

After the Storms – Virtual Homeowner Driveway Program

Provided by Department of Environmental Protection's 2020
Environmental Education Grants Program



DEP Environmental Education Grant

- Project program period: July 1st 2021 – June 30th 2022
- Grant awarded: \$3,000
- Develop a homeowner's guide publication
- Create an educational video for the public

Cover Page



A Guide to Improving Driveways & Access Lanes

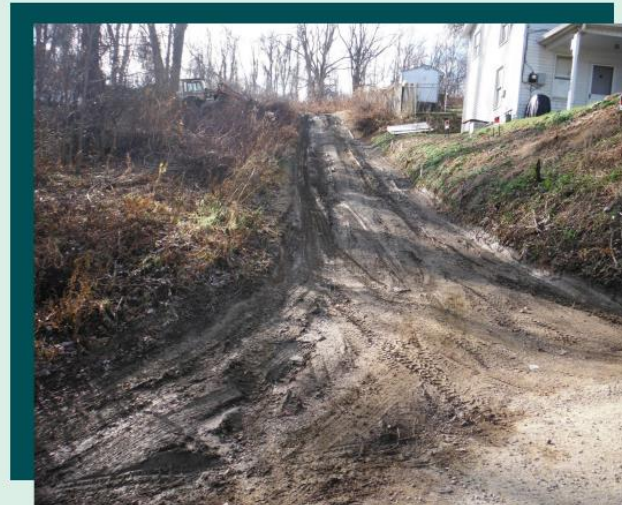


**Best management practices to improve
your driveway and minimize long term
maintenance.**

Informational pages on the importance of stormwater management

How does stormwater runoff impact your driveway?

Runoff is rain or melted snow that flows across the ground after a storm. In nature, water can be absorbed and pollutants are filtered by soil and plants. But impervious surfaces, such as driveways, can require ongoing repairs and create pollution. For instance, you may begin to notice ruts, potholes, seeps or puddles, a loss of fine driveway materials and even flooding. The best way to reduce or stop the maintenance cycle is to address the source of the problem.



Quick Material Calculations Page

Quick Material Calculations

Calculating amount of stone needed for raising the road profile:

$$\begin{aligned} \text{Length (ft.)} \times \text{Width (ft.)} \times \text{Height (ft.)} &= \text{Cubic Feet} \\ \text{Cubic feet} / 27 &= \text{Cubic Yards} \\ \text{Cubic Yards} \times 1.4 &= \text{Tons} \end{aligned}$$

Example: You have a section of driveway that you would like to fill that is 100 ft. in length x 15 ft. wide and you want to raise the road by 2 feet.

$$100 \text{ ft.} \times 15 \text{ ft.} \times 2 \text{ ft.} = 3,000 \text{ cubic feet}$$

To convert cubic feet to cubic yards, divide by 27 = 111.11 cubic yards

To convert cubic yards to tons, multiply
 $111.11 \times 1.4 = 155.56 \text{ tons}$

For stone to be delivered, it will come on Triaxle trucks which haul approx. 20 tons per truck load.

Note: Quarries will only load full loads of approx. 20 tons.

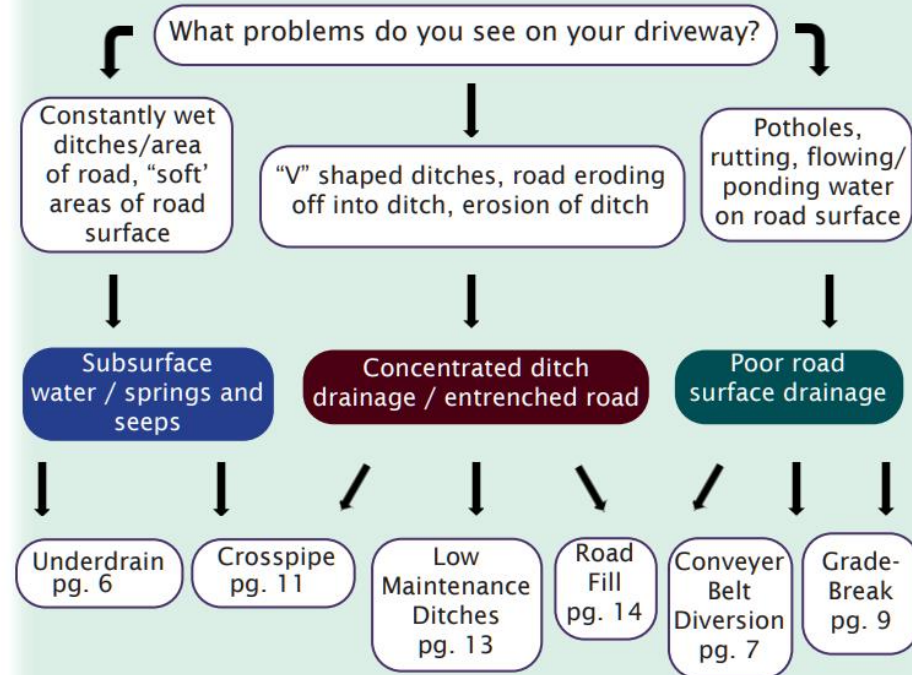
Cost of hauling and delivery of stone is approx. \$30- \$40 per ton.
(Note: stone cost and hauling costs are estimated).

$$155.56 \text{ tons} \times \$30 \text{ per ton} = \$4,666.80$$

Flowchart for determining the correct BMP

Driveway Stormwater Damage Flowchart

Use the flowchart below to help determine what Best Management Practice (BMP) will work the best for your driveway.



*Don't address symptoms, address the problem by identifying the cause of the symptom.

BMP informational page

BMP's included in booklet:

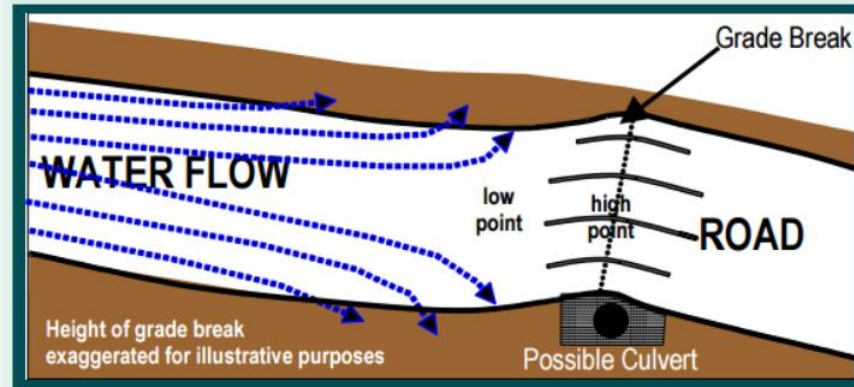
- Underdrain
- Crosspipe
- Low Maintenance Ditch
- Road Fill
- Conveyer Belt Diversion
- Grade Break

Grade-Break

A grade break is a raise of road surface elevation that can help divert surface stormwater off of the driveway. Water will be redirected by the "hump" to the sides of the road, where it can drain to a designated crosspipe or swale.

Installation Tips:

- Crosspipes and grade breaks typically go hand-in-hand when rerouting runoff away from your driveway surface.
- Be sure to taper the grade break into the road profile (it shouldn't look or function like a speed bump).
- Sloping driveways are a good fit for this feature, but a grade of more than 10% may be a bit too steep. A conveyer belt diversion may be a better best management practice (BMP) in this case.



Grade-Break

Benefits:

- Prevents surface aggregate and fine sediments from washing away
- Saves money on future road maintenance
- Can act as cover for crosspipes
- Relatively simple installation and low cost



Cost Estimate: About \$1000 for 40 - 60 tons of 2A stone per grade break structure. This does not include the cost of a crosspipe.

Extra resources and acknowledgements page

Resources

Thank you to Penn State Extension, a great resource for gathering technical information in this booklet!



For more information from Penn State Center for Dirt and Gravel Roads on Best Management Practices for your driveway, visit the Center for Dirt and Gravel Road Studies website Technical Bulletins page.
dirtandgravel.psu.edu

Other great resources:

Westmoreland County Tax Map

Westmoreland Conservation District website

westmorelandconservation.org

- [BMP Portfolio Page](#)
- [Dirt, Gravel & Low Volume Road page](#)

Used mining belts for conveyer belt diversions can be purchased at Eastern Machine & Conveyers Inc. when available. Price can vary but averages at about \$20 for a 10 - 12' section

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