

SCANNED

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Pollutant Reduction Plan



April Barkasi, PE, CEO

Beth Uhler, Stormwater Program Manager



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Engineering Group, LLC

What is the NPDES MS4 Program?

- **National Pollutant Discharge Elimination System**
- **Municipal Separate Storm Sewer System**
- **Federally Mandated Permit Program (enforced by EPA)**
- **DEP administers the Program in Pennsylvania**
- **Ultimate goal for this Program**
 - Recognize and increase awareness of stormwater as a point-source pollutant
 - Manage stormwater as you would any other point-source pollutant (like sewage)



What is the NPDES MS4 Program?

➤ Permit Round 1 - 2003

➤ Implement Best Management Practices (BMPs) under Six (6) Minimum Control Measures (MCMs)

1. **Public Education & Outreach**
2. **Public Involvement & Participation**
3. **Illicit Discharge Detection & Elimination**
4. **Construction Site Stormwater Runoff Control**
5. **Post Construction Stormwater Management for Development & Redevelopment**
6. **Pollution Prevention/Good Housekeeping**



What is the NPDES MS4 Program?

➤ Permit Round 2 - 2013

- Continuation of MCMs
- Added **Total Maximum Daily Load (TMDL)** Requirements
 - Christina River Basin

**NO ADDITIONAL REQUIREMENTS
FOR CALN**

Permit Round 3

➤ **Effective in March 2018 (due September 16, 2017)**

➤ **Continuation of Minimum Control Measures**

➤ **NEW:**

DUE WITH PERMIT APPLICATION

Pollutant Reduction Plans (PRPs)

Discharges to Waters Impaired by Nutrients and/or Sediment (West Branch Brandywine Creek)

- **Pollutant Control Measures (PCMs)**

Discharges to Waters Impaired by Metals/pH, Pathogens, PCBs, etc.

➤ **TMDL Plans – Update per New Permit Standards**



What is a Pollutant Reduction Plan?

Permit Requires:

Projects (i.e. BMPs) that will reduce the sediment and nutrients load by **10%** and phosphorous load by **5%** to **West Branch Brandywine Creek** over the **5-year** permit term.

- Rain Gardens
- Basin Retrofits
- Stream Restoration
- Porous Pavement
- Green Roofs
- Riparian Buffer Enhancement



CaIn PRP Requirements

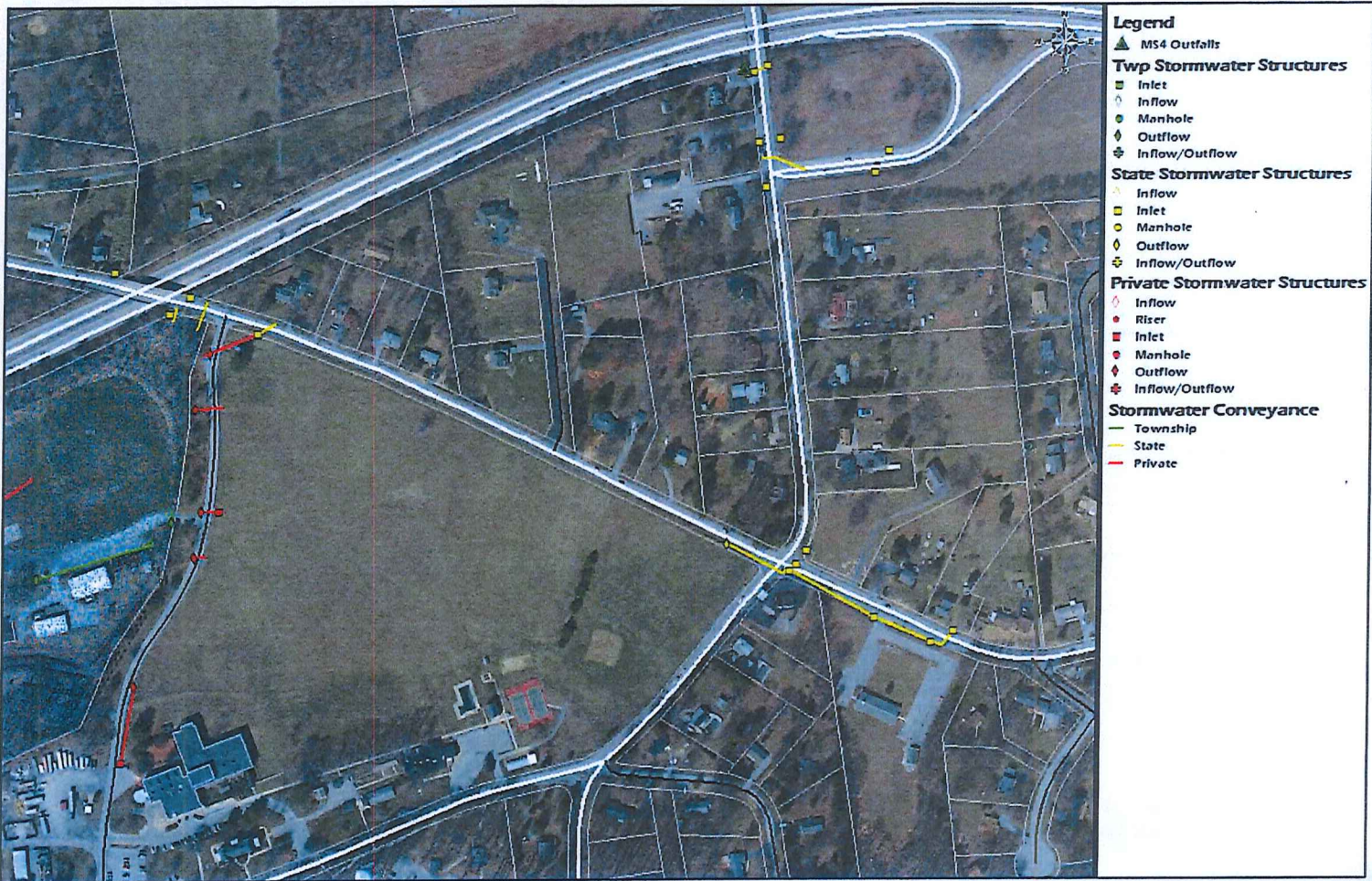


Pollutant Reduction Plan Process

1. Map Stormwater Infrastructure (GIS)
2. Delineate Storm Sewersheds
3. Determine Existing Pollutant Loads
4. Identify Potential BMPs
5. Desktop Review/Field Investigations for Site Suitability
6. Propose BMPs/Quantify Pollutant Load Reductions
7. Finalize Report
- 8. Public Participation**



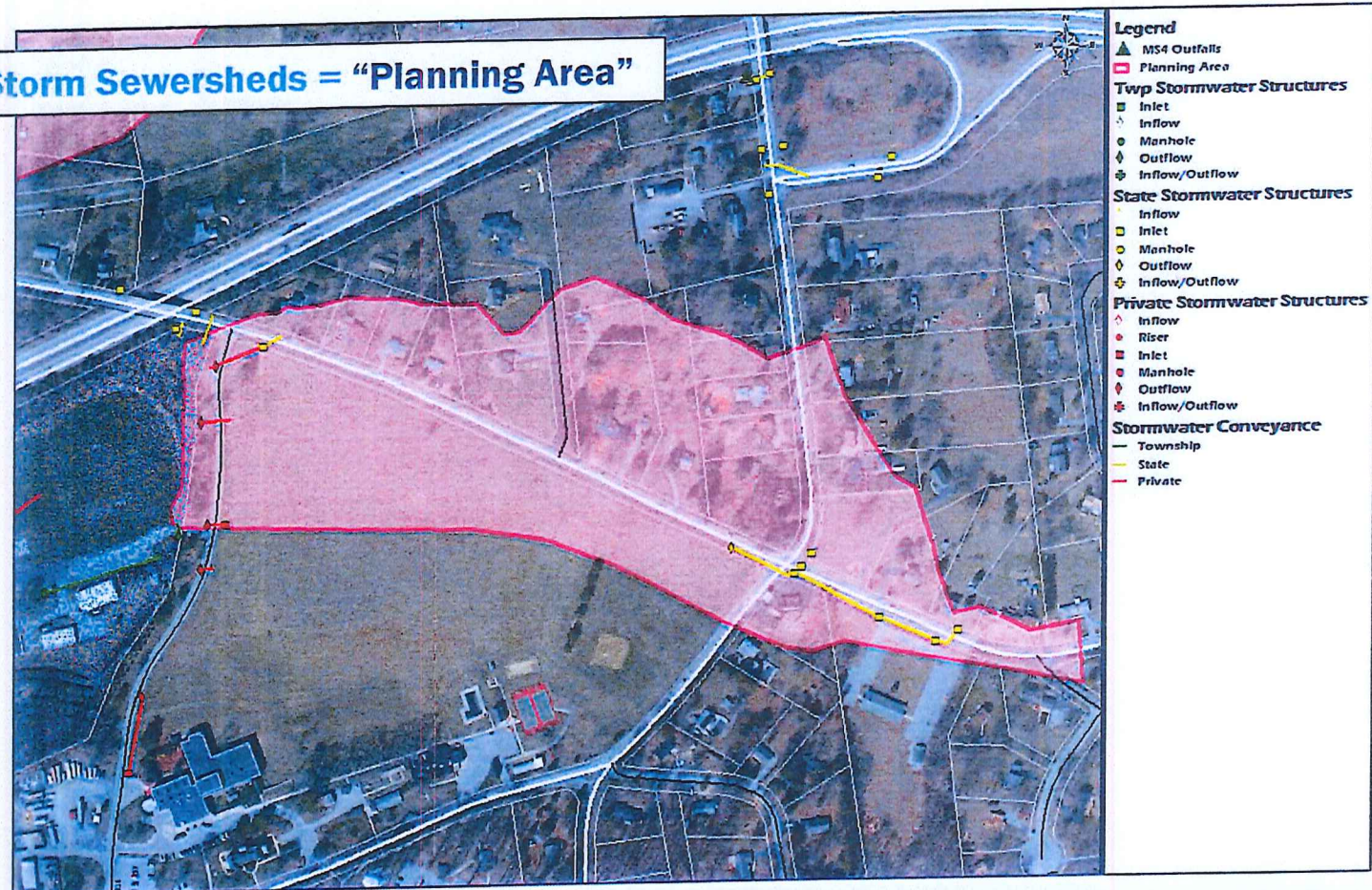
Map Stormwater Infrastructure (GIS)



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Delineate Storm Sewersheds

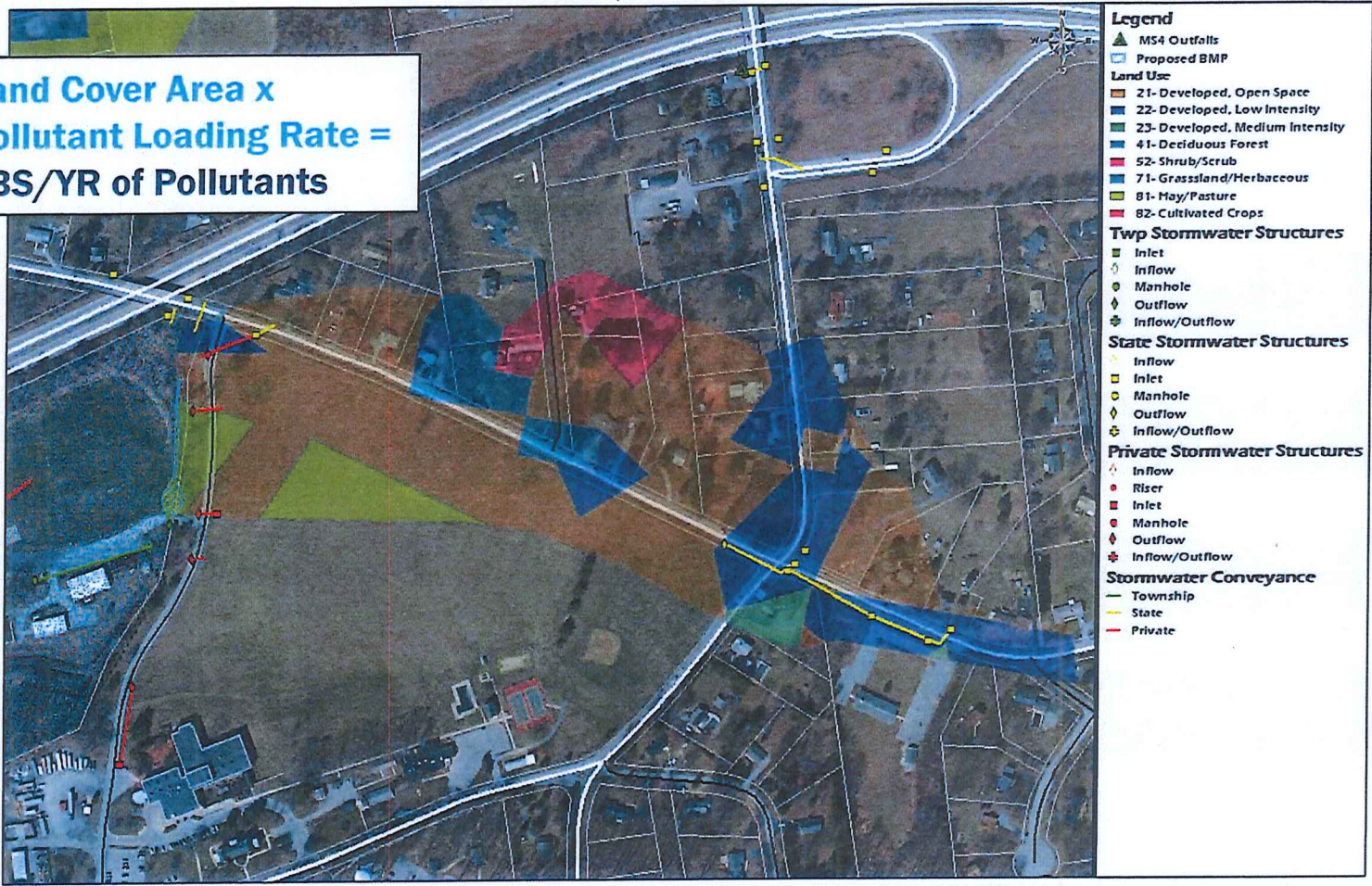
Storm Sewersheds = "Planning Area"



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Determine Existing Pollutant Loads

Land Cover Area x
Pollutant Loading Rate =
LBS/YR of Pollutants



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Identify Potential BMPs

Projects that are in Planning or Design Phase within the Planning Area



Township-Owned Properties within the Planning Area



New BMPs on Township-Owned Property within the Planning Area



*Same process but outside of Planning Area and on HOA-Owned Property

Other Factors:

- Larger Drainage Area
- Space/Capacity
- Real-World Benefits
- **COST**



Proposed BMP – Caln Park West Rain Garden

- **BMP:**
 - Rain Garden and Bioswale at the west end of Caln Park West Soccer Fields
- **Property Owner:**
 - Caln Township

- **Pollutant Reduction:**
 - 24% Sediment Reduction
 - 18% Phosphorus Reduction
- **Total Estimated Cost:**
 - \$70k (Design + Construction)



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Total Sediment and Phosphorous Load Reductions from Proposed BMPs

Receiving Waters Impaired By Sediment	BMP Name	TSS Reduction		
		lbs/yr	% Reduction	% of Required Reduction
West Branch Brandywine Creek	Cain Park West Rain Garden	7,362.12	24	245
TOTAL:		7,362.12	24%	245%

Meets and exceeds the 10% required sediment reduction

Receiving Waters Impaired By Total Phosphorus	BMP Name	TP Reduction		
		lbs/yr	% Reduction	% of Required Reduction
West Branch Brandywine Creek	Cain Park West Rain Garden	7.57	18	367
TOTAL:		7.57	18%	367%

Meets and exceeds the 5% required phosphorous reduction

Operations and Maintenance of BMPs



Proposed BMP	Property Owner	Responsible Party for O&M	O&M Responsibilities
Caln Park West Rain Garden	Caln Township	Caln Township	<ul style="list-style-type: none">• Inspect at least 2x per year• Pruning, weeding, watering• Re-spread mulch every 2-3 years• Remove sediment buildup• Repair and re-stabilize areas of erosion• Maintain vegetation



Funding Mechanisms



Proposed BMP	Property Owner	Funding Mechanism	Estimated Design Cost ¹	Estimated Construction Cost ²	Total Estimated Cost
Caln Park West Rain Garden	Caln Township	Caln Township	\$20,000	\$50,000	\$70,000
TOTAL:			\$20,000	\$50,000	\$70,000



Public Participation Requirements



DEP Requirement	Call Status
Make a complete copy of the Pollutant Reduction Plan available for public review	Posted on Township website and by request
Publish a public notice containing a statement describing the plan, where it may be reviewed by the public, and the length of time the permittee will provide for the receipt of comments	To be published July 26
Accept written comments for a minimum of 30 days from the date of public notice.	30 days, ending August 25
Accept comments from any interested member of the public at a public meeting or hearing, which may include a regularly scheduled meeting of the governing body of the municipality or municipal authority that is the permittee.	THIS MEETING (July 24) And BOC Meeting August 10
Record consideration of each timely comment received from the public during the public comment period concerning the plan, identifying any changes made to the plan in response to the comment.	Include comments and consideration in Plan Appendix.



Next Steps

- 1) Present the PRP to the Board of Commissioners **August 10, 2017.**
- 2) Close Public Comment Period **August 25, 2017.**
- 3) CEDARVILLE to address any Public Comments and update Pollutant Reduction Plan.
- 4) Submit Pollutant Reduction Plan with NPDES MS4 Permit Application by **September 16, 2017.**

Additionally:

- **Pollutant Reduction Plan** is a dynamic document and can be revised at any time.
- Township may want to consider **potential funding mechanisms.**

