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**FEB 15 2019**

**TOWN OF DARIEN  
PLANNING & ZONING**

Darien High School  
Darien, Connecticut

**Planning & Zoning  
Application for  
Diller Property  
Walking Path**

Prepared For:

**Darien Athletic Foundation  
Darien, Connecticut**

February 15, 2019

**Tighe & Bond**

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**Appendix B** FEMA Flood Insurance Rate Map

J:\D\D0247 Darien High School Fields\005 - DHS Cross Country Path\Permitting\Env Protection Commission Wetlands App\DHS CC Path Wetland Report.docx

## **Section 1 Introduction**

The Darien Athletic Foundation is submitting an application for approval under the Darien Zoning Regulations for a proposed walking/running path on the Diller Property on Nutmeg Lane, in Darien, Connecticut (Site).

Approval is sought under the following sections of the Zoning Regulations:

Section 850 Land Filling, Excavation and Earth Removal

Section 1000 Site Plan

The project consists of the construction of a looped path for the use by the Darien High School Cross Country team, neighbors, and town residents. Site mapping is located in **Appendix A**.

## Section 2 Project Description

### 2.1 Proposed Activities

The project proposes the construction of a cross-country running path through forested upland and wetland located in between Hollow Tree Ridge Road, Nutmeg Lane, Norton Avenue, and Holly Lane, known as the Diller Property (Site). The path is part of a larger proposed path to be used by the Darien High School Cross Country Team, and will connect to the path proposed on high school property. The Diller property portion will also include an eastern link that will not be part of the cross country path, but will allow Town residents to complete a loop around the Site without entering High School property. The eastern leg will consist of a plank boardwalk over wetland areas.

The path is proposed to loop around the property with a 5-foot wide crushed stone path along the north, west, and south Site boundaries, and a planked boardwalk along the eastern boundary running north-south. The total length of the cross country path is 6,070 feet across both properties. On the Diller Property itself, the length of the path is 1,440 feet, with approximately 420 feet of the length as plank boardwalk.

Tree trimming and brush clearing are proposed to be performed by hand. The path is proposed to route around existing trees (3-inch or more in diameter at breast height (DBH)). Signage will be installed to direct users to stay off school property during school hours, and to remain on the path. Additional work includes installation of erosion and sediment controls during construction, and the construction of a parking area, curbing, and a sidewalk along Nutmeg Lane. Maintenance for the path on the Diller Property will be performed by Darien Parks and Recreation, which will include yearly maintenance of vegetation encroaching on the path.

### 2.2 Construction Sequencing

Construction of the site is expected to follow the sequence outlined as follows:

- Installation of erosion and sediment (E&S) control measures prior to earth moving activities
  - E&S control measures to be installed as needed for the duration of construction
- Clearing, trimming, and grading
- Construction of the stone path and plank boardwalk
- Parking space paving, curbing, sidewalk and signage
- Removal of E&S control measures upon site stabilization

### 2.3 Erosion and Sediment Control Measures

Proposed activities include the phasing and installation of appropriate E&S control measures during construction to minimize sedimentation and erosion with the Site. Appropriate E&S controls, some described below, may be implemented as needed.

### 2.1.1 Silt Fence

Silt fence is constructed of a permeable geotextile fabric secured by wooden stakes driven into the ground, with the bottom of the fabric toed into the ground. It is installed as a temporary barrier to prevent sediments from flowing into an unprotected and/or sensitive area from a disturbed site. Staked silt fence and hay bales, straw wattles, or wood chip bags can be used separately or in conjunction as erosion control barriers. A silt fence will be installed downgradient of the work area. Once the project is complete and soils are stabilized, silt fence materials (i.e., geotextile fabric and wooden stakes) must be removed and properly disposed off-site. Refer to Drawings for installation locations and specifications.

Maintenance: Inspect silt fence at least once per week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inch or greater. For dewatering operations, inspect frequently before, during, and after pumping operations. Remove the sediment deposits or install a secondary barrier upslope from the existing barrier when sediment deposits reach one half the height of the barrier.

### 2.1.2 Haybale Barrier

Hay or straw bales should be placed end-to-end to form a temporary sedimentation control barrier. This barrier should run perpendicular to the slope and direction of runoff and should be installed downgradient of the disturbed site (i.e., construction area). Bales may also be used around catch basin inlets. Bales are intended to slow the velocity of flows and trap sediments behind them preventing sediment transport to resource areas. Refer to Drawings for installation locations and specifications.

Maintenance: Inspect hay bales at least once per week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inch or greater. For dewatering operations, inspect frequently before, during, and after pumping operations. Remove the sediment deposits or install a secondary barrier upslope from the existing barrier when sediment deposits reach one half the height of the barrier.

### 2.3.3 Inlet Protection

Silt sacks are typically used for inlet protection, however other protection measures may be used as needed. A silt sack is constructed of permeable geotextile fabric placed within drainage inlets, under the existing grate, within paved areas. It is a temporary barrier that helps remove sediment, trash and debris from entering a catch basin. Silt sacks should be placed within all drainage or catch basins within the active project area. Once the project is complete and stable, silt sacks should be properly removed and disposed off-site.

Maintenance: Inspect silt sack at least once per week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inch or greater. Remove the sediment deposits or install a secondary barrier of straw bales around the basins.

### 2.3.4 Straw Wattles

Straw wattles are used as an erosion control device to slow runoff velocities, entrain suspended sediments, and also promote vegetation growth until an area is stabilized. They are not generally intended for steep slopes, but rather, to stabilize low to moderate grades where there is a broad area of disturbance. They should be placed lengthwise, perpendicular to the direction of runoff. Straw wattles may also be used along small stream banks to protect areas before vegetation has stabilized the soils. The wattles are constructed from a biodegradable netting sock stuffed with straw and may be left to

biodegrade in place once a project is complete. Refer to Drawings for installation locations and specifications.

**Maintenance:** Straw wattles have limited sediment trapping capability when used alone. If sediment accumulation is noted, evaluate the need for additional measures such as hay bales or silt fencing in conjunction with the wattles.

### **2.3.5 Soil Stockpiles**

Soil stock piles are used as temporary storage for fill or excavated material. Stock piles should be surrounded by sediment fencing and straw bales as necessary. Stock piles should be located on flat surfaces far enough away from natural resources should the erosion controls fail, sediment will not enter any resources.

## **2.4 Project Operation**

The path on the Diller Property will be maintained by the Darien Parks and Recreation Department, and will be open for the general use of the public during daylight hours. One exception to public use will be when the path is used for competition, which will be one meet per year. Signage will be posted along the pathway of two general types:

- Advising users of sensitive wetlands and to stay on the path
- The portion of the path on high school property is closed during school hours.

## Section 3

### Site Features

This section provides a Site description and regulated area characterization for the project Site.

#### 3.1 General

The Site is a forested lot comprised of upland and wetland areas, located to the southwest of school grounds. The Site is bound to the north by Nutmeg Lane, to the west and south by single family residential homes along Holly Lane and Hollow Tree Ridge Road, and to the east by the High School access road.

#### 3.2 Floodplain

Based on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM) Panel Number 09001C0528G (effective date 07/08/2013) the site is located within Zone X, area of minimal flood hazard. Mapping is located in **Appendix B**.

#### 3.3 Stormwater Management

The proposed path will be placed generally flush with existing grade, and will be surfaced with crushed stone. The void space in the crushed stone will allow stormwater to infiltrate into the ground. The proposed plank walk will have gaps between planks that will allow rainwater to fall between the gaps to the ground. Therefore, the project will not have a negative impact upon stormwater discharges.

#### 3.4 Grading

No changes in surface grading are proposed. Excavation will occur with small, bobcat type machines capable to navigating through wooded environments, or by hand where inaccessible. The excavation required is to place the crushed stone path to a sufficient depth.

#### 3.5 Landscaping

No tree removals are proposed, and the path will be routed around existing trees. Tree trimming may be required to provide sufficient vertical clearance. As part of the Environmental Protection Commission application, invasive species will be removed, and native wetland species will be planted in their place.

**Tighe&Bond**

**APPENDIX A**





DARIEN HIGH SCHOOL  
 DARIEN, CONNECTICUT

DARIEN HIGH SCHOOL  
 CROSS COUNTRY TRACK  
 LOCATION MAP

DATE: 1/23/2019  
 SCALE: 1" = 250'  
 FIGURE 1  
**Tight & Bond**  
 Engineers | Environmental Specialists



**Tighe&Bond**

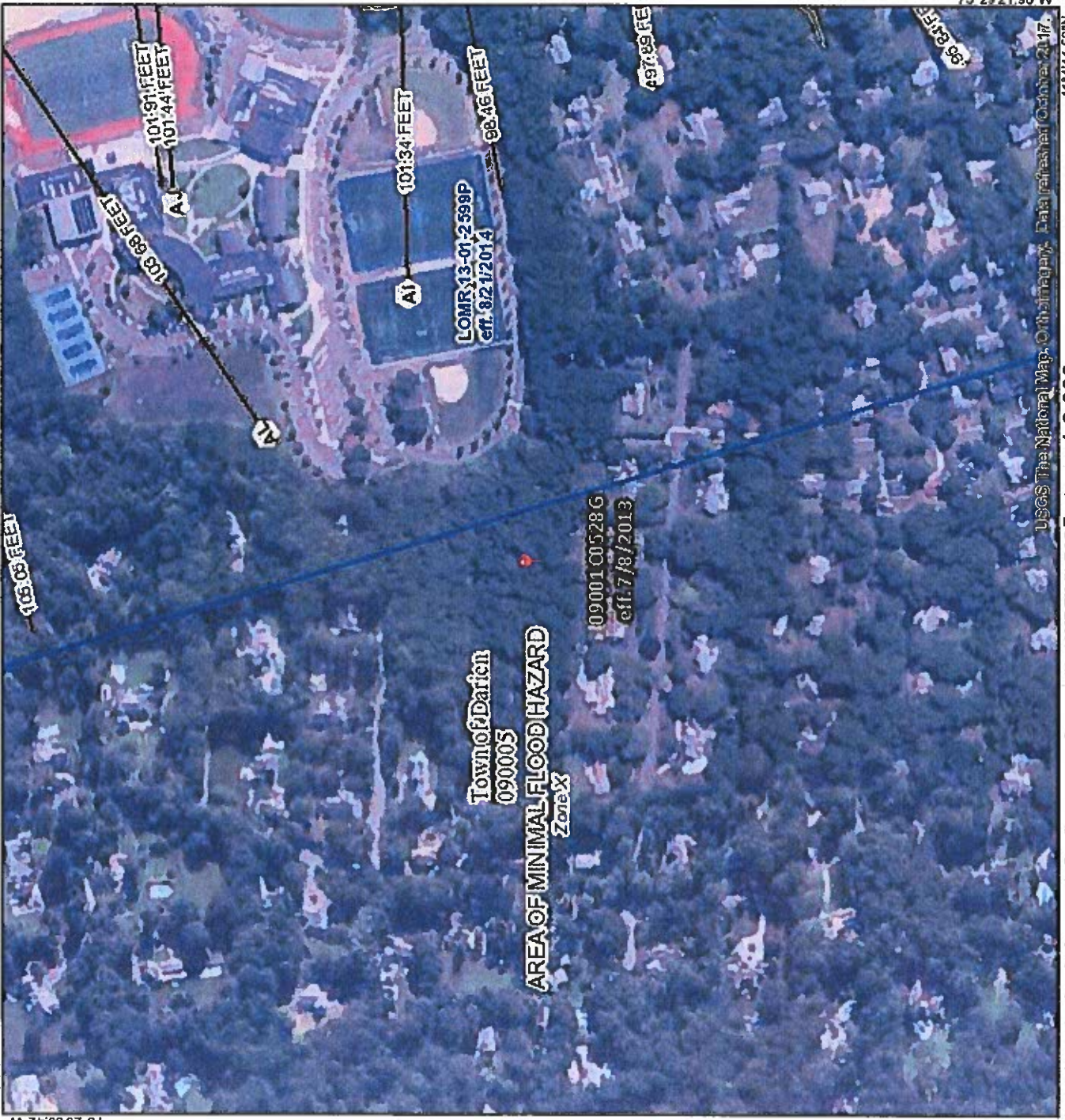
**APPENDIX B**



# National Flood Hazard Layer FIRMette



41°5'11.77"N



USGS The National Map, Orthimagery. Data refreshed October 2017. 41°4'44.59\"/>

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

**SPECIAL FLOOD HAZARD AREAS**

- Without Base Flood Elevation (BFE) Zone A, V, A99
- With BFE or Depth Zone AE, AO, AH, VE, AR
- Regulatory Floodway

**OTHER AREAS OF FLOOD HAZARD**

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
- Future Conditions 1% Annual Chance Flood Hazard Zone X
- Area with Reduced Flood Risk due to Levees, See Notes, Zone X
- Area with Flood Risk due to Levees Zone D

**OTHER AREAS**

- Area of Minimal Flood Hazard Zone D
- Effective LOMRs
- Area of Undetermined Flood Hazard Zone D

**GENERAL STRUCTURES**

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

**OTHER FEATURES**

- Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

**MAP PANELS**

- Digital Data Available
- No Digital Data Available
- Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 10/24/2018 at 12:54:20 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRMet panel number, and FIRMet effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

**Tighe&Bond**

**APPENDIX C**

Diller Property - Property Abutters

ID	Site Address	Owner Name	Co-Owner Name	Owner Address	Owner	Owner	Owner	Map	Lot
04459	55 HOLLY LANE	WOOD ERIC W &	WOOD CHRISTINE C	55 HOLLY LANE	DARIEN	CT	06820	09	134
09883	59 HOLLY LANE	BOGDAN MICHAEL D &	BOGDAN MOLLY M	59 HOLLY LANE	DARIEN	CT	06820	09	133
04693	61 HOLLY LANE	ARLEDGE DIANE		61 HOLLY LANE	DARIEN	CT	06820	09	132
08221	67 HOLLY LANE	SERVAS ROBERT C &	SERVAS KIMBERLY P	67 HOLLY LANE	DARIEN	CT	06820	09	131
07195	69 HOLLY LANE	ADILETTA MARK R - TR &	ADILETTA DARCY S - TR ET AL	69 HOLLY LANE	DARIEN	CT	06820	09	130
29035	80 HIGH SCHOOL LANE	TOWN OF DARIEN	DARIEN HIGH SCHOOL	80 HIGH SCHOOL LANE	DARIEN	CT	06820	09	80
05580	324 HOLLOW TREE RIDGE ROAD	BIJOU CRAIG &	BIJOU C BLAIR	324 HOLLOW TREE RIDGE ROAD	DARIEN	CT	06820	09	128
10942	326 HOLLOW TREE RIDGE ROAD	FAY JOHN &	FAY CHRISTINA	326 HOLLOW TREE RIDGE RD	DARIEN	CT	06820	09	128B
06316	3 NUTMEG LANE	ALLEN ERIC &	ALLEN ERIKA	3 NUTMEG LANE	DARIEN	CT	06820	09	127
05273	4 NUTMEG LANE	STEWART JAMES &	STEWART GENNIE CHEN	4 NUTMEG LANE	DARIEN	CT	06820	09	123
08243	6 NUTMEG LANE	HATFIELD DEAN C &	HATFIELD DEBORAH	6 NUTMEG LANE	DARIEN	CT	06820	09	124
10438	8 NUTMEG LANE	CALDEIRA-SARAIVA MARI	MARGARIDA AFONSO	8 NUTMEG LANE	DARIEN	CT	06820	09	125

As of January 29, 2019