

DOWN + DIRTY



March 2022

Bradford County Dirt, Gravel, and Low Volume Roads Program

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Center for Dirt &
Gravel Roads

Bradford County
Conservation District

Two- Year Maintenance Survey

It's that time Again!! This fall our Dirt and Gravel Road Specialists will be completing our two-year maintenance survey on all DG and LV road projects completed within the past ten years. Projects will be evaluated on a scale of 1 to 4 with 4 being excellent, for the following criteria: functional road shape/surface drainage, continued mitigation of water quality impacts, continued effectiveness of road drainage, proper maintenance of driving surface aggregate (if applicable), maintenance of original project practices and features, and continued overall project function.

Those project sites that receive a score of 2 or less for "Continued Mitigation of Water Quality Impacts" or a score of 2 or less as a "Project Average Score" (the average score of the 6 criteria), will be re-evaluated by the Quality Assurance Board along with all DGLVR staff. If it is agreed upon that the project is failing the municipality will no longer be eligible for future funding until the site is back up to DGLVR Program Standards. If this happens, the Dirt and Gravel staff will assist you with options on how to get your roads up to standards and eligible for funding again. Every municipality will receive result letters once the survey has been completed, regardless of scores. Please keep this in mind when doing your road maintenance this year.

Are your DGLVR projects Outstanding ...or just, ok?

Our goal as staff here at the conservation district is to assist and encourage you to make all of your municipal road projects stand out because of their exceptional quality, whether they are one of our projects or not. How can you accomplish this? The number one ingredient for an outstanding project is pride! When we take pride in our work it shows in every single aspect of the job. From planning to completion, taking pride in your work will make the difference in the quality of work produced. We strive to assist you making your projects the best they can be and are passionate about our work. So please feel free to reach out to us here at the Bradford County Conservation District with any questions you may have or assistance you may need in planning your next outstanding project. Here's to making 2022 one of our best road building years yet!

Our goal in Bradford County is to assist every municipality in getting their road crews through the training, even if they decide not to participate in the program. Currently, 33 municipalities are eligible for funding in Bradford County. The following table lists all municipalities and their eligibility status (x in the yes column depicts eligible) (red = eligibility expires in 2022).

<u>Municipality</u>	<u>Year</u>	<u>Yes</u>	<u>No</u>
Alba Borough			X
Albany Township	5/8/2019	X	
Armenia Township	10/8/2019	X	
Asylum Township			X
Athens Borough			X
Athens Township	3/23/2021	X	
Burlington Borough			X
Burlington Township	9/29/2020	X	
Burlington West Township	5/8/2019	X	
Canton Borough	3/23/2021	X	
Canton Township	9/29/2020	X	
Columbia Township	9/29/2020	X	
Franklin Township			X
Granville Township			X
Herrick Township	9/29/2020	X	
LeRaysville Borough			X
LeRoy Township	9/30/2020	X	
Litchfield Township	9/26/2017	X	
Monroe Borough			X
Monroe Township	10/17/2018	X	
New Albany Borough			X
Orwell Township	9/30/2020	X	
Overton Township			X
Pike Township	5/4/2021	X	

<u>Municipality</u>	<u>Year</u>	<u>Yes</u>	<u>No</u>
Ridgebury Township	6/6/2018	X	
Rome Township	5/8/2019	X	
Sayre Borough			X
Sheshequin Township	9/26/2017	X	
Smithfield Township	9/26/2017	X	
South Creek Township	9/29/2020	X	
South Waverly Borough	4/6/2021	X	
Springfield Township	9/30/2020	X	
Standing Stone Township	10/8/2019	X	
Stevens Township			X
Sylvania Borough			X
Terry Township	4/20/2017	X	
Towanda Borough	5/8/2019	X	
Towanda Township	5/8/2019	X	
Towanda Township North	5/8/2019	X	
Troy Borough			X
Troy Township	1/26/2021	X	
Tuscarora Township	4/20/2017	X	
Ulster Township	9/26/2017	X	
Warren Township	5/8/2019	X	
Wells Township	10/8/2019	X	
Wilmot Township			X
Windham Township	9/30/2020	X	
Wyalusing Borough			X
Wyalusing Township			X
Wysox Township	9/30/2020	X	

This database is maintained by the Center for Dirt and Gravel Road Studies. If anyone feels this information is inaccurate, please contact the Conservation District at 570-485-3144 or Center staff at 1-866-668-6683. Please register online at: <http://www.dirtandgravel.psu.edu/>. The BCCD will be hosting an ESM webinar on March 15-16th, call or email us for details and registration if you haven't already.

Maintenance Saves \$\$ and Time!



It's that time again! The time of year when township road crews and supervisors start to turn their attention to this year's road maintenance, and for many of you that maintenance starts with Spring Grading!

We would like to remind our municipalities that as you plan spring grading, please remember to work into your schedule your former Dirt and Gravel Road Projects.

There seems to be a myth out there that these roads can withstand several years without regular maintenance. The truth is, on average years these roads will hold up much better and require less frequent maintenance cycles than the average Twp gravel roads and through our maintenance surveys we have found this to be true.

During our last round of maintenance inspections, we noticed a trend of excessive storm damage combined with, and in many cases directly related to, lack of regular maintenance. Granted, we performed these inspections prior to spring maintenance, and we understand that the last several years have been a struggle for municipal road crews, but we also know that regular maintenance can reduce the amount of time and money spent fixing storm damage. It is our goal not only to produce long lasting, durable projects, but also to save you valuable time and money in your maintenance schedule.

Some of the key areas you can focus on during maintenance of Dirt and Gravel roads are:

- Repairing any ditches that have been eroded due to high water by reshaping and vegetating them
- Removing berms that have formed at the road edge that trap water on the driving surface
- Removing obstructions from inlets and outlets of cross pipes and culverts
- Ensure a proper crown when grading the roadway so that water can leave the road in a timely manner and not cut trenches in the road surface.
- Grade and compact roads when sufficient moisture is present. Stone raking is not recommended because it segregates material so that it cannot be compacted properly. We realize some older road surfaces may require the use of a stone rake but try to avoid them if possible.



Remember, we conduct our maintenance surveys every other year and these scores can directly influence whether or not your municipality is eligible for future funding with the Dirt and Gravel Roads Program.

Our Goal is to educate, encourage and assist you as municipalities in developing and maintaining your dirt and gravel roads. As always, feel free to contact us with any questions regarding road maintenance.

2021 Accomplishments

The Dirt, Gravel, and Low Volume Roads Program continues to provide significant funding to municipalities and other eligible road owning entities within Bradford County in order to achieve county and statewide environmental milestones. Bradford County's annual allocation for the Dirt and Gravel Roads Program is \$1,375,000 (\$1,100,000 for project implementation) and the Low Volume Roads Program allocation is \$98,304 (\$78,643 for project implementation).

Bradford County Conservation District (BCCD) received 35 Dirt and Gravel Road applications from 17 municipalities/agencies for projects to be constructed in 2022. These funding requests tallied approximately \$3,803,000 (345% over our allotted implementation funds) and applicants pledged approximately \$891,000 in in-kind equipment, materials, and labor – that's roughly 23% of the funds requested.

BCCD received 11 Low Volume Road applications during the April application period in 2021. The funding request was almost \$628,000 which is almost eight times our allotted implementation funds. The applicants pledged over \$218,000 in in-kind contributions which is nearly 35% of the funds requested. Two low volume road projects were completed in Smithfield and Towanda Townships in 2021. Below are photos of Peas Hill in Smithfield Township.



Above: Peas Hill was a unique Low Volume Road project with a lot of off-ROW work. The township and landowners did a great job working together to install underdrain in cemetery accesses and built an appealing stone wall to help the sliding road bank. Cross pipes, drop boxes, road fill, stream crossing replacement, and infiltration basins were also incorporated.

With the Dirt and Gravel Road FY2020 funding allocation, one site was completed in 2021 addressing approximately 0.4 miles of road, which in turn, provided environmental improvements to local water resources. Additionally, one site that was extended from 2019 was also completed in 2021 which addressed an additional 0.5 miles of road. Three other Dirt and Gravel Road Projects were ongoing during the construction season of 2021 but are waiting for stream crossing installation completion by June of 2022.

Through completion of municipal contracts, the following is a list of primary techniques or Best Management Practices (BMPs) that were installed to achieve program goals: raising the existing road profile to promote sheet flow and prevent water from concentrating on the road surface; establishing vegetative ditch linings to reduce scour and filter sediment and nutrients; addition of cross pipes to reduce volume of water treated in ditches; addition of headwalls and end walls to prevent excessive erosion at culvert inlets and outlets; select pruning and thinning; sloping banks; and other off site drainage improvements. The following table is a breakdown of Bradford County's Dirt, Gravel, and Low Volume Road Program accomplishments for 2021:

Dirt and Gravel Road Activity	2021	Total to Date
Number of Completed Projects	2	170
Total Grant \$\$ in Completed Contracts	\$256,831.60	\$11,131,780.73
Total \$\$ Provided by Townships	\$ 31,003.31	\$3,427,552.93

Completed Dirt and Gravel Road Project Statistics for 2021:

Turn Outs Installed	1
New Cross Pipes Installed	13
Cross Pipes Replaced	3
Road Fill Added (Tons)	5,715
Underdrain Installed (Feet)	700
# of Stream Culverts Replaced	2
# In-stream Stabilization Structures	2
Sq. Yd. Vegetative Management	4,328

Low Volume Road Activity	2021	Total to Date
Number of Completed Projects	2	10
Total Grant \$\$ in Completed Contracts	\$87,849.08	\$ 626,925.76
Total \$\$ Provided by Townships	\$87,331.88	\$ 301,530.02

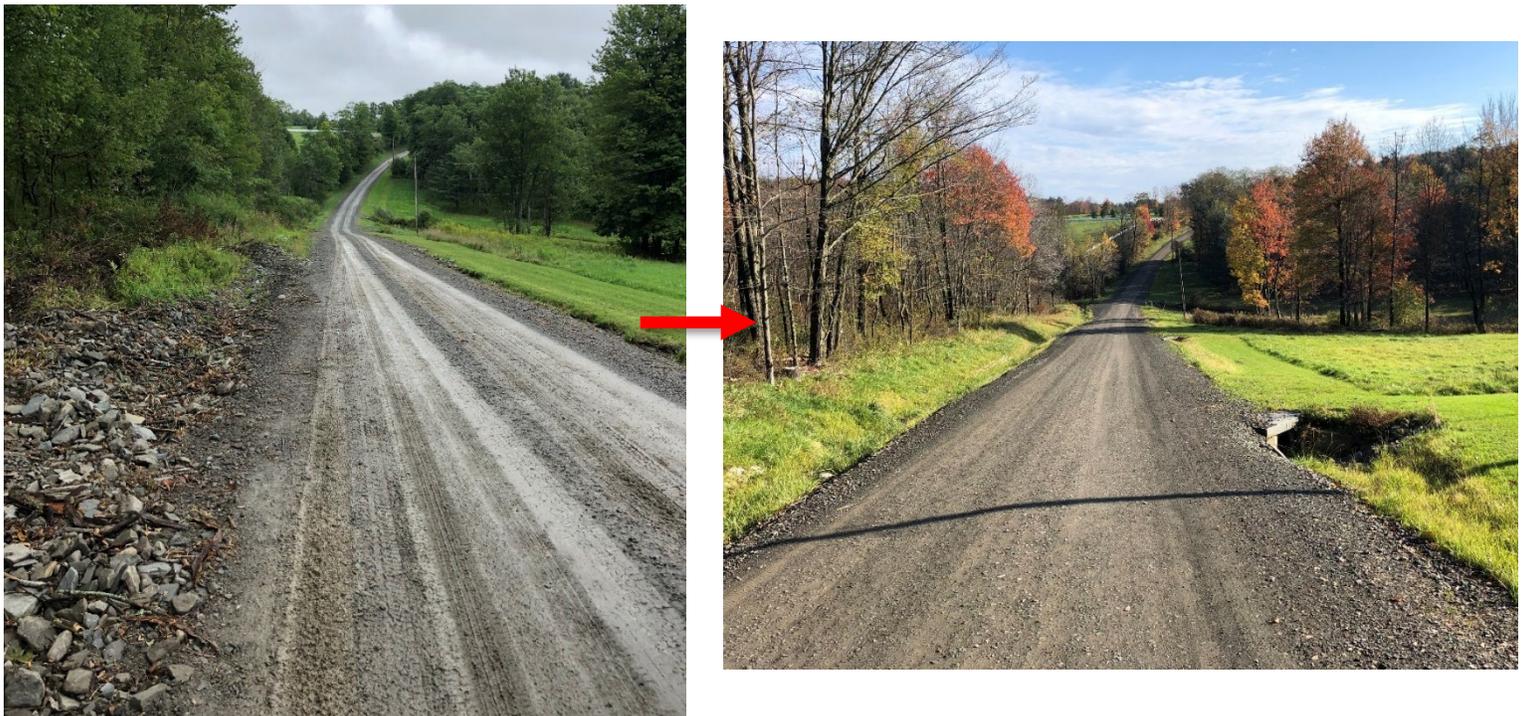
Completed Low Volume Road Project Statistics for 2021:

Turn Outs Installed	2
New Cross Pipes Installed	5
Replaced Cross Pipes	3
Road Fill Added (Tons)	3,021
Underdrain Installed (Feet)	1,400
Sq. Yd. Vegetative Management	1,257
# of Stream Culverts Replaced	1

The following photos are from two Dirt and Gravel Road projects located in Ulster (top) and Warren (bottom) Townships where drainage was improved by: adding cross-pipes with appropriate headwalls, end walls, and inlet and outlet protection; shaping and vegetating ditches; installing Flexamat for added ditch stability; stream crossing replacements; opening tree canopy; sloping back banks to gain road width; addressing offsite drainage issues; raising the road profile to promote sheet flow; and crowning the road surface to prevent water from remaining on the driving surface.



Tree and bank removal were key in this successful project as well as adding road fill, cross pipes, stabilizing ditches, and installing inlet and outlet protection. By doing so, a wider and safer driving surface is created, and road maintenance is reduced.

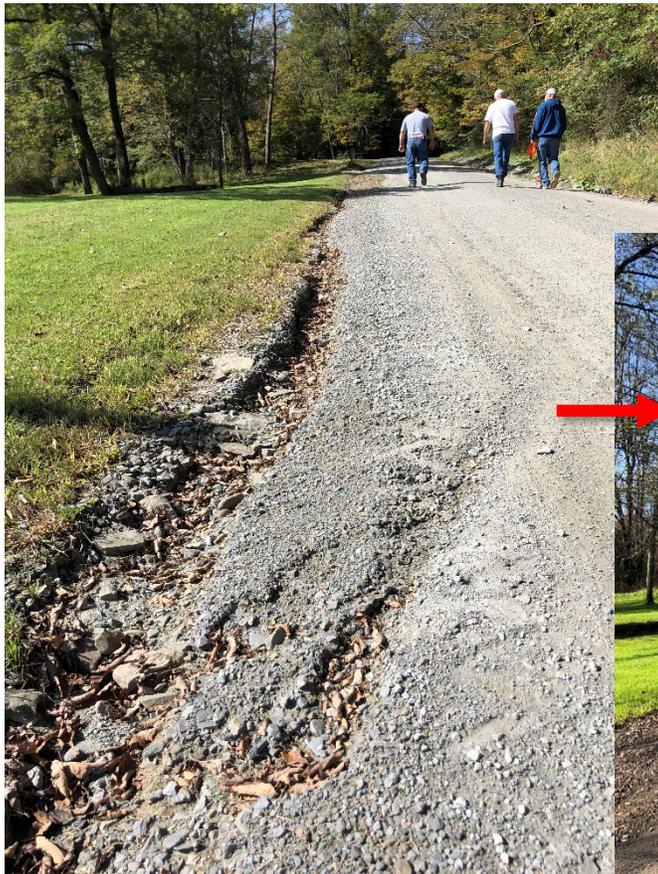
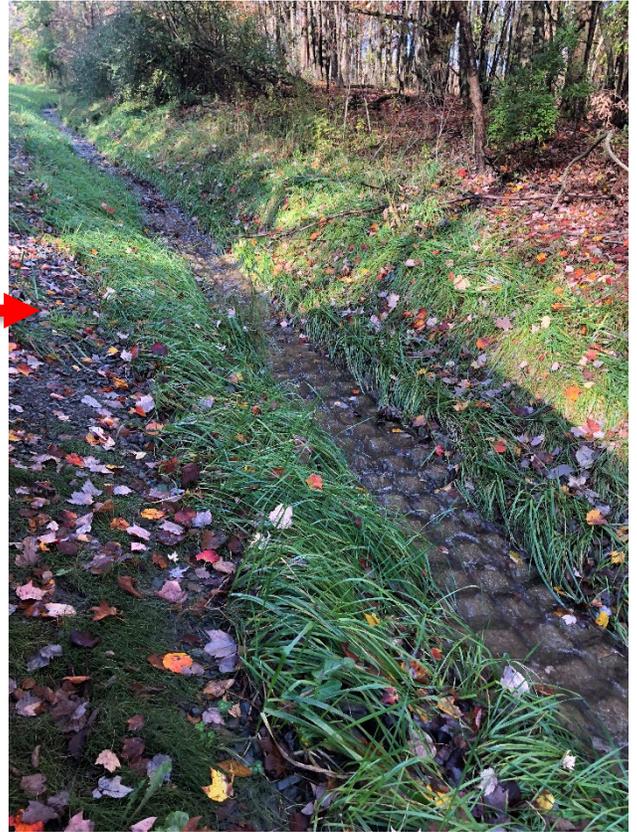


Before - The lack of a ditch and the yard elevated above the road trap water on the road and creates a muddy road surface and sends water directly to the stream at the bottom of the hill where an undersized stream culvert exists.

After - By raising the road profile we were able to widen the road and promote sheet flow. Where we could not get sheet flow, small, vegetated ditches were established, and cross pipes were added to help reduce the amount of erosion by splitting up the water. The left ditch was re-shaped, stabilized, and vegetated.



Eroded ditches were filled, shaped, stabilized, and vegetated.



Added road fill and proper crown help get water off the road.





2021 Awards and Recognition

Fastest Completed – Towanda Township

Towanda Township completed a Low Volume Road Project on a section of Shepherd Road. This project was completed quickly and efficiently. It also had a 36% in-kind which allows funds to go further.



Before



After



Hand-stacked Headwall

Outstanding Secretary Award – Warren Township

This year's Outstanding Secretary Award goes to someone that has routinely submitted their final bills in order and complete, everything is properly labeled and easy to understand, submits bills early to allow for proper review time, is easy to work with, not afraid to ask questions, and is always willing to learn more. Thanks so much to Janice Young for continually doing a good job and making the billing and reimbursement process continually go smooth. Great job!



Innovation Award – Smithfield Township

Smithfield Township completed a Low Volume Road Project on a section of Peas Hill. This unique project had a lot of off-Right of Way work which couldn't have been completed without great landowner cooperation and communication. It consisted of installing a wide variety of Best Management Practices (BMPs) including a stream culvert replacement, bio-degradable strawmat, drop boxes, cross pipes, underdrain, retention basins, road fill, and a concrete block wall.



The Golden Shovel Award

Reagan Hill – Warren Township

This year's Outstanding Project of the Year goes to Warren Township for an exceptional overall project on Reagan Hill. The road crew, office staff and supervisors all have a great attitude, are easy to work with, work quickly and consistently, and take great pride in their work.

The project was 2,800 feet in length and consisted of adding six cross pipes to reduce the volume of water in ditches which in turn reduces erosion and sediment reaching the stream; replacing one cross pipe, adding an access pipe; added approximately 3,400 tons of road fill to promote sheet flow and gain road width; installed 700' of drain tile to maintain a dry road surface and prevent pot-holing; installed head walls and end walls on each pipe along with rock inlet and outlet protection to reduce erosion; crowned the road surface to keep water from concentrating on the road; created stable vegetated ditches to reduce scour and filter sediments and nutrients; installed 2,200 feet of Flexamat; replaced two undersized stream crossings; and worked with landowners to accomplish this project.

By installing all the above-mentioned practices, road maintenance is greatly reduced, the road is more easily traveled by vehicles, and it's better for the environment. Thanks to Warren Township for all their hard work and dedication to their roads and all they do to improve the DGLVR Program, the environment, and the community.





Landowner Agreements

Per our local policy “*Contracting with the Applicant #9: Grantees are responsible for securing all Right-Of-Way agreements prior to contract execution*” all landowner agreements are required **BEFORE** contracting. By talking with landowners before contracting it is easier to make adjustments to the project design and allows for more accurate contract estimates. Having more accurate contract estimates means less unseen in-kind expenses for you. Be thinking about who you would need to talk to on various roads when applying for future projects. Remember to give the landowner a signed copy too!

2022 DGLVR Application Period - April 1st to April 30th

Similar to previous years, grant applications will be accepted the entire month of April. We encourage you to submit your applications on your own, but we are available if you have any technical questions. Consider adding more cross pipes to break up the water, filling the road to promote sheet flow, and shaping and stabilizing ditches and road banks. Please review the **current** Dirt, Gravel, and Low Volume Road Policy Manuals (Approved June 2020) for instructions on completing and submitting DG and LV grant application(s). **The updated manuals have been e-mailed to each municipality and are available on BCCD’s website <http://www.bccdpa.com/dirt-gravel-roads>.**



Online ESM Trainings

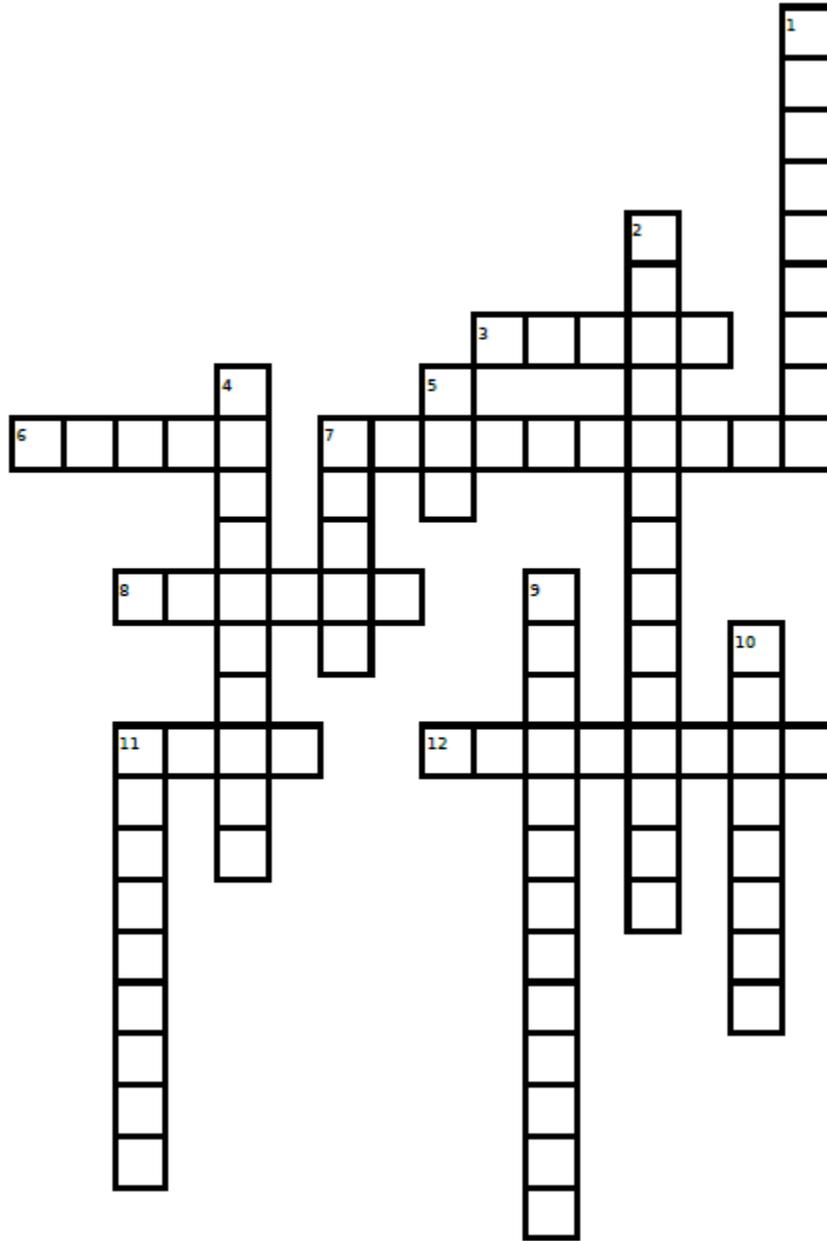
Remote trainings are available for both new certifications and those seeking a re-certification. Attending a remote training will carry the same 5-year eligibility to apply for DGLVR funds as the in-person trainings.

TRAINING DATES

- February 15&16 (online webinar)

- March 15&16 (**BCCD Host online webinar**)

For more information visit www.dirtandgravel.psu.edu/education-and-training/esm-course
Or for BCCD ESM webinar contact Kristin Pepper 570-485-3144/Kristin.pepper@pa.nacdnet.net



Down:

1. Improved surface road project
2. Needed for project over 25K
4. Helps dry the road base
5. No ____, No project
7. D&G Application Month
9. How we kick off the year
10. Most are undersized
11. Need more, Not less

Across:

3. Our #1 problem the past few years
6. Gets water off the road quickly
7. Our staff provides it free of charge
8. Needed to remove gravel from stream
11. Material under much of our road system
12. Required for every cross pipe



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Sometimes all you need is a Dirt Road and a Weekend!