

Dirt, Gravel, and Low  
Volume Road Program

# Education and Outreach Ideas



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JUNIATA COUNTY  
CONSERVATION DISTRICT



Allegheny County  
Conservation District™

**Photo:** Cumberland County Conservation District Demo Day

# Introduction



- Education and outreach by conservation districts is essential to local DGLVR Programs
- This presentation will share ideas from across the state



*Cumberland CCD outreach*

# Introduction



- Reminder: Districts can use up to 10% of DGLVR allocations for education expenses
  - Includes \$1,000/year for promotional items (or more with SCC approval)



*Indiana CCD promotional items*



# DGLVR Education & Outreach Resources



- Recorded webinars
  - <https://dirtandgravel.psu.edu/education-training/webinars/past-webinars/>
  - January 17, 2017: CD Education and Outreach Ideas
  - April 3, 2018: Taking Better Project Photos
- Technical Bulletin on Photo Tips
  - [https://dirtandgravel.psu.edu/wp-content/uploads/2022/06/TB\\_Photo\\_Tips.pdf](https://dirtandgravel.psu.edu/wp-content/uploads/2022/06/TB_Photo_Tips.pdf)
- Flyers for Outreach ([Blank Forms webpage](#))
  - [DGLVR Handout for New Participants](#)
  - [Example DGLVR Projects](#)

**Technical Bulletin** 3/2019  
**Photo Tips**  
Center for Dirt and Gravel Road Studies

**Purpose of these photo tips:**  
To take more effective project photos for use in education and outreach efforts for the Program.

**Common Photo Issues**

- Poor Composition (can't tell what you are looking at);
- Inconsistency in shots, especially before and after;
- Not taking before pictures at all;
- Taking too many "random" photos;
- Storing, organizing, and finding photos when needed;
- Eventually giving up and not taking pictures anymore!

**Shoot for Context**

- **Zoom out** to capture what is around your focal point.
- You can always crop later, you can't "un-crop";
- People add context and scale.
- If you are taking a picture of something off the road, try to include the road in the picture.
- Use props (hats, bottles, yourself) for scale if alone.
- Shoot from different perspectives (high, low, angle).

**Consider Weather and Lighting**

- Intermittent sun/shade makes for BAD pictures;
- Go out on some rainy days to get some pictures of drainage in action.
- When possible, take photos in the same season.

**Use Landmarks**

- Use anything that will not move, buildings, distinctive trees, utility poles, road signs, mailboxes, fences, etc. for better before, during, and after sequences
- Take pictures looking the same direction.

**Photopoints**  
Photopoints are marked positions where photos can be repeated throughout the life of a project. **The easiest way to establish a photopoint is by pounding a metal fence post into the ground, and placing the camera on the post to take pictures.** Photopoints may only last a day for items such as a crosspipe installation, or they may be used for several months or years to show complex practices or phased projects such as those involving road fill. Using photopoints is the easiest way to ensure that people who are not familiar with your project will be able to follow along and understand what was done.

The document includes several pairs of photographs illustrating key concepts. The first pair shows a close-up of a culvert pipe versus a wider shot showing the surrounding area and people for scale. The second pair shows a road from a high angle versus a low angle. The third pair shows a road with a house in the background, labeled 'Before' and 'After'. The fourth pair shows a road with a wheel for scale, labeled 'Before' and 'After'.

**Zoom out when taking pictures to get more context, and include people or objects for scale reference.**

**Consider time of year, and avoid intermittent sun/shade.**

**Use landmarks in before/after pictures, in this case, the house, driveway, and powerline-cut tree in background.**

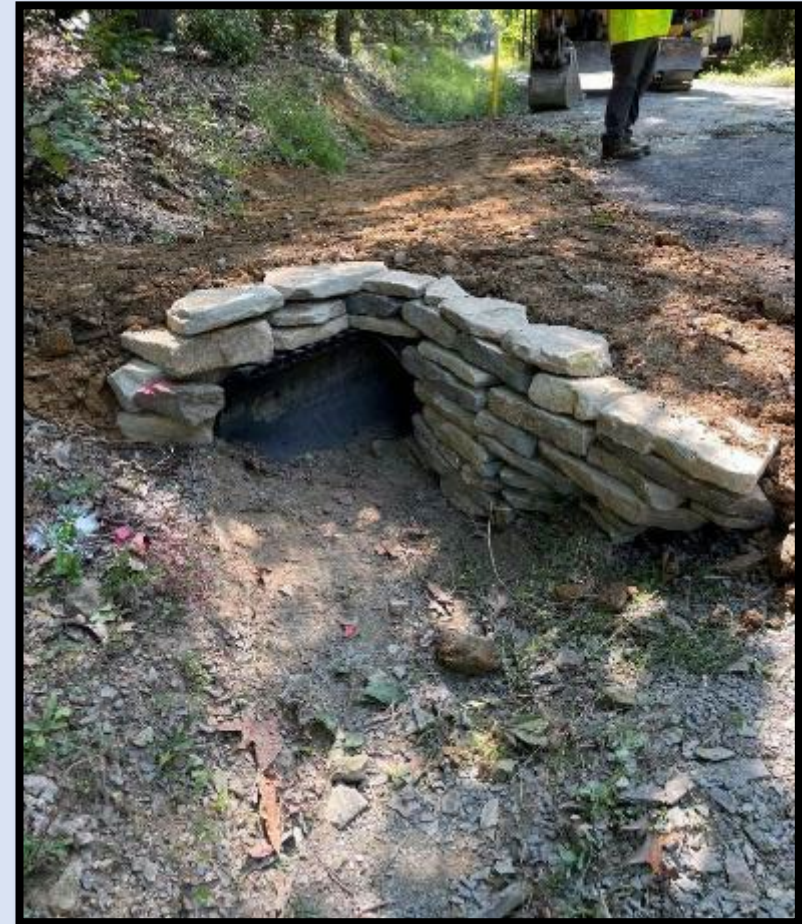
**The same eroded ditch is shown much more effectively with a lower perspective and a wheel for scale.**

The publisher of this publication gratefully acknowledges the financial support of the PA State Conservation Commission. For additional information or assistance, contact Center for Dirt & Gravel Road Studies, Penn State University, 215 Fairweather Research Building, University Park, PA 16802. Call-Free Phone: 1-800-444-6800. Fax: 814-863-6787. Email: [dirtandgravel@psu.edu](mailto:dirtandgravel@psu.edu). Additional copies available on our website at <https://www.dirtandgravel.psu.edu>. © 2019 All rights reserved.

# Outline



- Communication tips
- Participate in existing events
- Organize your own events
- Publicity
- District examples
  - Allegheny & Juniata CCDs



# Communication Tips



- Know your audience
  - What does the road owner care about?
- Consider word choice
  - Define any terms your audience may not be familiar with
- Don't assume program participants already know DGLVR details
  - Provide all of the info they will need



# Communication Tips

- How to get new participants' attention:
- Advertise!
  - Free money (grant funding)
  - You can help fix their issues
  - Save time and & money on road maintenance
- **Free food**
- Promotional items
- Bonus points on grant application ranking
- Continuing education credits (engineers)

## Funds Available to Fix Water Issues on Public Roads

### PA Dirt, Gravel, and Low Volume Road Program



**Water** is a leading reason why roads deteriorate.

Improving water management on roads reduces routine maintenance needs, **saving time and money.**

PA county conservation districts have **grant funding available** for public road owners to **correct water issues on public roads.**

### The Dirt, Gravel, and Low Volume Road (DGLVR) Program

provides grant funding to municipal and state entities to fix water issues on public roads near streams, lakes, and wetlands.



*Cross pipes are commonly used in DGLVR projects to direct water away from the road and nearby streams.*

- Funds are for unpaved roads and paved roads with low traffic.
- Funded projects focus on spreading out and slowing down storm water to prevent roads from washing out.
- Projects can also address road surfacing, subsurface water issues, road base and ditch instability, undersized stream crossings, road bank slides, and more!

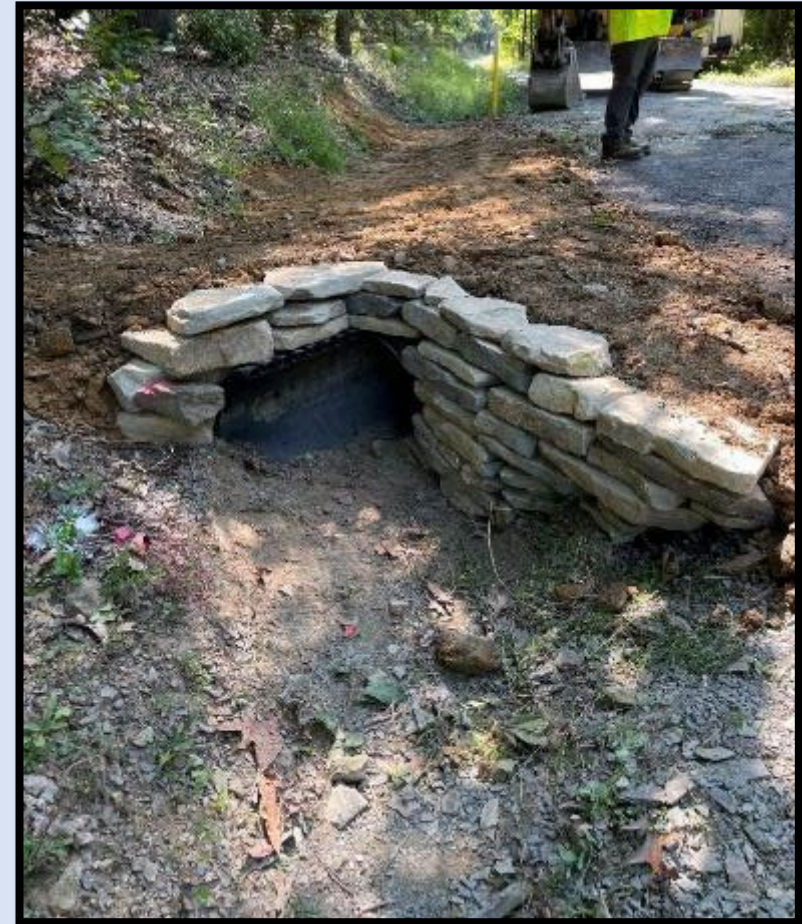


*Public roads that drain to streams or otherwise impact water quality are likely eligible for DGLVR funding.*

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# Participate in Existing Outreach Events



- Can save time and money by participating in existing events instead of organizing the whole event for DGLVR purposes
- Options vary locally but commonly include:
  - Council of Governments (COGs)
    - “\_\_\_\_\_ County Association of Township Supervisors” (or Boroughs)
  - Equipment shows
  - Public Works Department Events
  - County Fairs
  - PA One Call regional events/annual conferences
  - Events your conservation district is already doing:
    - Legislative Breakfasts, bus tour of completed projects, engineers’ workshops, etc.
  - Any other event with your target audience

# Participate in Existing Outreach Events



- Ways to Participate in a local event:
  - Have a booth or table
  - Run an ad in their booklet/flyer/etc.
  - Present a classroom session or give a talk
- Tips for tables
  - Hand out candy & promotional items
  - Show before and after photos of projects
    - bulletin on photo tips available
  - Various paperwork handouts



*CDGRS table at PSATS Convention in Hershey, PA*

# Participate in Existing Outreach Events



- Provide paperwork handouts:
  - CD contact info
  - ESM training dates
  - Local policies
    - Application due date
    - Pre-application meeting requirements
    - Funding available
- Info about the DGLVR Program
  - Annual Summary Report
  - Stream Continuity Pamphlet
  - NEW handouts
    - DGLVR summary & example photos
  - Create local flyers – example later
  - Technical bulletins

**What is "Stream Continuity"?**

*Continuity simply means: "uninterrupted connection"*

Stream continuity means that the stream is very similar in character upstream, downstream, and through the road crossing. This includes features such as slope, streambed material, channel width and shape, pool/riffle sequencing, and connectivity to its floodplain.

Continuity is a holistic approach that looks at the entire reach of stream, not just the crossing.

**Stream Connectivity in PA**

Designing stream crossings for continuity is catching on in PA. A variety of organizations such as the PA State Conservation Commission (SCC), PA Department of Environmental Protection, PA Fish and Boat Commission, PA Game Commission, Trout Unlimited, PA Bureau of Forestry, Western PA Conservancy, and others are actively trying to spread the message of stream continuity. While other standards exist nationally, the documents described on the back are the only PA standard, and only apply for PA DGLVR projects.

**More information:**

Efforts to design stream crossings for connectivity extend beyond PA. Several states in the Northwest and New England provide standards for stream continuity. The most comprehensive guidance is from the US Forest Service and their "Stream Simulation" approach. More information at: <https://www.fs.usda.gov/biology/education/worksheets/aop/index.html> (or search USFS Stream Simulation)

**PA Dirt, Gravel, and Low Volume Road Maintenance Program**

The PA DGLVR Program provides \$28 million annually in grant funding for environmental and road improvement projects on publicly-owned roads. The PA State Conservation Commission (SCC) administers the program at the state level. County conservation districts administer the program within each county. Local public road owning entities, largely townships, apply to their district for funding. [www.dirtandgravelroads.org](http://www.dirtandgravelroads.org).

The DGLVR Program funds a variety of other practices, but typically installs about 60 stream crossing replacements annually. In July of 2022, the SCC, working in collaboration with the Penn State Center for Dirt and Gravel Road Studies and others, approved a comprehensive set of stream crossing documents for program use:

**Policy:** Requires use of standard and outlines other trainings, reviews, and inspection requirements.

**Standard:** Design and installation standard for new stream crossings. Provides requirements and information for engineers on project design, construction inspection, and more.

**Technical Manual:** Comprehensive guidance document in support of the Policy and Standard above. Most of the manual is written for conservation district staff administering projects through the PA DGLVR Program, with chapter 12 being dedicated to design engineers.

Documents:  
<https://dirtandgravel.psu.edu/general-resources/stream-crossing-replacements/>  
(or search "DGLVR stream crossings")

The above documents are only required for projects funded by the PA DGLVR Program. The documents are publicly available for others interested in stream continuity projects.

**Designing Stream Crossings for Connectivity, Continuity, and Storm Resiliency in Pennsylvania**

Document provided by PSU Center for Dirt and Gravel Road Studies and PA State Conservation Commission

DGLVR Stream Continuity Flyer on Stream Crossings  
webpage: <https://dirtandgravel.psu.edu/stream-crossing-replacements/>

## What is the DGLVR Program?

Pennsylvania's Dirt, Gravel, and Low Volume Road (DGLVR) Program provides education, technical assistance, and grant funding to local public-road-owning entities throughout the state. The Program dedicates \$20 million to unpaved roads and \$8 million to paved low volume roads (LVRs) traveled by fewer than 500 vehicles per day. The Program's goal is to implement Environmentally Sensitive Maintenance Practices aimed at reducing the environmental impacts of public roads while reducing long-term maintenance costs. The PA State Conservation Commission (SCC) administers the program at the state level and allocates funding to conservation districts in 66 counties throughout Pennsylvania. Owners of public roads apply for grants at their local county conservation district, and work with them to complete projects. The Penn State Center for Dirt and Gravel Road Studies provides education, outreach, and technical assistance for the Program. More information is available at [www.dirtandgravelroads.org](http://www.dirtandgravelroads.org).

## Frequent Issues Addressed by the DGLVR Program



### Direct Drainage to Streams:

The "simplified" purpose of the DGLVR Program since its inception in 1997 is to "keep the mud out of the streams". Unfortunately, road ditches often wash soil and road material directly to streams that lie at low points of the landscape. The Program implements a wide variety of practices to break up concentrated water runoff, spread it out, encourage it to soak into the ground, and keep road sediment out of the stream.



### Springs and Seeps:

Pennsylvania is blessed with a plentiful supply of groundwater. Unfortunately, this groundwater often creates problems on both paved and unpaved roads by saturating and weakening the road base and surface. Practices such as underdrains and French mattresses can be used to intercept this subsurface water before it impacts the road.



### Landslides:

Slides can be a common problem, especially on steep slopes. They are frequently caused by poor soils and oversaturation of the road base. Left unaddressed, slides can lead to unsafe conditions, road failures, or road closures. Fixes for slides vary greatly in scope and cost, but can include retaining walls, base excavation and rebuilding with geotextile fabric, sheet piling, or installation of soil nails or screws.



### Undersized Stream Pipes:

Stream pipes and bridges are often undersized to save on initial construction costs. Unfortunately, this often results in additional long term maintenance costs, along with a host of other environmental issues, over the life of the structure. Since 2015, the Program has limited stream crossing replacements to undersized crossings and has implemented policy to guide new structure installation. See page 3 inside for more details.



### Inadequate Road Base and Shape

Road material is expensive, and often unpaved or low traffic paved roads are neglected in favor of resurfacing higher traffic routes. Practices such as adding competent road base material, raising the road profile, French mattresses, underdrains, and Driving Surface Aggregate (DSA) can be used to make the road the high point so water drains off of it while supporting the weight of traffic.

<p><b>Jefferson County, Heath Twp.</b> <b>Spring Creek Road - <u>unpaved</u></b> Roadside springs saturated the existing road and ditches, causing them to become soft, unstable, and rutted. Multiple underdrains and two French Mattresses were installed to handle subsurface drainage. Geotextile fabric was utilized along with over a foot of new road base to stabilize the road surface.</p>	<b>BEFORE</b> 	<b>AFTER</b> 
<p><b>Washington County, Donegal Twp.</b> <b>Wilhelm Road - <u>paved LVR</u></b> This existing multi-pipe stream crossing was prone to clogging and flooding. A new 16' wide bottomless aluminum box culvert was installed. The streambed was reconstructed through the structure including a low-flow channel, stream bank margins, and three riffles for grade control.</p>	<b>BEFORE</b> 	<b>AFTER</b> 
<p><b>Delaware County, Newton Twp.</b> <b>Paper Mill Road - <u>paved LVR</u></b> This project was located at an intersection of two low volume roads that was prone to flooding and washouts. A vegetated stormwater basin was created to handle road runoff issues. The basin outlets using a 24" riser with a trash rack and backflow preventer to prevent flooding from the adjacent stream.</p>	<b>BEFORE</b> 	<b>AFTER</b> 
<p><b>Somerset County, Stoneycreek Twp.</b> <b>Yonai Road - <u>unpaved</u></b> This road is located in a floodplain that is frequently inundated by backwater from a nearby stream confluence. A large French Mattress with a bank of pipes was installed to allow floodwater to pass under the road and raise the road out of the floodplain, providing traffic support.</p>	<b>BEFORE</b> 	<b>AFTER</b> 



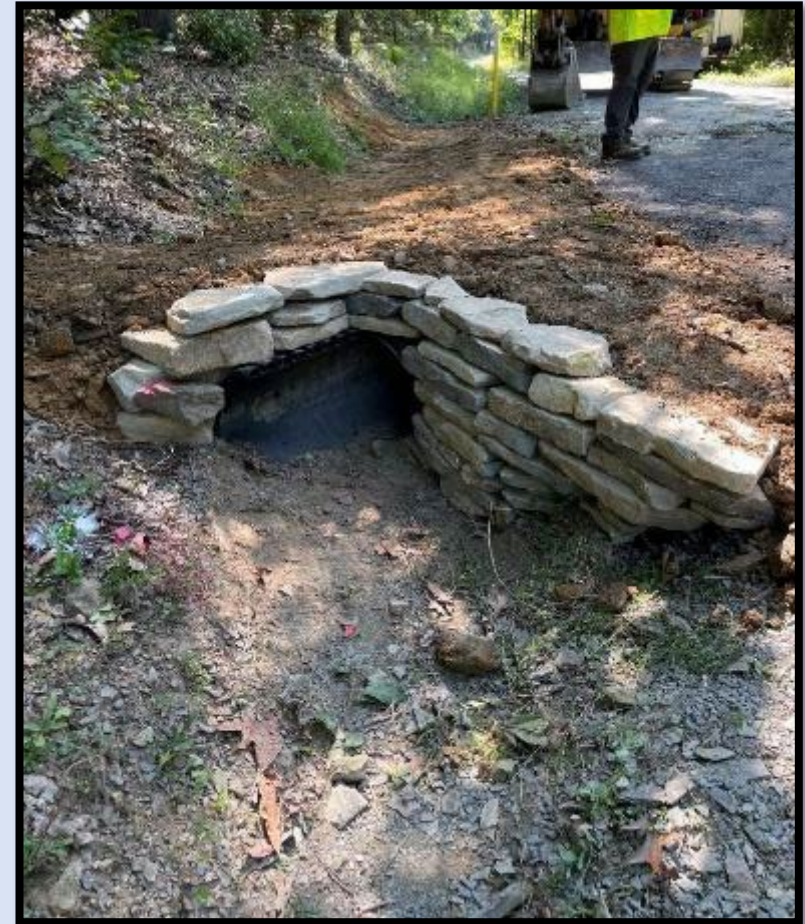
This document was prepared jointly by the PA State Conservation Commission (SCC) and the PSU Center for Dirt and Gravel Road Studies through a contract with the SCC. Figures are based on GIS data supplied by conservation districts in January 2024. For more information, visit [www.dirtandgravelroads.org](http://www.dirtandgravelroads.org).



# Outline



- Communication tips
- Participate in existing events
- **Organize your own events**
- Publicity
- District examples
  - Allegheny & Juniata CCDs



# Organize your Own Events



- You have the freedom to make this whatever you want
  - Provide enough time for you to present the info you want people to know
  - Focus on common issues/points of confusion



*Allegheny CCD municipal outreach session*

# Organize your Own Events



- Local workshop
  - Provide updates on your local DGLVR Program
    - Funding available for the next year
    - Policy updates (local or state-wide)
    - Local procedures, due dates, etc.
  - Provide education on hot topics
    - Administrative or technical
    - Can invite other speakers as well
      - SCC, CDGRS, other CD staff, etc.
  - Celebrate quality work
    - Review completed projects
    - Awards for good projects/grant recipients



*Cumberland CCD outreach event*

# Organize your Own Events



- Demonstration Day

- Invite road owners to see active ESM practice installation
- Could be part of a regular DGLVR project or a demonstration project funded for educational purposes
- Can include classroom session
- Could show multiple sites/ before-during-after
- Offer drinks and snacks
- Invite neighboring road crews to help build DGLVR projects and they will learn in the process



*Shallow cross pipe demonstration at ESM Bootcamp*



# Organize your Own Events



- Municipal Visits

- Pre-application meetings are essential
- Offer to visit roads with water issues with the road owner to see if there is potential for a DGLVR project
- Visit municipal buildings with coffee and donuts to talk about the DGLVR Program
- Attend public municipal meetings
- Call the township building to make sure they received mailings

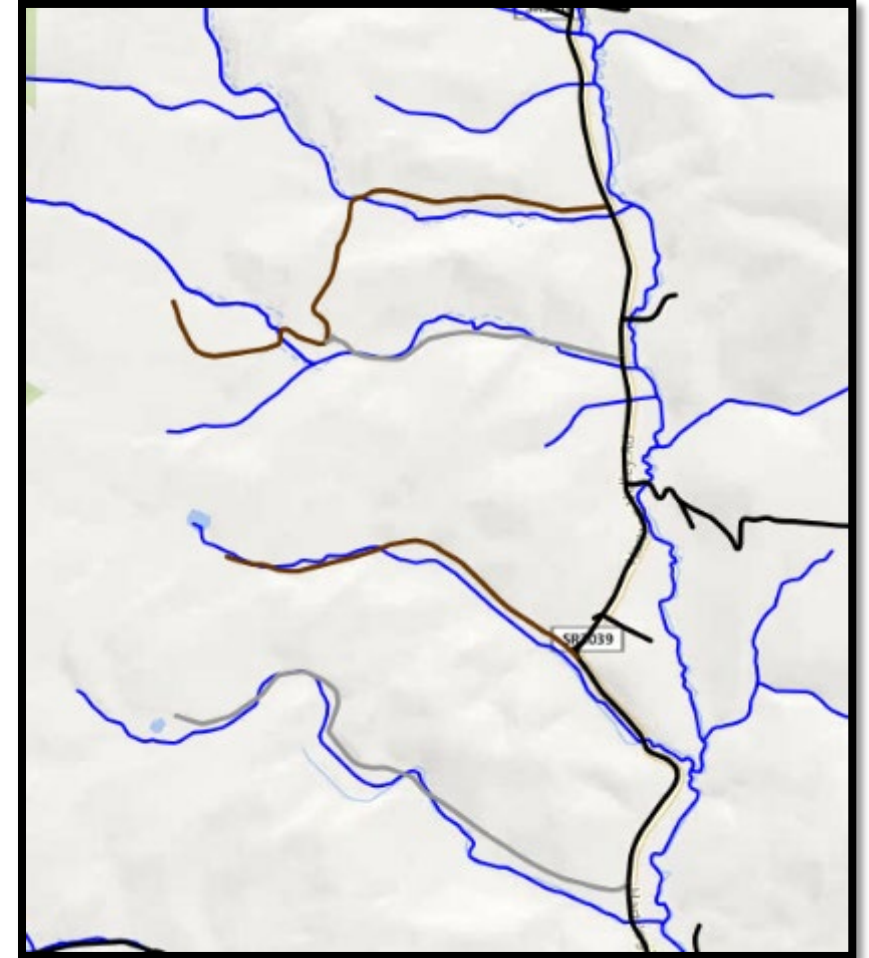


*Cumberland CCD municipal visits*

# Organize your Own Events



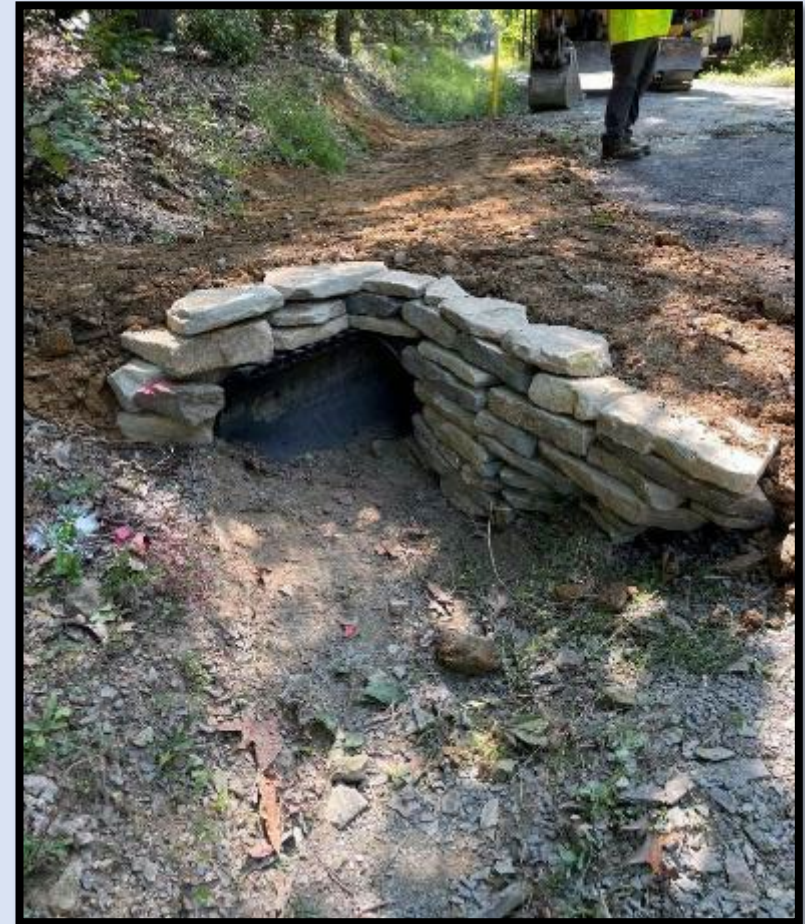
- Call the road owner and suggest a potential project
  - Can be a road you are familiar with
  - Sometimes districts receive complaints that lead you to a good potential DGLVR project
  - Look at maps of priority watersheds you'd like to work in
  - Look at maps of where local roads are near streams



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# Publicity



- There are lots of ways to get the word out about the DGLVR Program
  - Both print and electronic options
- **Mail/email**
  - direct to potential applicants
- **Press releases** for local newspapers/media outlets
- Topics
  - When funds are available
  - To announce grant application due dates
  - To announce funded projects
  - To bring attention to a recently completed project
  - To advertise educational/outreach events



*Allegheny CCD big check presentation  
with Borough and Senator*

# Publicity



- Newsletters
  - DGLVR specific
  - DGLVR article in the CD's newsletter
  - Coordinate to have a DGLVR article in outside newsletters
  - Conservation District Annual Reports
- Website pages
- Social media posts
  - Facebook, Instagram, TikTok, etc.
- Road signs
  - permanent vs temporary



*Sign at completed DGLVR Project in Pike County*

# Publicity



- Local webinar series
- Radio show/podcast
- Radio ads
- Parade float
- YouTube videos
- Webinar viewing sessions

*Susquehanna County Conservation District hosts a radio show/podcast called "Conservation Corner"*

https://www.suscondistrict.org/conservation-corner

HOME PERMITS & RESOURCES PROGRAMS

## Better Water Quality Thanks to Better Roads

8/14/2024 [0 Comments](#)

**CONSERVATION CORNER** Better Water Qualit...

Play button

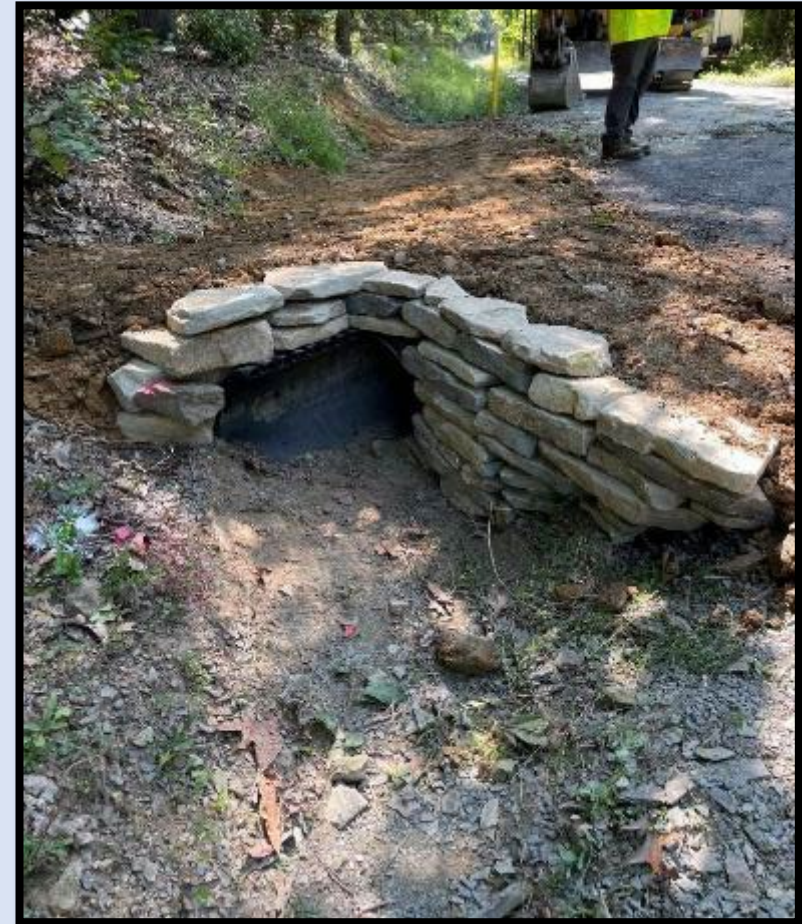
Pennsylvania has more than 25,000 miles of unpaved roads, mostly dirt, and gravel, that are used by more than 3.6 million residents and serve the state's agriculture, mining, forestry, and tourism industries. By installing best management practices on these roads, we can create better water quality. Join us as we dive head-first into this awesome program administered by the Susquehanna County Conservation District!

Post

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# Conservation District Examples

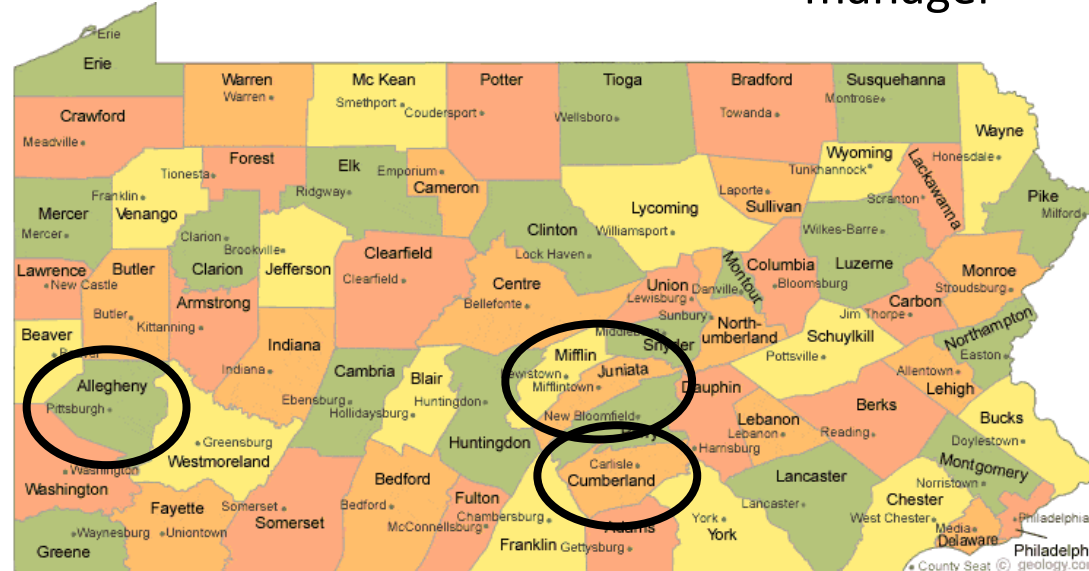


- Riley Kinney

- Allegheny County Conservation District
- Agriculture Program Manager
  - Oversees DGLVR Program and various ag programs
- 7 years at the CD

- Lori Glace

- Juniata County Conservation District
- District Manager
- 13 years of varied CD experience
  - E&S/DGLVR tech, watershed/DGLVR tech, manager

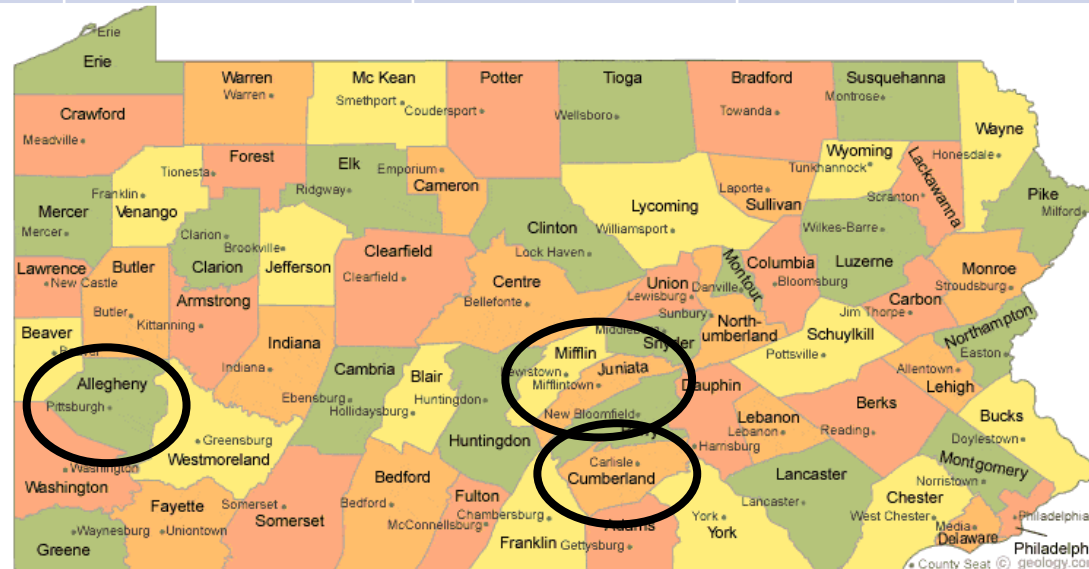




# Conservation District Examples



County	# municipalities	Approx. annual DGR allocation	Approx. annual LVR allocation	Approx. total DGLVR allocation	Total # District staff	Approximate DGLVR staff time
Allegheny	130	\$100,000	\$260,000	\$360,000	22	$\frac{3}{4}$ Technician
Juniata	17	\$115,000	\$70,000	\$185,000	7	$\frac{1}{2}$ Technician
Cumberland	33	\$100,000	\$127,000	\$227,000	10	$\frac{1}{2}$ Technician



# Communication Tips



## Allegheny

### • Mailers

- ESM regional training date announcements
  - Sent to all expiring and uncertified municipalities
- Grant Cycle Opener Mailer
  - Sent to all 130 municipalities

### • E-blast

- District-wide list serves
- Program Specific emails

### • Phone Calls

- Request for returning submissions of rejected grant applications
- Cold calls for new municipalities in target improvement regions

# Communication Tips



**Allegheny County Conservation District**

## Get Your Road Project Funded.

To get your road project funded, you must send a representative from your municipality to Penn State's Environmentally Sensitive Maintenance Training.

The third and final phase of the Willow Road Project in Bradford Woods was completed in 2022. The completed project features drainage, culvert replacement, and road resurfacing.

ESM Mailer Front

**Allegheny County Conservation District**

317 East Carson Street, Suite 119  
Pittsburgh, PA 15219

### Register for a Training

ESM training is 2 days from 8 AM - 4 PM. First time certified municipalities are eligible for travel and hotel reimbursement through ACCD's first-time certification program!

**Somerset County**  
Seven Springs  
Champion, PA  
April 12 & 13

**Butler County**  
Pittsburgh Marriott North  
Cranberry, PA  
May 16 & 17

**Washington County**  
Double Tree by Hilton Head  
Washington, PA  
August 16 & 17

Contact Riley Kinney at [rkinney@accdpa.org](mailto:rkinney@accdpa.org) or call 412-241-8004 for questions and to schedule your pre-application meeting.

Register for a training **HERE**

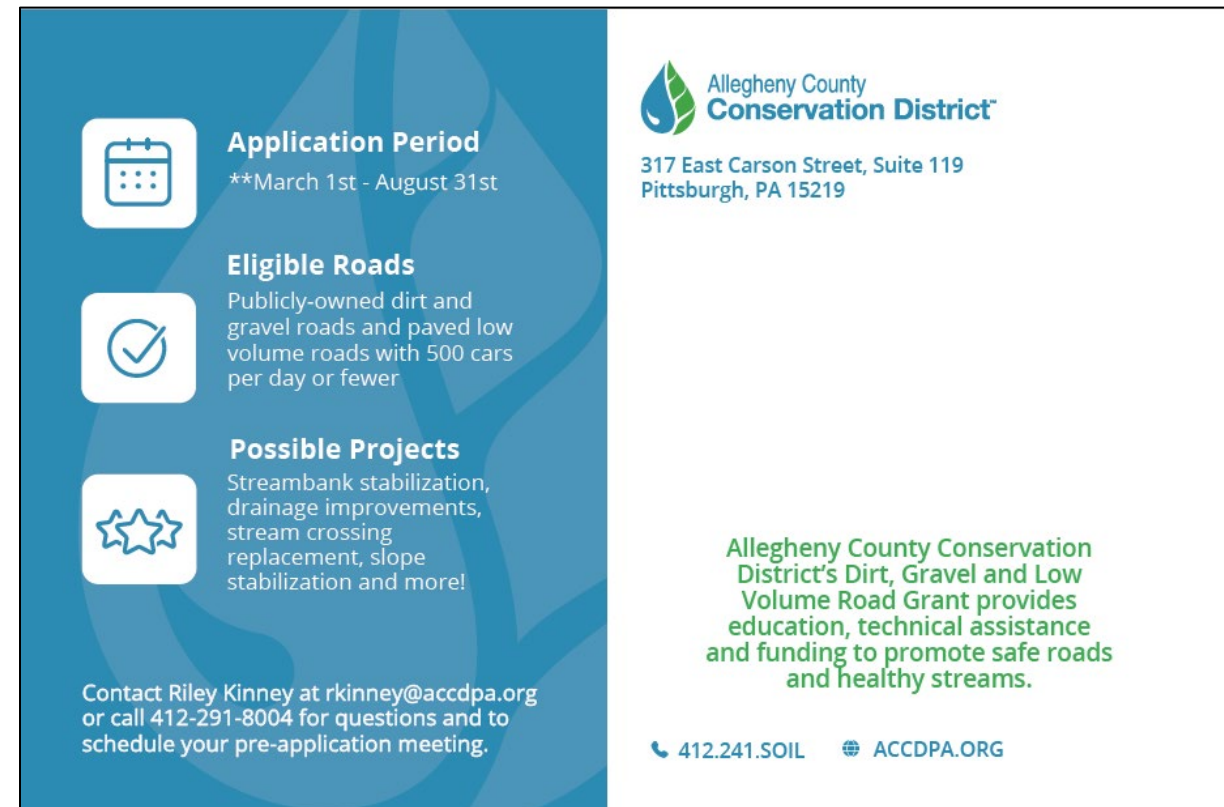
412.241.SOIL ACCDPA.ORG

ESM Mailer Back

# Communication Tips



Grant Opener Mailer Front



Grant Opener Mailer Back

# Communication Tips



## Juniata

### • **Mail and Email Outreach**

- ESM Outreach / Grant Information to all municipalities
- Additional one-page flyer that gives program details and grant deadlines if known
- Other road-related / relevant information (PSATS / LTAP)
- List serves via excel

### • **Phone Calls**

- New staff introductory phone calls
- Check in on municipal folks if haven't heard from them in a while
- Set up meetings to check out problem sites

### • **In-Person Meetings**

- Morning / Lunch break meetings
- Non-DGLVR project stop-ins at break time

# Communication Tips



## DIRT, GRAVEL & LOW VOLUME ROADS PROGRAM

The **Dirt and Gravel Roads Program** is available for any public road that has a dirt, gravel, or stone surface. This year finished the drainage installation on Cold Springs Road in Dickinson Township. The drainage work started in the summer of 2016 which installed 23 cross pipes, and continued construction in 2017, with 20 more cross pipes, for a total of 43 cross pipes! This year's construction also included 1,250 feet of underdrain, which collects subsurface drainage in the road profile. Grant money for the 2017 portion of the project was \$19,993.56, and the total grant value of the project was \$48,563.69. Future work will place base material and driving surface aggregate.



Shallow Cross Pipe Installation, Cold Springs Road, Dickinson Twp.

The **Low Volume Roads Program** is open to all paved public roads that have less than 500 cars per day. Construction projects for 2017 included Game Lands Road in Upper Mifflin Township, replacing three failing cross pipes. Grant money for Game Lands Road was \$12,413.85, with a total project value of \$12,413.85. Fry Road in North Newton Township replaced 2 pipes and installed 1,025 feet of underdrain. Grant money for Fry Road was \$10,572.06, with a total project value of \$19,522.46. Beetem Hollow Road in Penn Township replaced a 4 foot stream culvert with a 12 foot box culvert with an open bottom for aquatic organism passage and included a 500 foot French Mattress with 800 feet of underdrain to drain the road profile. Grant money for Beetem Hollow Road was \$138,044.09, with a total project value of \$181,649.93. Future work is planned on Beetem Hollow Road, Penn Township; Pipeline Road, Upper Mifflin Township; and Yorwack Road,



Cross Pipe with Pre-fabricated headwall, Game Lands Road, Upper Mifflin Twp.



Under drain installation, Fry Road, North Newton Twp.



Open-bottom Box Culvert, Beetem Hollow Road, Penn Twp.



French Mattress and Under Drain, Beetem Hollow Road, Penn Twp.

Are you a public road-owning entity in Cumberland County and want to get involved with the Dirt, Gravel, and Low Volume Roads Program? The first step is to become certified in Environmentally Sensitive Maintenance Practices, which is a **FREE, 2-day training** provided by the Center for Dirt and Gravel Roads.

**May 9 & 10, 2018 at Premier Events in Shippensburg**

North Middleton Township.

## DIRT, GRAVEL & LOW VOLUME ROADS PROGRAM

Cumberland County's Dirt, Gravel, and Low Volume Roads Program is split into two separate programs, one program for public-owned dirt, gravel, and/or stone roads and one program for paved and/or tar & chipped roads that have less than 500 cars per day. In order for a road to qualify for the program, the road-owning entity must attend a two-day Environmentally Sensitive Maintenance (ESM) Certification Training.

Road Name	Municipality	Grant Awarded	Type
Yorwick	North Middleton	\$ 8,029.17	LVR
Cold Springs 5	Dickinson	\$ 100,338.89	DGR
Beetem Hollow 4	Penn	\$ 135,572.50	LVR



Cold Springs Road, Dickinson Township: Driving Surface Aggregate (placement 2019) and shallow cross pipe (installed 2017).

The **Dirt & Gravel Roads Program** completed another phase of work on a 2.4 mile section of Cold Springs Road in Dickinson Township. The first phases, completed between 2016 and 2017, installed 43 shallow cross pipes to help fix drainage within the road. Work in the Spring of 2018 included 10,000 tons of shale to add base to the bedrock of the road and create proper crown to prevent water from flowing in the center of the road. Work in the Fall of 2018 included capping the shale base material with 2,796 tons of Driving Surface Aggregate (DSA). DSA is a well-graded, unbound mixture of aggregate designed for use as a wearing course on unpaved roads. DSA is designed to achieve maximum density to resist erosion and traffic wear. Properly installed DSA roads will have greatly reduced sediment loss and maintenance cycles. Fall 2019's contract installed 2,135 tons of DSA. Future work will include the final DSA placement on this section of Cold Springs Road.



Yorwick Road, North Middleton Township



Beetem Hollow Road, Penn Township

The **Low Volume Roads Program** completed 2 projects in 2019. Projects included a stream pipe consisting of a 64" x 43" squash culvert and a 40ft x 20ft French Mattress in North Middleton Township and a 14ft bottomless concrete box culvert in Penn Twp. Both replacement projects removed severely undersized stream pipes which now allows the stream to function properly through the road profile.

## DIRT, GRAVEL & LOW VOLUME ROADS PROGRAM

Cumberland County's Dirt, Gravel, and Low Volume Roads Program is split into two separate programs, one program for public-owned Dirt, Gravel, and Stone Roads and one program for paved and tar & chipped roads that have less than 500 cars per day. In order for a road to qualify for the program, the public owner must attend a two-day Environmentally Sensitive Maintenance (ESM) Certification Training.



ESM Certification Training

The **Dirt & Gravel Roads Program** completed 2 more phases of work on a 2.4 mile section of Cold Springs Road in Dickinson Township. The first phases, completed in 2016 and 2017, installed 43 shallow cross pipes to help fix drainage within the road. Work in the Spring of 2018 included 10,000 tons of shale to add base to the bedrock of the road and create proper crown in the road to prevent water from flowing in the center of the road. Work in the Fall of 2018 included capping the shale base material with Driving Surface Aggregate (DSA). DSA is a specially designed surface that uses different sizes of stone and optimum moisture, and is placed with a paver and compacted with a large roller. This process prevents clay particles in the stone mixture, which prevents sediment runoff that can be found as soft stone breaks down over time.

Road Name	Grant Awarded
Wood Ave	\$ 17,641.45
Beetem Hollow	\$ 29,430.40
Pipeline	\$ 32,219.68
Cold Springs	\$ 191,782.50
Cold Springs	\$ 110,427.78
<b>Total</b>	<b>\$ 381,501.81</b>



Shale Base Material on Cold Springs Road



Driving Surface Aggregate on Cold Springs Road

The **Low Volume Roads Program** completed 3 projects in 2018. Projects included a stormwater drainage system in Mt. Holly Springs Borough on Wood Avenue; underdrains to capture springs seeps and extra drainage cross pipes in Penn Township on Beetem Hollow Road; and replacing an undersized stream pipe and disconnected ditch drainage from the stream on Pipeline Road in Lower Mifflin Township.



Under Drain on Beetem Hollow Road



New Stream Culvert, Pipeline Road

# Communication Tips



## Dirt, Gravel, & Low Volume Roads Program

Not only for Dirt Roads! Funding is split between traditional Dirt & Gravel Roads and paved, low volume (less than 500 average daily traffic per day).

Annually, Juniata County Conservation District receives the below funding for project implementation:

**Dirt & Gravel Roads: \$ 92,441**

**Low Volume Roads: \$ 55,310**

Next round of applications will be Spring 2024!



**North Ridge Road, Iermanagh Township.** DGR Project replaced undersized, double pipes with a 15" x 53" aluminum plate arch box culvert. Total project value: \$121,000. DGR Grant: \$100,000, Township Funds: \$21,000.

Pennsylvania's Dirt Gravel, and Low Volume Road Maintenance Program provides funding to eliminate stream pollution caused by runoff and sediment from the State's comprehensive network of unpaved and low volume public roads. The Program was enacted into law in April 1997 as Section 9106 of the PA Vehicle Code, with \$5 Million in annual funding for "environmentally sensitive road maintenance" for unpaved roads. The goal of the Program is to create a more environmentally and economically sustainable low volume road network through education, outreach, and project funding.

Special "Thank You" to our Municipal Partners!



JUNIATA COUNTY  
CONSERVATION DISTRICT



Center for Dirt and Gravel Road Studies

### ESM Certification

To be eligible to apply for DGLVR grants, at least one person, who will oversee project implementation, is required to be ESM certified.

2024 ESM Certification Dates will be announced in early 2024.

### PROGRAM GOALS

- Stresses site-specific, long-term solutions to prevent erosion and pollution, instead of "band-aid" fixes.
- Reduces pollution while promoting sustainable unpaved roads.
- Minimal administration; limited to 2% at the state level; limited to 10% at the local level.
- Emphasis on informed local control and environmental soundness puts decision-making at local level.
- Adherence to program values assured through central training, technical assistance, and quality control.
- Uses a computerized GIS system used for project tracking and central reporting with minimal paperwork

## Dirt, Gravel, & Low Volume Roads Program

### ESM PRACTICES

- Headwalls & Endwalls
- Cross Pipes
- Shallow Cross Pipes
- French Mattress
- Under Drains
- High Water Bypass
- Stream Culverts
- Bankfull
- Grade Control
- Stream Bed Restoration
- Flood Plain Resiliency
- Driving Surface Aggregate
- Crown & Cross Slopes
- Broad Based Dips
- Conveyor Belt Diversions
- Bank Benches
- "Through-the-bank" Pipes

### GRADER BLADE RENTAL

Carbide Tooth Grader Blade to maintain DSA! Contact the District to reserve. \$10/day fee.



**Ernie's Road, Monroe Township.** Project installed 650 ft of underdrain, 2 new pipes, and 4 headwalls and endwalls. Total project value and grant: \$31,800.

### 2023 DGLVR Contracts

Dirt & Gravel Roads: 3 Contracts, 2 Townships  
Total DGR Grant Funding: \$ 231,861.51

Low Volume Roads: 5 Contracts, 4 Townships  
Grant Funding: \$249,192.24 Spring, \$55,108.69 Fall  
Total LVR Grant Funding = \$304,300.93

**Total DGLVR Grants in 2023: \$536,162.44**



**Goldie Hollow 1, Greenwood Township.** Infiltration bed to control groundwater seeps. Project value: \$124,700, Grant funds: \$98,500, Township funds: \$26,200

### Better Roads, Cleaner Streams

PA's Dirt Gravel and Low Volume Roads (DGLVR) Program provides local road-owning entities with grant funding for road and environmental improvements on unpaved and low-volume paved roads.



JUNIATA COUNTY  
CONSERVATION DISTRICT



Center for Dirt and Gravel Road Studies

DGLVR Program flyer updated annually for Township COG Meeting held in November.

Overall Program goals and Juniata CCD program specifics.

Side note:  
Always say "Thank You!" to your program participants.

Flyer credits: Juniata CCD

# Participate in Existing Outreach Events



## Allegheny

- Tabling events and presentation Events
  - **Allegheny League of Municipalities Conference**
    - High participation of municipal leaders and their elected officials. Conference focuses on municipal services from equipment to bookkeeping to grant opportunities





# Participate in Existing Outreach Events



## Allegheny

- Tabling events and presentation events
  - **Three Rivers Wet Weather Conference**
    - Stormwater conference, well attended by engineers and other stormwater management professionals
  - **Council of Government Events (COGs) and Multi-Municipal Organizations**
    - Lunch and Learns at meetings or participation in annual events like a Managers Breakfast

# Participate in Existing Outreach Events



## Juniata

- Tabling events and presentation Events
  - **Local Council of Government (COG) meeting**
    - Table event with handouts about local program
    - Other “hot topics” from District
    - Always have some kind of handout, even if it is just candy
    - Usually give a presentation
      - Anywhere from 15-30 minutes
  - **Juniata County Fair**
    - Special write up for each program
    - Retractable Display



# Organize your Own Events



## Allegheny

- **Open House**

- Engineers Open House – cross educational event for engineers to learn about DGLVR and the 102/105 program with lunch and networking



# Organize your Own Events



## Allegheny

- **Lunch and Learns**

- Municipal engineering firms intro to DGLVR programming
- Municipal outreach lunches in target watersheds

- **Webinars**

- Erosion and Sediment Control Webinar Series (typically features one DGLVR focused presentation)
- Special topic webinar (landslides, stream crossings, project highlight)

- **Field Exhibitions**

- Ribbon cuttings
- Field days
- Regional municipal invites to a specific project

# Organize your Own Events



## Juniata

- **Municipal Meetings**

- Explain **YOUR** program
- Highlight any practices that need more attention on your local program

- **Field Days**

- Chance for municipal officials to proudly show off their work
- Explain what the pre-existing conditions are and why the proposed plan was chosen
- Allow time for the municipal officials to speak and offer words of wisdom about their projects and the program!



# Organize your Own Events



*Project created in partnership with:*

*Monroe Township  
State Conservation Commission*

*Center for Dirt and Gravel Roads Studies*

*Juniata County Conservation District*

*Guests:*

*Contech Engineered Solutions*

*LB Water*



JUNIATA COUNTY CONSERVATION DISTRICT

## POSSUM ROAD

**DIRT & GRAVEL  
ROADS**

**PROJECT SHOW CASE**

**ALUMINUM  
(BOTTOMLESS!) BOX  
CULVERT**

**FIELD DAY**

*Please see attached maps for directions*



JUNIATA COUNTY CONSERVATION DISTRICT

**THURSDAY,**

**NOVEMBER 5<sup>TH</sup>, 2015**

COME AND GO AS YOU PLEASE BETWEEN

**10 AM AND 2 PM**

LUNCH WILL BE PROVIDED

**PLEASE RSVP BY  
OCTOBER 31<sup>ST</sup>, 2015**

[LORI-GLACE@JUNIATACCD.ORG](mailto:LORI-GLACE@JUNIATACCD.ORG)

OR

**TO DEB DRESSLER AT  
(717) 436 - 8953 EXT 5**



### Project Overview

Project replaced an undersized, collapsing stream culvert with a bottomless aluminum box culvert. There were gravel bars formed above the pipe inlet and a large scour hole at the pipe outlet. The stream would overflow the pipe and wash road material into the surrounding fields.

The project including replacing the undersized pipe (7' span) with the new aluminum bottomless box culvert (15' 4" span) and adding a high water bypass lined with geocell to promote a stable high water overflow. The bottomless structure also promotes aquatic organism passage.

Estimated\* Project Total: \$50,185.<sup>00</sup>

\*Final project invoices are still coming in/pending.

# Organize your Own Events



## 2018 Cumberland County Field Day

### Beetem Hollow Road Cold Springs Road

#### 1. Beetem Hollow Road 4, Penn Township: Contracted Project, LVR, \$135.5K + 66K In-kind

- Existing Structure: 6'10" x 4'10" squash metal pipe
- Bankfull Channel Width: 13'8"
- New Structure:
  - Size: 14 ft wide x 6 ft deep x 60 ft long
  - Type: Bottomless Box Culvert
  - Other Notes: extended inlet and outlet and stream restoration considerations



#### 2. Beetem Hollow 2, Penn Township: Completed Project, LVR, \$ 138K Grant + \$43.5K In-kind

- Part 1: Box Culvert:** \$69.5K Grant; 21.7K In-kind
- Existing Structure: 4ft round concrete pipe
  - Bankfull Channel Width: 12 ft
  - New Structure:
    - Size: 12 ft wide x 6 ft deep x 36 ft long
    - Type: Open Bottom Box Culvert
    - Other notes: Box sits on precast footers buried by ~ 2 ft of material.
- Part 2: Drainage:** \$68.5K Grant, 21.8K In-kind
- Wet road base, spring seeps in both ditches
  - 500 ft French Mattress
  - 800 ft of Underdrain (400 ft on each side of road)
  - Paved over French Mattress
  - new cross pipe 35" x 24" metal



#### 3. Cold Springs Road, Dickinson Township: On-going Project. So far: \$344K Grant + \$43K In-kind

- 2.4 Mile Project
- 43 Shallow Cross Pipes with Turn outs
- 23 cross pipes in 2016, 20 cross pipes in 2017
- 1,200 ft of underdrain
- 10,000 tons of shale to build base and crown
- 2,795 tons of DSA on top mile of road



### Beetem Hollow 2 Penn Township

Status: Completed  
Length: 800 ft

Construction: Aug 2017  
Contract: \$138K

#### Summary:

Under-sized culvert would overflow, which would cause the water to flow down the road and wash away the 8-4 stones in the ditch. Spring seeps along both sides of the road and water in the base of the road caused the pavement in the center of the road to also fail. This road is a dead end road, which created a huge challenge for construction of this culvert. Penn Township, in partnership with Dickinson Township, Cooke Township, and South Newton Township constructed the box culvert in 3 days!

#### Solutions:

- Stream Pipe: New 12 ft x 6 ft open-bottom concrete box culvert installed, with pre-cast footers and wing walls
- 800 ft of udrain to transfer spring seeps
- 500 ft French Mattress to dry out road base, connected to udrain and pavement over French Mattress
- New cross pipe for small feeder stream (35"x24")



### Cold Springs Road Dickinson Township

Status: In Progress  
Length: 12,600 ft

Construction: 2016-2019  
Contract: \$344K

#### Summary:

This is a multi-phased, multiple year project that started in 2016. The entire project site is 2.4 miles long. Before work began on this project, the road was very rutted and almost impassable. Water would channelize in the wheel ruts and bypass the existing drainage pipes. The township added a lot of material before the first phase of the project started in summer 2016 with drainage work.

#### Solution:

##### Phase 1, 2016: 23 Shallow Cross Pipes

- Shallow cross pipes installed on a sharp angle to help direct the water into the pipe—cut the inlet of pipe
- Create a water break to keep the water from continuous flow down the road

##### Phase 2, 2017: 20 Shallow Cross Pipes and 1200 feet of udrain

- Ground water table rose and we found lots of water!
- 2.4 miles of Shale (10,000 tons)

##### Phase 3, 2018: Additional underdrain (Township in-kind) and 2.4 miles of Shale (10,000 tons)

- Three separate areas had ground water pumping springs in the middle of the road!
- Added 10,000 tons of material to base and established 4-6% crown

##### Phase 4, 2018: 2,795 tons Driving Surface Aggregate

- Paver placed on 5,875 ft of road, 6" loose material compacted to 4.5" with 5% crown

##### Phase 5, 2019: DSA on rest of road?



# Publicity



## Allegheny

- Case Studies (project write ups)
- Connect with local media (Newspapers or media teams)
- Invite elected officials (county executive or elected officials) to the final walk-through



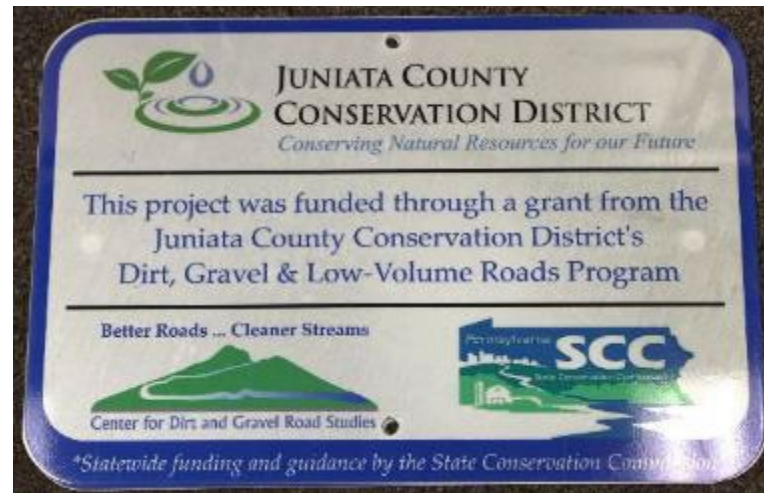


# Publicity



## Juniata

- Celebration Ceremonies
- Project Showcases
- Social Media
- Newsletters
- Annual Reports
- Website
- Newspaper Articles



### DIRT AND GRAVEL & LOW VOLUME ROADS

**2023 Highlights**

<p><b>North Ridge Road, Fermanagh Township:</b> Replaced undersized, double pipes with a 15'1" x 5'0" aluminum plate arch box culvert. <b>Project value: \$121,000</b> Grant: \$100,000, Township: \$21,000.</p>	<b>2023 DGLVR Projects and Funding:</b>  <b>Dirt &amp; Gravel Roads:</b> Three (3) contracts, Two (2) townships Total DGR Grant Funding: \$311,061.51
<p><b>Ernie's Road, Monroe Township:</b> Installed 650-ft of underdrain, two (2) new pipes, and four (4) headwalls and end walls. <b>Project value: \$31,800</b></p>	
<p><b>Goldie Hollow 1, Greenwood Township:</b> Installed an infiltration bed to control groundwater seeps, two (2) cross pipes, and 750 feet of underdrain. <b>Project value: \$123,600</b> Grant: \$98,600, Township: \$25,000</p>	

PA's Dirt/Gravel and Low Volume Road Maintenance Program provides funding to reduce stream pollution caused by runoff and sediment from unpaved and low volume public roads. Enacted into law in April 1997 as Section 9106 of the PA Vehicle Code, the goal of the program is to create a more environmentally and economically sustainable low volume road network through education, outreach, and project funding.



## Questions?

### Sherril Law

- Conservation Program Specialist
- DGLVR Program
- State Conservation Commission
- office: 223-666-2567
- cell: 717-480-2303
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### Lori Glace

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- **Juniata County Conservation District**
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Mifflintown, PA 17059
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(phone will be updated soon)
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### Riley Kinney

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