TRAFFIC CONTROL STANDARDS

1. All traffic control applications and devices are to be pursuant to the Manual on Uniform Traffic Control Devices (MUTCD), current edition.

2. All traffic control signs are to be 36” x 36” with orange background and black lettering (30” x 30” okay on streets classified as “Local”).

3. A minimum of three traffic control signs is required in all directions on residential streets adjacent to, or around the corner from, the job site. A minimum of four traffic control signs is required in all directions on arterial streets and state routes adjacent to, or around the corner from, the job site. The City of Shoreline reserves the right to require additional signage depending on the scope of work and the location of the project.

4. In all instances, cones must be orange in color, 28 inches tall, and have two (2) retroreflective bands.

5. Distance between signs is per MUTCD Table 6C-1.

6. The City of Shoreline reserves the right to adjust approved traffic control plans as needed during the project.
Typical Elements for Traffic Control Plan Submittals

The following is a list of typical elements that should be included in traffic control plans submitted for review. Incorporating these elements into the plan will help reduce delay in the review process and reduce the need for possible re-submittal of the plans.

Traffic Control Plans should contain the following information:

- A clear and accurate plan view representation of the streets and the intersection where the temporary traffic control plan will be implemented. Should include the following:
  A. Street names
  B. Lane configurations
  C. Existing channelization devices (include pavement markings such as crosswalks)
  D. Traffic signals
- Clearly indicate the active work area and the proposed temporary channelization device set up.
- Include a legend indicating symbols used to represent various traffic control device elements.
- Clearly indicate the temporary signing to be used. Label sign by appropriate signs code as per MUTCD, and include size and color of signs. (Size and color can be referenced in the general notes shown on the plan.) Using both a sign image and sign code will help clarify the appropriate sign intended.
- Clearly indicate sign spacing on plan, may reference a sign spacing chart on shown on plan.
- Include channelization device spacing chart.
- Label all transition / taper lengths. Show lengths or reference lengths to a table included on plan.
- Label buffer lengths on plan. Indicate length or reference lengths to a table included on plan.
- As per RCW 47.36.200, include special warning signs for motorcycles (W21-1701 – “Motorcycles Use Extreme Caution”) if any of the following conditions exist at the work zone:
  A. Grooved Pavement
  B. Abrupt land edge
  C. Steel Plates
  D. Loosed material (such as gravel or dirt) on roadway
- Indicate approved work hours. Typical work hours are 9 am to 3pm unless otherwise approved.
- Include in general notes that a minimum of 11’ lanes will be maintained.
BUFFER DATA

LONGITUDINAL BUFFER SPACE = B

<table>
<thead>
<tr>
<th>SPEED (MPH)</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
<th>50</th>
<th>55</th>
<th>60</th>
<th>65</th>
<th>70</th>
</tr>
</thead>
<tbody>
<tr>
<td>LENGTH (FEET)</td>
<td>115</td>
<td>200</td>
<td>250</td>
<td>305</td>
<td>360</td>
<td>425</td>
<td>495</td>
<td>570</td>
<td>545</td>
<td></td>
</tr>
</tbody>
</table>

BUFFER VEHICLE ROLL AHEAD DISTANCE = R

TRANSPORTABLE ATTENUATOR MINIMUM HOST VEHICLE WEIGHT 15,000 LBS. THE MAXIMUM WEIGHT SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATION.

PROTECTIVE VEHICLE MAY BE A WORK VEHICLE STRATEGICALLY LOCATED TO SHIELD THE WORK AREA.

SIGN SPACING = X (1)

RURAL HIGHWAYS 60 / 65 MPH 80' X
RURAL ROADS 45 / 55 MPH 100' X
RURAL ROADS & URBAN ARTERIALS 30 / 40 MPH 150' X
RURAL ROADS, URBAN ARTERIALS, RESIDENTIAL & BUSINESS DISTRICTS 25 / 30 MPH 200' X (2)
URBAN STREETS 25 MPH OR LESS 100' X (2)

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERSECTIONS AND DRIVEWAYS.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

NOTES:
1. ALL SIGNS ARE BLACK ON ORANGE.
2. EXTENDING THE CHANNELIZING DEVICE TAPER ACROSS SHOULDER IS RECOMMENDED.
3. NIGHT WORK REQUIRES ADDITIONAL ROADWAY LIGHTING AT FLAGGING STATIONS SEE THE STANDARD SPECIFICATIONS FOR ADDITIONAL DETAILS.
4. SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.

ONE-LANE, TWO-WAY TRAFFIC CONTROL WITH FLAGGERS

NOT TO SCALE

CHANNELIZATION DEVICE SPACING (FEET)

<table>
<thead>
<tr>
<th>MPH</th>
<th>TAPER</th>
<th>TANGENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>10 TO 20</td>
<td>80</td>
</tr>
<tr>
<td>35</td>
<td>10 TO 20</td>
<td>60</td>
</tr>
<tr>
<td>25</td>
<td>10 TO 20</td>
<td>40</td>
</tr>
</tbody>
</table>

NOTES:
1. ALL SIGNS ARE BLACK ON ORANGE.
2. EXTENDING THE CHANNELIZING DEVICE TAPER ACROSS SHOULDER IS RECOMMENDED.
3. NIGHT WORK REQUIRES ADDITIONAL ROADWAY LIGHTING AT FLAGGING STATIONS SEE THE STANDARD SPECIFICATIONS FOR ADDITIONAL DETAILS.
4. SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.
MINIMUM TAPER LENGTH = L (feet)

<table>
<thead>
<tr>
<th>LANE WIDTH (feet)</th>
<th>Posted Speed (mph)</th>
<th>MINIMUM TAPER LENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>25</td>
<td>25</td>
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<tr>
<td>30</td>
<td>40</td>
<td>40</td>
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<tr>
<td>35</td>
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<td>60</td>
<td>70</td>
<td>70</td>
</tr>
</tbody>
</table>

CHANNELIZATION DEVICE SPACING (feet)

<table>
<thead>
<tr>
<th>MPH</th>
<th>TAPER</th>
<th>TANGENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>10</td>
<td>35</td>
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<td>30</td>
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<td>65</td>
<td>50</td>
<td>55</td>
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<tr>
<td>70</td>
<td>55</td>
<td>60</td>
</tr>
</tbody>
</table>

NOTES:
1. REFER TO SHEET TC1 FOR ADDITIONAL SIGNING AND FLAGGING DETAILS NOT SHOWN.
2. CHANNELIZING DEVICES ARE RECOMMENDED ALONG CENTERLINE TO SEPARATE TRAFFIC FROM WORK OPERATION DEVICES ARE REQUIRED AT TAPERS TO SHIFT TRAFFIC MOVEMENT BETWEEN LANES AND TO PROTECT FLAGGING STATIONS.
3. SIGN G25-101 IS RECOMMENDED FOR NON-STOP SIGN CONTROLLED APPROACHES SUCH AS PRIVATE ROADS AND DRIVEWAYS. THIS SIGN IS NOT REQUIRED TO BE ALUMINUM SUBSTRATE AND CAN BE MADE OF ALTERNATIVE MATERIALS.
**MINIMUM LANE CLOSURE TAPER LENGTH** = \( L \) (feet)

<table>
<thead>
<tr>
<th>LANE WIDTH (ft)</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
<th>50</th>
<th>55</th>
<th>60</th>
<th>65</th>
<th>70</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10</td>
<td>105</td>
<td>150</td>
<td>200</td>
<td>270</td>
<td>380</td>
<td>500</td>
<td>600</td>
<td>700</td>
<td>840</td>
</tr>
</tbody>
</table>

**MINIMUM SHOULDER TAPER LENGTH** = \( L/3 \) (feet)

<table>
<thead>
<tr>
<th>SHOULDER WIDTH (ft)</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
<th>50</th>
<th>55</th>
<th>60</th>
<th>65</th>
<th>70</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10</td>
<td>105</td>
<td>150</td>
<td>200</td>
<td>270</td>
<td>380</td>
<td>500</td>
<td>600</td>
<td>700</td>
<td>840</td>
</tr>
</tbody>
</table>

**FREEWAYS & EXPRESSWAYS**

- 55 / 70 MPH: 1500' ±
- 60 / 65 MPH: 800' ±
- 60 / 70 MPH: 500' ±

**SINGLE-LANE CLOSURE FOR MULTI-LANE ROADWAYS**

**NOT TO SCALE**

**LEGEND**

- ✏️ TEMPORARY SIGN LOCATION
- 🔴 TRAFFIC SAFETY DRUM
- 🔴 SEQUENTIAL ARROW SIGN
- 🔴 TRANSPORTABLE ATTENUATOR
- 🔴 PORTABLE CHANGEABLE MESSAGE SIGN

**NOTES:**

1. **SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.**
2. **EXTEND DEVICE TAPER AT L/3 ACROSS SHOULDER.**
3. **DEVICES SHALL NOT ENCROACH INTO THE ADJACENT LANE.**
4. **USE TRANSVERSE DEVICES IN CLOSED LANE EVERY 1000' (RECOMMENDED).**
5. **DEVICE SPACING FOR THE DOWNSTREAM TAPER SHALL BE 20' (FT).**
6. **ALL SIGNS ARE BLACK ON ORANGE.**

**SIGN SPACING** = \( X \) (1)

- **FREEWAYS & EXPRESSWAYS:**
  - 55 / 70 MPH: 1500' ±
  - 60 / 65 MPH: 800' ±
  - 60 / 70 MPH: 500' ±

**CHANNELIZATION DEVICE SPACING** (feet)

<table>
<thead>
<tr>
<th>MPH</th>
<th>TAPER</th>
<th>TANGENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>50/70</td>
<td>40</td>
<td>80</td>
</tr>
<tr>
<td>55/70</td>
<td>30</td>
<td>60</td>
</tr>
<tr>
<td>25/30</td>
<td>20</td>
<td>40</td>
</tr>
</tbody>
</table>

**BUFFER DATA**

**LONGITUDINAL BUFFER SPACE** = \( B \)

<table>
<thead>
<tr>
<th>LENGTH (ft)</th>
<th>150</th>
<th>200</th>
<th>250</th>
<th>300</th>
<th>350</th>
<th>400</th>
<th>450</th>
<th>500</th>
<th>550</th>
<th>600</th>
</tr>
</thead>
</table>

**BUFFER VEHICLE ROLL AHEAD DISTANCE** = \( R \)

- **30 FEET MIN. TO 100 FEET MAX.**

**NOTE:**

Field locate 1 mile ± in advance of lane closure signing.
### Minimum Shoulder Taper Length = L3 (feet)

<table>
<thead>
<tr>
<th>SHOULDER WIDTH (feet)</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
<th>50</th>
<th>55</th>
<th>60</th>
<th>65</th>
<th>70</th>
</tr>
</thead>
<tbody>
<tr>
<td>8&quot;</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>60</td>
<td>60</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>10'</td>
<td>40</td>
<td>60</td>
<td>60</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
</tr>
</tbody>
</table>

Use a 3 Devices Taper for shoulders less than 8".

### Shoulder Closure - Low Speed (40 MPH or Less)

**NOT TO SCALE**

1. Devise Spacing for the downstream taper shall be 20'(ft).
2. All signs are black on orange.

---

**Legend**

- K: Temporary Sign Location
- D: Channelizing Devices
- P: Protective Vehicle

**Buffer Data**

<table>
<thead>
<tr>
<th>SPEED (MPH)</th>
<th>LONGITUDINAL BUFFER SPACE = B</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>155</td>
</tr>
<tr>
<td>30</td>
<td>200</td>
</tr>
<tr>
<td>50</td>
<td>250</td>
</tr>
<tr>
<td>65</td>
<td>305</td>
</tr>
</tbody>
</table>

**Buffer Vehicle Roll Ahead Distance = R**

30 FEET MIN. TO 100 FEET MAX.

**Protective Vehicle**

Minimum host vehicle weight 15,000 lbs. The maximum weight shall be in accordance with the manufacturers recommendation.

May be a work vehicle strategically located to shield the work area.

PROTECTIVE VEHICLE

NOTES:

1. Devise spacing for the downstream taper shall be 20'(FT).
2. All signs are black on orange.
**SIGN SPACING = X (1)**

<table>
<thead>
<tr>
<th>FREEWAYS &amp; EXPRESSWAYS</th>
<th>55 / 70 MPH</th>
<th>150' ±</th>
</tr>
</thead>
<tbody>
<tr>
<td>RURAL ROADS</td>
<td>60 / 65 MPH</td>
<td>80' ±</td>
</tr>
<tr>
<td>45 / 55 MPH</td>
<td>500' ±</td>
<td></td>
</tr>
</tbody>
</table>

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

**MINIMUM SHOULDER TAPER LENGTH = L/3 (feet)**

<table>
<thead>
<tr>
<th>SHOULDER WIDTH (feet)</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
<th>50</th>
<th>55</th>
<th>60</th>
<th>65</th>
<th>70</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>120</td>
<td>130</td>
<td>150</td>
<td>160</td>
<td>170</td>
<td>190</td>
</tr>
<tr>
<td>10</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>150</td>
<td>170</td>
<td>190</td>
<td>200</td>
<td>220</td>
<td>240</td>
</tr>
</tbody>
</table>

USE A MINIMUM 3 DEVICES TAPER FOR SHOULDER LESS THEN 8'.

**CHANNELIZATION DEVICE SPACING (feet)**

<table>
<thead>
<tr>
<th>MPH</th>
<th>SPACING</th>
</tr>
</thead>
<tbody>
<tr>
<td>50/70</td>
<td>10/45</td>
</tr>
<tr>
<td>50/70</td>
<td>30/45</td>
</tr>
<tr>
<td>50/70</td>
<td>60/65</td>
</tr>
<tr>
<td>50/70</td>
<td>70/70</td>
</tr>
</tbody>
</table>

**BUFFER DATA**

<table>
<thead>
<tr>
<th>SPEED (MPH)</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
<th>50</th>
<th>55</th>
<th>60</th>
<th>65</th>
<th>70</th>
</tr>
</thead>
<tbody>
<tr>
<td>LENGTH (feet)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>360</td>
<td>425</td>
<td>495</td>
<td>570</td>
<td>645</td>
<td>710</td>
</tr>
</tbody>
</table>

**LONGITUDINAL BUFFER SPACE = B**

- TRANSPORTABLE ATTENUATOR
- MINIMUM HOST VEHICLE WEIGHT 15,000 LBS. THE MAXIMUM WEIGHT SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.

**SHOULDER CLOSURE - HIGH SPEED**

NOT TO SCALE

**NOTES:**

1. NO ENCROACHMENT IN TRAVELED LANE IF ENCROACHMENT IS NECESSARY, LANE SHALL BE CLOSED.
2. DEVICE SPACING FOR THE DOWNSTREAM TAPER SHALL BE 20'(FT) O.C.
3. ALL SIGNS ARE BLACK ON ORANGE.

**FILE NAME:** S:\Design S Ps \4-Standard\4-Plan Sheet Library\01-Published Plans\Traffic Control\TC-6 Shoulder Closure - High Speed\TC-6.dgn

**TIME:** 1:31:34 PM

**DATE:** 9/18/2014

**DRAWN BY:** FletCo

**DESIGNED BY:**

**CHECKED BY:**

**ENTERED BY:**

**PROJECT:** Shoulder Closure - High Speed

**REGIONAL ADM.:**

**ENTRY:**

**REVISION:**

**DATE:**

**CHECK:**

**STAMP BOX:**

**TRAFFIC CONTROL PLAN**

**Washington State Department of Transportation**
### Minimum Lane Closure Taper Length = L (feet)

<table>
<thead>
<tr>
<th>LANE WIDTH (feet)</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
<th>50</th>
<th>55</th>
<th>60</th>
<th>65</th>
<th>70</th>
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</thead>
<tbody>
<tr>
<td>10</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>8'</td>
</tr>
</tbody>
</table>

### Minimum Shoulder Taper Length = L/3 (feet)

<table>
<thead>
<tr>
<th>SHOULDER WIDTH (feet)</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
<th>50</th>
<th>55</th>
<th>60</th>
<th>65</th>
<th>70</th>
</tr>
</thead>
<tbody>
<tr>
<td>8'</td>
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</tbody>
</table>

### Posted Speed (mph)

<table>
<thead>
<tr>
<th>Speed (mph)</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
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<th>55</th>
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<th>70</th>
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<tbody>
<tr>
<td>55 / 70</td>
<td>450</td>
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<td>550</td>
<td>-</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>60 / 65</td>
<td>465</td>
<td>515</td>
<td>565</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>45 / 55</td>
<td>540</td>
<td>600</td>
<td>660</td>
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</tr>
</tbody>
</table>

### Speed Limit (mph)

<table>
<thead>
<tr>
<th>Speed Limit (mph)</th>
<th>45</th>
<th>50</th>
<th>55</th>
<th>60</th>
<th>65</th>
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<tbody>
<tr>
<td>495</td>
<td>550</td>
<td>605</td>
<td>660</td>
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<tr>
<td>450</td>
<td>500</td>
<td>550</td>
<td>600</td>
<td>660</td>
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<td>-</td>
</tr>
<tr>
<td>310</td>
<td>360</td>
<td>425</td>
<td>485</td>
<td>545</td>
<td>605</td>
<td>665</td>
</tr>
</tbody>
</table>

### Buffer Data

- **Longitudinal Buffer Space (B)**: 100 feet max.
- **Transportable Attenuator**
  - Minimum host vehicle weight: 15,000 lbs.
  - Maximum weight shall be in accordance with the manufacturer's recommendation.

### Sign Spacing = X (1)

#### Freeways & Expressways

- Speed / MPH: 55 / 70
- Taper Length: 1500' ±
- Channelization Device Spacing (feet)
  - MPH: 50 / 70
  - Taper: 40 / 40
  - Tangent: 80 / 80

#### Regional Roads

- Speed / MPH: 45 / 55
- Taper Length: 800' ±
- Channelization Device Spacing (feet)
  - MPH: 30 / 50
  - Taper: 60 / 60
  - Tangent: 100 / 100

### Temporary Off-Ramp for Multi-Lane Roadways

- **NOT TO SCALE**

### Channelization Device Spacing (feet)

- **Minimum Shoulder Taper Length = L/3 (feet)**
  - Use a minimum 3 devices taper for shoulder less than 8'.

### Notes:

1. See special provisions for closure hour restrictions.
2. Use a downstream taper to end the lane closure with 20' (ft) device spacing.
3. Devices shall not encroach into adjacent lanes.
4. Use transverse devices in closed lanes every 1000' (ft) ± (recommended).
5. See Sheet TCXX for a short term off-ramp closure when the work area location restricts ramp access.
6. All signs are black on orange unless otherwise designated.
**MINIMUM LANE CLOSURE TAPER LENGTH = L (feet)**

<table>
<thead>
<tr>
<th>LANE WIDTH (feet)</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
<th>50</th>
<th>55</th>
<th>60</th>
<th>65</th>
<th>70</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posted Speed (mph)</td>
<td>10</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>11</td>
<td>-</td>
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<td>-</td>
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<td>-</td>
<td>-</td>
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<td>-</td>
</tr>
<tr>
<td>12</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>450</td>
<td>500</td>
<td>550</td>
<td>-</td>
<td>-</td>
<td>-</td>
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</tbody>
</table>

**SIGN SPACING = X (1)**

<table>
<thead>
<tr>
<th>CHANNELIZATION DEVICE SPACING (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50    50</td>
</tr>
<tr>
<td>40    40</td>
</tr>
<tr>
<td>30    30</td>
</tr>
</tbody>
</table>

**MINIMUM SHOULDER TAPER LENGTH = L/3 (feet)**

<table>
<thead>
<tr>
<th>SHOULDER WIDTH (feet)</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
<th>50</th>
<th>55</th>
<th>60</th>
<th>65</th>
<th>70</th>
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</thead>
<tbody>
<tr>
<td>Posted Speed (mph)</td>
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<td>-</td>
<td>-</td>
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<tr>
<td>10</td>
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<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>135</td>
<td>-</td>
<td>-</td>
<td>120</td>
<td>130</td>
<td>150</td>
<td>160</td>
<td>170</td>
<td>170</td>
<td>190</td>
<td>190</td>
</tr>
</tbody>
</table>

USE A MINIMUM 3 DEVICES TAPER FOR SHOULDER LESS THEN 8.'
RIGHT LANE CLOSURE WITH SHIFT - 5 LANE ROADWAY

NOT TO SCALE

LEGEND

\( X \) = TEMPORARY SIGN LOCATION

\( \diamond \) = CHANNELIZING DEVICES

\( \triangle \) = SEQUENTIAL ARROW SIGN

\( \text{PCMS} \) = PORTABLE CHANGEABLE MESSAGE SIGN

\( \text{PCMS} \#1 \) = PORTABLE CHANGEABLE MESSAGE SIGN (1 MILE AHEAD)

\( \text{PCMS} \#2 \) = PORTABLE CHANGEABLE MESSAGE SIGN (0.2 MILE AHEAD)

\( \text{W1-1} \) = WORK AREA

\( \text{W1-2} \) = TEMPORARY RAMP SIGN

\( \text{W1-3} \) = TEMPORARY RAMP SIGN

\( \text{W1-4} \) = TEMPORARY RAMP SIGN

\( \text{W1-5} \) = TEMPORARY RAMP SIGN

\( \text{W1-6} \) = TEMPORARY RAMP SIGN

\( \text{W20-1} \) = WORK VEHICLE

\( \text{W20-2} \) = WORK VEHICLE

\( \text{W20-3} \) = WORK VEHICLE

\( \text{W20-4} \) = WORK VEHICLE

\( \text{W20-5} \) = WORK VEHICLE

\( \text{W20-6} \) = WORK VEHICLE

\( \text{W20-7} \) = WORK VEHICLE

\( \text{W20-8} \) = WORK VEHICLE

\( \text{W20-9} \) = WORK VEHICLE

\( \text{W20-10} \) = WORK VEHICLE
**BUFFER DATA**

<table>
<thead>
<tr>
<th>SPEED (MPH)</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
<th>50</th>
<th>55</th>
<th>60</th>
<th>65</th>
<th>70</th>
</tr>
</thead>
<tbody>
<tr>
<td>LENGTH (feet)</td>
<td>150</td>
<td>200</td>
<td>250</td>
<td>305</td>
<td>360</td>
<td>425</td>
<td></td>
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</table>

**BUFFER VEHICLE ROLL AHEAD DISTANCE = R**

TRANSPORTABLE ATTENUATOR

MINIMUM HOST VEHICLE WEIGHT 15,000 LBS THE MAXIMUM WEIGHT SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATION.

PROTECTIVE VEHICLE

MAY BE A WORK VEHICLE STRATEGICALLY LOCATED TO SHIELD THE WORK AREA.

**SIGN SPACING = X (1)**

**RURAL ROADS**

45 / 55 MPH

500 ±

200 ± (2)

**RURAL ROADS & URBAN ARTERIALS**

25 / 30 MPH

200 ± (2)

**RESIDENTIAL & BUSINESS DISTRICTS**

**URBAN STREETS**

25 MPH OR LESS

100 ± (2)

**MINIMUM TAPER LENGTH = L (feet)**

<table>
<thead>
<tr>
<th>LANE WIDTH (feet)</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
<th>50</th>
<th>55</th>
<th>60</th>
<th>65</th>
<th>70</th>
</tr>
</thead>
<tbody>
<tr>
<td>POSTED SPEED (mph)</td>
<td>25</td>
<td>195</td>
<td>150</td>
<td>205</td>
<td>205</td>
<td>250</td>
<td>250</td>
<td>300</td>
<td>300</td>
<td></td>
</tr>
</tbody>
</table>

**LEGAL ITEMS**

**LEFT LANE AND CENTER TURN LANE CLOSURE - 5 LANE ROADWAY**

NOT TO SCALE

1. SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.

2. ALL SIGNS ARE BLACK ON ORANGE.
**REGIONAL ADM. REVISION**

**DESIGNED BY JOB NUMBER**

**PLOTTED BY FletCo IWASH**

**DATE 9/18/2014**

**CHECKED**

**URBAN**

**RESIDENTIAL & BUSINESS DISTRICTS**

**RURAL**

**50/70 40 80 W20-1**

**CHANNELIZATION DEVICE W20-1**

**LEGEND**

- **TYPE 3 BARRIAGE**
- **TEMPORARY SIGN LOCATION**
- **CHANNELIZING DEVICES**
- **TRAFFIC SAFETY DRUM**
- **PORTABLE CHANGEABLE MESSAGE SIGN**
- **TEMPORARY SIGN LOCATION (3 MOUNTING HEIGHT)**

**NOT TO SCALE**

**FILE NAME** 5/Design R Pk S4-Standard-2-Plan Sheet Library01-Published PSL(TC) Work Zone Traffic Control(WTC-13) Sheet Term. Ramp Closure(WTC-13.dwg)

**TIME** 1:56:19 PM

**DATE** 9/18/2014

**PLANTED BY** FletCo

**REVISION**

**NOTES**

1. **SEE SPECIAL PROVISIONS FOR CLOSURE HOUR RESTRICTIONS.**
2. **TYPICAL APPLICATION SHOWN ADJUST FOR SITE CONDITIONS.**
3. **ALL SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE DESIGNATED.**
LONGITUDINAL BUFFER SPACE = B

<table>
<thead>
<tr>
<th>SPEED (MPH)</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
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<th>55</th>
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</thead>
<tbody>
<tr>
<td>LENGTH (ft)</td>
<td>15</td>
<td>20</td>
<td>25</td>
<td>30</td>
<td>35</td>
<td>40</td>
<td>45</td>
<td>50</td>
<td>55</td>
<td>60</td>
</tr>
</tbody>
</table>

BUFFER VEHICLE ROLL AHEAD DISTANCE = R

TRANSPORTABLE ATTENUATOR
MINIMUM HOST VEHICLE WEIGHT 15,000 LBS. THE MAXIMUM WEIGHT SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATION.

PROTECTIVE VEHICLE
MAY BE A WORK VEHICLE STRATEGICALLY LOCATED TO SHIELD THE WORK AREA.

BUFFER DATA

<table>
<thead>
<tr>
<th>MINIMUM TAPER LENGTH = L (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LANE WIDTH (ft)</td>
</tr>
<tr>
<td>Posted Speed (mph)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SPEED (MPH)</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>LENGTH (ft)</td>
<td>105</td>
<td>150</td>
<td>200</td>
</tr>
</tbody>
</table>

MINIMUM HOST VEHICLE WEIGHT 15,000 LBS.
The maximum weight shall be in accordance with the manufacturers recommendation.

PROTECTIVE VEHICLE MAY BE A WORK VEHICLE STRATEGICALLY LOCATED TO SHIELD THE WORK AREA.

UNITED STATES DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLAN

NOT TO SCALE

INTERSECTION LANE CLOSURE ~ THREE LANE ROADWAY

NOTES
1. RECOMMEND EXTENDING DEVICE TAPER (U3) ACROSS SHOULDER.
2. IF A SIGNAL IS PRESENT, IT SHALL BE SET TO "RED FLASH MODE" OR TURNED OFF DURING FLAGGING OPERATIONS.
3. FOR SPEED LIMIT OF 30 MPH OR LESS USE SIGN W1-3 IN LIEU OF SIGN W1-4.
4. MAINTAIN A MINIMUM OF ONE ACCESS POINT FOR EACH BUSINESS WITHIN WORK AREA LIMITS.
5. ALL SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE DESIGNATED.
NOTES

1. CONTROLS SHOWN ARE FOR PEDESTRIAN TRAFFIC ONLY.
2. A 60" PATH WIDTH SHOULD BE MAINTAINED (48" IS THE MINIMUM).
3. CONTACT AND COORDINATE IMPACTED TRANSIT AGENCIES PRIOR TO IMPLEMENTING ANY CLOSURES.
4. SEE SHEET TC-52 FOR TEMPORARY PEDESTRIAN RAMP DETAILS.
5. ADA PEDESTRIAN FACILITIES MUST BE MAINTAINED. SEE STANDARD SPECIFICATION 1-10.2(1)B.
6. TEMPORARY PEDESTRIAN PUSH BUTTONS SHALL BE PLACED ON THE DIVERTED PATH WHEN EXISTING BUTTONS ARE NOT ACCESSIBLE TO PEDESTRIANS.
SINGLE-LANE CLOSURE WITH SHIFT
NOT TO SCALE

SIGN SPACING = X (1)

FREEWAYS & EXPRESSWAYS
55 / 70 MPH
1500 ft
RURAL HIGHWAYS
60 / 65 MPH
800 ft
RURAL ROADS
45 / 55 MPH
500 ft
RURAL ROADS & URBAN ARTERRIALS
35 / 40 MPH
300 ft
RURAL ROADS & URBAN ARTERRIALS
25 / 30 MPH
200 ft (2)
RESIDENTIAL & BUSINESS DISTRICTS
25 MPH OR LESS
100 ft (2)
URBAN STREETS
(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVeways.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

NOTES
1. SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.
2. RECOMMEND EXTENDING DEVICE TAPER (L/3) ACROSS SHOULDER.
3. USE TRANSVERSE DEVICES IN CLOSED LANE EVERY 1000 ft (RECOMMENDED).
4. ALL SIGNS ARE BLACK ON ORANGE.
5. RECOMMEND ADVANCE NOTICE FOR ANY OTHER WIDTH LOADS PRIOR TO LANE CLOSURE FOR ALTERNATE ROUTES IF APPLICABLE.

LOWER ROADWAY CONDITIONS.

1. SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.
2. RECOMMEND EXTENDING DEVICE TAPER (L/3) ACROSS SHOULDER.
3. USE TRANSVERSE DEVICES IN CLOSED LANE EVERY 1000 ft (RECOMMENDED).
4. ALL SIGNS ARE BLACK ON ORANGE.
5. RECOMMEND ADVANCE NOTICE FOR ANY OTHER WIDTH LOADS PRIOR TO LANE CLOSURE FOR ALTERNATE ROUTES IF APPLICABLE.

SIGN SPACING = X (1)

FREEWAYS & EXPRESSWAYS
55 / 70 MPH
1500 ft
RURAL HIGHWAYS
60 / 65 MPH
800 ft
RURAL ROADS
45 / 55 MPH
500 ft
RURAL ROADS & URBAN ARTERRIALS
35 / 40 MPH
300 ft
RURAL ROADS & URBAN ARTERRIALS
25 / 30 MPH
200 ft (2)
RESIDENTIAL & BUSINESS DISTRICTS
25 MPH OR LESS
100 ft (2)
URBAN STREETS
(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVeways.
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LOWER ROADWAY CONDITIONS.

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SIGN SPACING = X (1)

FREEWAYS & EXPRESSWAYS
55 / 70 MPH
1500 ft
RURAL HIGHWAYS
60 / 65 MPH
800 ft
RURAL ROADS
45 / 55 MPH
500 ft
RURAL ROADS & URBAN ARTERRIALS
35 / 40 MPH
300 ft
RURAL ROADS & URBAN ARTERRIALS
25 / 30 MPH
200 ft (2)
RESIDENTIAL & BUSINESS DISTRICTS
25 MPH OR LESS
100 ft (2)
URBAN STREETS
(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVeways.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

NOTES
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LOWER ROADWAY CONDITIONS.

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SIGN SPACING = X (1)

FREEWAYS & EXPRESSWAYS
55 / 70 MPH
1500 ft
RURAL HIGHWAYS
60 / 65 MPH
800 ft
RURAL ROADS
45 / 55 MPH
500 ft
RURAL ROADS & URBAN ARTERRIALS
35 / 40 MPH
300 ft
RURAL ROADS & URBAN ARTERRIALS
25 / 30 MPH
200 ft (2)
RESIDENTIAL & BUSINESS DISTRICTS
25 MPH OR LESS
100 ft (2)
URBAN STREETS
(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVeways.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

NOTES
1. SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.
2. RECOMMEND EXTENDING DEVICE TAPER (L/3) ACROSS SHOULDER.
3. USE TRANSVERSE DEVICES IN CLOSED LANE EVERY 1000 ft (RECOMMENDED).
4. ALL SIGNS ARE BLACK ON ORANGE.
5. RECOMMEND ADVANCE NOTICE FOR ANY OTHER WIDTH LOADS PRIOR TO LANE CLOSURE FOR ALTERNATE ROUTES IF APPLICABLE.

LOWER ROADWAY CONDITIONS.

1. SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.
2. RECOMMEND EXTENDING DEVICE TAPER (L/3) ACROSS SHOULDER.
3. USE TRANSVERSE DEVICES IN CLOSED LANE EVERY 1000 ft (RECOMMENDED).
4. ALL SIGNS ARE BLACK ON ORANGE.
5. RECOMMEND ADVANCE NOTICE FOR ANY OTHER WIDTH LOADS PRIOR TO LANE CLOSURE FOR ALTERNATE ROUTES IF APPLICABLE.

SIGN SPACING = X (1)

FREEWAYS & EXPRESSWAYS
55 / 70 MPH
1500 ft
RURAL HIGHWAYS
60 / 65 MPH
800 ft
RURAL ROADS
45 / 55 MPH
500 ft
RURAL ROADS & URBAN ARTERRIALS
35 / 40 MPH
300 ft
RURAL ROADS & URBAN ARTERRIALS
25 / 30 MPH
200 ft (2)
RESIDENTIAL & BUSINESS DISTRICTS
25 MPH OR LESS
100 ft (2)
URBAN STREETS
(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS AND DRIVeways.
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NOTES
1. SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.
2. RECOMMEND EXTENDING DEVICE TAPER (L/3) ACROSS SHOULDER.
3. USE TRANSVERSE DEVICES IN CLOSED LANE EVERY 1000 ft (RECOMMENDED).
4. ALL SIGNS ARE BLACK ON ORANGE.
5. RECOMMEND ADVANCE NOTICE FOR ANY OTHER WIDTH LOADS PRIOR TO LANE CLOSURE FOR ALTERNATE ROUTES IF APPLICABLE.
NOTES

1. NIGHT WORK REQUIRES ADDITIONAL ROADWAY LIGHTING AT FLAGGING STATIONS. SEE STANDARD SPECIFICATIONS FOR ADDITIONAL DETAILS.

2. PROTECTIVE VEHICLE RECOMMENDED - MAY BE A WORK VEHICLE.

3. TYPICAL APPLICATION SHOWN, ADJUST FOR SITE CONDITIONS.

TYPICAL ROUNDBOOTH FLAGGING OPERATION
NOT TO SCALE