# 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**

### **APPLICATION FOR SMALL STORM WATER PROJECT**

DATE OF RECEIPT: _					
Applicant's Name:				Telephone	No
Address:					
Owner's Name:				Telephone	No
Address:					
Address of Property:					
Structure/Modification	n will contain Value of the Comp	square feet and	l a height of	fron	n grade to the highest point.
				(Excluding la	
Proposed Use:					
Date of Completion:					
ADDITIONAL INI	FORMATION REQ	UIRED WITH	THE PERMIT .	<u>APPLICA</u>	TION:
1.	\$500.00 non-refun	dable deposit requ	uired for applica	tions subm	itted.
Date				Apj	plicant's Signature
	FOI	R ZONING OFFIC	ERS USE ONLY		
This application is:	Approved ( )	Denied ( )			
Date				Zoning Office	cers Signature
Comments:					
Deposit Paid:	Zoning Pern	nit Fee:	Inspection	n Fees:	Admin:
Total Fee Due:	Zoning I	District:	Tax Map Numb	er:	

### 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 #
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 im	pervious as part of this projec	ot?
[ ] No [ ] Yes, Total area of	existing impervious to be ren	novedsq. ft.
[] Removal of ground cover	, grading, filling, or excavatio	n of an area (1,000 square feet or less)
: 1 • Total area of land	disturbance:	sq. ft.
ta is Type:of Regulated Activity	(check all that apply): [ ] R	lemoval of ground cover.
		r earth disturbance activity (please describe)
[ ] Addition of Impervious Su	urface (1,000 square feet or le	ess)
Total new impervi	ous surface proposed	sq. ft,
		[] garage, [] deck, [] walkway,
Check all items below that w  [ ] Floodplain  [ ] Wetlands  [ ] Slopes greater than 15%  [ ] Known bedrock within 6 fee  [ ] Riparian forest buffer  [ ] Natural water flow paths (c  [ ] Existing known stormwater  [ ] Downstream property owne	et of the ground surface reeks, streams, ponds, swale problem areas	
<u>Sketch</u> Provide a sketch of the propos	sed additional impervious are	a or land disturbance.

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### **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 La Applications for the subject property:	and Disturbance or Small Project	
Proposed Activity:		
[ ] Removal of ground cover, grading, filling or	excavation of an area less than 5,000 square	
feet	·	
Total area of land disturbance:	sq. ft.	
Type of Regulated Activity (check all that ap		-
<ul> <li>[ ] Removal of ground cover</li> <li>[ ] Grading</li> <li>[ ] Filling</li> <li>[ ] Excavation</li> <li>[ ] Other earth disturbance activity (page 1)</li> </ul>		
Addition of Impervious Surface (more than 1	·	
Type of new impervious surface: [ ] drive	eway. [] shed. [] garage. [] deck. [] walloway	
[] other (describe)		
Total new impervious surface proposed for	or construction:sq. ft.	
Are you removing existing impervious as		
[ ] No [ ] Yes – Total area of existing Imperv	• •	

Check all items below that will be impacted by the project:Mature treesSinkholesWater wellsSeptic drainfields	
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 (departies)	
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	refer wears
<ul> <li>Location and approximate footprint of existing structures (buildings, patios, driveways, etc.)</li> </ul>	
<ul> <li>Approximate location of any of the following features which will be impacted by the project:</li> </ul>	
Mature trees	
Sinkholes	
Water wells	
Septic drainfields	
Alternate septic drainfields	
Creeks, streams, wetlands, ponds	
Existing stormwater management facilities (basins, swales, etc.)	
<ul> <li>Location and approximate footprint of proposed impervious area or land disturbance.</li> </ul>	
Approximate footprint and location of all structures on adjacent properties if located	
within 50 feet of the proposed impervious area or land disturbance	
<ul> <li>Location and description of proposed stormwater management facilities (e.g., rain</li> </ul>	
gardens, swales, rain barrels, etc.)	
<ul> <li>Direction of proposed stormwater discharge (e.g., with arrows)</li> </ul>	
Scale and North arrow	
Person/Firm to be completing work:	
Phone # / Fax # / E-mail:	
	_

Name of Person Submitting this Appli	cation:
Signature:	
Date:	

1.0.4

### 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 PRVcubic feet x 7.48 gallons per cubic feet =gallons PRV

#### <u>EXAMPLE</u> <u>Small Project Application Calculation Worksheet</u>

Landowner Name:	Jane Doe	(20 x 45' garage)	-
Owner Name:		(20 x 70 galage)	
Proposed Additional	Impervious Area:	900 square feet	
evaporation, transpire  Additional impervious  900	t of runoff to superma aticintor infiltration) us surea 12 = Permane	mentily reimoved (managed or in the following formula: entil Reimoved Runoff Valumentous * 12 =	e (PRV)
	EX	AMPLE SKETCH	
		Red out of College (P.A.) Sergiale (V.O.) Regge (R.O.)	

### Small Projects Guide-Sample Operation & Maintenance Plan

#### Construction:

- 1. Install erosion and sedimentation control facilities
- 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.

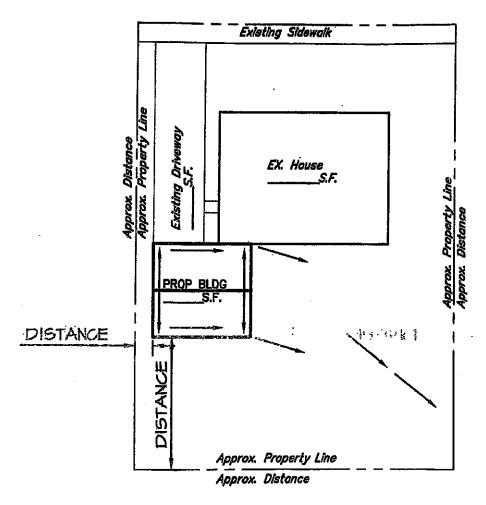
#### Maintenance:

- 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 3<sup>rd</sup> year 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 Township may perform the services required and charge the appropriate fees. Nonpayment of the fees may result in a lien against my property.

	<del></del>	
Applicant Name (Printed)	Signature	Date

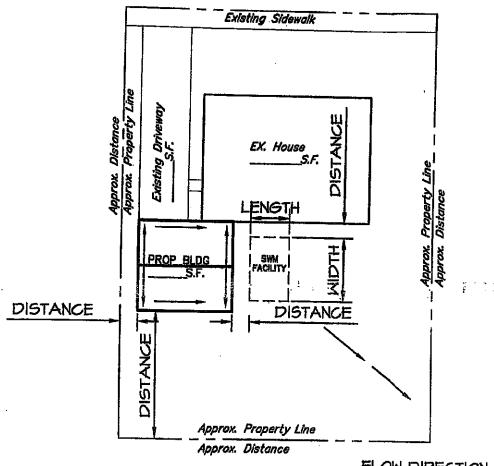
## Main Street



Sample Alley FLOW DIRECTION .

	Control of the Contro		
EARL TOWNSHIP			JOB NIMBER:
ATTACHMENT I SAMPLE SKETCH/SITE PLAN			
148 SOUTH BROAD STREET	SCALE:		Drawing:
(III) 626-1271 FAX (II) 586-1040	DRAWN BY:		N/A SKETCHI
ENGINEERS & LANDSCAPE ARCHITECTS	DATE	2014	OF

## Main Street

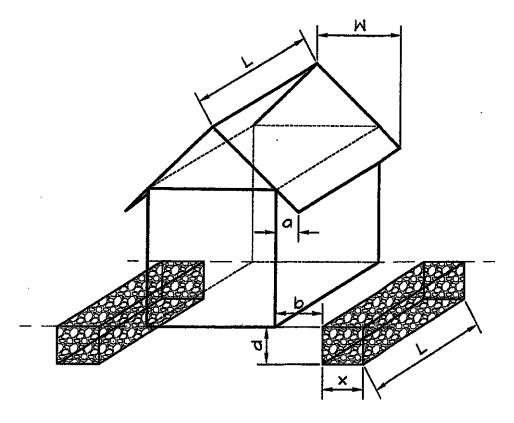


FLOW DIRECTION

Sample Alley

EARL TOWNSHIP ATTACHMENT 2 SAMPLE SWM SITE PLAN			Job Nimber,
143 SOUTH BROAD STREET	SCALE:		DRAWING:
LITITZ, PA 17548  (177) 626-1221 FAX (177) 622-1040  (170) 7 Inc. HAMADAG (190)260	DRAWN BY:		NA SKETCH:
SHOWERS & LANDSCAPE ARCHITECTS	DATE:	2014	I OF I

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**KEY** 

LES 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 = WDTH OF SEEPAGE TRENCH (FT)

d = DEPTH OF SEEPAGE TRENCH (FT)

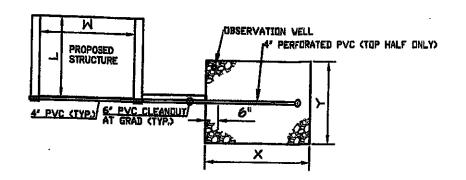
REQUIRED VOLUME OF TRENCH => L\*W\*1/12 = L\*X\*d\*0.4 => X=0.14W for d=1.5'

Ratio: 3.6 to 1

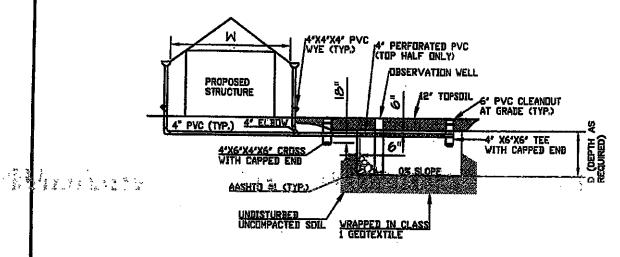
(IMPERVIOUS TO INFILTRATION)

- 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 ATTACHMENT 3 STORMWATER MANAGEMENT STRUCTUR	RES WITHOUT GUTTER		JOB NIMBER: -
143 SOUTH BROAD STREET	SCALE:	n.t.s.	DRAHING:
LITHIZ, PA 17543 (10) 626-1211 FAX (11) 626-1040	DRAWN BY:		N/A sketchi
ENSETTE & LANDSCAPE ARCHITECTS	DATE:	2014	i <i>o</i> FI



#### PLAN VIEW



#### SECTION VIEW

L = LENGTH OF STRUCTURE ROOF (FT)

W = WIDTH OF ENTIRE ROOF (FT)
X = WIDTH OF INFILTRATION BEO (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)

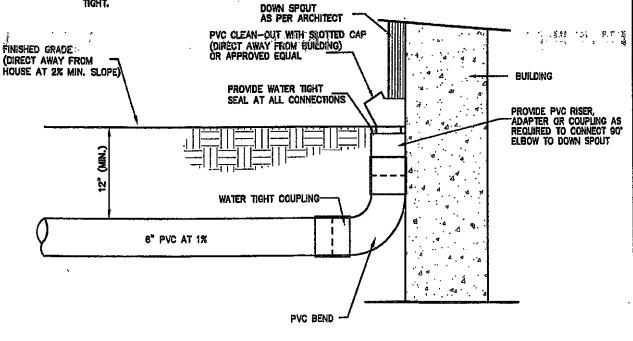
- 1.) BOTTOM OF BED TO BE D+1' BELOW GRADE TO ACCOUNT FOR 1' OF TOPSOIL.
- 2.) PIPING AND CLEANOUTS TO BE CENTERED WITHIN INFILTRATION BED.
  3.) BED TO BE CHECKED REGULARLY TO MAINTAIN PROPER OPERATION.
- 4.) SEE SHEET 2 OF 2 FOR ADDITIONAL DETAILS

#### JOB NIMBER EARL TOWNSHIP ATTACHMENT 4 STORMWATER MANAGEMENT SAMPLE STRUCTURE WITH GUTTERS DRAWING, SCALE: N.T.S. 743 SOUTH EROAD STREET LITITZ, PA 17543 (10) 626-1211 FAX (11) 626-1040 1044-0129/019460 DRAWN BY: SKETCH inc CERS & LANDSCAPE ARCHITECTS DATE: 204 1 OF 2

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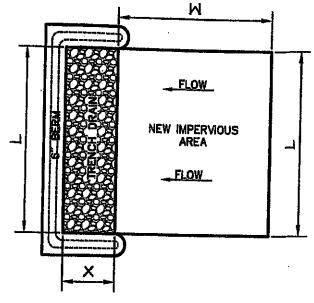
NOTE:
CONTRACTOR SHALL PROVIDE ALL.
FITTINGS, ADAPTERS, COUPLINGS AND
OTHER APPURTENANCES AS REQUIRED TO
CONNECT STORM CONVEYANCE SYSTEM.
ALL CONNECTIONS SHALL BE BE WATER
TIGHT.

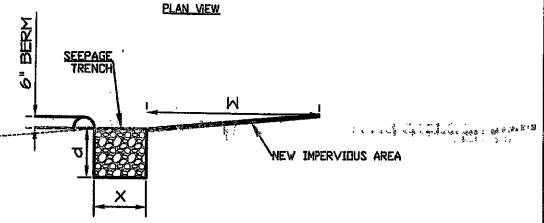


CONNECTION TO DOWN SPOUT

EARL TOWNSHIP ATTACHMENT 4-IDOWNSPOUT/CLEAN OUT/OBS	,		Job namber: -
743 SOUTH BROAD STREET	SCALE:	N.T.S.	DRAHING:
(III) 626-731 FAX (III) 626-7040	DRAWN BY:		N/A Sketch
ENGINEERS & LANDSCAPE ARCHITECTS	DATE	2014	20F2

. . .





SECTION VIEW

#### **KEY**

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 =>  $L*W*1/12=X*L*d*0.4 \Rightarrow X=0.14W$  FOR d=1.5'

#### **NOTES**

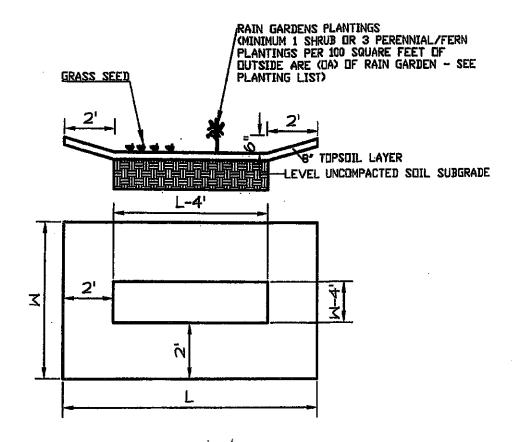
- 1.) SIDE AND BOTTOM OF TRENCH TO BE WRAPPED IN CLASS 1 GEOTEXTILE
- 2.) TRENCH TO BE FILLED WITH CLEAN STONE (3/4"MIN. SIZE).
- 3.) TRENCH TO BE CONSTRUCTED AT 0% SLOPE ON UNDISTURBED SOIL.
- 4.) TRENCH TO BE CHECKED REGULARLY TO MAINTAIN PROPER OPERATION.

EARL TOWNSHIP

ATTACHMENT 5 STORMWATER MANAGEMENT AT GRADE IMPERVIOUS

THE SCUTH BROAD STREET
LITTIZ, PA 11543
LITTIZ, PA 11543
LITTIZ, PA 11543
DRAWN BY:
DRAWN BY:
DATE:
DATE:
DATE:
DOI: 1 OF 1

7



- 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)

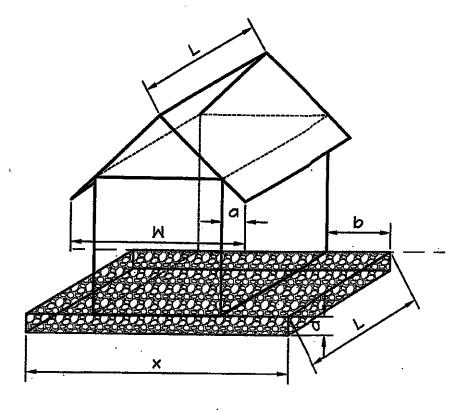
  (OA) = LENGTH (L) X WIDTH (W)

  OA=\_\_\_\_FI2
- 3.) CALCULATE INSIDE AREA OF RAIN GARDEN (IA)  $(IA) = [(L)-4'] \times [(W)-4']$  IA = FT2
- 4.) CALCULATE AVERAGE AREA OF RAIN GARDEN (AA) AA = FT2(AA) = (OA)/2 + (IA)/2
- 5.) CALCULATE STORAGE VOLUME (SV) SV= F13
  (SV) = (AA) X 0.5'
- 6.) CHECK FOR ADEQUATE STORAGE
  STORAGE VOLUME (SV) MUST BE GREATER THAN REQUIRED VOLUME (RV)
  RV= \_\_\_FT3 > SV=\_\_\_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.

EARL TOWNSHIP ATTACHMENT 6 RAIN GARDEN			JOB NAMBER
1143 SOUTH EROAD STREET LITTIZ, PA 11543 (110) 626-1211 FAX (110) 626-1040 (110) 626-1211 FAX (110) 626-1040 (110) 626-1211 FAX (110) 626-1040	SCALE:	N.T.S.	DRAWING.
	DRAWN BY:		N/A SKETCH:
	DATE	2014	10F1



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 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)

#### **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

EARL TOWNSHIP ATTACHMENT 7 STORMWATER MANAGEMENT STRUCTURES I			JOB NIMBER:
143 SOUTH BROAD STREET LITITZ, PA 17543 (III) 625-1211 PAX (III) 625-1040 (RESULT INC. 1004-00) 1004-000 1004-00000 1004-00000 1004-00000 1004-0000 1004-0000 1004-0000 1004-0000 1004-000	Scale:	N.T.S.	DRAWING,
			NA SKETCH
	DATE	2014	1051

#### 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 movi 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)

#### Shrinhs

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)