

Earl Township Road Occupancy Permit

Permit Number

	Da	te Submitted
Applicant Name	Applicant Signature	Telephone No.
Company Name		
Street address		Town, Zip
Work Location (If different	than above)	
Description of work (attac	h sketch if necessary)	
	Important	
specified in the permit. If the wo time extension prior to the expir- extension. The Board of Supervis comply with township regulation permittee to contact the Townsh permittee to contact PA 1 Call at	ied in this permit require the permittee to cook started cannot be completed by the specification of the original permit, at that time the cors reserves the right to void and nullify this or as specifically directed by the Township. In for grade inspection and final inspection. It (1-800-242-1776) prior to any excavation. It assures necessary to maintain safety to the put	ied date, permittee shall request a Fownship may grant or deny the permit at any time. All work shall it is the responsibility of the t is the responsibility of the is the responsibility of the permittee
Township approval - Signat	ure	Issue Date
Permit Expires Date		Total Fees

Earl Township

517 North Railroad Avenue New Holland, PA 17557 (717) 354-0773 - Fax (717) 355-0599

NOTICE TO ALL PERMIT APPLICANTS...

ANY PERMIT APPROVAL ISSUED BY THE ZONING OFFICER IS BASED UPON INFORMATION PROVIDED BY THE APPLICANT. THE TOWNSHIP HAS NOT PERFORMED A TITLE SEARCH AND HAS NOT DETERMINED WHETHER THE PROPOSED CONSTRUCTION ENCROACHES INTO ANY EASEMENTS OF RECORD.

THE APPLICANT IS ASSUMING ALL RISKS THAT THE HOLDER OF AN EASEMENT, IN EXERCISING RIGHTS UNDER ITS EASEMENT, MAY DAMAGE OR REMOVE THE IMPROVEMENTS AUTHORIZED BY THIS PERMIT. IF THE HOLDER OF ANY EASEMENT, INCLUDING, BUT NOT LIMITED TO THE TOWNSHIP, EXERCISES RIGHTS UNDER SUCH EASEMENT AND DAMAGES OR DESTROYS IMPROVEMENTS AUTHORIZED BY THIS PERMIT, THE TOWNSHIP SHALL HAVE NO LIABILITY.

ANY CHANGES TO ANY EXISTING STORM WATER MANAGEMENT FACILITIES MUST COMPLY WITH ALL APPLICABLE TOWNSHIP ORDINANCES REGULATING EARTH DISTURBANCE AND STORM WATER MANAGEMENT, AND IT IS THE APPLICANT'S RESPONSIBILITY TO IDENTIFY ALL STORM WATER MANAGEMENT FACILITIES AND TO PRESERVE AND MAINTAIN SUCH FACILITIES UNLESS THE APPLICANT OBTAINS THE NECESSARY APPROVALS TO ALTER STORM WATER MANAGEMENT FACILITIES.

EARL TOWNSHIP ADOPTED NEW STORM WATER ORDINANCE ON MAY 5, 2014

(STATE MANDATED REGULATION)

THIS NEW MANDATE REQUIRES THAT ALL NEW IMPERVIOUS AREAS CREATED MUST BE DOCUMENTED AND THE RESULTING STORM WATER RUNOFF MANAGED PER REGULATIONS. THE FOLLOWING LEVELS OF STORM WATER MANAGEMENT HAVE BEEN CREATED TO ASSIST OUR RESIDENTS WITH THE REGULATIONS:

NEW IMPERVIOUS OF UP TO 1,000 SQUARE FEET MAY UTILIZE AN EXEMPTION (ONE TIME EXEMPTION ACCUMULATIVE TO THE 1,000 SQUARE FEET) AND THE EXEMPTON APPLICATION SHALL BE EXECUTED AND SUBMITTED FOR APPROVAL BY THE TOWNSHIP.

NEW IMPERVIOUS OF 1, 001 TO 4,999 SQUARE FEET MAY UTILIZE THE SMALL PROJECT APPLICATION FOR SMALL PROJECT STORM WATER MANAGEMENT TO BE SUBMITTED AND APPROVED BY THE TOWNSHIP.

NEW IMPERVIOUS OF 5, 000 SQUARE FEET AND OVER SHALL PLAN FULL STORM WATER MANAGEMENT PER THE CURRENT EARL TOWNHSIP STORM WATER ORDINANCE AND SUBMIT FOR REVIEW AND APPROVAL BY THE TOWNSHIP.

APPENDIX A-1

EXEMPTION APPLICATION

Date ReceivedSubmitted Fees \$	_ File Number	Property Act #Approval of Application Date	
Project Street Address:			
Owner's Name:			_
Signature:			_
Phone # / Fax # / E-mail:			_
Person/Firm to be completing	work:		
Phone # / Fax # / E-mail:			_
Proposed Activity:			
Are you removing existing impo	ervious as part of this	s project?	
[]No			
() res, rotal area or e	xisting impervious to	be removedsq. ft.	
[] Removal of ground cover,	grading, filling, or ex	cavation of an area (1,000 square feet or less)	
Total area of land			
Type of Regulated Activity			
] Other earth disturbance activity (please describe)	İ
[] Addition of Impervious Surf	face (1,000 square fe	eet or less)	
Total new impervious	us surface proposed	sq. ft.	
Type of new impervious sur	rface: []driveway, [] shed, [] garage, [] deck, [] walkway,	
[] other (please de	scribe)		
Check all items below that will like the like that like the like that like the like that like the like that like the lik	of the ground surfac eeks, streams, ponds problem areas	ce	
<u>Sketch</u>			

Provide a sketch of the proposed additional impervious area or land disturbance.

APPENDIX A-2

SMALL PROJECT APPLICATION

File Number	Date Received
Submitted Fees \$	Approval of Application Date
Project Street Address:	
Project Name:	
Owner's Name and Address:	
Phone # / Fax # / E-mail:	
Please list the date of any previous	Minor Land Disturbance or Small Project
Applications for the subject property	y:
Proposed Activity:	
[] Removal of ground cover, grading.	filling or excavation of an area less than 5,000 square
feet	The state of the s
Total area of land disturbance:	sq. ft.
Type of Regulated Activity (check a	
[] Removal of ground cove	·
[] Grading [] Filling	
[] Excavation	
[] Other earth disturbance a	activity (please describe)
Addition of Impervious Surface (mor	re than 1,000 SF but less than 5,000 SF)
	[] driveway, [] shed, [] garage, [] deck, [] walkway,
[] other (describe)	
Total new impervious surface pro	oposed for construction:sq. ft.
Are you removing existing imper	
[] No	
[] Yes – Total area of existin	g Impervious to be removed

Check all items below that will be impacted by the project:	
wature trees	
Sinkholes	
Water wells	
Septic drainfields	
Alternate septic drainfields	
Creeks, streams, wetlands, or ponds	
Existing stormwater management facility (basin, swale, etc.)	
Easements	
Total runoff volume to be permanently removed/managed on site from attached calculation worksheet: gallons or cubic feet	
Proposed Stormwater Management Controls (Best Management Practice):	
Rain Garden	
Infiltration Trench	
Cistern	
Rain Barrel	
Other (describe)	
<u>Sketch</u>	
Provide a sketch of the proposed additional impervious area or land disturbance. Include the following on the sketch:	
Property boundary	-4 XF: <u>:</u>
Location and approximate footprint of existing structures (buildings, patios, driveways, etc.)	
 Approximate location of any of the following features which will be impacted by the project: 	
Mature trees	
Sinkholes	
Water wells	
Septic drainfields	
Alternate septic drainfields	
Creeks, streams, wetlands, ponds	
Existing stormwater management facilities (basins, swales, etc.)	
 Location and approximate footprint of proposed impervious area or land disturbance. 	
 Approximate footprint and location of all structures on adjacent properties if located 	
within 50 feet of the proposed impervious area or land disturbance	
Location and description of proposed stormwater management facilities (e.g., rain	
gardens, swales, rain barrels, etc.)	
Direction of proposed stormwater discharge (e.g., with arrows)	
 Scale and North arrow 	
Person/Firm to be completing work:Phone # / Fax # / E-mail:	

reame of Person Submitting this Application:	
Signature:	
Date:	

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Small Project Application Calculation Worksheet

The applicant may use the following to calculate the amount of runoff which must be managed in accordance with § 17-302B of this chapter.
Project Name:
Owner Name:
Proposed Additional Impervious Area: square feet
Impervious Area Calculations
Calculate the amount of runoff to be permanently removed (managed on site through reuse, evaporation, transpiration or infiltration):
Additional impervious area ÷ 12 = Permanently Removed Runoff Volume (PRV)
square feet of additional impervious ÷ 12 =cubic feet PRV

EXAMPLE Small Project Application Calculation Worksheet

Landowner Name:	Jane Doe	(20 x 45' gara	(ep	
Owner Name:	Jane Doe			
Proposed Additional I	mpervious Area:	900	_ square feet	
Impervious Area Calc	<u>ulations</u>			
Calculate the amount evaporation, transpira	of runoff to be perm tighter infiltration) us	anemily nemoves	managed on	sie through reuse,
Additional impervious				(PRV)
	or additional imper			feet PRV

EXAMPLE SKETCH

***George Company and a second comp

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

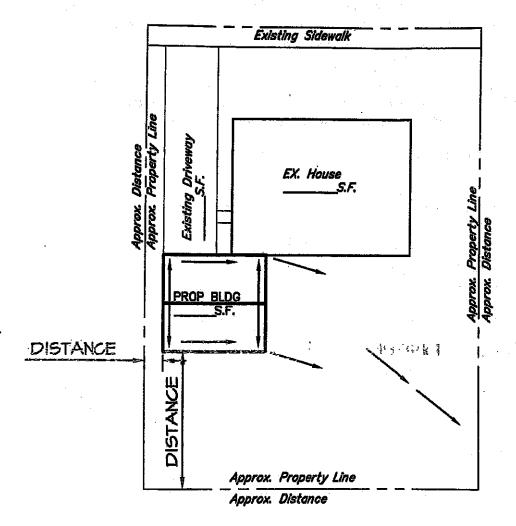
- 10. Place topsoil over excavated area.
- 11. Install plantings as shown on the plan.
- 12. Stabilize and seed all disturbed areas.

Maintenance:

- 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 of 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 Township one year after construction and every 3rd year there afterwards.

responsible for the proper constadhere to any of these tasks, the	ave read and agree to the above Operation and Maintenance Plan. I, as the property owner, am ponsible for the proper construction and operation and maintenance for the SWM Facilities. If I fail to here to any of these tasks, the Township may perform the services required and charge the appropriate s. Nonpayment of the fees may result in a lien against my property.			
Applicant Name (Printed)	Signature	Date		

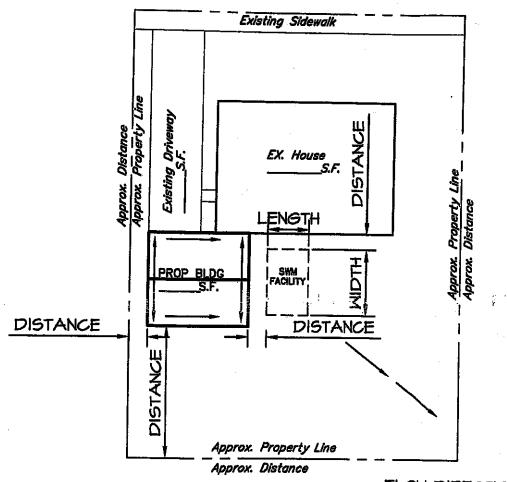
Main Street



Sample Alley FLOW DIRECTION

EARL TOWNSHIP ATTACHMENT I SAMPLE SKETCH/SITE PLAN		anana da ang ang ang ang ang ang ang ang ang an	Job Nimber:
143 SOUTH BROAD STREET	SCALE	N.T.S.	DRAWING:
(III) 626-1271 FAX (III) 625-1040	DRAWN BY		N/A SKETCH
ENGINEERS & LANDSCAPE ARCHITECTS	DATE	2014	I <i>O</i> FI

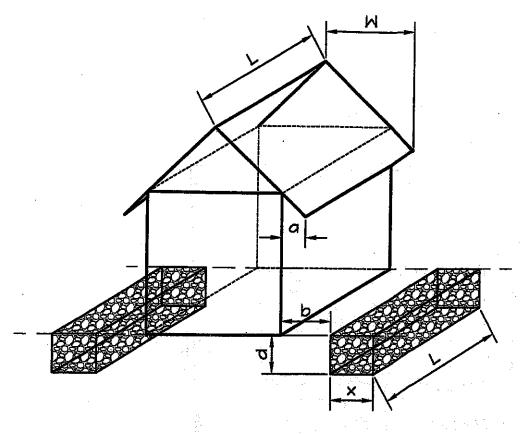
Main Street



FLOW DIRECTION

Sample Alley

EARL TOWNSHIP ATTACHMENT 2 SAMPLE SWM SITE PLAN			LOB NUMBER:
743 SOUTH BROAD STREET	SCALE:	N.T.S.	DRAWING:
LITITZ, PA 17543 (III) 626-1221 FAX (III) 626-1240 (III) 626-1221 FAX (III) 626-1240 (III) 626-1240 FAX (III) 626-1240	DRAWN BY:		N/A sketch
EVENNERS & LANDSCAPE ARCHITECTS	DATE	2014	IOFI



LESS 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 FROM EDGE OF TRENCH ONE FOOT PAST EAVES

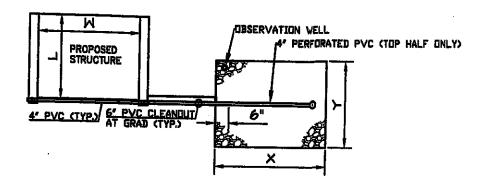
x = WIDTH OF SEEPAGE TRENCH (FT) d = DEPTH OF SEEPAGE TRENCH (FT)

REQUIRED VOLUME OF TRENCH \Rightarrow L*W*1/12 = L*X*d*0.4 \Rightarrow X=0.14W for d=1.5'

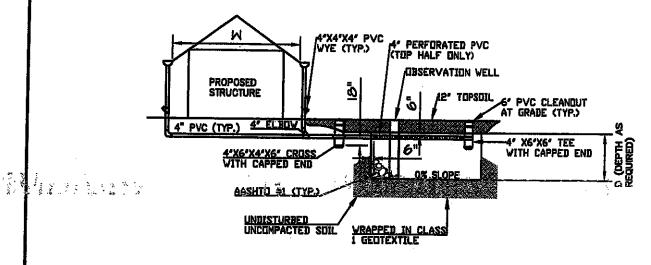
Ratio: 3.6 to 1 (IMPERVIOUS TO INFILTRATION)

- 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

EARL TOWNSHIP	, , , , , , , , , , , , , , , , , , ,		JOB NIMBER	
ATTACHMENT 3 STORMWATER MANAGEMENT STRUCTURES I	WITHOUT GUTTERS		-	:
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SCALE:	N.T.S.	DRAWING:	
LITITZ, PA 17543 (117) 626-1731 FAX (117) 626-1040 Helefact reacces	DRAWN BY:		N/A Sketch	
ENGINEERS & LANDSCAPE ARCHITECTS	DATE:	2014	I <i>o</i> FI	į



PLAN. VIEW



SECTION VIEW

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*1/12 = X*Y*D*0.4 [ASSUME X=W D=2'] Y=0.11L

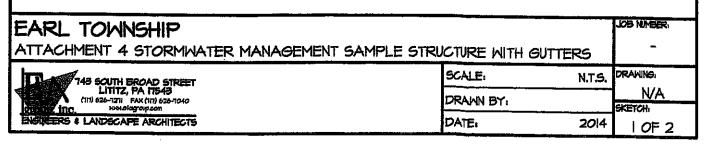
RATIO 4.76 TO 1

(IMPERVIOUS TO INFILTRATION)

NOTES

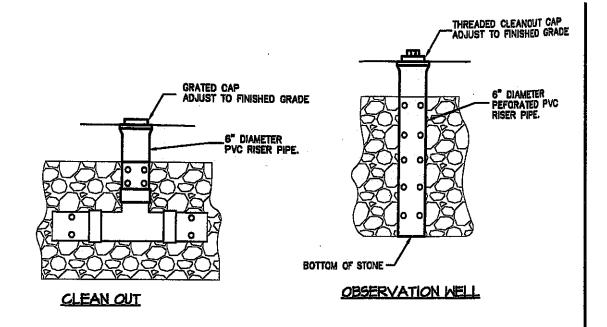
- 1.) BOTTOM OF BED TO BE D+1' BELOW GRADE TO ACCOUNT FOR 1' OF TOPSOIL.
 2.) PIPING AND CLEANOUTS TO BE CENTERED WITHIN INFILTRATION BED.
 3.) BED TO BE CHECKED REGULARLY TO MAINTAIN PROPER OPERATION.

- 4.) SEE SHEET 2 OF 2 FOR ADDITIONAL DETAILS



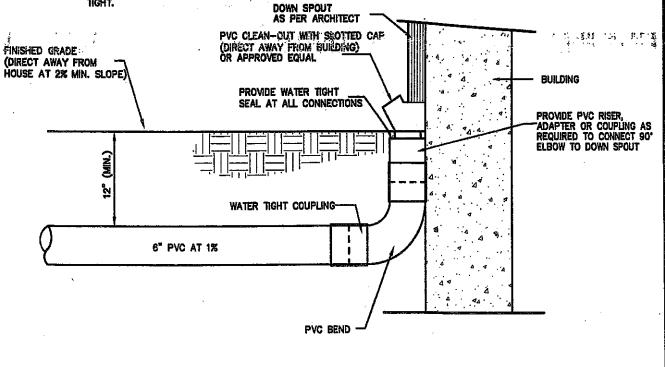
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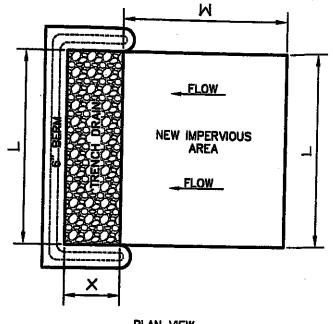
NOTE:
CONTRACTOR SHALL PROWDE ALL
FITTINGS, ADAPTERS, COUPLINGS AND
OTHER APPURTENANCES AS REQUIRED TO
CONNECT STORM CONVEYANCE SYSTEM.
ALL CONNECTIONS SHALL BE BE WATER
TIGHT.

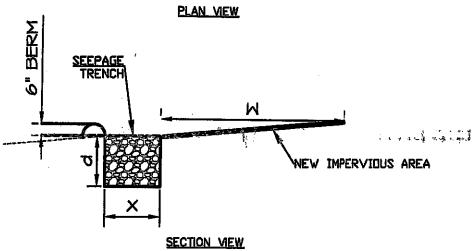
D



CONNECTION TO DOWN SPOUT

EARL TOWNSHIP ATTACHMENT 4-IDOWNSPOUT/CLEAN OUT/OBSE	RVATION WELL DETAILS		Job Nimber:
143 SOUTH BROAD STREET	SCALE:	N.T.S.	drawing:
LITITZ, PA 11543 (10) 626-1371 FAX (10) 626-1040 (10) 626-1371 FAX (10) 626-1040 (10) 626-1371 FAX (10) 626-1040	DRAWN BY:		N/A SKETCH:
ENGINEERS & LANDSCAPE ARCHITECTS	DATE	2014	2 <i>0</i> F2





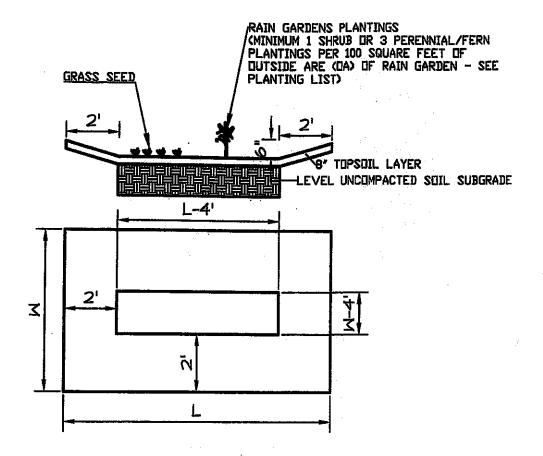
L = LENGTH OF NEW IMPERVIOUS SURFACE (FT) = LENGTH OF SEEPAGE TRENCH W = WIDTH OF NEW IMPERVIOUS SURFACE -MAY NOT EXCEED 75'

X = WIDTH OF SEEPAGE TRENCH (FT) d = DEPTH OF SEEPAGE TRENCH (FT)

REQUIRED VOLUME OF TRENCH => L*W*1/12=X*L*d*0.4 => X=0.14W FOR d=1.5'

- 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.

EARL TOWNSHIP ATTACHMENT 5 STORMWATER MANAGEMENT	AT GRADE IMPERVIOUS		JOB NIMBER:
143 SOUTH BROAD STREET LITITZ, PA 17543 (171) 625-1731 FAX (171) 625-1040 HHABIOGRAPS OF ARCHITECTS	SCALE:	N.T.S.	drahing, N/A
	DRAWN BY:	DRAWN BY:	
	DATE	2014	SKETCH: I OF I



1.) CALCULATE REQUIRED RAIN GARDEN VOLUME (V)

(RV) = SQUARE FEET OF NEW IMPERVIOUS AREA X (0.085')

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)-4'] X [(W)-4']

4.) CALCULATE AVERAGE AREA OF RAIN GARDEN (AA)

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)
RV= ___FT3 > SV=___FT3

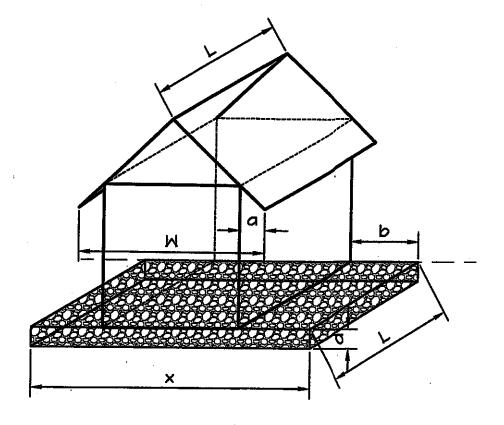
(AA) = (OA)/2 + (iA)/2

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.

EARL TOWNSHIP ATTACHMENT 6 RAIN GARDEN		. 4	JOS NIMBER
743 SOUTH BROAD STREET	SCALE:	N.T.S.	DRAMING:
LITITZ, PA 17543 (III) 626-1271 FAX (III) 626-1040	DRAWN BY:	#*	N/A SKETCHI
ENGINEERS & LANDSCAPE ARCHITECTS	DATE:	2014	IOFI



KEY

L = LENGTH OF STRUCTURE ROOF = LENGTH OF SEEPAGE TRENCH (FT.)

W = WIDTH OF ONE SIDE OF THE ROOF (FT)

a = EAVE/OVERHANG (FT)

= DISTANCE FROM STRUCTURE WALL TO SEEPAGE TRENCH (FT) = a + 1 FT => PLACE FROM EDGE OF TRENCH ONE FOOT PAST EAVES

x = WIDTH OF SEEPAGE TRENCH (FT)

x = W + 2FT

d = DEPTH OF SEEPAGE TRENCH (FT)

D = 6" TO 8" (AVERAGE)

- 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

EARL TOWNSHIP ATTACHMENT 7 STORMWATER MANAGEMENT	STRUCTURES WITHOUT GUTT		B NUMBER:
143 SOUTH BROAD STREET	SCALE:	N.T.S. DR	AMING:
(III) 626-7271 FAX (III) 626-7040	DRAWN BY:	SKI	N/A ETCHI
ENGINEERS & LANDSCAPE ARCHITECTS	DATE:	2014	I OF I

Rain Garden Native Planting List

Perennials and Ferns

Blue false indigo (Baptista Australis)

Blue flag iris (Iris Versicolor)

Blue star (Amsonia tabernaemontana)

Blue vervain (Verbena hastata)

Boltonia (Boltonia asteroids)

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 belgli)

Obedient plant (Physotegia virginiana)

Royal fern (Osmunda regalis)

Seedbox (Ludwigia alternifolia)

Sensitive fern (Onoclea sensibilis)

Sneezeweed (Helenium autumnale)

Soft rush (Juneus 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 canadansis)

Inkberry (Ilex glabra)

Narrow-leaved meadowsweet (Spirea alba)

Ninebark (Physocarpus opulifolius)

Possumhaw (Viburnum nudum)

Red-osier dogwood (Cornus sericea)

St. Johnswort (Hypericum densiflorium)

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)