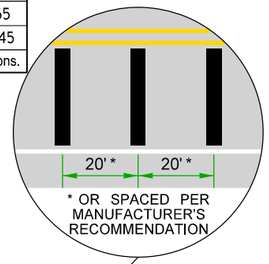
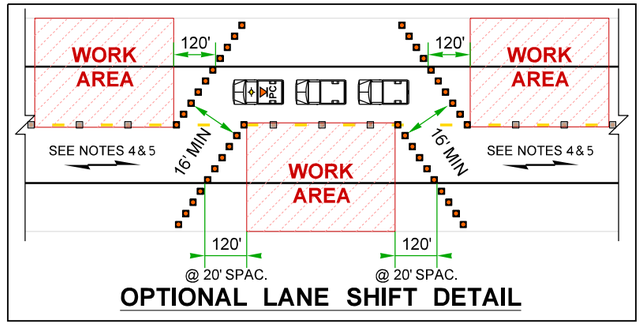
RECOMMENDED SIGN SPACING = X (1)		
RURAL HIGHWAYS	60-65 MPH	800'±
RURAL ROADS	45-55 MPH	500'±
(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS.		

LONGITUDINAL BUFFER SPACE = B					
SPEED (MPH)	45	50	55	60	65
B (feet)	360	425	495	570	645
Buffer space may be adjusted (±) based on field conditions.					

MAXIMUM CHANNELIZATION DEVICE SPACING (feet)		
MPH	TAPER	TANGENT
50 - 65	10-20	80
45	10-20	60



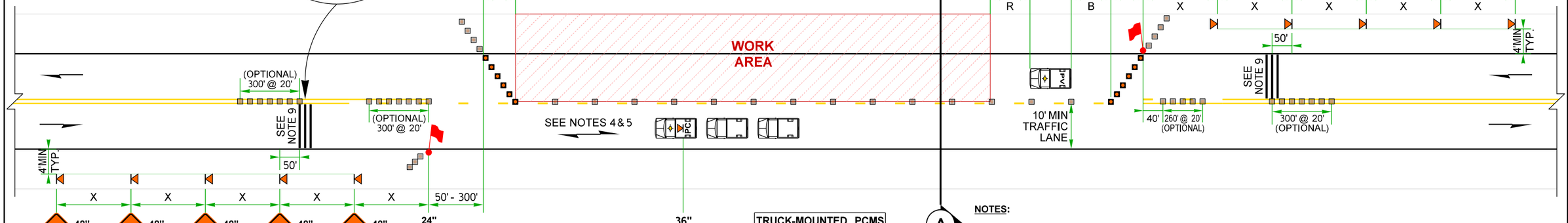


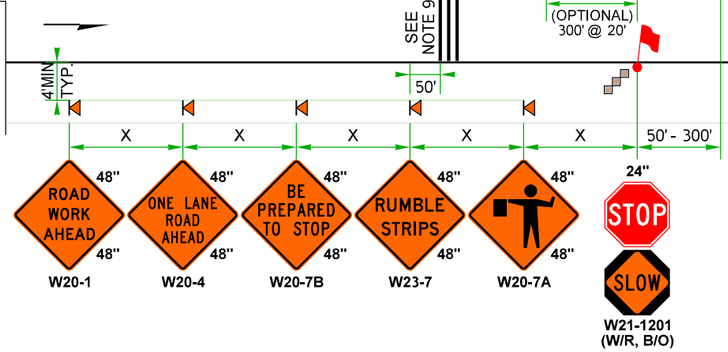
OPTIONAL LANE SHIFT DETAIL

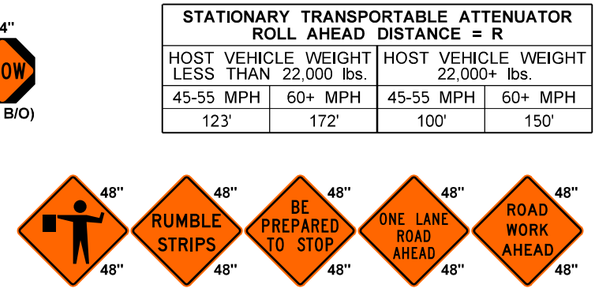
FOR DRIVEWAY, BUSINESS ACCESS, AND INTERSECTING ROADWAY DETAILS: SEE TC324, SHEET 2.

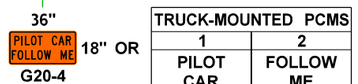
PROTECTIVE VEHICLE ROLL AHEAD DISTANCE = R
STRATEGICALLY POSITION WORK VEHICLE TO PROTECT WORK CREW. 40' - 80' RECOMMENDED.

STATIONARY TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R			
HOST VEHICLE WEIGHT LESS THAN 22,000 lbs.		HOST VEHICLE WEIGHT 22,000+ lbs.	
45-55 MPH	60+ MPH	45-55 MPH	60+ MPH
123'	172'	100'	150'



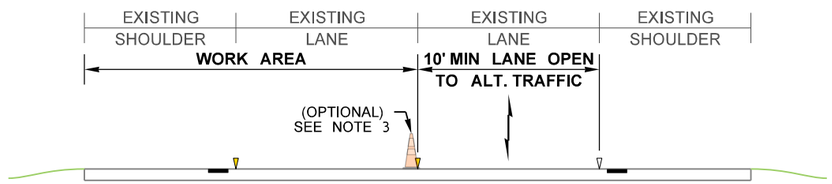






TRUCK-MOUNTED PCMS	
1	2
PILOT CAR	FOLLOW ME
2.0 SEC	2.0 SEC

10+ INCH CHARACTERS MOUNTED TO PILOT CAR.



SECTION A-A

LEGEND:

- TEMPORARY SIGN LOCATION
- 28" REFLECTIVE TRAFFIC CONE (SEE NOTE 3)
- OPTIONAL CHANNELIZATION DEVICE
- PROTECTIVE VEHICLE (SEE NOTE 2)
- PILOT CAR (SEE NOTES 4 & 5)
- MOTORIST VEHICLE
- FLAGGER
- TEMP. PORTABLE RUMBLE STRIPS (SEE NOTE 9)

NOTES:

1. AVOID PLACING LANE CLOSURE TAPERS WITHIN OR IMMEDIATELY FOLLOWING HORIZONTAL & VERTICAL CURVES BY ADJUSTING LONGITUDINAL BUFFER.
2. **IF LONGITUDINAL BUFFER SPACE REDUCED** FROM DISTANCES LISTED IN TABLE, UPGRADE PROTECTIVE VEHICLE (PV) TO A TRANSPORTABLE ATTENUATOR (TA). ADDITIONAL PV/TAs MAY BE ADDED AT SEPARATE WORK CREWS.
3. MAY SHIFT LATERALLY. 28" REFLECTIVE TRAFFIC CONES AT CENTERLINE ARE OPTIONAL. 36" TRAFFIC CONES, 42" TALL CHANNELIZATION DEVICES, OR TRAFFIC SAFETY DRUMS OK.
4. PEDESTRIAN & BICYCLIST ACCOMMODATIONS (ENGINEER TO ACCEPT ANY ALTERNATIVE STRATEGIES):
   (A) ALLOW PEDESTRIANS TO USE THE PAVED SHOULDER OR ADJACENT PATH OPPOSITE THE WORK AREA
   (B) COMBINE BIKES WITH VEHICULAR TRAFFIC. BIKES ESCORTED DIRECTLY BEHIND PILOT CAR @ 10± MPH
   (C) PROVIDE FREE PED/BIKE SHUTTLE (PILOT CAR, WORK VEHICLE, VAN, OR BUS MAY BE USED)
   (D) ALTERNATE BIKE/PEDS USING A SEPARATED 2-WAY BIKE LANE (SEE SHEET 3)
5. PILOT CAR OPERATOR TO DRIVE SPEED PRUDENT FOR WORK ZONE CONDITIONS, STOPPING TRAFFIC IF NECESSARY, UP TO A MAXIMUM SPEED OF 35 MPH (25 MPH AT LANE SHIFT), 10± MPH WHEN ESCORTING BIKES.
6. SEE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS:
   1-07.8(1) HIGH-VISIBILITY APPAREL
   1-10.3(1)A FLAGGERS AND NIGHTTIME ILLUMINATION
   1-10.3(2)A TRAFFIC CONTROL PROCEDURES
   9-35.1 24-INCH STOP/SLOW PADDLE SIZE
7. FOR PROJECT-SPECIFIC REQUIREMENTS, SEE SPECIAL PROVISIONS.
8. SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE INDICATED.
9. AVOID PLACING TEMPORARY TRANSVERSE RUMBLE STRIPS WITHIN HORIZONTAL CURVES, ADJUST SIGN SPACING IF NEEDED. USE ONE OF THE FOLLOWING RUMBLE STRIPS:
   * PSS Roadquake 2 or 2F Temporary Portable Rumble Strip (Black)
   * TrafFIx Alert High Speed Rumble Strip (Black)
10. EXISTING PAVEMENT MARKINGS MAY VARY.

PILOT CAR OPERATION FOR ALTERNATING 1-LANE, 2-WAY TRAFFIC: FLAGGER-CONTROLLED + TEMPORARY RUMBLE STRIPS, SHARED BIKE-VEHICLE LANE STRATEGY (45+ MPH HIGHWAYS)

NOT TO SCALE

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DATE	4/2/2024						
PLOTTED BY	LintzF						
DESIGNED BY							
ENTERED BY							
CHECKED BY							
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

DATE
P.E. STAMP BOX

DATE
P.E. STAMP BOX

Washington State Department of Transportation

TYPICAL TRAFFIC CONTROL PLANS

Plot 1

PLAN REF NO TC324

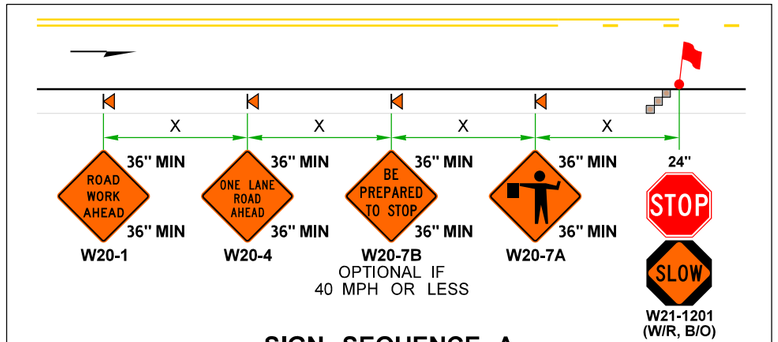
SHEET 1 OF 4 SHEETS

NOTES:

11. FOR LEGEND, TABLES, AND ADDITIONAL NOTES: SEE TC324, SHEET 1.

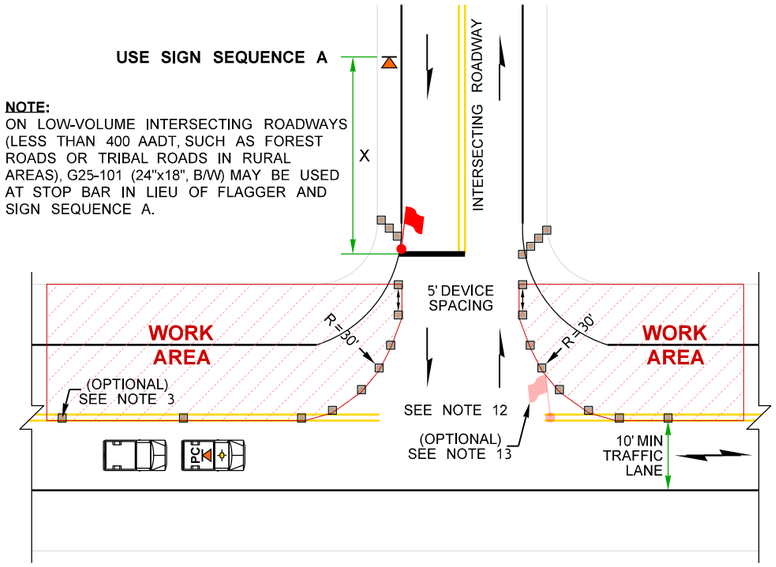
12. WORK MAY BRIEFLY OCCUR WITHIN LANE CLOSURE ACROSS INTERSECTING ROADWAY APPROACHES, BUSINESS ACCESSES, OR DRIVEWAYS. **MAY HOLD APPROACH OR ACCESS TRAFFIC FOR 5 MINUTES OR LESS** (ENGINEER MAY ACCEPT HOLDS UP TO 10 MINUTES) WHILE RESTRICTING TURNS FROM MAINLINE. CHANNELIZATION DEVICES DELINEATING APPROACH OR ACCESS MAY BE REMOVED OR RELOCATED AS NEEDED.

13. SINGLE FLAGGER (WITH RED FLAG/ RED GLOW CONE FLASHLIGHT) MAY BE ADDED TO THE INTERSECTING ROADWAY APPROACH TO HELP GUIDE ALTERNATING & TURNING TRAFFIC.



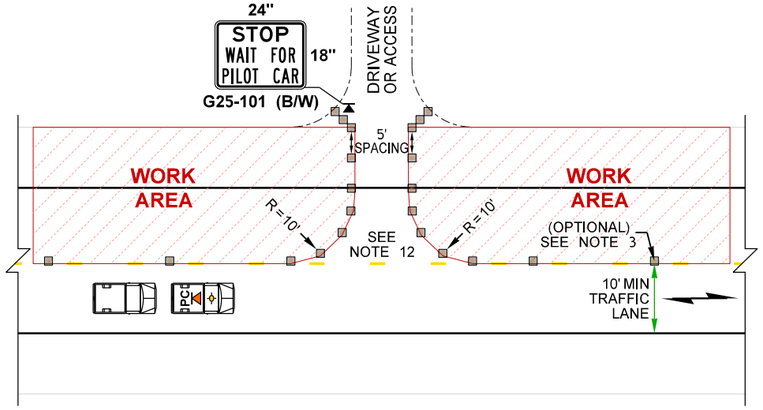
SIGN SEQUENCE A

48"x48" signs required on 45+ mph roadways

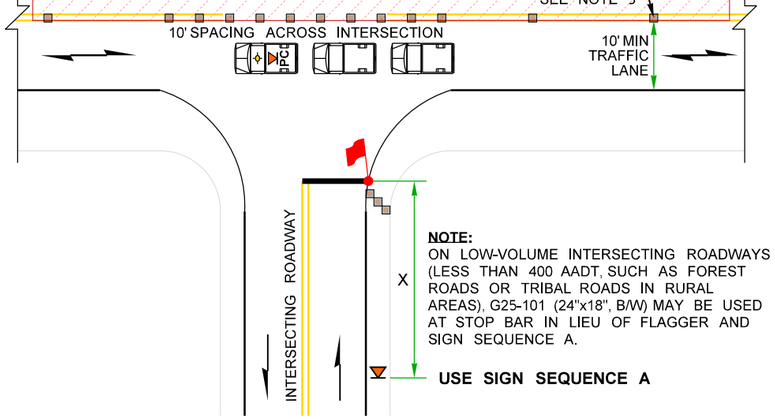


NOTE:
ON LOW-VOLUME INTERSECTING ROADWAYS (LESS THAN 400 AADT, SUCH AS FOREST ROADS OR TRIBAL ROADS IN RURAL AREAS), G25-101 (24"x18", B/W) MAY BE USED AT STOP BAR IN LIEU OF FLAGGER AND SIGN SEQUENCE A.

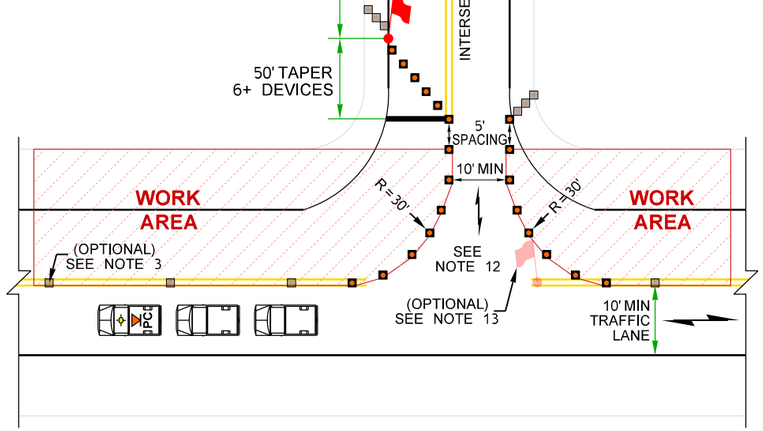
UNSIGNALIZED INTERSECTING ROADWAY DETAIL
SAME SIDE AS LANE CLOSURE (TWO OPEN LANES)



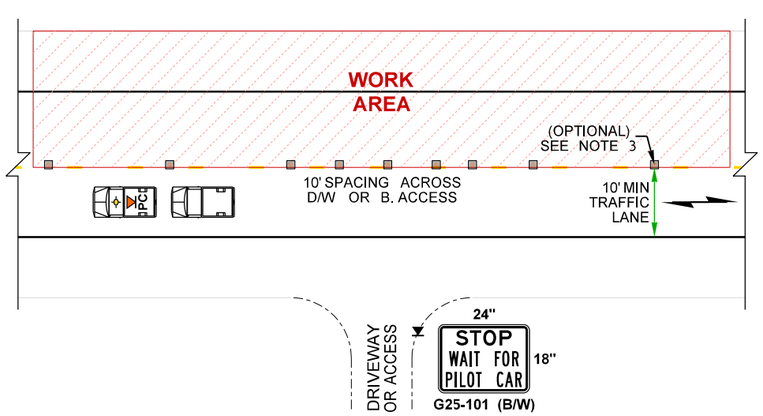
DRIVEWAY OR BUSINESS ACCESS DETAIL
SAME SIDE AS LANE CLOSURE



UNSIGNALIZED INTERSECTING ROADWAY DETAIL
OPPOSITE OF LANE CLOSURE



UNSIGNALIZED INTERSECTING ROADWAY DETAIL
SAME SIDE AS LANE CLOSURE (SINGLE OPEN LANE)



DRIVEWAY OR BUSINESS ACCESS DETAIL
OPPOSITE OF LANE CLOSURE

PILOT CAR OPERATION FOR ALTERNATING 1-LANE, 2-WAY TRAFFIC: FLAGGER-CONTROLLED + TEMP. RUMBLE STRIPS
SHARED BIKE-LANE STRATEGY (45+ MPH HIGHWAYS)

NOT TO SCALE

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DATE	4/2/2024				JOB NUMBER				
PLOTTED BY	LintzF								SHEET 2 OF 4 SHEETS
DESIGNED BY					CONTRACT NO.		LOCATION NO.		
ENTERED BY									
CHECKED BY									
PROJ. ENGR.									
REGIONAL ADM.		REVISION	DATE	BY					

P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

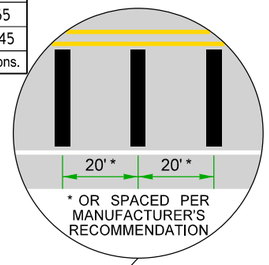
Washington State Department of Transportation

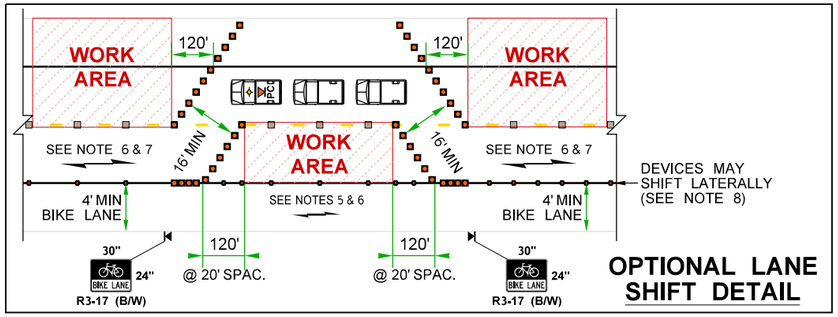
TYPICAL TRAFFIC CONTROL PLANS

RECOMMENDED SIGN SPACING = X (1)		
RURAL HIGHWAYS	60-65 MPH	800'±
RURAL ROADS	45-55 MPH	500'±
(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS.		

LONGITUDINAL BUFFER SPACE = B					
SPEED (MPH)	45	50	55	60	65
B (feet)	360	425	495	570	645
Buffer space may be adjusted (±) based on field conditions.					

MAXIMUM CHANNELIZATION DEVICE SPACING (feet)		
MPH	TAPER	TANGENT
50 - 65	10-20	80
45	10-20	60



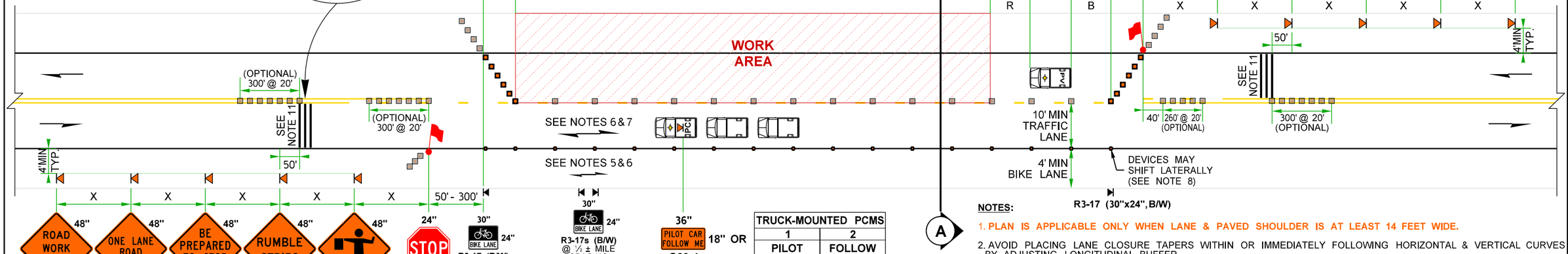


OPTIONAL LANE SHIFT DETAIL

FOR DRIVEWAY, BUSINESS ACCESS, AND INTERSECTING ROADWAY DETAILS: SEE TC324, SHEET 4.

PROTECTIVE VEHICLE ROLL AHEAD DISTANCE = R
STRATEGICALLY POSITION WORK VEHICLE TO PROTECT WORK CREW. 40' - 80' RECOMMENDED.

STATIONARY TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R			
HOST VEHICLE WEIGHT LESS THAN 22,000 lbs.		HOST VEHICLE WEIGHT 22,000+ lbs.	
45-55 MPH	60+ MPH	45-55 MPH	60+ MPH
123'	172'	100'	150'

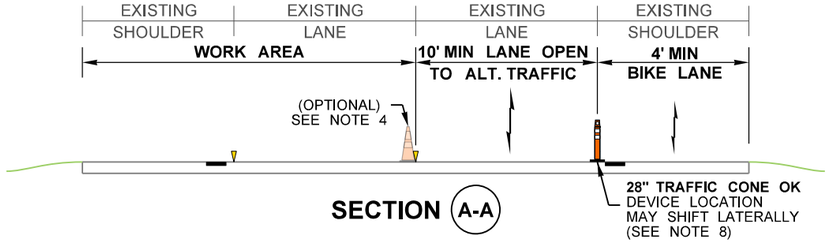


TRUCK-MOUNTED PCMS	
1	2
PILOT CAR	FOLLOW ME
2.0 SEC	2.0 SEC

10+ INCH CHARACTERS MOUNTED TO PILOT CAR.

LEGEND:

- TEMPORARY SIGN LOCATION
- 28" REFLECTIVE TRAFFIC CONE (SEE NOTE 4)
- OPTIONAL CHANNELIZATION DEVICE
- 28" PORTABLE TUBULAR MARKER (SEE NOTE 8)
- PROTECTIVE VEHICLE (SEE NOTE 3)
- PILOT CAR (SEE NOTES 6 & 7)
- MOTORIST VEHICLE
- FLAGGER
- TEMP. PORTABLE RUMBLE STRIP (SEE NOTE 11)



SECTION A-A

NOTES:

1. PLAN IS APPLICABLE ONLY WHEN LANE & PAVED SHOULDER IS AT LEAST 14 FEET WIDE.
2. AVOID PLACING LANE CLOSURE TAPERS WITHIN OR IMMEDIATELY FOLLOWING HORIZONTAL & VERTICAL CURVES BY ADJUSTING LONGITUDINAL BUFFER.
3. **IF LONGITUDINAL BUFFER SPACE REDUCED** FROM DISTANCES LISTED IN TABLE, UPGRADE PROTECTIVE VEHICLE (PV) TO A TRANSPORTABLE ATTENUATOR (TA). ADDITIONAL PV/TAs MAY BE ADDED AT SEPARATE WORK CREWS.
4. MAY SHIFT LATERALLY. CHANNELIZATION DEVICE AT CENTERLINE OPTIONAL. 36" TRAFFIC CONES, 42" TALL CHANNELIZATION DEVICES, OR TRAFFIC SAFETY DRUMS OK.
5. BICYCLIST ACCOMMODATION: ALTERNATE BIKES IN THE SEPARATED 2-WAY, 4' MIN BIKE LANE
6. PEDESTRIAN ACCOMMODATIONS (ENGINEER TO ACCEPT ANY ALTERNATIVE STRATEGIES):
   (A) ALTERNATE BOTH BIKE & PEDS IN THE SEPARATE 2-WAY, BIKE LANE (4' MIN, 8' WIDTH PREFERRED)
   (B) PROVIDE FREE PED SHUTTLE (PILOT CAR, WORK VEHICLE, VAN, OR BUS MAY BE USED)
7. PILOT CAR OPERATOR TO DRIVE SPEED PRUDENT FOR WORK ZONE CONDITIONS, STOPPING TRAFFIC IF NECESSARY, UP TO A MAXIMUM SPEED OF 35 MPH (25 MPH AT LANE SHIFT).
8. 28" TRAFFIC CONE OK. DEVICE MAY SHIFT LATERALLY BUT PROVIDE 4' MIN BIKE LANE & 10' MIN TRAFFIC LANE.
9. SEE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS:
   1-07.8(1) HIGH-VISIBILITY APPAREL
   1-10.3(1)A FLAGGERS AND NIGHTTIME ILLUMINATION
   1-10.3(2)A TRAFFIC CONTROL PROCEDURES
   9-35.1 24-INCH STOP/SLOW PADDLE SIZE
10. FOR PROJECT-SPECIFIC REQUIREMENTS, SEE SPECIAL PROVISIONS.
11. AVOID PLACING TEMPORARY TRANSVERSE RUMBLE STRIPS WITHIN HORIZONTAL CURVES, ADJUST SIGN SPACING IF NEEDED. USE ONE OF THE FOLLOWING RUMBLE STRIPS:
    * PSS Roadquake 2 or 2F Temporary Portable Rumble Strip (Black)
    * TrafFix Alert High Speed Rumble Strip (Black)
12. SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE INDICATED.
13. EXISTING PAVEMENT MARKINGS MAY VARY.

PILOT CAR OPERATION FOR ALTERNATING 1-LANE, 2-WAY TRAFFIC: FLAGGER-CONTROLLED + TEMP. RUMBLE STRIPS SEPARATED BICYCLE LANE STRATEGY (45+ MPH HIGHWAYS)

NOT TO SCALE

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DATE	4/2/2024				JOB NUMBER			
PLOTTED BY	LintzF				CONTRACT NO.	LOCATION NO.		SHEET 3 OF 4 SHEETS
DESIGNED BY								
ENTERED BY								
CHECKED BY								
PROJ. ENGR.								
REGIONAL ADM.		REVISION	DATE	BY				

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

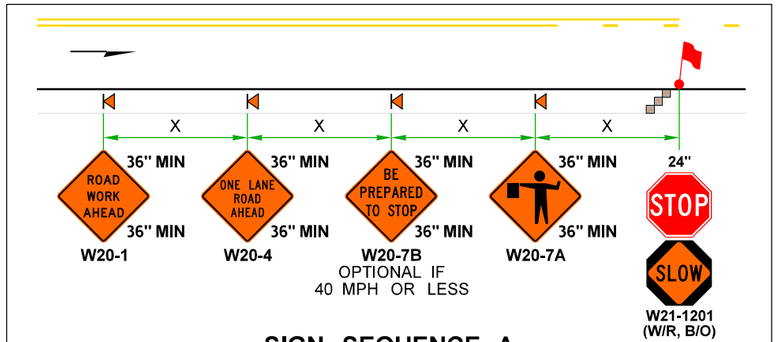
TYPICAL TRAFFIC CONTROL PLANS

NOTES:

14. FOR LEGEND, TABLES, AND ADDITIONAL NOTES: SEE TC324, SHEET 3.

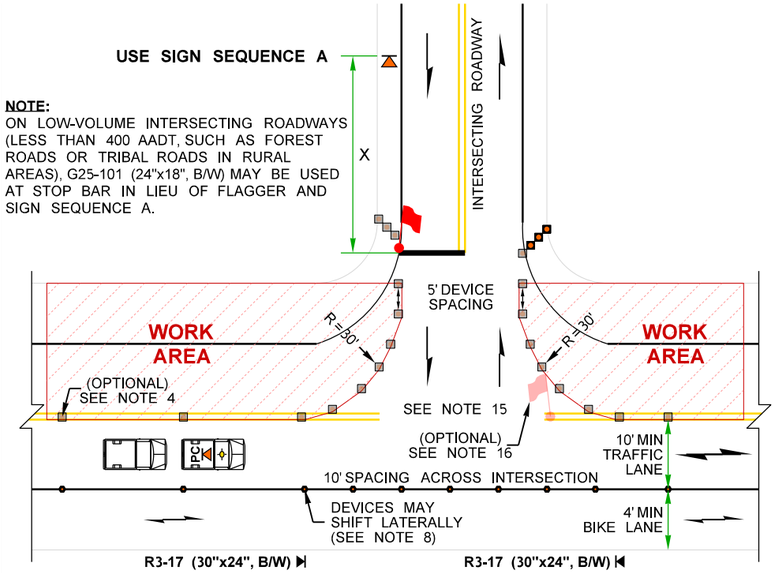
15. WORK MAY BRIEFLY OCCUR WITHIN LANE CLOSURE ACROSS INTERSECTING ROADWAY APPROACHES, BUSINESS ACCESSES, OR DRIVEWAYS. **MAY HOLD APPROACH OR ACCESS TRAFFIC FOR 5 MINUTES OR LESS** (ENGINEER MAY ACCEPT HOLDS UP TO 10 MINUTES) WHILE RESTRICTING TURNS FROM MAINLINE. CHANNELIZATION DEVICES DELINEATING APPROACH OR ACCESS MAY BE REMOVED OR RELOCATED AS NEEDED.

16. SINGLE FLAGGER (WITH RED FLAG/ RED GLOW CONE FLASHLIGHT) MAY BE ADDED TO THE INTERSECTING ROADWAY APPROACH TO HELP GUIDE ALTERNATING & TURNING TRAFFIC.



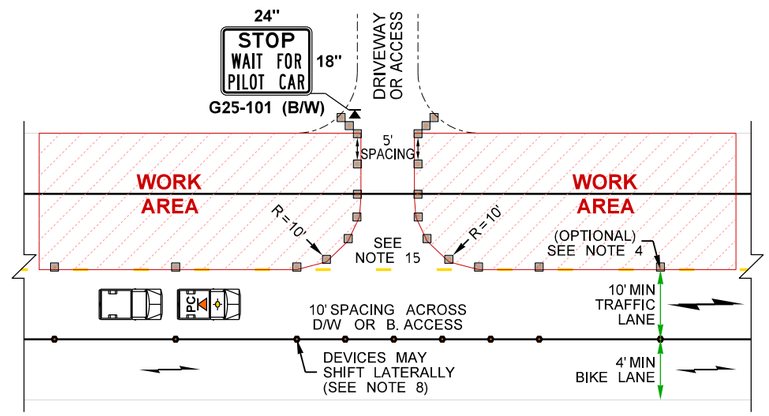
SIGN SEQUENCE A

48"x48" signs required on 45+ mph roadways

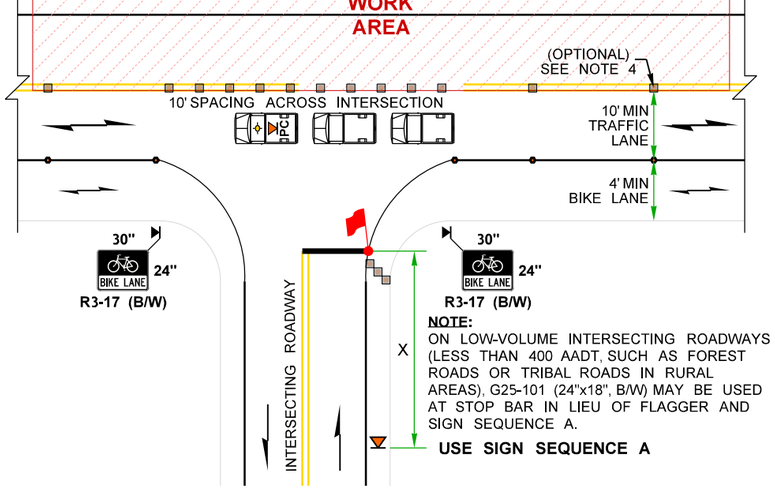


NOTE:
ON LOW-VOLUME INTERSECTING ROADWAYS (LESS THAN 400 AADT, SUCH AS FOREST ROADS OR TRIBAL ROADS IN RURAL AREAS), G25-101 (24"x18", B/W) MAY BE USED AT STOP BAR IN LIEU OF FLAGGER AND SIGN SEQUENCE A.

UNSIGNALIZED INTERSECTING ROADWAY DETAIL
SAME SIDE AS LANE CLOSURE (TWO OPEN LANES)

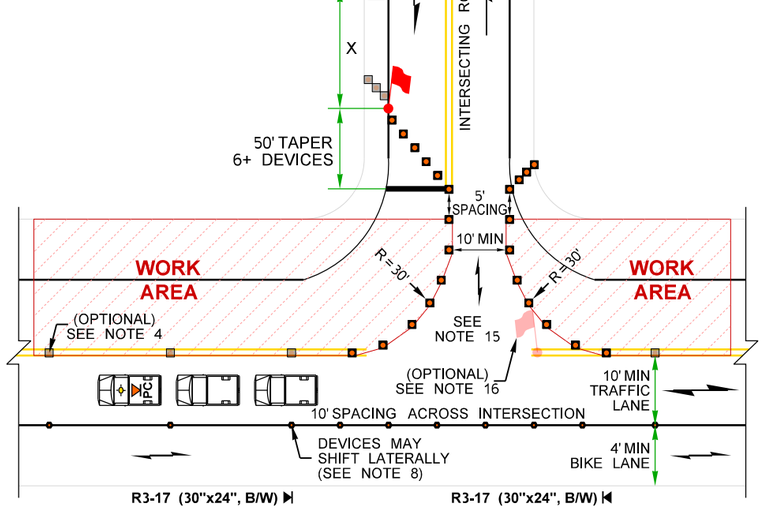


DRIVEWAY OR BUSINESS ACCESS DETAIL
SAME SIDE AS LANE CLOSURE

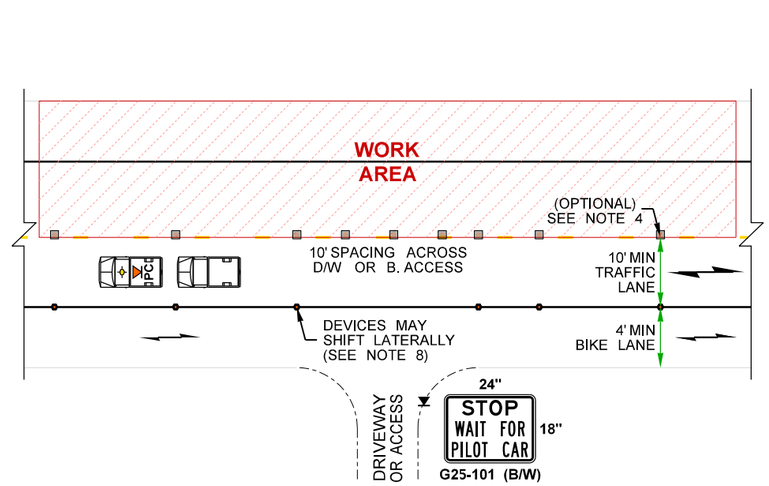


NOTE:
ON LOW-VOLUME INTERSECTING ROADWAYS (LESS THAN 400 AADT, SUCH AS FOREST ROADS OR TRIBAL ROADS IN RURAL AREAS), G25-101 (24"x18", B/W) MAY BE USED AT STOP BAR IN LIEU OF FLAGGER AND SIGN SEQUENCE A.

UNSIGNALIZED INTERSECTING ROADWAY DETAIL
OPPOSITE OF LANE CLOSURE



UNSIGNALIZED INTERSECTING ROADWAY DETAIL
SAME SIDE AS LANE CLOSURE (SINGLE OPEN LANE)



DRIVEWAY OR BUSINESS ACCESS DETAIL
OPPOSITE OF LANE CLOSURE

PILOT CAR OPERATION FOR ALTERNATING 1-LANE, 2-WAY TRAFFIC: FLAGGER-CONTROLLED + TEMP. RUMBLE STRIPS
SEPARATED BICYCLE LANE STRATEGY (45+ MPH HIGHWAYS)

NOT TO SCALE

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TIME	1:54:17 PM								PLAN REF NO TC324
DATE	4/2/2024								
PLOTTED BY	LintzF				JOB NUMBER				SHEET 4 OF 4 SHEETS
DESIGNED BY									
ENTERED BY									
CHECKED BY					CONTRACT NO.		LOCATION NO.		
PROJ. ENGR.									
REGIONAL ADM.		REVISION	DATE	BY					

P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

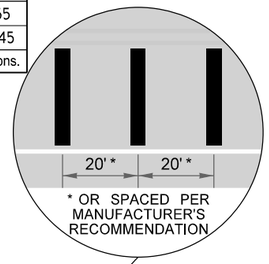
Washington State Department of Transportation

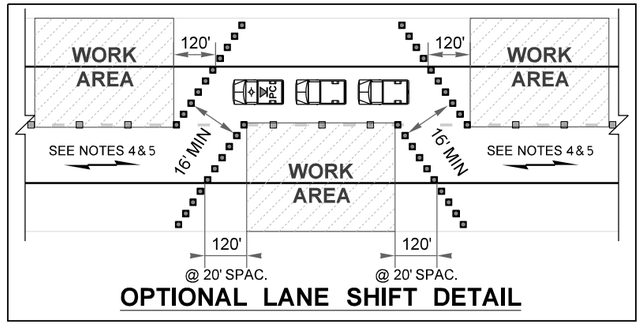
TYPICAL TRAFFIC CONTROL PLANS

RECOMMENDED SIGN SPACING = X (1)		
RURAL HIGHWAYS	60-65 MPH	800'±
RURAL ROADS	45-55 MPH	500'±
(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS.		

LONGITUDINAL BUFFER SPACE = B					
SPEED (MPH)	45	50	55	60	65
B (feet)	360	425	495	570	645
Buffer space may be adjusted (±) based on field conditions.					

MAXIMUM CHANNELIZATION DEVICE SPACING (feet)		
MPH	TAPER	TANGENT
50 - 65	10-20	80
45	10-20	60



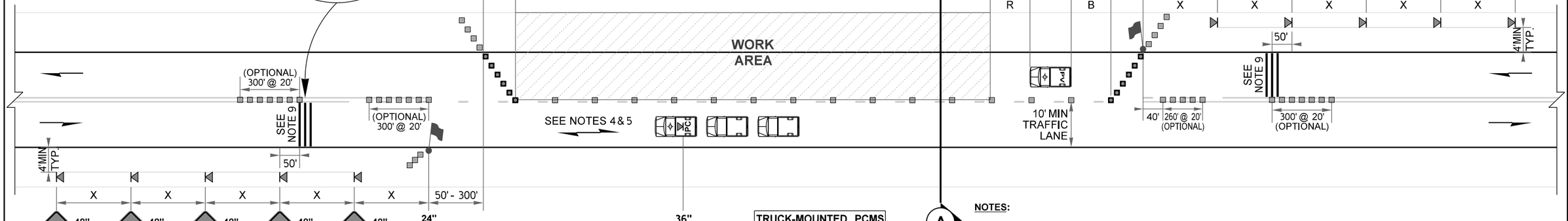


OPTIONAL LANE SHIFT DETAIL

FOR DRIVEWAY, BUSINESS ACCESS, AND INTERSECTING ROADWAY DETAILS: SEE TC324, SHEET 2.

PROTECTIVE VEHICLE ROLL AHEAD DISTANCE = R
STRATEGICALLY POSITION WORK VEHICLE TO PROTECT WORK CREW. 40' - 80' RECOMMENDED.

STATIONARY TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R			
HOST VEHICLE WEIGHT LESS THAN 22,000 lbs.		HOST VEHICLE WEIGHT 22,000+ lbs.	
45-55 MPH	60+ MPH	45-55 MPH	60+ MPH
123'	172'	100'	150'

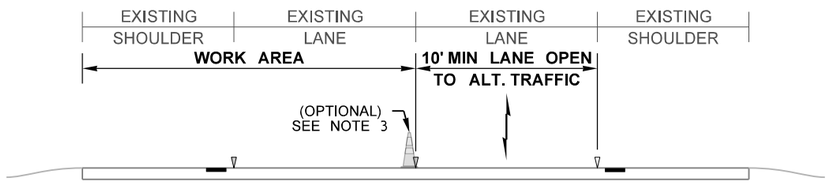


TRUCK-MOUNTED PCMS	
1	2
PILOT CAR	FOLLOW ME
2.0 SEC	2.0 SEC

10+ INCH CHARACTERS MOUNTED TO PILOT CAR.

LEGEND:

- TEMPORARY SIGN LOCATION
- 28" REFLECTIVE TRAFFIC CONE (SEE NOTE 3)
- OPTIONAL CHANNELIZATION DEVICE
- PROTECTIVE VEHICLE (SEE NOTE 2)
- PILOT CAR (SEE NOTES 4 & 5)
- MOTORIST VEHICLE
- FLAGGER
- TEMP. PORTABLE RUMBLE STRIPS (SEE NOTE 9)



SECTION A-A

NOTES:

1. AVOID PLACING LANE CLOSURE TAPERS WITHIN OR IMMEDIATELY FOLLOWING HORIZONTAL & VERTICAL CURVES BY ADJUSTING LONGITUDINAL BUFFER.
2. **IF LONGITUDINAL BUFFER SPACE REDUCED** FROM DISTANCES LISTED IN TABLE, UPGRADE PROTECTIVE VEHICLE (PV) TO A TRANSPORTABLE ATTENUATOR (TA). ADDITIONAL PV/TAs MAY BE ADDED AT SEPARATE WORK CREWS.
3. MAY SHIFT LATERALLY. 28" REFLECTIVE TRAFFIC CONES AT CENTERLINE ARE OPTIONAL. 36" TRAFFIC CONES, 42" TALL CHANNELIZATION DEVICES, OR TRAFFIC SAFETY DRUMS OK.
4. PEDESTRIAN & BICYCLIST ACCOMMODATIONS (ENGINEER TO ACCEPT ANY ALTERNATIVE STRATEGIES):
   (A) ALLOW PEDESTRIANS TO USE THE PAVED SHOULDER OR ADJACENT PATH OPPOSITE THE WORK AREA
   (B) COMBINE BIKES WITH VEHICULAR TRAFFIC. BIKES ESCORTED DIRECTLY BEHIND PILOT CAR @ 10± MPH
   (C) PROVIDE FREE PED/BIKE SHUTTLE (PILOT CAR, WORK VEHICLE, VAN, OR BUS MAY BE USED)
   (D) ALTERNATE BIKE/PEDS USING A SEPARATED 2-WAY BIKE LANE (SEE SHEET 3)
5. PILOT CAR OPERATOR TO DRIVE SPEED PRUDENT FOR WORK ZONE CONDITIONS, STOPPING TRAFFIC IF NECESSARY, UP TO A MAXIMUM SPEED OF 35 MPH (25 MPH AT LANE SHIFT), 10± MPH WHEN ESCORTING BIKES.
6. SEE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS:
   1-07.8(1) HIGH-VISIBILITY APPAREL
   1-10.3(1)A FLAGGERS AND NIGHTTIME ILLUMINATION
   1-10.3(2)A TRAFFIC CONTROL PROCEDURES
   9-35.1 24-INCH STOP/SLOW PADDLE SIZE
7. FOR PROJECT-SPECIFIC REQUIREMENTS, SEE SPECIAL PROVISIONS.
8. SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE INDICATED.
9. AVOID PLACING TEMPORARY TRANSVERSE RUMBLE STRIPS WITHIN HORIZONTAL CURVES, ADJUST SIGN SPACING IF NEEDED. USE ONE OF THE FOLLOWING RUMBLE STRIPS:
   * PSS Roadquake 2 or 2F Temporary Portable Rumble Strip (Black)
   * TrafFIx Alert High Speed Rumble Strip (Black)
10. EXISTING PAVEMENT MARKINGS MAY VARY.

PILOT CAR OPERATION FOR ALTERNATING 1-LANE, 2-WAY TRAFFIC: FLAGGER-CONTROLLED + TEMPORARY RUMBLE STRIPS, SHARED BIKE-VEHICLE LANE STRATEGY (45+ MPH HIGHWAYS)

NOT TO SCALE

FILE NAME	C:\Users\LIntzF\OneDrive - WashIngton State Department of TransportatIon\Desktop\Work Zone TCPs\324Hwy45+AltTrafficFlaggerPIlotCarOpRumbleStrips.dgn						Plot 1
TIME	1:54:17 PM			REGION NO. 10	STATE WASH	FED.AID PROJ.NO.	PLAN REF NO TC324
DATE	4/2/2024			JOB NUMBER			
PLOTTED BY	LintzF						SHEET 1 OF 4 SHEETS
DESIGNED BY				CONTRACT NO.	LOCATION NO.		
ENTERED BY							
CHECKED BY							
PROJ. ENGR.							
REGIONAL ADM.	REVISION	DATE	BY				

DATE P.E. STAMP BOX

DATE P.E. STAMP BOX

Washington State Department of Transportation

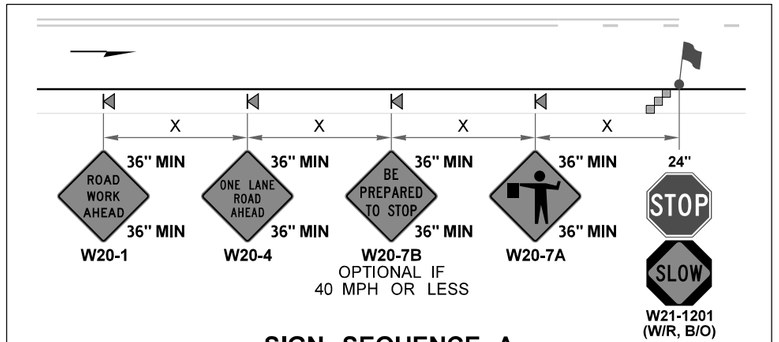
TYPICAL TRAFFIC CONTROL PLANS

NOTES:

11. FOR LEGEND, TABLES, AND ADDITIONAL NOTES: SEE TC324, SHEET 1.

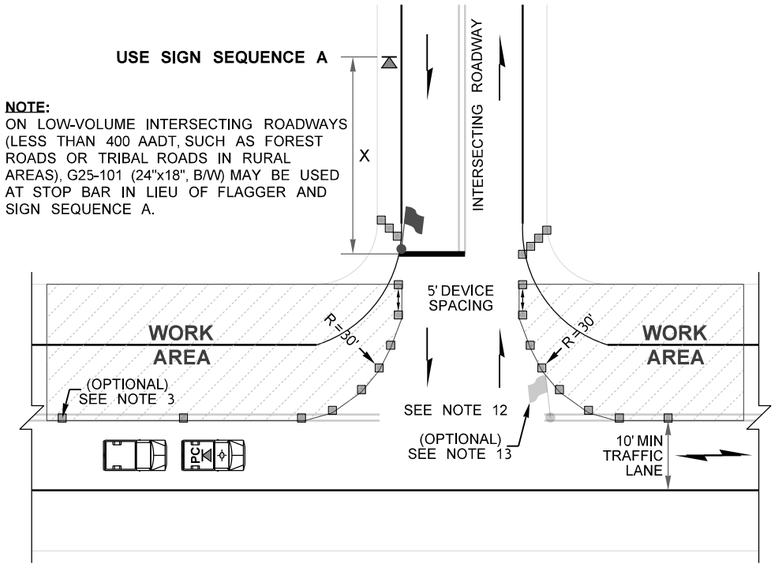
12. WORK MAY BRIEFLY OCCUR WITHIN LANE CLOSURE ACROSS INTERSECTING ROADWAY APPROACHES, BUSINESS ACCESSES, OR DRIVEWAYS. **MAY HOLD APPROACH OR ACCESS TRAFFIC FOR 5 MINUTES OR LESS** (ENGINEER MAY ACCEPT HOLDS UP TO 10 MINUTES) WHILE RESTRICTING TURNS FROM MAINLINE. CHANNELIZATION DEVICES DELINEATING APPROACH OR ACCESS MAY BE REMOVED OR RELOCATED AS NEEDED.

13. SINGLE FLAGGER (WITH RED FLAG/ RED GLOW CONE FLASHLIGHT) MAY BE ADDED TO THE INTERSECTING ROADWAY APPROACH TO HELP GUIDE ALTERNATING & TURNING TRAFFIC.



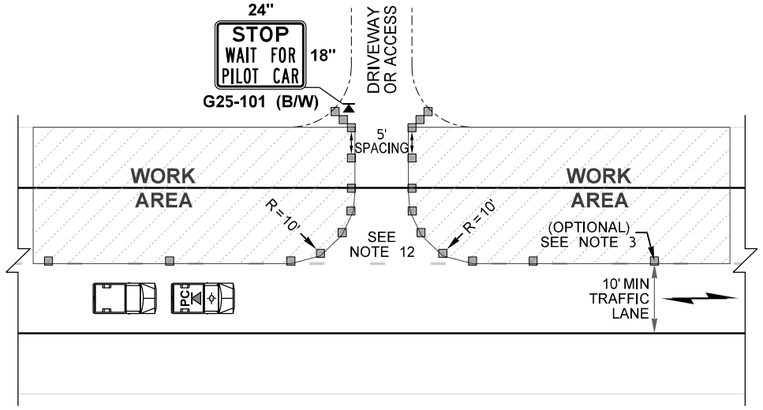
SIGN SEQUENCE A

48"x48" signs required on 45+ mph roadways

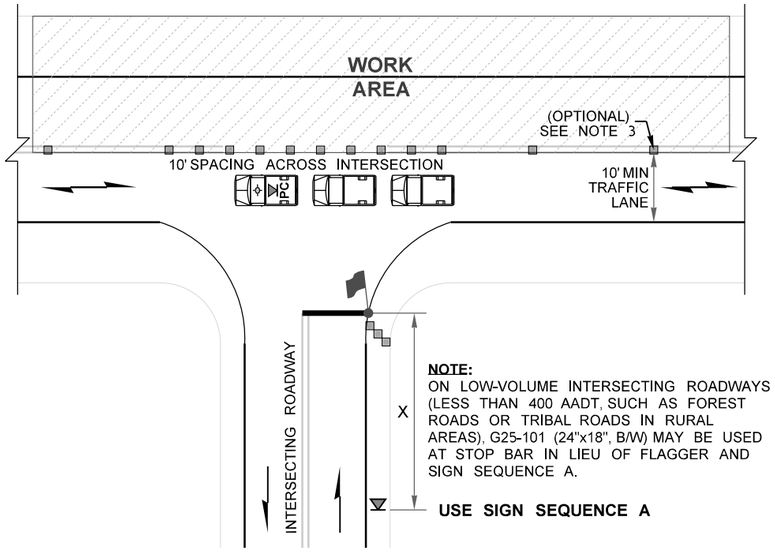


NOTE:
ON LOW-VOLUME INTERSECTING ROADWAYS (LESS THAN 400 AADT, SUCH AS FOREST ROADS OR TRIBAL ROADS IN RURAL AREAS), G25-101 (24"x18", B/W) MAY BE USED AT STOP BAR IN LIEU OF FLAGGER AND SIGN SEQUENCE A.

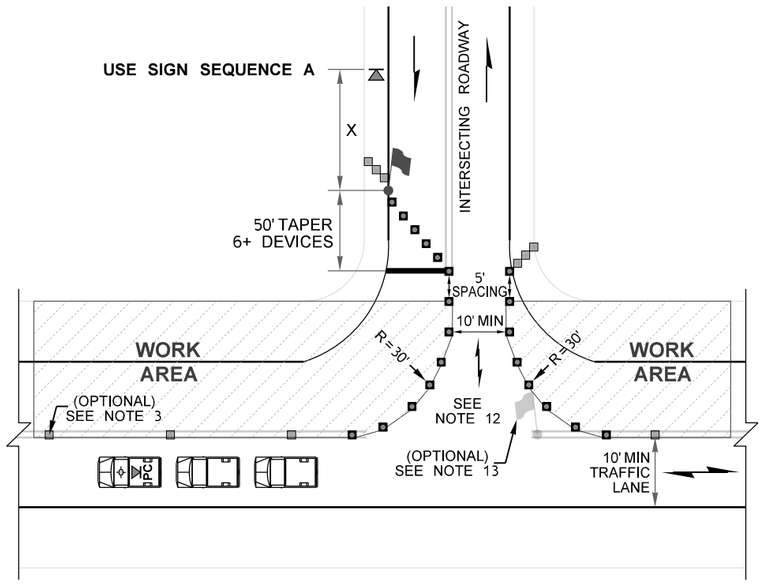
UNSIGNALIZED INTERSECTING ROADWAY DETAIL
SAME SIDE AS LANE CLOSURE (TWO OPEN LANES)



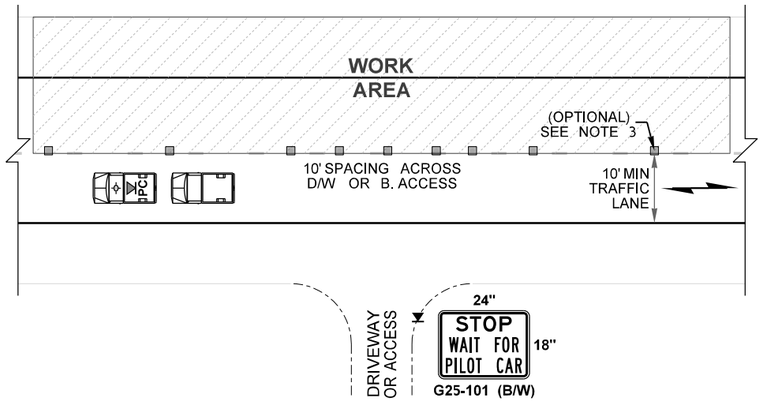
DRIVEWAY OR BUSINESS ACCESS DETAIL
SAME SIDE AS LANE CLOSURE



UNSIGNALIZED INTERSECTING ROADWAY DETAIL
OPPOSITE OF LANE CLOSURE



UNSIGNALIZED INTERSECTING ROADWAY DETAIL
SAME SIDE AS LANE CLOSURE (SINGLE OPEN LANE)



DRIVEWAY OR BUSINESS ACCESS DETAIL
OPPOSITE OF LANE CLOSURE

PILOT CAR OPERATION FOR ALTERNATING 1-LANE, 2-WAY TRAFFIC: FLAGGER-CONTROLLED + TEMP. RUMBLE STRIPS
SHARED BIKE-LANE STRATEGY (45+ MPH HIGHWAYS)

NOT TO SCALE

FILE NAME	C:\Users\LIntzF\OneDrive - Washington State Department of Transportation\Desktop\Work Zone TCPs\324Hwy45+AltTrafficFlaggerPilotCarOpRumbleStrips.dgn				REGION NO.	STATE	FED.AID PROJ.NO.		Plot 2
TIME	1:54:18 PM				10	WASH		Washington State Department of Transportation	PLAN REF NO TC324
DATE	4/2/2024				JOB NUMBER				
PLOTTED BY	LintzF							TYPICAL TRAFFIC CONTROL PLANS	SHEET 2 OF 4 SHEETS
DESIGNED BY					CONTRACT NO.	LOCATION NO.			
ENTERED BY									
CHECKED BY									
PROJ. ENGR.									
REGIONAL ADM.		REVISION	DATE	BY					

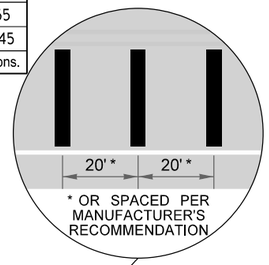
P.E. STAMP BOX — DATE

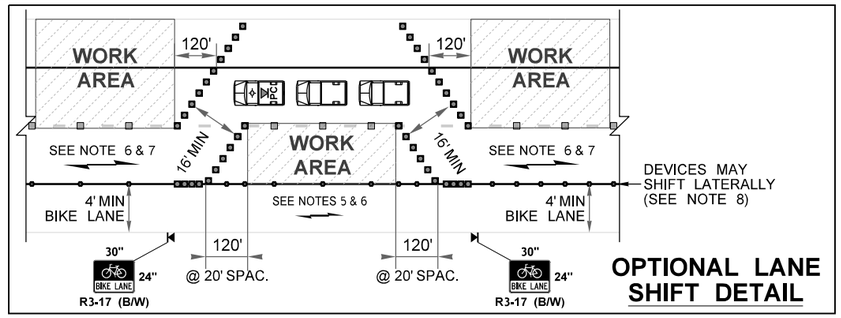
P.E. STAMP BOX — DATE

RECOMMENDED SIGN SPACING = X (1)		
RURAL HIGHWAYS	60-65 MPH	800'±
RURAL ROADS	45-55 MPH	500'±
(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS.		

LONGITUDINAL BUFFER SPACE = B					
SPEED (MPH)	45	50	55	60	65
B (feet)	360	425	495	570	645
Buffer space may be adjusted (±) based on field conditions.					

MAXIMUM CHANNELIZATION DEVICE SPACING (feet)		
MPH	TAPER	TANGENT
50 - 65	10-20	80
45	10-20	60



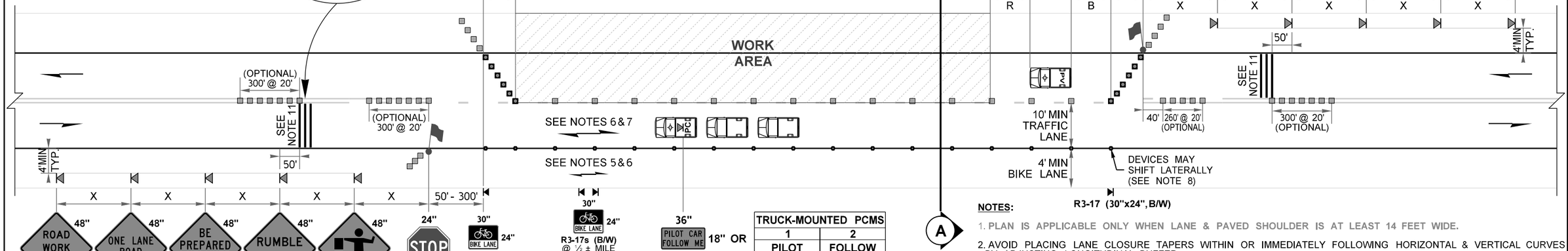


OPTIONAL LANE SHIFT DETAIL

FOR DRIVEWAY, BUSINESS ACCESS, AND INTERSECTING ROADWAY DETAILS: SEE TC324, SHEET 4.

PROTECTIVE VEHICLE ROLL AHEAD DISTANCE = R
STRATEGICALLY POSITION WORK VEHICLE TO PROTECT WORK CREW. 40' - 80' RECOMMENDED.

STATIONARY TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R			
HOST VEHICLE WEIGHT LESS THAN 22,000 lbs.		HOST VEHICLE WEIGHT 22,000+ lbs.	
45-55 MPH	60+ MPH	45-55 MPH	60+ MPH
123'	172'	100'	150'



TRUCK-MOUNTED PCMS	
1	2
PILOT CAR	FOLLOW ME
2.0 SEC	2.0 SEC

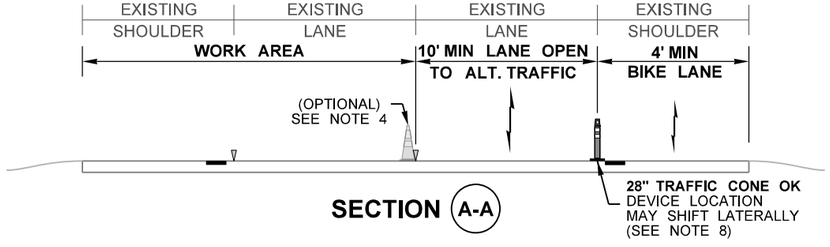
10+ INCH CHARACTERS MOUNTED TO PILOT CAR.

NOTES:

1. PLAN IS APPLICABLE ONLY WHEN LANE & PAVED SHOULDER IS AT LEAST 14 FEET WIDE.
2. AVOID PLACING LANE CLOSURE TAPERS WITHIN OR IMMEDIATELY FOLLOWING HORIZONTAL & VERTICAL CURVES BY ADJUSTING LONGITUDINAL BUFFER.
3. **IF LONGITUDINAL BUFFER SPACE REDUCED** FROM DISTANCES LISTED IN TABLE, UPGRADE PROTECTIVE VEHICLE (PV) TO A TRANSPORTABLE ATTENUATOR (TA). ADDITIONAL PV/TAs MAY BE ADDED AT SEPARATE WORK CREWS.
4. MAY SHIFT LATERALLY. CHANNELIZATION DEVICE AT CENTERLINE OPTIONAL. 36" TRAFFIC CONES, 42" TALL CHANNELIZATION DEVICES, OR TRAFFIC SAFETY DRUMS OK.
5. BICYCLIST ACCOMMODATION: ALTERNATE BIKES IN THE SEPARATED 2-WAY, 4' MIN BIKE LANE
6. PEDESTRIAN ACCOMMODATIONS (ENGINEER TO ACCEPT ANY ALTERNATIVE STRATEGIES):
   (A) ALTERNATE BOTH BIKE & PEDS IN THE SEPARATE 2-WAY, BIKE LANE (4' MIN, 8' WIDTH PREFERRED)
   (B) PROVIDE FREE PED SHUTTLE (PILOT CAR, WORK VEHICLE, VAN, OR BUS MAY BE USED)
7. PILOT CAR OPERATOR TO DRIVE SPEED PRUDENT FOR WORK ZONE CONDITIONS, STOPPING TRAFFIC IF NECESSARY, UP TO A MAXIMUM SPEED OF 35 MPH (25 MPH AT LANE SHIFT).
8. 28" TRAFFIC CONE OK. DEVICE MAY SHIFT LATERALLY BUT PROVIDE 4' MIN BIKE LANE & 10' MIN TRAFFIC LANE.
9. SEE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS:
   1-07.8(1) HIGH-VISIBILITY APPAREL
   1-10.3(1)A FLAGGERS AND NIGHTTIME ILLUMINATION
   1-10.3(2)A TRAFFIC CONTROL PROCEDURES
   9-35.1 24-INCH STOP/SLOW PADDLE SIZE
10. FOR PROJECT-SPECIFIC REQUIREMENTS, SEE SPECIAL PROVISIONS.
11. AVOID PLACING TEMPORARY TRANSVERSE RUMBLE STRIPS WITHIN HORIZONTAL CURVES, ADJUST SIGN SPACING IF NEEDED. USE ONE OF THE FOLLOWING RUMBLE STRIPS:
    * PSS Roadquake 2 or 2F Temporary Portable Rumble Strip (Black)
    * TrafFIx Alert High Speed Rumble Strip (Black)
12. SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE INDICATED.
13. EXISTING PAVEMENT MARKINGS MAY VARY.

LEGEND:

- TEMPORARY SIGN LOCATION
- 28" REFLECTIVE TRAFFIC CONE (SEE NOTE 4)
- OPTIONAL CHANNELIZATION DEVICE
- 28" PORTABLE TUBULAR MARKER (SEE NOTE 8)
- PROTECTIVE VEHICLE (SEE NOTE 3)
- PILOT CAR (SEE NOTES 6 & 7)
- MOTORIST VEHICLE
- FLAGGER
- TEMP. PORTABLE RUMBLE STRIP (SEE NOTE 11)



SECTION A-A

PILOT CAR OPERATION FOR ALTERNATING 1-LANE, 2-WAY TRAFFIC: FLAGGER-CONTROLLED + TEMP. RUMBLE STRIPS SEPARATED BICYCLE LANE STRATEGY (45+ MPH HIGHWAYS)

NOT TO SCALE

FILE NAME	C:\Users\LIntzF\OneDrive - WashIngton State Department of Transportation\Desktop\Work Zone TCPs\324Hwy45+AltTrafficFlaggerPIlotCarOpRumbleStrips.dgn				REGION NO.	STATE	FED.AID PROJ.NO.	Plot 3
TIME	1:54:18 PM				10	WASH		PLAN REF NO TC324
DATE	4/2/2024				JOB NUMBER			
PLOTTED BY	LintzF				CONTRACT NO.	LOCATION NO.		SHEET 3 OF 4 SHEETS
DESIGNED BY								
ENTERED BY								
CHECKED BY								
PROJ. ENGR.								
REGIONAL ADM.		REVISION	DATE	BY				

P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

Washington State Department of Transportation

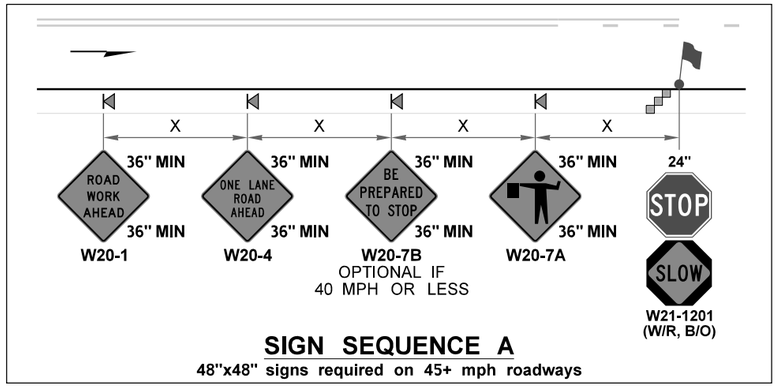
TYPICAL TRAFFIC CONTROL PLANS

NOTES:

14. FOR LEGEND, TABLES, AND ADDITIONAL NOTES: SEE TC324, SHEET 3.

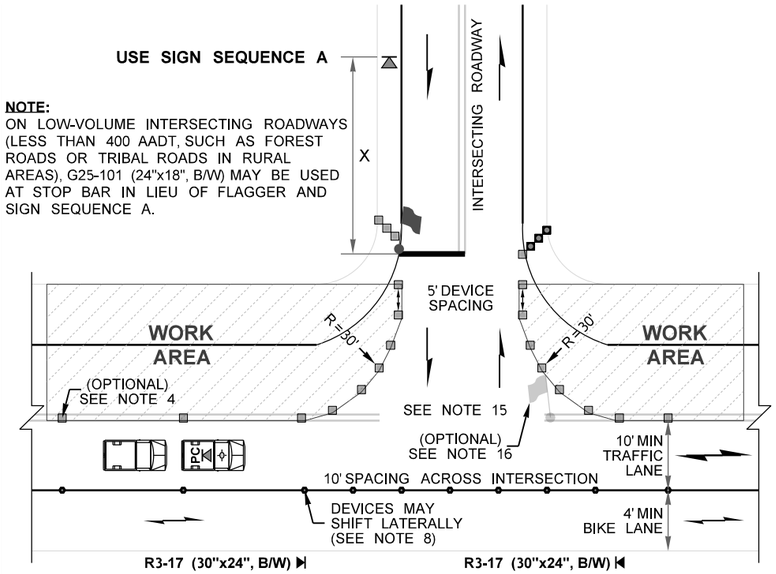
15. WORK MAY BRIEFLY OCCUR WITHIN LANE CLOSURE ACROSS INTERSECTING ROADWAY APPROACHES, BUSINESS ACCESSES, OR DRIVEWAYS. **MAY HOLD APPROACH OR ACCESS TRAFFIC FOR 5 MINUTES OR LESS** (ENGINEER MAY ACCEPT HOLDS UP TO 10 MINUTES) WHILE RESTRICTING TURNS FROM MAINLINE. CHANNELIZATION DEVICES DELINEATING APPROACH OR ACCESS MAY BE REMOVED OR RELOCATED AS NEEDED.

16. SINGLE FLAGGER (WITH RED FLAG/ RED GLOW CONE FLASHLIGHT) MAY BE ADDED TO THE INTERSECTING ROADWAY APPROACH TO HELP GUIDE ALTERNATING & TURNING TRAFFIC.



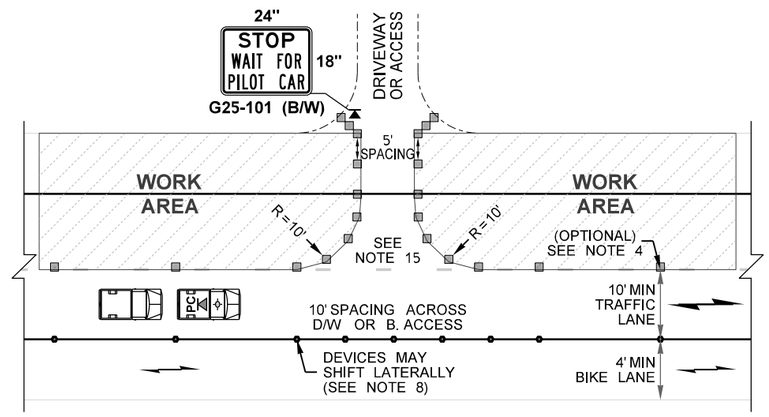
SIGN SEQUENCE A

48"x48" signs required on 45+ mph roadways

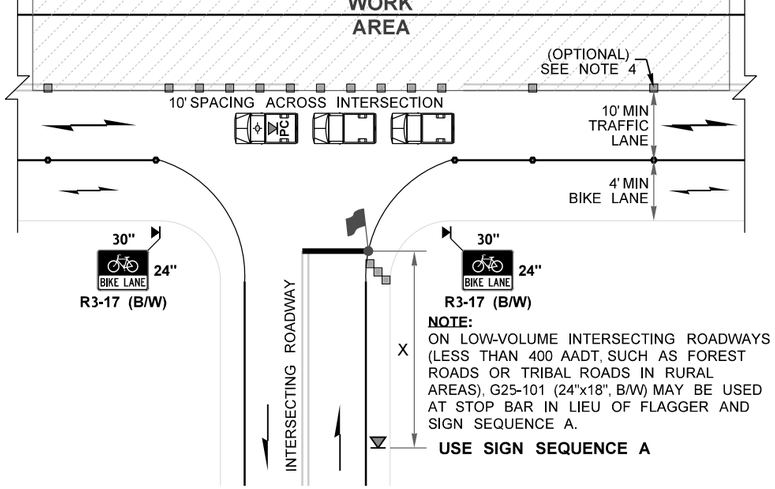


NOTE:
ON LOW-VOLUME INTERSECTING ROADWAYS (LESS THAN 400 AADT, SUCH AS FOREST ROADS OR TRIBAL ROADS IN RURAL AREAS), G25-101 (24"x18", B/W) MAY BE USED AT STOP BAR IN LIEU OF FLAGGER AND SIGN SEQUENCE A.

UNSIGNALIZED INTERSECTING ROADWAY DETAIL
SAME SIDE AS LANE CLOSURE (TWO OPEN LANES)

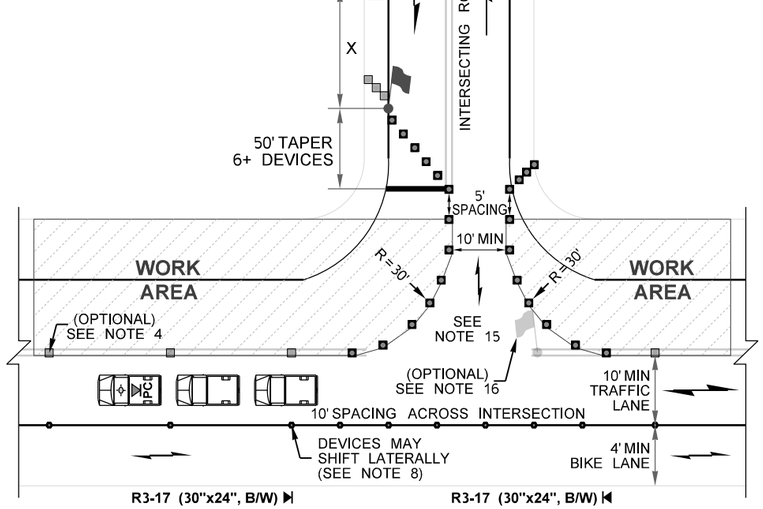


DRIVEWAY OR BUSINESS ACCESS DETAIL
SAME SIDE AS LANE CLOSURE

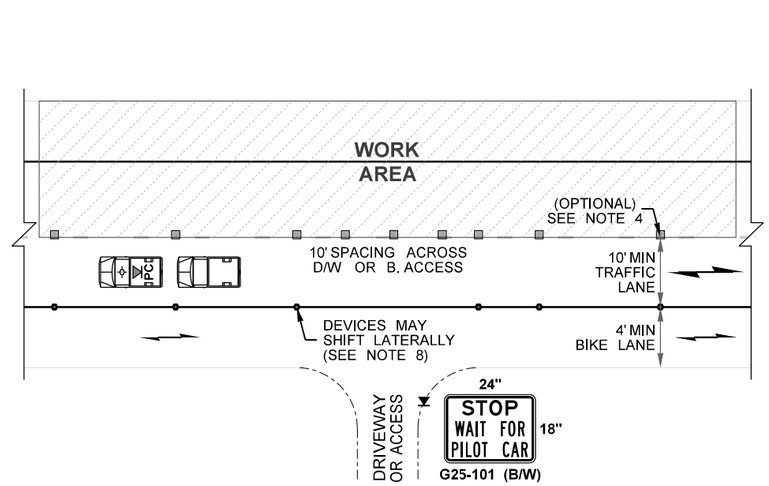


NOTE:
ON LOW-VOLUME INTERSECTING ROADWAYS (LESS THAN 400 AADT, SUCH AS FOREST ROADS OR TRIBAL ROADS IN RURAL AREAS), G25-101 (24"x18", B/W) MAY BE USED AT STOP BAR IN LIEU OF FLAGGER AND SIGN SEQUENCE A.

UNSIGNALIZED INTERSECTING ROADWAY DETAIL
OPPOSITE OF LANE CLOSURE



UNSIGNALIZED INTERSECTING ROADWAY DETAIL
SAME SIDE AS LANE CLOSURE (SINGLE OPEN LANE)



DRIVEWAY OR BUSINESS ACCESS DETAIL
OPPOSITE OF LANE CLOSURE

PILOT CAR OPERATION FOR ALTERNATING 1-LANE, 2-WAY TRAFFIC: FLAGGER-CONTROLLED + TEMP. RUMBLE STRIPS
SEPARATED BICYCLE LANE STRATEGY (45+ MPH HIGHWAYS)

NOT TO SCALE

FILE NAME	C:\Users\LIntzF\OneDrive - Washington State Department of Transportation\Desktop\Work Zone TCPs\324Hwy45+AltTrafficFlaggerPilotCarOpRumbleStrips.dgn				REGION NO. 10	STATE WASH	FED.AID PROJ.NO.		Plot 4
TIME	1:54:19 PM								PLAN REF NO TC324
DATE	4/2/2024				JOB NUMBER			Washington State Department of Transportation	
PLOTTED BY	LintzF								
DESIGNED BY					CONTRACT NO.	LOCATION NO.		TYPICAL TRAFFIC CONTROL PLANS	SHEET 4 OF 4 SHEETS
ENTERED BY									
CHECKED BY									
PROJ. ENGR.									
REGIONAL ADM.		REVISION	DATE	BY			DATE P.E. STAMP BOX	DATE P.E. STAMP BOX	

WORK ZONE MICROSTATION CELLS: Updated work zone cells incorporated (April 2024).

WSDOT CAE automatically updates cell libraries on WSDOT and on-site consultant staff computers (no action needed); however, external users or off-site consultants must manually install them. For additional information e-mail HQCAEHelpDesk@wsdot.wa.gov.

Division 4 in WSDOT Plans Preparation Manual, Section 400.06(29), provides updated work zone cell library policy and information for PS&Es. See https://wsdot.wa.gov/engineering-standards/all-manuals-and-standards/manuals/plans-preparation-manual

TYPICAL TCP USAGE EXPLANATION:

Plot 1: Pilot Car Operation for flagger-controlled 1-lane, 2-way alternating traffic on the mainline for 45+ mph 2-lane highways with a shared bicycle-vehicle lane with portable temporary rumble strips in advance.

Plot 2: Details for intersecting roadways and driveway/business access for Plot 1.

Plot 3: Pilot Car Operation for flagger-controlled 1-lane, 2-way alternating traffic on the mainline for 45+ mph 2-lane highways with a separated bicycle lane with portable temporary rumble strips in advance. Separated bike lanes maximize vehicle capacity (minimizing queue & delays) especially when high bicycle volumes are expected and mainline flaggers are 1500'+ apart.

Plot 4: Details for intersecting roadways and driveway/business access for Plot 3.

Other Alternating Traffic TCPs (45+ mph): See Typical Traffic Control Plan Library (https://wsdot.wa.gov/engineering-standards/all-manuals-and-standards/plan-sheet-library/work-zone-typical-traffic-control-plans-tcp)
* TC320s for other variations of flagger-controlled alternating traffic plans
* TC330s for AFAD-controlled alternating traffic plans
* TC340s for temporary signal-controlled alternating traffic plans
* TC350s for traffic holds

If not published yet, they will be added in the future.

Other Alternating Traffic TCPs (40 mph or less): See Typical Traffic Control Plan Library (https://wsdot.wa.gov/engineering-standards/all-manuals-and-standards/plan-sheet-library/work-zone-typical-traffic-control-plans-tcp)
* TC420s for flagger-controlled alternating traffic
* TC430s for AFAD-controlled alternating traffic
* TC440s for temporary signal-controlled alternating traffic plans
* TC450s for traffic holds

If not published yet, they will be added in the future.

DESIGNER NOTES:

A. Contact Region Transportation Operations to determine which Typical TCP(s) to utilize, as their are several variations available (or soon will be).

B. These typical traffic control plans may be modified for site specific situations and/or WSDOT Region Transportation Operations standard practices. **Typical TCPs are not "Standard Plans".**

C. **Do not use intermittent (old: "variable") regulatory work zone speed limit reductions for flagging or AFAD operations.** Instead, maintain the existing speed limit (or continuous regulatory work zone speed limit reduction, if applicable). See WSDOT Traffic Manual Section 5-18 and Executive Order E1060 regulatory speed limit reductions & advisory speed approval policy for work zones thru Region Transportation Operations.

D. See MUTCD Table 6F-1 for additional temporary sign size information. Work zone signs are usually smaller than those used permanently.

E. WAC 468-95-300 modifies MUTCD Table 6-1 "Recommended Advance Warning Sign Minimum Spacing". Sign spacing may be adjusted for field conditions based on engineering judgement. The Sign Spacing table is acceptable to use in Typical TCPs; however, site-specific traffic control plans should include actual sign spacing values (with À) that have been verified in the field, on SR view, or via Google Maps.

F. When positioned behind channelizing devices, temporary signs should be mounted at 5' minimum.

G. The work zone design speed is typically the posted speed limit (or the work zone speed limit when in effect). For split speed limits (SPEED LIMIT 65 TRUCKS 60), use the higher 65 mph for work zone design. For this Typical TCP, the work zone design speed is based on the existing posted speed limit for sign spacing, channelizing device spacing, buffer, and roll ahead distances.

H. "Flagger tapers" are always 50'-100' per closed lane with 6 devices minimum (10'-20' spacing on the taper), regardless of the posted speed limit or lane width per MUTCD 6C.08, Paragraph 15. Never use "L" for these tapers.

I. Channelization devices types may be modified (vertical panel channelizing devices prohibited). 28" reflective traffic cones are recommended on flagger-controlled alternating traffic (especially for access delineation to maintain visibility for turning motorists). 36" reflective traffic cones, 42" tall channelizing devices, or traffic safety drums may be used. Warning lights on channelizing devices is being phased out in Washington. Contact Region Transportation Operations for information regarding their standard practices.

J. Maximum channelizing device spacing table for tangents is based on WAC 468-95-301 and may ALWAYS be reduced.

K. Sequential arrow boards are prohibited at flagger tapers per WSDOT standard practice and per MUTCD Guidance TA-10.

L. Per MUTCD Section 6C.06, longitudinal buffer spaces are optional. Using longitudinal buffer spaces listed in MUTCD Table 6C-2 is recommended as best practice when feasible, but may be adjusted based on engineering judgement. The Longitudinal Buffer Space table is acceptable in Typical TCPs; however, site-specific traffic control plans should include actual buffer distances that have been verified in the field, on SR view, or via Google Maps.

M. The lateral buffer (transverse distance between open travel lanes and work area) is optional. No lateral buffer has been provided in these Typical TCPs due to the low speeds of alternating traffic. Actual work area limits may be modified.

N. WSDOT best practice is to place a protective vehicle (PV) in the closed lane in advance of the work area for flagger-controlled alternating traffic, but provide a full longitudinal buffer space to provide errant vehicles an opportunity to stop at the posted speed limit on 45+ mph roadways before impacting the PV. If the longitudinal buffer distance must be reduced or eliminated on 45+ mph roadways with flagger-controlled alternating traffic, then upgrade the PV to a transportable attenuator (TA). Additional PVs (or TAs) may be added prior to multiple work crews within a work area. Contact Region Transportation Operations for their standard practice.

O. Placing channelizing devices transversely (at 0° and 3-foot spacing) is an optional strategy to stop move errant drivers traveling within the closed lane(s) but is not shown in the Typical TCP.

P. The downstream taper of 50'-100' is required on 1-lane, 2-way traffic configurations.

Q. Duration of traffic holds for driveways, business accesses, and/or roadway approaches is listed as 5 minutes in this Typical Traffic Control Plan, but may be adjusted. Contact Region Transportation Operations for additional guidance.

R. When utilizing temporary portable transverse rumble strips in Contracts, include the following General Special Provisions for Materials, Specification, Measurement, and Payment. https://wsdot.wa.gov/publications/fulltext/projectdev/gspspdf/egsp1.pdf
* 1-10.2(9-35).OPT1.GR1 (Temp Rumble Strip Materials GSP)
* 1-10.3(3).OPT5.GR1 (Temp Rumble Strip Specifications GSP)
* 1-10.4(2).OPT8.GR1 (Temp Rumble Strip Measurement GSP)
* 1-10.5(2).OPT6.GR1 (Temp Rumble Strip Payment GSP)

PILOT CAR OPERATION FOR ALTERNATING 1-LANE, 2-WAY TRAFFIC: FLAGGER-CONTROLLED + TEMP. RUMBLE STRIPS (45+ MPH HIGHWAYS)

INFORMATIONAL USE ONLY

DO NOT INCLUDE THIS SHEET IN CONTRACT PS&Es or TCP SUBMITTALs.

DESIGNER GUIDANCE

Plot 5

TC324