

**Final
Long-Term
Stormwater Operation & Maintenance Plan
&
Pollution Prevention Plan**

***Timber Crest Estates
& Kingsbury Village
Medway, Massachusetts***

August 6, 2019

**Prepared for:
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**Long-Term Stormwater Operation & Maintenance Plan & Pollution Prevention Plan
TIMBER CREST ESTATES & Kingsbury Village
MEDWAY, MASSACHUSETTS**

Sections

- 1.0** Introduction & Responsible Parties
- 2.0** Operation & Maintenance Schedule – Stormwater System
 - 2.1** Timber Crest Estates: Rosewood Drive, Cherry Circle, Timber Crest Drive, Sycamore Way, and Cottonwood Lane
 - 2.2** Kingsbury Village: Kingsbury Drive, Holly Court, and Emergency Access to Fairway Lane
 - 2.3** Linden Path for Lots 71-74
 - 2.4** Fern Path Extension
- 3.0** Post-Development Operation & Maintenance Budget
- 4.0** Pollution Prevention Plan w/ Snow Management

Appendices

- A** Operation and Maintenance Log Forms
- B** Stormwater Infrastructure Plans

Section 1.0: Introduction & Responsible Parties

This operation and maintenance plan has been prepared for the Timber Crest Estates and Kingsbury Drive subdivisions, to ensure long-term functioning of the drainage systems, and to provide suitable practices for source control and pollution prevention, including a snow management program. The development consists of 4 primary sections of roadways and house lots:

- Timber Crest Estates, Rosewood Drive, Cherry Circle, Timber Crest Drive, Sycamore Way, and Cottonwood Lane with lots 1-70
- Kingsbury Village, Kingsbury Drive, Holly Court with lots 75 and 80-145, and Emergency Access to Fairway Lane
- Linden Path off Fairway Lane with lots 71-74
- Fern Path Extension with lots 146 and 147.

This plan identifies the responsible party to perform maintenance tasks on the stormwater systems after construction is completed, as was intended per the design. Initially, maintenance tasks will be undertaken by a Homeowners Association to be established by the developer as homes are built and sold, except the individual homeowners shall be responsible for maintaining their roof drains. If roads and the drainage systems are accepted by the town of Medway, then maintenance tasks shall be transferred to the town, although some portions may be retained by the Homeowners Association.

Developer/Owner:

**Timber Crest Estates LLC
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135 Main Street, Suite 5
Medway, MA 02053**

Responsible for stormwater maintenance: Homeowners Association (to be established by developer) and/or the Town of Medway if roads and drainage system are accepted and deeded to town.

Individual lot owners to be responsible for maintenance of their underground roof drains.

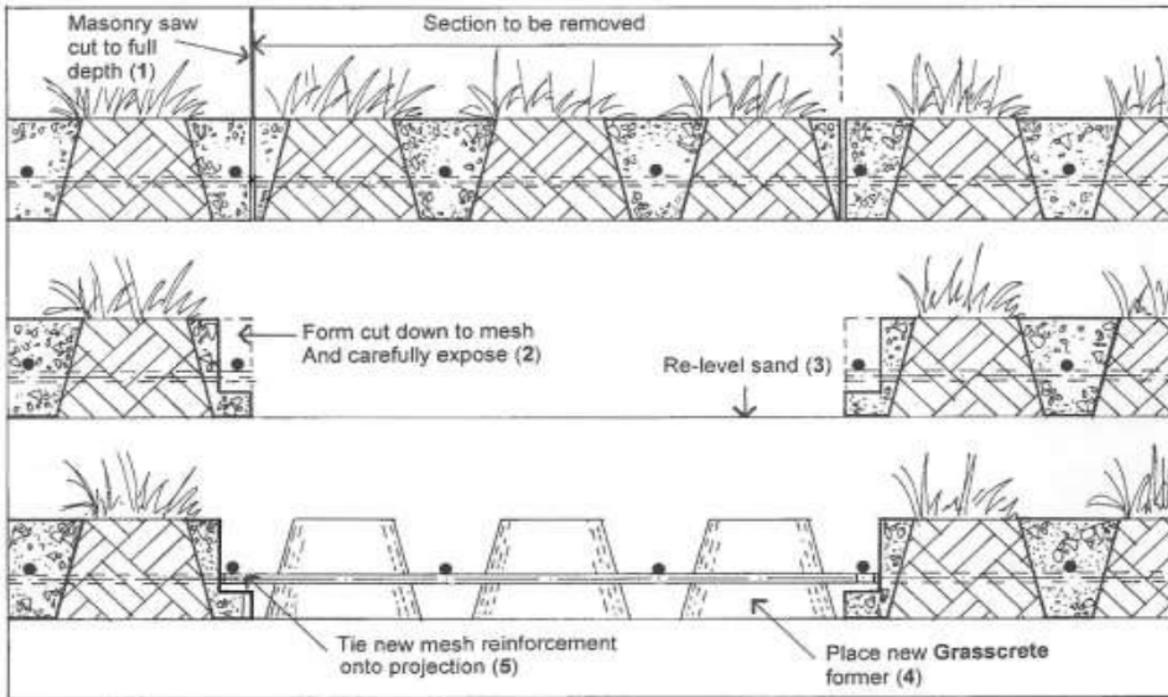
Section 2.0: Operation & Maintenance Schedule - Stormwater System

The Timber Crest Estates & Kingsbury Village drainage systems for each section of the site are generally shown on the “Stormwater Infrastructure Plans” (see attached); also reference the approved Subdivision Plans and Drainage Report for detailed information on the overall site design and stormwater management system description and calculations.

2.1 Timber Crest Estates: Rosewood Drive, Cherry Circle, Timber Crest Drive, Sycamore Way, and Cottonwood Lane O&M Schedule

The drainage system is generally shown on the “Stormwater Infrastructure Plan – Timber Crest Estates” (see Appendix B). For additional details for the individual system components and a description of the drainage system, refer to the approved subdivision plans and drainage report. Once construction is completed, the following tasks shall be the responsibility of the Homeowners Association (refer to O&M Log Form in Appendix A).

1. Inspect or clean catch basins quarterly and at the end of the foliage (Autumn) and snow removal (Spring) seasons. Sediments must be removed four times per year or whenever the depth of deposits is greater than or equal to one half the depth from the bottom of the invert of the lowest pipe in the basin. Cleaning may be done by either clamshell bucket or vacuum truck. All sediment and hydrocarbons should be properly handled and disposed of in accordance with local, state, and federal guidelines and regulations.
2. Inspect water quality inlets after every major storm, at least monthly, and clean at least two times per year. Cleaning includes removing grease and oil floating on top of the water as well as sediment that settles at the bottom of the tank with a vacuum truck or other ordinary catch basin cleaning device.
3. Inspect sediment forebays once monthly after construction. Cleaning of sediments should take place four times per year. After cleaning, damaged vegetation should be replaced by reseeding or resodding.
4. Grasscrete permeable pavement requires occasional mowing to limit growth to a desired height. A bi-annual (Spring and Autumn) maintenance regime is also recommended;
 - a. Grub out any pockets that have been subjected to oil spills. Re-fill the pockets with topsoil and grass seed as required.
 - b. Loosen any compressed soil that has led to die-back. Re-fill with top soil and grass seed as required.
 - c. Re-fill low soil levels with screened top soil material, maintaining soil levels no more than 12mm below the concrete edges.
 - d. Apply liquid-based, nitrogen-rich fertilizer in Spring & liquid-based phosphate fertilizer in Autumn.
 - e. Should damage occur to isolated areas repair as required (see Fig. below taken from Grasscrete Design Guide).



- Subsurface infiltration structures utilized for roof runoff are to be inspected after every major storm during the first few months after construction to ensure proper stabilization and function. Thereafter, inspection are required once yearly. The water depth should be measured in the observation well at 24-hours and 48-hours after a storm. The clearance rate can be calculated based on the drop-in depth divided by the elapsed time. If the clearance rate has been significantly reduced, repair or replacement may be necessary.
- Three bioretention areas are located within Timber Crest Estates, #1 at the bus stop area off Rosewood Drive, and #2 and #3 at the back of lots 19 and 20 off Timber Crest Drive (see Appendix B). Bioretention area #1 is designed to collect surface runoff from surrounding areas with an overflow piped toward Rosewood Drive drainage system which discharges to Detention Basin #1. Bioretention areas 2 and 3 are designed to collect and recharge runoff from the rear roof areas of the respective homes on lots 19 and 20 as well as their rear lawn areas. They shall all be maintained by the Homeowners Association according to the schedule in the table below.

Activity	Time of Year	Frequency
Inspect and Remove Trash	Year Round	Monthly
Mulch	Spring	Annually
Remove Dead Vegetation	Fall or Spring	Annually
Replace Dead Vegetation	Spring	Annually
Prune	Spring or Fall	Annually
Replace Entire Media & All Vegetation	Late Spring/Early Summer	*As Needed

- Water quality swales should be inspected for the first few months after construction and twice a year thereafter to make sure vegetation is adequate and slopes are not eroding. Check for rilling and gullyng.

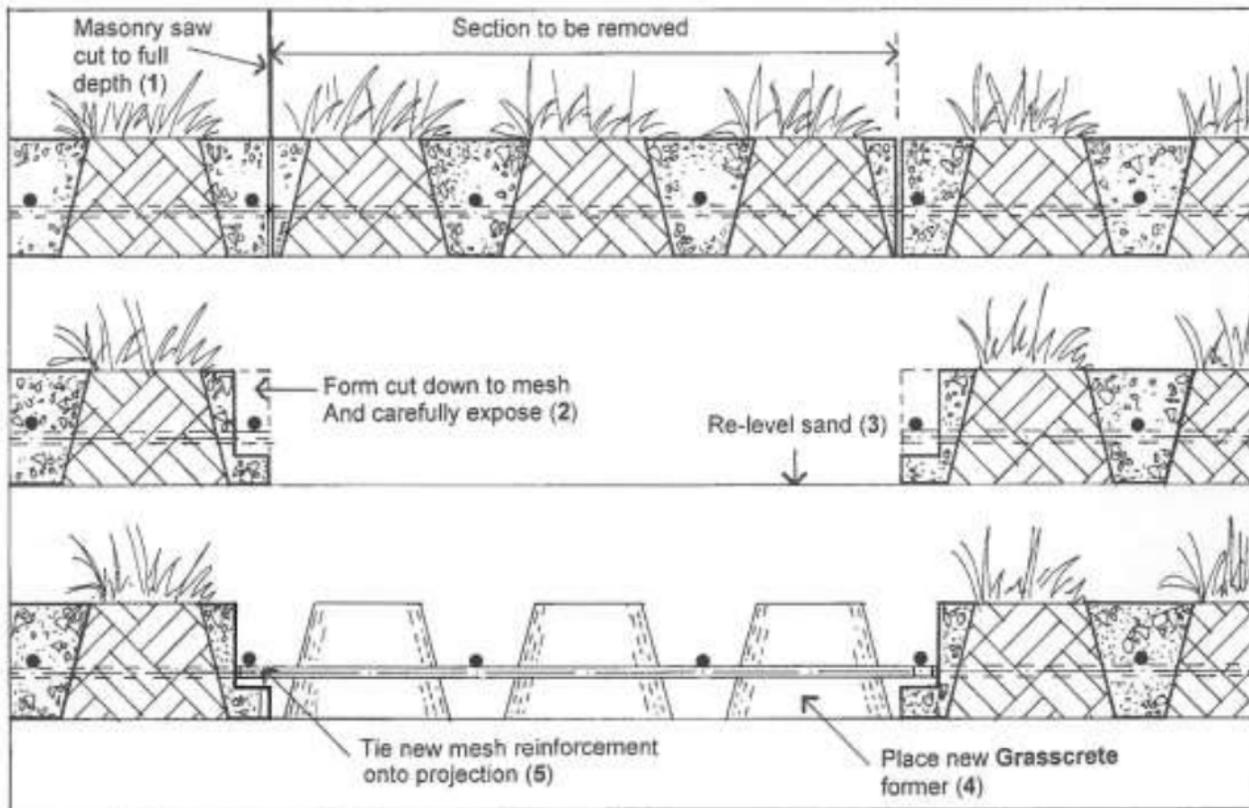
Repair eroded areas and revegetate. Mow and re-seed swale as necessary. Remove sediment and debris manually at least once a year.

7. Infiltration basins to be inspected after every major storm for the first three months after construction and twice per year thereafter and when there are discharges through the high outlet orifice/structure. Mow the buffer area, side slopes, and bottom area twice per year. Remove grass clippings and accumulated organic matter. Inspect and clean pretreatment devices every month recommended and at least twice per year and after every major storm event.
8. Dry detention basins to be inspected for proper operation at least once per year. At least twice per year inspect the outlet structure for accumulated sediment and side slopes and spillway for erosion. Make any necessary repairs immediately.

2.2 Kingsbury Village: Kingsbury Drive, Holly Court, and Emergency access road to Fairway Lane O&M Schedule

The drainage system is generally shown on the “Stormwater Infrastructure Plan, Kingsbury Village” (see Appendix B); there is also an Amphibian Tunnel under Kingsbury Drive (near Infiltration Basin #9) that is designed to allow amphibians to safely migrate between vernal pools without crossing the road. For additional details for the individual system components and a description of the drainage system, refer to the approved subdivision plans, Final drainage report dated August 6, 2019 for Timber Crest Estates and Kingsbury Village, and Drainage report for #13 Fairway Lane dated March 15, 2018. Once construction is completed, the following tasks shall be the responsibility of the Homeowners Association.

1. Inspect or clean catch basins quarterly and at the end of the foliage and snow removal seasons. Sediments must be removed four times per year or whenever the depth of deposits is greater than or equal to one half the depth from the bottom of the invert of the lowest pipe in the basin. Cleaning may be done by either clamshell bucket or vacuum truck. All sediment and hydrocarbons should be properly handled and disposed of in accordance with local, state, and federal guidelines and regulations.
2. Inspect water quality inlets after every major storm, at least monthly, and clean at least two times per year. Cleaning includes removing grease and oil floating on top of the water as well as sediment that settles at the bottom of the tank with a vacuum truck or other ordinary catch basin cleaning device.
3. Inspect sediment forebays once monthly after construction. Cleaning of sediments should take place four times per year. After cleaning, damaged vegetation should be replaced by reseeding or resodding.
4. Grasscrete permeable pavement requires occasional mowing to limit growth to a desired height. A bi-annual (Spring and Autumn) maintenance regime is also recommended;
 - a. Grub out any pockets that have been subjected to oil spills. Re-fill the pockets with topsoil and grass seed as required.
 - b. Loosen any compressed soil that has led to die-back. Re-fill with top soil and grass seed as required.
 - c. Re-fill low soil levels with screened top soil material, maintaining soil levels no more than 12mm below the concrete edges.
 - d. Apply liquid-based, nitrogen-rich fertilizer in Spring & liquid-based phosphate fertilizer in Autumn.
 - e. Should damage occur to isolated areas repair as required (see Fig. below taken from Grasscrete Design Guide).



5. Subsurface infiltration structures utilized for roof runoff and leaching chambers #3 and #4 are to be inspected after every major storm during the first few months after construction to ensure proper stabilization and function. Thereafter, inspection are required once yearly. The water depth should be measured in the observation well at 24-hours and 48-hours after a storm. The clearance rate can be calculated based on the drop in depth divided by the elapsed time. If the clearance rate has been significantly reduced, repair or replacement may be necessary.
6. Subsurface infiltration structures (leaching chambers #3 and #4) utilized to control pavement runoff from Kingsbury Drive are to be inspected after every major storm during the first few months after construction to ensure proper stabilization and function. Thereafter, inspection are required once yearly. The water depth should be measured in the observation well at 24-hours and 48-hours after a storm. The clearance rate can be calculated based on the drop in depth divided by the elapsed time. If the clearance rate has been significantly reduced, repair or replacement may be necessary.
7. Two bioretention areas are located within Kingsbury Village, #4 is located on Parcel H on the south side of Kingsbury Drive, designed to recharge surface runoff from surrounding areas, and #5 at 13 Fairway Lane emergency access road, designed to infiltrate runoff and incorporates a grassed/rip/rap spillway for discharge of larger storms. They shall be maintained by the Homeowners Association according to the schedule in the table below.

Activity	Time of Year	Frequency
Inspect and Remove Trash	Year Round	Monthly
Mulch	Spring	Annually
Remove Dead Vegetation	Fall or Spring	Annually

Replace Dead Vegetation	Spring	Annually
Prune	Spring or Fall	Annually
Replace Entire Media & All Vegetation	Late Spring/Early Summer	*As Needed

8. Water quality swales should be inspected for the first few months after construction and twice a year thereafter to make sure vegetation is adequate and slopes are not eroding. Check for rilling and gullyng. Repair eroded areas and revegetate. Mow and re-seed swale as necessary. Remove sediment and debris manually at least once a year.
9. Infiltration basins to be inspected after every major storm for the first three months after construction and twice per year thereafter and when there are discharges through the high outlet orifice/structure. Mow the buffer area, side slopes, and bottom area twice per year. Remove grass clippings and accumulated organic matter. Inspect and clean pretreatment devices every month recommended and at least twice per year and after every major storm event.
10. Dry detention basins to be inspected for proper operation at least once per year. At least twice per year inspect the outlet structure for accumulated sediment and side slopes and spillway for erosion. Make any necessary repairs immediately.
11. The amphibian tunnel under Kingsbury Drive requires annual inspections to remove fallen trees, limbs, and built-up leaves and other debris that may block the entrances or interior passageway. There are also 18” high, vertical barriers located along the bottom of the slopes on Kingsbury Drive and the bottom berm on Infiltration Basin #9, designed to prevent amphibians from climbing into the roadway and to guide them to the tunnel; these barriers should also be cleared of fallen trees, branches and built-up leaves and debris that could be used to climb up the barrier and slope

2.3 Linden Path to Lots 71-74, O&M Schedule

The drainage system for this common driveway consists of a vegetated drainage channel (grass swale) leading to an infiltration basin with a sediment forebay as shown on the “Stormwater Infrastructure Plan, “Kingsbury Village” (see Appendix B). Linden Path serves as access for 4 lots, and is designed with the pavement sloped towards the grass swale that runs along the west edge and discharges to a sediment forebay and infiltration basin (Infiltration Basin #14). This sediment forebay provides storage of sediment that will be filtered out of runoff prior to discharge to the infiltration basin where runoff will be recharged into the ground; the basin also has an outlet structure that will slowly discharge a portion of the runoff towards the wetlands via a culvert with rip rap apron. To the west of the driveway is an environmentally-sensitive area (a vernal pool) with associated bordering vegetated wetlands; the site is carefully designed to avoid negative impacts to this VP. In addition, these four homes on lots 71-74 will have roof drains that will also be monitored for performance as outlined below. For additional details on the individual system components and a description of the drainage system, refer to the approved subdivision plans and drainage report.

The following tasks shall be the responsibility of the Homeowners Association (refer to Linden Path O&M Log Form in Appendix A).

1. Grass swale to be inspected once monthly after construction for a period of 4 months, and twice yearly thereafter. The swale should be mowed as necessary to maintain a grass height between 3 and 6 inches. Cleaning of sediments and debris should take place at least once per year, by hand. After

cleaning, winter storms, or if any erosion is encountered, damaged vegetation should be restored using loam as necessary and reseeding or using sod.

2. Inspect sediment forebay once monthly after construction. Cleaning of sediments should take place four times per year. After cleaning, damaged vegetation should be restored using loam as necessary and reseeding or using sod.
3. Infiltration basin to be inspected after every major storm for the first three months after construction and twice per year thereafter and when there are discharges through the high outlet orifice/structure. If the infiltration rate has been significantly reduced such that standing water persists for more than 3 days, the infiltrative capacity of the soil should be restored by scarifying the bottom of the basin, or removing and replacing the bottom soil layer with fresh loam/sand mix and reseeding as necessary.

Mow the buffer area, side slopes, and bottom area twice per year. Remove grass clippings and accumulated organic matter. Inspect and clean pretreatment devices every month recommended and at least twice per year and after every major storm event.

4. Subsurface infiltration structures utilized for roof runoff are to be inspected after every major storm during the first few months after construction to ensure proper stabilization and function. Thereafter, inspection is required once annually. The water depth should be measured in the observation well at 24-hours and 48-hours after a storm. The clearance rate can be calculated based on the drop in water level (inches) divided by the elapsed time (hours). If the roof drain trench holds water for more than 3 days, the stone trench should be checked by excavating a section and replacing stone with filter fabric as needed. Individual homeowners shall be responsible for monitoring and maintenance of their roof drains.

2.4 Fern Path Extension, O&M Schedule

The drainage system is generally shown on the “Stormwater Infrastructure Plan, Lots 146-147, Fern Path Ext.”, where the turnaround area is sloped to drain towards Infiltration Basin #16 with a double sediment forebay. The sediment forebays are in series and provide storage of sediment that will be filtered out of runoff prior to discharge to the infiltration basin where runoff will be recharged into the ground; infiltration basin #16 will recharge up to the 100-year storm and has an emergency overflow that will pass larger storms towards the wetlands via a rip rap apron. To the east of lot 147 is an environmentally-sensitive area (a vernal pool) with associated bordering vegetated wetlands; the site is carefully designed to avoid negative impacts to this VP. In addition, these two homes on lots 146 and 147 will have roof drains that will also be monitored for performance as outlined below. For additional details for the individual system components and a description of the drainage system, refer to the approved subdivision plans and drainage report.

Once construction is completed, the following tasks shall be the responsibility of the owner, whereby some of the following tasks shall be carried out by the facility's onsite staff, and other specialized tasks may be assigned to a qualified contractor.

1. Inspect sediment forebays once monthly after construction. Cleaning of sediments should take place four times per year. After cleaning, damaged vegetation should be restored using loam as necessary and reseeding or using sod.
2. Infiltration basin to be inspected after every major storm for the first three months after construction and twice per year thereafter and when there are discharges through the high outlet orifice/structure. If the infiltration rate has been significantly reduced such that standing water

persists for more than 3 days, the infiltrative capacity of the soil should be restored by scarifying the bottom of the basin, or removing and replacing the bottom soil layer with fresh loam/sand mix and reseeding as necessary.

Mow the buffer area, side slopes, and bottom area twice per year. Remove grass clippings and accumulated organic matter. Inspect and clean pretreatment devices every month recommended and at least twice per year and after every major storm event.

3. Subsurface infiltration structures utilized for roof runoff are to be inspected after every major storm during the first few months after construction to ensure proper stabilization and function. Thereafter, inspection is required once annually. The water depth should be measured in the observation well at 24-hours and 48-hours after a storm. The clearance rate can be calculated based on the drop in water level (inches) divided by the elapsed time (hours). If the roof drain trench holds water for more than 3 days, the stone trench should be checked by excavating a section and replacing stone with filter fabric as needed. Individual homeowners shall be responsible for monitoring and maintenance of their roof drains.

Section 3.0: Post-development Operation and Maintenance Budget

The following is an estimated annual budget for Operation & Maintenance of the different drainage systems.

Timber Crest Estates - Rosewood Drive, Cherry Circle, Timber Crest Drive, Sycamore Way, and Cottonwood Lane and lots 1-70

Catch Basin cleaning: 20 catch basins x 4 times per year @ \$50 each = \$4000/year

Sediment Forebay cleaning: 8 forebays x 4 times per year @ \$50 each = \$1600/year

Infiltration Basin cleaning and mowing: 6 basins x 2 times per year @ \$50 each = \$600/year

Water Quality Swale cleaning and mowing: 1 swale x 1 time per year @ \$50 each = \$50/year

Grasscrete Permeable Parking at Bus Stop, grooming/mowing: 2 times per year @ \$150/each = \$300/year

Underground Roof Drains inspection & cleaning: 70 roof drains x 1 time per year @ \$50 each = \$3500/year

Bioretention Areas #1-3 mulching, pruning, cleaning: 3 bio areas @ \$200 each = \$600/year

Sub-Total Estimated Annual O&M Budget: \$10,800

Kingsbury Village - Kingsbury Drive and Holly Court and lots 75 and 80-145

Catch Basin cleaning: 21 catch basins x 4 times per year @ \$50 each = \$4200/year

Water Quality Inlet 1 & 2 cleaning: 2 WQI's x 2 times per year @ \$100 each = \$400/year

Sediment Forebay cleaning: 7 forebays x 4 times per year @ \$50 each = \$1400/year

Infiltration Basin cleaning and mowing: 5 basins x 2 times per year @ \$50 each = \$500/year

Detention Basin cleaning and mowing: 1 basin x 2 times per year @ \$50 each = \$50/year

Water Quality Swale cleaning and mowing: 1 swale x 1 time per year @ \$50 each = \$50/year

Grasscrete Permeable Parking at Bus Stop, grooming/mowing: 2 times per year @ \$150/each = \$300/year

Underground Roof Drains inspection & cleaning: 67 roof drains x 1 time per year @ \$50 each = \$3350/year

Leaching chambers #3 and #4 inspection & cleaning: 2 chambers x 1 time per year @ \$50 each = \$100/year

Bioretention Areas #4 & #5 mulching, pruning, cleaning: 2 @ \$200 each = \$400/year

Amphibian Tunnel and Barrier tree/limb/leaf removal: 1 @ \$100 each = \$100/year

Sub-Total Estimated Annual O&M Budget: \$10,750

Linden Path – lots 71-74

Grass channel mowing & cleaning: 6 mows x \$50 each = \$300/year

Sediment Forebay cleaning: 1 forebay x 4 times per year @ \$50 each = \$200/year

Infiltration Basin #14 cleaning and mowing: 1 basin x 2 times per year @ \$50 each = \$100/year

Sub-Total Estimated Annual O&M Budget: \$800

Fern Path Extension – lots 146-147

Sediment Forebay cleaning: 4 times per year @ \$50 each = \$200/year

Infiltration Basin #16 cleaning and mowing: 1 basin x 2 times per year @ \$50 each = \$100/year

Sub-Total Estimated Annual O&M Budget: \$300

Grand-Total Estimated Annual O&M Budget: \$22,650

Section 4.0: Pollution Prevention Plan w/ Snow Management

1. Good housekeeping measures shall be used in the day-to-day operation of the development. This includes keeping the site in a neat and orderly state, limiting use of fertilizers and pesticides, and using professional companies to dispose of waste materials.

2. Snow Management Guidelines:

General:

Calcium chloride and/or sand should be used sparingly for deicing purposes. During and following snowstorms, snow shall be plowed from the paved roadways and parking areas by a contractor hired by the homeowners association. Snow plow trucks will perform this snow removal by furrowing snow along the edges of the driveways. It is anticipated that most smaller snowstorms will not generate enough snow requiring removal. In the event of an extremely large snowfall, heavy equipment, such as front end loaders, may be required to remove snow from the roadway; this snow may be disposed in the area shown on the Stormwater Infrastructure Plan. These potentially larger snowfalls that result in large accumulations across the site shall be disposed per the guidelines below.

Site Selection:

The snow stockpile areas shall be utilized (or snow may be trucked offsite by contractors). These onsite areas were selected because of their location on pervious surfaces in upland areas away from wetlands. Note: snow will be compacted and reduced in volume when stockpiled.

The following areas must be avoided for snow disposal (refer to Stormwater Infrastructure Plan for signage associated with prohibited dumping areas):

*Snow must not be dumped in the bordering vegetated wetland or vernal pools. These are sensitive areas that must be protected from melting snow and its pollutants and trash.

*Avoid dumping of snow in the stormwater grass channel and infiltration basin. Snow combined with sand and debris may block a storm drainage system, causing localized flooding. A high volume of sand, sediment, and litter released from melting snow also may be quickly transported through the system into surface water.

Site Preparation and Maintenance:

The following maintenance measures should be undertaken for the snow disposal site:

* Snow disposal sites are to be in an area with relatively level slopes and stabilized groundcover such as grassed, lawn areas or mulched areas.

*A siltfence should be placed securely on the downgradient side of the snow disposal site.

*Debris should be cleared from the site prior to using the site for snow disposal each winter season.

*At the end of the snow season, debris and accumulated sediment should be cleared from the site and properly disposed of no later than May 15.

3. Mosquito Control Guidelines:

The stormwater basins at Timber Crest do not rely on a standing pool of water, and are designed to dewater within 72 hours after precipitation. If evidence of mosquitos is found in any of the sediment forebays, larvicide (i.e. Bacillus sphaericus (Bs)) may be applied (Bs is to be hand-broadcast) by a licensed pesticide applicator in compliance with all pesticide label requirements.

4. Pet Waste Management:

Pet waste management involves using a combination of pet waste collection programs, pet awareness and education, to alert residents to the proper disposal techniques for pet droppings. The homeowners association will establish rules requiring individual home owners to properly collect and dispose of pet waste.

5. Spill Prevention:

The home owners association shall be aware of, educate home owners, and enforce the following spill prevention measures:

Good Housekeeping

The following good housekeeping practices will be followed by individual homeowners:

- An effort will be made to store only enough product required to do the job.
- All materials stored on-site will be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other structure.
- 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.
- Whenever possible, all of a product will be used up before disposing of the container.
- Manufacturer's recommendations for proper use and disposal will be followed.

Hazardous Products

These practices are used to reduce the risks associated with hazardous materials:

- Exterior storage of deicing chemicals, fertilizers, herbicides, pesticides, or other hazardous materials shall be prohibited.
- Products will be kept in original containers unless they are not resealable.
- Original labels and material safety data will be retained.
- If surplus product must be disposed of, manufacturers' or local/State recommended methods will be followed.

Petroleum Products

All vehicles should be monitored for leaks and receive regular preventative maintenance to reduce the chance of leakage. Small quantities of petroleum products for individual homeowners use may be stored in tightly sealed containers which are clearly labeled.

Pesticides, Herbicides, Fungicides and Fertilizers

Pesticides, fungicides and herbicides shall be used sparingly or not at all within jurisdictional areas. Regular use of fertilizers within jurisdictional areas is also not recommended by the Conservation Commission. If used, fertilizers will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be worked into the soil to limit exposure to storm water. Storage will be in a covered enclosure. The contents of any partially used bags will be transferred to a sealable plastic bin to avoid spills.

Paints

All containers will be tightly sealed and stored when not required for use. Excess paint will not be discharged to the storm sewer system but will be properly disposed of according to manufacturers' instructions or State and local regulations.

Spill Control Practices

In addition to the management practices listed above the following practices will be followed for spill prevention and cleanup:

- Manufacturers' recommended methods for spill cleanup will be clearly posted and site personnel will be made aware of the procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area on-site. Equipment and materials will include but not be limited to brooms, dustpans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for this purpose.
- All spills will be cleaned up immediately after discovery.
- The spill area will be kept well ventilated and personnel will wear appropriate State or local government agency, protective clothing, regardless of the size.
- The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring and how to clean up the spill if there is another one. A description of the spill, what caused it, and the cleanup measures will also be included.

Accidental Spill and Emergency Response Plan

In the event of an accident within the boundaries of the site, where significant gasoline or other petroleum products or other hazardous materials are released, the following procedure shall be followed in the order noted.

- As quickly as possible, attempt to block the nearest stormwater catch basins if on a roadway, or if in proximity to wetlands, create a berm of soil downslope of the spill.
- Immediately, and while the containment measures are implemented as described above, notify the following government entities and inform them of the type of spill that occurred:
 - Medway Fire Department at 911
 - Medway Board of Health at 508-533-3206
 - Medway Conservation Commission at 508-533-3292
 - Mass. Department of Environmental Protection (DEP) Central Region at 508-792-7650
 - National Response Center (NRC) at 800-424-8802 (for spills that require such notification pursuant to 40 CFR Part 110, 40 CFR Part 117, and 40 CFR Part 302)
- Once the various emergency response teams have arrived at the site and if the spill occurs on a lot, the owner shall follow the instructions of the various government entities, which may include the following:
 - A clean up firm may need to be immediately contacted.
 - If the hazardous materials have entered the stormwater system, portions of it may need to be cleaned and restored per the DEP.

Appendix A
Long-Term Stormwater Operation & Maintenance Log Forms

Stormwater Operation & Maintenance Log Form
Timber Crest Estates - Rosewood Drive, Cherry Circle, Timber Crest Drive,
Sycamore Way, and Cottonwood Lane
Page 1 of 3

PRETREATMENT STRUCTURAL CONTROLS

CONTROL	DATE INSPECTED	SEDIMENT BUILDUP (YES/NO)	IF SEDIMENT BUILDUP, DATE CLEANED
CB-WQSA			
CB-WQSB			
CB-1A			
CB-1B			
CB-1C			
CB-1D			
CB-1E			
CB-1F			
CB-2A			
CB-2B			
CB-2C			
CB-2D			
CB-3A			
CB-3B			
CB-3C			
CB-3D			
CB-4			
CB-4A			
CB-4B			
CB-5			
CB-5A			
CB-5B			
CB-5C			
CB-6A			
CB-6B			
CB-6C			
CB-6D			
CB-6E			

Sediment to be removed from catch basins once the depth reaches 24”.

REQUIRED MAINTENANCE:

TO BE PERFORMED BY: _____ ON OR BEFORE: _____

Stormwater Operation & Maintenance Log Form
Timber Crest Estates - Rosewood Drive, Cherry Circle, Timber Crest Drive,
Sycamore Way, and Cottonwood Lane
Page 2 of 3

SEDIMENT STRUCTURAL CONTROLS

CONTROL	DATE INSPECTED	SEDIMENT BUILDUP (YES/NO)	IF SEDIMENT BUILDUP, DATE CLEANED
Grasscrete Parking @ Road A			
Sed. Forebays to WQS-1			
Sed. Forebay to Infil. Basin 1			
Sed. Forebay to Infil. Basin 2			
Sed. Forebay to Infil. Basin 3 (From DMH-3A)			
Sed. Forebay to Infil. Basin 3 (From DMH-3B)			
Sed. Forebay to Infil. Basin 4			
Sed. Forebay to Infil. Basin 5			
Sed. Forebay to Infil. Basin 6			

REQUIRED MAINTENANCE:

TO BE PERFORMED BY: _____ ON OR BEFORE: _____

Stormwater Operation & Maintenance Log Form
Timber Crest Estates - Rosewood Drive, Cherry Circle, Timber Crest Drive,
Sycamore Way, and Cottonwood Lane
Page 3 of 3

RUNOFF STRUCTURAL CONTROLS

CONTROL	DATE INSPECTED	STATEMENT OF GENERAL CONDITION & REQUIRED MAINTENANCE IF ANY
Water Quality Swale 1		
Bioretention Area 1		
Bioretention Area 2		
Bioretention Area 3		
Infiltration Basin 1		
Infiltration Basin 2		
Infiltration Basin 3		
Infiltration Basin 4		
Infiltration Basin 5		
Infiltration Basin 6		

REQUIRED MAINTENANCE:

TO BE PERFORMED BY: _____ ON OR BEFORE: _____

Long-Term Stormwater Operation & Maintenance Log Form
Kingsbury Village - Kingsbury Drive, Holly Court, and Emerg. Access @ 13 fairway Lane
Page 1 of 3

PRETREATMENT STRUCTURAL CONTROLS

CONTROL	DATE INSPECTED	SEDIMENT BUILDUP (YES/NO)	IF SEDIMENT BUILDUP, DATE CLEANED
CB-15			
CB-7A			
CB-7B			
CB-7C			
CB-7D			
CB-8A			
CB-8B			
CB-8C			
CB-8D			
CB-8E			
CB-LC3A			
CB-LC3B			
CB-LC3C			
CB-LC3D			
CB-9A			
CB-9B			
CB-LC4A			
CB-LC4B			
CB-LC4C			
CB-LC4D			
CB-11A			
CB-11B			
CB-12			

Sediment to be removed from catch basins once the depth reaches 24”.

REQUIRED MAINTENANCE:

TO BE PERFORMED BY: _____ ON OR BEFORE: _____

Long-Term Stormwater Operation & Maintenance Log Form
Kingsbury Village - Kingsbury Drive , Holly Court, and Emerg. Access @ 13 fairway Lane
Page 2 of 3

SEDIMENT STRUCTURAL CONTROLS

CONTROL	DATE INSPECTED	SEDIMENT BUILDUP (YES/NO)	IF SEDIMENT BUILDUP, DATE CLEANED
Grasscrete Parking @ Road F			
Sed. Forebay to Infil. Basin 15			
Sed. Forebay to Infil. Basin 7			
Sed. Forebay to Infil. Basin 8			
Water Quality Inlet 1			
Sed. Forebay to Infil. Basin 9			
Water Quality Inlet 2			
Sed. Forebays to WQS-2			
Sed. Forebay to Infil. Basin 12			
Sed. Forebay @ Bio-Ret. #5			

REQUIRED MAINTENANCE:

TO BE PERFORMED BY: _____ ON OR BEFORE: _____

Long-Term Stormwater Operation & Maintenance Log Form
Kingsbury Village - Kingsbury Drive , Holly Court, and Emerg. Access @ 13 fairway Lane
Page 3 of 3

RUNOFF STRUCTURAL CONTROLS

CONTROL	DATE INSPECTED	STATEMENT OF GENERAL CONDITION & REQUIRED MAINTENANCE IF ANY
Infiltration Basin 15		
Bioretention Area 4		
Bioretention Area 5		
Infiltration Basin 7		
Infiltration Basin 8		
Leaching Chambers 3		
Dry Detention Basin 8A		
Infiltration Basin 9		
Leaching Chambers 4		
Dry Detention Basin 10		
Water Quality Swale 2		
Infiltration Basin 12		

REQUIRED MAINTENANCE:

TO BE PERFORMED BY: _____ ON OR BEFORE: _____

AMPHIBIAN TUNNEL AT Kingsbury Drive STA 16+75

The amphibian tunnel and vertical barriers along bottom of road and infiltration basin #9 berm slope requires annual inspections to clear fallen trees, limbs, and built-up leaves that may block the tunnel passage or provide a pathway to climb up the slopes into the road.

INSPECTION AND MAINTENANCE WORK PERFORMED:

PERFORMED BY: _____ ON: _____

**Long-Term Stormwater Operation & Maintenance Log Form
Kingsbury Village - Linden Path to Lots 71-74,**

SEDIMENT STRUCTURAL CONTROLS

CONTROL	DATE INSPECTED or MOWED	SEDIMENT BUILDUP (YES/NO)	IF SEDIMENT BUILDUP, DATE CLEANED
Grass swale along driveway			
Sediment Forebay to Infiltration Basin 14			

REQUIRED MAINTENANCE:

TO BE PERFORMED BY: _____

ON OR BEFORE: _____

RUNOFF STRUCTURAL CONTROLS

CONTROL	DATE INSPECTED or MOWED	STATEMENT OF GENERAL CONDITION & REQUIRED MAINTENANCE IF ANY
Infiltration Basin 14		

REQUIRED MAINTENANCE:

TO BE PERFORMED BY: _____

ON OR BEFORE: _____

**Long-Term Stormwater Operation & Maintenance Log Form
Fern Path Extension for Lots 146 & 147**

SEDIMENT STRUCTURAL CONTROLS

CONTROL	DATE INSPECTED or MOWED	SEDIMENT BUILDUP (YES/NO)	IF SEDIMENT BUILDUP, DATE CLEANED
2 Sediment Forebays at Infiltration Basin 16			

REQUIRED MAINTENANCE:

TO BE PERFORMED BY: _____

ON OR BEFORE: _____

RUNOFF STRUCTURAL CONTROLS

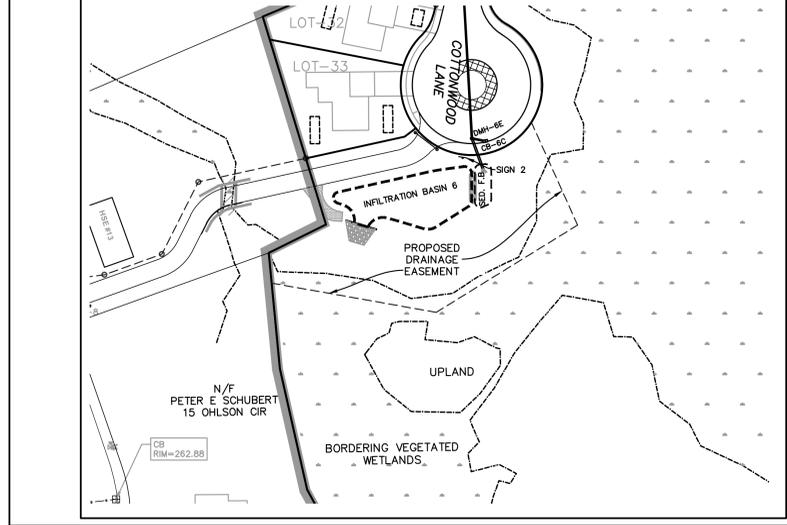
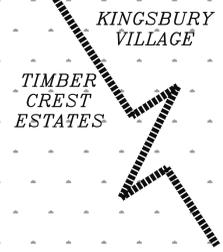
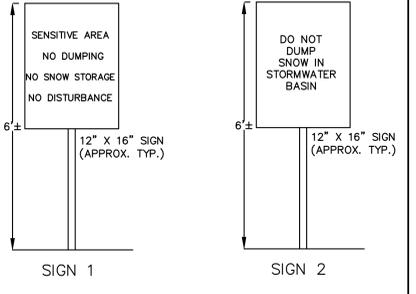
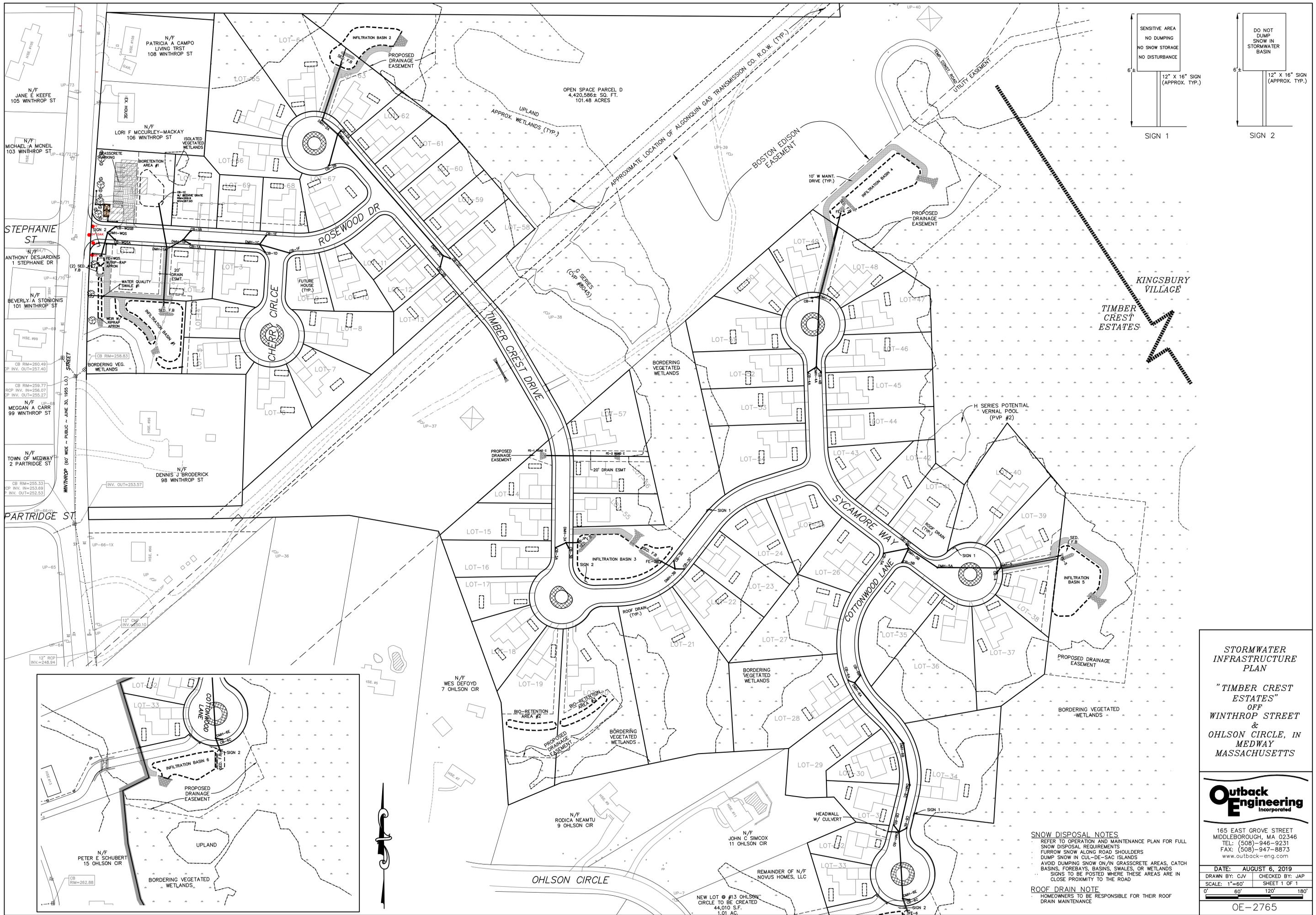
CONTROL	DATE INSPECTED or MOWED	STATEMENT OF GENERAL CONDITION & REQUIRED MAINTENANCE IF ANY
Infiltration Basin 16		

REQUIRED MAINTENANCE:

TO BE PERFORMED BY: _____

ON OR BEFORE: _____

Appendix B
Stormwater Infrastructure Plans



STORMWATER INFRASTRUCTURE PLAN
"TIMBER CREST ESTATES" OFF WINTHROP STREET & OHLSON CIRCLE, IN MEDWAY MASSACHUSETTS

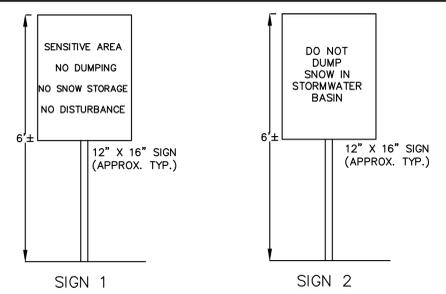
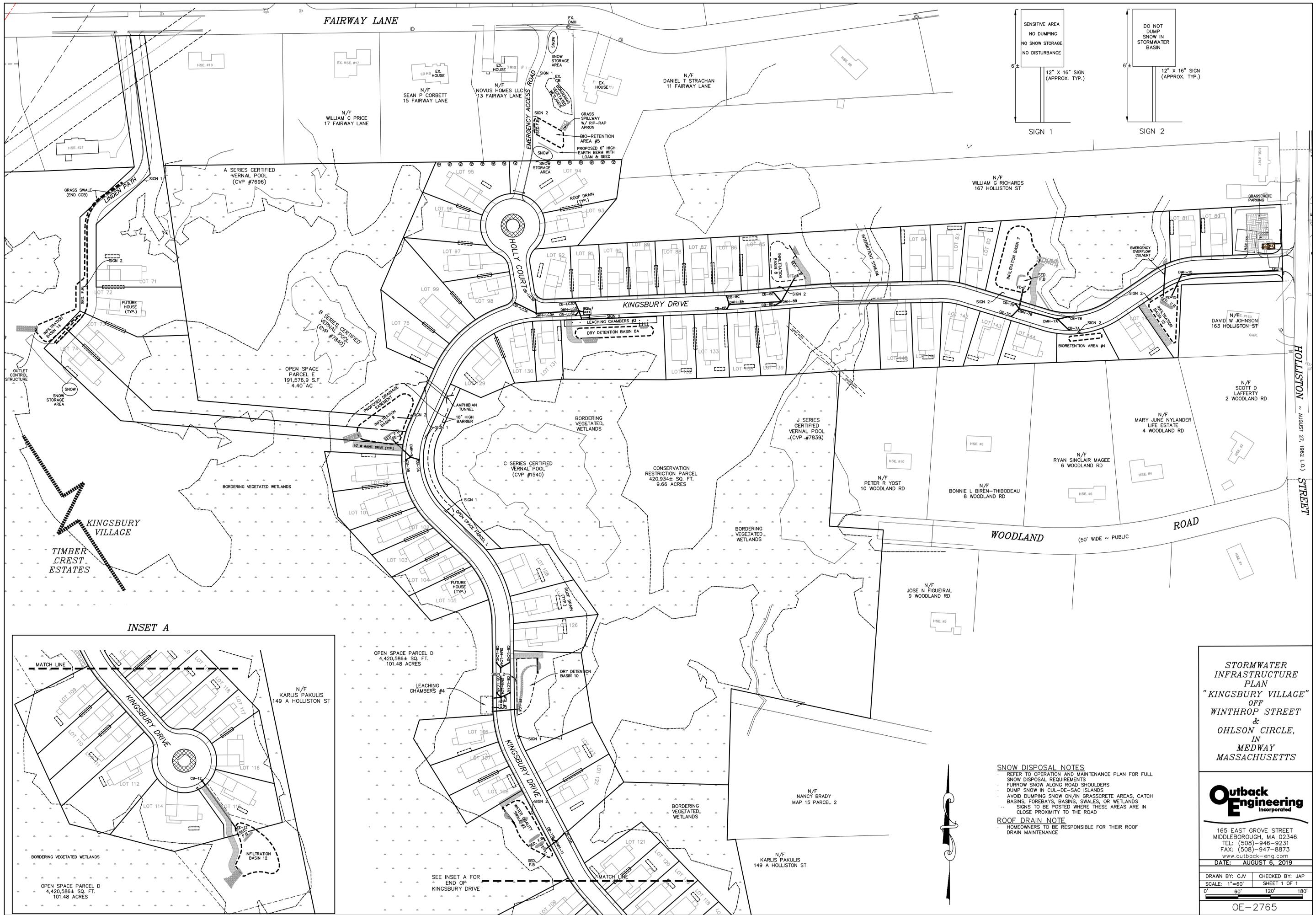
Outback Engineering Incorporated
 165 EAST GROVE STREET
 MIDDLEBOROUGH, MA 02346
 TEL: (508)-946-9231
 FAX: (508)-947-8873
 www.outback-eng.com

SNOW DISPOSAL NOTES
 REFER TO OPERATION AND MAINTENANCE PLAN FOR FULL SNOW DISPOSAL REQUIREMENTS
 FURROW SNOW ALONG ROAD SHOULDERS
 DUMP SNOW IN CUL-DE-SAC ISLANDS
 AVOID DUMPING SNOW ON/IN GRASSCOTE AREAS, CATCH BASINS, FOREBAYS, BASINS, SWALES, OR WETLANDS
 SIGNS TO BE POSTED WHERE THESE AREAS ARE IN CLOSE PROXIMITY TO THE ROAD

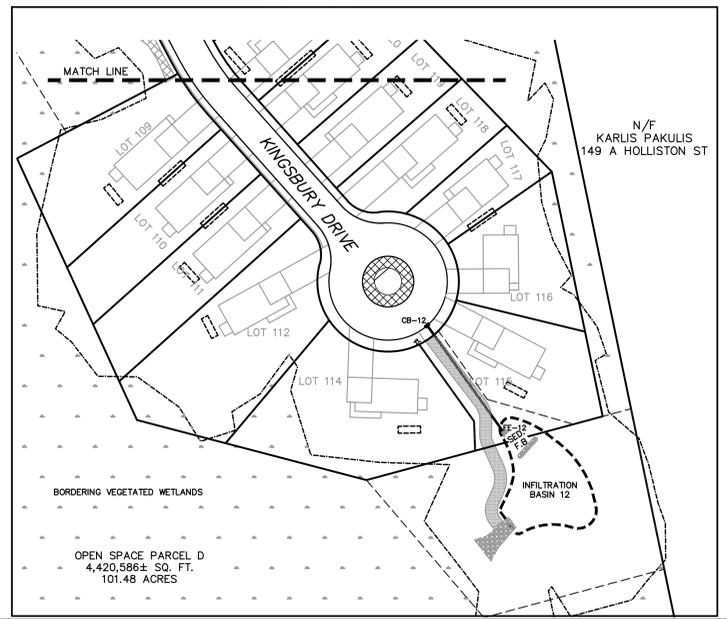
ROOF DRAIN NOTE
 HOMEOWNERS TO BE RESPONSIBLE FOR THEIR ROOF DRAIN MAINTENANCE

DATE: AUGUST 6, 2019	CHECKED BY: JAP
DRAWN BY: CJV	SHEET 1 OF 1
SCALE: 1"=60'	
0' 60' 120' 180'	

OE-2765



INSET A



SNOW DISPOSAL NOTES
 REFER TO OPERATION AND MAINTENANCE PLAN FOR FULL SNOW DISPOSAL REQUIREMENTS
 FURROW SNOW ALONG ROAD SHOULDERS
 DUMP SNOW IN CUL-DE-SAC ISLANDS
 AVOID DUMPING SNOW ON/IN GRASSCRETE AREAS, CATCH BASINS, FOREBAYS, BASINS, SWALES, OR WETLANDS
 SIGNS TO BE POSTED WHERE THESE AREAS ARE IN CLOSE PROXIMITY TO THE ROAD

ROOF DRAIN NOTE
 HOMEOWNERS TO BE RESPONSIBLE FOR THEIR ROOF DRAIN MAINTENANCE

STORMWATER INFRASTRUCTURE PLAN
"KINGSBURY VILLAGE"
 OFF WINTHROP STREET & OHLSON CIRCLE, IN MEDWAY MASSACHUSETTS

Outback Engineering Incorporated

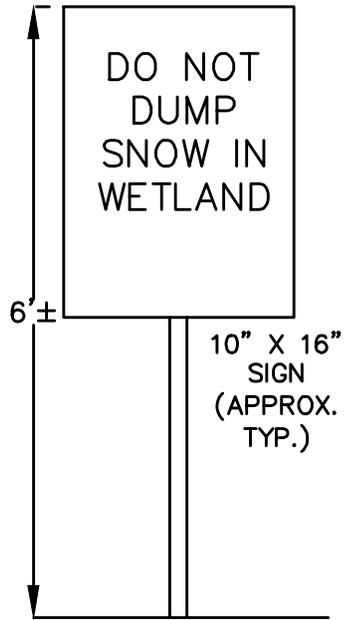
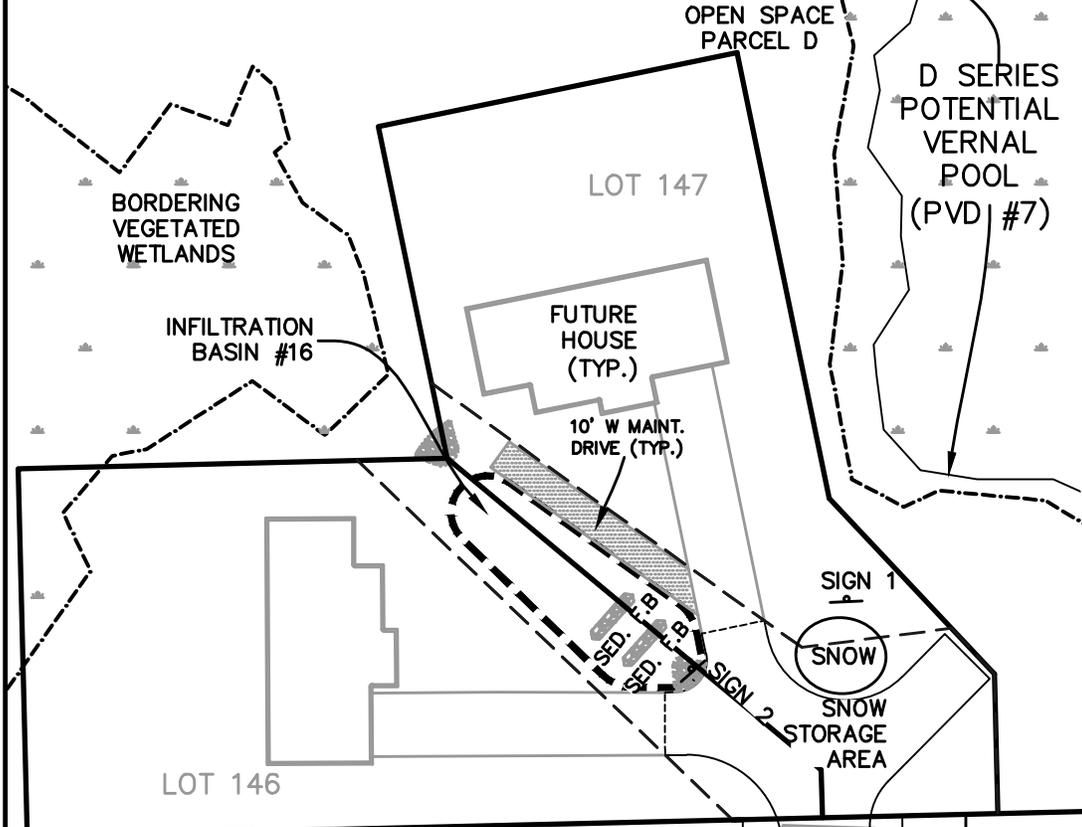
165 EAST GROVE STREET
 MIDDLEBOROUGH, MA 02346
 TEL: (508)-946-9231
 FAX: (508)-947-8873
 www.outback-eng.com
 DATE: AUGUST 6, 2019

DRAWN BY: CJV CHECKED BY: JAP
 SCALE: 1"=60' SHEET 1 OF 1
 0' 60' 120' 180'

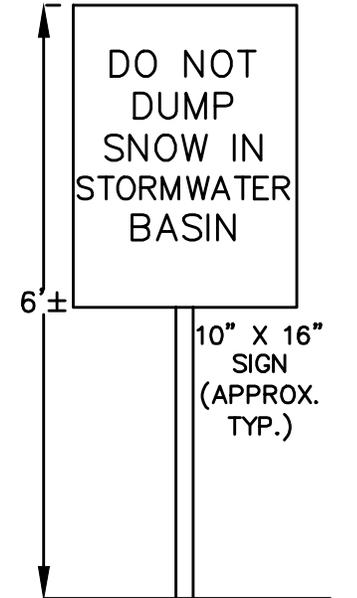
OE-2765

SNOW DISPOSAL NOTES

- REFER TO OPERATION AND MAINTENANCE PLAN FOR FULL SNOW DISPOSAL REQUIREMENTS
- FURROW SNOW ALONG DRIVEWAY SHOULDERS
- AVOID DUMPING SNOW ON/IN FOREBAYS, BASINS, SWALES, OR WETLANDS



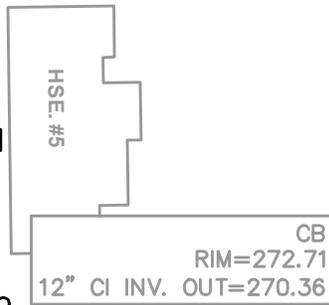
SIGN 1



SIGN 2

NOTE: HOMEOWNERS TO BE RESPONSIBLE FOR THEIR ROOF DRAIN MAINTENANCE

N/F
MARK N NARDUCCI
5 FERN PATH

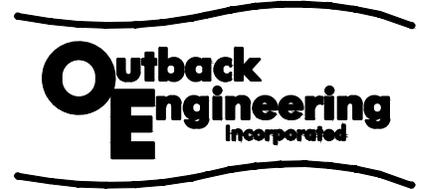
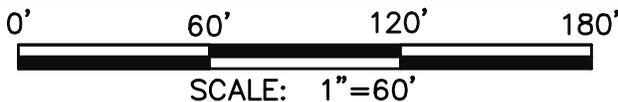


FERN PATH

N/F
NARDUCCI
CORP, INC
6 FERN PATH

DATE: AUGUST 6, 2019

**STORMWATER
INFRASTRUCTURE PLAN
LOTS 146-147
FERN PATH EXT.
"TIMBER CREST ESTATES"
MEDWAY, MASSACHUSETTS**



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MIDDLEBOROUGH, MASS. 02346
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