

NATURAL RESOURCES CONSERVATION SERVICE
ILLINOIS URBAN MANUAL
PRACTICE STANDARD

RIGHT-OF-WAY DIVERSION

(no.)
CODE 900



(Source: MN Protecting Water Quality in Urban Areas)

DEFINITION

A ridge or ridge and channel constructed diagonally across a sloping road or utility right-of-way that is subject to erosion.

PURPOSE

The purpose of this practice is to limit the accumulation of erosive volumes of water by diverting surface runoff at predesigned intervals.

CONDITIONS WHERE PRACTICE APPLIES

Where runoff protection is needed to prevent erosion on sloping access right-of-ways or other long, narrow sloping areas generally less than 100 feet in width.

CRITERIA

The diversion ridge shall be constructed of compacted soil or coarse aggregate or a combination of both.

Coarse aggregate, if used, shall meet one of the following IDOT gradations: CA-1, CA-2, CA-3 or CA-4.

Height - The height shall be a minimum of 18 inches measured from the channel bottom to the ridge top for gravel diversions and 18 inches from ground surface to the ridge top for earth diversions.

Side slope - 2:1 or flatter, 3:1 or flatter where vehicles cross.

Base width of ridge - 6 feet minimum.

Length - The diversion should be constructed completely across the disturbed portion of the right-of-way.

The required spacing of diversions is shown below:

Average Land Slope (%)	Maximum Spacing (ft)
<5	125
5 to 10	100
10 to 20	75
20 to 35	50
>35	25

Grade and angle - The grade should be positive not to exceed 2%. A crossing angle of approximately 60 degrees is preferred.

Outlet - Diversions shall have stable outlets that are not subject to erosion. Site spacing may need to be adjusted for field conditions to utilize the most suitable outlet. Examples of stable outlets include practice standards ROCK OUTLET PROTECTION 910, LEVEL SPREADER 870, or TEMPORARY SEDIMENT TRAP 960.

Concentrated flows should spread over the widest possible area after release. Flows with high sediment concentrations should pass through appropriate sediment trapping practices such as IMPOUNDMENT STRUCTURE-ROUTED 842 or TEMPORARY SEDIMENT TRAP 960.

CONSIDERATIONS

Construction of access roads, power lines, pipelines, and other similar installations often requires clearing long narrow rights-of-way over sloping terrain. Disturbance and compaction promotes gully formation in these cleared strips by increasing the volume and velocity of runoff. Gully formation may be especially severe in tire tracks and ruts. To prevent gullying, runoff can often be diverted across the width of the right-of-way to undisturbed areas by using small pre-designed diversions. Give special consideration to each individual outlet area, as well as to the cumulative effect of added diversions.

Generally earthen diversions are applicable where there will be little or no construction traffic within the right-of-way. Gravel structures are more applicable to road and other rights-of-ways where vehicular traffic is anticipated.

When earthen ridges are used, at all points where the ridge or channel will be crossed by heavy equipment the diversion should be protected according to requirements of the practice standard STABILIZED CONSTRUCTION ENTRANCE 930.

PLANS AND SPECIFICATIONS

Plans and specifications for installing right-of-way diversions shall describe the requirements for applying the practice to achieve its intended purpose. At a minimum include:

1. Approximate location.
2. Minimum cross section and maximum grade.
3. Coarse aggregate gradation, if used.

All plans shall include installation, inspection, and maintenance schedules with the responsible party identified.

Standard drawing IL-600 RIGHT-OF-WAY DIVERSION PLAN may be used as the plan sheet.

OPERATION AND MAINTENANCE

Periodically inspect the right-of-way diversions for wear and after heavy rainfall for erosion damage. Remove sediment from the flow area and repair the dike. Check outlet areas and make timely repairs as needed. When permanent road drainage is established and the area above the temporary right-of-way diversions is permanently stabilized, remove the ridge and fill the channel to blend with the natural ground, and appropriately stabilize the disturbed area.

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