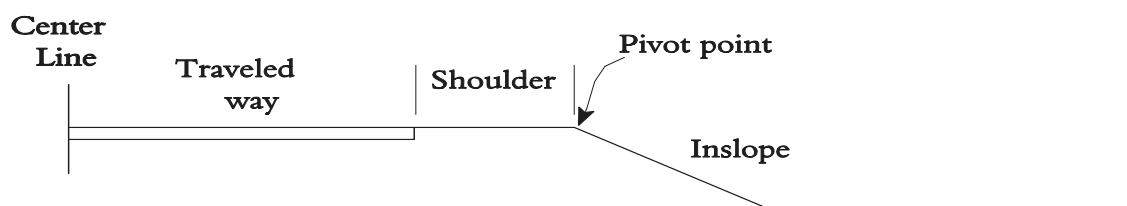




### 1.0 *Winging and Benching*

1. Winging operations (the manipulation of snow beyond highway shoulders) should define the shoulder pivot point, but result in minimal displacement of shoulder gravel, rounding of pivot point, or sod damage.
2. Definition and diagram of terms used:

<b>Traveled Way</b>	lane, driving surface
<b>Shoulder</b>	paved or unpaved portion of the roadtop - able to accommodate vehicles between traveled way and inslope
<b>Pivot Point</b>	transition area between shoulder and inslope
<b>Inslope</b>	non-drivable bank between shoulder and ditch bottom

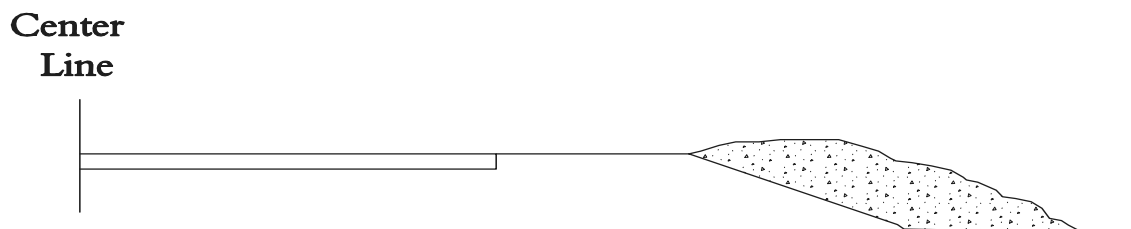


3. Typical snow removal and winging methods are shown in the following diagrams:

#### 1.1 *Shoulder Cleanup*

Plow the shoulder without displacing the gravel. This will usually result in a ridge of snow at the pivot point between the shoulder and inslope. Care should be taken not to remove snow beyond pivot point to provide guidance for motorists and future snow removal operations. (See Section HMM 6-15-10 - White Shoulders).

This applies when minimum amounts of snow are present. The inslope and ditch bottom can accommodate the snow and the pivot point and inslope will remain defined.



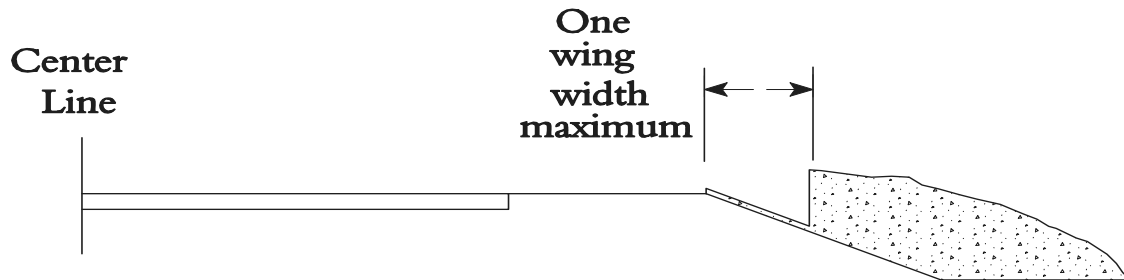
#### 1.2 *Depressed Winging*

Winging down the inslope in selected areas may be necessary to control icing conditions on pavement or finger drifts due to drifting snow. Depressed winging also may be appropriate to control thaw run off drainage problems.

The change of angle at the pivot point of the shoulder should also serve to provide guidance for motorists and future snow removal operations.

Depressed winging should not extend more than one wing width beyond shoulder pivot point. In no case shall the vehicle wheels extend beyond the shoulder pivot point.

Care must be taken to eliminate sod, gravel, and equipment damage. Reduce speed when performing this operation.



**NOTE:** Depressed winging operations shall be subject to mutual consent of the region maintenance staff and service provider's supervisory personnel. This operation shall be limited in extent and frequency.

### **1.3 Bench winging.**

When snow accumulation is such that storage is not accommodated, bench winging may be necessary to prevent road blockage and finger drifts or to control icing conditions on pavements due to drifting snow.

Height of bench can vary depending upon amount of snow. Width of bench should not extend more than one wing width beyond shoulder pivot point.