

TOWN OF FRANKLIN



Stormwater Control Measure (SCM) Inspection & Maintenance Training

May 2024

Presented By: Leyna Tobey, PE & Ross Tsantoulis, PE

What is Stormwater?

Precipitation or snow melt that flows off land and impervious surfaces (driveways, sidewalks, buildings, etc.).

Natural Landscape



Developed Landscape



Why Managing Stormwater is Important

Stormwater runoff, if left untreated/unmanaged, can cause several problems:

Water Quality

Excessive nutrients, like phosphorus, in a waterbody can cause algal blooms which are harmful to humans and wildlife. Lack of treatment can lead to “impaired waters,” which have an accumulation of contaminants.

Flooding

Significant precipitation events can cause runoff to accumulate in roadways and properties instead of discharging to a storage area or waterbody.

Erosion

Heavy runoff can cause soils to deteriorate which can lead to property damage and tree destruction. Further erosion can also lead to an increase in sediment transport to waterways.

Infrastructure Damage

Accumulation of precipitation can find new flow paths with little resistance, which can lead to damage of pavement/roads, bridges, culverts, utilities and buildings.

How Do We Manage Stormwater?

- Stormwater runoff is collected and moved through conveyance infrastructure, including catch basins, manholes, and pipes, and ultimately discharges to waterbodies, such as wetlands, lakes, and rivers. Some stormwater conveyance systems discharge runoff into structures called **Structural Control Measures (SCMs)**.
- SCMs are permanent structures and/or facilities constructed and operated to reduce the pollutants in stormwater.
- The purpose of SCM infrastructure is to capture, convey, and treat runoff via filtration, infiltration, and/or biological processes.

Town Regulations

Franklin stormwater bylaws require owners of SCMs to perform and document routine maintenance activities.

Franklin Bylaws: ecode360.com/10434353#10434382

Contact:

Derek Adams

Stormwater & Environmental Affairs Superintendent

Town of Franklin, MA

dadams@franklinma.gov | 508-553-5500



MS4 General Permit

The Town of Franklin, under the requirements of their United States Environmental Protection Agency's (EPA's) Municipal Separate Storm Sewer System (MS4) General Permit, must reduce its phosphorus loading from stormwater discharges into the Charles River Watershed.

Reduction of ~2,220 lbs of phosphorus required by 2038

Every pound of phosphorus removed from stormwater will save Franklin and its property owners \$50,000 - \$100,000

Franklin's Participation: <https://www.franklinma.gov/stormwater-division>



Common Types of Stormwater Control Measures



Dry Detention Basins



Infiltration Basins



Rain Garden

Common Types of Stormwater Control Measures



Wet Ponds



**Gravel/Constructed
Wetland**



Vegetated Swale

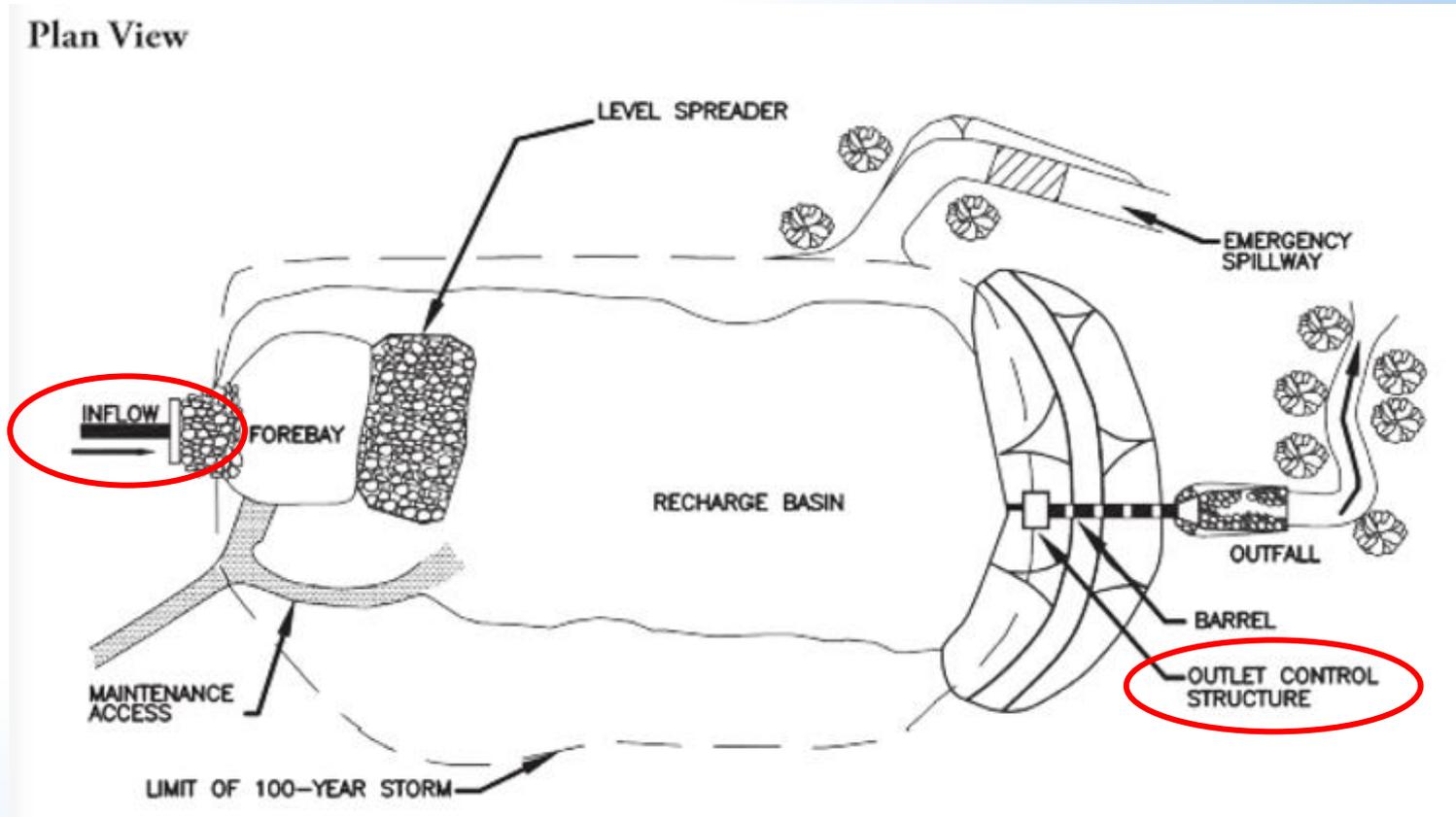
Common SCM Components

- Inlet & Outlet Control Structures/Pipes
- Pretreatment Systems
- Overflow Spillway
- Underdrains & Cleanouts
- Sideslopes & Embankments
- Impoundment Area
- Vegetation
- Safety Features

Inlets & Outlets

SCMs with inlet & outlet control structures:

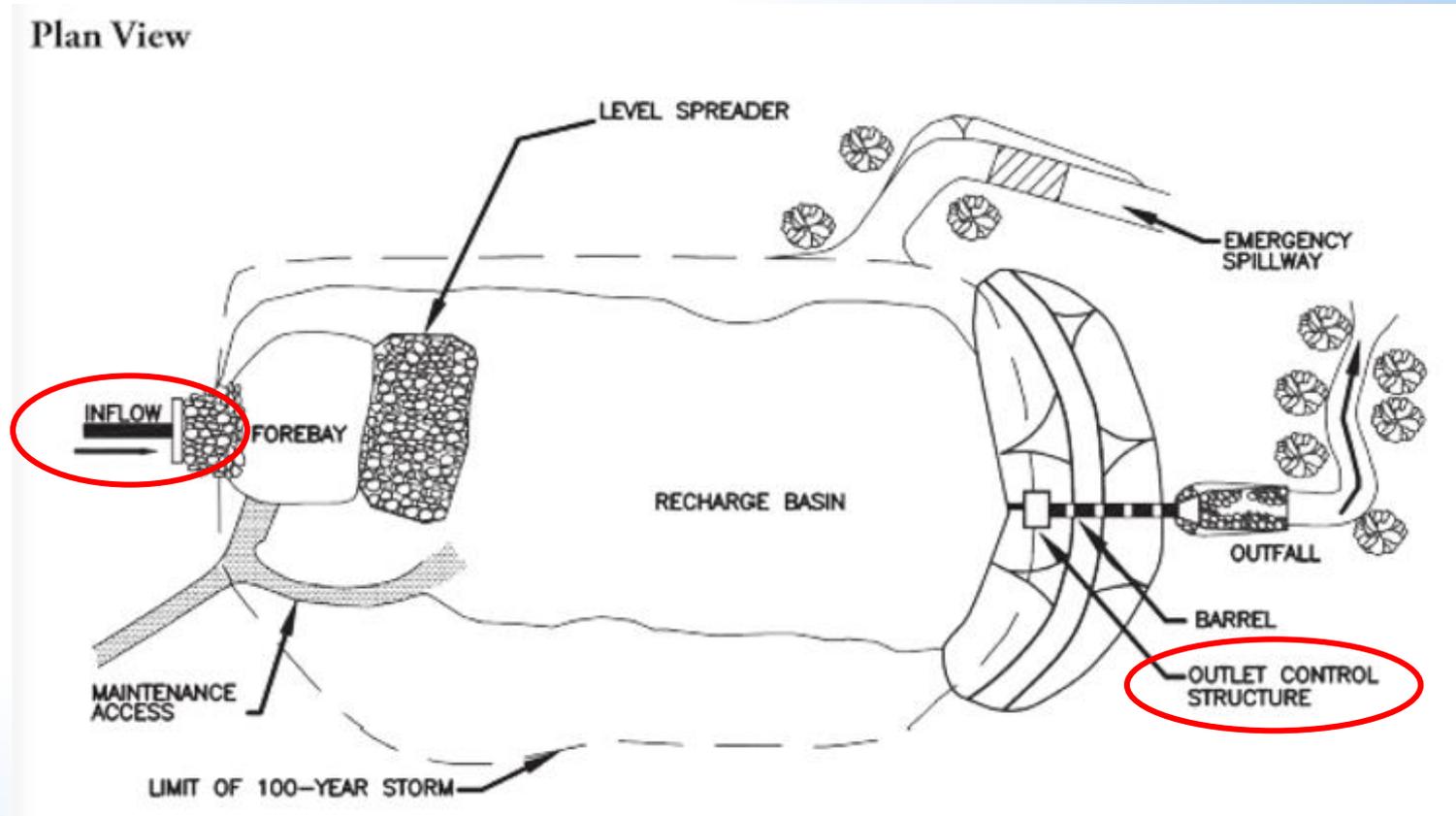
- Detention Basin
- Infiltration Basin
- Wet Pond
- Biofiltration/Bioretention
- Rain Garden
- Gravel/Constructed Wetland
- Vegetated Swale



Inlets & Outlets

Common Problems:

- Control structures can fill with litter/debris, sediment, and overgrown vegetation that prevent the flow of water
- Non-functioning structures can make an area more susceptible to flooding



Inlets & Outlets

Inlet

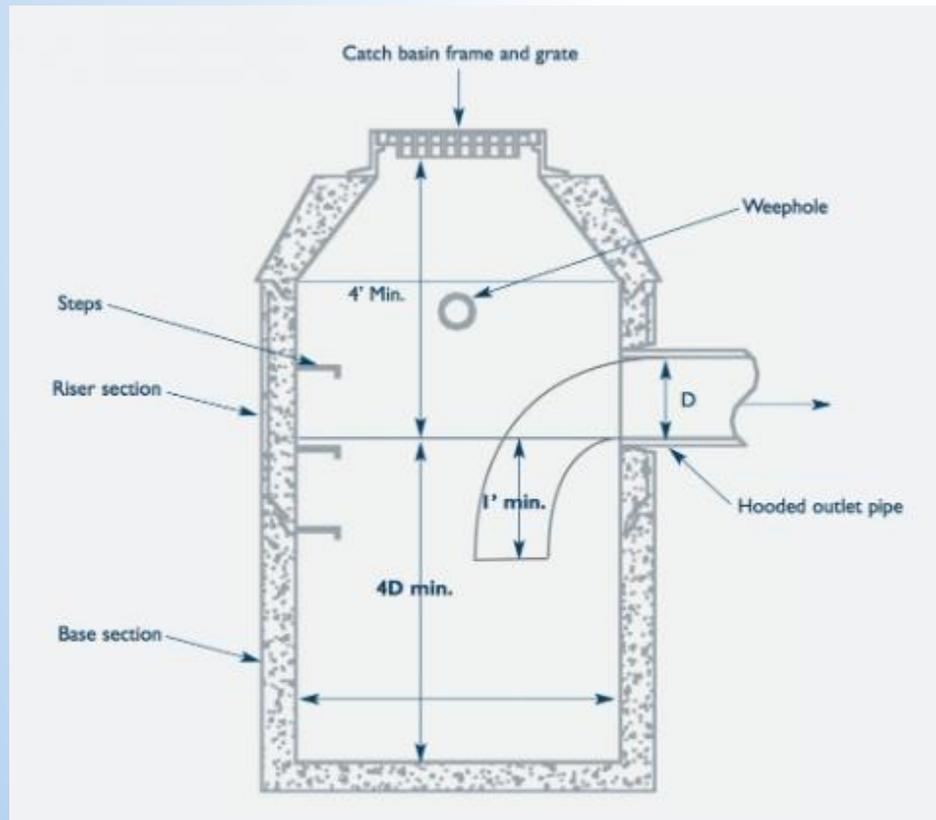


Outlet

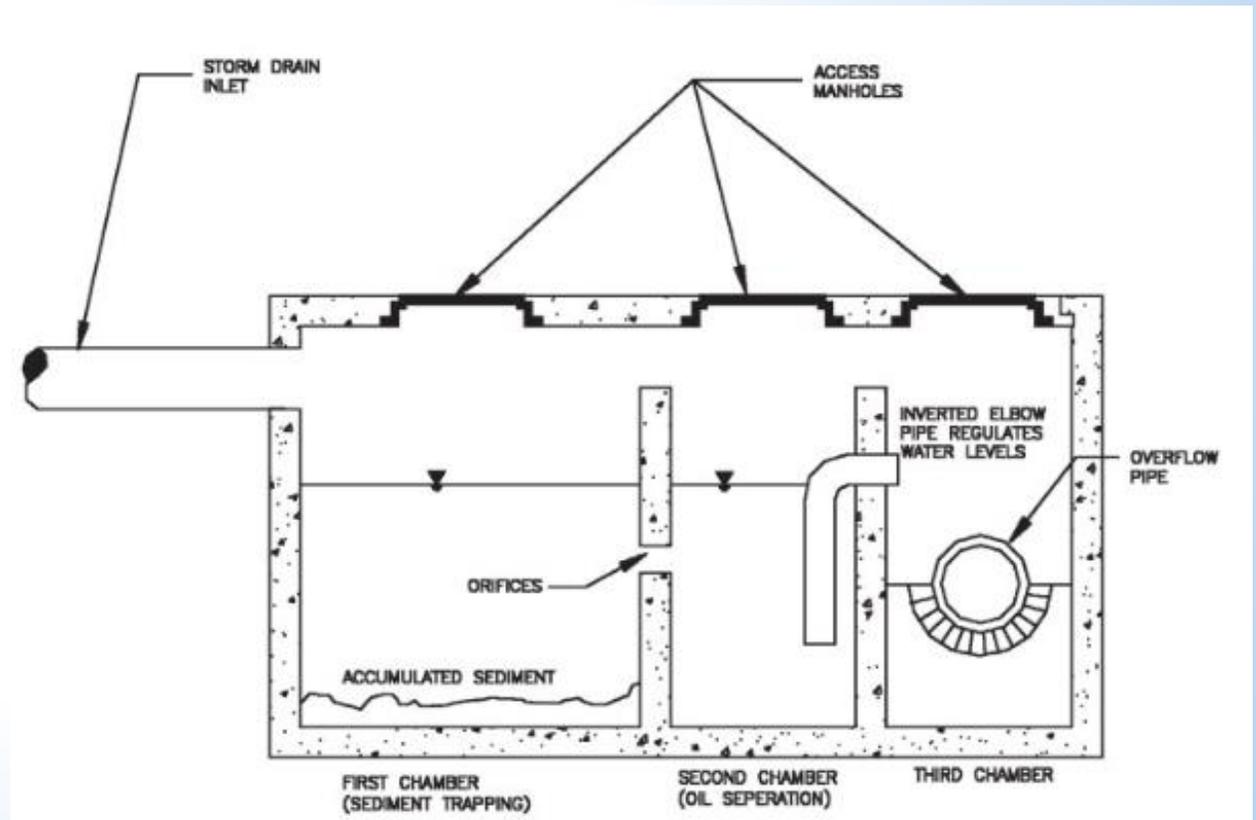


Common Pretreatment Systems

Deep Sump Catch Basin

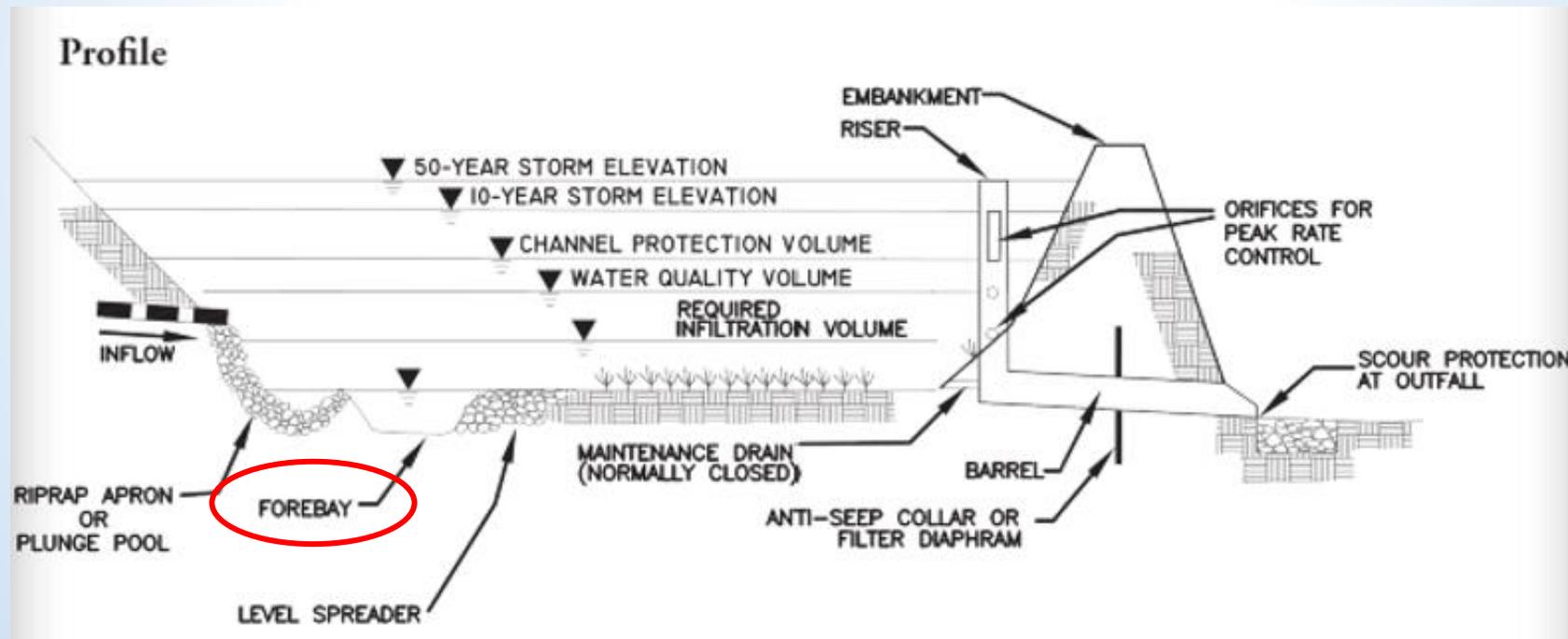


Water Quality Unit



Common Pretreatment Systems

Sediment Forebay



Pretreatment Systems

SCMs with pretreatment systems:

- Detention Basin
- Infiltration Basin
- Wet Pond
- Biofiltration/Bioretention
- Rain Garden
- Gravel/Constructed Wetland
- Vegetated Swale

Common Problems:

- Pretreatment becomes clogged with sediment and debris and no longer functions properly
- Can increase the amount of nutrients/sediment discharged downstream

Pretreatment Systems

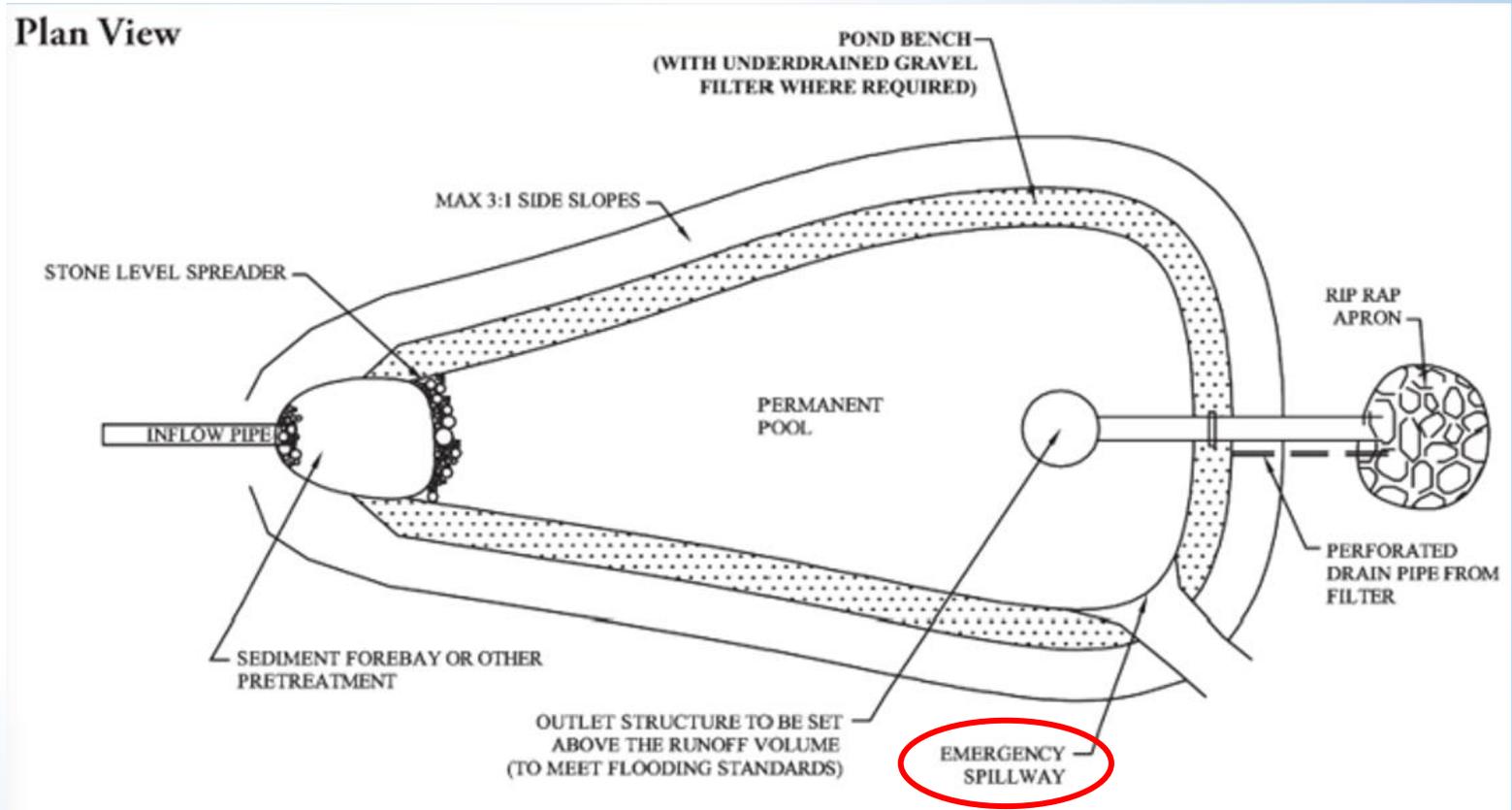


Overflow Spillway

SCMs with overflow spillways:

- Detention Basin
- Infiltration Basin
- Wet Pond
- Biofiltration/Bioretention
- Rain Garden
- Gravel/Constructed Wetland
- Vegetated Swale

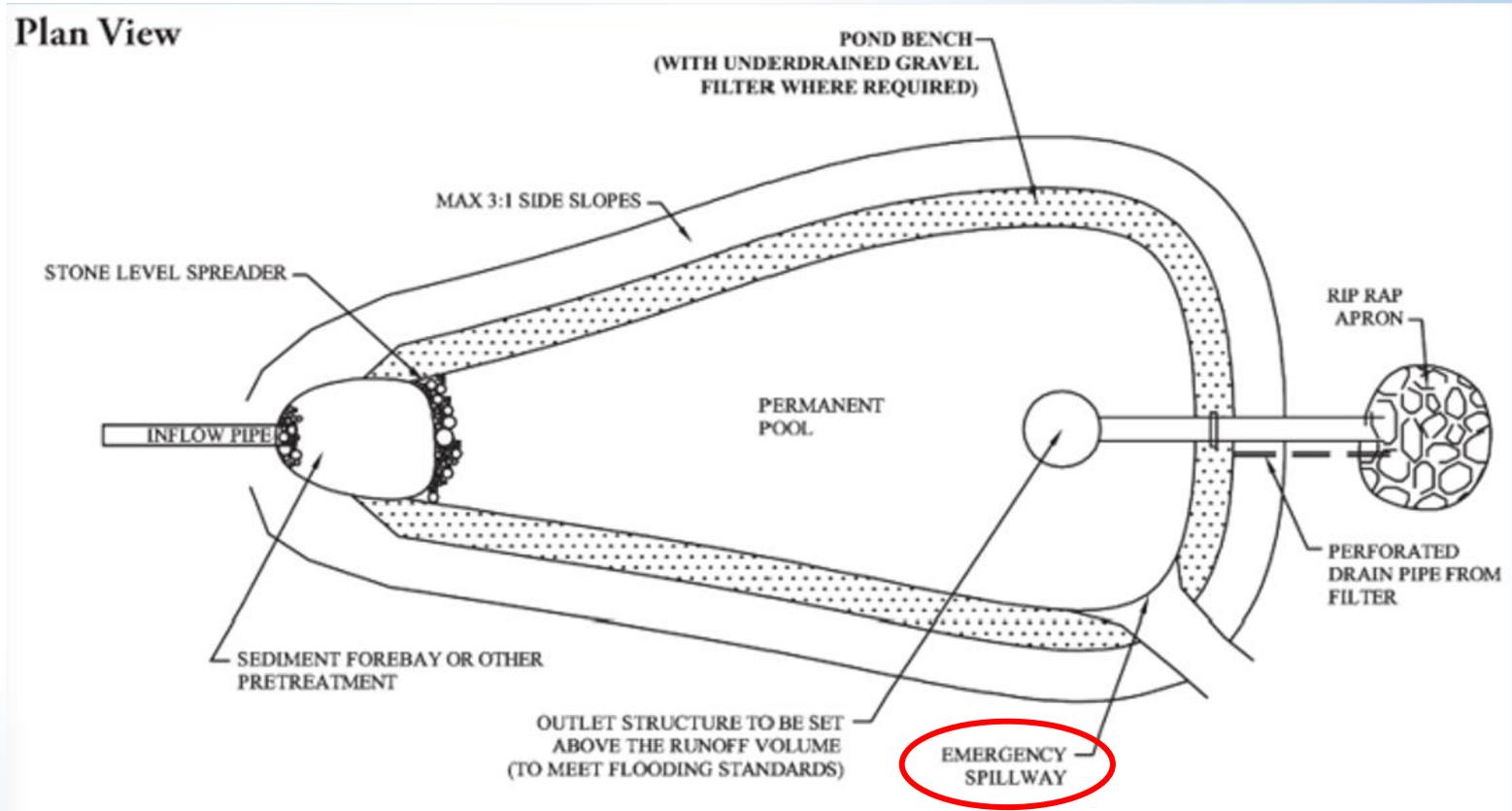
**Also known as an emergency spillway*



Overflow Spillway

Common Problems:

- Erosion of the spillway can expand over time with concentrated flows of runoff
- Extensive erosion can lead to failure of the spillway, which could cause the SCM to fail to store runoff of future storm events
- Excessive vegetative growth



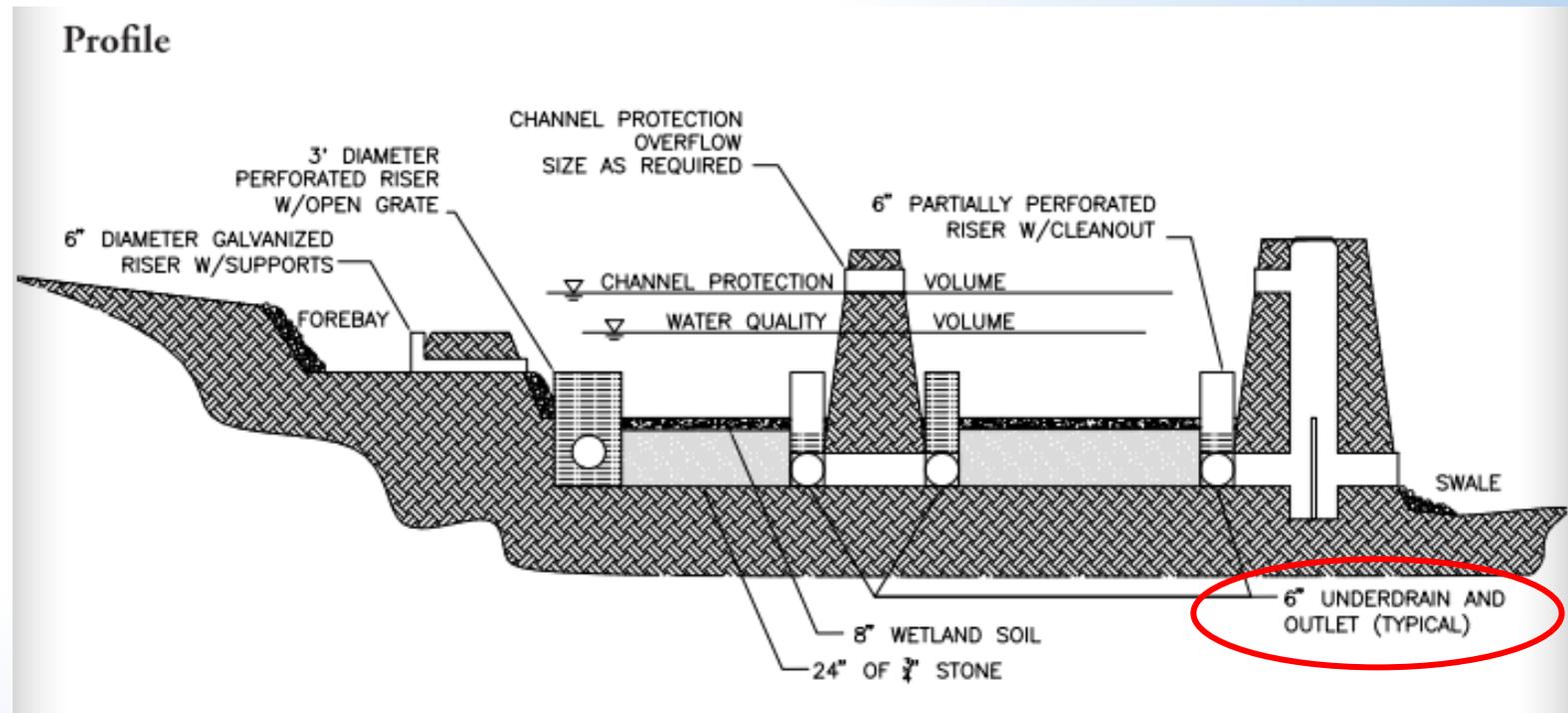
Overflow Spillway



Underdrain & Cleanouts

SCMs with underdrains & cleanouts:

- Detention Basin
- Infiltration Basin
- Wet Pond
- Biofiltration/Bioretention
- Rain Garden
- Gravel/Constructed Wetland
- Porous Pavement



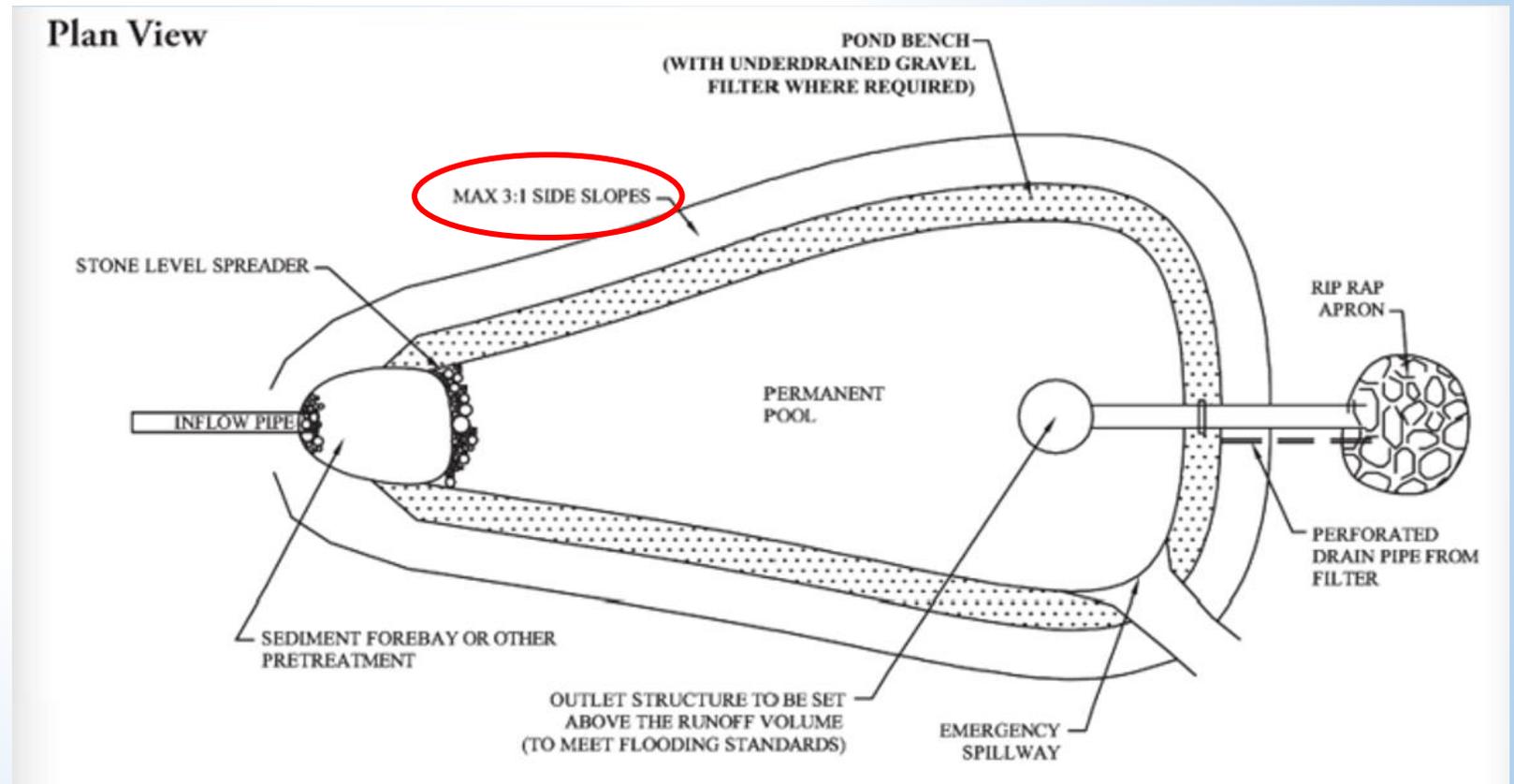
Underdrain & Cleanouts



Sideslope & Embankment

SCMs with sideslopes & embankments:

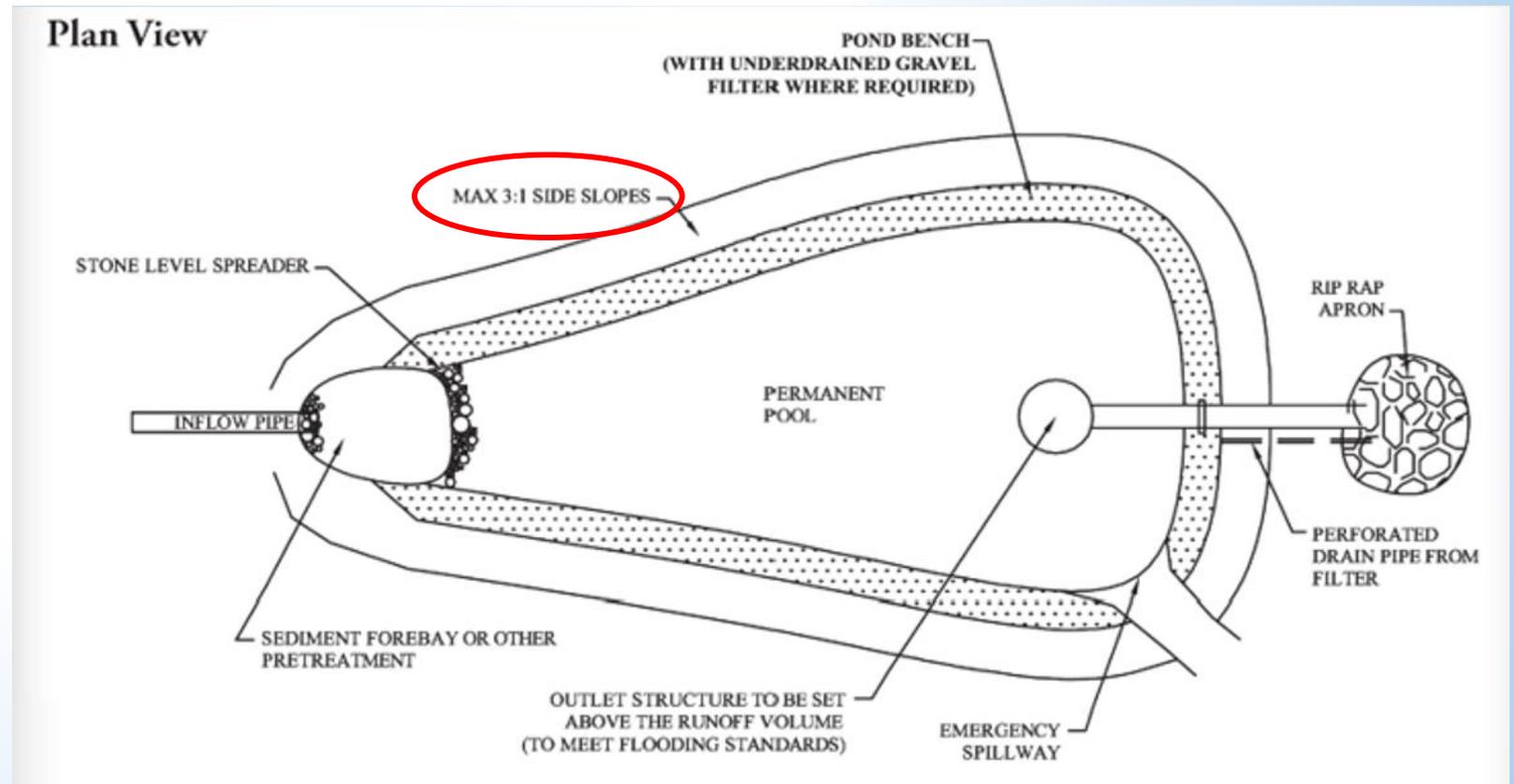
- Detention Basin
- Infiltration Basin
- Wet Pond
- Biofiltration/Bioretenion
- Gravel/Constructed Wetland
- Vegetated Swale



Sideslope & Embankment

Common Problems:

- Concentrated flows of runoff can lead to excessive erosion of the sideslopes and can potentially cause embankment failure from lack of vegetation growth
- Failure of sideslopes and embankment can lead to loss of storage capacity during large storm events
- Vegetative growth/woody vegetation



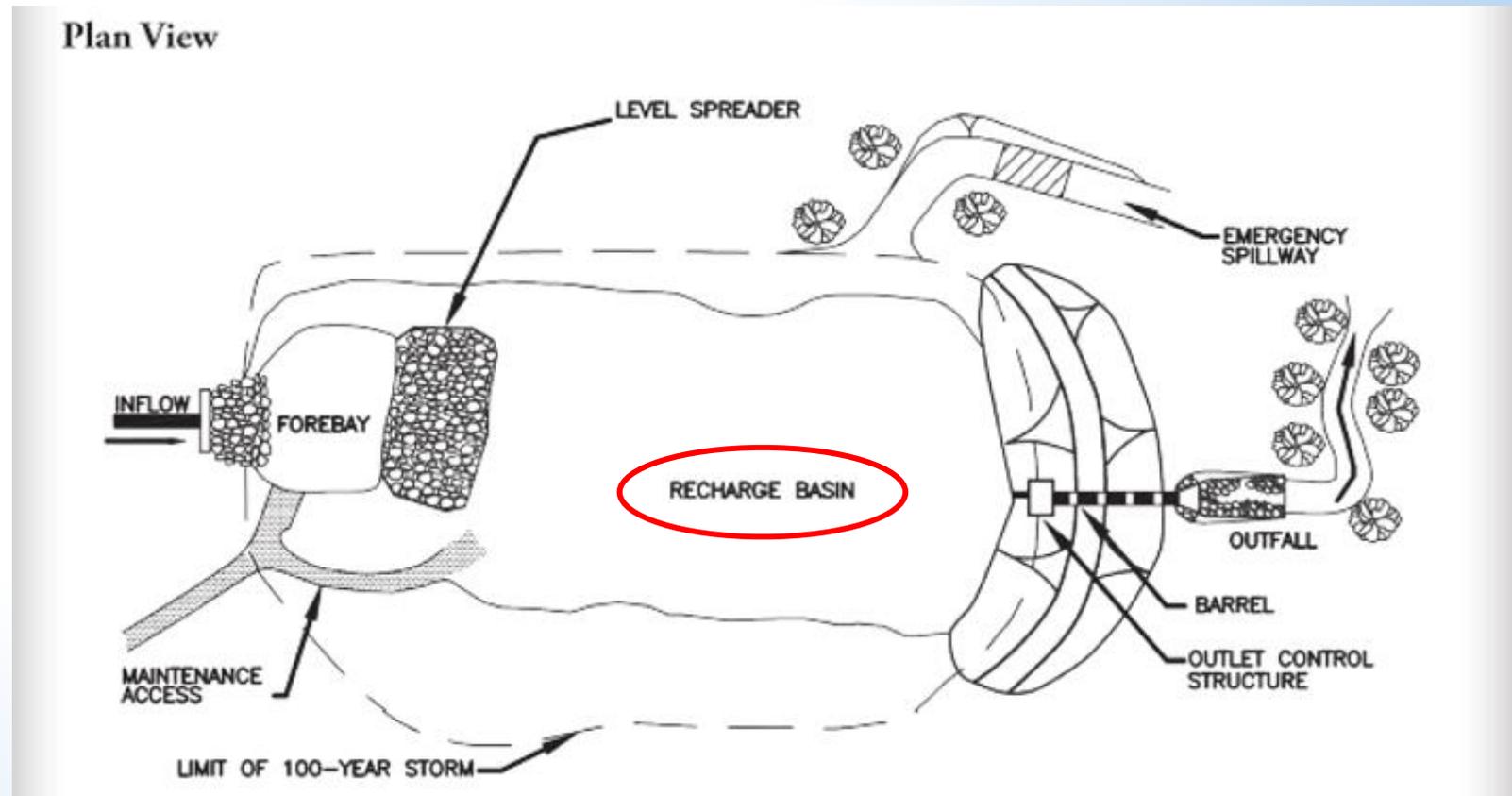
Sideslope & Embankment



Impoundment Area

SCMs with impoundment areas:

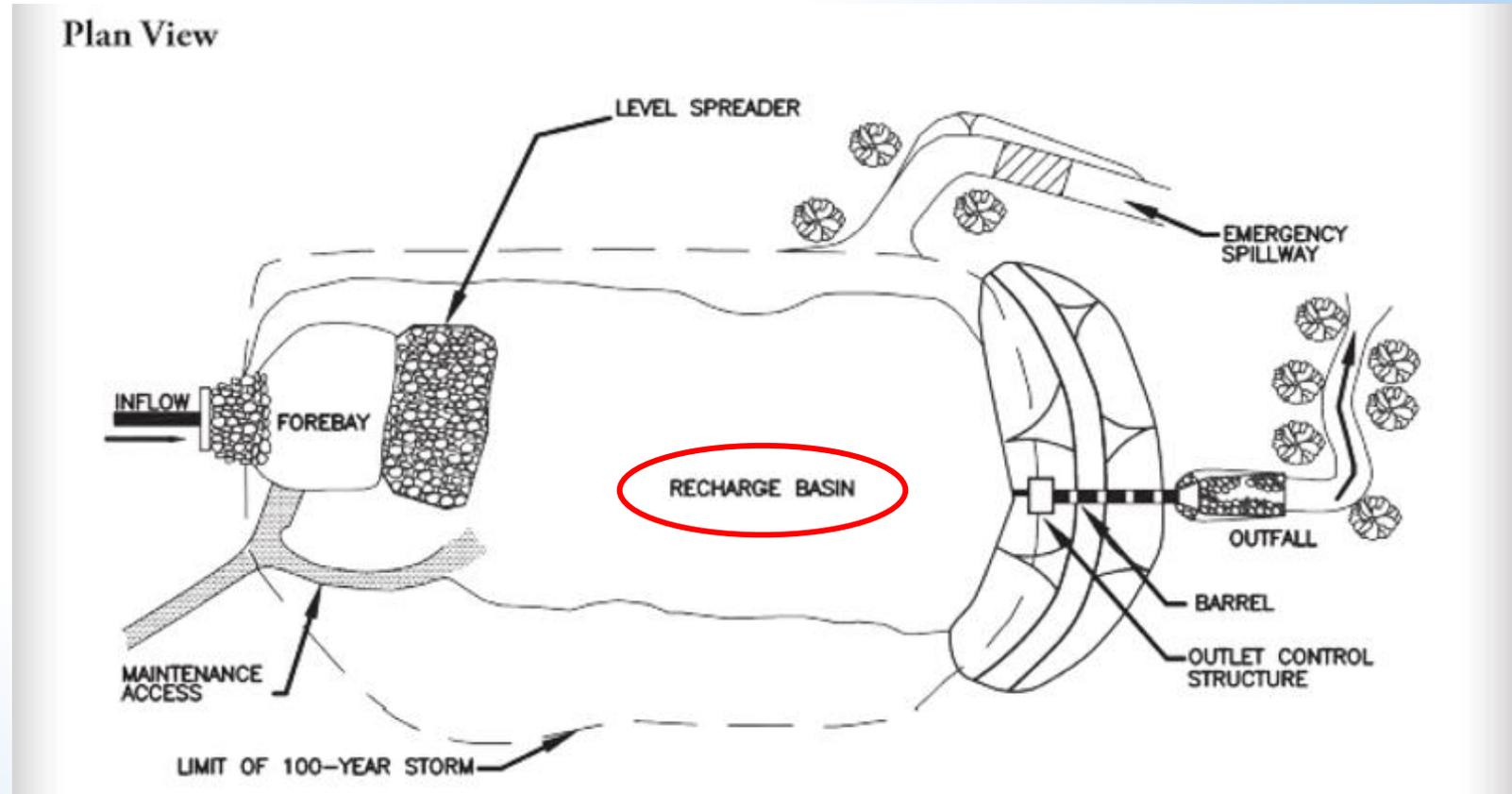
- Detention Basin
- Infiltration Basin
- Wet Pond
- Biofiltration/Bioretention
- Rain Garden
- Gravel/Constructed Wetland
- Water Quality Swale



Impoundment Area

SCMs with impoundment areas:

- Overgrown impoundment areas can prevent adequate drainage of stormwater from the system
- Inadequate drainage could lead to flooding problems and system failure



Impoundment Area



Vegetation

SCMs with vegetation:

- Detention Basin
- Infiltration Basin
- Wet Pond
- Biofiltration/Bioretenention
- Rain Garden
- Gravel/Constructed Wetland
- Water Quality Swale

Common Problems:

- Bare spots
- Seepage
- Overgrowth
- Erosion of sideslopes
- Access issues
- Trash/debris accumulation

Vegetation

Bare Spots



Erosion of Sideslopes



Overgrowth/Access

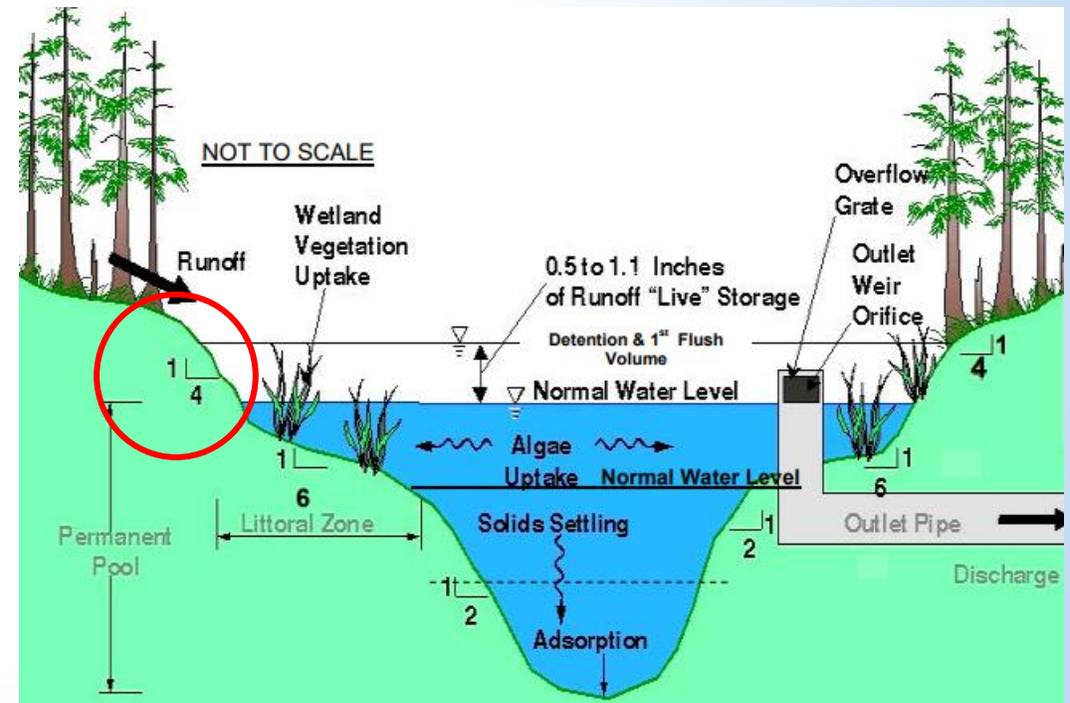


Safety Features

Chain Link Fence



Minimum 3:1 Sideslopes



Maintenance

Mowing, Landscaping, & Vegetation Management:

- Objective: Minimize the establishment/takeover of non-intentional woody vegetation
- Frequency: At least twice per year and remove clippings/material

Debris & Litter Removal:

- Objective: Mitigate contribution of downstream floatables
- Frequency: Monthly

Sediment Removal:

- Objective: Maintain flow capacity
- Frequency: Quarterly for 1st year then adjust based on buildup

Maintenance

Structural Integrity Inspection:

- Objective: Minimize erosion and channelization of stormwater
- Frequency: At least twice per year and after large storm events (>2.5 inches of rainfall)

Water Level Inspection:

- Objective: System should be drained completely within 72 hours of storm event
- Frequency: At least twice per year 72 hours after large storm events (>2.5 inches of rainfall)

Where To Find Inspection Forms

Follow the link provided below and create a user account to access the SCM inspection forms

Submission Portal:

<https://franklinma.portal.opengov.com/categories/1078/record-types/6627>



Inspection Schedule & Submission Demo

Please submit annual inspection and maintenance reports to the Franklin Department of Public Works by **July 15th** each year

Town of Franklin, MA My Account Search

Department of Public Works / Stormwater Control Measures Certification

Stormwater Control Measures Certification

[Apply Online](#)

Step 1 of 16 Save Draft and Exit

Confirm your contact information
Ensure your contact information is up-to-date so that we can get in touch with you if needed.

First Name	<input type="text"/>		Last Name	<input type="text"/>		
Email address	<input type="text" value="ccarter@woodardcurran.com"/>		Phone Number	<input type="text"/>		
Address 1	<input type="text"/>		Address 2 (Optional)	<input type="text"/>		
City	<input type="text"/>		State	<input type="text"/>	ZIP/Postal Code	<input type="text"/>

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Inspection Schedule & Submission Demo

Step 2 of 16 -

Save Draft and Exit

Location for Stormwater Control Measures Certification

Select a primary location for this record. If needed, you can add additional locations later.



Search for Address or Parcel

Search for an address or parcel by name, address, or Parcel ID.

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Step 2 of 16 -

Save Draft and Exit

Location for Stormwater Control Measures Certification

PRIMARY LOCATION

The main location associated with the record.



257 FISHER ST
FRANKLIN, MA 02038

Change Location



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Inspection Schedule & Submission Demo

Step 2 of 16 · Save Draft and Exit

Location for Stormwater Control Measures Certification

PRIMARY LOCATION
The main location associated with the record.

 257 FISHER ST
FRANKLIN, MA 02038 Change Location 

Unit

Property Owner Information

Name

Phone Number
Email

Street # Street Name Unit

City State Zip Code

Property Data	Year built 2006	MBL 287-109-000-000
	Lot Area 43.12	Zoning DPW/STRMWTR
	Occupancy	Book Page
	Water	Building Type OFFICE
		Sewage

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Owner/Applicant Information

Applicant Type *

Name of property management company

Property Management Email Address

Property Management Phone Number

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Inspection Schedule & Submission Demo

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Inspection & Maintenance Information

Stormwater Control Measure Type 0

Select your option 

Select your option

Biofiltration / Bioretention / Rain Garden / Tree Well / Enhanced Biofiltration with Internal Storage Reservoir (ISR)

Detention Basin

Gravel / Constructed Wetland

Infiltration Basin

Infiltration Chamber

Infiltration Trench / Dry Well / Leaching Catch Basin / Leaching Galley

Porous Pavement

Sand Filter

Stormceptor

Vegetated Swale

Wet Pond

Maintenance Date

Date of Previous Maintenance

Maintained by

Maintenance Type

Please select the maintenance procedures most recently completed on this SCM. See table below for details.

Mowing, Landscaping, and Vegetation Management

Debris and Litter Removal

Structural Integrity

Sediment Removal

Water Level Inspection

Inspection & Maintenance Recommendations

Inspection & Maintenance Recommendations

	Procedure	Objective	Frequency
1.	Mowing, Landscaping, and Vegetation Management	Minimize establishment / takeover of non-intentional woody vegetation. Mowing specifically for embankment / side slopes / areas where bioretention plantings are not present. Trim vegetation and remove weeds. Maintain mulch layer to retain soil moisture. Divide plants as needed to avoid overcrowding and reduce blooms.	Mow / landscape at least twice per year and remove mowed material / clippings. Apply mulch layer in Spring and as needed. Remove dead vegetation annually.
2.	Debris and Litter Removal	Remove for aesthetics and to mitigate contribution of downstream floatables.	As needed by inspection. Monthly debris and litter removal.
3.	Sediment Removal	Maintain flow capacity. Inspect and remove sediment, particularly at pipe discharge.	Inspect quarterly for the first year. Establish a specific schedule based on first year accumulations.
4.	Structural Integrity	Minimize erosion and channelization of stormwater. Inspect for signs of scouring, particularly near high velocity areas.	After large storms (2.5 inches of rainfall), but not less than twice per year.
5.	Water Level Inspection	Inspect water level in unit. System should be drained completely 72 hours after a storm event.	At a minimum inspect twice a year at least 72 hours after storm event.

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Inspection Schedule & Submission Demo

Step 5 of 16 · Save Draft and Exit

Condition Assessment

Does SCM Appear to Be Working Properly?
 ▼

Maintenance Access
 ▼

Standing Water in System?
 ▼

Evidence of Flooding/Overtopping?
 ▼

Is Maintenance Required?
 ▼

Is Underdrain Working Properly?
 ▼

Does System Drain Within 72-Hours?
 ▼

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Condition Assessment Continued

Emergency Spillway Condition

Select all that apply

Good Condition

Excess Vegetation

Erosion

Other, please explain

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Inspection Schedule & Submission Demo

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Condition Assessment Continued

Sediment Depth

Maximum Sediment Depth (inches) ⓘ

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Condition Assessment Continued

Pretreatment System ⓘ

Select your option ▼

Pretreatment System Condition

Select all that apply

N/A

Good Condition

Undesirable Woody Plants

Sediment Accumulation

Select your option ▼

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Inspection Schedule & Submission Demo

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Condition Assessment Continued

Inlet Condition

Select all that apply

N/A	<input type="checkbox"/>	Good Condition	<input type="checkbox"/>
Erosion	<input type="checkbox"/>	Pipe Damaged	<input type="checkbox"/>

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Condition Assessment Continued

Outlet Condition

Select all that apply

N/A	<input type="checkbox"/>	Good Condition	<input type="checkbox"/>
Erosion	<input type="checkbox"/>	Pipe Damaged	<input type="checkbox"/>

Outlet Control Structure

Select all that apply

N/A	<input type="checkbox"/>	Good Condition	<input type="checkbox"/>
Cracked	<input type="checkbox"/>	Exposed Steel	<input type="checkbox"/>
Corroded	<input type="checkbox"/>	Clogged	<input type="checkbox"/>

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Inspection Schedule & Submission Demo

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Condition Assessment Continued

Rodent Control

Select all that apply

Needs Work	Holes >3"
<input type="checkbox"/>	<input type="checkbox"/>
Holes <3"	None
<input type="checkbox"/>	<input type="checkbox"/>

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Condition Assessment Continued

Deposits

Select all that apply

None	Oil/Grease
<input type="checkbox"/>	<input type="checkbox"/>
Grass Clippings/Compost	Trash/Debris
<input type="checkbox"/>	<input type="checkbox"/>
Sediment	Other, please explain
<input type="checkbox"/>	<input type="text"/>

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Inspection Schedule & Submission Demo

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Condition Assessment Continued

Vegetation

Select all that apply

None Sparse

Undesirable Woody Plants

Vegetation Health

Select your option

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Condition Assessment Continued

Erosion

Select all that apply

None Inlet/Outlet Erosion

Embankment/Side Slope Erosion Channeling/Depressions

Displaced Riprap Other, please explain

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Inspection Schedule & Submission Demo

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Comments

Additional Comments

How many Stormwater Control Measures are in use at this property, including this one?

If you have multiple Stormwater Control Measures (SCM) in use on this property please submit separate applications for each certification.

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Attachments

Include any additional files with your submission. Any box marked "Required" is required to submit your application. Please note the maximum allowed file size for any upload is 100 MB.

Attachment	File
Perspective 1 Required Please separately attach at least two photos from different perspectives. Additional photos may be added, if needed.	No file uploaded Upload
Perspective 2 Required Please separately attach at least two photos from different perspectives. Additional photos may be added, if needed.	No file uploaded Upload
Add attachment	

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Stormwater Utility Fee Credit

The Town of Franklin has a stormwater utility fee, which is billed quarterly with water and sewer bills. The Town's stormwater utility fee credit program provides financial incentives for private SCM owners to inspect and maintain their system. Through your participation, a credit towards your stormwater utility fee may be applied.

Stormwater Utility Fee Credit Application:

<https://franklinma.viewpointcloud.com/categories/1078/record-types/6620>

25-50% credit potential



Questions/Website References

Questions?

Please visit the Town of Franklin's website for more frequently asked questions related to stormwater:

<https://www.franklinma.gov/node/27/faq>



Submission Portal



Stormwater Utility Fee Credit Application



Frequently Asked Questions



Franklin Bylaws



MS4 General Permit

