

RECOMMENDED SIGN SPACING = X (1)		
RURAL ROADS & URBAN ARTERIALS	35-40 MPH	350'±
RURAL ROADS & URBAN ARTERIALS RESIDENTIAL & BUSINESS DISTRICTS	25-30 MPH	200'± (2)
URBAN STREETS	25 MPH OR LESS	100'± (2)

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMP, AT-GRADE INTERSECTIONS AND DRIVEWAYS.  
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

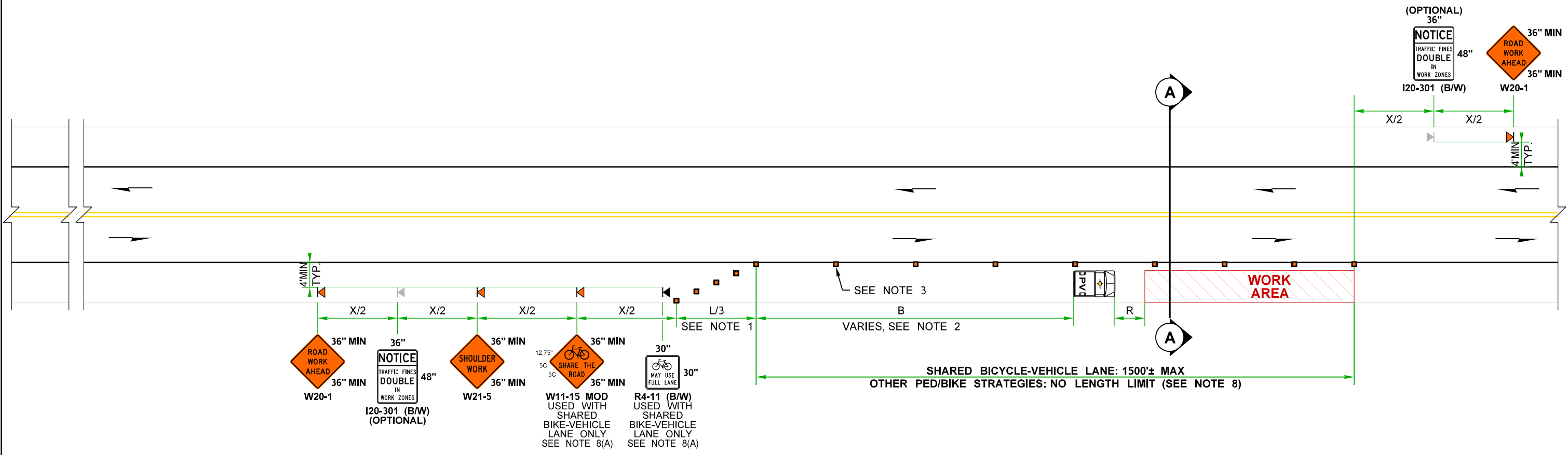
SHOULDER CLOSURE TAPER LENGTH = L/3						
SHOULDER WIDTH	SPEED (MPH)	20	25	30	35	40
< 6'	L/3 (feet)	40	40	40	60	60
6'		40	40	40	60	60
10'		40	40	60	90	90

LONGITUDINAL BUFFER SPACE = B					
SPEED (MPH)	20	25	30	35	40
B (feet)	115	155	200	250	305

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

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

MAXIMUM CHANNELIZATION DEVICE SPACING (feet)		
MPH	TAPER	TANGENT
35 - 40	30	60
20 - 30	20	40



NOTES:

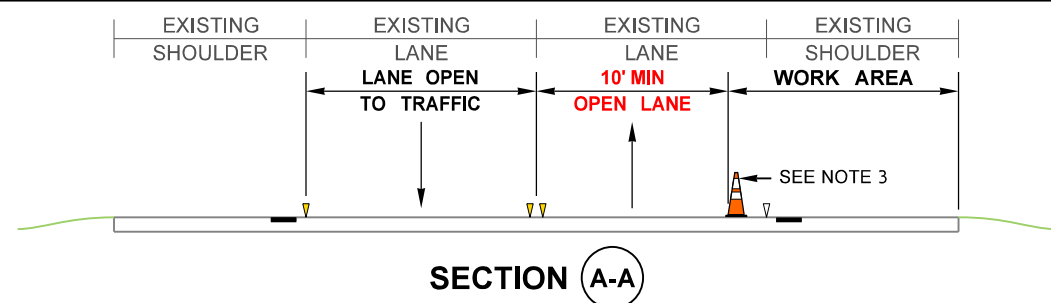
- IF FEASIBLE, AVOID PLACING SHOULDER CLOSURE TAPER WITHIN OR IMMEDIATELY FOLLOWING HORIZONTAL AND VERTICAL CREST CURVES.
- DISTANCE INCREASES AS WORK AREA MOVES DOWNSTREAM.
- 28" TRAFFIC CONES, 36" TRAFFIC CONES, 42" TALL CHANNELIZING DEVICES, OR TRAFFIC SAFETY DRUMS ALLOWED ON TAPERS AND TANGENTS.
- SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE INDICATED.
- PLAN IS APPLICABLE TO LANE CLOSURES OF 7 DAYS OR LESS.
- ADD W21-30 SERIES SIGNS (36"x36" MIN, 5' HEIGHT) @ X PRIOR TO FREQUENT CONSTRUCTION VEHICLE INGRESS/EGRESS INTO OPEN LANE(S).
- 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:
  - SHARED BICYCLE-VEHICLE LANE. ADD W11-15 MOD & R4-11 SIGNS.
  - BICYCLES PROHIBITED R5-6 SIGN(S). 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)
- CHANNELIZING DEVICE (SEE NOTE 3)
- PROTECTIVE VEHICLE

SHOULDER CLOSURE  
(HIGHWAYS, 40 MPH OR LESS)  
NOT TO SCALE

FILE NAME	C:\Users\LintzF\OneDrive - Washington State Department of Transportation\Desktop\Work Zone TCPs\403Hwy40-Shldr.dgn			REGION NO.	STATE	FED.AID PROJ.NO.	Washington State Department of Transportation	Plot 1
TIME	6:49:50 AM			10	WASH			PLAN REF NO TC403
DATE	8/21/2024			JOB NUMBER			SHEET 1 OF 2 SHEETS	
PLOTTED BY	LintzF			CONTRACT NO.	LOCATION NO.			
DESIGNED BY								
ENTERED BY								
CHECKED BY							TYPICAL TRAFFIC CONTROL PLANS	
PROJ. ENGR.								
REGIONAL ADM.	REVISION	DATE	BY					



RECOMMENDED SIGN SPACING = X (1)		
RURAL ROADS & URBAN ARTERIALS	35-40 MPH	350'±
RURAL ROADS & URBAN ARTERIALS RESIDENTIAL & BUSINESS DISTRICTS	25-30 MPH	200'± (2)
URBAN STREETS	25 MPH OR LESS	100'± (2)

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMP, AT-GRADE INTERSECTIONS AND DRIVEWAYS.  
 (2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

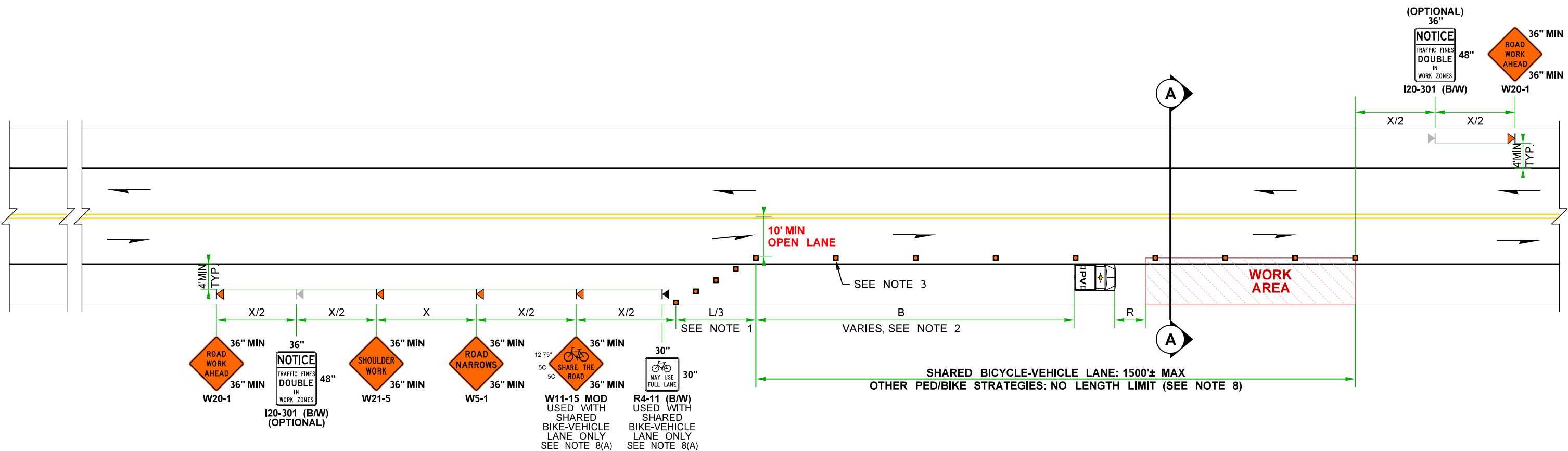
SHOULDER CLOSURE TAPER LENGTH = L/3						
SHOULDER WIDTH	SPEED (MPH)	20	25	30	35	40
< 6'	L/3 (feet)	40	40	40	60	60
6'		40	40	40	60	60
10'		40	40	60	90	90

LONGITUDINAL BUFFER SPACE = B					
SPEED (MPH)	20	25	30	35	40
B (feet)	115	155	200	250	305

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

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

MAXIMUM CHANNELIZATION DEVICE SPACING (feet)		
MPH	TAPER	TANGENT
35 - 40	30	60
20 - 30	20	40



**NOTES:**

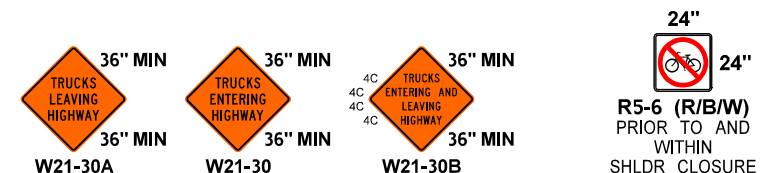
- IF FEASIBLE, AVOID PLACING SHOULDER CLOSURE TAPER WITHIN OR IMMEDIATELY FOLLOWING HORIZONTAL AND VERTICAL CREST CURVES.
- DISTANCE INCREASES AS WORK AREA MOVES DOWNSTREAM.
- 28" TRAFFIC CONES, 36" TRAFFIC CONES, 42" TALL CHANNELIZING DEVICES, OR TRAFFIC SAFETY DRUMS ALLOWED ON TAPERS AND TANGENTS.
- SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE INDICATED.
- PLAN IS APPLICABLE TO LANE CLOSURES OF 7 DAYS OR LESS.
- ADD W21-30 SERIES SIGNS (36"x36" MIN, 5' HEIGHT) @ X PRIOR TO FREQUENT CONSTRUCTION VEHICLE INGRESS/EGRESS INTO OPEN LANE(S).
- PEDESTRIAN ACCOMMODATIONS, WHERE FACILITY OPEN TO PEDESTRIANS:  
 (A) KEEP ADJACENT SIDEWALK OR PATHWAY OPEN.  
 (B) CLOSE ADJACENT SIDEWALK OR PATHWAY, PROVIDE PEDESTRIAN DETOUR, ALTERNATE ROUTE, OR FREE SHUTTLE (WORK TRUCK, VAN, OR BUS OK).  
 (C) STOP WORK OPS. & ESCORT PEDESTRIANS THROUGH WORK AREA.  
 (D) ENGINEER TO ACCEPT ANY ALTERNATIVE STRATEGIES.
- BICYCLIST ACCOMMODATIONS, WHERE FACILITY OPEN TO BICYCLES:  
 (A) SHARED BICYCLE-VEHICLE LANE. ADD W11-15 MOD & R4-11 SIGNS.  
 (B) BICYCLES PROHIBITED R5-6 SIGN(S). PROVIDE SIGNED DETOUR OR ALTERNATIVE ROUTE.  
 (C) BICYCLES PROHIBITED VIA R5-6 SIGN(S). PROVIDE FREE SHUTTLE (WORK TRUCK, VAN, OR BUS OK) + CONTACT INFORMATION/PHONE BOX/LABORER.  
 (D) STOP WORK OPS & ESCORT BICYCLISTS THROUGH SHOULDER CLOSURE.  
 (E) ENGINEER TO ACCEPT ANY ALTERNATIVE STRATEGIES.

**LEGEND:**

- TEMPORARY SIGN LOCATION (1' MIN HEIGHT)
- CHANNELIZING DEVICE (SEE NOTE 3)
- PROTECTIVE VEHICLE

## SHOULDER CLOSURE WITH ENCROACHMENT (HIGHWAYS, 40 MPH OR LESS)

NOT TO SCALE



FILE NAME: C:\Users\LintzF\OneDrive - Washington State Department of Transportation\Desktop\Work Zone TCPs\403Hwy40-Shldr.dgn		FED.AID PROJ.NO.				PLAN REF NO. <b>TC403</b>	
TIME: 6:49:50 AM	DATE: 8/21/2024	REGION NO.: 10	STATE: WASH			SHEET 2 OF 2 SHEETS	
PLOTTED BY: LintzF	DESIGNED BY:	JOB NUMBER:	CONTRACT NO.:	LOCATION NO.:	<b>TYPICAL TRAFFIC CONTROL PLANS</b>		
ENTERED BY:	CHECKED BY:	PROJ. ENGR.:	REVISION:	DATE:			
REGIONAL ADM.:	DATE:	BY:	DATE:	P.E. STAMP BOX:			

**WORK ZONE MICROSTATION CELLS: Updated work zone cells incorporated (August 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:** Shoulder closure maintaining existing speed limit on highways with 40 mph or lower speed limits.

**Plot 2:** Shoulder closure, with encroachment, maintaining existing speed limit on highways with 40 mph or lower 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. 36"x36" MIN diamond-shaped work zone signs used on highways 40 mph or lower by WSDOT standard practice (30"x30" signs permitted on local streets/roadways 30 mph or less per MUTCD 6F.02 P09). 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 tapers and tangents (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-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. No lateral buffer (transverse distance between open lanes and work area) typically used on roadways 40 mph or less. 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. Eliminating it allows construction vehicles to accelerate out of work area into reopened lane to minimize traffic impacts and increase safety.

**SHOULDER CLOSURE (HIGHWAYS, 40 MPH OR LESS)**

<b>INFORMATIONAL USE ONLY</b>  DO NOT INCLUDE THIS SHEET IN CONTRACT PS&Es or TCP SUBMITTALS.	Plot 3
	<b>TC403</b>
<b>DESIGNER GUIDANCE</b>	