BMP T5.12: Sheet Flow Dispersion

**Purpose and Description**
Sheet flow dispersion is the simplest method of runoff control. This BMP can be used for any impervious or pervious surface that is graded to avoid concentrating flows. Because flows are already dispersed as they leave the surface, they need only to traverse a narrow band of adjacent vegetation for effective attenuation and treatment.

![Diagram of Sheet Flow Dispersion](image)

**Notes:**
1. 10' MIN. VEGETATED FLOW PATH FOR EACH 20' OF IMPERVIOUS SURFACE DISPERSED
2. IF MINIMUM REQUIREMENT #7 APPLIES, USE 25' MIN. FLOWPATH FOR EACH 20' IMPERVIOUS SURFACE DISPERSED TO OBTAIN MODELING CREDIT

**Figure 25:** Sheet Flow Dispersion for Flat and Moderate Sloped Surfaces (Source: Clark County)
Applications, Limitations and Setbacks

Sheet Flow Dispersion is used on flat or moderately sloping (<15% slope) surfaces such as driveways, sports courts, patios, roofs without gutters, lawns, pastures; or any situation where concentration of flows can be avoided.

Setbacks
- 100 feet upgradient from any septic system unless site topography clearly indicates that subsurface flows will not intersect the drainfield.
- 10 feet from any structure, property line, or sensitive area.
- 50 feet from a geohazard area per CCC 40.430.

Infeasibility
The following criteria describe conditions that make Sheet Flow Dispersion infeasible to meet Minimum Requirement #5. Citation of any of the infeasibility criteria must be based on an evaluation of site-specific conditions and documented in the LID Feasibility Checklist. Sheet Flow Dispersion is considered infeasible under the following conditions:

- Where a professional geotechnical evaluation recommends dispersion not be used due to reasonable concerns about erosion, slope failure or down gradient flooding.
- Where the only location available for the discharge location is up gradient of a septic system.
- Where the only area available for the required length of the BMP’s flowpath is above an erosion hazard, toward a landslide hazard area, or on a slope greater than 20% and when a professional geotechnical engineer recommends dispersion not be used in these areas.
- Where the only area available to place the dispersion device (not the flowpath), if applicable to the BMP, is located in a critical area or critical area buffer.
- Where the only area available to place the dispersion device (not the flowpath), if applicable to the BMP, is located on a slope greater than 20% or within 50 feet of a geohazard (CCC 40.430) area.

Design Criteria
- A 2 foot-wide transition zone shall be maintained (to discourage channeling between the edge of the impervious surface and the downslope vegetation). This transition zone may consist of an extension of subgrade material (crushed rock), modular pavement, drain rock, or other material approved by Clark County.
- The sheet flow dispersion area must abut the entire edge of the impervious area being treated by the BMP.
- A 10 foot vegetated flow path must be provided for each 20 feet of impervious surface. For each additional 20 feet of impervious surface or fraction thereof, an additional 10 feet of vegetated flow path must be provided. For example, if a driveway is 30 feet wide and 60 feet long provide a 20-foot wide by 60-foot long vegetated buffer, with a 2-foot by 60-foot transition zone. See Figure 25.
- No erosion or flooding of downstream properties shall result.
- Runoff discharge toward landslide hazard areas must be evaluated by a geotechnical engineer or a qualified geologist.
- Sheet flow dispersion shall not be allowed on or above slopes greater than 20%, or above erosion hazard areas, without evaluation by a geotechnical engineer or qualified geologist and approval by Clark County.
- For sites with septic systems, the discharge area shall be at least 10 feet below the elevation of the drainfield primary and reserve areas. Clark County may waive this requirement during plan approval if site topography clearly prohibits flows from intersecting the drainfield.