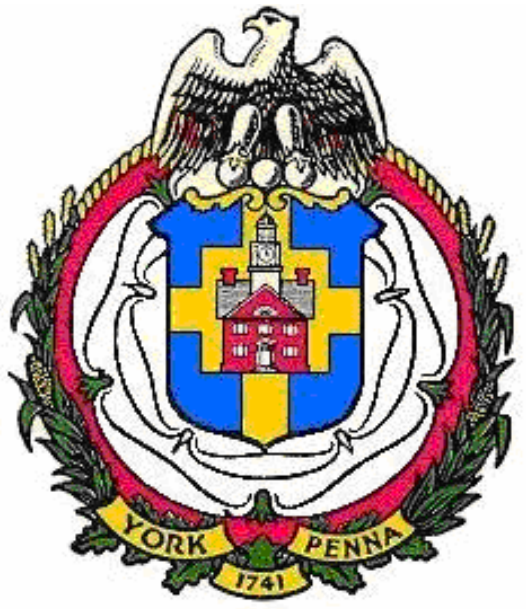
City of York

Stormwater Management Small Projects Guide



NOTE:
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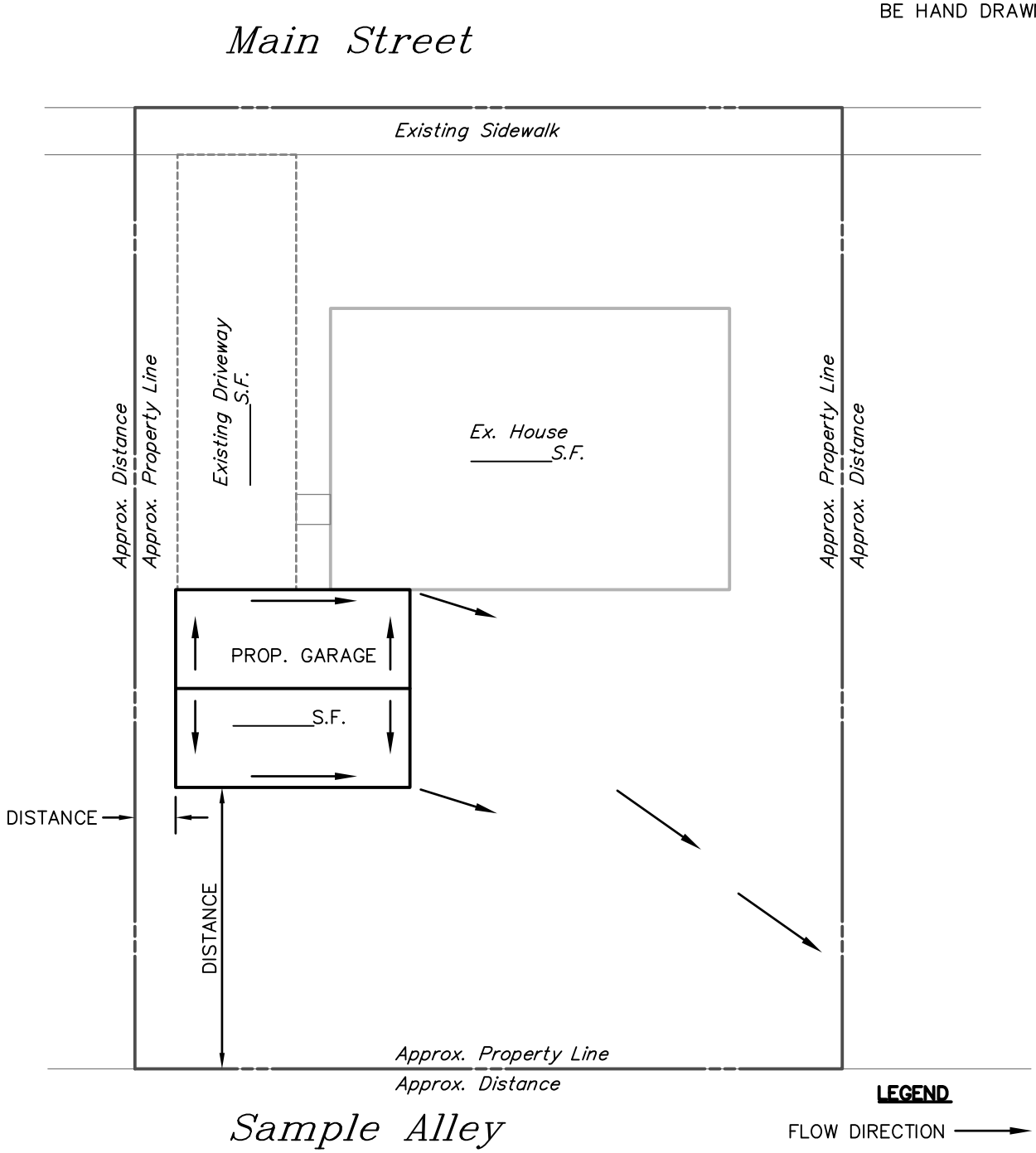

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ATTACHMENT A1
SAMPLE SKETCH/ SITE PLAN

CITY OF YORK YORK COUNTY , PENNSYLVANIA

DRAWN BY	APS
CHECKED BY	
SCALE	N.T.S.
DATE	MARCH 2013
DWG. NO.	ORDINANCE EXHIBITS
FILE NO.	0407.1.00.00

NOTE:
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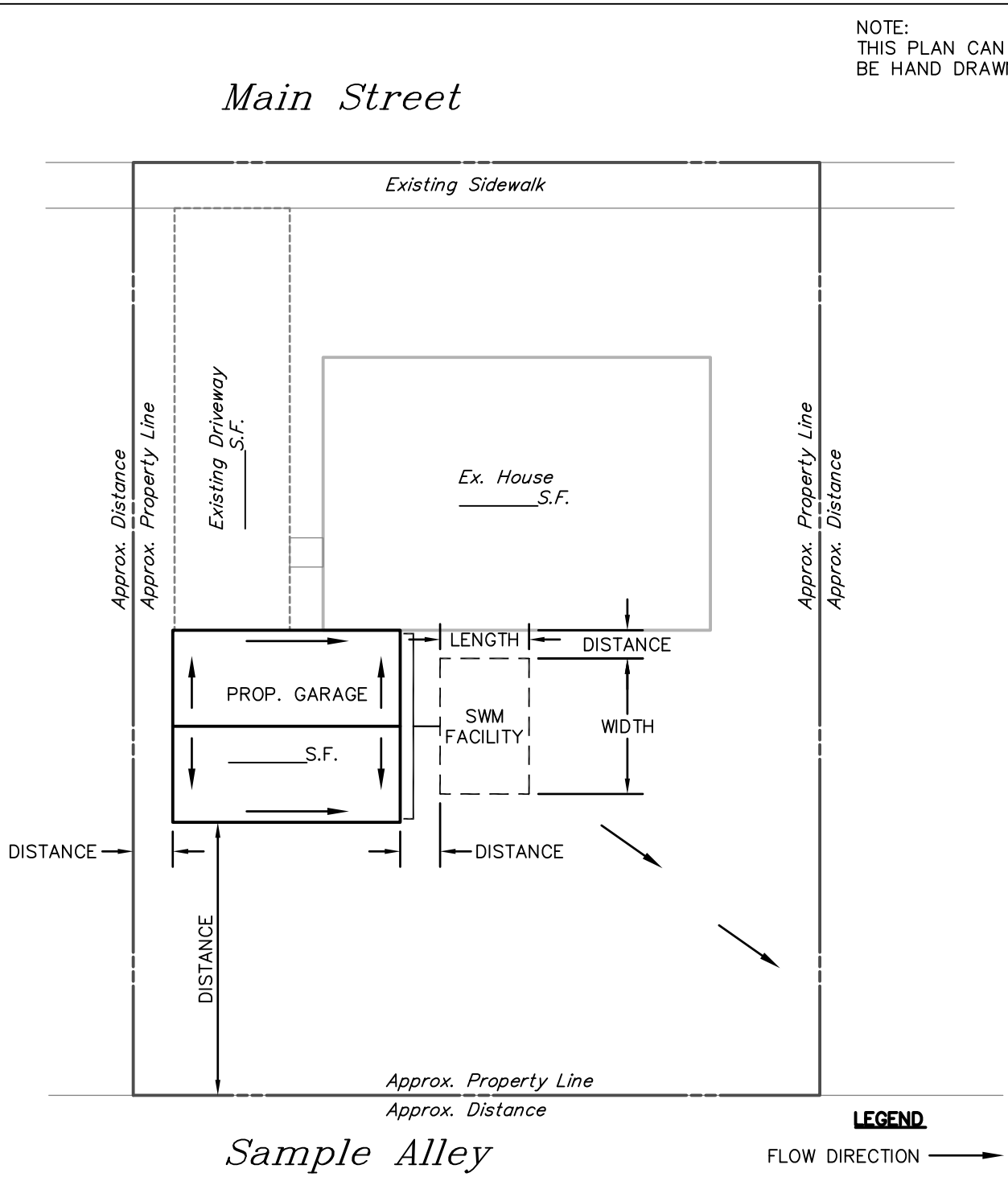

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ATTACHMENT A2
SAMPLE SWM SITE PLAN

CITY OF YORK YORK COUNTY , PENNSYLVANIA

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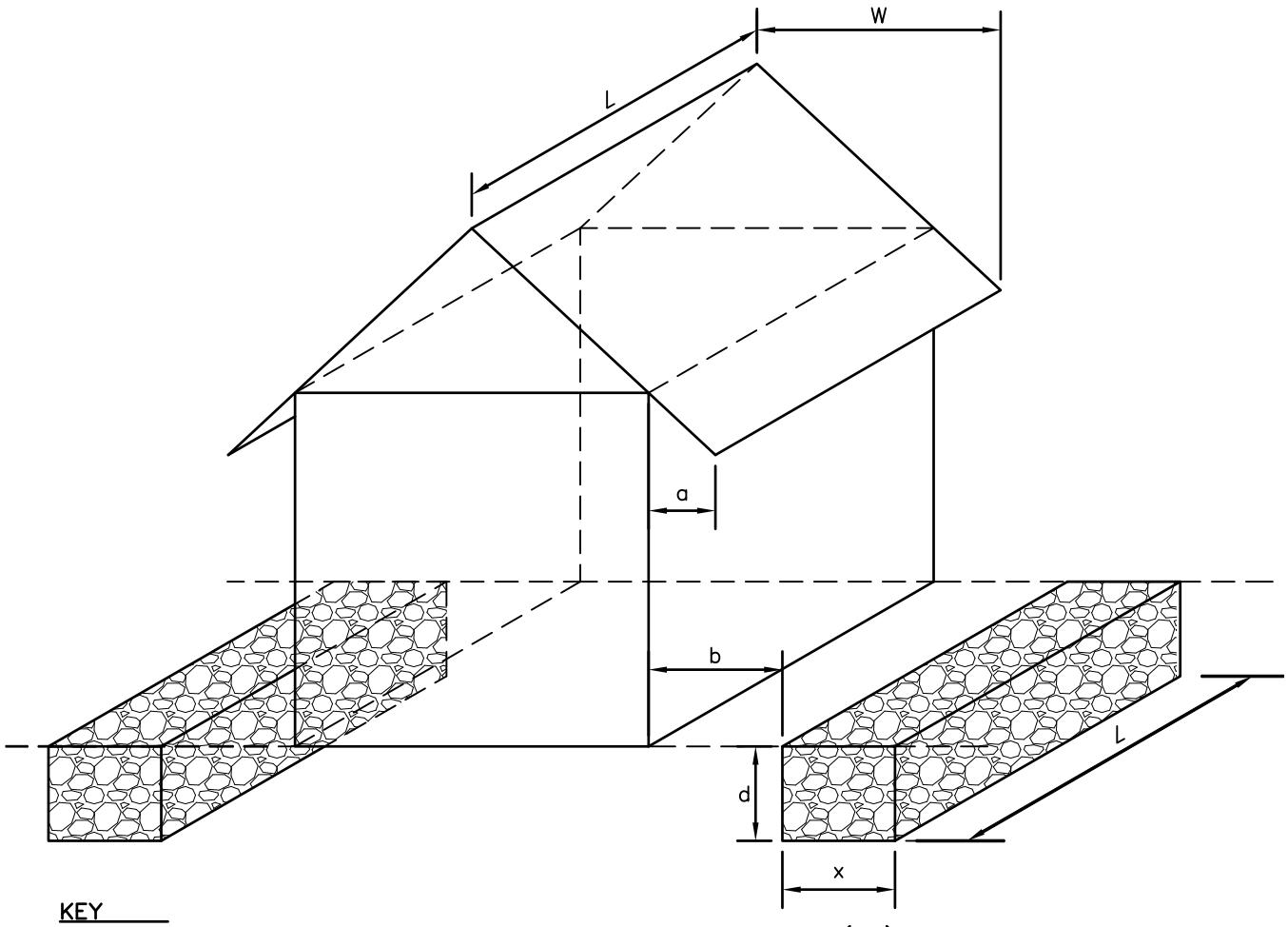

KEY

L = LENGTH OF STRUCTURE ROOF = LENGTH OF SEEPAGE TRENCH (FT.)
W = WIDTH OF ONE SIDE OF THE ROOF (FT)
a = EAVE OVERHANG (FT)
b = DISTANCE FROM STRUCTURE WALL TO SEEPAGE TRENCH (FT)
= a + 1 FT => PLACE EDGE OF TRENCH ONE FOOT PAST EAVES
x = WIDTH OF SEEPAGE TRENCH (FT)
d = DEPTH OF SEEPAGE TRENCH (FT)

REQUIRED 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.) SIDE AND BOTTOM OF TRENCH TO BE WRAPPED IN CLASS 1 GEOTEXTILE.
3.) TRENCH TO BE FILLED WITH CLEAN STONE (3/4" MIN. SIZE).
4.) TRENCH TO BE CONSTRUCTED AT 0% SLOPE ON UNDISTURBED SOIL.
5.) TRENCH TO BE CHECKED REGULARLY TO MAINTAIN PROPER OPERATION.

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ATTACHMENT B1
STORMWATER MANAGEMENT
SAMPLE
STRUCTURES WITHOUT GUTTERS A

CITY OF YORK YORK COUNTY , PENNSYLVANIA

DRAWN BY	APS
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SCALE	N.T.S.
DATE	MARCH 2013
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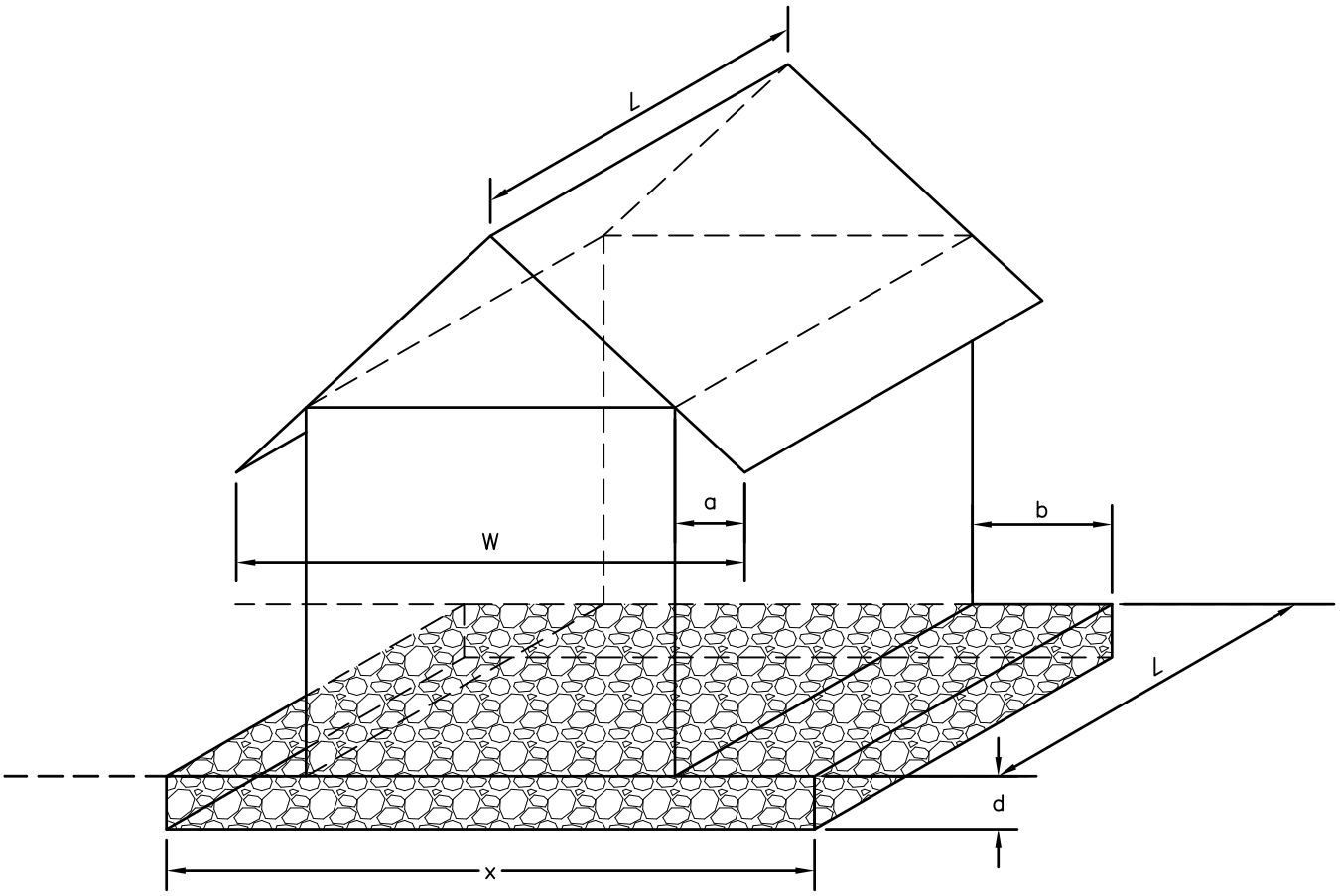
FILE NO.	0407.1.00.00



KEY

L = LENGTH OF STRUCTURE ROOF = LENGTH OF SEEPAGE BED (FT.)
W = WIDTH OF ENTIRE ROOF (FT)
a = EAVE OVERHANG (FT)
b = DISTANCE FROM STRUCTURE WALL TO EDGE OF SEEPAGE BED (FT)
= a + 1 FT => PLACE EDGE OF 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.) SIDE AND BOTTOM OF BED TO BE WRAPPED IN CLASS 1 GEOTEXTILE.
2.) BED TO BE FILLED WITH CLEAN STONE (3/4" MIN. SIZE).
3.) BED TO BE CONSTRUCTED AT 0% SLOPE ON UNDISTURBED SOIL.
4.) BED TO BE CHECKED REGULARLY TO MAINTAIN PROPER OPERATION.

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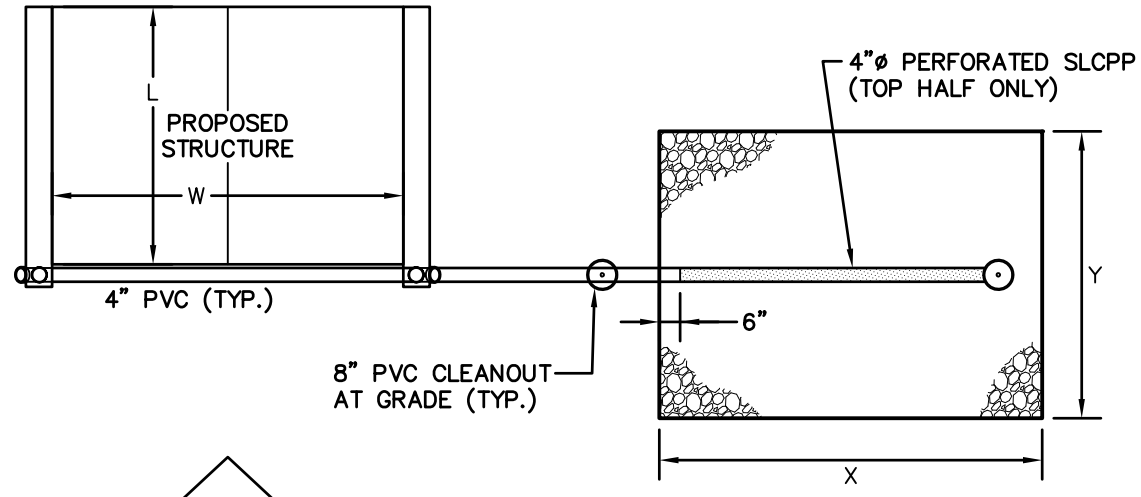
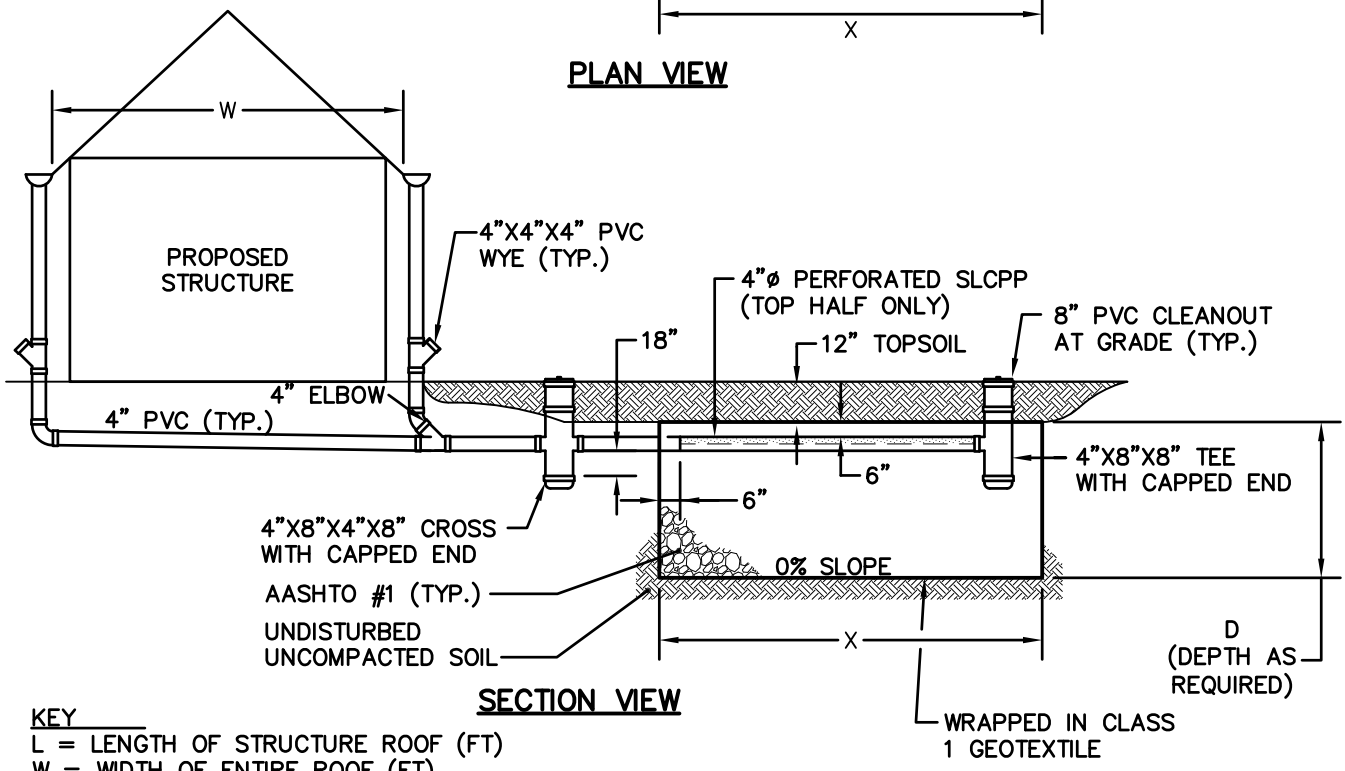
ATTACHMENT B2
STORMWATER MANAGEMENT
SAMPLE
STRUCTURES WITHOUT GUTTERS B

CITY OF YORK YORK COUNTY , PENNSYLVANIA

DRAWN BY	APS
CHECKED BY	
SCALE	N.T.S.
DATE	MARCH 2013
DWG. NO.	ORDINANCE EXHIBITS
FILE NO.	0407.1.00.00



PLAN VIEW



SECTION VIEW

KEY

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

REQUIRED VOLUME OF BED = L*W*2/12 = X*Y*D*0.4 [ASSUME: X=W, D=2']

Y=0.21L

RATIO: 4.76 TO 1
(IMPERVIOUS TO INFILTRATION)

NOTES

1.) BOTTOM OF BED TO BE D+1' BELOW GRADE TO ACCOUNT FOR 1' OF TOPSOIL.
2.) PIPING AND CLEANOUTS TO BE CENTERED WITHIN INFILTRATION BED.
3.) BED TO BE CHECKED REGULARLY TO MAINTAIN PROPER OPERATION.

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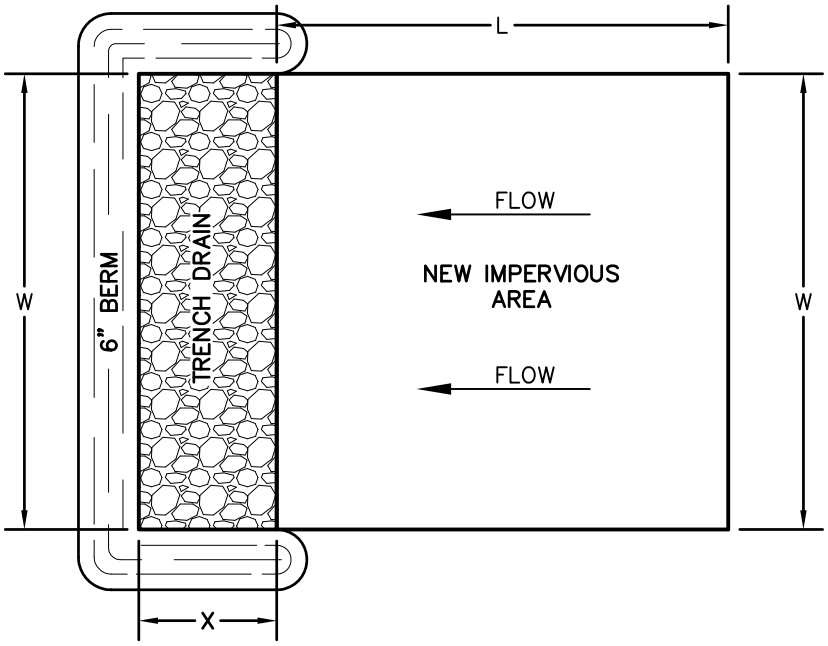
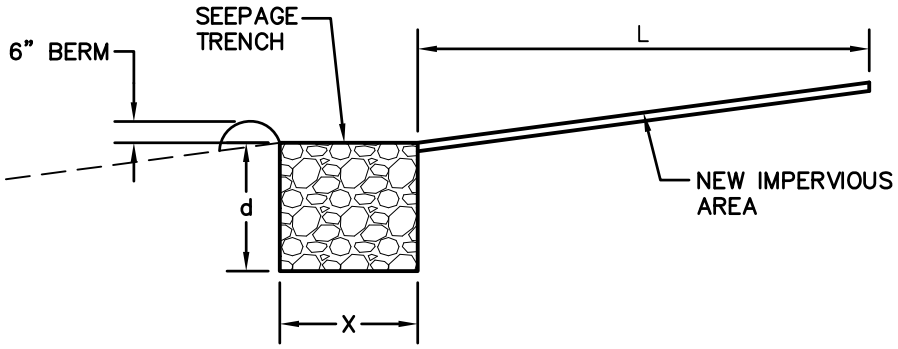
ATTACHMENT B3
STORMWATER MANAGEMENT
SAMPLE
STRUCTURES WITH GUTTERS

CITY OF YORK YORK COUNTY , PENNSYLVANIA

DRAWN BY	APS
CHECKED BY	
SCALE	NONE
DATE	MARCH 2013
DWG. NO.	ORDINANCE EXHIBITS
FILE NO.	0407.1.00.00



PLAN VIEW



SECTION VIEW

KEY

L = LENGTH OF NEW IMPERVIOUS SURFACE (FT) – MAY NOT EXCEED 75'
W = WIDTH OF NEW IMPERVIOUS SURFACE = LENGTH OF SEEPAGE TRENCH (FT)
X = WIDTH OF SEEPAGE TRENCH (FT)
d = DEPTH OF SEEPAGE TRENCH (FT)

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

NOTES

1.) SIDE AND BOTTOM OF TRENCH TO BE WRAPPED IN CLASS 1 GEOTEXTILE.
2.) TRENCH TO BE FILLED WITH CLEAN STONE (3/4" MIN. SIZE).
3.) TRENCH TO BE CONSTRUCTED AT 0% SLOPE ON UNDISTURBED SOIL.
4.) TRENCH TO BE CHECKED REGULARLY TO MAINTAIN PROPER OPERATION.

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ATTACHMENT B4
STORMWATER MANAGEMENT
SAMPLE
AT GRADE IMPERVIOUS

CITY OF YORK YORK COUNTY, PENNSYLVANIA

DRAWN BY	APS
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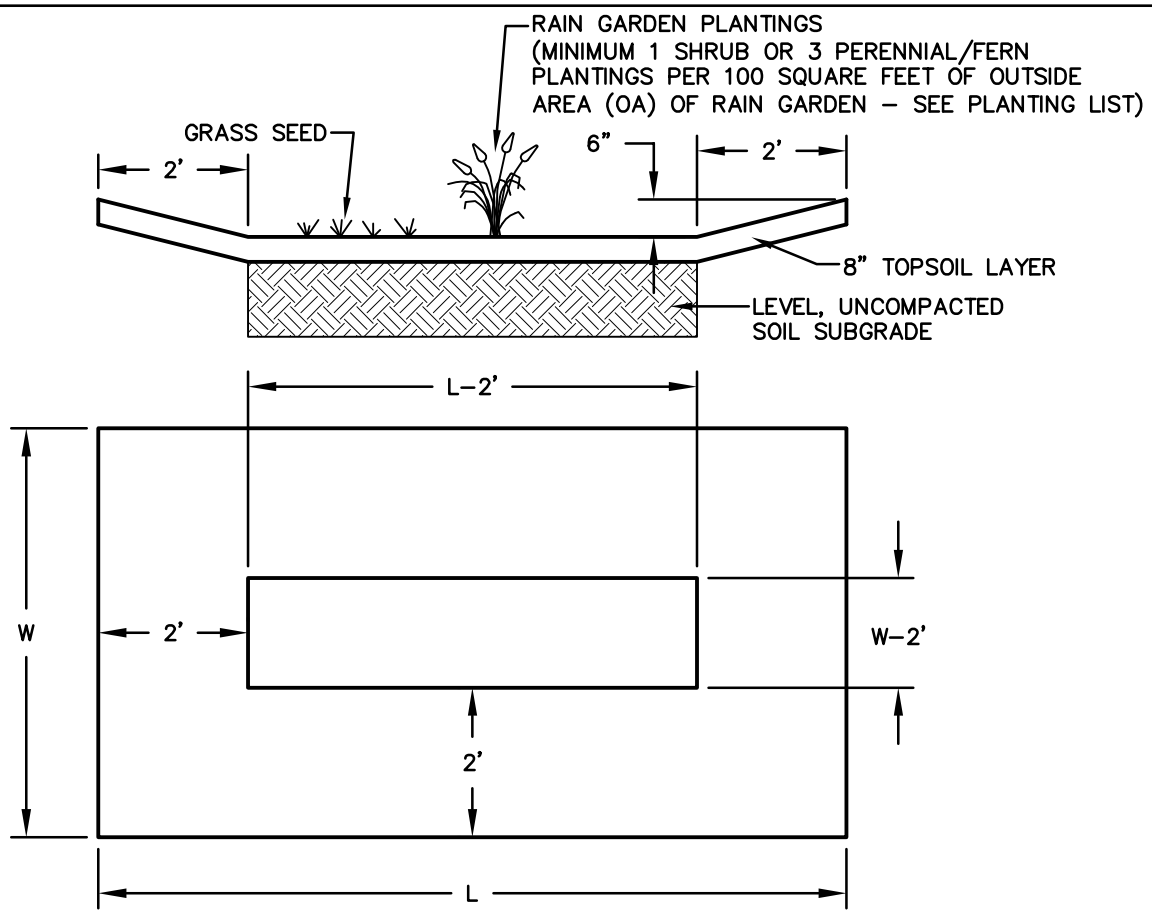
SCALE	N.T.S.
DATE	MARCH 2013
DWG. NO.	ORDINANCE EXHIBITS
FILE NO.	



1. CALCULATE REQUIRED RAIN GARDEN VOLUME (V)
   (RV) = SQUARE FEET OF NEW IMPERVIOUS AREA X 0.17' RV = _____ ft3

2. CALCULATE OUTSIDE AREA OF RAIN GARDEN (OA)
   (OA) = LENGTH (L) X WIDTH (W) OA = _____ ft2

3. CALCULATE INSIDE AREA OF RAIN GARDEN (IA)
   (IA) = [(L) - 2'] X [(W) - 2'] IA = _____ ft2

4. CALCULATE AVERAGE AREA OF RAIN GARDEN (AA)
   (AA) = (OA)/2 + (IA)/2 AA = _____ ft2

5. CALCULATE STORAGE VOLUME (SV)
   (SV) = (AA) X 0.5' SV = _____ ft3

6. CHECK FOR ADEQUATE STORAGE
   STORAGE VOLUME (SV) MUST BE GREATER THAN REQUIRED VOLUME (RV)
   SV = _____ ft3 > RV = _____ ft3

7. ADJUST RAIN GARDEN SIZE
   IF STORAGE VOLUME (SV) IS NOT GREATER THAN REQUIRED VOLUME (RV), INCREASE THE SIZE OF THE RAIN GARDEN AND REPEAT STEPS 2-6

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ATTACHMENT B5
STORMWATER MANGEMENT SAMPLE
RAIN GARDEN

CITY OF YORK YORK COUNTY , PENNSYLVANIA

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SCALE	N.T.S.
DATE	MARCH 2013
DWG. NO.	Rain Garden Detail.dwg
FILE NO.	0407.1.00.00

Rain Garden Native Planting List

Perennials and Ferns:

Blue false indigo (Baptisia australis)
Blue flag iris (Iris versicolor)
Blue star (Amsonia tabernaemontana)
Blue vervain (Verbena hastata)
Boltonia (Boltonia asteroides)
Boneset (Eupatorium perfoliatum)
Bottlebrush grass (Hystrix patula)
Broomsedge (Andropogon virginicus)
Cardinal flower (Lobelia cardinalis)
Cinnamon fern (Osmunda cinnamomea)
Culvers root (Veronicastrum virginicum)
Golden ragwort (Senecio aureus)
Goldenrod (Solidago patula, S. rugosa)
Great blue lobelia (Lobelia siphlitica)
Green bullrush (Scirpus atrovirens)
Horsetail (Equisetum species)
Marsh marigold (Caltha palustris)
Mistflower (Eupatorium colestinum)
Monkey flower (Mimulus ringens)
New England aster (Aster novae-anglia)
New York aster (Aster novi-belgii)
Obedient plant (Physotegia virginiana)
Royal fern (Osmunda regalis)
Seedbox (Ludwigia alternifolia)
Sensitive fern (Onoclea sensibilis)
Sneezeweed (Helenium autumnale)
Soft rush (Juncus effusus)
Swamp milkweed (Asclepias incarnata)
Swamp rose mallow (Hibiscus moscheutos)
Swamp sunflower (Helianthus angustifolius)
Switchgrass (Panicum virgatum)
Threadleaf coreopsis (Coreopsis verticillata)
Tussock sedge (Carex stricta)
White turtlehead (Chelone glabra)
Woolgrass (Scirpus cyperinus)

Shrubs:

American beautyberry (Calicarpa americana)
Arrowwood (Viburnum dentatum)
Black chokeberry (Aronia melanocarpa)
Broad-leaved meadowsweet (Spirea latifolia)
Buttonbush (Cephalanthus occidentalis)
Elderberry (Sambucus canadensis)
Inkberry (Ilex glabra)
Narrow-leaved meadowsweet (Spirea alba)
Ninebark (Physocarpus opulifolius)
Possumhaw (Viburnum nudum)
Red-osier dogwood (Cornus sericea)
St. Johnswort (Hypericum densiflorum)
Silky dogwood (Cornus amomum)
Smooth alder (Alnus serrulata)
Spicebush (Lindera benzoin)
Swamp azalea (Rhododendron viscosum)
Swamp rose (Rosa palustris)
Sweet pepperbush (Clethra alnifolia)
Wild raisin (Viburnum cassinoides)
Winterberry (Ilex verticillata)
Virginia sweetspire (Itea virginica)

SWM Permit #:_____

CITY OF YORK
STORMWATER MANAGEMENT PERMIT APPLICATION

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 stormwater runoff leaving your property, then you must comply with Municipal Stormwater Management Ordinance adopted as Bill No. 33 of Session 2011, Ordinance No. 32. 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: _____ ☐ (preferred)

Email Address: _____ ☐ (preferred)

Proposed Development (Please provide information regarding size, type, distance from property lines and existing site features, etc. Attach any manufacturer's sheets or other information related to the proposed development):

_____

_____

_____

Have any other exterior improvements been completed on the property since October 4, 2011 (*Date of adoption of SWM Ordinance*)? If so please list the projects and permit numbers _____.

Step 2: Provide Sketch Plan of Property

Plan shall include property lines, existing improvements and proposed improvements. Also include any infiltration structures and any impervious surface to be removed. Please indicate which direction the property slopes as well as provide detailed drainage information for proposed improvements (roof breaks, gutters, downspout locations, etc. (Examples included as Attachments A1 and A2 in Small Projects Guide).

☐ Sketch Plan Provided

Step 3: Summarize Proposed Impervious Area

- New Pavement (Parking area, driveway) _____ ft^2
- New Building (Shed, Garage, Addition) _____ ft^2
- Sidewalk or Patio (Concrete, Brick) _____ ft^2
- Removal of existing impervious area _____ ft^2
- Changing the ground surface/cover (Clearing a wooded lot, converting a meadow area to yard) _____ ft^2 (City Engineer to be contacted by City)
- Farming Activities (not new buildings or impervious) – If in compliance with Chapter 102, exempted from formal submission.
- Timber Activities - If in compliance with Chapter 102, exempted from formal submission.
- Stormwater Improvement - Not associated with a new impervious area (City Engineer to be contacted by City)

_____ _____ _____

Applicant Name (Printed) Signature Date

SWM Permit #:_____

Step 4: Confirm Permit Requirements with City Staff
City Use Only:

A. Existing Uncontrolled Impervious Area Added to the Property Since October 4, 2011 and Impacted by the Proposed Project _____ ft^2

B. New Regulated Impervious Area To Be Added _____ft^2

C. Impervious Area To Be Removed X 80% _____ft^2

TOTAL REGULATED IMPERVIOUS AREA (A + B – C) _____ ft^2

City Determination:

____Total Regulated Impervious Area is less than 1,000 ft^2

Review of this submission will occur at the City Staff level. Projects in this category are not required to submit a Stormwater Management Site Plan or record a Stormwater Operation and Maintenance and Right-Of-Way Agreement as long as one of the following methods is utilized:

☐ Project qualifies as a Disconnected Impervious Area (DIA) in accordance with Appendix B of the Stormwater Management Ordinance. Applicant is required to submit a plan detailing the location and characteristics of the DIA and sign the Property Owner/Applicant Certification in Step 7 of this application.

☐ Applicant to utilize a stormwater facility design outlined in the City of York Small Projects Guide to manage stormwater impacts. Consultation and review by the City Engineer will occur for proposed facilities not included in the Small Projects Guide or if deemed necessary by Staff. Applicant is required to submit a plan detailing the proposed location and design of stormwater facilities, sign the Property Owner/Applicant Certification in Step 7 of this application, and sign the Operations and Maintenance Plan located in the Small Projects Guide.

____Total Regulated Impervious Area 1,000 ft^2 or greater

Stormwater Management Site Plan is required to be submitted by a qualified professional. Applicant is required to sign and record a Stormwater Operation and Maintenance and Right-Of-Way Agreement as contained in Appendix A of the Stormwater Management Ordinance. This plan will require an engineering, ordinance review, and inspection by the City Engineer.

Regulated impervious areas totaling between 1,000 ft^2 and 5,000 ft^2 may still qualify for the use of Disconnected Impervious Area credit if the criteria of Appendix B of the Stormwater Management Ordinance is met.

____Project Requires Submission of a Land Development Plan

Stormwater management approval will be covered under the approval of a Land Development Plan. Approval of stormwater management will follow City Land Development processes and timelines. This application is not to be used.

_____	_____	_____
City Official	Signature	Date

SWM Permit #:_____

Step 5: Staff Consultation

Review of this form will allow City Staff to determine what requirements of the Stormwater Management Ordinance apply to your project. The City will contact you at the phone number or email address indicated above once the internal review has been completed. You will be asked to come back to City Hall to discuss the requirements and finalize the application.

Step 6: Approval (City Use Only)

- ☐ Approved Disconnected Impervious Area
- ☐ Approved Use of Small Project's Guide
- ☐ Approved Stormwater Management Site Plan (City Engineer approval received)

Step 7: Property Owner/Applicant Certification

Please read, sign and date the application below to acknowledge and accept the requirements (including construction requirements and associated administrative items) outlined and reviewed with City Staff.

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 approved plans and details.
2. Additional stormwater planning and permitting applications are required for any future impervious areas not represented and accounted for in this application.
3. 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 Municipality purporting to validate such a violation.
4. Upon presentation of proper credentials, the City 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.
5. Proper management of stormwater runoff associated with this permit is the responsibility of the property owner.

_____	_____	_____
Applicant Name (Printed)	Signature	Date

SWM Permit #:_____

Small Projects Guide - Sample Operation & Maintenance Plan

Construction:

1. Install erosion and sedimentation control facilities.
2. Stormwater Management Facility (ies) shall be installed before impervious areas are completed. If earthwork is involved during the construction of the impervious area, then extreme caution shall be taken so that sediment does not wash into the SWM Facility (ies).
3. Mark the locations of the SWM facility (ies).
4. Excavate the SWM Facility to the required depth. Contact municipality for inspection prior to filling. If standing water is encountered, a SWM Site Plan may need to be submitted; contact Municipal Engineer. All excavated materials shall be removed from the site or stabilized.

   For Stone Infiltration Structures

5. Line excavation with Geotextile.
6. Backfill SWM Facility with required stone. If required: Install piping, cleanouts and associated facilities as detailed.
7. If required: Close geotextile material over stone bedding.
8. If required: Place topsoil over trench.
9. Stabilize and seed all disturbed areas.

   For Rain Gardens

5. Place topsoil over excavated area.
6. Install plantings as shown on the plan.
7. Stabilize and seed all disturbed areas.

Maintenance:

1. The SWM Facility shall be checked regularly to ensure that no standing water exists in the facility 3 days after a rain event. If water is encountered, the facility may need to be modified. Notification of the municipality is required if facility is not functioning before any modifications are made.
2. Monitor the SWM facility to ensure that no sediment, grass clippings, leaves, and other similar accumulations occur on top of, and/or within, the SWM Facility.
3. Homeowner to submit an inspection report to the City one year after construction and on an annual basis there afterwards.

I have read and agree to the above Operation and Maintenance Plan. I, as the property owner, am responsible for the proper construction and operation and maintenance for the SWM Facilities. If I fail to adhere to any of these tasks, the City may perform the services required and charge the appropriate fees. Nonpayment of the fees may result in a lien against my property.

_____	_____	_____
Applicant Name (Printed)	Signature	Date