

Site Characteristics Worksheet with an introduction to BMPFast Navigation

Rainfall and Performance Standards

By: Marty Wanielista

November 2025



Learning Objectives



1. Navigation of Software.
2. Rainfall Data.
3. Performance Standards.
4. Data Fields and Library.

General Site Information (Current User: Unregistered User)

Help and Documentation Project Name: BMPFast Examples

Select Meteorological Zone for Project: Florida Zone 2 ?

Enter the Mean Annual Rainfall: 52 inches ?

Performance Standard of Surface Discharge Analysis: All sites non-exemptec

Conduct	Project Scenario	TP	TN	Additional Criteria
Nitrogen Removal Efficiency (%) Phosphorus Removal Efficiency (%)	All Sites	80	55	or Post<=Pre
	OFW	90	80	or Post<=Pre
	Impaired Water	80	80	& Post<=Pre +WQ Targets
	Impaired + OFW	95	95	& Post<=Pre + WQ Targets
	Redevelopment	80	45	none
	Redevelopment + OFW	90	60	none
	Redevelopment + IMP	80	45	and WQ Targets

WQ Targets are water quality standards in receiving water (net improvements)

Open Project New P Save Project Exit BMPTrains 6. Cost Comparisons

Guidance: Make it easy to use by keeping as much as possible information from past software acceptable to the profession. Make it flexible to respond to various conditions within the WMDs and FDEP. Use the information within the A.H.s.

BACKGROUND INFORMATION (WHY?)

- 1. The need for consistency in assessment of any stormwater management plan for ERP applications. Also, the results may be helpful with other flood control and consumptive water use permits.
- 2. Incorporate creative solutions and establish credit for creative designs. Some examples are green roofs, depression storage (rain gardens), pervious pavements, filters, swales, harvesting, exfiltration trench, vegetated filter strips (VFS), tree wells, and others.
- 3. Need for Florida based applications, not something for a different climate or enforcement program (Effectiveness is on an annual basis).
- 4. Professional discovery and understanding of hydrologic events leading to “better” design, example would be disconnected impervious areas.

Some considerations in the choice of software to evaluate BMP stormwater systems

- Uses Florida Rainfall.
- Uses Florida soils and physical land use conditions.
- Uses event mean concentration data from Florida based studies.
- Incorporates removal effectiveness for structural BMPs, GSIs, and LIDs.
- Evaluates the effectiveness of BMPs in series and parallel.
- Peer reviewed by professionals.
- Provide help for a timely completion of ERPs.
- Acceptable to many practicing professionals.
- Acceptable to most local, regional (WMD), and FDEP regulatory and review professionals.
- **BMPFast will provide for all the above.**

Start using the BMPFast software

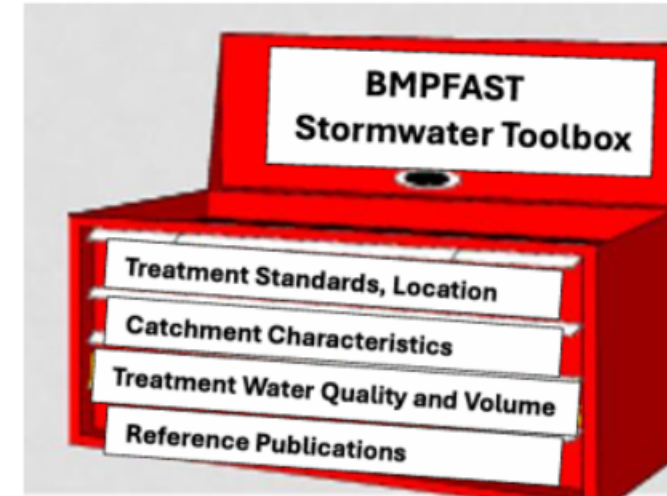
BMPFast 2025

Welcome to BMPFast 2025

Software by: Marty Wanielista, Ron Eaglin, Harvey Harper, and Dingbao Wang

Input for improvements to content was from professionals representing local and state government agencies as well as from the academic and consulting areas. This software is in agreement with State laws on the distribution of intellectual property as well as current practice related to applicant handbooks, research, and regulatory decisions made through 2025.

Disclaimer: The user is responsible for all input data and an understanding and navigation of the software.



Enter Valid User Email:

Enter Validation Code:

About BMPFast Validation

Continue with Validation

Continue without Validation

Navigation and Structure of the Software

Worksheets to enter data
and retrieve results

Data Cells

Unlimited
Entries

Drop Down
Menu

Choices
limited

Navigation Buttons

1. Enter Catchment

2. Enter Treatment

General Site Information (Current User: Unregistered User)

Help and Documentation Project Name: BMPFast Examples

Select Meteorological Zone for Project: Florida Zone 2 ?

Enter the Mean Annual Rainfall: 52 inches ?

Performance Standard of Surface Discharge Analysis: All sites non-exemptec v

Conduct Groundwater Discharge Analysis: No v

Nitrogen Removal Efficiency (%): 55

Phosphorus Removal Efficiency (%): 80

1. Enter Catchment

2. Enter Treatment

3. Configure Catchments

4. Summary Treatment Report

5. Complete Report

6. Cost Comparisons

Open Project New Project

Save Project Exit BMPTrains

General Site Info Worksheet- BMPFast

General Site Information (Current User: Unregistered User)

Library or Support
Information

Help and Documentation

Project Name: BMPFast Examples

Select Meteorological Zone for Project: Florida Zone 2

Enter the Mean Annual Rainfall: 52 inches

Performance Standard of Surface Discharge Analysis: All sites non-exemptec

Conduct Groundwater Discharge Analysis: No

Nitrogen Removal Efficiency (%): 55

Phosphorus Removal Efficiency (%): 80

1. Enter Catchment

2. Enter Treatment

3. Configure Catchments

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5. Complete Report

6. Cost Comparisons

Open Project

New Project

Save Project

Exit BMPTrains

Drop Down
Menu

Can change any input
without having to reload

Added are the following standards to address
BMAP, TMDL and other local program needs.

Net Improvement
or Post <= Pre
Specified % removals
BMP Analysis

	TP	TN	Additional Criteria
	80	55	or Post<=Pre
	90	80	or Post<=Pre
Impaired water	80	80	& Post<=Pre +WQ Targets
Impaired + OFW	95	95	& Post<=Pre + WQ Targets
Redevelopment	80	45	none
Redevelopment + OFW	90	60	none
Redevelopment + IMP	80	45	and WQ Targets

WQ Targets are water quality standards in receiving water (net improvements)

Meteorological Zones and Mean Annual Rainfall Map

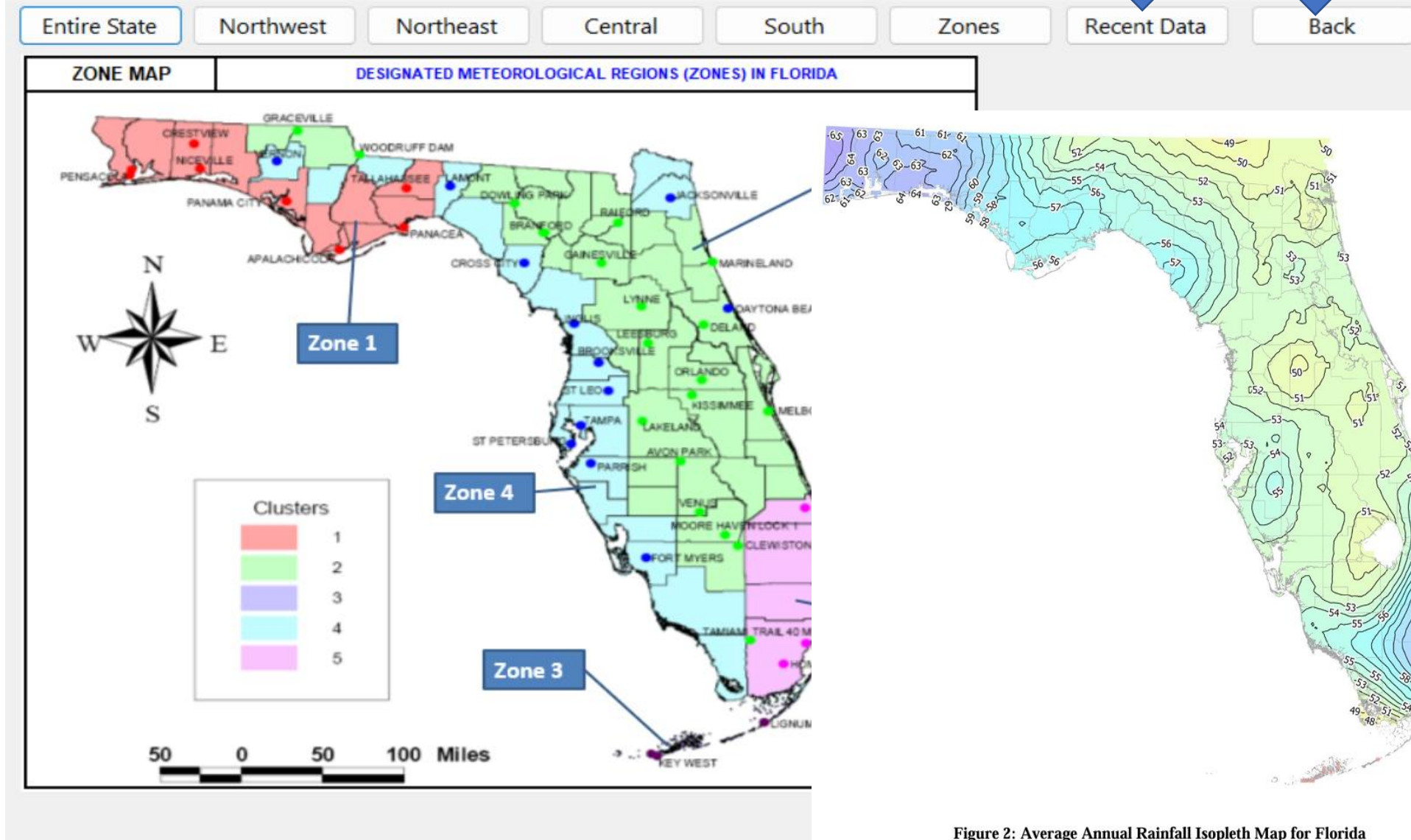
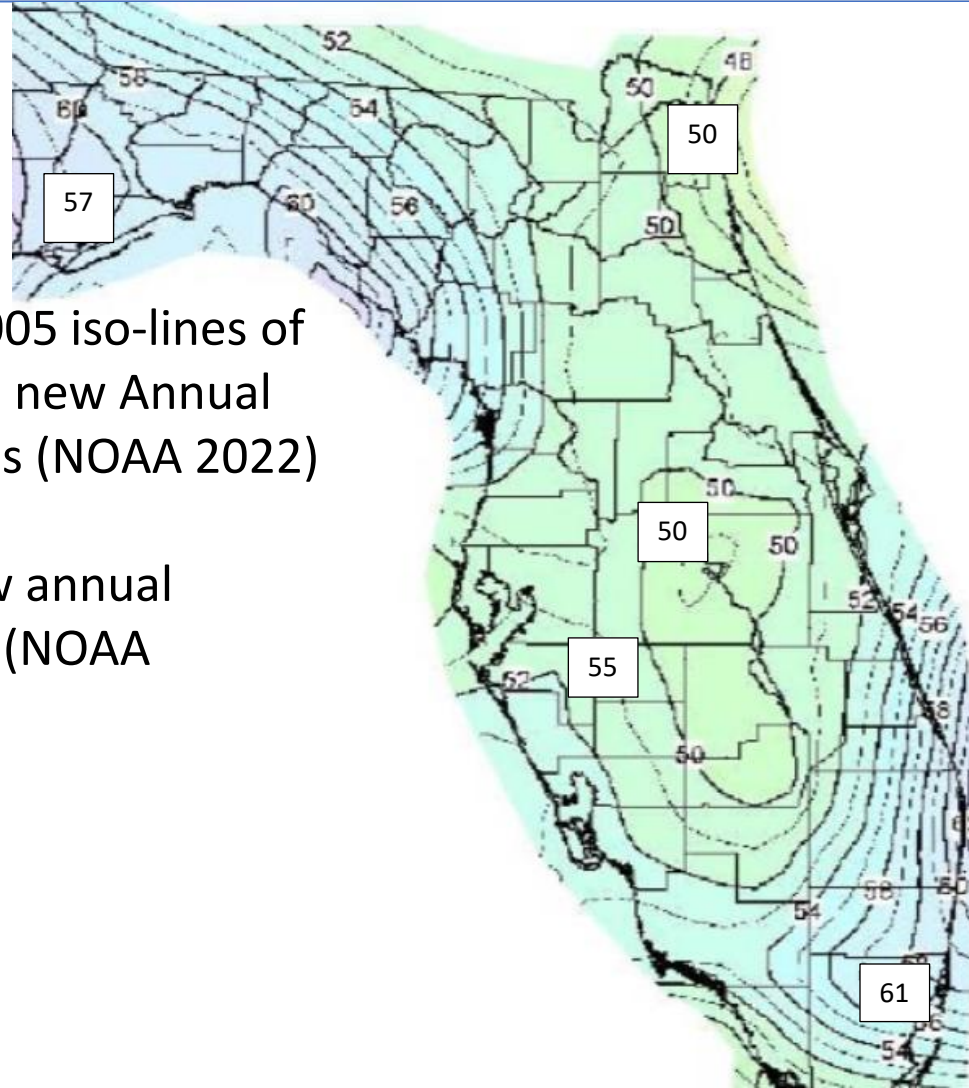


Figure 2: Average Annual Rainfall Isopleth Map for Florida

Comparison 2005 and 2022 annual rain (inches)



Comparing 2005 iso-lines of annual rain to new Annual Rainfall depths (NOAA 2022)

Boxes are new annual rainfall depth (NOAA 2022)

Some annual rainfalls are greater, some smaller, some about equal. Must have this map. Also software must have an “open” entry for data from other places and changes expected in this map.

Select Meteorological Zone for Project: Florida Zone 4

Enter the Mean Annual Rainfall: 52 inches

Performance Standard of Surface Discharge Analysis: All sites non-exempted

☒ Yes for GW analysis ☐ Conduct Groundwater

Nitrogen Removal Efficiency (%): 55

Phosphorus Removal Efficiency (%): 80

Open Project New Project

- All sites non-exempted
- OFW
- Impaired Water
- Impaired Water + OFW
- Redevelopment
- Redevelopment + OFW
- Redevelopment + Impaired
- Specified Removal Efficiency
- Net Improvement
- BMP Analysis



1.

Enter Catchment

ENTER CATCHMENT DATA AS SHOWN

Watershed Characteristics Worksheet

Add Catchment

Catchment 1 Venice LID Award Road

Current Catchment Number : 1 Venice LID Award Road

Land Use

Catchment Name: Venice LID Award Road

Pre: Agricultural - Pasture: TN=3.03 TP=0.593

Post: User Defined Values

Total Pre-Development Catchment Area (ac): 2.00

Total Post-Development Catchment Area (ac): 2.00

Pre-Development Non DCIA Curve Number: 78.00

Pre-Development DCIA Percentage (0 - 100%): 0.00

Post-Development Non DCIA Curve Number: 78.00

Post-Development DCIA Percentage (0 - 100%): 65.00

Concentration used in Analysis

Pre:

Post:

EMC(N) mg/l 3.030 1.160

EMC(P) mg/l 0.593 0.157

Annual ROC 0.116 0.575

Runoff (ac-ft/yr) 1.009 4.985

N Loading (kg/yr) 3.769 7.130

P Loading (kg/yr) 0.738 0.965

Groundwater loadings will be added to the surface loadings

THEN HIT CALCULATE button

THEN HIT BACK button

Note if using user defined values for EMCs there is calculation routine to help define the aggregate EMC

Remember to save your project

Enter the Mean Annual Rainfall: 52 inches

Performance Standard of Surface Discharge Analysis: Net Improvement

Conduct a Groundwater Discharge Analysis: Yes

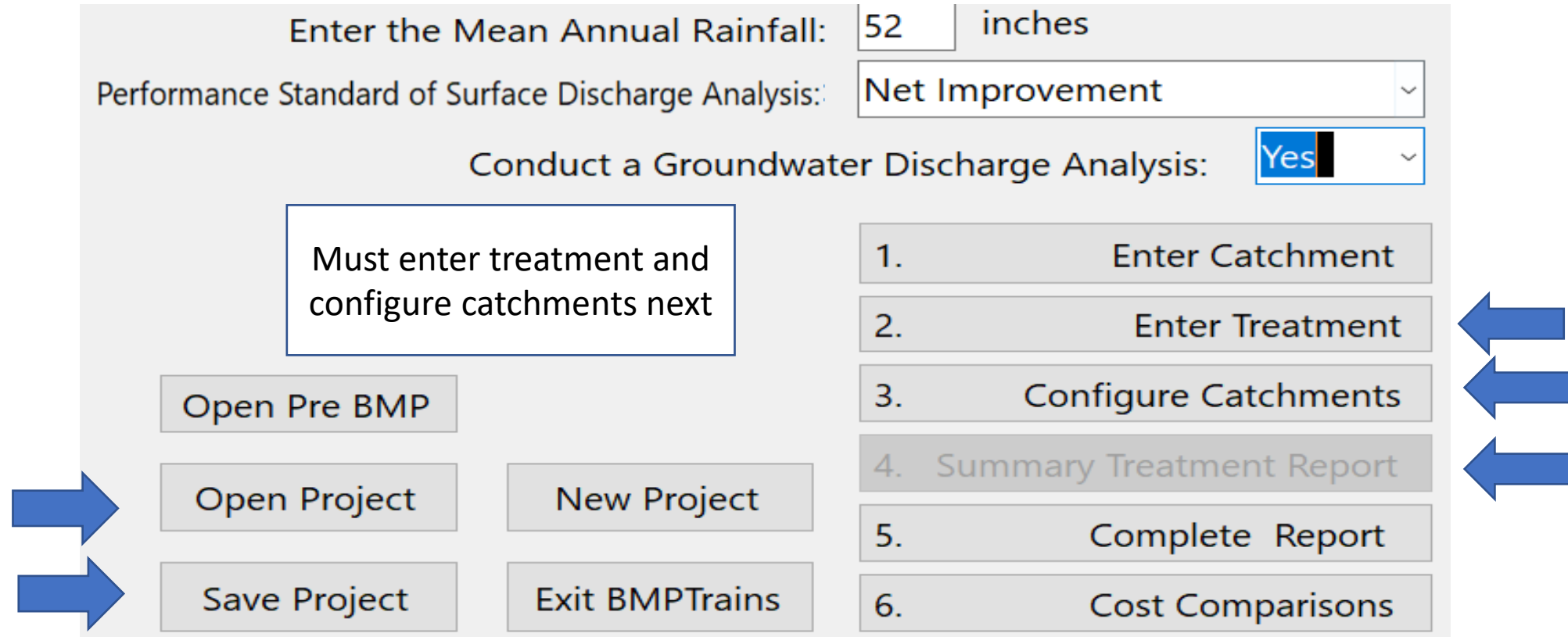
Must enter treatment and configure catchments next

Open Pre BMP

Open Project New Project

Save Project Exit BMPTrains

1. Enter Catchment
2. Enter Treatment
3. Configure Catchments
4. Summary Treatment Report
5. Complete Report
6. Cost Comparisons



Summary Report, Save, and Open disabled in training version

Training highly recommended

Basic competency would help reduce the RAIs and get permits in a timely manner

Learning Objectives

1. Navigation of Software.
2. Rainfall Data input.
3. Performance Standards.
4. Data Fields and Library.



General Site Information (Current User: Unregistered User)

[Help and Documentation](#) Project Name:

Select Meteorological Zone for Project: ?

Enter the Mean Annual Rainfall: inches ?

Performance Standard of Surface Discharge Analysis:

Conduct Groundwater Discharge Analysis:

Nitrogen Removal Efficiency (%):

Phosphorus Removal Efficiency (%):

1.

2.

3.

4.

5.

6.

Site Characteristics with An Intro to BMPFast and Navigation

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