



READING TOWNSHIP
ADAMS COUNTY
50 Church Rd., East Berlin, PA 17316
717-624-4222
www.adamscounty.us/munic/readingtownship

GRADING PLAN, AS-BUILT PLAN STORMWATER MANAGEMENT PLAN AND EROSION & SEDIMENT POLLUTION CONTROL PLAN

NOTE: If you are applying for Grading, Stormwater Management or Erosion & Sediment Pollution Control Plan for a Single Family Home, please use the *Residential Permit Application*.

The regulations as governed by Reading Township Ordinance # 2014-01 and Stormwater Management and Erosion & Sediment Pollution Control Plan Resolution # 2018-19.

Name of Owner: _____ Date of Application: _____

Address of Owner: _____

City: _____ State: _____ Zipcode: _____

Owner's Phone #: _____ Owner's Email Address: _____

Tax Parcel # _____ Lot # _____ Name of Subdivision: _____

Address or Approximate Location of Site: _____

[] STORMWATER MANAGEMENT PLAN (Check appropriate Tier level)

- Tier 1 Impervious coverage less than 1,000 sq. ft.
- Tier 2 Impervious coverage greater than 1,000 sq. ft., but less than 5,000 sq. ft. and can be "disconnected"
- Tier 3 Impervious coverage greater than 1,000 sq. ft., but less than 5,000 sq. ft. and cannot be "disconnected"
- Tier 4 Impervious coverage greater than 5,000 sq. ft.

One copy shall be forwarded to the Township Engineer for review, if required
A completed (signed) Municipal Stormwater Management Worksheet is also required

EROSION and SEDIMENT POLLUTION CONTROL PLAN (Check Tier Level)

- Tier 1 Disturbed area will be less than 5,000 sq.ft.
- Tier 2 Disturbed area will be greater than 5,000 sq.ft. but less than 1.0 acre submitting also a Tier 2 Stormwater Application.
- Tier 3 Disturbed area will be greater than 5,000 sq.ft. but less than 1.0 acre submitting also a Tier 3 Stormwater Application and/or general earth disturbance activities without new impervious coverage being created.
- Tier 4 Disturbed area will be greater than 1.0 acre.

GRADING PERMIT

A separate plan is required for each grading permit. Three copies of the proposed plan, including specifications and development schedules, shall be submitted. One copy shall be forwarded to the Township Engineer. The Erosion and Sediment Pollution Control Plan as outlined above may be applicable. Where approval by the Adams County Conservation District is required, evidence shall be provided in accordance with the Adams County Conservation District application to indicate that submission has been made and the approval will be forthcoming.

FEES:

Stormwater Management Review Fee:

- Tier 1 \$50.00 (Non-Refundable)
- Tier 2 \$75.00 (Non-Refundable)
- Tier 3 \$250.00 (Non-Refundable)
- Tier 4 Invoiced on "time and materials" basis, per current Township Engineer Fee Schedule

Erosion and Sediment Pollution Control Plan Fee:

- Tier 1 \$50.00 (Non-Refundable)
- Tier 2 \$50.00 (Non-Refundable)
- Tier 3 \$250.00 (Non-Refundable)
- Tier 4 No Fee (Review to be provided by Adams County Conservation District)

(Continued on next page)

[] Grading Plan Permit & As-Built Plan Review Fee:

Fee \$400.00 (Non-Refundable)

Note: Depending on the extent and scope of grading activities proposed, additional engineering fees may be applicable and will be invoiced on "time and materials" basis, per current Township Engineer Fee Schedule and must be paid by applicant as per Resolution #2018-19.

Paid: \$ _____ Date: _____ [] Check # _____ [] Cash: Receipt # _____
Paid: \$ _____ Date: _____ [] Check # _____ [] Cash: Receipt # _____
Paid: \$ _____ Date: _____ [] Check # _____ [] Cash: Receipt # _____

Signature: _____ Date: _____

Municipal Stormwater Management Worksheet

For Municipal Use and Record of Project Area

Property Owner's Name _____

Address of Property _____

Parcel ID # _____ Municipality _____

Phone Number _____ New Impervious Area Associated with this Project _____

Stormwater Project Type: Exempt Minor Plan Project Requires Formal SWM Plan

Total New Impervious Area Since Adoption of SWM Plan _____

Acknowledgement - I declare that I am the property owner, or representative of the owner, and that the information provided is accurate to the best of my knowledge. I understand that stormwater may not adversely affect adjacent properties or be directed onto another property without written permission. I also understand that false information may result in a stop work order or revocation of permits. Municipal representatives are also granted reasonable access to the property for review and/or inspection of this project if necessary.

Signature _____ Date _____

Step 1: Determine the amount of new impervious area created by the proposed project. This includes any new surface areas that prevent infiltration of stormwater into the ground. New stone and gravel areas are considered impervious. Impervious areas existing before November 23, 2011 are not included in this calculation. Use additional sheets if necessary

Calculate new impervious area by completing this table.

Surface	Length (ft)	X	Width (ft)	=	Impervious Area (ft ²)
Buildings		X		=	
Driveway		X		=	
Parking Areas		X		=	
Patios/ walkways		X		=	
Other		X		=	
Total Proposed Impervious Surface Area (Sum of all Impervious areas)					

- If the total new impervious surface area is up to 1,000 ft², the project is exempt from the requirement to submit a plan for approval. Sign Acknowledgement and file this sheet with municipality.
- If total impervious surface area is 1,001 ft² to 10,000 ft², continue to Step 2.
 - If project area can be entirely disconnected, sign Acknowledgement and file worksheets with municipality.
 - If project is between 1,000 ft² and 5,000 ft² and requires BMPs, complete step 3.
 - If project area is 5,000 ft² - 10,000 ft² and can't be disconnected, the project does not qualify for the Simplified Approach.



Adams County Conservation District

670 Old Harrisburg Road
Suite 201
Gettysburg, PA 17325-3404

Phone (717) 334-0636 Fax (717) 337-0730
www.adamscounty.us

BASIC CHECKLIST FOR INFORMING THE PUBLIC ABOUT REQUIREMENTS PERTAINING TO EARTH DISTURBANCE ACTIVITIES IN PA

1. Will the project involve an earth disturbance activity? Yes, No (circle one)
2. If yes, what is the approximate size of the earth disturbance activity in sq ft? _____
3. Does the project involve earth disturbance activities greater than 5000 sq ft but below one acre?
YES NO If YES, a written e&s plan is required. Refer to "typical" for general guidance
4. Could the project have a sum total of 1 or more acres of earth disturbance over the entire life of the project? YES NO If YES, you should inform the applicant to contact the Conservation District to obtain an NPDES construction permit application.
5. Does the proposed project involve earth disturbance activities in, along or adjacent to Waters of this Commonwealth? YES NO If YES, contact the Conservation District

Definitions -taken from the Ch. 102 (erosion and sediment control regulations):

Earth disturbance activity -- a construction or other human activity which disturbs the surface of the land, including, but not limited to, clearing and grubbing, grading, excavations, embankments, land development, agricultural plowing or tilling, timber harvesting activities, road maintenance activities, mineral extraction, and the moving, depositing, stockpiling, or storing of soil, rock or earth materials

Waters of this Commonwealth -- rivers, streams, creeks, rivulets, impoundments, ditches, watercourses, storm sewers, lakes, dammed water, wetlands, ponds, springs and other bodies or channels of conveyance of surface and underground water, or parts thereof, whether natural or artificial, within or on the boundaries of this Commonwealth

**** For earth disturbance activities of less than 5000 sqft, erosion and sediment control best management practices shall still be incorporated into the project.

Your signature implies that the municipality has provided you with an erosion and sediment control (e&s) checklist. This checklist was prepared by the Adams County Conservation District (District). The checklist was developed in order to bring public awareness to the basic requirements pertaining to earth disturbance activities.

It should also be noted that the District has legal authority to enter onto properties to perform inspections of earth disturbance activities.

Print name: _____

Signature: _____

Witnessed by: _____

Date: _____

*The Municipality should provide the applicant a copy of the signed document.

Municipal Stormwater Management Worksheet

Step 2: Determine Disconnected Impervious Area (DIA). All or parts of proposed impervious surfaces may qualify as Disconnected Impervious Area if runoff is directed to a pervious area that allows for infiltration, filtration, and increased time of concentration. The volume of stormwater that needs to be managed could be reduced through DIA. Prepare a minor stormwater site plan (see pg. C-5 for requirements).

Criteria

- Overland flow path from the discharge area or impervious area has a positive slope of 5% or less.
- Contributing area to each rooftop discharge (downspout) is 500 ft² or less.
- Soils are not classified as hydrologic soil group "D".
- The receiving pervious area shall not include another person's property unless written permission has been obtained from the affected property owner.

Partial Rooftop Disconnection		
Length of Pervious Flow Path (ft) <small>(lots ≤ 10,000 ft²)</small>	Length of Pervious Flow Path (ft)	DIA Credit Factor
35 or more	75 or more	0
30 - 34.9	60 - 74	0.2
23 - 29.9	45 - 59	0.4
16 - 22.9	30 - 44	0.6
8 - 15.9	15 - 29	0.8
0 - 7.9	0 - 14	1.0
<small>Pervious flow path must be at least 15 feet from any impervious surface</small>		

Paved Disconnection Criteria: Paved surfaces (driveways, walkways, etc.) and gravel can be considered disconnected if it meets the criteria above and:

- Runoff does not flow over impervious area for more than 75 feet.
- The length of overland flow is greater than or equal to the contributing flow path.
- The slope of the contributing impervious areas is 5% or less.
- If discharge is concentrated at one or more discrete points, no more than 1,000 ft² may discharge to any one point. In addition, a gravel strip or other spreading device is required for concentrated discharges. Non-concentrated discharges along the entire edge of paved surface must include provisions for the establishment of vegetation along the paved edge and temporary stabilization of the area until the vegetation is established.
- If these criteria can be met, the DIA credit = 0

Using the calculations from Step 1, complete the table below. This will determine the impervious area that may be excluded from the area that needs to be managed through stormwater BMPs. If the total impervious area to be managed = 0, the area can be considered entirely disconnected.

Surface	Proposed Impervious Area	X	DIA Credit	Impervious Area (ft ²) to be Managed
Buildings (area to each downspout)		X	=	
Driveway		X	=	
Parking Areas		X	=	
Patios/ walkways		X	=	
Other		X	=	
Total Proposed Impervious Surface Area to be managed (Sum of all impervious areas)				

If total surface area to be managed is greater than 0, continue to Step 3.

Municipal Stormwater Management Worksheet

Step 3: Calculate the volume of stormwater runoff created by proposed impervious surfaces or see Simple BMP Sizing in Step 4.

Impervious Area (ft ²) to be Managed (Sum of Step 2)	X	3.0 in/12 in = 0.25 (3.0 in is 2-year 24-hour rainfall amount)	=	Amount of Stormwater to be Managed (ft ³)
	X	0.25	=	

Best Management Practices need to be used to manage the volume of stormwater created by the proposed impervious areas. The cubic feet of stormwater that need to be managed may also be further reduced by planting new trees. If the criteria below can be met, the amount of stormwater to be managed can be reduced per the following:

Deciduous Trees = 6 ft³ per tree Evergreen Trees = 10 ft³ per tree

Criteria:

- Trees must be PA native species (See PA Stormwater BMP Manual for a list)
- Trees shall be a minimum 1" caliper tree and 3 feet tall shrub (min)
- Trees shall be adequately protected during construction
- No more than 25% of the required capture volume can be mitigated through the use of trees
- Dead trees shall be replaced by the property owner within 12 months
- Please consider the specifications for each tree species when determining location and spacing

Amount of Stormwater to be Managed (ft ³) (Sum of Step 3)	-	Tree Planting Credit (ft ³)	=	Amount of Stormwater to be Managed (ft ³)
	-		=	

Step 4: Select BMPs and size according to the volume of stormwater that needs to be managed. The Guide to Choosing Stormwater BMPs, included in the Simplified Approach, includes sizing calculations for specific techniques. *Simple BMP Sizing* - Sizing BMPs may also be simplified through the use of this chart. Take the sum of Step 2 and match it to the "Amount of New Impervious Area to be Managed" in white boxes in the table below (rounding up to the next value if the number is between two values). Then look in the light grey box to determine the cubic footage based on the type of BMP (bioretention or infiltration). For example, if a proposed 1,000 square foot impervious area must handle 240 cubic feet of stormwater in a bioretention system, a 13' x 13' x 1.5' rain garden or a 36' x 2' x 3.5' vegetated swale could be used. Show the location and size of proposed BMPs on the minor stormwater site plan. (The following was based on a chart from the Lycoming Co. Planning Dept)

BMP Type		Simple BMP Sizing - Amount New Impervious Area to be Managed (ft ²)											
		250	500	750	1000	1500	2000	2500	3000	3500	4000	4500	5000
Bioretention	Ex. Rain garden, Vegetated swale	60 ft ² or	120 ft ² or	180 ft ² or	240 ft ² or	360 ft ² or	480 ft ² or	600 ft ² or	720 ft ² or	840 ft ² or	960 ft ² or	1,080 ft ² or	1,200 ft ² or
	Ex. Dry well, Infiltration trench	180 ft ²	360 ft ²	540 ft ²	720 ft ²	1,080 ft ²	1,440 ft ²	1,800 ft ²	2,160 ft ²	2,520 ft ²	2,880 ft ²	3,240 ft ²	3,600 ft ²

Bring the worksheets, plan, Owner Acknowledgement, and BMP Facilities and Maintenance Agreement (if applicable) to your municipality. If an area greater than 5,000 square feet of earth is disturbed, an erosion and sedimentation (E & S) control plan must be prepared. The municipality may require that the E&S plan be submitted to, reviewed, and approved by the Adams County Conservation District.

Municipal Stormwater Management Worksheet

The minor stormwater site plan assists the owner / applicant in preparing the necessary information for the municipality to review and approve.

OWNER ACKNOWLEDGMENT

(Municipality may decide if the Owner Acknowledgement should be notarized and/or recorded, based on municipal process)

- Development activities shall begin only after the municipality approves the plan.
- The installed BMPs will not adversely affect any property, septic systems, or drinking water wells on this or any other property.
- If a stormwater management alternative to the approved minor stormwater site plan is used, the applicant will submit a revised plan to the municipality for approval. If a site requires a more complex system or if problems arise, the applicant may need the assistance of a licensed professional.
- The applicant acknowledges that the proposed stormwater management BMPs will be a permanent fixture of the property that can not be altered or removed without approval by the Township.

I (we) _____, hereby acknowledge the above statements and agree to assume full responsibility for the implementation, construction, operation, and maintenance of the proposed stormwater management facilities. Furthermore, I (we) also acknowledge that the steps, assumptions, and guidelines provided in this simplified approach package (minor stormwater site plan & Municipal Stormwater Worksheet(s)) will be adhered to.

Signature: _____

Date: _____

Signature: _____

Date: _____

All Applications must include a sketch of the premises showing actual or proposed location of wells/water supply, buildings, septic or holding tanks drain fields, boundary lines, storm drains, sanitary sewers, sewage disposal fields, sewage seepage pits, cesspools, privies, fuel tanks, storm water easements, driveways and waterways. Scale Used: 1 Block = _____ feet.

