

# **INSTRUCTIONS**

## **THE BOROUGH OF HANOVER - STORMWATER MANAGEMENT PERMIT**

**Revised 4/18/19**

*The instructions as listed below are intended to assist applicants in completing and submitting an application for a Borough stormwater management permit.*

**1: Project Information** – Please complete this section to keep the Borough’s records up to date in case they need to contact you regarding your application. In the section titled “Reason for application”, be as specific as you can about the nature of your project. This information helps provide the Borough with a general background on the project that they may not be aware of.

**2: Property owner purposes** – please list the square footage(s) of the project and if you have any previous stormwater permits on file that could be utilized by the Borough in their review / processing efforts.

**3: PROVIDE A SKETCH OF THE PROPERTY, LISTING SQUARE FOOTAGES OF EXISTING (and new or proposed) IMPERVIOUS STRUCTURES.** If the property is > **500** square feet a stormwater facility will have to be installed to manage the increase in stormwater runoff. There are examples in your packet of suitable facilities that could be used. The calculations will be checked and verified before permit is completed.

**4: Sign** – An application must be signed by the property owner on file with the Borough.

**5: Complete other attachments, if structure(s) is > 500 square feet or project is larger than 1 acre.**

- Homeowner Certification Form or As-built Plan Certification Form (*dependent on project*)
- Operation and Maintenance Agreement
  - Must get recorded at York County Recorder-Deeds Office after proper signatures between both parties is completed
    - Address: 28 E Market Street, York, PA 17401
    - Phone: (717) 771-9295 (it is recommended that applicants contact to confirm fees)
- Sketch examples for stormwater facilities
- Inspection forms for bio-retention, pervious pavement and seepage bed

**6: Please return to the Engineering Office. If you have questions please schedule an appointment or call, (717) 637-3877.**

**THE BOROUGH OF HANOVER**  
**STORMWATER MANAGEMENT PERMIT APPLICATION**  
**SECTION I – Revised 4/18/19**

Attention: If you, as a property owner, are planning to construct any type of structure or improvement to your property – patio, driveway, etc. – that will impact the nature of stormwater runoff leaving your property (rate, volume, direction, concentration, etc.), then you must comply with the Hanover Borough Stormwater Management Ordinance No. 2235. Completion of this form will allow the staff to guide you through the associated regulations.

**Step 1: Complete the project information**

Property Owner: \_\_\_\_\_

Property Address: \_\_\_\_\_

Daytime Phone Number: \_\_\_\_\_

Email Address: \_\_\_\_\_  
*Check box for the preferred method of communication above*

Reason for application (please provide information regarding square footage of what you are building)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Step 2: Property owner proposes**

New/alterd Pavement (Parking area, driveway) \_\_\_\_\_SF

New/alterd Building (Shed, Garage, Addition; Excluding Demolition) \_\_\_\_\_SF

New/alterd Sidewalk or Patio (Concrete, Brick) \_\_\_\_\_ SF

New/alterd swimming pool \_\_\_\_\_SF

New/alterd Best Management Practice (BMP) \_\_\_\_\_SF

Changing the ground surface cover (Clearing a wooded lot, converting a meadow area to yard)  
\_\_\_\_\_SF

Farming Activities (not new buildings or impervious) – If in compliance with Chapter 102, exempted.  
\_\_\_\_\_

Timber Activities – If in compliance with Chapter 102, exempted. \_\_\_\_\_

Have any other exterior improvements been completed on the property since December 23, 2014?

If so, please list the projects and permit numbers \_\_\_\_\_.

**Step 3: Provide sketch of property with all square footages, property lines, existing improvements and proposed improvements.**

**Step 4:** Please sign below and date.

**Step 5:** Please read, acknowledge and potentially complete (if possible at this time) the other attachments associated with the permit.

**Step 6:** Please return to the Engineering Office. If you have questions please schedule an appointment or call.

*Read, sign and date the application below to acknowledge and accept the requirements (including construction requirements and associated administrative items) outlined and reviewed with the permit officer.*

I understand and agree to the following:

1. I will be required to construct all improvements and associated stormwater management facilities in accordance with the attached plans and details.
2. Any exemption, permit, or authorization issued or approved based on false, misleading or erroneous information provided by an applicant is void without the necessity of any proceedings for revocation. Any work undertaken or use established pursuant to such permit or other authorization is unlawful. No action may be taken by a board, agency or employee of the Borough purporting to validate such a violation.
3. Upon presentation of proper credentials, the Borough may enter at reasonable times upon any property to inspect the condition of the stormwater structures and facilities in regard to any aspect regulated by this Ordinance.
4. Proper management of stormwater runoff associated with this permit is the responsibility of the property owner.
5. All attachments associated with this permit will be completed to the best of the ability of the owner.

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

**STORMWATER MANAGEMENT PERMIT APPLICATION SECTION II**

**Borough Use Only:**

Existing Impervious Area on Property (prior to this Application): \_\_\_\_\_ ft<sup>2</sup> (Copy from previous permits or stormwater impervious assessment, if applicable)

New Impervious Area: \_\_\_\_\_ft<sup>2</sup>

Removed Impervious Area: \_\_\_\_\_ft<sup>2</sup>

Total Impervious Area \_\_\_\_\_ft<sup>2</sup>

**Project Fees:** \$\_\_\_\_\_ Paid by Applicant\_\_\_\_\_

Building Permit Officer \$50/hr  
Engineer \$85/hr  
Engineering Staff \$65/hr  
Base Fee \$25

Project Application is:

Exempted from ordinance requirements (Less than 500 ft<sup>2</sup>); \_\_\_\_\_

Partially exempted and approved. Required submittals attached (Section 302.B, C or Equivalent DIA): \_\_\_\_\_  
(Refer to Step 2 of Section III)

NPDES: \_\_\_\_\_ Disturbed area: \_\_\_\_\_sf

Project is approved (required submittals attached): \_\_\_\_\_  
SWM Permit No. \_\_\_\_\_

\_\_\_\_\_  
Municipal Official

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

The following certification is to be physically provided on any As-Built (Record) Plans submitted to the Borough for close out and termination of a Stormwater Permit or other related permit;

**STORMWATER MANAGEMENT “AS-BUILT” CERTIFICATION**

I HEREBY CERTIFY THAT THE STORMWATER MANAGEMENT FACILITY (FACILITIES) / BMPS SHOWN ON THESE PLANS AND INDIVIDUALLY IDENTIFIED BELOW HAS (HAVE) BEEN CONSTRUCTED IN ACCORDANCE WITH THE PLANS INCLUDED UNDER THE HANOVER BOROUGH PERMIT APPROVAL, NUMBER \_\_\_\_\_, EXCEPTING THOSE APPROVED FIELD CHANGES MADE AND AS NOTED IN RED ON THESE “AS BUILT” RECORD DRAWINGS. FURTHERMORE, THE RED-NOTED EXCEPTIONS DO NOT ADVERSELY AFFECT THE INTENDED PERFORMANCE OF THE FACILITY (FACILITIES).

**FACILITY / BMP IDENTIFICATION (IDENTIFY EACH INDIVIDUALLY);**

FACILITY / BMP ID NUMBER

FACILITY / BMP TYPE

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

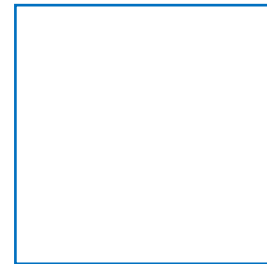
\_\_\_\_\_/\_\_\_\_\_

NAME: PRINTED / SIGNATURE

\_\_\_\_\_

DATE OF CERTIFICATION

\_\_\_\_\_  
PROFESSIONAL REGISTRATION NUMBER



(SEAL)

Note:

“Certify” means to state or declare a professional opinion based on sufficient and appropriate onsite inspections and material tests conducted during construction

The following certification is to be completed and submitted to the Borough for close out and termination of a Stormwater Permit or other related permit (for any **Single Family Residential Project**, meeting the criteria as listed on the Hanover Borough Stormwater Permit Flowchart).

**STORMWATER MANAGEMENT “AS-BUILT” CERTIFICATION**

I HEREBY CERTIFY THAT THE STORMWATER MANAGEMENT FACILITY (FACILITIES) / BMPS SHOWN ON STORMWATER PERMIT NO. \_\_\_\_\_ HAS (HAVE) BEEN CONSTRUCTED AND COMPLETED IN ACCORDANCE WITH THE PERMIT, AND THAT ANY CHANGES MADE TO THE FACILITIES / BMPS WERE DONE WITH BOROUGH APPROVAL AND CONSEQUENTLY DO NOT ADVERSELY AFFECT THE INTENDED PERFORMANCE OF THE FACILITY (FACILITIES).

**FACILITY / BMP IDENTIFICATION (IDENTIFY EACH FACILITY / BMP INDIVIDUALLY);**

FACILITY / BMP ID NUMBER

FACILITY / BMP TYPE

_____	_____
_____	_____
_____	_____

\_\_\_\_\_ / \_\_\_\_\_

\_\_\_\_\_

NAME: PRINTED / SIGNATURE

DATE OF CERTIFICATION

**Note:**

“Certify” means to state or declare an opinion based on sufficient and appropriate onsite inspections, observations, photographic records, material tests, etc. conducted by the owner and/or Contractor responsible for overseeing construction of said facilities/BMPs.

**OPERATION AND MAINTENANCE (O&M) AGREEMENT  
STORMWATER MANAGEMENT BEST MANAGEMENT  
PRACTICES (SWM BMPs)**

**THIS AGREEMENT**, made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_ by and between \_\_\_\_\_, (hereinafter the ("Landowner")), and the Borough of Hanover, York County, Pennsylvania, (hereinafter "Borough")

**WITNESSETH**

**WHEREAS**, the Landowner is the owner of certain real property more particularly described in that deed dated \_\_\_\_\_ and recorded in the Office of the Recorder of Deed in and for York County, Pennsylvania in Deed Book \_\_\_\_\_ at page \_\_\_\_\_ which has a property address of: \_\_\_\_\_ (hereinafter "Property"); and

**WHEREAS**, the Borough, and the Landowner, his successors and assigns, agree that the health, safety, and welfare of the residents of the Borough and the protection and maintenance of water quality require that on-site SWM BMPs be constructed and maintained on the Property; and

**WHEREAS**, the Landowner has submitted a SWM BMP Plan, attached hereto and made a part hereof and identified as Exhibit A, which provides for management of stormwater within the confines of the Property through the use of BMPs, which Plan has been approved by the Borough; and

**WHEREAS**, the Borough requires, through the implementation of the SWM BMP Plan (Exhibit A), that the SWM BMPs as required by said Plan and the Municipal Stormwater Management Ordinance be adequately operated and maintained by the Landowner, his successors and/or assigns, in accordance with an Operations and Maintenance Plan (O&M Plan). The O&M Plan is attached hereto and made a part hereof and identified as Exhibit B.

**NOW, THEREFORE**, in consideration of the foregoing promises, the mutual covenants contained herein, and the following terms and conditions, the parties hereto agree as follows:

1. The Landowner shall construct the SWM BMPs in accordance with the approved Plan (Exhibit A) and in accordance with applicable industry standards and practices.
2. The Landowner shall operate and maintain the SWM BMPs as shown on Exhibit A in good working order in accordance with the specific operation and maintenance requirements set forth in Exhibit B.
3. The Landowner shall inspect the SWM BMPs at intervals outlined on the approved Plan or as set forth in Article VIII Section 802 of the Stormwater Management Ordinance (below), whichever inspection schedule is stricter.
  - a. Annually for the first five (5) years.
  - b. Once every two (2) years thereafter.
  - c. A report of all inspections shall be submitted to the Borough by the end of the calendar year in which the inspections were conducted.
  - d. All inspection records shall be maintained by the landowner or successor for a period not less than five (5) years from the date of the inspection and shall be made available to the Borough within five (5) calendar days of receipt of written request by the Borough.

- e. The Borough or its designee may inspect all phases of the construction, operation, maintenance and any other implementation of SWM BMPs.
- 4. The Landowner hereby grants permission to the Borough, its authorized agents and employees, to enter upon the property, at reasonable times and upon presentation of proper credentials, to inspect the BMPs whenever the Borough deems it appropriate. Whenever possible, the Borough shall notify the Landowner prior to entering the property.
- 5. In the event the Landowner fails to operate and maintain the BMPs per paragraph two (2.), the Borough or its representatives may enter upon the Property and take whatever action is deemed necessary to maintain said BMP(s). It is expressly understood and agreed that the Borough 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 Borough.
- 6. In the event the Borough, pursuant to this Agreement, performs work of any nature or contracts to have such work performed, or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like, the Landowner shall reimburse the Borough for all such expenses (direct and indirect) incurred within ten (10) days of receipt of invoice from the Borough.
- 7. The intent and purpose of this Agreement is to ensure the proper maintenance of the onsite BMPs by the Landowner; provided, however, that this Agreement shall not be deemed to create or affect any additional liability of any party for damage alleged to result from or be caused by stormwater runoff.
- 8. The Landowner, its executors, administrators, heirs, assigns, and other successors in interests, hereby release the Borough its employees, agents, and representatives from all damages, accidents, casualties, occurrences, or claims which might arise or be asserted against the Borough, its employees, agents and representatives as a result of the construction, presence, operation, existence, or maintenance of the BMP(s) by the Landowner or Borough.

This Agreement shall be recorded in the Office of the Recorder of Deeds of York County, Pennsylvania, and shall constitute a covenant running with the Property and/or equitable servitude, and shall be binding on the Landowner, his administrators, executors, assigns, heirs, and any other successors in interests, in perpetuity.

ATTEST:

Legal Entity (if applicable): \_\_\_\_\_

\_\_\_\_\_

By: \_\_\_\_\_

Its: \_\_\_\_\_

ATTEST:

**BOROUGH OF HANOVER**

\_\_\_\_\_

By: \_\_\_\_\_

Samuel Miller  
Interim Administrator



COMMONWEALTH OF PENNSYLVANIA :  
: SS  
COUNTY OF YORK :

ON THIS, the \_\_\_\_\_ day of \_\_\_\_\_, 2019, before me, the undersigned officer, personally appeared \_\_\_\_\_ of \_\_\_\_\_, known to me (or satisfactorily proven) to be the person(s) whose name(s) is/are subscribed to the foregoing instrument, and acknowledged that he/she/they executed the same for the purposes herein contained.

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

\_\_\_\_\_  
Notary Public (SEAL)

MY COMMISSION EXPIRES:

COMMONWEALTH OF PENNSYLVANIA :  
: SS  
COUNTY OF YORK :

ON THIS, the \_\_\_\_\_ day of \_\_\_\_\_, 2019, before me, the undersigned officer, personally appeared \_\_\_\_\_ of \_\_\_\_\_, and that he/she as such officer being authorized to do so, executed the foregoing instrument for the purposes herein contained by signing the name of the \_\_\_\_\_ by himself/herself as such officer.

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

\_\_\_\_\_  
Notary Public (SEAL)

MY COMMISSION EXPIRES:

**COMMONWEALTH OF PENNSYLVANIA** :

: ss

**COUNTY OF YORK** :

**ON THIS**, the \_\_\_\_\_ day of \_\_\_\_\_, 2019, before me, the undersigned officer, personally appeared **Samuel Miller**, interim administrator of the Borough of Hanover, a Pennsylvania Borough, and that he as such officer being authorized to do so, executed the foregoing instrument for the purposes herein contained by signing the name of the Borough by himself as such officer.

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

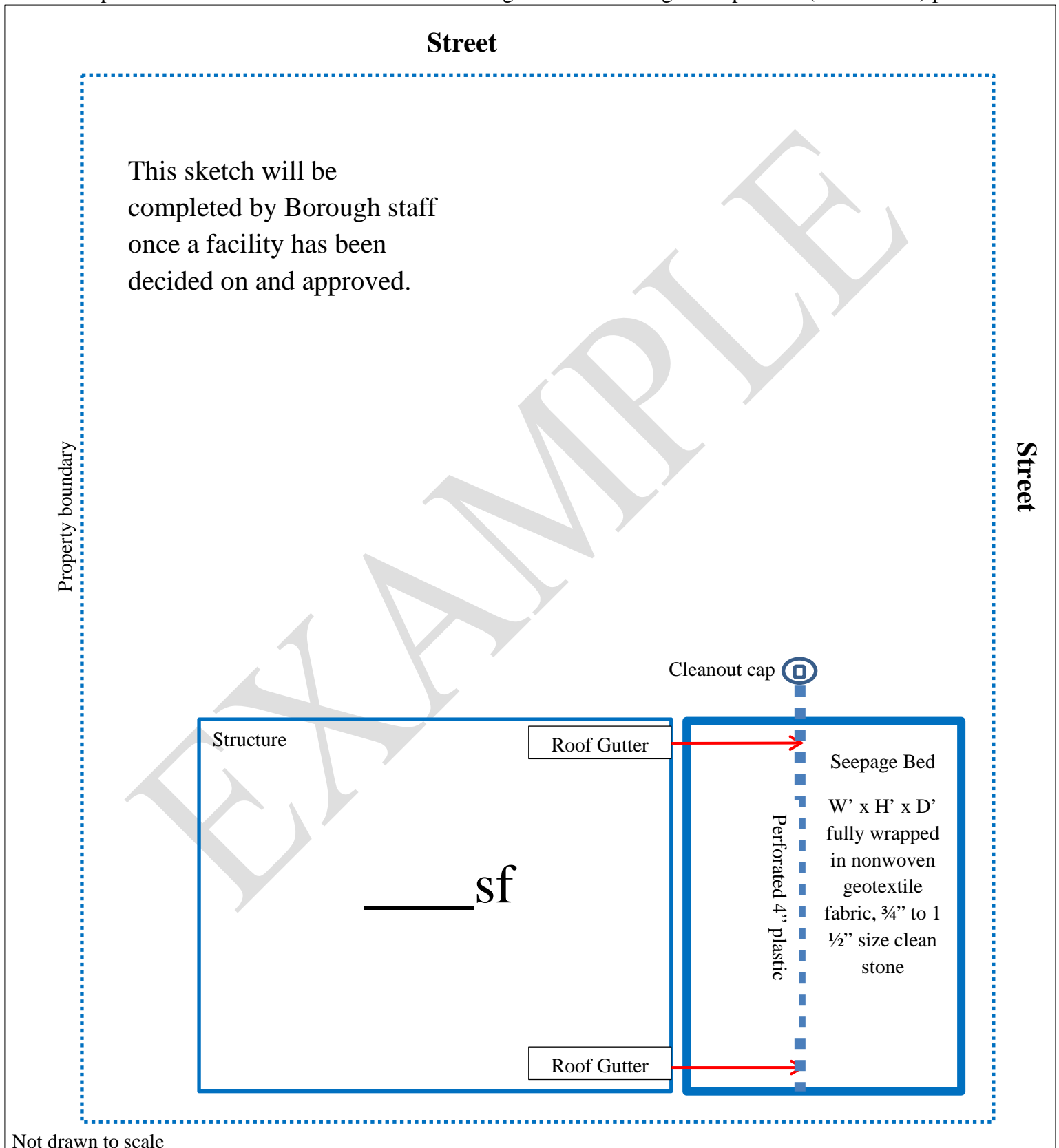
\_\_\_\_\_(SEAL)  
**Notary Public**

**MY COMMISSION EXPIRES:**



# EXHIBIT A

As part of the Operation and Maintenance (O&M) Agreement, this exhibit is intended to provide a representation of the installed stormwater management best management practice (SWM BMP) plan.





# EXHIBIT B

As part of the Operation and Maintenance (O&M) Agreement, this exhibit is intended to provide a generalized scope of components to inspect for your stormwater facility. It does not relieve the owner/inspector from providing a thorough and complete inspection of all facility components, even those as may not be specifically listed below. The Borough will keep the inspection form on file.

**Please check the proper facility type below (check all that apply);**

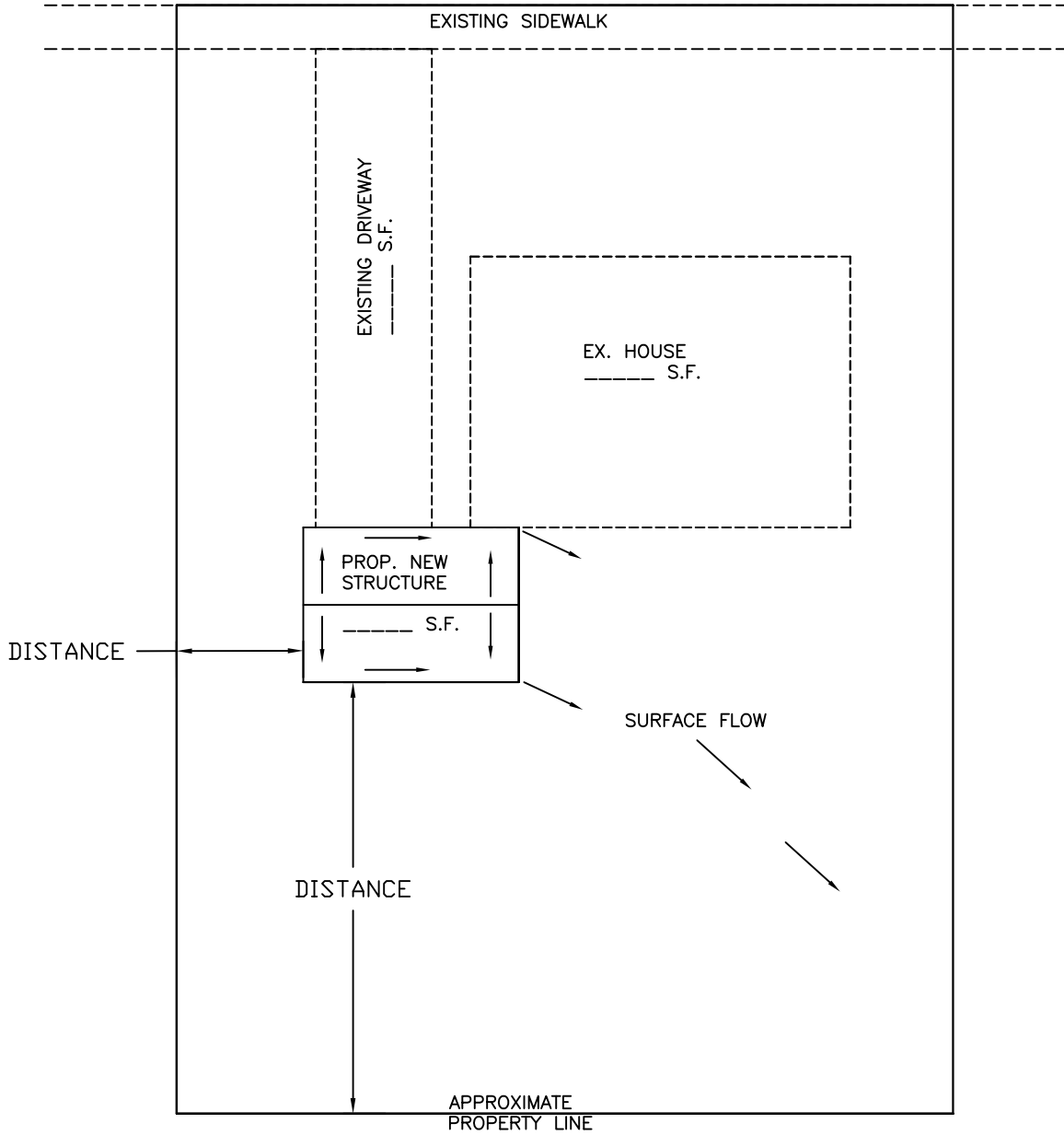
- Seepage Bed/Trench
- Pervious Pavement
- Bioretention (rain garden)
- Other: \_\_\_\_\_

**Please circle the answer to the appropriate question according to your facility:**

<p>Is the area free from sediment, debris, trash, leaves, oil and other stains?</p> <p style="text-align: center;"><b>YES   NO   N/A</b></p>	<p>Has the area ever been seal coated?</p> <p style="text-align: center;"><b>YES   NO   N/A</b></p>	<p>Is overflow piping on the facility or contributing downspouts operable and free of clogs or debris?</p> <p style="text-align: center;"><b>YES   NO   N/A</b></p>
<p>Are there signs of erosion, scouring or cracking in the facility?</p> <p style="text-align: center;"><b>YES   NO   N/A</b></p>	<p>Is the facility draining properly after three days without rain (viewing pipe when you twist off the cleanout cap)?</p> <p style="text-align: center;"><b>YES   NO   N/A</b></p>	<p>Is the facility discharge causing erosion, scour or other related concerns downstream?</p> <p style="text-align: center;"><b>YES   NO   N/A</b></p>
<p>Is the outlet structure free of damage and unclogged?</p> <p style="text-align: center;"><b>YES   NO   N/A</b></p>	<p>Are all grates/caps in good condition and free of debris?</p> <p style="text-align: center;"><b>YES   NO   N/A</b></p>	<p>Is the facility floor fully covered with vegetation, mulch and/or stone?</p> <p style="text-align: center;"><b>YES   NO   N/A</b></p>
<p>Are all related channels stabilized and fully vegetated or otherwise covered with mulch, stone or matting?</p> <p style="text-align: center;"><b>YES   NO   N/A</b></p>	<p>Has a commercial vac truck and/or sweeper been used?</p> <p style="text-align: center;"><b>YES   NO   N/A</b></p>	<p>Have you regularly provided maintenance and pruning of plantings, removal of weeds, etc.?</p> <p style="text-align: center;"><b>YES   NO   N/A</b></p>

If any of these items are other than indicated they should be corrected in a timely manner.

STREET NAME



**NOTES**

1. PROVIDE SQUARE FOOTAGE OF LOT AND OF ALL EXISTING/PROPOSED IMPERVIOUS AREAS
2. PROVIDED DISTANCE OVER LAWN FROM NEW IMPERVIOUS AREAS TO EXISTING, AS SHOWN
4. SHOW DIRECTION OF GRADING/SURFACE FLOW ON LOT
3. THIS PLAN MAY BE HAND DRAWN OR PRINTED

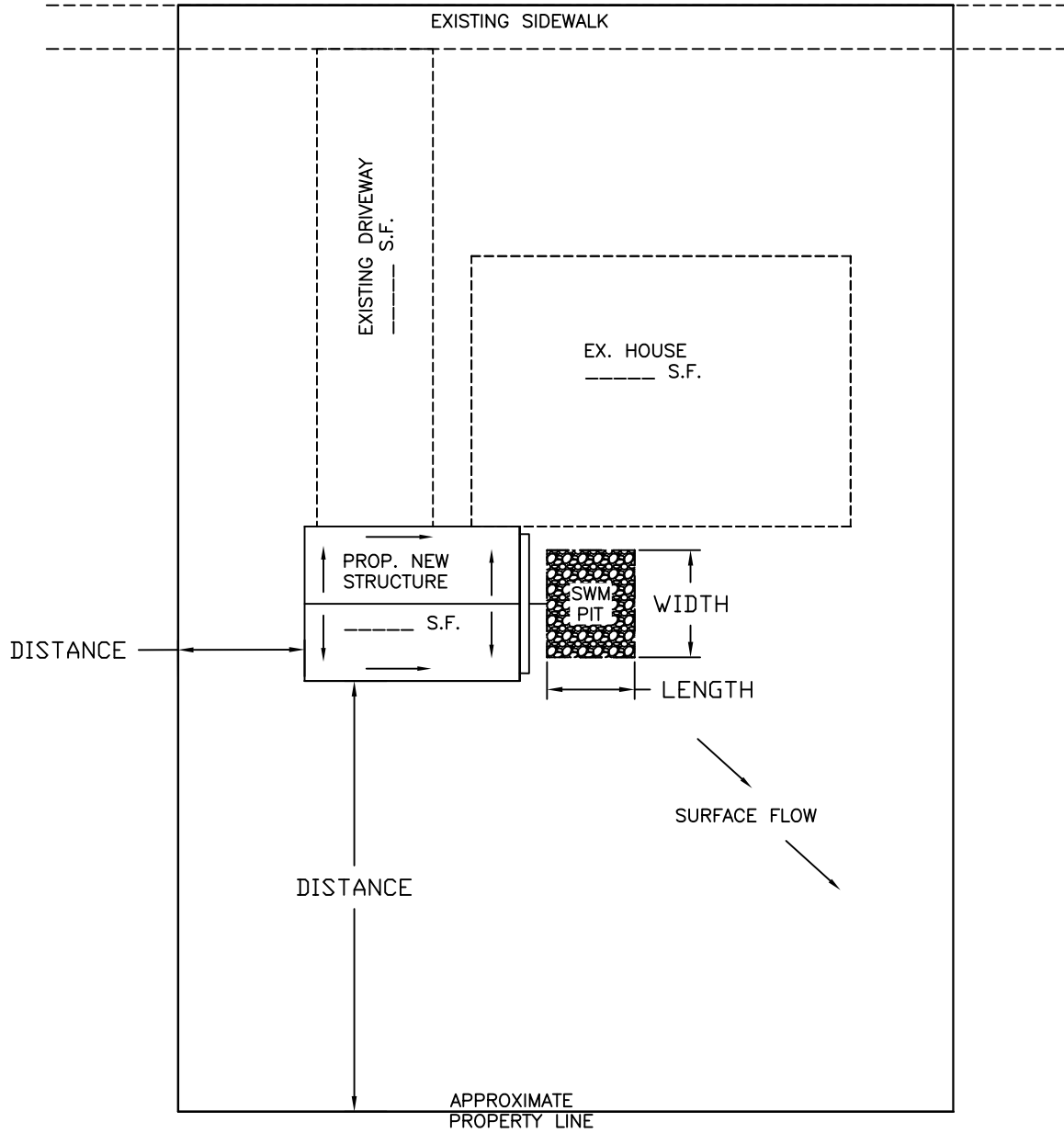


THE BOROUGH OF HANOVER

ATTACHMENT A1  
EXAMPLE SITE PLAN SKETCH

DATE	3/26/2015	DRAWN BY	ZRS	DWG NO.	N/A
SCALE	NOT TO SCALE	CHECKED BY		SHEET	1 OF 2

STREET NAME



**NOTES**

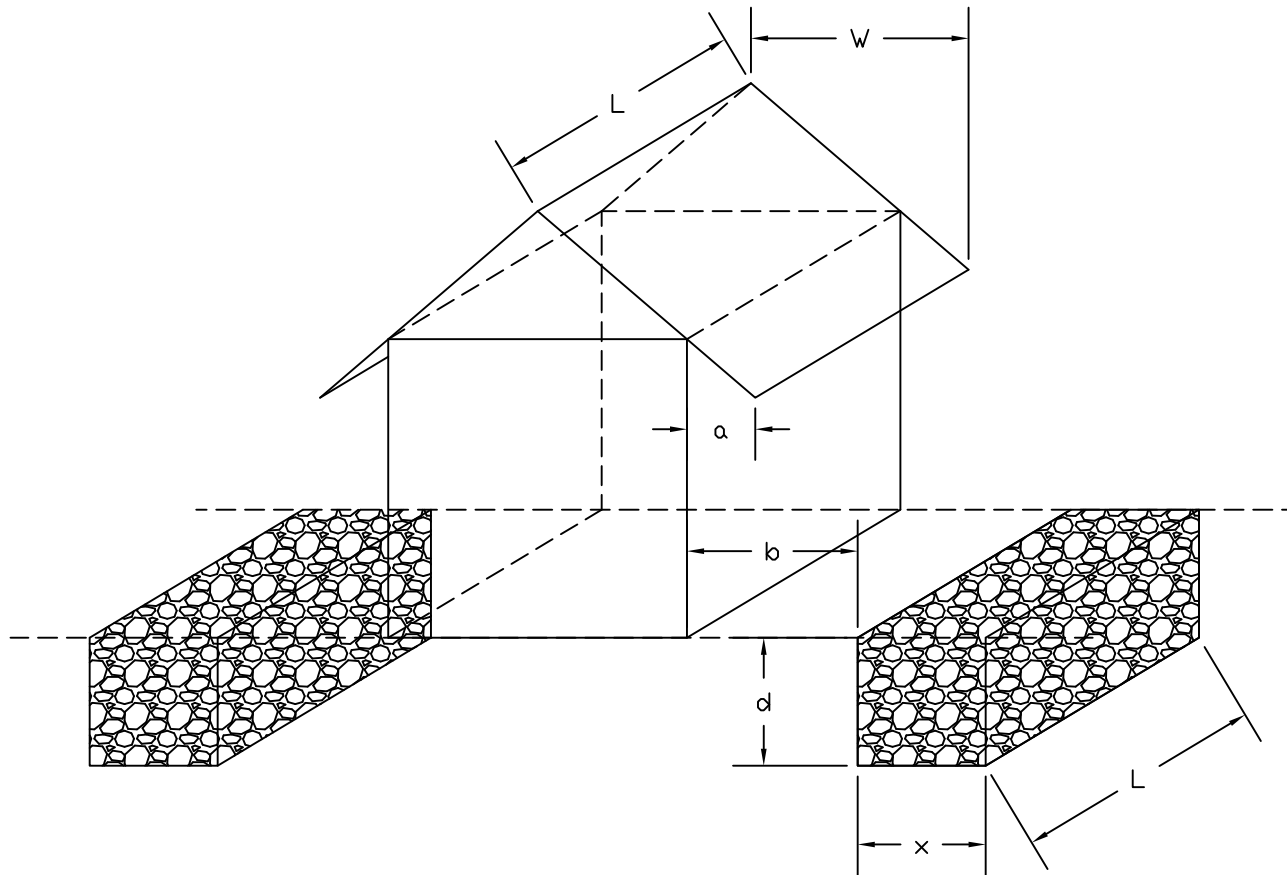
1. PROVIDE SQUARE FOOTAGE OF LOT AND OF ALL EXISTING/PROPOSED IMPERVIOUS AREAS
2. PROVIDED DISTANCE OVER LAWN FROM NEW IMPERVIOUS AREAS TO EXISTING, AS SHOWN
4. SHOW DIRECTION OF GRADING/SURFACE FLOW ON LOT
3. THIS PLAN MAY BE HAND DRAWN OR PRINTED



THE BOROUGH OF HANOVER

ATTACHMENT A2  
EXAMPLE SITE PLAN SKETCH

DATE	3/26/2015	DRAWN BY	ZRS	DWG NO.	N/A
SCALE	NOT TO SCALE	CHECKED BY		SHEET	2 OF 2



**KEY**

- L = LENGTH OF STRUCTURE ROOF = LENGTH OF SEEPAGE TRENCH (FT)
- W = HORIZONTAL WIDTH OF ONE SIDE OF ROOF (FT)
- a = EAVE OVERHANG (FT)
- b = DISTANCE FROM STRUCTURE WALL TO SEEPAGE TRENCH (FT)  
= a + 1 FT (PLACE SEEPAGE TRENCH ONE FOOT PAST EAVES)
- x = WIDTH OF SEEPAGE TRENCH (FT) = APPROXIMATELY 2 TO 3 FT
- d = DEPTH OF SEEPAGE TRENCH (FT)

REQUIRED RUNOFF CAPTURE VOLUME OF TRENCH =  $L*W*2/12 = L*x*d*0.4 = X=0.28W$  (D=1.5')

RATIO: 3.6 TO 1  
(IMPERVIOUS TO INFILTRATION)

**NOTES**

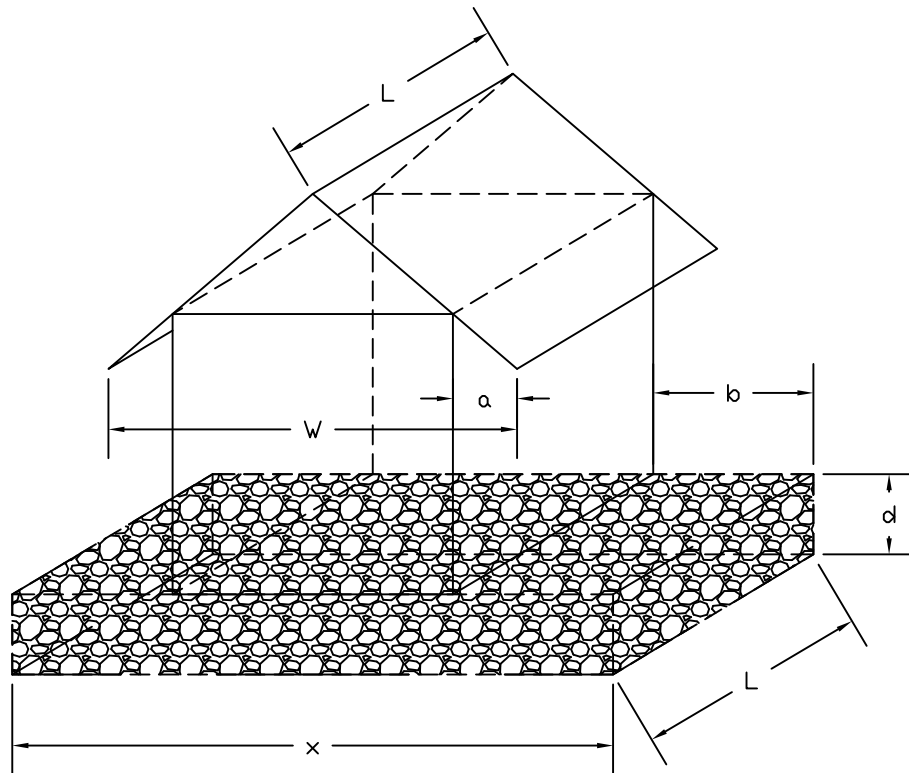
1. TRENCH MUST BE PROVIDED ON EACH SIDE OF STRUCTURE.
2. TRENCH TO BE WRAPPED IN CLASS 1 GEOTEXTILE.
3. TRENCH TO BE FILLED WITH CLEAN STONE (AASHTO #2 TYP.).
4. TRENCH TO BE CONSTRUCTED AT 0% SLOPE ON UNDISTURBED SOIL.
5. TRENCH TO BE CHECKED REGULARLY TO MAINTAIN PROPER OPERATION.



# THE BOROUGH OF HANOVER

## ATTACHMENT B1 STORMWATER MANAGEMENT EXAMPLE: STRUCTURES WITHOUT GUTTERS A

DATE	11/29/11	DRAWN BY	ZRS	DWG NO.	N/A
SCALE	NOT TO SCALE	CHECKED BY		SHEET	1 OF 4



**KEY**

- L = LENGTH OF STRUCTURE ROOF = LENGTH OF SEEPAGE BED (FT)
- W = HORIZONTAL WIDTH OF ENTIRE ROOF (FT)
- a = EAVE OVERHANG (FT)
- b = DISTANCE FROM STRUCTURE WALL TO SEEPAGE BED (FT)  
= a + 1 FT (PLACE SEEPAGE BED ONE FOOT PAST EAVES)
- x = WIDTH OF SEEPAGE BED (FT)  
x = W + 2 FT
- d = DEPTH OF SEEPAGE BED (FT)  
d = 6" TO 8" (AVERAGE)

**NOTES**

1. BED TO BE WRAPPED IN CLASS 1 GEOTEXTILE.
2. BED TO BE FILLED WITH CLEAN STONE (AASHTO #2 TYP.)
3. BED TO BE CONSTRUCTED AT 0% SLOPE ON UNDISTURBED SOIL.
4. BED TO BE CHECKED REGULARLY TO MAINTAIN PROPER OPERATION.

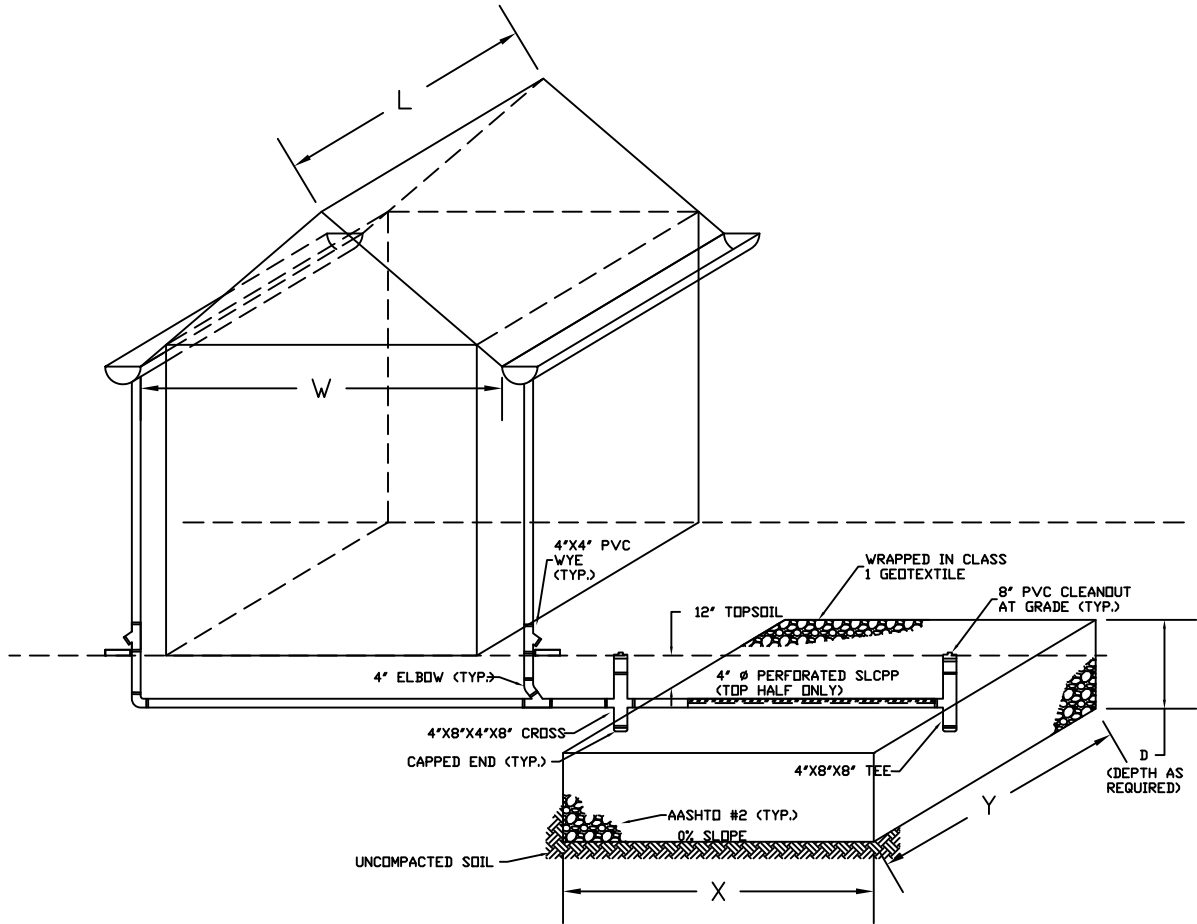


# THE BOROUGH OF HANOVER

## ATTACHMENT B2 STORMWATER MANAGEMENT EXAMPLE: STRUCTURES WITHOUT GUTTERS B

DATE	11/29/11	DRAWN BY	ZRS	DWG NO.	N/A
SCALE	NOT TO SCALE	CHECKED BY		SHEET	2 OF 4





**KEY**

- L = LENGTH OF STRUCTURE ROOF (FT)
- W = HORIZONTAL WIDTH OF ENTIRE ROOF (FT)
- X = WIDTH OF INFILTRATION BED (FT)
- Y = LENGTH OF INFILTRATION BED (FT)

REQUIRED VOLUME OF RUNOFF CAPTURE =  $L*W*2/12 = X*Y*D*0.4$  (ASSUME: X=W, D=2FT)  
 REQUIRED VOLUME OF BED =  $X*Y*D$

$Y=0.21*L$   
 RATIO: 4.76 TO 1  
 (IMPERVIOUS TO INFILTRATION)

**NOTES**

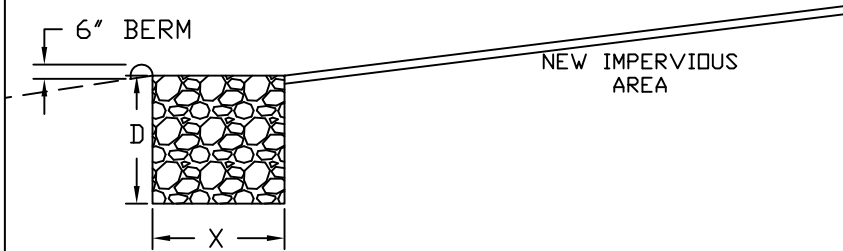
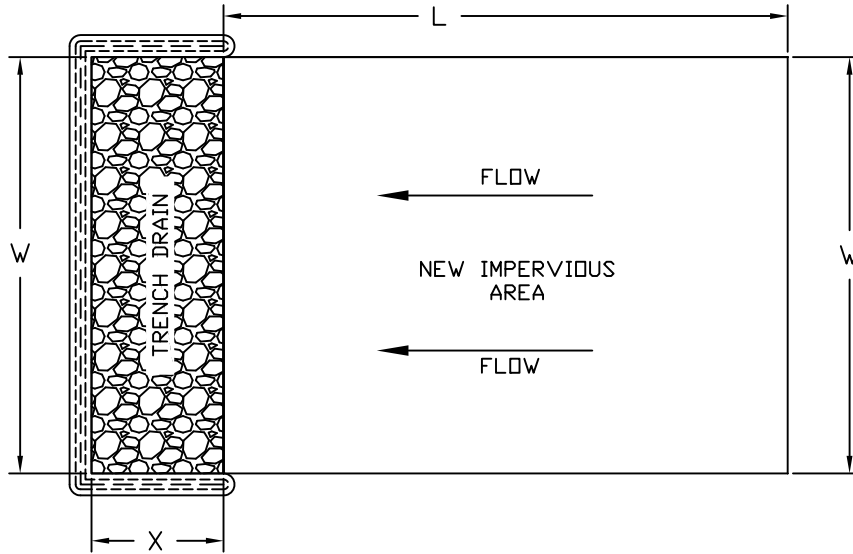
1. PIPING AND CLEANOUTS TO BE CENTERED WITHIN INFILTRATION BED.
2. BOTTOM AND SIDES OF BED TO BE WRAPPED IN CLASS 1 GEOTEXTILE.
3. BED TO BE FILLED WITH CLEAN STONE (AASHTO #2 TYP.)
4. BED TO BE CONSTRUCTED AT 0% SLOPE ON UNDISTURBED SOIL.
5. BED TO BE CHECKED REGULARLY TO MAINTAIN PROPER OPERATION.



# THE BOROUGH OF HANOVER

## ATTACHMENT B3 STORMWATER MANAGEMENT EXAMPLE: STRUCTURES WITH GUTTERS

DATE	11/29/11	DRAWN BY	ZRS	DWG NO.	N/A
SCALE	NOT TO SCALE	CHECKED BY		SHEET	3 OF 4



**KEY**

- L = LENGTH OF NEW IMPERVIOUS SURFACE (FT)
- W = WIDTH OF NEW IMPERVIOUS SURFACE (FT)
- W = LENGTH OF SEEPAGE TRENCH/BED (FT)
- X = WIDTH OF SEEPAGE TRENCH/BED (FT)

REQUIRED VOLUME OF RUNOFF CAPTURE =  $L*W*2/12 = X*W*D*0.4$   
 FOR BASIC DESIGN ASSUME:  $X=.21*L$ ,  $D=2FT$  WITH PIPE IN TRENCH;  
 $X=.28*L$ ,  $D=1.5FT$  WITHOUT PIPE

REQUIRED VOLUME OF TRENCH/BED =  $X*W*D$

**NOTES**

1. PIPING AND CLEANOUTS TO BE CENTERED WITHIN INFILTRATION BED.
2. BOTTOM AND SIDES OF BED TO BE WRAPPED IN CLASS 1 GEOTEXTILE.
3. BED TO BE FILLED WITH CLEAN STONE (AASHTO #2 TYP.)
4. BED TO BE CONSTRUCTED AT 0% SLOPE ON UNDISTURBED SOIL.
5. BED TO BE CHECKED REGULARLY TO MAINTAIN PROPER OPERATION.



# THE BOROUGH OF HANOVER

## ATTACHMENT B4 STORMWATER MANAGEMENT EXAMPLE: AT-GRADE IMPERVIOUS

DATE	3/26/2015	DRAWN BY	ZRS	DWG NO.	N/A
SCALE	NOT TO SCALE	CHECKED BY		SHEET	4 OF 4

**Inspection Form for Pervious Pavement**

\*All other facilities will need an inspection form developed by the property owner and approved by the Borough.

1. Property Owner: \_\_\_\_\_

2. Property Address: \_\_\_\_\_

3. SWM Permit No: \_\_\_\_\_

**All facilities:**

1. Is the area free from sediment? None Minor Some Severe
2. Is the area free from oil or other chemical stains? None Minor Some Severe
3. Is the area free of trash or other debris? None Minor Some Severe
4. Are there signs of erosion, scouring or cracking in the facility? Yes No
5. Has the area ever been seal coated? Yes No I don't know
6. Has a commercial vac truck and/or sweeper been used? No Yearly Biannually Quarterly

Any other notable surface observations? *Please use this space to describe.*

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Are there cleanouts or grates that allow the inside of the infiltration bed to be observed? Yes No *(if no skip this section)*

1. Is there trash, debris, pollutants and other obstructions observable down the cleanout/grate? None Minor Some Severe N/A
2. Are all grates and/or caps in good condition and free of debris? Yes No N/A
3. Are all cleanouts, risers, or sumps in good condition? Yes No N/A
4. Is the facility draining properly after three days without rain (viewing pipe when you twist off the cleanout cap)? Yes No N/A

Any other notable sub-surface observations? *Please use this space to describe.*

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Is there an outlet pipe from the sub-surface infiltration bed that can be observed? Yes No *(if no skip this section)*

1. Is there trash or debris obstructions at the outlet pipe? None Minor Some Severe
2. Is the outlet structure(s) free of damage and unclogged? Yes No
3. Is the facility discharge causing erosion, scour or other related concerns downstream? None Minor Some Severe

Any other notable sub-surface observations? *Please use this space to describe.*

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Are there swales, driveways, or stormwater structures (cleanouts, yard drains, roof drains or foundation drains) that connect to the sub-surface infiltration bed? Yes No *(If no skip to the end)*

1. If there is a grass or meadow tributary area(s), do they have full vegetation coverage? Yes No
2. Are there signs of erosion, bare spots and sediment in any grass area(s)? Yes No
3. Are all cleanouts, roof drains, grates, risers or sumps in good condition? Yes No
4. Is overflow piping on the facility or contributing downspouts operable and free of clogs or debris? Yes No

Any other notable observations? *Please use this space to describe.*

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Property Owner Name (Printed)

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Signature

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Date

**Inspection Form for Seepage Beds and Trenches**

\*All other facilities will need an inspection form developed by the property owner and approved by the Borough.

- 1. Property Owner: \_\_\_\_\_
- 2. Property Address: \_\_\_\_\_
- 3. SWM Permit No: \_\_\_\_\_
- 4. SWM Facility:  At Grade Seepage Bed/Trench  Below Grade Seepage Bed/Trench

**All facilities:**

- 1. SWM Facility
  - a. Is Facility functioning as designed?  Yes  No
  - b. Is the facility draining properly after three days without rain (viewing pipe when you twist off the cleanout cap)?  
 Yes  No
- 2. Area surrounding SWM Facility
  - a. Are there signs that the facility is not functioning properly?
    - i. Is the facility discharge causing erosion, scour or other related concerns downstream?  
 Yes  No
    - ii. If Yes, have the channels been stabilized?  Yes  No
  - b. Has any damage or increased runoff occurred across the property line?  Yes  No

**At Grade Seepage Bed/Trench:**

- 1. SWM Facility
  - a. Is the area free from sediment, debris, trash, leaves, oil and other stains?  Yes  No
    - i. If present, have they been removed?  Yes  No  N/A
- 2. Area surrounding SWM Facility
  - a. Has any of the Seepage Bed/Trench stone washed away?  Yes  No
    - i. Has the stone been replaced?  Yes  No
    - ii. If a continuing problem, has larger stone been placed on Bed/Trench for stabilization?  
 Yes  No

**Below Grade Seepage Bed/Trench:**

- 1. SWM Facility
  - a. Is overflow piping on the facility or contributing downspouts operable and free of clogs or debris?  
 Yes  No
  - b. Cleanouts have been inspected and, if necessary, cleaned?  Yes  No

\_\_\_\_\_  
Property Owner Name (Printed)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

**Inspection Form for a Bioretention (rain garden) Facility**

\*All other facilities will need an inspection form developed by the property owner and approved by the Borough.

- 1. Property Owner: \_\_\_\_\_
- 2. Property Address: \_\_\_\_\_
- 3. SWM Permit No: \_\_\_\_\_

**All facilities:**

- 1. Have you regularly provided maintenance and pruning of plantings, removal of weeds, etc.?  Yes  No
- 2. Have you noticed the buildup of loose material (i.e. litter, debris or pollutants) in the BMP?  Yes  Minor  No  
If Yes, has it been removed?  Yes  No
- 3. Have you noticed standing water in the BMP for longer than three (3) consecutive days with no rain?  Yes  Minor  No
- 4. Have you noticed occasional clogging or damage to the inlet/outlet structure (trench drain, curb cuts, domed riser or inlet)?  Yes  Minor  No  N/A
- 5. Are all grates and/or caps in good condition?  Yes  No  N/A  
If No, will they be replaced?  Yes  No
- 6. Have you noticed sediment collecting in the BMP?  Yes  Minor  No  N/A  
If Yes, has it been removed?  Yes  No
- 7. Is the facility floor fully covered with vegetation, mulch and/or stone?  Yes  No  
If No, please fully cover so the BMP can function properly.
- 8. Have any of the plantings died?  Yes  Minor  No  
If Yes, they must be replaced so the BMP can function properly.
- 9. Have you noticed signs of erosion and bare spots?  Yes  Minor  No  
If Yes, have these areas since been re-spread?  Yes  No
- 10. During drought, has the BMP been watered?  Yes  No  N/A
- 11. Are all related channels stabilized and fully vegetated or otherwise covered with mulch, stone or matting?  Yes  No

Are there any other notable surface observations or further explanations of the above answers?

\_\_\_\_\_  
Property Owner Name (Printed)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date