Stormwater Management
Operation and Maintenance Guide

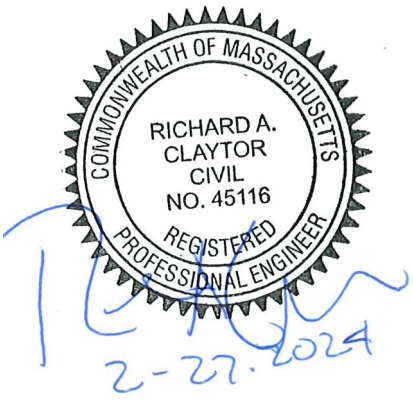
Bellevue Veterans Community
Oak Bluffs, Massachusetts

Prepared for:

Island Housing Trust

21 Mechanic's Street

Vineyard Haven, MA 02568



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February 2024

Stormwater Operations & Maintenance Plan
Belleview Veterans Community, Oak Bluffs MA

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APPENDICES

1. INTRODUCTION

This document provides a general description along with the operation and maintenance requirements for the Bellevue Veterans Community site in Oak Bluffs, MA. The responsible parties are required to inspect and maintain all measures as outlined in this maintenance guide throughout the year. Site maintenance is divided into three categories as outlined below.

1. Green Stormwater Infrastructure
    - Structural Components
    - Structural Maintenance Schedule
    - Planting
    - Landscape Maintenance Schedule
    - Weed Guide

2. General Site Maintenance
    - Trash & Debris
    - Pet Waste
    - Pavement Sweeping
    - Contributing Drainage Areas
    - Snow Removal
    - De-icing

3. Long-Term Pollution Prevention Measures

2. RESPONSIBLE PARTIES

Island Housing Trust is responsible for the financing and continuous operation, maintenance and required emergency repair for the stormwater management system and associated drainage network.

Owner:	**Island Housing Trust**
Address:	21 Mechanic's Street Vineyard Haven, MA 02568

Contact:

Signed:_____

Date:_____

3. GREEN STORMWATER INFRASTRUCTURE

3.1. How Does Green Infrastructure Work?

Green Stormwater Infrastructure (GSI) is a nature-based approach to stormwater treatment and management. These stormwater practices or “treatment areas” are designed to mimic nature and use the natural filtration properties of soil and plants to remove pollutants from stormwater runoff prior to discharging to the municipal drainage system or waterbodies.

GSI relies on the following basic steps to function properly. Structural components of the practices facilitate the functioning of the steps. If one of these steps, or components, does not work properly, the entire system can be compromised and the GSI practice itself could be contributing to maintenance problems. This can lead to landscape nuisances, more frequent maintenance, and costly repairs/improvement. The steps are:

1. ***Collect*** (Inlets)
2. ***Move Water*** (Conveyance) if needed, can come after capturing sediment
3. ***Capture Sediment*** (Pretreatment)
4. ***Treat and Manage*** (Filter, Infiltrate or Store)
5. ***Overflow*** (Structures and Spillways)

3.2. What is required for Maintenance?

As these are nature-based systems that rely on plant upkeep, the maintenance for GSI typically falls under landscape and general site maintenance services. Proper operation and maintenance (O&M) are vital to its long-term viability. Regularly scheduled maintenance can prevent system failures due to sediment build-up, damage, or deterioration. The maintenance requirements, outlined in this guide, are critical to ensure proper treatment, maintain storage capacity and preserve the visual integrity.

General maintenance includes the following:

1. Removing sediment from the pretreatment practices used to capture sediment.
2. Maintaining the proper drainage function and pollutant removal capacity of the systems.
3. Maintaining healthy native, tress, plants, and vegetative cover as well as the removal of unwanted weeds and invasive species.

It is recommended that all practices be maintained regularly as part of the routine landscape maintenance or at a minimum four times per year and after major rain events:

- **Early Spring**: during spring cleanup
- **Summer:** during lawn mowing and other routine park maintenance
- **Early Fall:** when leaves begin to fall
- **Late Fall/Early Winter:** after all the leaves have fallen during leaf removal
- **After major storm events**: 2” of rain or greater.

The following sections describe the general function and landscape maintenance of each practice on the site. Included in the appendices is a specific Inspection Report for each practice type (Appendix A) along with a plan showing the location of the items to be inspected and maintained (Appendix B).

3.3. What practices are used at this site?

The following practices are present at this site:

a. Sediment Forebay: The sediment forebay functions as pretreatment for the bioretention area by capturing sediment and debris.

b. Bioretention Areas: A bioretention area is a stormwater management practice to manage and treat stormwater runoff using a conditioned planting soil bed or “filter” media and plants to filter runoff captured in a shallow depression. The method combines physical filtering and adsorption with bio-geochemical processes to remove pollutants.

c. Underground Infiltration Chambers: Underground infiltration chambers consist of rigid plastic parabolic subsurface chambers surrounded by coarse aggregate stone. Stormwater is piped to these chambers and infiltrated into the existing soils below. A manhole with internal weir provides overflow during large storm events.

d. Drywell: An open-bottom, perforated catch basin structure captures stormwater and infiltrates into the existing soils below.

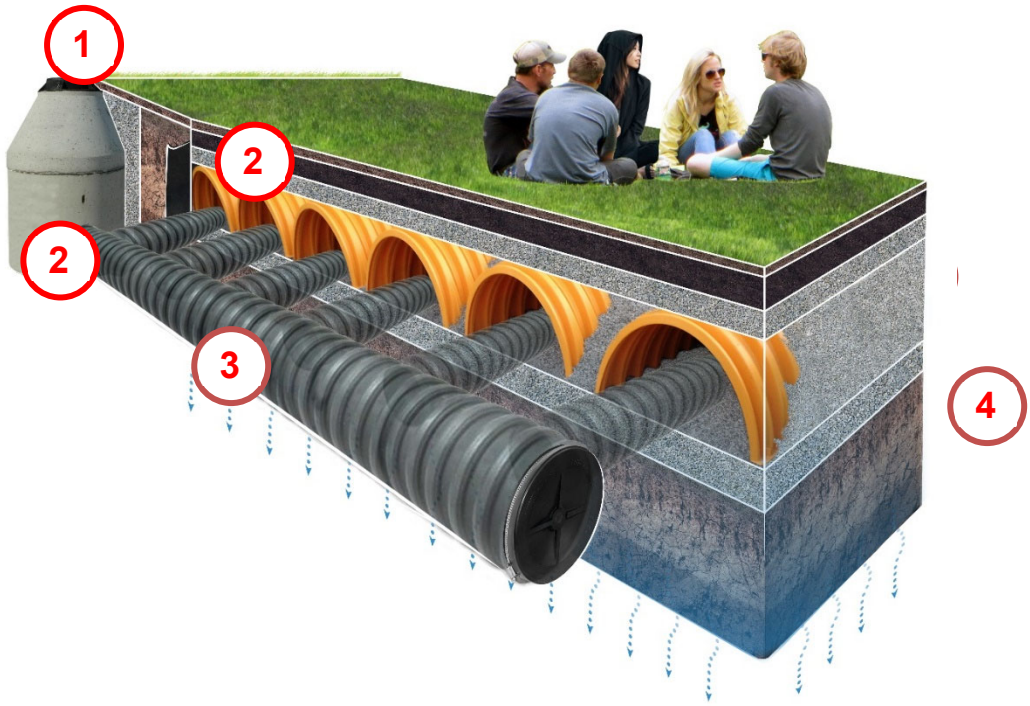
The maintenance for the green infrastructure is divided into two categories:

a. The **Structural Components** that make up the basic steps of a functioning system.

b. The **Plantings** that are the landscape and filtration element.

Each category is further described in the sections below.

4. STRUCTURAL COMPONENTS: UNDERGROUND INFILTRATION CHAMBERS (UICs)



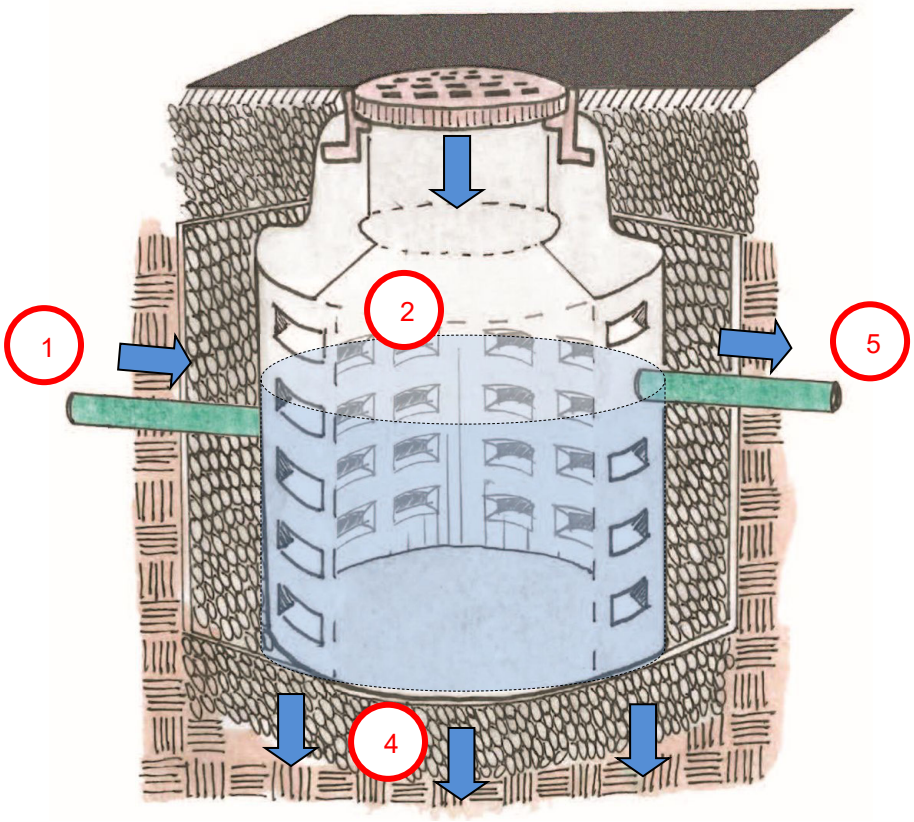
Structural Components

1. ***Collect***: – Stormwater from adjacent rooftops and bioretention practices is collected in drainage piping and directed to a diversion manhole.
2. ***Capture Sediment***: Sediment, trash, and debris is captured and accumulates overtime in the diversion manhole and isolator row within the practice (see Appendix A).
3. **Move:** Stormwater is directed to the underground chambers via a closed pipe/manifold system.
4. **Store and Infiltrate:** Stormwater is stored in in the chambers and infiltrates into the subsurface soils. During larger storm events stormwater overflows from the outlet control manhole and connect to the existing sewer line on River Street. This is a combined sewer system
5. **Overflow:** During larger rain events (25-yr storm or greater) when the chambers reach capacity the overflow structure will divert water from the chambers and discharge via overflow structure.

SURROUNDING AREA – Proposed parking lot
Problems such as unstable soils, erosion, and over sanding during the winter can contribute to long-term maintenance problems. See Section 10.

See Appendix A for Maintenance Checklist and Appendix B for Owner's Manual

5. STRUCTURAL COMPONENTS: DRY WELL



FUNCTION:

1. COLLECT – Catch Basin Grate and Inlet Pipes
   Stormwater runoff is collected from roof drains by pipe and overland flow through the catch basin grate.
2. CAPTURE–Dry Well
   Stormwater runoff is captured in the dry wells and stored during rain events.
3. MOVE– NA
4. INFILTRATE – Gravel and Subsoil
   Runoff if is infiltrated into the sub soils through the dry well perforations and surrounding gravel.
5. OVERFLOW –
   When the capacity of the dry well is exceeded an overflow is overland through the grate.

SURROUNDING AREA – Landscape Area
Problems such as unstabilized soils, erosion, and leaf litter can contribute to long-term maintenance problems (See Section 8).

See Appendix A for Maintenance Checklist

6. STRUCTURAL COMPONENTS: BIORETENTION AREAS

Structural Components

1. ***Collect***: Stormwater runoff is directed to inlets(s) or roof downspouts where stormwater enters the bioretention area.

2. ***Capture Sediment***: For bioretention areas receiving runoff directly from paved areas sand and debris settle out within sediment forebays or rain guardian bunkers.

3. ***Move Water:*** The stormwater discharges directly to the bioretention area via a granite check dam weir.

4. ***Treat and Manage***: Stormwater overtops the forebay granite check dam or enters directly via Rain Guardian inlet and flows through the planted bioretention area. Plants slow the water down, and the soil media and plant roots filter the runoff, removing nitrogen and bacteria. The treated water then infiltrates into the soil below or overflows as described below.

5. ***Overflow***: During larger rain events, the water level will rise and overflow into the outlet structure, or over the spillway (Bios 3,4, and 5) during significant (larger than 100-year) storm events.

See Appendix A for Maintenance Checklist

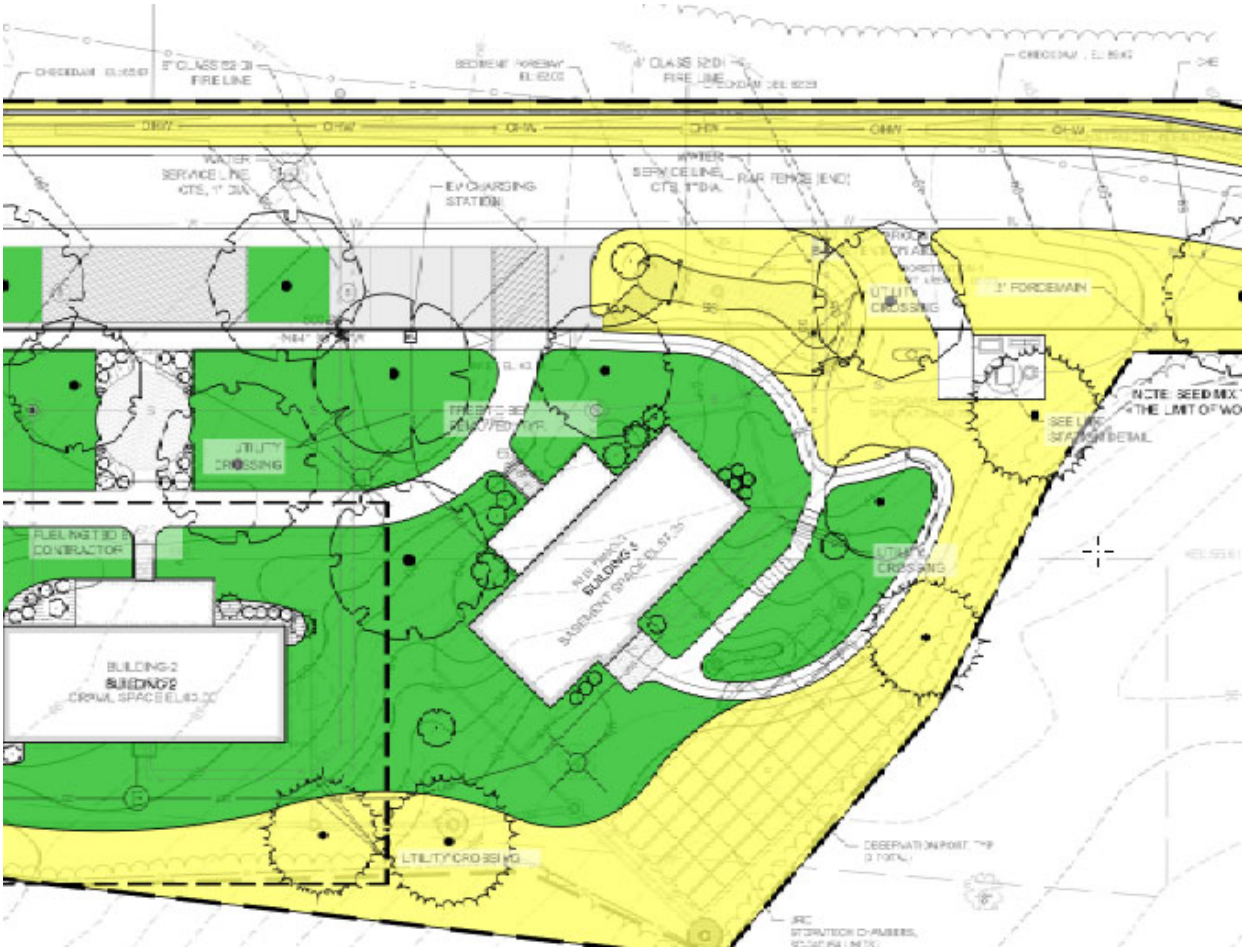
7. PLANTINGS

7.1. Plantings

The planting design for the site consists of three landscape maintenance areas. The “mow” area which consists of turf, the “no mow” areas that are Bioretention pockets and the naturalized site edge. A full planting plan is available in Appendix D.

“Mow” Areas

No “Mow” Area (Bioretention and Edge)



PLANTINGS: “MOW” AREAS MAINTENANCE

There is an area of the site that is allowed to be maintained as “mowed” lawn as necessary. Landscape maintenance of “mowed” lawn areas includes the following:

Seeding

Loam and reseed bare spots with a seed mix that matches existing species.

Mowing/Weed Whacking

Cut only 1/3 of vegetation. Do not mow during drought periods or when excessively wet. Depending on height of grasses and the time of year, grass cuttings/stalks may need to be raked and removed from site.

Watering

Allowing the lawn areas to “brown” is desired. Water only during drought conditions or during reseeding establishment period.

Fertilizing

No fertilizer shall be used.

Weeding

Weeding should be limited to invasive and weedy species (see section 3.6 Weed Identification below and the Weed Guide at https://web.uri.edu/riss/files/In-the-Weeds.pdf). Non-chemical methods (hand pulling and hoeing) are required; chemical herbicides should be avoided. Properly remove and dispose of all invasive species off site as to prevent colonization elsewhere, this includes disposal on land beyond the project area.

Monitoring

During the establishment period, walk the mow areas monthly during the first year to look for invasive species, bare spots and identify potential pest or disease problems. Properly remove and dispose all invasive species as to prevent colonization elsewhere, this includes disposal on land beyond the project area.

Debris & Trash

Remove and properly dispose litter from all areas prior to mowing.

PLANTINGS: NO "MOW" AREA MAINTENANCE (BIORETENTION AREAS)

By design, plants in bioretention areas and along the edge of the site are meant to flourish throughout the growing season leaving dry standing stalks during the dormant months. Plants do not require fertilizers and/or watering. This area is designated as "no mow." Frequent mowing would eliminate selected meadow species, may promote the growth of undesirable plants, and require additional maintenance and watering. It is recommended this area be cut back no more than one time per year and only as necessary. Remove and replace vegetation as necessary, using the appropriate species as shown on the Planting Plan. The best time to plant is in early to mid-fall or early to mid-spring. Specific maintenance activities of the "no mow" area include:

Seeding

Loam and reseed bare spots with the specified seed mix as shown on the Planting Plan.

Cutting Back

Recommend cutting with shears a maximum of once a year in early spring. Otherwise, allow areas to grow to their natural heights (12" to 36") to maintain a meadow appearance. Do NOT cut area lower than 6" – maintain sporadic wooden stakes on site at 6" height to provide visual cues during cutting. Depending on height of grasses and the time of year, grass cuttings/stalks may need to be raked and removed from site so as not to clog the bioretention. Use a leaf blower as needed to assist in clean-up.

Pruning

Prune trees and shrubs to remove deadwood and low hanging branches.

Watering

Water only during drought conditions or during reseeding establishment period.

Fertilizing

No fertilizer shall be used.

Weeding

Weeding should be limited to invasive and weedy species (see section on Weed Identification below and the Weed Guide at https://web.uri.edu/riss/files/In-the-Weeds.pdf). Non-chemical methods (hand pulling and hoeing) are required; chemical herbicides should be avoided. Properly remove and dispose off site all invasive species as to prevent colonization elsewhere; this includes disposal on land beyond the project area.

Monitoring

During the establishment period, walk the "no mow" areas monthly without the intent to cut, but to look for invasive species, bare spots and identify potential pest or disease problems.

Debris & Trash

Remove and properly dispose litter from all areas.

PLANTINGS: REPLACEMENTS

The plants that thrive in bioretention areas are typically quite drought tolerant due to the filter profile having a top layer of planting soil and sandy soil media below. They need to be able to withstand periods of inundation after storm events; however, when it doesn't rain, there will be less water held naturally in the sand than in other soil types for the plants to use, so they need to tolerate dry periods as well.

Specifying plants native to the area increases the ecosystem benefits by helping to support native wildlife like pollinators.

If replacements are needed, use the planting plan as a guide (see Appendix C). However, if all the plants of a certain species have not done well in the bioretention area or other locations on the site, do not replace with that same species. Rather, replant with one or more of the other species that has thrived under the conditions or have a plant professional choose a different species based on current photos of the site.

Site specific considerations for plants in bioretention areas should be:

- Preferably native
- Drought tolerant
- Tolerant of inundation for 24 hours
- Size constraints:
    - taller perennials at the bottom of the bioretention
    - shorter perennials on the side slopes
- Sun and salt tolerant (bioretention)
- A mix of different types of plants that will create a resilient plant community: cold & warm season grasses, perennials, groundcovers in all areas.

PLANTINGS: MAINTENANCE SCHEDULE

By design, plants in the bioretention area are meant to help filter the stormwater as it passes through and flourish throughout the growing season. The plants do not require fertilizers or mulch, and, after establishment, only need water during periods of drought. Remove and replace vegetation as necessary, using the appropriate species as discussed in the no-mow section above. Weeding should occur quarterly during the growing season as well as monitoring for invasive species. An annual spring "clean up" includes cutting last season's growth of the perennials and pruning as needed. See the calendar below, the Plantings Maintenance Checklist in Appendix C, the Weed Identification section, and the Weed Identification Guide at https://web.uri.edu/riss/files/In-the-Weeds.pdf for more information.

Bioretention Landscape Maintenance Schedule												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Task	**Frequency & Time of the Year**											
Cutting				**X**								
Mowing				x	x	x	x	x				
Weeding				**X**	**X**	**X**	**X**					
Monitoring				**X**	**X**	**X**	**X**					
Watering						x	x	x	x			
Seeding				x	x			x	x			
Plant Replacement				x	x			x	x			

"Mow" Areas
No "Mow" Areas (Bioretention and Edge) & Planting Beds
All areas

X required
x as needed

- Trash and debris are removed during monthly structural component inspections but can also be completed during landscape maintenance visits for weeding and monitoring.

Yellow Toadflax *(Linaris vulgaris)*

Redroot Pigweed- (*Amaranthus retroflexus)*

Smartweed *(Polygonum lapathifolium)*

Dandelion *(Taraxacum officinale)*

Fireweed *(Erechtites hieracifolia)*

Spotted Spurge (Euphorbia maculata)

Crabgrass *(Digitaria ischaemum)*

Crabgrass with seedheads

Ragweed (*Ambrosia artemisiifolia*)

Japanese Knotweed (Polygonum cuspidatum)

Ragweed (*Ambrosia artemisiifolia*)

Oriental Bittersweet (*Celastrus orbiculatus*)

Green Foxtail (Setaria viridis)

Norway Maple Tree Seedling (Acer platanoides)

Catalpa Tree Seedling (Catalpa speciosa)

Purple Loosestrife (*Lythrum salicaria*)

Field Bindweed (*Convolvulus arvensis*)

Black Swallow-wort (*Cynanchum louisea*)

8. GENERAL SITE MAINTENANCE

General site maintenance includes the following requirements:

Trash & Debris

Remove and properly dispose of all trash and debris.

Pet Waste

Visitors to the site are encouraged to pick up after their pets. Remove and properly dispose of all pet waste left behind. Pet waste should be picked up and disposed of properly to reduce bacteria and nutrient levels in stormwater.

Pavement Sweeping

Paved parking areas should be mechanically swept, at a minimum of once per year in early spring, to remove accumulated sand and sediment debris.

Contributing Drainage Areas

Check for sources of sediment in forebay from the contributing drainage area. Follow-up with landowner(s) as necessary.

Snow Removal

Snow removal from the practice is not necessary. Plowed or shoveled snow piles should not block the catch basin grates or inlet flumes.

Excessive salting, sanding or other de-icing practices should be avoided. Use of large amounts of sand should also be avoided to avoid obstructing/clogging the conveyance system.

9. LONG-TERM POLLUTION PREVENTION MEASURES

Long-term pollution prevention measures implemented at the site reduce pollutants in stormwater discharges. The following precautions will be employed on an on-going basis.

Spill Prevention & Control Measures

To minimize the risk of spills or other accidental exposure of materials and substances to stormwater runoff, the following material management is to be used when working on site.

- Any materials stored on-site will be stored in a neat, orderly manner in their appropriate containers.
- Products will be kept in their original containers with the original manufacturer's label.
- Substances will not be mixed with one another unless recommended by the manufacturer.
- Manufacturers' recommendations for proper use and disposal will be followed.
- The contractor's supervisor will be issued this Guide to ensure proper use and disposal of materials.

Materials or substances listed below may be present on-site for maintenance and care should be taken to avoid spills:

  - Petroleum Based Products

The following product-specific measures will be followed on-site:

- *Petroleum Products* - All on-site vehicles will be monitored for leaks and receive preventative maintenance to reduce the chance of leakage.
- *Grass Clipping, Leaf Litter and Plant Debris* – are to be removed from the property and not disposed on site.

APPENDIX A

Maintenance Checklists

Bioretention
Underground Infiltration Chambers
Dry Well

Bioretention/Bioswale and Pretreatment Maintenance Checklist
Bellevue Veterans Community

Date:

Time:

Inspector:

Maintenance Item	Description	Maintenance (Y/N)
1. COLLECT **Includes:** Catch basin/Inlet Structure/Piping **Frequency:** Inspect four times per years during regular park maintenance and after major storm events (2" of rain or greater) **When:** March, June, September, November		
Surface Debris Cleaning	Remove all trash, leaf litter and inlet clogging.	
Inlets	Check for clogging and sediment accumulation that impacts inflow. If there is sediment accumulation, schedule cleaning.	
Actions to be taken:		
2. CAPTURE **Includes:** Sediment Forebay **Frequency:** Inspect four times per year and after major storm events the first year; then annually and after major storm events (2" of rain or greater) **When:** March, June, September, November		
Debris Cleanout	Remove all trash and debris.	
Side Slopes	Signs of erosion gullies, animal burrowing, overtopping, or slumping are observed. Repair, as necessary.	
Sediment/Organic Debris Removal	Remove sediment accumulation and properly dispose when accumulation is greater than or equal to 3 inches or you cannot see stones.* Refer to Owner's Manual for Rain Guardian Bunker Specific Maintenance	
Actions to be taken:		
3 & 4. MOVES & FILTERS **Includes:** Planting bed **Frequency:** Inspect four times per years during regular park maintenance and after major storm events (2" of rain or greater) **When:** March, June, September, November		
Debris Cleanout	Remove trash and debris from the surface.	
Sediment/Organic Debris Removal	Remove and properly disposed of when build-up is greater than or equal to 3 inches.*	

Maintenance Item	Description	Maintenance (Y/N)
Erosion	Check for areas of erosion/ gullies, particularly along the bottom. Repair/reseed as necessary	
Side Slopes	Signs of erosion gullies, animal burrowing, overtopping, or slumping are observed. Repair, as necessary.	
Vegetation Maintenance Replacement	Cut back twice per year minimum (12" grass height). Over seed bare or thin grass growth areas. See also Landscape Maintenance	
Water Draining properly	If standing water is observed for more than 48 hours after a storm event, check for standing water in cleanouts. If standing water observed flush underdrains. If still not draining, rototill or aerate the bottom 6 inches to breakup any hard-packed sediment	
Actions to be taken:		

5. OVERFLOW

Includes: Outlet structures

Frequency: Inspect bi-annually and after major storm events (2" of rain or greater)
When: March and September

Overflow Structure	Water level should be below outlet pipe inverts. Check for sediment accumulation that impacts outflow. If there is sediment accumulation, schedule cleaning. Check for leaf litter, debris, and inlet clogging.	
Actions to be taken:		

Other Routine Grounds Maintenance

Includes: Surrounding landscape beyond the practice.
Frequency: Inspect four times per year during regular park maintenance and after major storm events

When: March, June, September, November

Debris Removal	Remove trash from perimeter areas.	
Contributing drainage area	Look for sediment sources from erosion in the surrounding area.	
Drainage Network	Ensure proper operation.	
Pavement Sweeping	Sweep parking lot minimum once a year after spring thaw.	
Actions to be taken:		

*Sediment shall be disposed of offsite in a pre-approved location.

Underground Chambers - Maintenance Checklist
Bellevue Veterans Community

Date:

Time:

Inspector:

Maintenance Item	Description	Maintenance (Y/N)
1. COLLECT **Includes:** Catch basin/Inlet Structure - see also bioretention **Frequency:** Inspect four times per years during regular park maintenance and after major storm events (2" of rain or greater) **When:** March, June, September and November		
Inlet Grate	Remove all trash, leaf litter and inlet clogging. Remove sediment regularly or when accumulation impedes proper inflow and/or outflow.	
Surface Debris Cleaning	Remove all trash, leaf litter and inlet clogging. Check for clogging and sediment accumulation that impacts inflow.	
Actions to be taken:		
2. CAPTURE **Includes:** Deep Sump/Sediment Forebay **Frequency:** Inspect four times per year and after major storm events the first year; then annually and after major storm events (2" of rain or greater) **When:** Mar March, June, September and November		
Debris Cleanout	Remove all trash and debris from the swale.	
Sediment/Organic Debris Removal	Remove sediment accumulation and properly dispose when accumulation is greater than or equal to 3 inches or you cannot see stones.*	
Actions to be taken:		
3. MOVE		
Drain Manhole and manifold Cleanout	• Remove trash and debris from the surface.	
See Also Manufacturer's Requirements		
Actions to be taken:		

Maintenance Item	Description	Maintenance (Y/N)
4. STORE AND INFILTRATE **Includes:** Chambers **Frequency:** Inspect annually – see manufacturer's requirements **When:** Spring		
Sediment/Organic Debris Removal	Use inspection ports to check chambers for sediment accumulation in isolator row.	
Water Draining properly	If standing water is observed for more than 48 hours after a storm event, jet vac chambers.	
5. OVERFLOW **Includes:** Drain manholes and weir walls **Frequency:** Inspect annually and after major storm events (2" of rain or greater) **When:** Spring		
Overflow Structure	Check for sediment accumulation that impacts inflow. If sediment accumulation. Schedule cleaning. Check for leaf litter, debris, and inlet clogging.	
Actions to be taken:		
Other Routine Grounds Maintenance **Includes:** Surrounding landscape beyond the practice. **Frequency:** Inspect four times per year during regular park maintenance and after major storm events **When:** March, June, September and November		
Debris Removal	Remove trash from perimeter areas.	
Contributing drainage area	Look for sediment sources from erosion in the surrounding area.	
Drainage Network	Ensure proper operation.	
Pavement Sweeping	Sweep parking lot minimum once a year after spring thaw.	
Actions to be taken:		

*Sediment shall be disposed of offsite in a pre-approved location.

Dry Well - Maintenance Checklist
Bellevue Veterans Community

Date:

Time:

Inspector:

Maintenance Item	Description	Maintenance Req'd (Y/N)
1. COLLECT **Includes:** Catch basin grate/Inlet pipes **Frequency:** Inspect four times per years during regular park maintenance and after major storm events (2" of rain or greater) **When:** March, June, September, November		
Surface Debris Cleaning	Remove all trash, leaf litter and inlet clogging	
Inlet Pipes	Check for clogging and sediment accumulation that impacts inflow. If sediment/debris accumulation. Check upstream piping for clogging.	
Actions to be taken:		
2. CAPTURE **Includes:** Dry Well **Frequency:** Inspect four times per year and after major storm events the first year; then annually and after major storm events (2" of rain or greater) **When:** March, June, September, November		
Debris Cleanout	Remove trash and debris	
Sediment/Organic Debris Removal	Remove sediment accumulation and properly dispose when accumulation is greater than or equal to 6 inches or you cannot see stones along the bottom.	
Actions to be taken:		
3. MOVE **Includes:** NA **Frequency:** NA **When:** NA		
4. INFILTRATE **Includes:** See # 2 above **Frequency:** See # 2 above **When:** See # 2 above		
Water Draining properly	If standing water is observed for more than 48 hours after a storm event, check for clogging. If necessary, vactor basin and use a hose to breakup any hard-packed sediment along the bottom.	
Actions to be taken:		

Maintenance Item	Description	Maintenance Req'd (Y/N)
5. MOVE **Includes:** NA **Frequency:** NA **When:** NA		
Other Routine Grounds Maintenance **Includes:** Surrounding landscape beyond the practice. **Frequency:** Inspect four times per year during regular park maintenance and after major storm events **When:** March, June, September, November		
Debris Removal	Remove trash from perimeter areas.	
Leaf and landscape debris removal	Clean grate regularly during landscape maintenance.	
Surrounding Drainage Network	Ensure proper operation.	
Contributing drainage area	Check to ensure the surrounding area is stabilized. Look for erosion and other sediment sources	
Actions to be taken:		

*Sediment shall be disposed of offsite in a pre-approved location.

APPENDIX B

Manufacturer Operations and Maintenance Materials

ADS StormTech Warranty & Operations and Maintenance Manual

17.0 Standard Limited Warranty

STANDARD LIMITED WARRANTY OF STORMTECH LLC ("STORMTECH"): PRODUCTS

(A) This Limited Warranty applies solely to the StormTech chambers and end plates manufactured by StormTech and sold to the original purchaser (the "Purchaser"). The chambers and end plates are collectively referred to as the "Products."

(B) The structural integrity of the Products, when installed strictly in accordance with StormTech's written installation instructions at the time of installation, are warranted to the Purchaser against defective materials and workmanship for one (1) year from the date of purchase. Should a defect appear in the Limited Warranty period, the Purchaser shall provide StormTech with written notice of the alleged defect at StormTech's corporate headquarters within ten (10) days of the discovery of the defect. The notice shall describe the alleged defect in reasonable detail. StormTech agrees to supply replacements for those Products determined by StormTech to be defective and covered by this Limited Warranty. The supply of replacement products is the sole remedy of the Purchaser for breaches of this Limited Warranty. StormTech's liability specifically excludes the cost of removal and/or installation of the Products.

(C) THIS LIMITED WARRANTY IS EXCLUSIVE. THERE ARE NO OTHER WARRANTIES WITH RESPECT TO THE PRODUCTS, INCLUDING NO IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE.

(D) This Limited Warranty only applies to the Products when the Products are installed in a single layer. UNDER NO CIRCUMSTANCES, SHALL THE PRODUCTS BE INSTALLED IN A MULTI-LAYER CONFIGURATION.

(E) No representative of StormTech has the authority to change this Limited Warranty in any manner or to extend this Limited Warranty. This Limited Warranty does not apply to any person other than to the Purchaser.

(F) Under no circumstances shall StormTech be liable to the Purchaser or to any third party for product liability claims; claims arising from the design, shipment, or installation of the Products, or the cost of other goods or services related to the purchase and installation of the Products. For this Limited Warranty to apply, the Products must be installed in accordance with all site conditions required by state and local codes; all other applicable laws; and StormTech's written installation instructions.

(G) THE LIMITED WARRANTY DOES NOT EXTEND TO INCIDENTAL, CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES. STORMTECH SHALL NOT BE LIABLE FOR PENALTIES OR LIQUIDATED DAMAGES, INCLUDING LOSS OF PRODUCTION AND PROFITS; LABOR AND MATERIALS; OVERHEAD COSTS; OR OTHER LOSS OR EXPENSE INCURRED BY THE PURCHASER OR ANY THIRD PARTY. SPECIFICALLY EXCLUDED FROM LIMITED WARRANTY COVERAGE ARE DAMAGE TO THE PRODUCTS ARISING FROM ORDINARY WEAR AND TEAR; ALTERATION, ACCIDENT, MISUSE, ABUSE OR NEGLECT; THE PRODUCTS BEING SUBJECTED TO VEHICLE TRAFFIC OR OTHER CONDITIONS WHICH ARE NOT PERMITTED BY STORMTECH'S WRITTEN SPECIFICATIONS OR INSTALLATION INSTRUCTIONS; FAILURE TO MAINTAIN THE MINIMUM GROUND COVERS SET FORTH IN THE INSTALLATION INSTRUCTIONS; THE PLACEMENT OF IMPROPER MATERIALS INTO THE PRODUCTS; FAILURE OF THE PRODUCTS DUE TO IMPROPER SITING OR IMPROPER SIZING; OR ANY OTHER EVENT NOT CAUSED BY STORMTECH. THIS LIMITED WARRANTY REPRESENTS STORMTECH'S SOLE LIABILITY TO THE PURCHASER FOR CLAIMS RELATED TO THE PRODUCTS, WHETHER THE CLAIM IS BASED UPON CONTRACT, TORT, OR OTHER LEGAL THEORY.

StormTech®
An ADS company

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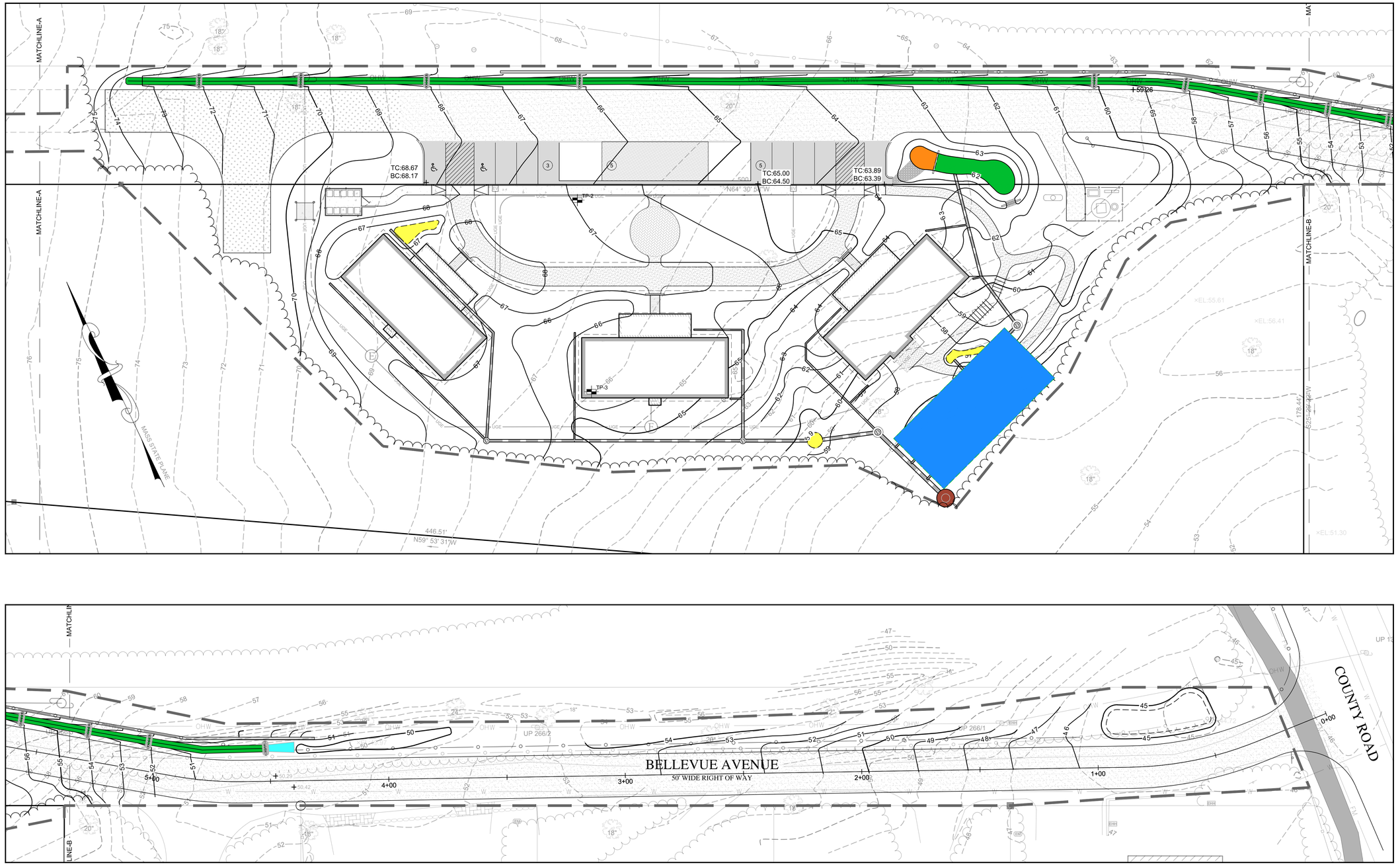
APPENDIX C

Operations and Maintenance Location Map



MAINTENANCE LEGEND

- BIORETENTION AREA, BIO-WQS
- UNDERGROUND RECHARGE CHAMBER (URC)
- SEDIMENT FOREBAY
- DRYWELL (OCS:200)
- AREA DRAINS (YD:100, YD:200, YD:300)
- RIPRAP SPILLWAY

GRAPHIC SCALE

20 0 10 20 40 80

(in feet)

1 INCH = 20 FEET

PERMITTING SET ONLY
NOT FOR CONSTRUCTION

Revisions

Rev.	Date	By	Appr.	Description

Horsley Witten Group, Inc.
Sustainable Environmental Solutions
www.horsleywitten.com
90 Route 6A
Sandwich, MA 02563
508-833-6600 voice
508-833-3150 fax

Designed By: JK
Drawn By: JP
Checked By: DHM

Date: FEBRUARY 2024

Plan Set: BELLEVUE VETERANS COMMUNITY DESIGN DEVELOPMENT PERMIT PLANS BELLEVUE AVENUE, OAK BLUFFS, MA

Plan Title: OPERATION & MAINTENANCE PLAN

Prepared For:
Island Housing Trust
P.O. Box 779
West Tisbury, MA
Phone: (508) 693-1117
Fax: —

Survey Provided By:
The Horsley Witten Group
90 MA-6A
Sandwich, Massachusetts
Phone: (508) 833-6600
Fax: —
Dated: October 13, 2023

Registration:

Project Number: 23106

Sheet : 1 of 1

Sheet Number: OM - 1

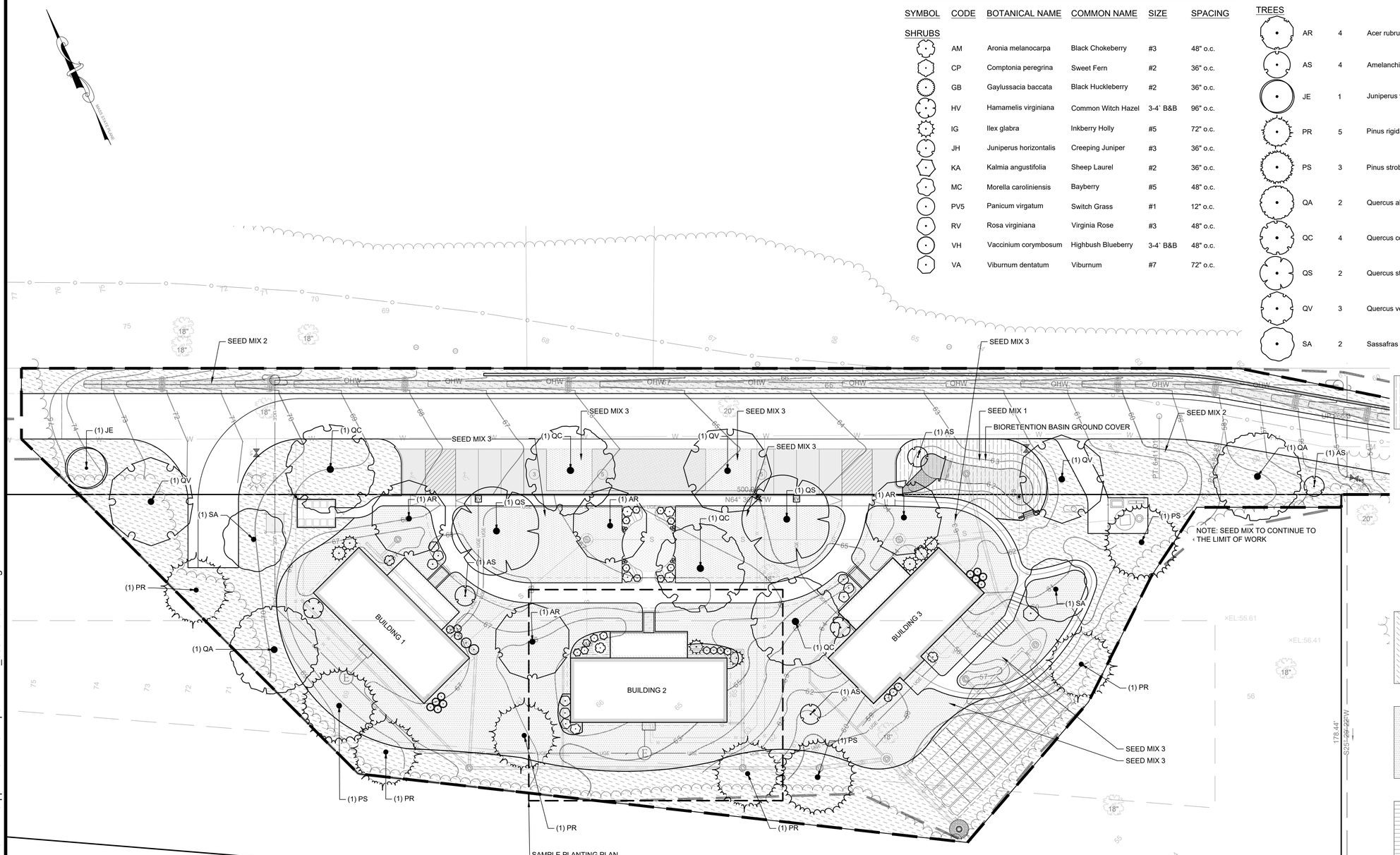
APPENDIX D

Planting Plans

SUGGESTED PLANT LIST

SYMBOL	CODE	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
SHRUBS					
	AM	Aronia melanocarpa	Black Chokeberry	#3	48" o.c.
	CP	Comptonia peregrina	Sweet Fern	#2	36" o.c.
	GB	Gaylussacia baccata	Black Huckleberry	#2	36" o.c.
	HV	Hamamelis virginiana	Common Witch Hazel	3-4` B&B	96" o.c.
	IG	Ilex glabra	Inkberry Holly	#5	72" o.c.
	JH	Juniperus horizontalis	Creeping Juniper	#3	36" o.c.
	KA	Kalmia angustifolia	Sheep Laurel	#2	36" o.c.
	MC	Morella caroliniensis	Bayberry	#5	48" o.c.
	PV5	Panicum virgatum	Switch Grass	#1	12" o.c.
	RV	Rosa virginiana	Virginia Rose	#3	48" o.c.
	VH	Vaccinium corymbosum	Highbush Blueberry	3-4` B&B	48" o.c.
	VA	Viburnum dentatum	Viburnum	#7	72" o.c.

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CANOPY
TREES						
	AR	4	Acer rubrum	Red Maple	1-1.5" Cal. B&B	30'
	AS	4	Amelanchier alnifolia	Serviceberry	1.5" Cal.	8'
	JE	1	Juniperus virginiana	Eastern Redcedar	8-10` HT B&B	16.5'
	PR	5	Pinus rigida	Pitch Pine	7-8` HT B&B	30'
	PS	3	Pinus strobus	White Pine	8-10` HT B&B	30'
	QA	2	Quercus alba	White Oak	2.5" Cal.	35'
	QC	4	Quercus coccinea	Scarlet Oak	2.5" Cal.	35'
	QS	2	Quercus stellata	Post Oak	2.5" Cal.	35'
	QV	3	Quercus velutina	Black Oak	2.5" Cal.	35'
	SA	2	Sassafras albidum	Sassafras	1-1.5" Cal	25'



BIORETENTION BASIN GROUND COVER 1,473 sf
Deschampsia flexuosa / Wavy Hair Grass
Eutrochium purpureum / Joe Pye Weed
Lobelia cardinalis / Cardinal Flower
Panicum virgatum / Switch Grass
Zizia aurea / Golden Alexander
NOTE: OVERSEED WITH SEED MIX 1 - SEE BELOW

SEED MIX 1 1,341 sf
RETENTION BASIN PERENNIAL MIX
Agrostis perennans / Autumn Bentgrass
Andropogon gerardii / Big Bluestem
Bidens cernua / Nodding Beggartick
Elymus riparius / Riverbank Rye
Eupatorium perfoliatum / Common Boneset
Eutrochium fistulosum / Hollow Joe Pye Weed
Festuca rubra / Red Fescue
Juncus effusus / Soft Rush
Panicum virgatum / Switch Grass
Schizachyrium scoparium / Little Bluestem
Scirpus cyperinus / Wool Grass
Symphyotrichum novae-angliae / New England Aster
Verbena hastata / Blue Vervain

SEED MIX 2 26,119 sf
WARM SEASON GRASS MIX
Andropogon gerardii / Big Bluestem
Elymus virginicus / Virginia Wild Rye
Festuca rubra / Red Fescue
Panicum virgatum / Switch Grass
Schizachyrium scoparium / Little Bluestem
Sorghastrum nutans / Indian Grass

SEED MIX 3 19,402 sf
FESCUE MIX
Deschampsia flexuosa / Wavy Hair Grass
Festuca glauca / Blue Fescue
Festuca ovina / Sheep Fescue
Festuca ovina glauca / Blue Sheep Fescue
Festuca trachyphylla / Hard Fescue
Trifolium amoenum / Showy Indian Clover

PLANITNG BED GROUND COVER 195 sf
Asclepias purpurascens / Purple Milkweed
Asclepias tuberosa / Butterfly Milkweed
Carex pensylvanica / Pennsylvania Sedge
Chimaphila maculata / Spotted Wintergreen
Dennstaedtia punctilobula / Hay-scented Fern
Eragrostis spectabilis / Purple Lovegrass
Eurybia divaricata / White Wood Aster
Eutrochium dubium / Joe Pye Weed
Gaultheria procumbens / Wintergreen
Geranium maculatum / Spotted Geranium
Panicum virgatum / Switch Grass
Pycnanthemum muticum / Blunt Mountainmint
Rubus flagellaris / Northern Dewberry
Schizachyrium scoparium / Little Bluestem
Solidago juncea / Early Goldenrod
Solidago rugosa / Wrinkleleaf Goldenrod

OPEN SPACE GROUNDCOVER MIX 116 sf
Geranium maculatum / Spotted Geranium 120
Pycnanthemum muticum / Blunt Mountainmint 30

GRAPHIC SCALE
20 0 10 20 40 80
(in feet)
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DESIGN DEVELOPMENT PERMIT PLANS
BELLEVUE AVENUE, OAK BLUFFS, MA

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Fax: ----
Dated: October 13, 2023

Registration:
COMMONWEALTH OF MASSACHUSETTS
KEVIN R. KUCHAR
10/4/2024

Project Number: 23106
Sheet : 15 of 16
Sheet Number: C - 15

last modified: 02/26/24 printed: 02/26/24 by cl C:\Users\clanson\AppData\Local\Temp\AcPublish_8564\23106 LA.dwg

GENERAL PLANTING NOTES:

1. THE FOLLOWING NOTES ARE PROVIDED AS GENERAL PLANTING GUIDELINES ONLY. THOROUGHLY REVIEW THE PROJECT SPECIFICATIONS FOR ALL LANDSCAPE REQUIREMENTS PRIOR TO THE COMMENCEMENT OF ANY LANDSCAPE WORK. SUBMIT IN WRITING TO THE LANDSCAPE ARCHITECT ANY QUESTIONS OR CLARIFICATIONS REQUIRED AT A MINIMUM OF 30 DAYS PRIOR TO ORDERING ANY MATERIALS OR BEGINNING ANY LANDSCAPE CONSTRUCTION.
2. SUBMIT TO THE LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL ALL REQUIRED LANDSCAPE SUBMITTALS AS DESCRIBED IN THE SPECIFICATIONS INCLUDING A PLANT LIST WITH PLANT SIZE AND QUANTITIES TO BE ORDERED PRIOR TO DELIVERY TO THE PROJECT SITE.
3. FURNISH AND INSTALL ALL PLANTS AS SHOWN ON THE DRAWINGS AND IN THE SIZE AND QUANTITIES SPECIFIED ON THE PLANTING SCHEDULE. PLANT SUBSTITUTION SELECTION MUST BE APPROVED BY BIOLOGIST OR LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
4. ALL PLANTS TO COMPLY WITH APPLICABLE REQUIREMENTS OF ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK." LATEST EDITION, PUBLISHED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION INC.
5. PLANTS TO BE GROWN UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCALITY OF THE PROJECT FOR AT LEAST TWO (2) YEARS. USE HEALTHY NURSERY GROWN PLANTS THAT HAVE A WELL DEVELOPED ROOT SYSTEM. PLANTS MUST BE FREE OF DISEASE, INSECTS, EGGS OR LARVAE.
6. INSTALL PLANTS WITHIN ONE (1) WEEK OF PURCHASE. IF PLANTS ARE TO BE STORED AT THE SITE PRIOR TO PLANTING, IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THEY ARE PROPERLY MAINTAINED, WATERED, AND REMAIN HEALTHY.
7. PROCEED WITH PLANTING ONLY WHEN EXISTING AND FORECASTED WEATHER CONDITIONS PERMIT. SUBMIT TO THE LANDSCAPE ARCHITECT IN WRITING THE PROPOSED PLANTING SCHEDULE. OBTAIN APPROVAL OF PLANTING SCHEDULE FROM THE LANDSCAPE ARCHITECT PRIOR TO PERFORMING ANY WORK.
8. SEASONS FOR PLANTING:

SPRING:	DECIDUOUS:	APRIL 1 TO JUNE 15
	EVERGREEN:	APRIL 1 TO JUNE 15
	PERENNIALS:	APRIL 15 TO JUNE 1
	GROUNDCOVERS:	APRIL 15 TO JUNE 1
FALL:	DECIDUOUS:	SEPTEMBER 15 TO NOVEMBER 15
	EVERGREEN:	SEPTEMBER 15 TO NOVEMBER 15
	PERENNIALS:	SEPTEMBER 15 TO NOVEMBER 15
	GROUNDCOVERS:	SEPTEMBER 15 TO NOVEMBER 15

9. PLANTING UNDER FROZEN CONDITIONS WILL NOT BE PERMITTED. PLANTING BEFORE OR AFTER THE ABOVE REFERENCED PLANTING DATES WILL INCREASE THE LIKELIHOOD OF PLANT ESTABLISHMENT FAILURE. ANY DEVIATION FROM THE ABOVE REFERENCED PLANTING DATES IS UNDERTAKEN AT SOLE RISK OF THE CONTRACTOR AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ANY ADDITIONAL MAINTENANCE AND WATERING WHICH MAY BE REQUIRED TO ENSURE SATISFACTORY PLANT ESTABLISHMENT.
10. FURNISH ONE YEAR MANUFACTURER WARRANTY AND MAINTENANCE FOR TREES, PLANTS, AND GROUND COVER AGAINST DEFECTS INCLUDING DEATH AND UNSATISFACTORY GROWTH. EXCEPTIONS ARE DEFECTS RESULTING ABNORMAL WEATHER CONDITIONS UNUSUAL FOR WARRANTY PERIOD. THE DATE OF FINAL ACCEPTANCE OF ALL COMPLETED PLANTING WORK ESTABLISHES THE END OF INSTALLATION AND INITIAL MAINTENANCE PERIOD AND THE COMMENCEMENT OF THE GUARANTEE PERIOD.
11. ALL TREES WITHIN 5'-0" OF WALKWAYS AND SIDEWALKS TO HAVE A 6'-8" STANDARD BRANCHING HEIGHT.
12. INSPECT ALL AREAS TO BE PLANTED OR SEEDED PRIOR TO STARTING ANY LANDSCAPE WORK. REPORT ANY DEFECTS SUCH AS INCORRECT GRADING, INCORRECT SUBGRADE ELEVATIONS OR DRAINAGE PROBLEMS, ETC. TO THE LANDSCAPE ARCHITECT AND ENGINEER PRIOR TO BEGINNING WORK. COMMENCEMENT OF WORK INDICATES ACCEPTANCE OF SUBGRADE AREAS TO BE PLANTED, AND THE LANDSCAPE CONTRACTOR ASSUMES RESPONSIBILITY FOR ALL LANDSCAPE WORK.
13. PROVIDE PROPER PREPARATION OF ALL PROPOSED PLANTED AND SEEDED AREAS PER THE NOTES AND SPECIFICATIONS.
14. ALL PLANT LAYOUT AND ACTUAL PLANTING LOCATIONS ARE TO BE FIELD VERIFIED BY LANDSCAPE ARCHITECT PRIOR TO PLANTING. NOTIFY THE LANDSCAPE ARCHITECT AT A MINIMUM OF 48 HOURS IN ADVANCE PRIOR TO SCHEDULING ANY FIELD INSPECTIONS.
15. BALL AND BURLAP: REMOVE BURLAP AND WIRE BASKETS FROM TOPS OF BALLS AND FROM TOP HALF OF ROOTBALL AS INDICATED ON DRAWINGS. REMOVE PALLETS, IF ANY, BEFORE SETTING.
16. POTTED PLANTS: REMOVE THE PLANT FROM THE POT AND LOOSEN OR SCORE THE ROOTS BEFORE PLANTING TO PROMOTE OUTWARDS ROOT GROWTH INTO THE SOIL.
17. PLUGS: PLANT UPRIGHT AND NOT AT AN ANGLE. DIG PLANTING HOLES LARGE ENOUGH AND DEEP ENOUGH TO ACCOMMODATE THE ENTIRE ROOT MASS. PLANT PLUGS WITH NO TWISTED OR BALLED ROOTS AND WITH NO ROOTS EXPOSED ABOVE THE GRADE LINE. HAND PACK THE SOIL AROUND THE ENTIRE PLUG ROOT MASS.
18. DIG THE THE PLANTING HOLE TO THE SAME DEPTH AS THE ROOT BALL AND TWO TO THREE TIMES WIDER. SCORE ALL SIDES OF THE HOLE. PLACE THE PLANT IN THE HOLE SO THE TOP OF ROOT BALL IS EVEN WITH SOIL SURFACE. FILL THE HOLE HALFWAY AND THEN ADD WATER ALLOWING IT TO SEEP INTO BACK FILLED MATERIAL. BE SURE TO REMOVE ALL AIR POCKETS FROM BACK FILLED SOIL. DO NOT SPREAD SOIL ON TOP OF THE ROOTBALL. IF SOIL IS EXTREMELY POOR, REPLACE BACK FILL WITH GOOD QUALITY TOP SOIL. AMEND THE SOIL, AS NECESSARY.
19. CREATE A 2" TO 4" BERM AROUND THE EDGE OF PLANTING HOLE WITH REMAINING SOIL TO RETAIN WATER.
20. REMOVE ALL PLANT TAGS AND FLAGS FROM THE PLANTS.
21. MULCH ALL PLANTING BEDS AS INDICATED ON DRAWINGS. UNLESS NOTED OTHERWISE, ALL PLANTS TO RECEIVE 2-3 INCHES OF MULCH. DO NOT PILE OR MOUND MULCH AROUND THE PLANT STEMS OR TRUNK.
22. TRIM BROKEN AND DEAD BRANCHES FROM TREES AND SHRUBS AFTER PLANTING. NEVER CUT A LEADER.

GENERAL SEEDING NOTES:

1. SEND A REPRESENTATIVE SAMPLE OF THE TOPSOIL TO A TESTING LABORATORY FOR STANDARD SOIL ANALYSIS AS DESCRIBED IN THE SPECIFICATIONS. SUBMIT TO THE LANDSCAPE ARCHITECT AND ENGINEER TEST RESULTS WITH RECOMMENDED SOIL TREATMENTS TO PROMOTE PLANT AND GRASS GROWTH. CORRECT DEFICIENCIES IN THE LOAM AND STOCKPILED TOPSOIL AS DIRECTED BY THE TESTING AGENCY.
2. ALL AREAS THAT ARE DISTURBED AND/OR GRADED DURING CONSTRUCTION ARE TO BE BROUGHT TO FINISHED GRADE WITH AT LEAST 4" MINIMUM DEPTH OF GOOD QUALITY LOAM AND SEEDED WITH A QUICK GERMINATING GRASS SEED AS SPECIFIED ON THE PLANS.
3. PRIOR TO THE PLACEMENT OF TOP SOIL, LOOSEN THE SUBGRADE OF ALL PROPOSED SEEDED AREAS TO A DEPTH OF 6" AND RAKE TO REMOVE STONES LARGER THAN 1 INCH, STICKS, ROOTS, RUBBISH AND OTHER EXTRANEOUS MATTER AND LEGALLY DISPOSE TO AN OFF SITE LOCATION.
4. DO NOT SPREAD TOPSOIL IF THE SUBGRADE IS FROZEN, EXCESSIVELY WET, COMPACTED OR NOT PROPERLY PREPARED PER THE NOTES AND SPECIFICATIONS.
5. SEE SPECIFICATIONS FOR SEASONAL REQUIREMENTS FOR SEEDING.

WATERING NOTES:

1. PROVIDE PROPER PLANT CARE, MAINTENANCE AND WATERING ON SITE UNTIL SUCH TIME AS THE LANDSCAPING IS ACCEPTED BY THE PROPERTY OWNER AS SATISFACTORY PER THE SPECIFICATIONS OR AS DETERMINED BY ANY WRITTEN AGREEMENTS BETWEEN THE CONTRACTOR AND PROPERTY OWNER.
2. ESTABLISH AN APPROPRIATE WATERING SCHEDULE FOR ALL PLANT MATERIAL BASED UPON PLANT SPECIES REQUIREMENTS AND SITE CONDITIONS. PROVIDE SCHEDULE IN WRITING TO THE LANDSCAPE ARCHITECT AND OWNER FOR REVIEW AND APPROVAL. ADHERE TO THE APPROVED SCHEDULE UNTIL PLANTS ARE FULLY ESTABLISHED.
3. AT A MINIMUM THE NEWLY SEEDED AND/OR HYDROSEEDED LAWNS SHOULD BE WATERED DAILY. SPECIAL CARE SHOULD BE TAKEN TO ENSURE THAT THE LAWN IS NOT SATURATED DURING WATERING. IF AN IRRIGATION SYSTEM IS NOT PROVIDED, USE A TEMPORARY IRRIGATION SYSTEM OR HANDHELD GARDEN HOSE FOR WATERING SEEDED AREAS. THE AREA MUST BE MAINTAINED CONSISTENTLY MOIST FOR THE BEST GERMINATION RESULTS. ADDITIONAL WATERING MAY BE REQUIRED IF PLANTING AND SEEDING OCCUR OUTSIDE OF THE RECOMMENDED PLANTING SEASONS.

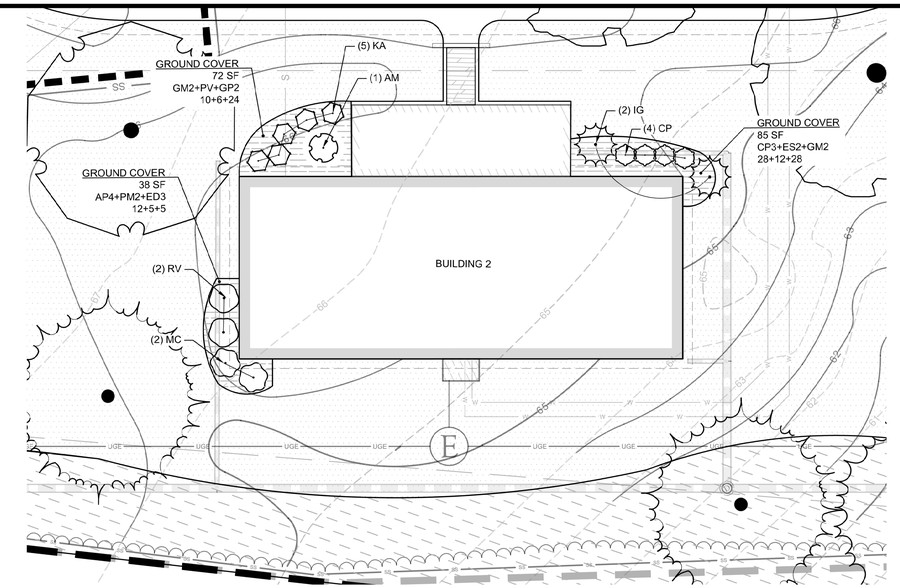
PLANTING LAYOUT NOTES

1. FOR AREAS WITH MIXED PERENNIALS AND/OR GRASSES (SHOWN AS HATCHED AREAS ON PLANS), DO NOT PLANT IN A PATTERN OR WITH LARGE AREAS OF THE SAME SPECIES. RANDOMLY PLANT AS INDICATED ON THE PLANTING PLANS INTO SMALL GROUPINGS OF THE SAME SPECIES TO CREATE A MORE NATURALISTIC APPEARANCE. PLANT THE SAME PLANT SPECIES IN GROUPS OF 3-7 AND NOT LARGER THAN 7, DEPENDING ON THE OVERALL NUMBER OF PLANTINGS.

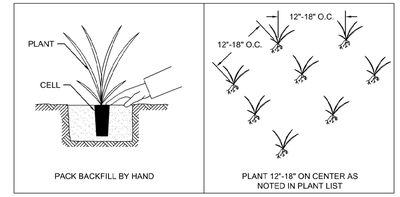
PLANT SCHEDULE SAMPLE PLANTING PLAN

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
SHRUBS					
AM	1	Aronia melanocarpa	Black Chokeberry	#3	72" o.c.
CP	4	Comptonia peregrina	Sweet Fern	#2	36" o.c.
IG	2	Ilex glabra	Inkberry Holly	#5	72" o.c.
KA	5	Kalmia angustifolia	Sheep Laurel	#2	36" o.c.
MC	2	Morella caroliniensis	Bayberry	#5	48" o.c.
RV	2	Rosa virginiana	Virginia Rose	#3	48" o.c.

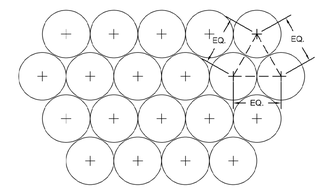
GROUND COVERS				
CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AP4	12	Asclepias purpurascens	Purple Milkweed	Plugs
CP3	28	Carex pensylvanica	Pennsylvania Sedge	Plugs
ES2	12	Eragrostis spectabilis	Purple Lovegrass	Plugs
ED3	5	Eurybia divaricata	White Wood Aster	Plugs
GP2	24	Gaultheria procumbens	Wintergreen	Plugs
GM2	38	Geranium maculatum	Spotted Geranium	Plugs
PV	6	Panicum virgatum	Switch Grass	Plugs
PM2	5	Pycnanthemum muticum	Blunt Mountainmint	Plugs



SAMPLE PLANTING PLAN DETAIL
1" = 10' SCALE



PERENNIAL PLANTING
NOT TO SCALE



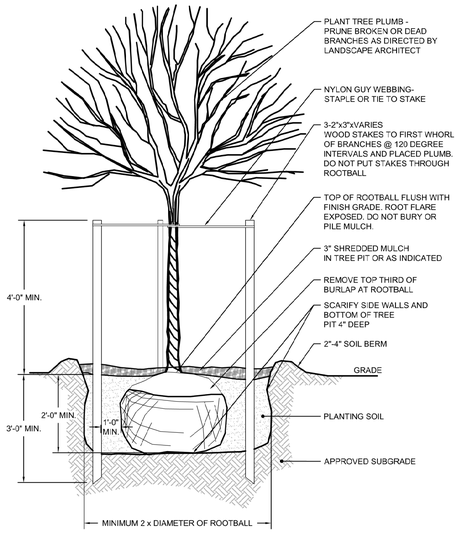
USE EQUIDISTANT TRIANGULAR SPACING FOR PLANTS - FOR ACTUAL SPACING SEE PLANS OR PLANTING SCHEDULE

PLANTING SPACING
NOT TO SCALE

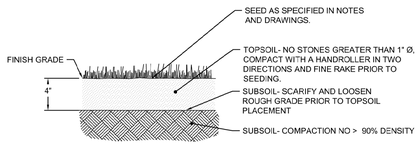
GRAPHIC SCALE

20 0 10 20 40 80

(in feet)
1 INCH = 20 FEET

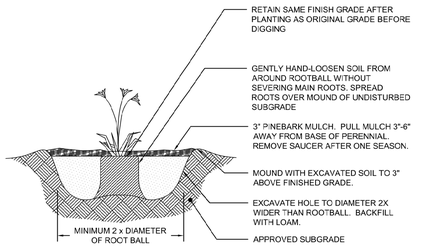


DECIDUOUS TREE PLANTING
NOT TO SCALE

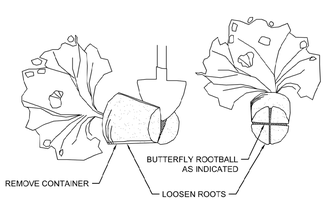


NOTES:
1. SEE LANDSCAPE GRADING SPECIFICATIONS FOR TOPSOIL REQUIREMENTS.
2. CONFIRM SUBGRADES ARE CORRECT AND POSITIVE DRAINAGE IS MAINTAINED PRIOR TO PLACEMENT OF TOPSOIL.
3. NOTIFY ENGINEER/LANDSCAPE ARCHITECT FOR REVIEW OF SUBGRADE PRIOR TO PLACEMENT OF THE TOPSOIL.

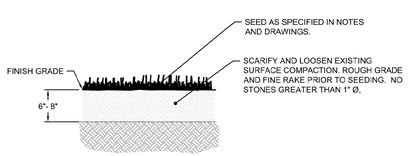
LOAM AND SEED
NOT TO SCALE



PERENNIAL PLANTING
NOT TO SCALE

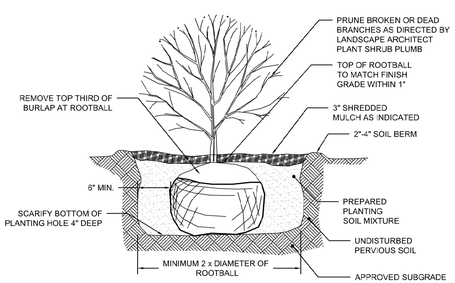


CONTAINER PLANT ROOTBALL TREATMENT
NOT TO SCALE



NOTES:
1. NOTIFY ENGINEER/LANDSCAPE ARCHITECT FOR REVIEW PRIOR TO SEEDING.

RESTORATION SEEDING
NOT TO SCALE



SHRUB PLANTING
NOT TO SCALE

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Revisions

Rev.	Date	By	Description
A	---	---	---
B	---	---	---
C	---	---	---
D	---	---	---
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BRIAN R. KUCH
2/26/2024

Project Number: 23106
Sheet : 16 of 16
Sheet Number: C - 16

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