

STORMWATER FACILITIES

MUNICIPAL RESPONSIBILITIES FOLLOWING THE FINAL INSPECTION

PRESENTED BY:

DEREK J. RINALDO, E.I.T.

MIEKE DRISCOLL, ESQUIRE





MCM #5 POST-CONSTRUCTION STORMWATER MANAGEMENT (PCSM)

- Written procedures
- Enact Ordinance or other regulatory mechanism
- Expand use of Low Impact Development (LID)
- Post-construction stormwater management BMPs

STORMWATER ORDINANCE REQUIREMENTS

- County-wide Act 167 Plans
- Exemption Criteria
- Levels of Plan Review/Approval
- Required Inspections

PLAN APPROVAL PROCESS

- Ensure all reviews have been completed
- Ensure all required permits are in place
- Ensure any required public security has been bonded
- Ensure an Operation and Maintenance
 Agreement has been executed and recorded.

O&M AGREEMENTS

- Must be recorded as part of the plan approval process
- Provides a legal, enforceable mechanism to ensure long term maintenance
- Transferable with the land

TITLE

Place Holder for CGA O&M Slides

1 July

UPI Number 134430200120000000 140 Willis Lane. York PA 17404 York City



OPERATION AND MAINTENANCE (O&M) AGREEMENT

STORMWATER MANAGEMENT BEST MANAGEMENT

PRACTICES (SWM BMPs)

THIS AGREEMENT, made and entered into this \(\frac{14}{2} \) day of \(\frac{1}{2} \), 20 \(\frac{1}{2} \), by and between York Housing Authority, 31 S. Broad St., York PA 17403, (hoseinafter the "Landowner"), and City of York, York County, Pennsylvania, (hereinafter "Municipality");

WITNESSETH

WHEREAS, the Landowner is the owner of certain real property as recorded by deed in the land records of York County, Pennsylvania, **Deed Book 50A at page 34**, (hereinafter "Property").

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

WHEREAS, the SWM BMP Operation and Maintenance (O&M) Plan approved by the Municipality (hereinafter referred to as the "O&M Plan") for the property identified herein, which is attached hereto as Appendix A and made part hereof, as approved by the Municipality, provides for management of stormwater within the confines of the Property through the use of BMPs; and

WHEREAS, the Municipality, and the Landowner, his successors 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 on-site SWM BMPs be constructed and maintained on the Property; and

WHEREAS, the Municipality requires, through the implementation of the SWM Site Plan, that SWM BMPs as required by said SWM Site Plan and the Municipal Stormwater Management Ordinance be constructed and adequately operated and maintained by the Landowner, successors, and assigns.

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:

- The Landowner shall construct the BMPs in accordance with the plans and specifications identified in the SWM Site Plan.
- The Landowner shall operate and maintain the BMPs as shown on the SWM Plan in good working order in accordance with the specific operation and maintenance requirements noted on the approved O&M Plan.
- 3. The Landowner hereby grants permission to the Municipality, its authorized agents and

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employees, to enter upon the property, at reasonable times and upon presentation of proper credentials, to inspect the BMPs whenever necessary. Whenever possible, the Municipality shall notify the Landowner prior to entering the property.

- 4. In the event the Landowner fails to operate and maintain the BMPs per paragraph 2., The Municipality 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 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.
- 5. In the event the Municipality, pursuant to this Agreement, performs work of any nature, or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like, the Landowner shall reimburse the Municipality for all expenses (direct and indirect) incurred within ten (10) days of receipt of invoice from the Municipality.
- 6. 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 effect any additional liability of any party for damage alleged to result from or be caused by stormwater runoff.
- 7. The Landowner, its executors, administrators, assigns, and other successors in interests, shall release the Municipality from all damages, accidents, casualties, occurrences, or claims which might arise or be asserted against said employees and representatives from the construction, presence, existence, or maintenance of the BMP(s) by the Landowner or Municipality.
- 8. The Municipality may inspect the BMPs at a minimum of once every three (3) years to ensure their continued functioning. Optionally, at its sole discretion, the Municipality may inspect the BMPs at more or less frequent intervals.

This Agreement shall be recorded at 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: WITNESS the following signatures and seals: (SEAL) For the Municipality: For the Landowner: W. Vian Cris Embru 4/20/2014 Landowner Signature Date William Craig Eunbrun Executive Pirocken Printed Name Title ATTEST: (City, Borough, Township) do hereby certify that w. Crong Zunbrun signed the foregoing Agreement bearing date of the day May 20_1 , has acknowledged the same before me in my said county and state. GIVEN UNDER MY HAND THIS ______ day of ______, 20 14.

(SEAL)

COMMONWEALTH OF PENNSYLVANIA

Notarial Seal

Kristle A. Goss, Notarry Public
City of York, York County
My Commission Expires Dec. 9, 2017

Page 3 of 4

COMMONWEALTH OF PENNSYLVANIA)
COUNTY OF YORK) SS:
I, DIANNA L. THOMPSDN-MITCHELL and state aforesaid, whose Commission expires on the APRIL 2017, do hereby certify	11 11
Works for the City of York, PA, signed the Operation	
Management Best Management Practices (UPI#1344 Authority, and the City of York, PA, dated 5 10 14	
before me in my said county and state.	
GIVEN UNDER MY HAND THIS The day of	MAY 2014.
hann Shan mitchell	,
Notary Public	COMMONWEALTH OF PENNSYLVANIA Natarial Seal Dianna L. Thompson-Mitchell, Notary Public City of York, York County My Commission Expires April 16, 2017 MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

Appendix A

Operation and Maintenance Plan

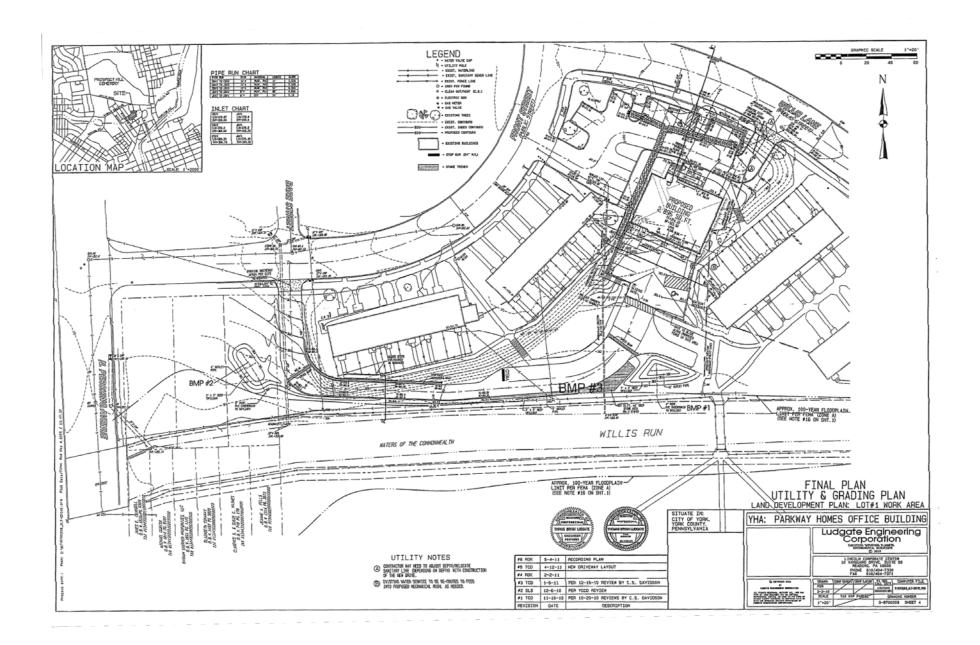
The site includes 3 stormwater BMPs. Two Infiltration Basins and one Infiltration trench. All BMPs will be inspected periodically and after heavy rain events (>1" per 24 hours) for erosion, damage, or debris. Any problems found will be corrected immediately.

Infiltration Basin (BMP type: 6.4.2)

- Catch Basins and Inlets (upgradient of infiltration basin) will be inspected and cleaned at least 2 times per year and after runoff events.
- The vegetation along the surface of the Infiltration basin will be maintained in good condition, and any bare spots revegetated as soon as possible.
- Vehicles will not be parked or driven on an Infiltration Basin, and care should be taken to avoid excessive compaction by mowers.
- Inspect the basin after runoff events and make sure that runoff drains down within 72 hours. Standing water after 72 hours promotes mosquito breeding and will be addressed immediately.
- Also inspect for accumulation of sediment, damage to outlet control structures, erosion control measures, signs of water contamination/spills, and slope stability in the berms.
- Mow only as appropriate for vegetative cover species.
- Remove accumulated sediment from basin as required. Restore original cross section and infiltration rate. Properly dispose of sediment.

Stone Infiltration Trench (BMP type: 6.4.4)

- Catch Basins and Inlets will be inspected and cleaned at least 2 times per year.
- The vegetation along the surface of the Infiltration Trench shall be removed as soon as
 possible.
- Vehicles should not be parked or driven on a vegetated Infiltration Trench, and care should be taken to avoid excessive compaction by mowers.



YORK COUNTY RECORDER OF DEEDS 28 EAST MARKET STREET YORK, PA 17401

Randi L. Reisinger - Recorder Bradley G. Daugherty - Deputy

Instrument Number - 2014017787 Recorded On 5/8/2014 At 12:25:14 PM

- * Instrument Type MAINTENANCE AGREEMENT Invoice Number - 1094102
- * Grantor YORK HOUSING AUTHORITY
- * Grantee CITY OF YORK User - MAG
- * Customer CITY OF YORK

* FEES	
STATE WRIT TAX	\$0.50
RECORDING FEES	\$17.00
PIN NUMBER FEES	\$10.00
COUNTY ARCHIVES FEE	\$2.00
ROD ARCHIVES FEE	\$3.00
TOTAL PAID	\$32.50



Book - 2277 Starting Page - 4372 * Total Pages - 7

* Received By: COUNTER

PARCEL IDENTIFICATION NUMBER 134430200120000000 Total Parcels: 1

> I Certify This Document To Be Recorded In York County, Pa.



THIS IS A CERTIFICATION PAGE

PLEASE DO NOT DETACH

THIS PAGE IS NOW PART OF THIS LEGAL DOCUMENT

* - Information denoted by an asterisk may change during the verification process and may not be reflected on this page.

Book: 2277 Page: 4378

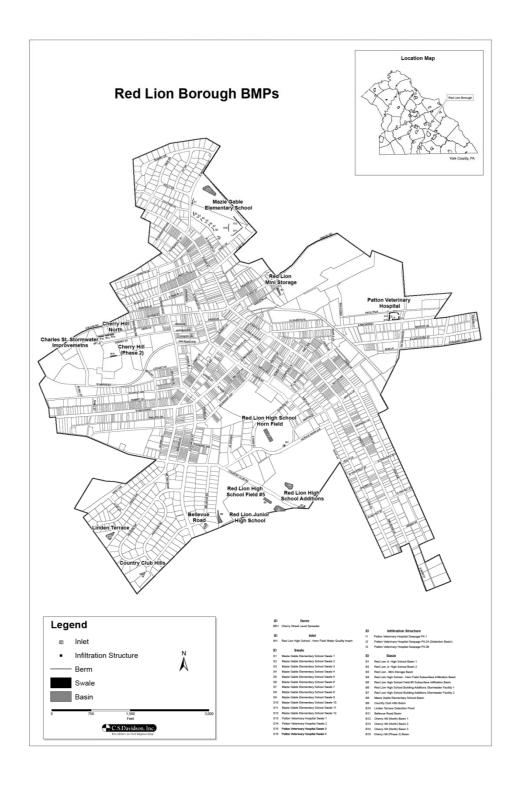
CREATING A BMP INVENTORY

Include the Following

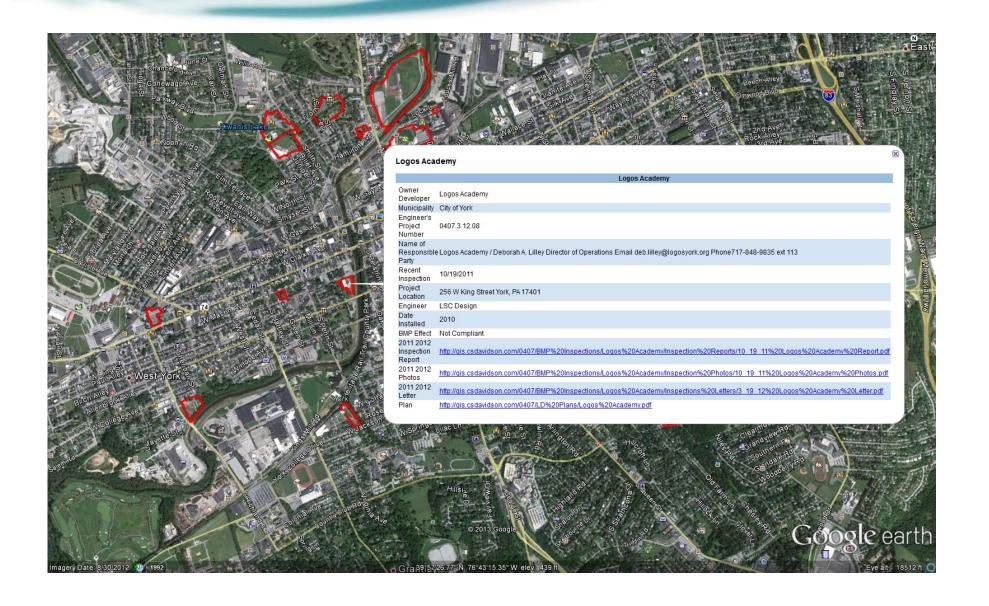
- All PCSM BMPs installed since March 10, 2003
- Location and type of BMP
- Owner/Responsible party contact information
- Installation date
- The BMP required operation and maintenance (O&M) Agreement and Plan
 - We recommend a copy of the LD Plan/BMP Details

BMP Inventory

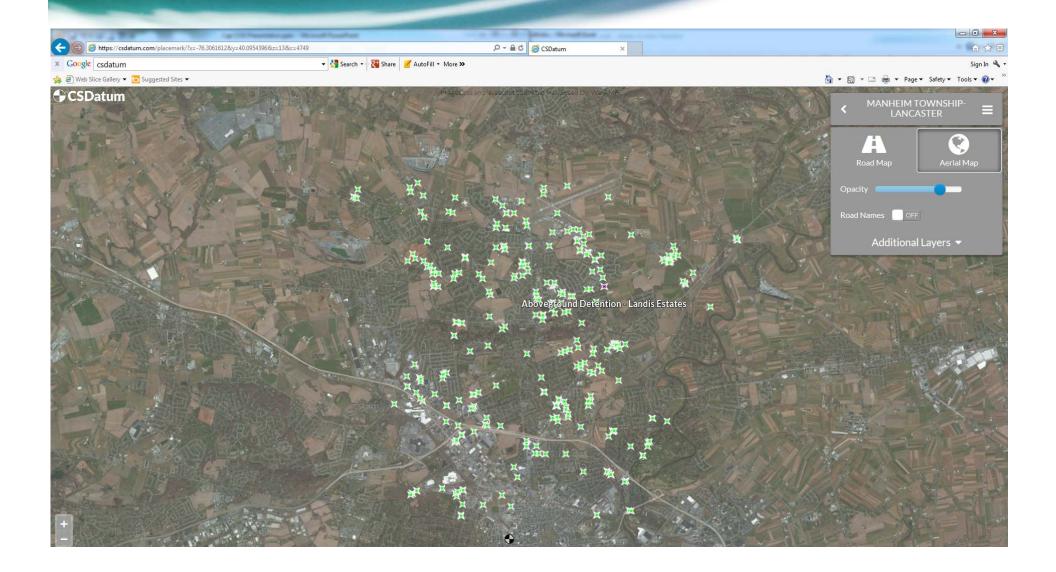
Crispus Attuc	ks Early Childhood Learnii	ng Center	MUNICIPALITY: City of York	ENGINEER'S PROJECT #	Most Recent	Install Date
			ENGINEER: LSC Design	0407.3.03.20	Inspection Date	2007
Name of Responsible Person or Organization			Project Location	BMP Effectiveness	2/12/2013	
Crispus A	ttucks		605 South Duke St, York, PA 17401	In Compliance		
Structural BMP	Drainage Area (Ac.)	Name of Receiving Water body	Inspection/I	Maintenance Frequency		
Stormwater Storage Facility		Codorus Creek	Inspect all w ater quality inlets at least once every 30 days for the first year after the York maintain, and make available upon request w ritten inspection reports of all w ater quality in depths of grit and sediment captured in each inlet, and description of floatable debris and once every six months or more often, if the manufacturer recommends based upon the initiative whenever a spill or other incident causes a larger than normal accumulation of pollut snout bottom; or whenever floatable debris and oil clogs form a layer greater than 3 inche make available upon request documentation that pollutants removed from water quality inlefederal laws, regulations, and policies. Inspect and have maintained the snout hoods at lefush the vent; open and close the access hatch; check to assure the hood is neither crac that the gasket forms a water tight seal between the hood and inlet wall; and continue ins	aspections. Those reports shall record dates and de- oils on the surface of the captured water. After the spection reports. Have all accumulated grit sediment ants in the inlet; at least every six months; wheneve is thick. Have pollutants removed from water quality ets are handled and disposed of in accordance with hast once every year: inspect the anti-siphon vent and cked nor broken; check to assure that all bolds hold to	pths of all rain events of 0.5 inches first year, inspect all water qualitie, floatable debris and oils removed in r sediment accumulates to within 6 inlets using a vacuum truck. Obtain all requirements of all applicable low da access hatch; gently rod with a the hood firmly against the inlet wall	or greater, is inlets at least from each quality inches of the in, maintain, and cal, state, and flexible wire and it; check to assur
			MUNICIPALITY, City of York	ENCINEEDIS DOO IECT #	Most Decent	Install Def
Crisp	ous Attucks South Court S	<u>t</u>	MUNICIPALITY: City of York ENGINEER: LSC Design	ENGINEER'S PROJECT #	Most Recent	Install Date
Name of Bassassilla Ba			ÿ	0407.3.03.26	Inspection Date	2012
Name of Responsible Pe			Project Location	BMP Effectiveness	7/11/2013	
Crispus A	itucks		605 South Duke St York, PA 17401	In Compliance		
Structural BMP	Drainage Area (Ac.)	Name of Receiving Water Body	Inspection/Maintenance Frequency			
Jnderground Detention Basin	0.49	Poorhouse Run	1. Inspect all water quality inlets at least once every 30 days for the first year after the Y-maintain, and make available upon request written inspection reports of all water quality in depths of grit and sediment captured in each inlet, and description of floatable debris and qualities inlets at least once every six months or more often, if the manufacturer recomme removed from each quality inlet: whenever a spill or other incident causes a larger than not to within 6 inches of the snout bottom; or whenever floatable debris and oil clogs form a latruck. 6. Obtain, maintain, and make available upon request documentation that pollutants rapplicable local, state, and federal laws, regulations, and policies. 7. Inspect and have me rod with a flexible wire and flush the vent; open and close the access hatch; check to as: the inlet wall; check to assure that the gasket forms a water tight seal between the hood.	aspections. Those reports shall record dates and de- loils on the surface of the captured water. 3. After I nds based upon the inspection reports. 4. Have all a pormal accumulation of pollutants in the inlet; at least teayer greater than 3 inches thick. 5. Have pollutants removed from water quality inlets are handled and di aintained the snout hoods at least once every year: sure the hood is neither cracked nor broken; check to	pths of all rain events of 0.5 inches he first year mentioned in 1, inspec ccumulated grit sediment, floatable every six months; w henever sedim removed from w ater quality inlets u sposed of in accordance w ith all re nspect the anti-siphon vent and accordance o assure that all bolds hold the hoo	or greater, at all water debris and oils ent accumulates sing a vacuum equirements of al cess hatch; gent d firmly against
			MUNICIPALITY: City of York	ENGINEER'S PROJECT #	Most Recent	Install Dat
<u>Fer</u>	guson Elementary School		ENGINEER: Rettew Associates, Inc.	0407.3.06.10	Inspection Date	2009
Name of Responsible Pe	rson or Organization		Project Location	BMP Effectiveness	10/26/2011	2009
Name of Responsible Person or Organization City of York School District			525 N Newberry Street, York, PA 17404	In Compliance	10/20/2011	
Structural BMP	Drainage Area (Ac.)	Name of Receiving		Maintenance Frequency		
Rain Garden/Bio-retention Area	0.26	Water body	Shall be inspected semi annually, and after every major rainfall event. While vegetation is being established, pruning and weeding may be required. Detritus may also need to be removed every year. Perennial plantings may be cut down at the end of the growing season. Mulch should be re-spread when erosion is evident and be replenished as needed. Once every 2 to 3 years the entire area may require mulch replacement. Bioretention areas should be inspected at least two times per year for sediment buildup, erosion, vegetative conditions, etc. During periods of extended drought, bioretention areas may require watering. Trees and shrubs should be inspected twice per year to evaluate health. (adapted from 363-0300-002 / Dec 30, 2006, pg 60)			
Infiltration Trench for Groundwater Recharge	2.00	Willis Run	Catch basins and inlets shall be inspected and cleaned at least two times per year. The vu spots revegetated as soon as possible. Vehicles should not be parked or driven on a veg		S .	
Vegetated Roof	0.05		During the plant establishment period, periodic irrigation may be required. During the plant recommended. Thereafter, only two annual visits for inspection and light weeding should	• •		



BMP Mapping/Inventory



BMP Mapping/Inventory





City of York BMP Inspection Form

Site:	Logos Academy
BMP:	Rain Garden, Two Underground Chambers
Date:	2/6/2013
Inspector:	Derek Rinaldo, E.I.T.

Earthen Components	Structural Components	On-going Maintenance Issues
☐ Downslope Berm Condition	Outlet Structure	☑ Accumulation of Sediment
☐ Inside Berm Condition	☐ Pipe	☐ Trash
☐ Settlement	Outlet Structure	Specific Maintenance to
☐ Vegetation	☐ Cleanouts	Structural (See Attached)
☐ Bottom of Basin		

Comments: The Logos site as a whole is being very well maintained and is in good condition. There is little to no trash present on site and all vegetated areas are well stabilized. The rain garden (refer to photos 1-2) is stabilized with healthy plantings. The outlet structure is clear and free of debris. No action beyond regular maintenance is currently needed. STM B2 and STM F1 (photos 3-4 and photos 5-6, respectively) both contain orifice plates which control flow from underground stormwater chambers. Both structures have accumulated a heavy amount of debris and leaves and need to be cleaned out. STM D1 (photos 7-8) contains a water quality structure. There is evidence of debris and oily runoff from the parking area in the bottom of the structure which needs to be cleaned out and properly disposed of.

otes):	
Completion Date:	Initials:
	Completion Date: Completion Date: Completion Date:



City of York BMP Inspection Form



Photo No. 1:



Photo No. 2:



Photo No. 3:



Photo No. 4:



Photo Comments:



City of York BMP Inspection Form

Photo Log:

Photo No. 5



Photo No. 6:



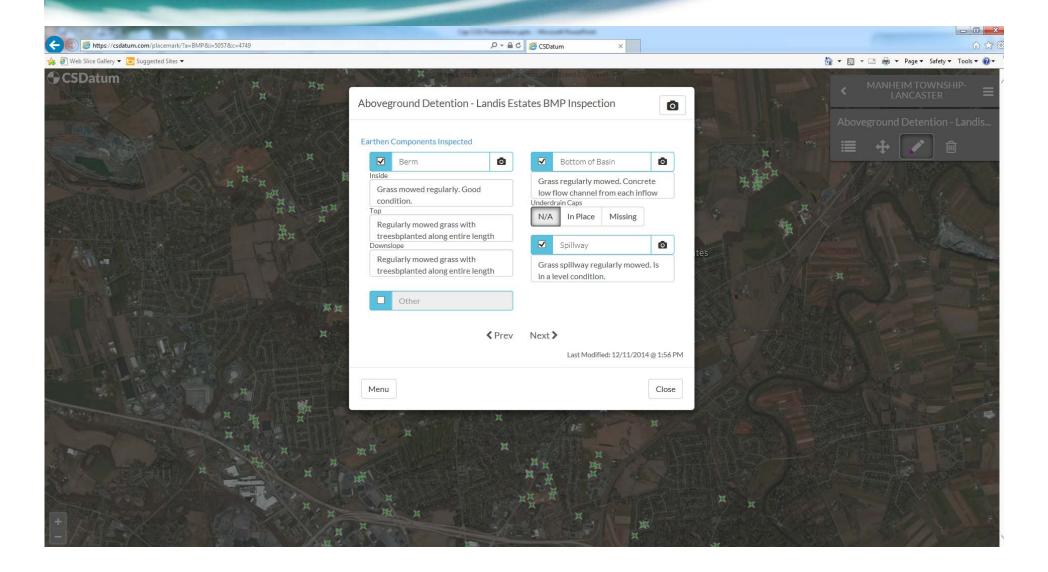
Photo No. 7:

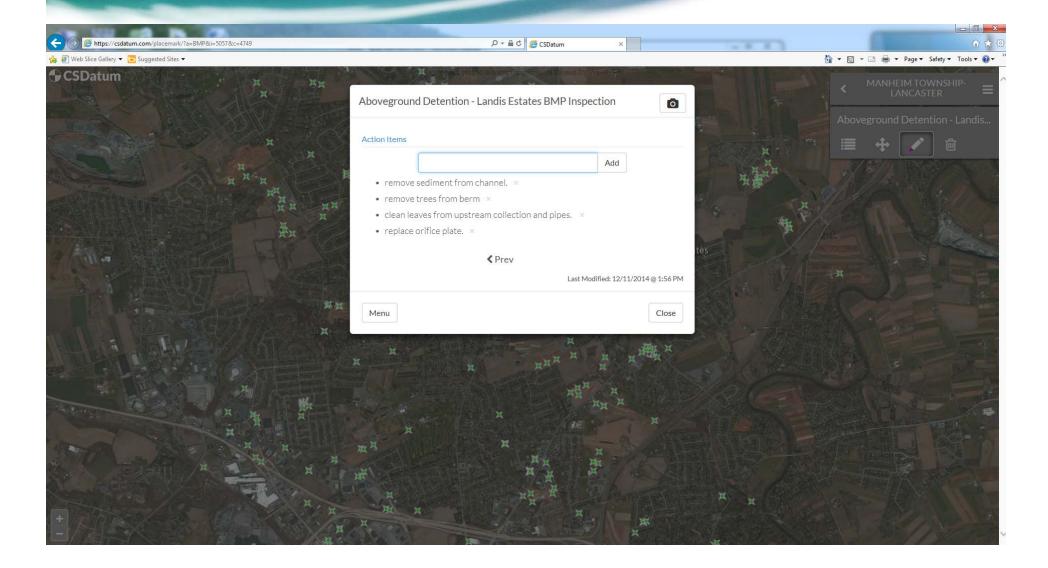


Photo No. 8:



Comments	ŧ





INSPECTION LETTER

- Include a copy of Inspection Report
- Include copy of LD Plan with deficient areas highlighted



The City of York Pennsylvania

101 S George Street * P.O. Box 509 * York PA 17405 www.yorkcity.org Honorable C. Kim Bracey, Mayor

James E Gross Director Department of Public Works

February 25, 2013

Ms Deborah Lilley Logos Academy 250 W King St York PA 17401

RE: Logos Academy

Stormwater Management Facility Required Corrective Actions

Dear Ms Lilley:

The City of York's designated engineer, C. S. Davidson, Inc., conducted an inspection of your stormwater management (SWM) facility, as required by §943,04 of the City of York Code, on February 6, 2013. The inspection was conducted to determine if your SWM facilities are in compliance with operation and maintenance requirements. Thank you for accompanying the engineer during the inspection.

Based on inspection findings, the following corrective actions are required to be completed by April 26, 2013.

- Remove and property dispose of accumulated debris and leaves from storm water inlets STM B2 and STM F1.
- Remove and properly dispose of accumulated debris and oily runoff from storm water inlet STM D1

The specific locations of the features described above are highlighted on the enclosed site plan. The February 6, 2013 inspection form is enclosed for your records.

Maintenance of SWM facilities is required under Article 940 of the City of York Code. Failure to comply may result in civil enforcement action as permitted under §943 of the City of York Code, which may include a monetary penalty.

After the above corrective actions are complete, contact Mr. Derek Rinaldo, E.I.T., C, S Davidson, Inc., at (717) 846-4805 to schedule a follow-up inspection or by email at dir@csdavidson.com. Please do not hesitate to contact Mr. Rinaldo should you have any questions concerning the required corrective actions.

James E Gross

JEG:cdm

Enclosures: February 6, 2013 Inspection Form Logos Academy site plan

Telephone: 717-849-2245 Facsimile: 717-845-7457 Email: jgross@yorkcity.org

TITLE

Placeholder for CGA Enforcement Slides

QUESTIONS?

DEFINITIONS

- MCM = Minimum Control Measures
- BMP = Best Management Practices
- SWMP = Stormwater Management Program
- QLP = Qualifying Local Program
- PAG-13 = Pennsylvania General Permit
- NPDES = National Pollutant Discharge Elimination System
- E&S = Erosion and Sediment
- O&M = Operation and Maintenance