

TURF MANAGEMENT AND INTEGRATED PEST  
MANAGEMENT PLAN

**Commercial Development**  
**1575 Iyannough Road**  
Hyannis, MASSACHUSETTS

January 25, 2017

## **Integrated Pest Management**

1. Integrated Pest Management (IPM) is a management and decision-making system that uses cultural practices to promote healthy turfgrass and plants that has a competitive advantage against pests and environmental stress. The IPM system will encourage the use of organic based fertilizers, appropriate irrigation techniques and qualified professionals to ensure to the protection of the surrounding environment and resource areas. The IPM system will focus on: (1) turfgrass and plant establishment, (2) application of all chemicals by a professional, (3) pesticide and herbicide management, (4) fertilizer management, (5) irrigation management, and (6) property owner education.

## **Turfgrass Establishment**

1. All lawn areas will be seeded or sodded with a mix of fescue species. This mix will establish quickly, reducing the need for fertilizers, irrigation and pest management during germination.
2. A minimum of 4-6 inches of organic screened loam will be required prior to planting the turfgrass. This will ensure proper cation exchange sites necessary to hold the nutrients needed for establishment and maintenance.
3. Organic based fertilizers shall be used to provide a slow release nitrogen source, ensuring all available nitrogen will be used by the turfgrass.
4. The turfgrass seed mixture shall contain endophyte enhanced seed whenever commercially available. Endophyte enhanced seed exhibits a higher overall vigor and resists insects feeding on foliar sections of the plant, reducing the use of pesticides.
5. During establishment, turfgrass seedlings shall be irrigated 3-4 times per day for a maximum duration of 5 minutes each time. The goal of irrigation during establishment is to maintain adequate moisture within the top 1 inch of the topsoil. The soil will not be watered beyond its water holding capacity at any time during establishment, minimizing any potential leaching of fertilizer. The irrigation system will be equipped with moisture sensors and a “smart” controller to minimize unnecessary irrigation.
6. Turfgrass will be maintained at an approximate height of 1.5 inches. Turfgrass clippings will be returned to the turf canopy creating a green compost.

## **Pesticide and Herbicide Management**

1. Pesticides and herbicides will not be used on a regular basis within the turfgrass or planted areas. Suspected disease or insects must be confirmed by a qualified

professional. A written report shall document the disease and must be presented to the owner. The report shall contain a justification for the application of a pesticide / herbicide including observation and documentation of signs and /or symptoms of disease or pests, establishment of thresholds which would trigger a pesticide/herbicide application and organic or cultural alternatives to chemical pesticides, if applicable.

2. All applicable alternatives to chemical usage must be considered before application.
3. If a chemical application is deemed necessary the product shall be chosen based upon efficacy, potential environmental toxicity, and health risks.

### **Fertilizer Management**

1. Fertilizer management will focus on an organic based approach. Organic fertilizers provide a slow-release nitrogen source that will be fully utilized by the turfgrass. This system prevents leaching of excess nitrogen into the soil. Additionally, total amounts of nitrogen will be limited and applied only during the active growing season of the turfgrass.
2. Organic fertilizers or water insoluble nitrogen sources of greater than 75 percent will be used on the turfgrass.
3. No more than 1.0 lbs. of nitrogen per 1,000 square feet will be applied during each growing season after the establishment of turfgrass. The growing season is approximately April – October for this property in Hyannis, Massachusetts.
4. The soil shall be tested every year, or as needed, to determine the soil pH to custom tailor the fertilizer program.

### **Irrigation Management**

1. Conservation of the water resources will be the goal of the irrigation of turfgrass and plantings within the site. The timing and quantity of irrigation will be restricted to prevent over-watering and limit potential leaching of fertilizers.
2. Automatic irrigation systems equipped with a “smart” controller and moisture sensing devices shall be set to water turfgrass and plantings during the early morning hours (approximately 3 – 6 a.m.). This will decrease the leaf wetness period, minimizing development of diseases and maximizing the water resources by not watering during the hottest time of the day.

3. Not more than ½ inch per week of supplemental irrigation will be applied to the turfgrass or planted areas. The goal would be to replace the moisture in overly dry areas of the soil.
4. The typical irrigation schedule may be 3-4 times per week for 15-20 minutes each period.

### **Educational Program**

1. An important component of a successful IPM system will involve an education of the property owner on the principles, goals and success of the IPM. Documentation of the fertilizer applications will be provided to the owner by the professional providing the application.
2. The goal of the IPM system is to protect the groundwater resources by developing a responsible management system. Appropriate seed / plant selection, cultural practices, and responsible fertilizer management will provide assurance that potential nitrogen leaching is minimized. Additionally, justification for any applications of fertilizer by a professional guarantees responsible management.