

RECOMMENDED SIGN SPACING = X (1)		
RURAL HIGHWAYS	60-70 MPH	800'±
RURAL ROADS	45-55 MPH	500'±

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVEWAYS.

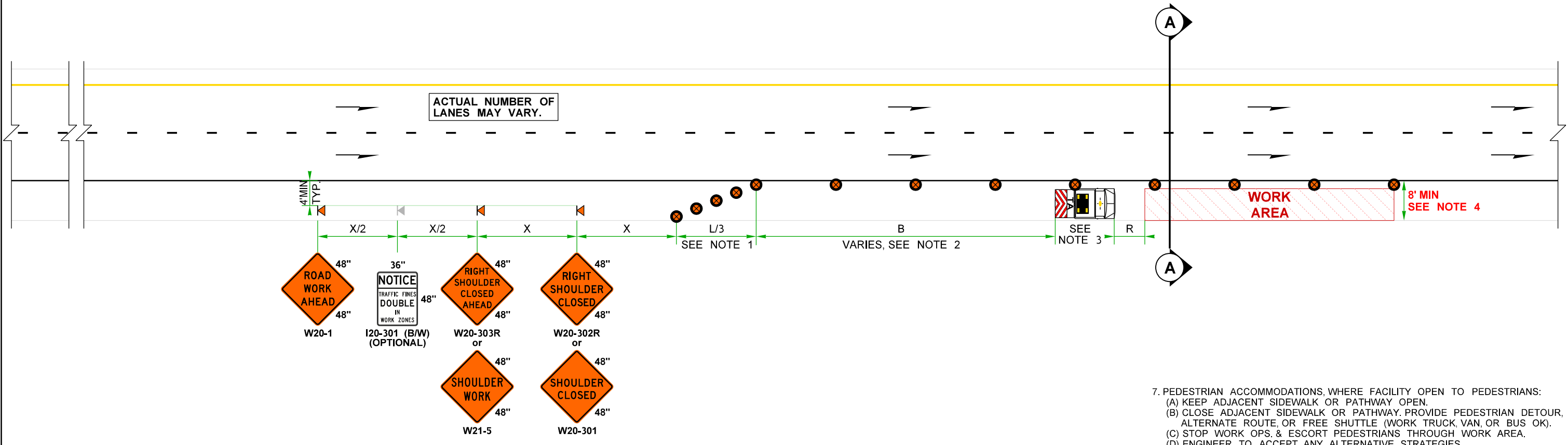
SHOULDER CLOSURE TAPER LENGTH = L/3							
SHOULDER WIDTH	SPEED (MPH)	45	50	55	60	65	70
		USE LANE CLOSURE INSTEAD					
< 8'	L/3 (feet)	120	160	160	160	200	200
8'		150	200	200	200	240	240
10'							

LONGITUDINAL BUFFER SPACE = B						
SPEED (MPH)	45	50	55	60	65	70
B (feet)	360	425	495	570	645	730

Buffer space may be adjusted (±) based on field conditions.

MAXIMUM CHANNELIZATION DEVICE SPACING (feet)		
MPH	TAPER	TANGENT
50 - 75	40	80
45	30	60

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'



**NOTES:**

- IF FEASIBLE, AVOID PLACING SHOULDER CLOSURE TAPER WITHIN OR IMMEDIATELY FOLLOWING HORIZONTAL AND VERTICAL CREST CURVES.
- DISTANCE INCREASES AS WORK AREA MOVES DOWNSTREAM.
- RED/WHITE OR BLACK/YELLOW CHEVRON PATTERN OK. ADDITIONAL TRANSPORTABLE ATTENUATORS MAY BE ADDED BEHIND EACH WORK CREW.
- IF PAVED SHOULDER IS LESS THAN 8 FEET WIDE AT TRANSPORTABLE ATTENUATOR AND WORK AREA, THEN A LANE CLOSURE SHALL BE IMPLEMENTED.
- SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE INDICATED.
- PLAN IS APPLICABLE TO SHOULDER CLOSURES OF 7 DAYS OR LESS.

- PEDESTRIAN ACCOMMODATIONS, WHERE FACILITY OPEN TO PEDESTRIANS:
  - KEEP ADJACENT SIDEWALK OR PATHWAY OPEN.
  - CLOSE ADJACENT SIDEWALK OR PATHWAY. PROVIDE PEDESTRIAN DETOUR, ALTERNATE ROUTE, OR FREE SHUTTLE (WORK TRUCK, VAN, OR BUS OK).
  - STOP WORK OPS. & ESCORT PEDESTRIANS THROUGH WORK AREA.
  - ENGINEER TO ACCEPT ANY ALTERNATIVE STRATEGIES.
- BICYCLIST ACCOMMODATIONS, WHERE FACILITY OPEN TO BICYCLES:
  - BICYCLES PROHIBITED VIA R5-601 (IF EXIT-RAMP PRESENT) & R5-6 SIGNS. PROVIDE SIGNED DETOUR OR ALTERNATIVE ROUTE.
  - BICYCLES PROHIBITED VIA R5-6 SIGN(S). PROVIDE FREE SHUTTLE (WORK TRUCK, VAN, OR BUS OK) + CONTACT INFORMATION/PHONE BOX/LABORER.
  - STOP WORK OPS. & ESCORT BICYCLISTS THROUGH SHOULDER CLOSURE.
  - ENGINEER TO ACCEPT ANY ALTERNATIVE STRATEGIES.

**LEGEND:**

- ◀ TEMPORARY SIGN LOCATION (1' MIN HEIGHT)
- ⊗ TRAFFIC SAFETY DRUM
- TL-3 TRANSPORTABLE ATTENUATOR

**RIGHT SHOULDER CLOSURE  
(45+ MPH 4-LANE DIVIDED HIGHWAYS)  
NOT TO SCALE**

24"  
 R5-601 (B/W) AT EXIT-RAMP PRIOR TO SHLDR CLOSURE

24"  
 R5-6 (R/B/W) PRIOR TO AND WITHIN SHLDR CLOSURE

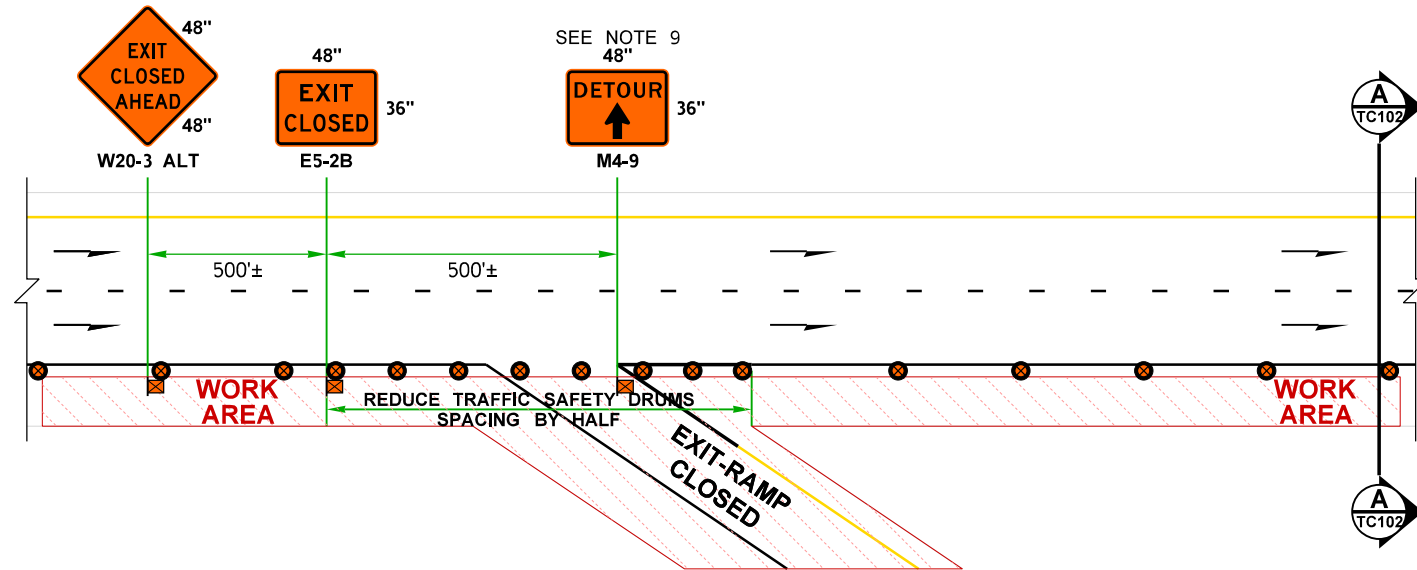
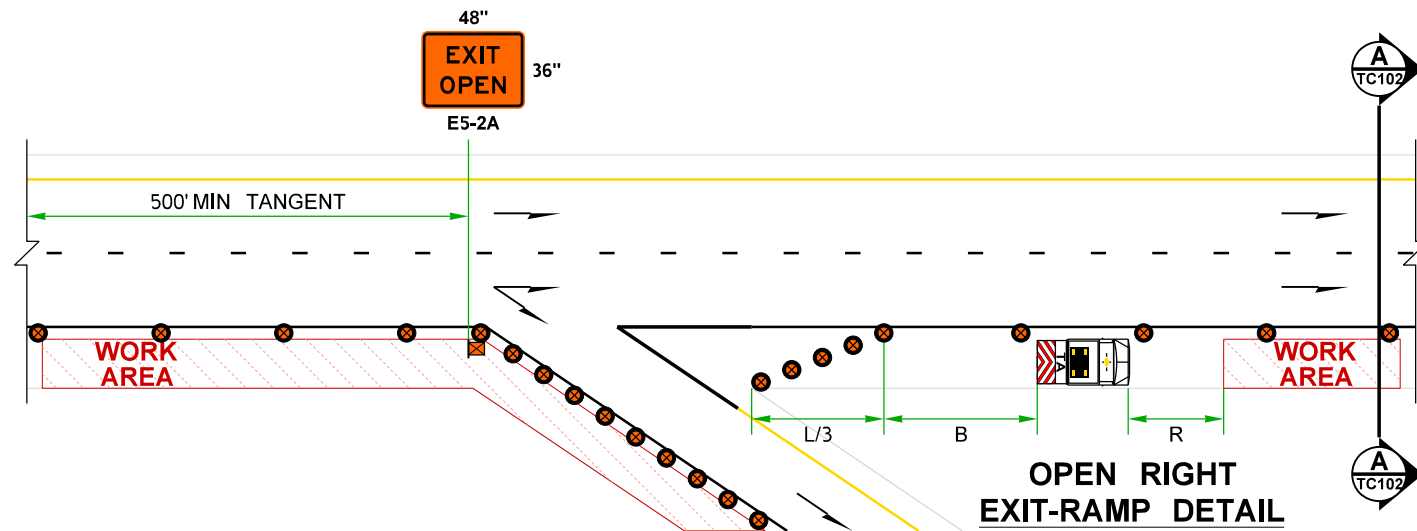
FILE NAME	C:\Users\LintzF\OneDrive - Washington State Department of Transportation\Desktop\Work Zone TCPs\311DMLHwy45+RtShldr.dgn				REGION NO.	STATE	FED.AID PROJ.NO.	Plot 1
TIME	8:35:54 AM				10	WASH		PLAN REF NO TC311
DATE	3/29/2024							SHEET 1 OF 2 SHEETS
PLOTTED BY	LintzF							TYPICAL TRAFFIC CONTROL PLANS
DESIGNED BY								
ENTERED BY								
CHECKED BY								
PROJ. ENGR.								
REGIONAL ADM.	REVISION	DATE	BY		CONTRACT NO.	LOCATION NO.		



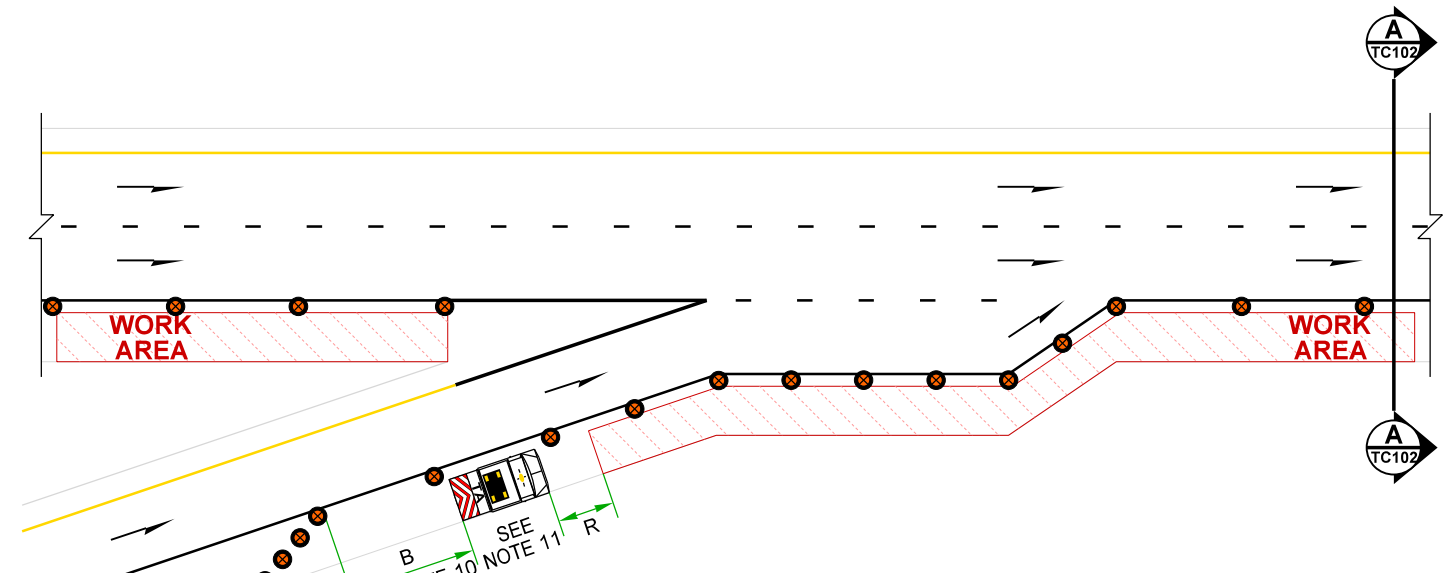
**NOTES:**

- 8. FOR LEGEND, TABLES, AND ADDITIONAL NOTES: SEE TC102, SHEET 1.
- 9. SEE DETOUR PLAN FOR ADDITIONAL RAMP CLOSURE DETOUR SIGNAGE.
- 10. BUFFER SPACE BASED ON PREVAILING SPEED OF MOTORISTS PASSING TRANSPORTABLE ATTENUATOR, TYPICALLY VARIES FROM 20 MPH AT TOP OF ON-RAMP TO POSTED SPEED LIMIT AT GORE TIP.
- 11. PROTECTIVE VEHICLE PERMITTED IF PREVAILING SPEED OF MOTORISTS PASSING IS 40 MPH OR LESS. 40'-80' ROLL AHEAD RECOMMENDED FOR PROTECTIVE VEHICLES ROLL AHEAD (R).

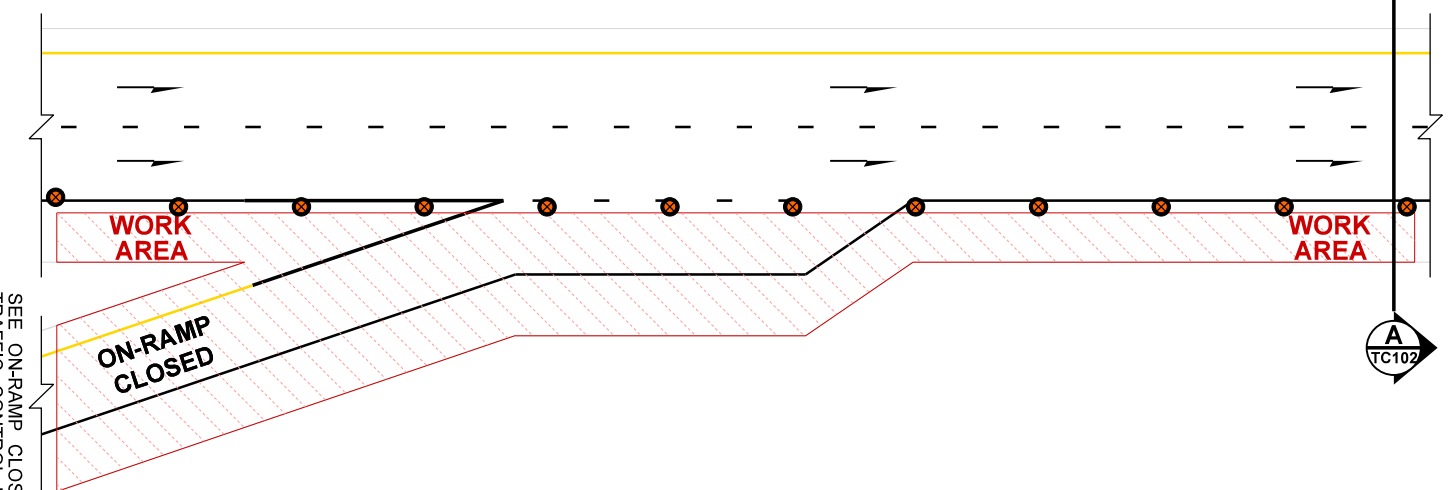
LONGITUDINAL BUFFER SPACE = B												
SPEED (MPH)	20	25	30	35	40	45	50	55	60	65	70	75
LENGTH (feet)	115	155	200	250	305	360	425	495	570	645	730	820
Buffer space may be adjusted (±) based on field conditions.												



**CLOSED RIGHT EXIT-RAMP DETAIL**



**OPEN RIGHT ON-RAMP DETAIL**



**CLOSED RIGHT ON-RAMP DETAIL**

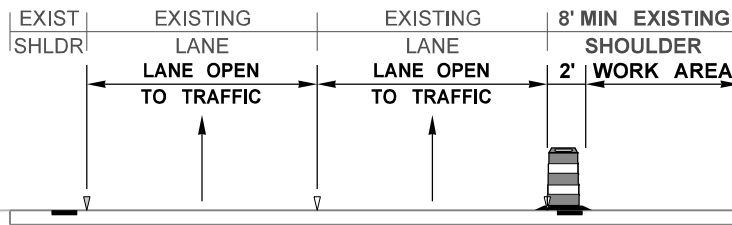
**FREEWAY (2+ LANES): RIGHT SHOULDER CLOSURE (MAINTAIN EXISTING SPEED LIMIT)**

NOT TO SCALE

FILE NAME	C:\Users\LintzF\OneDrive - Washington State Department of Transportation\Desktop\Work Zone TCPs\311DMLHwy45+RtShldr.dgn				FED.AID PROJ.NO.						Plot 2
TIME	8:35:54 AM										PLAN REF NO
DATE	3/29/2024										TC311
PLOTTED BY	LintzF				REGION NO.	STATE					SHEET
DESIGNED BY					10	WASH					2
ENTERED BY					JOB NUMBER						OF
CHECKED BY											2
PROJ. ENGR.					CONTRACT NO.						SHEETS
REGIONAL ADM.					LOCATION NO.						
	REVISION		DATE	BY							



TYPICAL TRAFFIC CONTROL PLANS



SECTION A-A

RECOMMENDED SIGN SPACING = X (1)		
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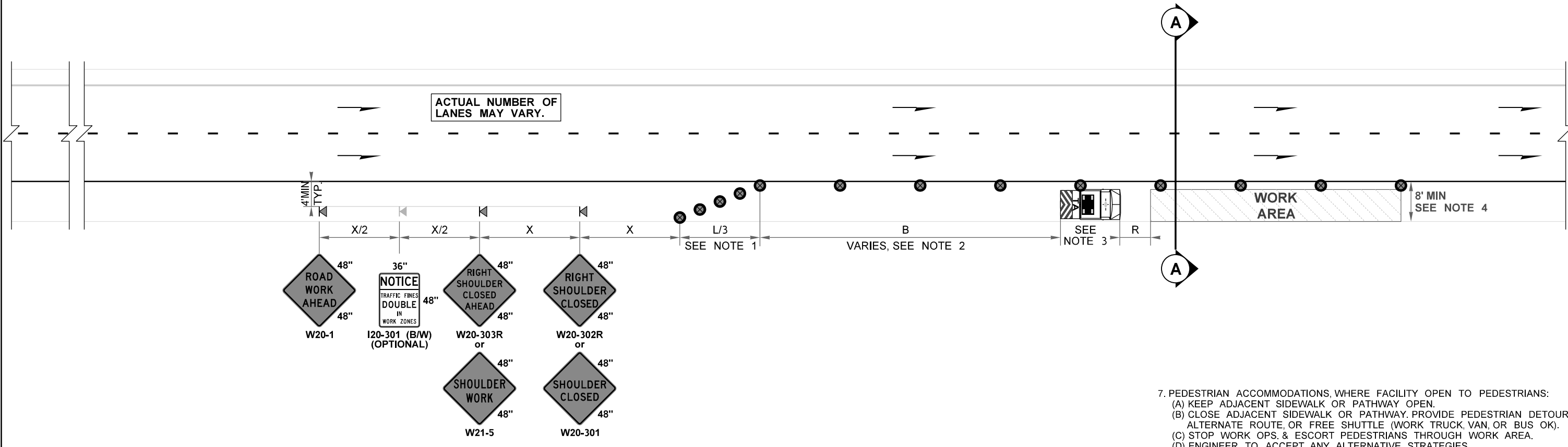
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**LEGEND:**

- ◀ TEMPORARY SIGN LOCATION (1' MIN HEIGHT)
- ⊗ TRAFFIC SAFETY DRUM
- ☒ TRANSPORTABLE ATTENUATOR (TL-3)

**RIGHT SHOULDER CLOSURE  
(45+ MPH 4-LANE DIVIDED HIGHWAYS)  
NOT TO SCALE**

**R5-601 (B/W)** 24"  
 AT EXIT-RAMP  
 PRIOR TO  
 SHLDR CLOSURE

**R5-6 (R/B/W)** 24"  
 PRIOR TO AND  
 WITHIN  
 SHLDR CLOSURE

FILE NAME: C:\Users\LintzF\OneDrive - Washington State Department of Transportation\Desktop\Work Zone TCPs\311DMLHwy45+RtShldr.dgn		REGION NO. STATE		FED.AID PROJ.NO.		Plot 1	
TIME: 8:35:55 AM		10	WASH			PLAN REF NO <b>TC311</b>	
DATE: 3/29/2024						SHEET 1 OF 2 SHEETS	
PLOTTED BY: LintzF						TYPICAL TRAFFIC CONTROL PLANS	
DESIGNED BY:							
ENTERED BY:							
CHECKED BY:							
PROJ. ENGR.:							
REGIONAL ADM.:	REVISION	DATE	BY	CONTRACT NO.	LOCATION NO.		





**WORK ZONE MICROSTATION CELLS: Updated work zone cells incorporated (March 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>

**PLOT USAGE EXPLANATION:**

**Plot 1:** Right shoulder closure maintaining existing speed limit on a 4-lane divided highway with 45 mph or higher speed limits.

**Plot 2:** Right ramp details within shoulder closure on a 4-lane divided highway with 45 mph or higher speed limits.

**Note:** Details for at-grade intersections will be added at a future date.

**DESIGNER NOTES:**

- A. These typical traffic control plans (Typical TCPs) may be modified for project-specific, site-specific situations, and/or WSDOT Region Transportation Operations standard practices. **Typical TCPs are not "Standard Plans"**.
- B. Because of the minimal traffic impacts of shoulder closures, Portable Changeable Message Signs (PCMSs) are avoided. PCMSs are optional per MUTCD Section 6F.60 and Section 6H and are used to supplement signage and inform motorists of unexpected situations.
- C. 48"x48" diamond-shaped work zone signs used on 45+ mph multi lane highways. For shoulder closures, temporary signs are only placed on one shoulder (does not need to be gated). If signs are barrier-mounted, a special rectangular-shaped 24"x48" sign should be used. See MUTCD Table 6F-1 for additional temporary sign size information.
- D. When positioned behind channelizing devices, temporary signs should be mounted at 5' minimum.
- E. Work zone traffic control layout is based on the posted speed limit.
- F. Traffic safety drums, 42" tall channelizing devices, 36" traffic cones, & 28" traffic cones allowable for tangents, but traffic safety drums should be used on tapers (vertical panel channelizing devices prohibited). Warning lights on channelizing devices being phased out in Washington. Contact Region Transportation Operations for information regarding their standard practices.
- G. Maximum channelizing device spacing table for tangents is based on WAC 468-95-301 and may ALWAYS be reduced.
- H. It is WSDOT standard practice not to use sequential arrow signs (arrow boards) for shoulder closure tapers. Per MUTCD TA-3 & TA-6, sequential arrow signs (arrow boards) should not be used.
- I. Longitudinal buffer spaces (B) are optional per MUTCD Section 6C.06 but is desired when practical. Longitudinal buffers are the most adjustable component that may be increased/decreased to move lane closure tapers away from horizontal/vertical curves and from on-ramp merges.
- J. The lateral buffer (transverse distance between open lanes and work area) is typically 2 feet on 45+ mph roadways but may be reduced to 1-foot to provide additional work area. Per MUTCD Section 6C.06 P14, lateral buffer spaces are optional. Actual work area limits may be modified.
- K. Per MUTCD TA-6, the downstream taper not used. On 45+ mph roadways, heavy construction vehicle traffic ingressing and egressing into work area is not encouraged for shoulder closures (lane closures should be used instead). Per MUTCD TA-6, the downstream taper not used.

**RIGHT SHOULDER CLOSURE (45+ MPH 4-LANE DIVIDED HIGHWAYS)**

**INFORMATIONAL USE ONLY**

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

**DESIGNER GUIDANCE**

Plot 3

**TC311**