

**ORDINANCE 2022-08
APPENDIX A**

**SIMPLIFIED APPROACH TO
STORMWATER MANAGEMENT
FOR SMALL PROJECTS**

Appendix A

Simplified Approach to Stormwater Management for Small Projects

**Appendix A.1 –
Applicability, Submittal and Approval Requirements**

**Appendix A.2 –
*“Simplified Approach to Stormwater Management for Small
Projects – Handbook” (Revised July 26, 2022)***

Appendix A.1
Applicability, Submittal and Approval
Requirements

Westtown Township
Chester County, Pennsylvania

Applicability:

- Small projects with less than 2,000 square feet of Regulated Impervious Surfaces (as defined in the Municipality’s Stormwater Management Ordinance) and with less than 10,000 square feet of proposed Earth Disturbance (as defined in the Municipality’s Ordinance) may apply the “Simplified Approach to Stormwater Management for Small Projects” (Simplified Approach).
- Only projects that meet the above size thresholds as specified in the Municipality’s Stormwater Management Ordinance may use this Simplified Approach and are then not required to submit a fully engineered Stormwater Management Site Plan to the Municipality. However, these projects are still required to address water quality and infiltration requirements as outlined in the Simplified Approach “Handbook”. This Handbook is intended to aid applicants in addressing these requirements through the installation of a properly sized underground infiltration trench.
- Any project with more than 2,000 square feet of Regulated Impervious Surface or more than 10,000 square feet of proposed Earth Disturbance can NOT apply this Simplified Approach.
- The Applicant should first review the planned project with the Municipal Engineer prior to initiating the Simplified Approach to confirm the following:
 - That the proposed project is not otherwise exempt from the stormwater management control and the engineered Stormwater Management Site Plan requirements of the Municipality’s Stormwater Management Ordinance;
 - That the proposed project is eligible to use this Simplified Approach;
 - Which components of the proposed project must be included in the calculation of “impervious surfaces (areas)”; and
 - Whether any local conditions are known to the Municipal Engineer that would preclude the use of any of the techniques included in this Simplified Approach.

Submittal and Approval Requirements:

Use of the Simplified Approach requires:

- The applicant to submit the following to the Municipality for review and approval prior to beginning construction per the Simplified Approach Handbook:
 - Simplified Approach – Stormwater Management Application
 - Simplified Approach – Stormwater Management Checklist
 - Simplified Approach Stormwater Management Site Plan (i.e., sketch plan)
 - A completed, signed, and notarized “Simplified Operation, Maintenance and Inspection Plan and Agreement”.
- The applicant is to record the “Simplified Approach – Stormwater Best Management Practices Operation, Maintenance and Inspection Plan and Agreement” at the Chester County Office of the Recorder of Deeds after signature by the Municipality.
- A final inspection conducted by the Municipality after completion of construction.

Appendix A.2
Simplified Approach to Stormwater Management
for Small Projects - Handbook

Simplified Approach to Stormwater Management for Small Projects

Handbook

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**for:
Westtown Township
in coordination with the Township as part of the
County-wide Act 167 Stormwater Management Plan for Chester County, PA**

Revised Date: July 26, 2022

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Introduction

Pennsylvania's Storm Water Management Act (PA Act 167) was enacted in 1978 in response to the impacts of the accelerated stormwater runoff resulting from land development in the state. PA Act 167 requires counties to prepare and adopt watershed-based stormwater management plans. Municipalities are also required to adopt and implement ordinances to regulate development consistent with these plans. The purpose of these regulations is to protect public health, safety and general welfare, property values, and water quality and quantity by implementing drainage and Stormwater Management practices, criteria, and provisions for land development, construction, and Earth Disturbance Activities.

PA Act 167 gave Pennsylvania Municipalities the power to regulate activities affecting flooding, streambank erosion, stormwater runoff, and surface and groundwater quality and quantity. The Municipality's Stormwater Management Ordinance was prepared to comply with the provisions included in PA Act 167. This Ordinance also includes provisions allowing this Simplified Approach to Stormwater Management to be used for small projects.

This Handbook has been developed to allow homeowners or applicants for small projects to comply with stormwater management requirements of the Stormwater Management Ordinance of the Municipality, including sizing, designing, locating, and installing on-lot measures, referred to herein as "Best Management Practices" (BMPs). Only projects that meet the size thresholds specified in the Municipality's Stormwater Management Ordinance may use this Simplified Approach and are then not required to submit a formal fully engineered Stormwater Management Site plan to the Municipality. However, these projects are still required to address certain requirements, such as stormwater quality, infiltration, rate, and volume management goals as outlined in this Simplified Approach Handbook. This Handbook is intended to aid applicants in addressing these requirements through the installation of a properly sized underground infiltration trench.

The purpose of requiring effective stormwater management from small projects is to help reduce stormwater runoff in the community, to maintain groundwater recharge, to prevent degradation of surface and groundwater quality, and to otherwise protect water resources and for public safety.

1.0 Project Eligibility for the Simplified Approach

To be eligible for the Simplified Approach, projects must meet the threshold, roof area, and BMP type requirements described below. It is recommended that prior to submission of an application utilizing the Simplified Approach, a meeting should be scheduled with the Municipal Engineer to confirm eligibility and review the application process. It shall be noted that the plan approval shall not be considered at this meeting.

Threshold

Small projects with 1,000 to 2,000 square feet of Regulated Impervious Surface (as defined in the Municipality's Stormwater Management Ordinance) and/or with 5,000 to 10,000 square feet of proposed Earth Disturbance (as defined in the Municipality's Stormwater Management Ordinance) may apply the Simplified Approach. Regulated Impervious Surface includes

Proposed Impervious Surface as part of a current proposed project and all existing Impervious Surfaces installed after December 16, 2013.

Only projects that meet the above size thresholds as specified may use this Simplified Approach and are then not required to submit a formal Stormwater Management Site Plan to the Municipality. However, these projects are still required to address water quality and infiltration requirements as outlined in this Appendix A.

Any project with more than 2,000 square feet of Regulated Impervious Surface or more than 10,000 square feet of proposed Earth Disturbance **cannot** apply this Simplified Approach.

Starting on December 16, 2013, projects and Impervious Surfaces were measured cumulatively. If an applicant completes a project this year that qualifies for the Simplified Approach, but then proposes to complete a second project next year, and the total Impervious Surface for the two projects exceeds the applicable threshold for the Simplified Approach, a fully engineered Stormwater Management Plan for the entirety of the two projects will be required.

Roof Area

For a project to be considered for utilizing the Simplified Approach, sufficient roof area must be available, either existing or proposed, so that the roof area being conveyed to the stormwater BMP (underground infiltration trench) is of equivalent or greater area than the Regulated Impervious Surface proposed, including existing Impervious Surface(s) installed after December 16, 2013. Impervious Surface is defined in § 144-202. Plans proposing capturing and conveyance of overland flow will not be considered. Sizing of the bed shall be in accordance with Sheet 3C of the Simplified Approach Stormwater Management Plan Packet (Section 5.0 below) and shall be based upon the actual roof area being conveyed to the bed, not the Regulated Impervious Surface.

BMP Type

The only stormwater BMP allowable under the Simplified Approach is the stormwater underground infiltration trench referenced in the Simplified Approach Stormwater Management Plan Application Packet. Refer to Section 5.0 below for the application packet and Section 6.0 for Example Simplified Approach Stormwater Management Site Plans. BMPs other than specifically referenced above shall require engineered plans prepared in accordance with the provisions of the stormwater ordinance.

2.0 Simplified Approach Design Procedure

All Regulated Impervious Surfaces, which include Proposed Impervious Surfaces and existing Impervious Surfaces constructed after December 16, 2013 (as defined by § 144-202 must be included in the determination of the amount of Proposed Impervious Surfaces and the size of proposed underground infiltration trench needed to control stormwater. Proposed Impervious Surfaces on an individual residential lot may include, but are not limited to: roof area, pavement, sidewalks, driveways, patios, porches, parking areas, decks, or pools. Refer to the definitions provided in Article II of the Ordinance and contact the Municipal Engineer to confirm what features of the proposed project must be included in the calculation of Regulated Impervious Surface area.

Sufficient roof area shall be available and diverted via downspout(s) to the proposed infiltration trench(es). The downspouts shall have appropriate measures to prevent clogging by unwanted debris (for example, silt, leaves and vegetation). Such measures shall include but are not limited to leaf traps, gutter guards, and cleanouts. Alternative designs, or alternative stormwater structures, shall be reviewed by the Municipal Engineer and shall be subject to the full Municipal Stormwater Ordinance.

Below are the steps that must be undertaken to meet the Ordinance requirements. The size and description of the proposed construction as well as important aspects related to the design of the BMP(s) must be documented in the Simplified Approach - Stormwater Management Worksheet. All individuals planning on using the Simplified Approach are encouraged to review the planned project with the Municipal Engineer prior to initiating the Simplified Approach to confirm the following, as the Municipal Engineer will be responsible for determining eligibility to use the Simplified Approach:

- That the proposed project is not otherwise exempt from the stormwater management control and fully engineered Stormwater Management Site Plan requirements of the Municipality's Stormwater Management Ordinance;
- That the proposed project size is within the range eligible to use this Simplified Approach;
- That sufficient roof area is available to manage and is equal to or greater than the Regulated Impervious Surface;
- Which components of the proposed project must be included in the calculation of "Impervious Surfaces"; and
- Whether any local conditions are known to the Municipal Engineer that would preclude the use of any of the techniques included in this Simplified Approach.

STEP 1 – PREPARE THE SIMPLIFIED APPROACH STORMWATER MANAGEMENT SITE PLAN THAT INCLUDES:

1. Name and address of the owner of the property.
2. Name and address of the individual preparing the plan (if different).
3. Date of plan preparation.
4. North arrow.
5. Location of all existing features within 50 feet of the property, including (if present):
 - Buildings;
 - Driveways;
 - Roads;
 - Easements;
 - Septic Systems;
 - Streams;
 - Wetlands;
 - Floodplains; and
 - Existing Stormwater Facilities.
6. Show water supply wells within 50 feet of the proposed facility or add a note that no wells are present within 50 feet of the proposed facility.

7. Location and approximate size of the roof area to be captured and diverted to the proposed BMP.
8. Location and approximate size in square feet of proposed:
 - a. Structures;
 - b. Driveways; and
 - c. Other Impervious Surfaces.
9. Location, orientation, and dimensions of the proposed underground infiltration trench(es). Length, width, and depth must be included on the plan.
10. Distance from the proposed underground infiltration trench(es) to any existing surface water features, such as: streams, lakes, ponds, wetlands, or other natural waterbodies (must be greater than 50 feet from surface water features or outside of an existing legally prescribed buffer (i.e., deed, covenants, easement, etc.), whichever is greater).
11. Distance from the proposed underground infiltration trench(es) to any existing septic system, public sewer line, or service lateral (must be greater than 50 feet unless otherwise approved by Municipal Engineer).
12. Distance from the proposed underground infiltration trench(es) to any existing wells or water service lines (must be greater than 50 feet unless otherwise approved by Municipal Engineer).
13. Distance from the proposed underground infiltration trench(es) to nearest property line (must be > 10 feet).
14. Distance from the proposed underground infiltration trench(es) to all buildings and features with subgrade elements (e.g., basements, foundation walls, etc.) must be > 10 feet.
15. Show distance from at least two existing fixed features to the proposed underground infiltration trench(es). Fixed features include, but are not limited to, corners of existing buildings, driveways, septic system cleanout pipes, and mailboxes.
16. PA ONE CALL (8-1-1 OR 1-800-242-1776) Identification Number received by calling the PA One Call system.

STEP 2 – DETERMINE PROPOSED IMPERVIOUS SURFACES:

1. Determine the total area of all Proposed Impervious Surfaces that will need to drain to one or more infiltration trench(es).
2. Determine the total area of Earth Disturbance needed to complete the project and install the infiltration trench(es).
3. Determine locations where the infiltration trench(es) need to be placed so runoff from all the Proposed Impervious Surfaces can be captured.

Example:

Garage Roof (Front)	33 feet by 25 feet	=	825 square feet
Driveway	10 feet by 26 feet	=	260 square feet
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Total Proposed Impervious Surface		=	1,085 square feet
Total proposed Earth Disturbance area		=	2,500 square feet (estimated)

STEP 3 – DETERMINE SIZE OF THE UNDERGROUND INFILTRATION TRENCH:

1. Select the appropriate value of Proposed Impervious Surface in the first column of the table below.
2. Select the width of the trench(es) to be utilized to determine the required length of the trench(es).
3. When appropriate, and when approved by the Municipal Engineer prior to submission, minimum trench length can be achieved through the use of more than one trench.

Note: Trench(es) to be constructed to dimensions indicated below. Modifications of the dimensions are not permitted if utilizing the Simplified Approach. This table is based on an overall trench depth of at least four feet, containing a minimum cover of one foot of soil cover, and three feet of stone with filter fabric, installed in accordance with the diagram included with the Simplified Approach Stormwater Management Plan Application Packet. Infiltration testing is not required when using the Simplified Approach.

Table 1.0 – Underground Infiltration Trench Sizing Table for 1,000-2,000 ft² of Regulated Impervious Surface

Regulated Impervious Surface (square feet)	4-foot wide Trench	5-foot wide Trench	6-foot wide Trench	7-foot wide Trench	8-foot wide Trench
	Length of trench (feet)	Length of trench (feet)	Length of trench (feet)	Length of trench (feet)	Length of trench (feet)
1,000	45.75	36.50	30.50	26.25	23.00
1,001 to 1,050	46.75	37.50	31.25	26.75	23.50
1,051 to 1,100	48.00	38.50	32.00	27.50	24.00
1,101 to 1,150	49.25	39.25	32.75	28.25	24.75
1,151 to 1,200	50.25	40.25	33.50	28.75	25.25
1,201 to 1,250	54.75	44.00	36.50	31.50	27.50
1,251 to 1,300	59.50	47.50	39.75	34.00	29.75
1,301 to 1,350	61.75	49.25	41.25	35.25	31.00
1,351 to 1,400	64.00	51.25	42.75	36.50	32.00
1,401 to 1,450	66.25	53.00	44.25	38.00	33.25
1,451 to 1,500	68.50	54.75	45.75	39.25	34.25
1,501 to 1,550	70.75	56.75	47.25	40.50	35.50
1,551 to 1,600	73.00	58.50	48.75	41.75	36.50
1,601 to 1,650	75.25	60.25	50.25	43.00	37.75
1,651 to 1,700	77.75	62.25	51.75	44.50	39.00
1,701 to 1,750	80.00	64.00	53.25	45.75	40.00
1,751 to 1,800	82.25	65.75	54.75	47.00	41.25
1,801 to 1,850	84.50	67.50	56.25	48.25	42.25
1,851 to 1,900	86.75	69.50	58.00	49.75	43.50
1,901 to 1,950	89.00	71.25	59.50	51.00	44.50
1,951 to 1,999	91.25	73.00	61.00	52.75	45.75

STEP 4 – SUBMISSION TO MUNICIPALITY:

1. Prepare the Simplified Approach Stormwater Management Site Plan, which consists of 4 sheets:
 - a. **Simplified Site Plan (1 of 4)**
 - b. **Infiltration Trench Detail (2 of 4)**
 - c. **Infiltration Trench Notes (3C of 4).**
 - d. **Infiltration Trench Operation & Maintenance Notes (4 of 4)**
2. Complete the **Simplified Approach – Stormwater Management Worksheet.**
3. Complete the **Simplified Approach – Stormwater Management Checklist** to ensure all required information is completed.
4. Submit the completed forms and plan to the Municipality for review and approval prior to beginning construction.
5. After the Municipality has approved the submission, a signed Operation and Maintenance Agreement will be provided to the applicant.
6. Record the Agreement at the County’s Office of Recorder of Deeds.
7. Construction can begin only after the Municipality has issued its approval of the proposed project to the applicant and the Agreement has been recorded.
8. Notify the Municipality 5 business days. prior to the start of any construction and schedule any needed inspections.
9. If the applicant is using a contractor to construct the project, the approved application including the worksheet and plan must be shared with the contractor to ensure the underground infiltration trench(es) are properly installed.

Note: Property owners building underground infiltration trenches per the Simplified Approach will need to record an Operation and Maintenance Agreement (O&M Agreement) at the Chester County Recorder of Deeds. The O&M Agreement is prepared by municipal staff (or the municipal staff may require that the applicant or its consulting engineer prepare the O&M Agreement subject to review by the municipal staff or the Municipal Engineer) using the template shown in Appendix E. An O&M Agreement is needed to ensure access, inspection, maintenance, operation, repair, and permanent protection for these stormwater management facilities.

3.0 Frequently Asked Questions

Frequently Asked Questions (FAQs) regarding the Simplified Approach and Stormwater Management are located below.

4.1 What is Stormwater Management?

Stormwater Management is the practice of managing surface water runoff from precipitation events. Stormwater Management is a way to reduce the impacts of decreasing infiltration that results from altering the land from natural conditions. The goal of stormwater management is to reduce the volume of stormwater runoff through practices that capture, infiltrate, detain, or evaporate stormwater. These practices help to improve water quality, restore groundwater recharge, and improve stream habitat. Examples of residential Stormwater Management are rain gardens, rain barrels, porous pavers, drywells, and infiltration trenches.

4.2 Why do I have to do Stormwater Management for my small project?

The new Municipal regulations, derived from Federal and State mandates, require that all property owners be responsible for managing stormwater runoff from Impervious Surfaces. All projects requiring a Zoning or Building Permit will be reviewed by the Municipality for stormwater considerations.

4.3 How does the Municipality determine if a stormwater permit is required?

Starting on December 16, 2013 projects and Impervious Surfaces were measured cumulatively. If the project, or combination of projects since December 16, 2013, will result in more than 2,000 square feet of total Regulated Impervious Surface, including Proposed Impervious Surface(s) and existing Impervious Surface(s) installed after the above referenced date, or disturbs more than 10,000 square feet, a stormwater permit and fully engineered Stormwater Management Plan will be required. Impervious Surface is defined in § 144-202.

4.4 Is the square footage of the BMP included in the Earth Disturbance calculation?

Yes. All distributed soils are to be included in the calculation for Earth Disturbance.

4.5 What if I am removing and replacing existing Impervious Surface, such as a driveway or shed?

The net change in the land cover is what will be considered for the permit. The replacement in the exact footprint replacement of an existing one- or two-family dwelling unit or existing Impervious Surface such as patios, driveways, garages, sidewalks, decks, or pools that are accessory to an existing one- or two-family dwelling unit in the exact footprint of the existing Impervious Surface are exempt from the requirements of this ordinance listed in §§ 144-301, 144-304, 144-305, 144-306, 144-307, 144-308, 144-309, and 144-310, and Articles IV, V, VI and VII of this chapter (as shown in Table 106.1).

4.7 What is the penalty if I do not apply for or follow the application process or maintenance obligations?

The Municipality has legal enforcement action defined in the Municipality's Code which may include the right to deny occupancy permits and assess fines as needed for enforcement.

4.8 Are professional engineering services necessary to meet these requirements?

This Appendix has been developed to assist the landowner in meeting the water quality and groundwater recharge goals of the Stormwater Management Ordinance. If the guidelines are followed, the landowner may not be required to utilize professional engineering services to comply with these water quality and groundwater recharge goals.

4.9 What needs to be submitted to the Municipality?

Even though an engineered Stormwater Management Plan is not required for individual lot owners opting for the Simplified Approach, a brief description of the proposed underground infiltration trench, including types of material to be used, total Impervious Surfaces and volume calculations, and a Simplified Approach Stormwater Management Site Plan shall be submitted to the Municipality prior to construction. The following information shall be submitted to the

Municipality: (1) Simplified Approach – Stormwater Management Worksheet; and (2) Simplified Approach Stormwater Management Site Plan, which consists of 4 sheets.

4.10 What is an underground infiltration trench?

An underground infiltration trench is a rock-filled trench with no outlet that receives stormwater runoff. Runoff is stored in the void space between the stones and infiltrates through the bottom and into the soil matrix. Infiltration trenches perform well for removal of fine sediment and associated pollutants. Infiltration testing is recommended to ensure soil is capable of infiltrating stormwater. Underground infiltration trenches shall incorporate or make provisions for the following elements:

- Shall be constructed after all Earth Disturbance associated with the project or site is stabilized to avoid clogging.
- Perforated pipe is to be set level.
- The width is limited to between four feet to eight feet with a fixed stone depth of three feet.
- Trench(es) shall be wrapped in nonwoven geotextile (top, bottom, and sides).
- There shall be a positive overflow that allows stormwater that cannot be stored or infiltrated to be discharged into a nearby vegetated area (clean-out or pop-up emitter).
- It is recommended that there be a two-foot clearance above the regularly occurring seasonal high-water table and have a minimum depth to bedrock of two feet.
- The underground infiltration trench shall be at least 10 feet from buildings, 10 feet from property lines, 50 feet from individual water supply wells, and 100 feet from community or Municipal water supply wells. If no well is present within 50 feet of the underground infiltration trench, a note stating such must be put on the plan.
- The underground infiltration trench shall be at least 50 feet from any septic system absorption area and 50 feet from community or Municipal Sewer lines and laterals, or as otherwise approved by the Municipal Engineer or Municipal Authority Engineer.
- The underground infiltration trench shall not be located near hotspots which are areas where land use or activities generate highly contaminated runoff, with concentrations of pollutants that are higher than those that are typically found in stormwater.
- The underground infiltration trench shall be located a minimum of 10 feet from subsurface structures such as building foundations and basements so that it does not threaten their structural integrity.
- Infiltration areas must be protected from compaction by heavy equipment during and after construction. The ratio of the collected area to the footprint of the facility shall be as small as possible with a ratio of less than 5:1 preferred.
- Where roof drains are designed to discharge to the underground infiltration trench(es), the roof drains shall have appropriate measures to prevent clogging by unwanted debris (for example, silt, leaves and vegetation). Such measures may include but are not limited to leaf traps, gutter guards, or cleanouts.
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4.11 How is an underground infiltration trench constructed?

Refer to the standard construction sequence for an underground infiltration trench as required by the Simplified Approach.

1. Contact PA ONE CALL 8-1-1 or 1-800-242-1776.
2. Protect infiltration areas from compaction by heavy equipment during and after construction.
3. Silt sock or silt fence should be installed upslope of the proposed infiltration trench and downslope of all proposed Earth Disturbance and shown on the Plan.
4. Construction of the underground infiltration trench shall only be started after all Earth Disturbance associated with the project or site is stabilized to avoid clogging.
5. Excavate the underground infiltration trench to a minimum depth of four feet. The excavated trench bottom must have uniform, level, uncompacted subgrade free from rocks and debris. Scarify the bottom of the trench, so not to compact the subgrade.
6. Place nonwoven geotextile along all the sides of the trench. Where separate pieces of geotextile meet, they shall overlap by a minimum of 18 inches. Fold back and secure excess geotextile during stone placement.
7. Place clean stone (such as: 2B, three-quarter-inch clean stone, or AASHTO #57) in the trench.
8. Install the continuously perforated pipe and cleanouts within the trench.
9. If a downspout will be connected to the system, install the piping from the downspout to the perforated trench piping. Install appropriate measures to prevent clogging by unwanted debris such as leaf traps, gutter guards, and cleanouts.
10. Backfill with clean stone to establish an overall stone depth of three feet. Fold and secure the nonwoven geotextile over the top of underground infiltration trench with an eighteen-inch overlap.
11. Place a minimum of 12 inches of topsoil over geotextile. Grading shall direct surface runoff toward the center of the trench (The Municipality will consider surface materials on a project-by-project basis).
12. Stabilize the topsoil with seed and straw mulch.

4.12 What are the maintenance requirements for an underground infiltration trench?

Vegetation along the surface of an underground infiltration trench shall be maintained in good condition, and any bare spots shall be revegetated as soon as possible. Vehicles may not be parked or driven on any underground infiltration trench, and care shall be taken to avoid excessive compaction by mowers. Any debris such as leaves blocking flow from reaching an underground infiltration trench shall be routinely moved.

4.13 What if my roof area is larger than the Regulated Impervious Surface I am proposing?

In order to utilize the Simplified Approach, the applicant must size the proposed infiltration trench for the amount of roof area directed into it, even if it is larger than the amount of Regulated Impervious Surface being proposed. This additional roof area may be “credited” toward future Proposed Impervious Surface. If the applicant were to propose additional Impervious Surface in the future and the total Regulated Impervious Surface is still less than the

roof area that the infiltration trench was sized for, additional stormwater management requirements may not be applicable if all other requirements of the Ordinance are met.

4.0 Simplified Approach Stormwater Management Plan Application Packet

The pages below include the following required elements of a Simplified Approach Stormwater Management Plan Application Packet:

- Simplified Approach – Stormwater Management Worksheet
- Simplified Approach – Stormwater Management Checklist
- Simplified Site Plan (1 of 4)
- Infiltration Trench Detail (2 of 4)
- Infiltration Trench Notes (3C of 4)
- Infiltration Trench Operation and Maintenance Notes (4 of 4)
- O&M Agreement Template

Simplified Approach – Stormwater Management Worksheet

Name of Property Owner:		Date:
Name of Applicant [If different than owner(s)]:		
Contact Phone #:	Email Address:	
Address of Project:		
Description of Project:		
Distance from Earth Disturbance to nearest surface water feature (stream, pond, wetland, etc.): <input type="checkbox"/> 50 feet or less <input type="checkbox"/> More than 50 feet		
REGULATED IMPERVIOUS SURFACES*		
Description of Proposed Impervious Surface	Dimensions [length X width]	Area (square feet)
Total Proposed Impervious Surface* (square feet): (If this is less than 1,000 feet ² , Stormwater Management is not required; if this is more than 2,000 feet ² , the Simplified Approach may not be used)		
Cumulative Total Impervious Surface Since December 16, 2013 (square) feet):		
Total Proposed Earth Disturbance Area (square feet):		
PROPOSED UNDERGROUND INFILTRATION TRENCH SIZING		
Proposed Impervious Area to Trench (square feet)	Proposed Dimensions	
1		
2		
Does the project involve new roof area? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, the downspout must be connected to the proposed Underground Infiltration Trench and must have measures to prevent clogging by unwanted debris. Indicate the measure proposed: <input type="checkbox"/> Leaf trap <input type="checkbox"/> Gutter guards <input type="checkbox"/> Cleanout <input type="checkbox"/> Other: _____		

Signature: _____ Date: _____
 Printed Name: _____

Simplified Approach – Stormwater Management Checklist

Complete the checklist below to verify all required information is shown on the plan:

Yes	No	Not Applicable	Required Information
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Name and address of the owner of the property.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Name and address of individual preparing the plan (if different).
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Date of plan preparation.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	North arrow.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Location of all existing features within 50 feet of the property, including (if present): <ul style="list-style-type: none"> • Buildings; • Driveways; • Roads; • Water Lines/Wells (or a note that no wells are present within 50 feet of the proposed facility); • Septic Systems/Sewer Mains and Laterals; • Streams, Wetlands, and Floodplains • Existing Stormwater Facilities; and • Easements.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Location and approximate size in square feet of existing roof area to be captured and diverted to the BMP.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Location and approximate size in square feet of proposed: <ul style="list-style-type: none"> • Structures; • Driveways; and
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Location, orientation, and dimensions of the proposed Underground Infiltration Trench(es). Length and width must be included on the plan.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Distance from the proposed Underground Infiltration Trench(es) to any existing surface water features, such as: streams, lakes, ponds, wetlands, or other natural waterbodies. Must be > 50 feet from surface water features or outside of an existing legally described buffer (i.e., deed, covenants, easement, etc.) whichever is greater. Contact the Municipality if this is not possible.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Distance from the proposed Underground Infiltration Trench(es) to any existing septic system, public sewer line, or lateral.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Distance from the proposed Underground Infiltration Trench(es) to any existing wells or waterlines.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Distance from the proposed Underground Infiltration Trench(es) to any existing wells or waterlines.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Show distance from at least two existing fixed features (e.g., house, shed, driveway) to the proposed Underground Infiltration Trench(es).
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PA One Call Serial Number (Dial 8-1-1 or 1-800-242-1776) to receive.

NORTH ARROW

DATE



Underground Service Alert
Call: TOLL FREE
1-800-242-1776
**THREE WORKING DAYS
BEFORE YOU DIG**

PROPERTY OWNER

NAME:
ADDRESS:

PLAN PREPARER

NAME:
ADDRESS:

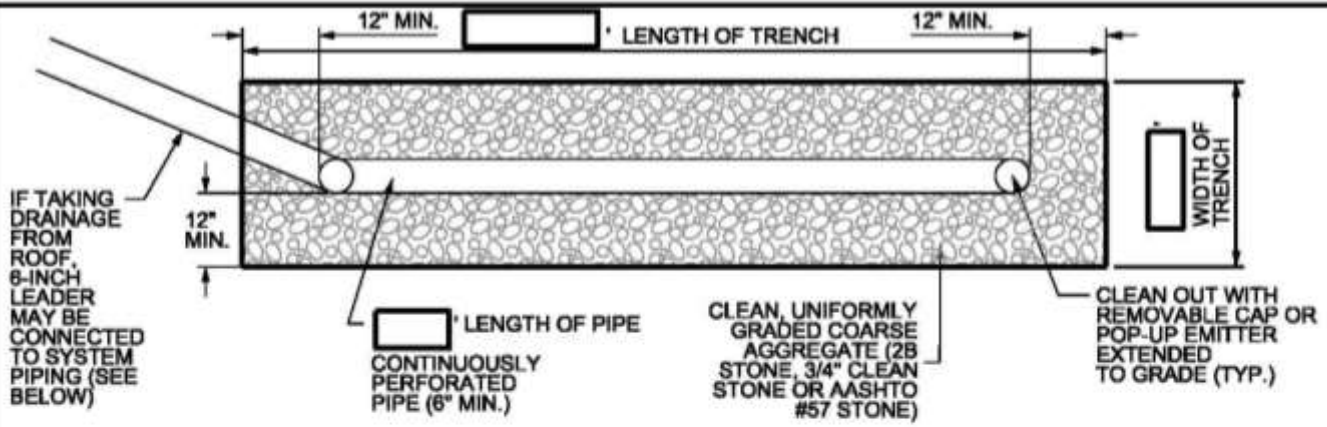
FOR USE BY MUNICIPAL ENGINEER

CHESTER COUNTY PENNSYLVANIA

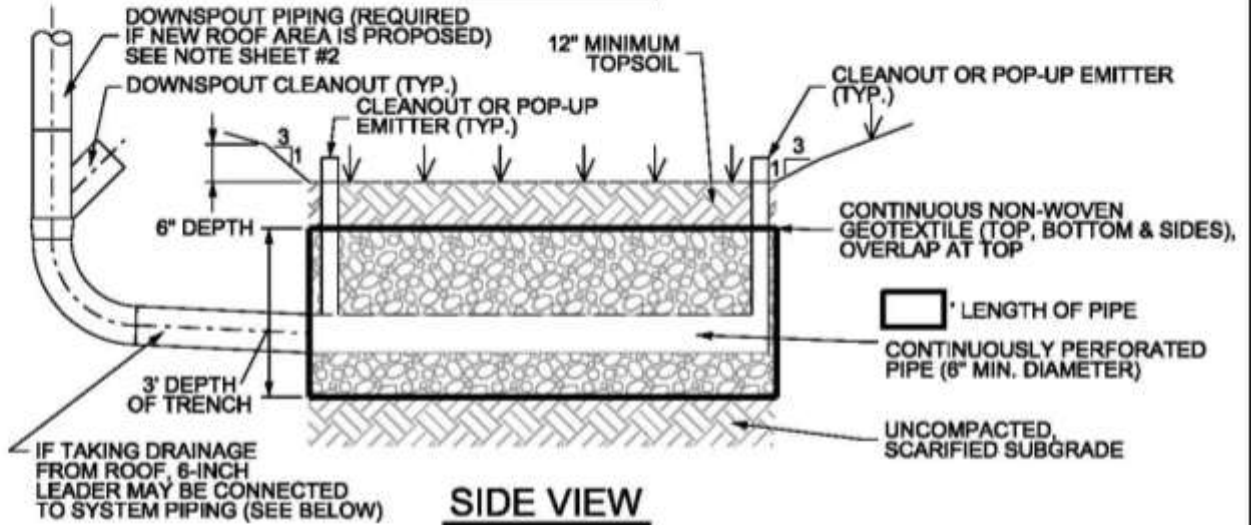
SHEET NO. 1

**SIMPLIFIED
SITE PLAN**

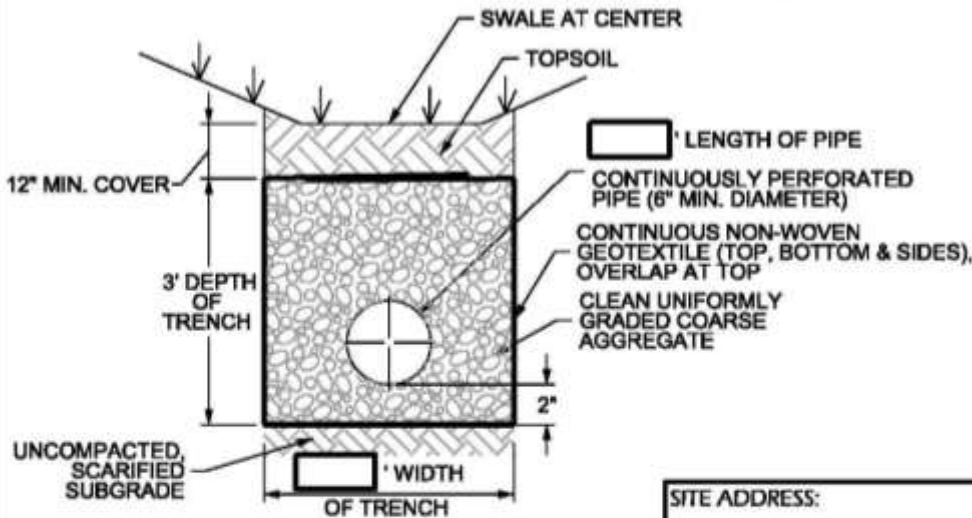
1 OF 4



TOP VIEW



SIDE VIEW



CROSS-SECTION VIEW

SITE ADDRESS:

DATE:



CEG
CEDARVILLE

159 East High Street, Suite #500 | Pottstown, PA 19464
610.705.4500 (Office) | 610.705.4900 (Fax)

SCALE:
NOT TO SCALE

CHESTER COUNTY PENNSYLVANIA

**INFILTRATION
TRENCH DETAIL**

SHEET NO. 2

2 OF 4

NOTES

§ 345-306.M: DURING SITE CONSTRUCTION, ALL INFILTRATION PRACTICE COMPONENTS SHALL BE PROTECTED FROM COMPACTION DUE TO HEAVY EQUIPMENT OPERATION OR STORAGE OF FILL OR CONSTRUCTION MATERIAL. INFILTRATION AREAS SHALL ALSO BE PROTECTED FROM SEDIMENTATION. AREAS THAT ARE ACCIDENTALLY COMPACTED OR GRADED SHALL BE REMEDIATED TO RESTORE SOIL COMPOSITION AND POROSITY. ADEQUATE DOCUMENTATION TO THIS EFFECT SHALL BE SUBMITTED TO THE TOWNSHIP ENGINEER FOR REVIEW. ALL AREAS DESIGNATED FOR INFILTRATION SHALL NOT RECEIVE RUNOFF UNTIL THE CONTRIBUTORY DRAINAGE AREA HAS ACHIEVED FINAL STABILIZATION.

§ 345-306.N: WHERE SEDIMENT TRANSPORT IN THE STORMWATER RUNOFF IS ANTICIPATED TO REACH THE INFILTRATION SYSTEM, APPROPRIATE PERMANENT MEASURES TO PREVENT OR COLLECT SEDIMENT SHALL BE INSTALLED PRIOR TO DISCHARGE TO THE INFILTRATION SYSTEM.

§ 345-306.O: WHERE ROOF DRAINS ARE DESIGNED TO DISCHARGE TO INFILTRATION PRACTICES, THEY SHALL HAVE APPROPRIATE MEASURES TO PREVENT CLOGGING BY UNWANTED DEBRIS (FOR EXAMPLE, SILT, LEAVES AND VEGETATION). SUCH MEASURES SHALL INCLUDE BUT ARE NOT LIMITED TO LEAF TRAPS, GUTTER GUARDS AND CLEANOUTS.

§ 345-306.R: THE FOLLOWING PROCEDURES AND MATERIALS SHALL BE REQUIRED DURING THE CONSTRUCTION OF ALL INFILTRATION TRENCHES:

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TRENCH LENGTH (1000-2000 SQUARE FEET OF REGULATED IMPERVIOUS SURFACE)

Impervious Surface (sf)	4' Wide Trench Length of Trench (ft)	5' Wide Trench Length of Trench (ft)	6' Wide Trench Length of Trench (ft)	7' Wide Trench Length of Trench (ft)	8' Wide Trench Length of Trench (ft)
1000	45.75	36.50	30.50	26.25	23.00
1001-1050	46.75	37.50	31.25	26.75	23.50
1051-1100	48.00	38.50	32.00	27.50	24.00
1101-1150	49.25	39.25	32.75	28.25	24.75
1151-1200	50.25	40.25	33.50	28.75	25.25
1201-1250	54.75	44.00	36.50	31.50	27.50
1251-1300	59.50	47.50	39.75	34.00	29.75
1301-1350	61.75	49.25	41.25	35.25	31.00
1351-1400	64.00	51.25	42.75	36.50	32.00
1401-1450	66.25	53.00	44.25	38.00	33.25
1451-1500	68.50	54.75	45.75	39.25	34.25
1501-1550	70.75	56.75	47.25	40.50	35.50
1551-1600	73.00	58.50	48.75	41.75	36.50
1601-1650	75.25	60.25	50.25	43.00	37.75
1651-1700	77.75	62.25	51.75	44.50	39.00
1701-1750	80.00	64.00	53.25	45.75	40.00
1751-1800	82.25	65.75	54.75	47.00	41.25
1801-1850	84.50	67.50	56.25	48.25	42.25
1851-1900	86.75	69.50	58.00	49.75	43.50
1901-1950	89.00	71.25	59.50	51.00	44.50
1951-1999	91.25	73.00	61.00	52.75	45.75

* DIMENSIONS IN THIS TABLE HAVE BEEN DETERMINED FOR MANAGING THE DIFFERENCE BETWEEN THE PRE-DEVELOPMENT AND POST-DEVELOPMENT, 2-YEAR FREQUENCY, 24-HOUR DURATION RAINFALL RUNOFF VOLUME

* TRENCH SHOULD BE SIZED BASED ON SQUARE FEET OF ROOF AREA DIRECTED TO THE PROPOSED TRENCH, WHICH MAY NOT EQUAL THE REGULATED IMPERVIOUS SURFACE PROPOSED.

SITE ADDRESS:

DATE:



CEG
CEDARVILLE

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CHESTER COUNTY PENNSYLVANIA

**INFILTRATION
TRENCH NOTES**

SHEET NO. 3C

SCALE:
NOT TO SCALE

3C OF 4

STORMWATER FACILITIES OPERATIONS AND MAINTENANCE PLAN

THE HOMEOWNER WILL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF ALL STORMWATER AND BMP FACILITIES. THE FACILITIES WILL INCLUDE THE INFILTRATION TRENCH ON THE PROPERTY AS WELL AS ANY YARD OR ROOF DRAINS, PIPING, POP-UP EMITTERS OR CLEAN-OUTS SHOWN ON THIS PLAN.

MAINTENANCE AND OPERATION WILL BE AS FOLLOWS:

1. THE INFILTRATION TRENCH AND CONVEYANCES DESCRIBED IN THIS PLAN SHALL BE INSPECTED ANNUALLY OR AS NEEDED FOLLOWING SIGNIFICANT PRECIPITATION EVENTS TO ASCERTAIN IF ANY SEDIMENT IS ENTERING THE FACILITIES. THE INFILTRATION TRENCH AND CONVEYANCES DESCRIBED IN THIS PLAN SHALL BE CLEANED IF NECESSARY. CLEANING WILL CONSIST OF REMOVING THE ACCUMULATED SILT, DEBRIS, OR SEDIMENT.
2. THE OVERLYING VEGETATION ON THE INFILTRATION TRENCH SHALL BE MAINTAINED IN GOOD CONDITION, AND ANY BARE SPOTS RE-VEGETATED AS SOON AS POSSIBLE.
3. VEHICULAR ACCESS ON THE INFILTRATION TRENCH SHOULD BE PROHIBITED, AND CARE SHOULD BE TAKEN TO AVOID EXCESSIVE COMPACTION BY MOWERS.
4. REPAIR ALL DAMAGED PIPING, CLEAN-OUTS, AND POP-UP EMITTERS PROMPTLY TO PREVENT SEDIMENT FROM ENTERING THE SYSTEM. SPECIAL CARE SHOULD BE TAKEN TO AVOID DAMAGING EXPOSED ELEMENTS WITH MOWERS AND/OR STRING TRIMMERS.
5. GRASSES OVER THE INFILTRATION TRENCH SHALL BE MOWED AT LEAST TWICE EACH YEAR. TREES AND SHRUBS SHOULD NOT BE PERMITTED TO GROW ABOVE THE INFILTRATION TRENCH.

SITE ADDRESS:

DATE:



159 East High Street, Suite #500 | Pottstown, PA 19464
610.705.4500 (Office) | 610.705.4900 (Fax)

CHESTER COUNTY PENNSYLVANIA

**INFILTRATION TRENCH
OPERATION &
MAINTENANCE NOTES**

SHEET NO. 4

4 OF 4

SCALE:
NOT TO SCALE

<p>Prepared By: <i>Insert Preparer's Name</i> <i>Insert Preparer's Address Line 1</i> <i>Insert Preparer's Address Line 2</i> <i>Insert Preparer's Phone Number</i></p> <p>Return To: <i>Insert Municipality's Name</i> <i>Insert Municipality's Address Line 1</i> <i>Insert Municipality's Address Line 2</i> <i>Insert Municipality's Phone Number</i></p> <p>UPI#: <i>Insert UPI(s) of properties with BMPs and/or Conveyances for the O&M Agreement</i> Property Street Address: <i>Insert the street address of the property</i></p>	<p>LEAVE BLANK For Recorder's Use Only</p>
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**STORMWATER BEST MANAGEMENT PRACTICES (BMPs) AND
CONVEYANCES
OPERATION AND MAINTENANCE AGREEMENT**

THIS AGREEMENT, made and entered into this _____ day of _____, 20____, by and between _____, (hereinafter the "Landowner"), and _____, Chester County, Pennsylvania, (hereinafter "Municipality");

WITNESSETH

WHEREAS, the Landowner is the owner of certain real property by virtue of a deed of Conveyance recorded in the land records of Chester County, Pennsylvania, at Deed Book _____ and Page _____, (hereinafter "Property"); and

WHEREAS, the Landowner is proceeding to build and develop the Property; and

WHEREAS, the Stormwater Best Management Practices (hereinafter BMP(s)) and Conveyances Operations and Maintenance Plan OR Simplified Approach Stormwater Management Site Plan _____(title of approved plans) approved by the Municipality _____(date) (hereinafter referred to as the "Plan") for the Property, which is attached hereto as Appendix A and made part hereof, provides for management of stormwater within the confines of the Property through the use of BMP(s) and Conveyances; and

WHEREAS, the Municipality and the Landowner, for itself and its administrators, executors, successors, heirs, and assigns, agree that the health, safety, and welfare of the residents of the Municipality and the protection and maintenance of water quality require that stormwater BMP(s) and Conveyances be constructed and maintained on the Property; and

WHEREAS, for the purposes of this agreement, the following definitions shall apply:

BMP – “Best Management Practice” – Activities, facilities, designs, measures, or procedures as specifically identified in the Plan, used to manage stormwater impacts from Regulated Activities to provide water quality treatment, infiltration, volume reduction, and/or peak rate control, to promote groundwater recharge, and to otherwise meet the purposes of the Municipality’s Stormwater Management Ordinance. Stormwater BMPs are commonly grouped into one (1) of two (2) broad categories or measures: “structural” or “nonstructural.” Nonstructural BMPs or measures refer to low impact development and conservation design practices used to minimize the contact of pollutants with stormwater runoff. These practices aim to limit the total volume of stormwater runoff and manage stormwater at its source by techniques such as protecting natural systems and incorporating existing landscape features. Nonstructural BMPs include, but are not limited to, the protection of sensitive and special value features such as wetlands and riparian areas, the preservation of open space while clustering and concentrating development, the reduction of impervious cover, and the disconnection of downspouts from storm sewers. Structural BMPs are those that consist of a constructed system that is designed and engineered to capture and treat stormwater runoff. Structural BMPs are those that consist of a physical system that is designed and engineered to capture and treat stormwater runoff. Structural BMPs include, but are not limited to, a wide variety of practices and devices from large-scale retention ponds and constructed wetlands to small-scale underground treatment systems, infiltration facilities, filter strips, bioretention, wet ponds, permeable paving, grassed swales, riparian buffers, sand filters, detention basins, and other manufactured devices designed to mitigate stormwater impacts. The BMPs identified in the Plan are permanent appurtenances to the Property; and

Conveyance – As specifically identified in the Plan, a manmade, existing or proposed facility, feature or channel used for the transportation or transmission of stormwater from one place to another, including pipes, drainage ditches, channels and swales (vegetated and other), gutters, stream channels, and like facilities or features. The Conveyances identified in the Plan are permanent appurtenances to the Property; and

WHEREAS, the Municipality requires, through the implementation of the Plan, that stormwater management BMPs and conveyances, as required by the Plan and the Municipality’s Stormwater Management Ordinance, be constructed and adequately inspected, operated and maintained by the Landowner or their designee.

NOW, THEREFORE, in consideration of the foregoing promises, the mutual covenants contained herein, and the following terms and conditions, the parties hereto, intending to be legally bound hereby, agree as follows:

1. The foregoing recitals to this Agreement are incorporated as terms of this Agreement as if fully set forth in the body of this Agreement.
2. The Landowner shall construct the BMP(s) and Conveyance(s) in accordance with the final stormwater management site plans and specifications OR Simplified Approach Stormwater Management Site Plan as approved by the Municipality in the Plan.
3. Upon completion of construction, the Landowner shall be responsible for completing final As-Built Plans of all BMPs, Conveyances, or other stormwater management facilities included in the approved stormwater management site plan as per the requirements of Section 502 of the Stormwater Management Ordinance.
4. The Landowner shall inspect, operate and maintain the BMP(s) and Conveyance(s) as shown on the Plan in good working order acceptable to the Municipality and in accordance with the specific inspection and maintenance requirements in the approved Plan and the current version of the Pennsylvania Stormwater BMP Manual, as amended.
5. The Landowner hereby grants permission to the Municipality, its authorized agents and employees, to enter upon the Property from a public right-of-way or roadway, at reasonable times and upon presentation of proper identification, to inspect the BMP(s) and Conveyance(s) whenever it deems necessary for compliance with this Agreement, the Plan and the Municipality's Stormwater Management Ordinance. Whenever possible, the Municipality shall notify the Landowner prior to entering the Property.
6. The Municipality shall inspect the BMP(s) and Conveyance(s) to determine if they continue to function as intended.
7. The BMP(s) and Conveyance(s) shall be inspected according to the following frequencies, at a minimum:
 - a. Annually for the first 5 years.
 - b. Once every 3 years thereafter.
 - c. During or immediately after the cessation of a 25-year or greater storm, as determined by the Municipal Engineer.
 - d. The Municipal Engineer may request that the landowners or landowner's designee submit an inspection report after the cessation of a 10-year or greater storm event if there is reason to believe that a BMP has sustained damage that impacts its ability to function as designed and if the BMP's failure would result in damage to downgradient properties.

Written inspection reports shall be created to document each inspection. The inspection report shall contain the date and time of the inspection, the individual(s) who completed the inspection, the location of the BMP, facility or structure inspected, observations on performance, and recommendations for improving performance, if applicable. Inspection reports shall be submitted to the Municipality within 30 days following completion of the inspection.

Landowners must notify the Municipality of BMP(s) and Conveyance(s) that are no longer functioning as designed and must coordinate with the Municipality to determine a schedule to repair or retrofit these systems to restore designed functionality.

8. The Landowner acknowledges that, per the Municipality's Stormwater Ordinance, it is unlawful, without written approval of the Municipality, to:

- a. Modify, remove, fill, landscape, alter or impair the effectiveness of any BMP or Conveyance that is constructed as part of the approved Plan;
- b. Place any structure, fill, landscaping, additional vegetation, yard waste, brush cuttings, or other waste or debris into a BMP or Conveyance that would limit or alter the functioning of the BMP or Conveyance;
- c. Allow the BMP or Conveyance to exist in a condition which does not conform to the approved Plan or this Agreement; and
- d. Dispose of, discharge, place or otherwise allow pollutants including, but not limited to, deicers, pool additives, household chemicals, and automotive fluids to directly or indirectly enter any BMP or Conveyance.

9. In the event that the Landowner fails to operate and maintain the BMP(s) and Conveyance(s) as shown on the Plan in good working order acceptable to the Municipality, the Landowner shall be in violation of this Agreement, and the Landowner agrees that the Municipality or its representatives may, in addition to and not in derogation or diminution of any remedies available to it under the Stormwater Ordinance or other statutes, codes, rules or regulations, or this Agreement, enter upon the Property and take whatever action is deemed necessary to maintain said BMP(s) and Conveyance(s). It is expressly understood and agreed that the Municipality is under no obligation to maintain or repair said facilities, and in no event shall this Agreement be construed to impose any such obligation on the Municipality.

10. In the event that the Municipality, pursuant to this Agreement, performs work of any nature or expends any funds in performance of said work for inspection, labor, use of equipment, supplies, materials, and the like, the Landowner shall reimburse the Municipality for all expenses (direct and indirect) incurred within 30 days of delivery of an invoice from the Municipality. Failure of the Landowner to make prompt payment to the Municipality may result in enforcement proceedings, which may include the filing of a lien against the Property, which filing is expressly authorized by the Landowner.

11. The intent and purpose of this Agreement is to ensure the proper maintenance of the on-site BMP(s) and Conveyance(s) by the Landowner; provided, however, that this Agreement shall not be deemed to create or affect any additional liability on any party for damage alleged to result from or be caused by stormwater runoff.

12. The Landowner, for itself and its executors, administrators, assigns, heirs, and other successors in interest, hereby releases and shall release the Municipality's employees, its agents and designated representatives from all damages, accidents, casualties, occurrences, or claims which might arise or be asserted against said employees, agents or representatives arising out of the construction, presence, existence, or maintenance of the BMP(s) and Conveyance(s) either by the Landowner or Municipality. In the event that a claim is asserted or threatened against the Municipality, its employees, agents or designated representatives, the Municipality shall notify

the Landowner, and the Landowner shall defend, at his own expense, any claim, suit, action or proceeding, or any threatened claim, suit, action or proceeding against the Municipality, or, at the request of the Municipality, pay the cost, including attorneys' fees, of defense of the same undertaken on behalf of the Municipality. If any judgment or claims against the Municipality's employees, agents or designated representatives shall be allowed, the Landowner shall pay all damages, judgments or claims and any costs and expenses incurred by the Municipality, including attorneys' fees, regarding said damages, judgments or claims.

13. The Municipality may enforce this Agreement in accordance with its Stormwater Ordinance, at law or in equity, against the Landowner for breach of this Agreement. Remedies may include fines, penalties, damages or such equitable relief as the parties may agree upon or as may be determined by a Court of competent jurisdiction. Recovery by the Municipality shall include its reasonable attorneys' fees and costs incurred in seeking relief under this Agreement.

14. Failure or delay in enforcing any provision of this Agreement shall not constitute a waiver by the Municipality of its rights of enforcement hereunder.

15. The Landowner shall inform future buyers of the Property about the function of, operation, inspection and maintenance requirements of the BMP(s) prior to the purchase of the Property by said future buyer, and upon purchase of the Property the future buyer assumes all responsibilities as Landowner and must comply with all components of this Agreement.

16. This Agreement shall inure to the benefit of and be binding upon the Municipality and the Landowner, as well as their heirs, administrators, executors, assigns and successors in interest.

This Agreement shall be recorded at the Office of the Recorder of Deeds of Chester County, Pennsylvania, and shall constitute a covenant running with the Property, in perpetuity.

WITNESS the following signatures and seals:

ATTEST:

(SEAL)

For the Municipality:

(SEAL)

For the Landowner:

ATTEST:

_____ (City, Borough, Township)

By Individual:

State of _____

County of _____

On this _____ day of _____, 20___. Before me, the undersigned officer, personally appeared _____, known to me (or satisfactorily proven) to be person whose name(s) is/are subscribed to the within instrument and acknowledged that _____ executed the same for the purpose therein contains.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Notary Public

My commission expires:

By the Company:

State of _____

County of _____

On this _____ day of _____, 20__, before me, the undersigned officer, personally appeared _____, who acknowledged himself/herself to be _____ of _____, a _____, and that he/she being authorized to do so, executed the forgoing instrument for the purpose therein contained by signing the name of the Company by herself/himself as _____.

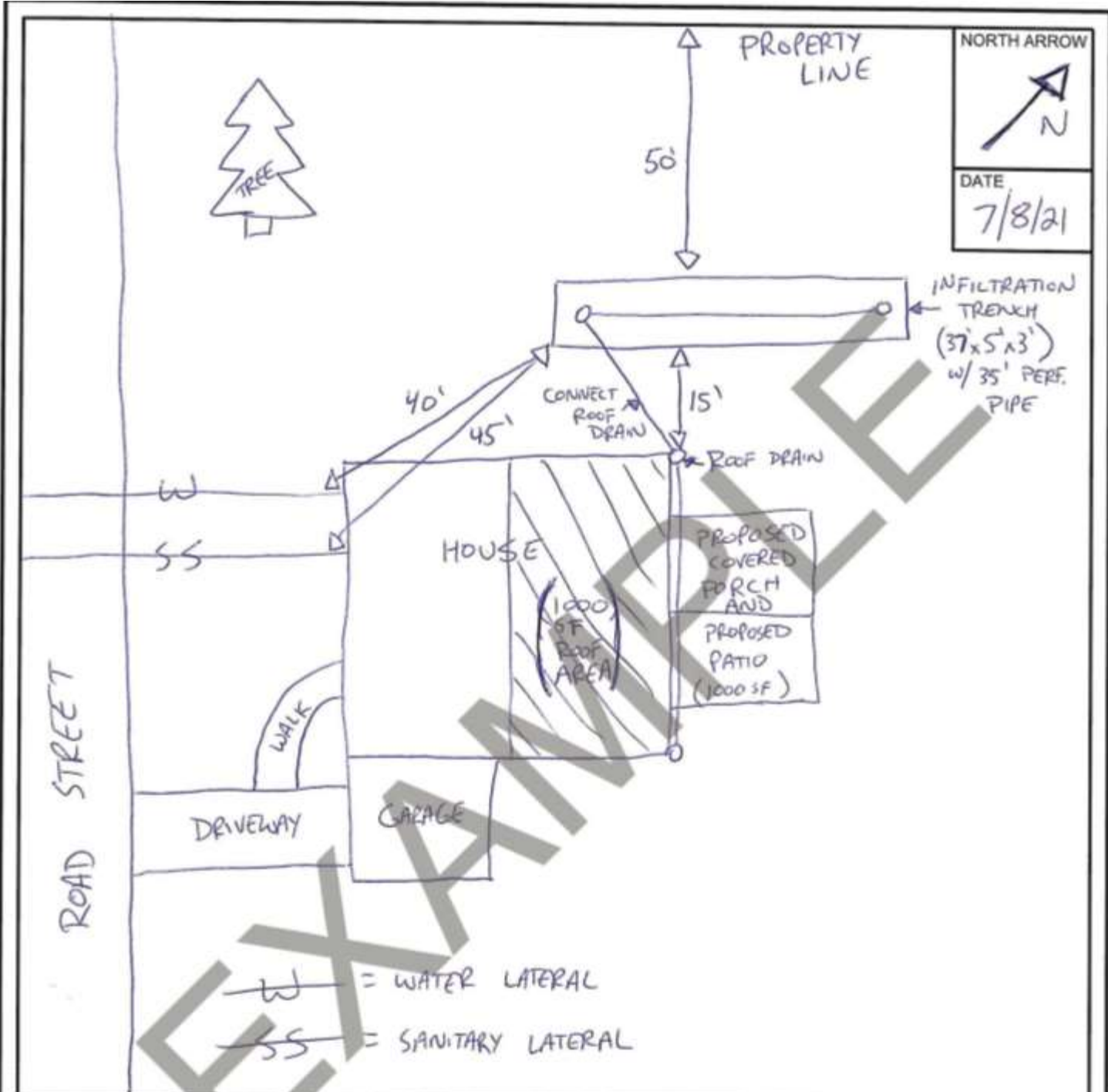
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5.0 Example Simplified Approach Stormwater Management Site Plans

The pages below include an example Simplified Approach Stormwater Management Site Plan (Sheets No. 1 – 4).



Underground Service Alert
 Call: TOLL FREE
 1-800-242-1776
 THREE WORKING DAYS
 BEFORE YOU DIG

PROPERTY OWNER
 NAME: JOHN SMITH
 ADDRESS: 123 ROAD STREET, TOWNSHIP PA 07734

PLAN PREPARER
 NAME: SAME AS ABOVE
 ADDRESS: SAME AS ABOVE

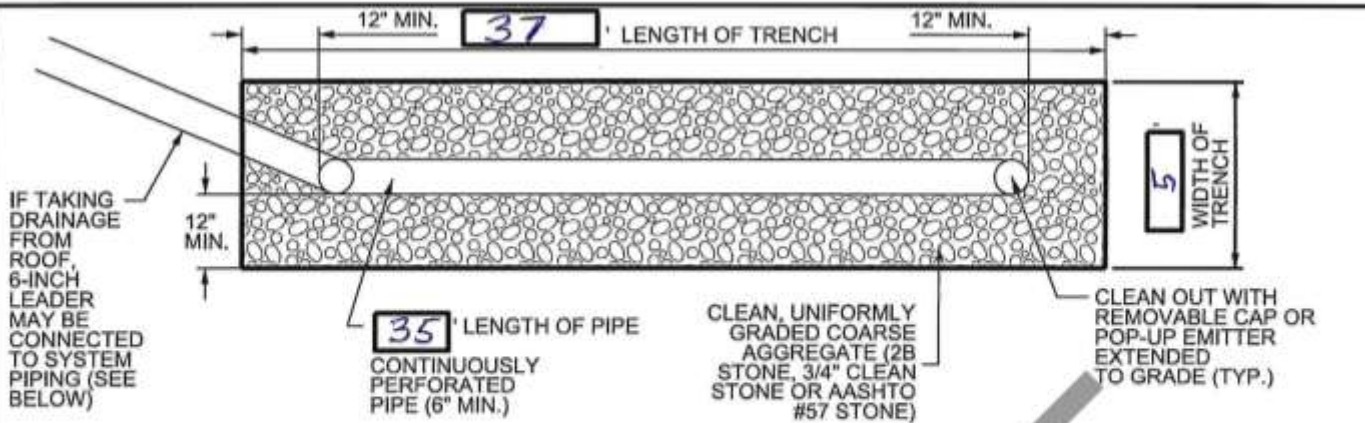
FOR USE BY MUNICIPAL ENGINEER

CHESTER COUNTY PENNSYLVANIA

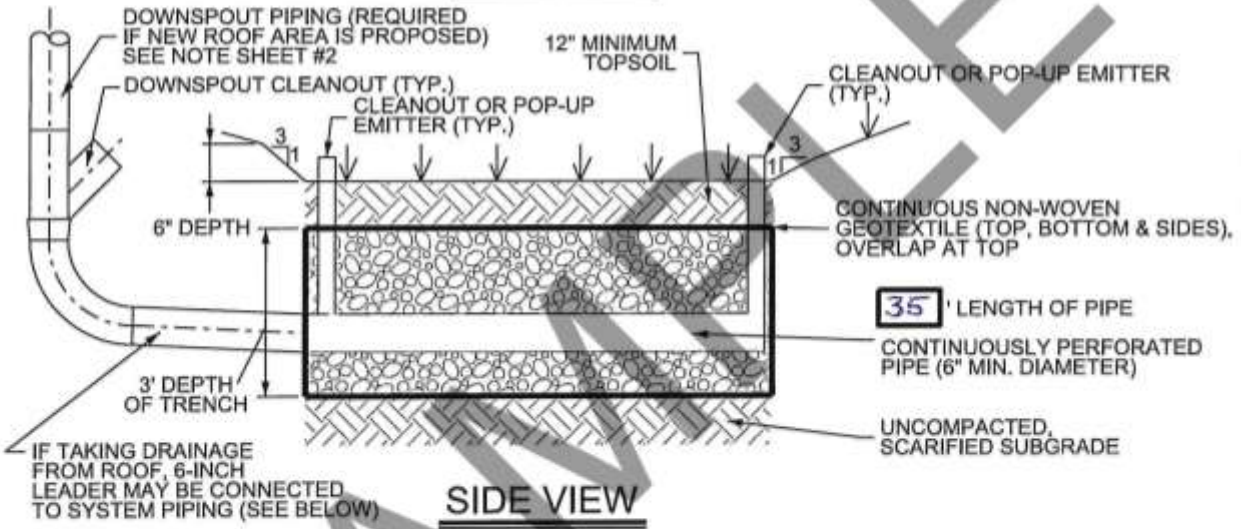
SHEET NO. 1

SIMPLIFIED
 SITE PLAN

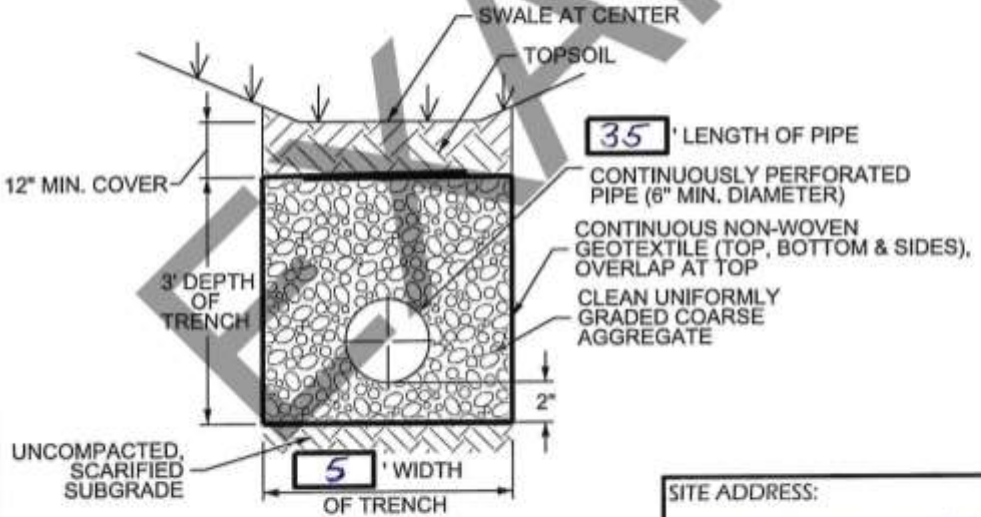
1 OF 4



TOP VIEW



SIDE VIEW



CROSS-SECTION VIEW

SITE ADDRESS:
123 ROAD STREET, TOWN PA 07734

DATE:
7/8/21

SCALE:
NOT TO SCALE

159 East High Street, Suite #500 | Pottstown, PA 19464
610.705.4500 (Office) | 610.705.4900 (Fax)

CHESTER COUNTY PENNSYLVANIA

INFILTRATION TRENCH DETAIL

SHEET NO. 2

2 OF 4

NOTES

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1201-1250	54.75	44.00	36.50	31.50	27.50
1251-1300	59.50	47.50	39.75	34.00	29.75
1301-1350	61.75	49.25	41.25	35.25	31.00
1351-1400	64.00	51.25	42.75	36.50	32.00
1401-1450	66.25	53.00	44.25	38.00	33.25
1451-1500	68.50	54.75	45.75	39.25	34.25
1501-1550	70.75	56.75	47.25	40.50	35.50
1551-1600	73.00	58.50	48.75	41.75	36.50
1601-1650	75.25	60.25	50.25	43.00	37.75
1651-1700	77.75	62.25	51.75	44.50	39.00
1701-1750	80.00	64.00	53.25	45.75	40.00
1751-1800	82.25	65.75	54.75	47.00	41.25
1801-1850	84.50	67.50	56.25	48.25	42.25
1851-1900	86.75	69.50	58.00	49.75	43.50
1901-1950	89.00	71.25	59.50	51.00	44.50
1951-1999	91.25	73.00	61.00	52.75	45.75

* DIMENSIONS IN THIS TABLE HAVE BEEN DETERMINED FOR MANAGING THE DIFFERENCE BETWEEN THE PRE-DEVELOPMENT AND POST-DEVELOPMENT, 2-YEAR FREQUENCY, 24-HOUR DURATION RAINFALL RUNOFF VOLUME

* TRENCH SHOULD BE SIZED BASED ON SQUARE FEET OF ROOF AREA DIRECTED TO THE PROPOSED TRENCH, WHICH MAY NOT EQUAL THE REGULATED IMPERVIOUS SURFACE PROPOSED.

SITE ADDRESS:

123 ROAD STREET, TOWN PA 07734

DATE:
7/8/21



CEG
CEDARVILLE

159 East High Street, Suite #500 | Pottstown, PA 19464
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CHESTER COUNTY PENNSYLVANIA

INFILTRATION
TRENCH NOTES

SHEET NO. 3C

3C OF 4

STORMWATER FACILITIES OPERATIONS AND MAINTENANCE PLAN

THE HOMEOWNER WILL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF ALL STORMWATER AND BMP FACILITIES. THE FACILITIES WILL INCLUDE THE INFILTRATION TRENCH ON THE PROPERTY AS WELL AS ANY YARD OR ROOF DRAINS, PIPING, POP-UP EMITTERS OR CLEAN-OUTS SHOWN ON THIS PLAN.

MAINTENANCE AND OPERATION WILL BE AS FOLLOWS:

1. THE INFILTRATION TRENCH AND CONVEYANCES DESCRIBED IN THIS PLAN SHALL BE INSPECTED ANNUALLY OR AS NEEDED FOLLOWING SIGNIFICANT PRECIPITATION EVENTS TO ASCERTAIN IF ANY SEDIMENT IS ENTERING THE FACILITIES. THE INFILTRATION TRENCH AND CONVEYANCES DESCRIBED IN THIS PLAN SHALL BE CLEANED IF NECESSARY. CLEANING WILL CONSIST OF REMOVING THE ACCUMULATED SILT, DEBRIS, OR SEDIMENT.
2. THE OVERLYING VEGETATION ON THE INFILTRATION TRENCH SHALL BE MAINTAINED IN GOOD CONDITION, AND ANY BARE SPOTS RE-VEGETATED AS SOON AS POSSIBLE.
3. VEHICULAR ACCESS ON THE INFILTRATION TRENCH SHOULD BE PROHIBITED, AND CARE SHOULD BE TAKEN TO AVOID EXCESSIVE COMPACTION BY MOWERS.
4. REPAIR ALL DAMAGED PIPING, CLEAN-OUTS, AND POP-UP EMITTERS PROMPTLY TO PREVENT SEDIMENT FROM ENTERING THE SYSTEM. SPECIAL CARE SHOULD BE TAKEN TO AVOID DAMAGING EXPOSED ELEMENTS WITH MOWERS AND/OR STRING TRIMMERS.
5. GRASSES OVER THE INFILTRATION TRENCH SHALL BE MOWED AT LEAST TWICE EACH YEAR. TREES AND SHRUBS SHOULD NOT BE PERMITTED TO GROW ABOVE THE INFILTRATION TRENCH.

EXAMPLE

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INFILTRATION TRENCH
OPERATION &
MAINTENANCE NOTES

SHEET NO. 4

4 OF 4

SCALE:
NOT TO SCALE