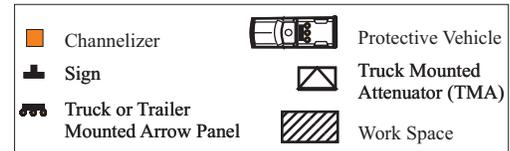


616.8-3a (TA-3a) Shoulder Work on Two Lane Highways without Edgelines - MT

| SPEED | SIGN SPACING (ft.) | | TAPER LENGTH (ft.) | | OPTIONAL BUFFER LENGTH (ft.) (B) | CHANNELIZER SPACING (ft.) | |
|-------|--------------------|-------------|----------------------------|------------------------|----------------------------------|---------------------------|--------------------|
| | Undivided (S) | Divided (S) | Shoulder ¹ (T1) | Lane ² (T2) | | Tapers | Buffer/ Work Areas |
| 0-35 | 200 | - | 70 | - | 250 | 35 | 50 |
| 40-45 | 350 | - | 150 | - | 360 | 40 | 100 |
| 50-55 | 500 | - | 185 | - | 495 | 50 | 100 |
| 60-70 | 1000 | - | 235 | - | 730 | 60 | 100 |

¹ Shoulder taper length based on 10 ft. (standard shoulder width) offset ² Lane taper length based on 12 ft. (standard lane width) offset

| ROADWAY TYPE | SIGN HEIGHT | MAXIMUM WORK ZONE LENGTH (L) |
|-----------------|------------------------|------------------------------|
| URBAN | 1' Portable 7' Post | 1 Mi. |
| RURAL UNDIVIDED | 1' Portable 5' Post | 3 Mi. |



In addition to shoulder work, this typical application is applicable to work beyond shoulder where vehicles and equipment are parked on the shoulder.

A protective vehicle **may** be used while work is in progress. The protective vehicle **may** be equipped with a TMA and/or FAP and positioned at least 150 ft. in advance of the work space.

If encroachment onto driving surface occurs and there is not 10 ft. of driving surface available for the lane of traffic, that traffic lane **shall** be closed. Refer to appropriate lane closure typical applications.

If an arrow panel is used for an operation on the shoulder, the caution mode **shall** be displayed.

For short duration or mobile operations, signs, channelization devices, and protective vehicles **may** be reduced or eliminated if a work vehicle with activated rotating lights or strobe lights is used. However, if limited sight distance exists, a protective vehicle **should** be used. This protective vehicle **may** be equipped with a TMA and truck mounted flashing arrow panel and positioned at least 150 ft. in advance of the work space or work vehicle, as applicable. If a protective vehicle is used, a vehicle mounted sign **shall** be mounted at a recommended height of 48 in. above the road surface.

For work beyond shoulder, where vehicles and equipment are parked on the shoulder, the protective vehicle **may** be eliminated if a work vehicle with activated rotating lights or strobe lights is used.

Vehicle hazard warning signals **shall** not be used instead of the vehicle's rotating lights or strobe lights.

Additional warning signs **shall** be erected at each intersection with another state highway within the work zone. Upon the discretion of the supervisor, additional warning signs **may** be erected at other intersections within the work zone.

Other appropriate signs **may** be used in lieu of SHOULDER WORK AHEAD sign.

