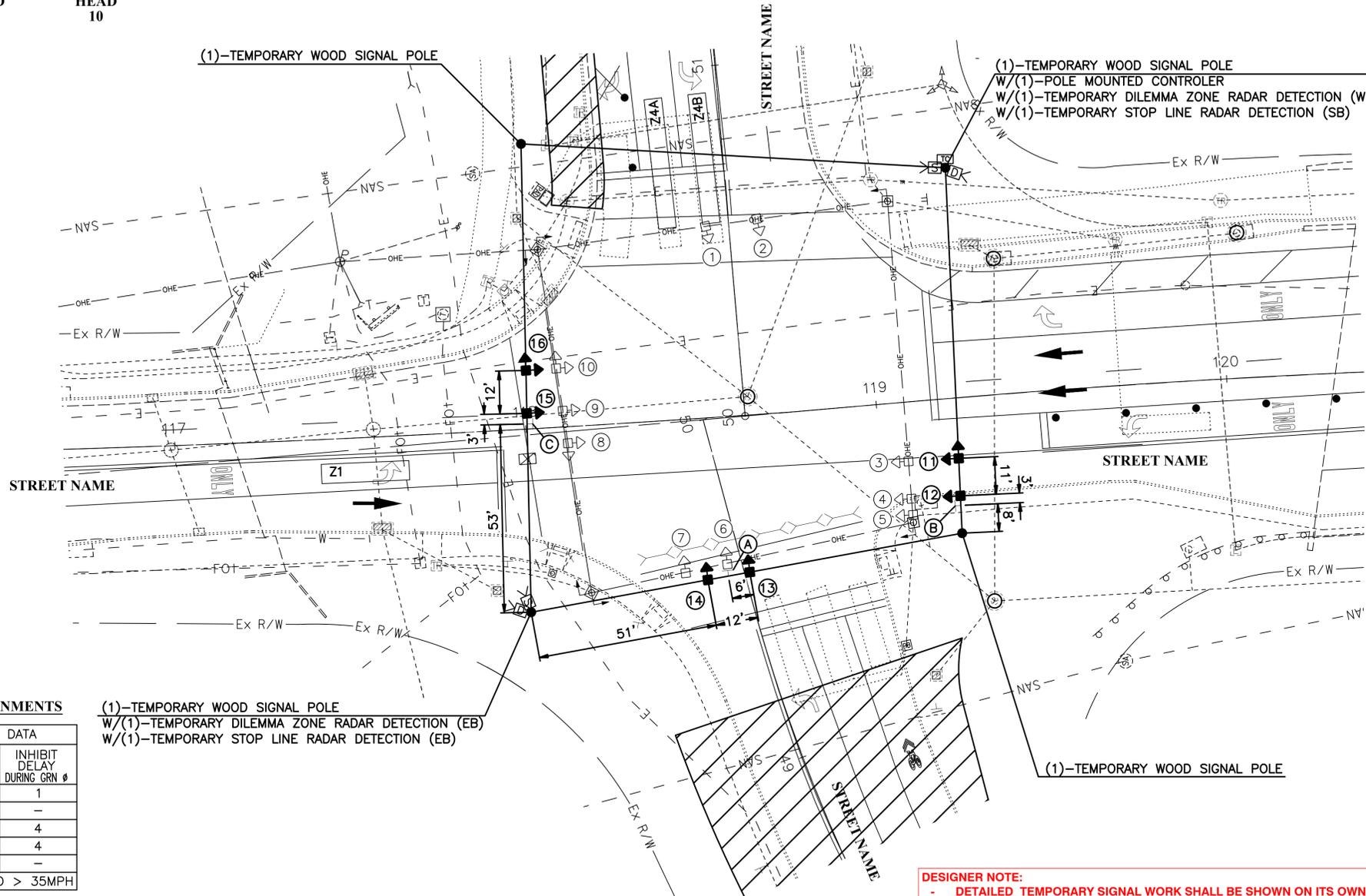


## PROPOSED SIGNS



## NOTES:

- AN EXISTING TRAFFIC SIGNAL, OR ANY PART THEREOF, SHALL NOT BE TAKEN OUT OF SERVICE UNLESS ALTERNATE MEANS OF TRAFFIC CONTROL ARE IN PLACE AND OPERATIONAL. UNLESS DIRECTED BY THE CITY OF COLUMBUS, CITY ENGINEER OR APPOINTED DESIGNEE EXISTING TRAFFIC SIGNALS SHALL NOT BE TAKEN OUT OF SERVICE BETWEEN THE HOURS OF:
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  - 4:00 PM TO 6:00 PM, MONDAY THROUGH FRIDAY (3:30 PM - 6:00 PM FOR THE DOWNTOWN BUSINESS DISTRICT)
  - OR ONE HOUR BEFORE SUNSET THROUGH ONE-HALF HOUR AFTER SUN RISE, WHICHEVER IS THE LONGEST DURATION.
- ANY UNUSED SIGNAL HEAD, PEDESTRIAN SIGNAL HEAD, PEDESTRIAN PUSHBUTTON, OR POLE OR SPAN/ARM MOUNTED SIGN SHALL BE COVERED AND DISCONNECTED. VEHICULAR SIGNAL HEADS AND PEDESTRIAN SIGNAL HEADS SHALL BE COVERED PER THE REQUIREMENTS OF CMSC 632.25.
- VEHICULAR SIGNAL HEADS SHALL BE ALIGNED PER THE PLAN. NO TWO VEHICULAR SIGNAL HEADS SHALL BE LOCATED WITHIN EIGHT FEET OF ONE ANOTHER, MEASURED PERPENDICULAR TO THE TRAVEL LANE.
- SIGNS SHALL BE ALIGNED PER THE PLANS. EXISTING SIGNS IN CONFLICT WITH THE PROPOSED TEMPORARY TRAFFIC CONTROL SETUP SHALL BE COVERED OR TEMPORARILY REMOVED.
- WEATHERPROOF SPLICES MAY BE INTRODUCED INTO SIGNAL CABLE IN ORDER TO RELOCATE EXISTING VEHICULAR SIGNAL HEADS. NO SPLICES ARE RETAINED ON PEDESTRIAN SIGNAL HEADS.
- ALL EXISTING SIGNALS SHALL BE MAINTAINED AT ALL TIMES. LOCATIONS OF EXISTING SIGNALS SHALL BE MARKED AT ALL TIMES. LOCATIONS OF EXISTING SIGNALS SHALL BE MAINTAINED AT ALL TIMES. LOCATIONS OF EXISTING SIGNALS SHALL BE MAINTAINED AT ALL TIMES.
- EXISTING SIGNALS SHALL REMAIN OPEN DURING CONSTRUCTION. TEMPORARY PUSHBUTTONS AND SIGNS OR RELOCATED PUSHBUTTONS AND SIGNS SHALL BE POSITIONED ACCORDING TO THE CITY OF COLUMBUS ADA RULES AND REGULATIONS. RELOCATED PEDESTRIAN SIGNAL HEADS SHALL BE POSITIONED SUCH THAT THE HEAD IS AIMED AT THE CENTER OF THE CROSSWALK AREA (NOT THE CURB RAMP) THAT IS OPPOSITE THE UNIT. A MINIMUM OF ONE CROSSWALK TO CROSS EACH STREET AT A SIGNALIZED INTERSECTION SHALL BE MAINTAINED AT ALL TIMES. FOR SIGNALIZED INTERSECTIONS WITH THREE LEGS, THE CROSSWALK TO CROSS THE DEAD END STREET MAY BE CLOSED AS LONG AS A PEDESTRIAN PATH IS PROVIDED ALONG THE 'TOP SIDE' OF THE INTERSECTION.
- UNLESS NOTED IN THE PLANS, THE TRAFFIC SIGNAL SHALL UTILIZE THE EXISTING TIMING AND PHASING.
- IF ANY CHANGES ARE MADE TO THE SIGNAL OPERATION INCLUDING PHASING CHANGES, PHASE OMISSIONS, TIMING CHANGES, ETC., SIGNAL OPERATION CHANGED SIGNS (W23-H2B) SHALL BE INSTALLED ON THE SPAN OR ARM FOR ALL DIRECTIONS. CENTER THE SIGN OVER THE APPROACH. SIGN SHALL BE LEFT IN PLACE NO LONGER THAN THE DURATION SPECIFIED UNDER ITEM 630 SIGNING, MISC.: TRAFFIC SIGNAL SIGNS.
- TEMPORARY WOOD SIGNAL POLES SHALL BE SIZED AND THE TEMPORARY SIGNAL SPAN SHALL BE ADJUSTED SUCH THAT THE MINIMUM ROADWAY CLEARANCE TO THE BOTTOM OF THE LOWEST SIGNAL HEAD IS 16.5' MINIMUM AND THE HIGHEST SIGNAL HEAD IS 19' MAXIMUM.
- WHEN TEMPORARY TRAFFIC SIGNAL CABINETS ARE USED, BASE MOUNTED CABINETS SHALL BE MOUNTED ON A STURDY FOUNDATION SECURE FROM ANIMALS AND WEATHER. POLE MOUNTED CABINETS SHALL BE POSITIONED TO PREVENT AN OVERHANG GREATER THAN 4 IN. INTO A PEDESTRIAN PATHWAY.
- THE CONTRACTOR IS RESPONSIBLE FOR LOCATING, COORDINATION AND PAYING FOR POWER SERVICE AS NEEDED FOR MAINTENANCE OF TRAFFIC PHASES.
- SIGNAL SHALL REMAIN CONNECTED TO THE CTSS THROUGHOUT CONSTRUCTION. THE CONTRACTOR SHALL INSTALL A TEMPORARY DROP CABLE OR RELOCATE THE EXISTING DROP CABLE TO THE TEMPORARY CABINET.
- SEE PERMANENT SIGNAL PLANS FOR REMOVAL OF EXISTING SIGNAL ITEMS.



## RADAR DETECTION ASSIGNMENTS

DETECTION ZONE	PHASE	DELAY DATA	
		DELAY IN SECONDS	INHIBIT DELAY DURING GRN #
Z1	1	3	1
WB DILEMMA	2	-	-
Z4A	4	15	4
Z4B	4	3	4
EB DILEMMA	6	-	-
DILEMMA ZONE SPEED THRESHOLD > 35MPH			

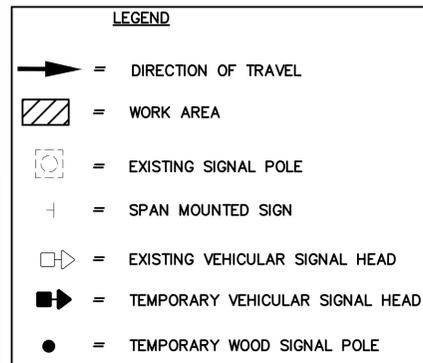
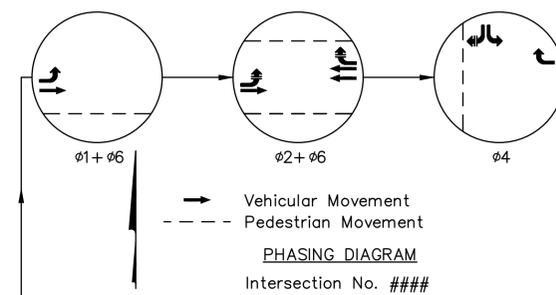
(1)-TEMPORARY WOOD SIGNAL POLE  
 W/(1)-TEMPORARY DILEMMA ZONE RADAR DETECTION (EB)  
 W/(1)-TEMPORARY STOP LINE RADAR DETECTION (EB)

## TIMING CHART

PHASE	1	2	3	4	5	6	7	8
MOVEMENT	EBLT	WB	-	SB	WBLT	EB	-	NB
MIN INITIAL	7	EX	-	EX	D	EX	-	D
WALK	-	EX	-	EX	-	EX	-	-
PED CHANGE	-	EX	-	EX	-	EX	-	-
PASS / EXT	3.7	EX	-	EX	D	EX	-	D
YELLOW	3.4	EX	-	EX	D	EX	-	D
RED CLR	1.1	EX	-	EX	D	EX	-	D
MAX GRN 1	15	EX	-	EX	D	EX	-	D
MAX GRN 2	-	EX	-	EX	D	EX	-	D
PED RECALL	OFF	EX	-	EX	OFF	EX	-	OFF
VEH RECALL	OFF	EX	-	EX	OFF	EX	-	OFF
MEMORY	OFF	EX	-	EX	D	EX	-	D

EX = EXISTING TIMING SHALL BE TRANSFERRED TO TEMPORARY CONTROLLER.  
 D = DE-ACTIVATE

**DESIGNER NOTE:**  
 - DETAILED TEMPORARY SIGNAL WORK SHALL BE SHOWN ON ITS OWN, DEDICATED PLAN SHEET AND NOT INCORPORATED INTO THE STANDARD MOT SHEETS.  
 - TIMING CHART IS NOT REQUIRED IF ALL EXISTING TIMING IS TO REMAIN.  
 - SEE TRAFFIC SIGNAL DESIGN MANUAL ON THE CITY OF COLUMBUS WEBSITE FOR ALL REQUIREMENTS OF TEMPORARY SIGNALS.



CALCULATED ABC CHECKED ABC  
 TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN - PHASE 1  
 STREET A FROM STREET B TO STREET C  
 IMPROVEMENTS OF...  
 XXXX-E

# INTERMEDIATE TEMPORARY SIGNAL MODIFICATION EXAMPLE

EXISTING VEHICULAR TRAFFIC SIGNAL HEAD CONFIGURATION (REMAIN)



HEADS 3, 4, 6, & 7

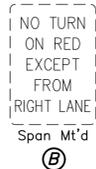
HEAD 5

EXISTING VEHICULAR TRAFFIC SIGNAL HEAD CONFIGURATION (RELOCATED)

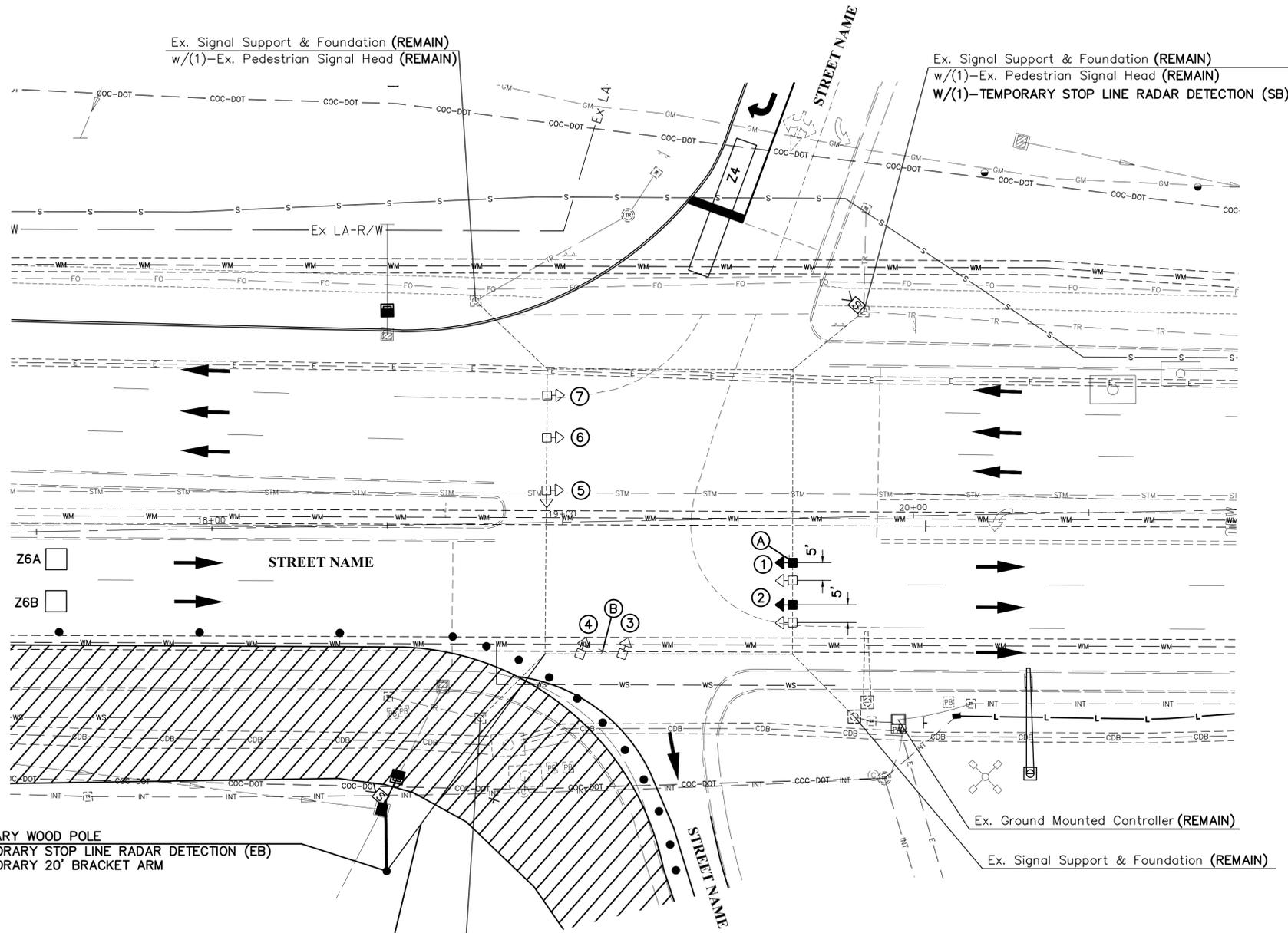


HEADS 1 & 2

EXISTING SIGNS (REMAIN)



EXISTING SIGNS (RELOCATED)



(1)-TEMPORARY WOOD POLE  
 W/(1)-TEMPORARY STOP LINE RADAR DETECTION (EB)  
 W/(1)-TEMPORARY 20' BRACKET ARM

**LEGEND**

- = DIRECTION OF TRAVEL
- = WORK AREA
- = EXISTING SIGNAL POLE
- = EXISTING SPAN MOUNTED SIGN
- = EXISTING VEHICULAR SIGNAL HEAD
- = EXISTING VEHICULAR SIGNAL HEAD RELOCATED
- = TEMPORARY WOOD SIGNAL POLE

**RADAR DETECTION ASSIGNMENTS**

DETECTION ZONE	PHASE	DELAY DATA	
		DELAY IN SECONDS	INHIBIT DELAY DURING GRN Ø
Z4	4	12	4
Z6A	6	-	-
Z6B	6	-	-

**DESIGNER NOTE:**

- INTERMEDIATE TEMPORARY SIGNAL WORK SHALL BE SHOWN ON ITS OWN, DEDICATED PLAN SHEET AND NOT INCORPORATED INTO THE STANDARD MOT SHEETS.
- SEE TRAFFIC SIGNAL DESIGN MANUAL ON THE CITY OF COLUMBUS WEBSITE FOR ALL REQUIREMENTS OF TEMPORARY SIGNALS.

- NOTES:**
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  - SIGNS SHALL BE ALIGNED PER THE PLANS. EXISTING SIGNS IN CONFLICT WITH THE PROPOSED TEMPORARY TRAFFIC CONTROL SHALL BE REMOVED.
  - WEATHERABLE CABLE MOUNTED SIGNAL HEADS SHALL BE USED. USE THE CURRENT VERSION OF THE TEMPORARY TRAFFIC SIGNAL NOTES AVAILABLE ON THE CITY OF COLUMBUS WEBSITE.
  - ALL EXISTING TEMPORARY LANE SIGNALS DURING CONSTRUCTION SHALL BE DETECTED AND EXISTING DETECTION SHALL BE MAINTAINED. IF DETECTION IS USED, DILEMMA ZONE DETECTION SHALL BE PROVIDED FOR APPROACHES WITH SPEEDS GREATER THAN 40 MPH.
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TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN - PHASE 2  
STREET A AT STREET B

IMPROVEMENTS OF ...  
STREET A FROM STREET B TO STREET C

XXXX-E