
APPENDIX D

NOI NARRATIVE AND REVISIONS COVER LETTER

January 20, 2020

Mr. Philip Hamilton
Chairman Conservation Commission
1625 Massachusetts Avenue
Lexington, MA 02420

Via: Electronic Submission

Reference: Notice of Intent - DEP File# 201-1163
91 Hartwell Avenue
Lexington, Massachusetts
PFA Project No. 201-1001.00

Dear Mr. Hamilton and Commission Members,

Attached please find our revised submission prepared on behalf of the applicant Meridian Lexington Owner, LLC, for a new lab/office building and associated parking structure at 91 Hartwell Avenue. Based on the feedback we received from the Commission at our hearing on November 18, 2019, we have made significant changes to the site plan and storm drainage system. In addition, we met with the Town's Economic Development office and Town's consultant on the Hartwell Zoning Initiative and have incorporated their suggestions to extend the proposed project site improvements along Hartwell Place, as this will be the primary entrance to the redeveloped site.

A detailed description of the project and its compliance with the regulations is included within the Notice of Intent. The salient points of the proposed project include:

- This is a unique site, surrounded by wetland resource areas on three sides, and an avigation easement which limits the height of the structures proposed. As a result, a project of this scope cannot comply with the Commission's 50-foot No Structure setback. However, as discussed below, the buffer to the wetland resource area has increased significantly from its present condition.
- All parking is located above the 10-year floodplain elevation (presently 100% of the parking is within the 10-year floodplain).
- All parking (with the exception of several handicap spaces is located within a parking structure, thus eliminating a major source of stormwater pollution.
- Green space and open space will be increased on site by more than 25,000 SF

- Wetland setbacks will be improved from an average of four (4) feet from the edge of the parking lot to twenty-five (25) feet or greater.
- The proposed building meets the 25-foot setback requirement.
- Compensatory flood storage will be provided to exceed regulatory requirements thereby increasing the flood storage capacity on the property.
- In excess of 100,000 SF of paved surface parking will be eliminated.
- Stormwater Management will be improved to exceed the State and Local stormwater standards. At present stormwater discharges have little or no mitigation.
- Attenuation of the one-year storm event was accomplished through the incorporation of a blue roof and green roof on the proposed building

We have taken the Commission's constructive comments from our November 18 hearing into consideration and have spent considerable time redesigning the project. More specifically, the following outlines the revisions now shown on the site plans dated January 20, 2020 versus those previously submitted on October 29, 2019:

- The lab/office building has been removed from the 25' buffer as suggested by CC;
 - Closest offset (25.4' vs 16.9')
 - Decreases impervious surface with 25' buffer (0SF vs 1,800SF)
- The garage has been further pushed out of the 25' buffer;
 - Closest offset (22.9' vs 17.6')
 - Decreases impervious surface with 25' buffer (255SF vs 1,220SF)
- The Site Plan and Building/Parking Structure was revised reduced impervious areas within the 50' buffer (29,080SF vs 35,010SF);
- The average Open Space buffer between BVW and structures has increased (24.6' vs 32.1')
- Compensatory Flood Storage has been increased (2,190CY net increase vs 780CY net increase)
 - Largest increase btw 116-115 due to lower grades under building
- The Wetland Replication Area has been increased (6,500SF vs 6,000 SF)
- A blue roof and green roof were incorporated on the proposed building.

Under a separate application, DEP File # 201-1148, we received approval from the Lexington Conservation Commission to construct a patio on the south side of the existing 91 Hartwell Avenue structure. These improvements have been revised and now

Mr. Philip Hamilton
Project No. 201-1004.00
January 20, 2020
Page 3 of 3

incorporated into these revised plans. It is our intent that when an Order of Conditions is issued for the project (DEP File# 201-1163), we will file a Request of a Certificate of Compliance for the Patio project indicating no work took place.

As discussed with the Commission, we could arrange for a site visit at Cambridge Discovery Park (CDP). Specifically, CDP incorporates many of the same mitigation measures to comply with the WPA. It may be helpful for Commission members to observe a completed project that successfully implemented a similar design as that proposed for 91 Hartwell Avenue.

We look forward to reviewing our revised submission at your January 27 meeting.

Very truly yours,
PAUL FINGER ASSOCIATES



Paul Finger, RLA
President

cc: File

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PAUL FINGER ASSOCIATES



Notice of Intent Application

91 Hartwell Avenue
(Assessor's Map 80; Lot 10C)
Lexington, Massachusetts

October 30, 2019

1. Introduction

On behalf of the Applicant and Property Owner, Meridian Lexington Owner, LLC (c/o John Cappellano of Lincoln Property Company), LEC Environmental Consultants, Inc., (LEC) is filing this *Notice of Intent* (NOI) Application with the Lexington Conservation Commission (Commission) for the construction of a Lab/Office Building and above-ground Parking Garage with associated access drives, loading docks, utilities, walkways, stormwater management infrastructure, and a wetland replication area. The NOI Application has been completed in accordance with the *Massachusetts Wetlands Protection Act* (M.G.L. c. 131, § 40, the *Act*) and its implementing *Regulations* (310 CMR 10.00, the *Act Regulations*), and *The Code of the Town of Lexington for Wetland Protection* (Chapter 130, the *Bylaw*) and the *Rules Adopted by the Lexington Conservation Commission Pursuant to the Code of the Town of Lexington for Wetland Protection, Chapter 130* (the *Bylaw Regulations*). Portions of the proposed project are located within Bordering Land Subject to Flooding, the 100-foot Buffer Zone to BVW, and within a landscape island stormwater swale that *may* be jurisdictional under the *Act* and/or the *Bylaw* (per an *Order of Resource Area Delineation* – discussed in greater detail below in Section 3). The attached *Lexington Conservation Commission Plans to Accompany a Notice of Intent Application (Plan Set)* dated October 29, 2019, and *Lexington Conservation Commission Exhibits to Accompany a Notice of Intent Application (Exhibit Plans, Appendix C)*, dated October 28, 2019, have been prepared by Paul Finger Associates, Inc., and depict the existing and proposed site conditions and site details. The stormwater management design and attached *Stormwater Report Prepared for 91 Hartwell Avenue (Stormwater Report)*, dated October 29, 2019, have been prepared by Nitsch Engineering.

The Applicant and project team previously met and coordinated with the Commission and Conservation Agent Karen Mullins to discuss site redevelopment associated with a lab/office building and parking garage, conceptual designs, and mitigating measures, and gather the Commission's (and Agent's) initial impressions and concerns relative to such a redevelopment. Input was largely focused on the potential displacement of groundwater associated with a subsurface parking garage; placement of structures and automobiles within the 10-year floodplain; and proximity of the structures to wetlands. The proposed project addresses many of these concerns, and includes a ground-level and above-ground (only) parking garage, situating structures (and parking) above the 10-year floodplain,

increasing the distance separating the proposed structures from adjacent wetlands compared to the previous concept design iteration, and increasing the size of the wetland replication area.

The proposed project results in significant improvements over existing conditions by:

- reducing impervious surfaces including within the 25-foot, 50-foot, and 100-foot Buffer Zones;
- significantly reducing pollutant potential – particularly within the 10-year floodplain by virtually eliminating surface parking;
- improving stormwater management through the use of Best Management Practices; and,
- improving wetland functions and values by replacing a low-functioning landscape island stormwater swale within a mowed, parking lot landscape island with a 6,000± square-foot Wetland Replication Area containing native woody and herbaceous plants.

This report provides a general site description, a description of the Wetland Resource Areas, proposed work, mitigating measures, and regulatory performance standards.

2. General Site Description

The approximately 15± acre Site is located west of Hartwell Avenue, south of Maguire Road, north of Hartwell Place, and east of the Bedford/Lexington Municipal boundary, within the northwestern portion of Lexington, Massachusetts. Commercial development associated with Hartwell Avenue, Hartwell Place, and Maguire Road generally surrounds the Site to the north, east, and south, while Hanscom Air Force Base is located to the west.

Roughly the eastern half of the Site is developed, containing a 3-story, brick office building surrounded by lawn and landscaped areas, and 395 paved parking spaces - all of which are within the 100-year floodplain, and the vast majority of which are within the 10-year floodplain. Paved Site access extends from Hartwell Avenue and Hartwell Place, including internal paved parking access. Stormwater swales occur within existing lawn areas adjacent to the building and within the landscape islands. One of these stormwater swales, located within a landscape island north of the existing structure, *may* qualify as a

jurisdictional wetland under the *Act* and/or the *Bylaw*. Forested uplands and wetlands generally surround the developed portions of the Site, with forested wetlands extending off-site to the north and west. Site topography is generally flat, and the majority of the Site is located within the 100-year and 10-year floodplains. Please refer to the *Floodplain Exhibit – Exist. Conditions Plan* in the *Exhibit Plans* (Appendix C). The dark blue area represents the extent of 10-year floodplain, while the lighter blue represents the extent of 100-year floodplain. Moderate to steep slopes descend from portions of the existing development toward the adjacent BVW, while other on-site transitional topography is more gradual.

In total, the Site contains 1.63± acres of impervious area, including structures, pavement, and concrete; and 5.84± acres of open space. Within the 25-foot Buffer Zone, the site contains 33,360± square feet (0.765± acres) of impervious area, and the 50-foot Buffer Zone contains 71,550± square feet (1.64± acres). Please refer to the attached *Impervious Area Ex. Conditions Plan* in the *Exhibit Plans* (Appendix C) for a visual depiction of these 25-foot and 50-foot Buffer Zones.

2.1

Natural Heritage and Endangered Species Program Designation

According to the 14th edition of the *Massachusetts Natural Heritage Atlas* (effective August 1, 2017) published by the Natural Heritage & Endangered Species Program (NHESP) and the MassGIS data layer, no areas of Estimated or Priority Habitat for Rare Wildlife or Certified Vernal Pools exist on the Site (Appendix A, Figure 3).

3.

Wetland Resource Areas

The Wetland Resource Areas associated with the Site include BVW and BLSF, as described below. LEC filed an *Abbreviated Notice of Resource Area Delineation* (ANRAD) with the Commission on September 25, 2018, and the Commission issued an *Order of Resource Area Delineation* (ORAD, DEP File #: 201-112, Bylaw File #: 1070, Appendix B) on December 10, 2018. The *ORAD* discusses the landscape island stormwater swale, stating the following in Section B, on page 2A of 4 of the *ORAD*:

- i. *The portion of the drainage swale containing wetland plants may be jurisdictional under the WPA and the Bylaw.*
- ii. *The remaining portion of the drainage swale containing grass vegetation may be jurisdictional under the Bylaw only.*

As described in the ANRAD documents, the drainage swales located within the parking lot islands appear to have been constructed as part of the original Site development, which likely occurred in the early 1980s based on the OOC extension date and available aerial imagery. The drainage swales currently function to convey stormwater from the adjacent parking lot to wetlands located north of the development, and presumably have been maintained as drainage swales since they were created. While the drainage swales may not have been “*designed, constructed, installed, operated, maintained, and/or improved as defined in 310 CMR 10.04 in accordance with the Stormwater Management Standards,*” the swales were designed, constructed, installed, operated, maintained, and/or improved as stormwater management features prior to such requirements in the *Act* and *Act Regulations*, and appear to have been constructed within uplands based on the available record. Accordingly, it seems reasonable and logical for these swales to be protected as stormwater management features that are not be protected as jurisdictional wetlands under the *Act* and/or the *Bylaw*.

Notwithstanding the above, and in an effort to move the project through the permitting process, LEC is treating the 1,885± square foot landscape island drainage swale containing wetland plants as jurisdictional under the *Act* and the *Bylaw* for the purposes of this NOI Application.

3.1 **Bordering Vegetated Wetlands (BVW)**

According to the *Act Regulations* [310 CMR 10.55(2)(a)], Bordering Vegetated Wetlands (BVW) are *freshwater wetlands which border on creeks, rivers, streams, ponds, and lakes where the soils are saturated and/or inundated such that they support a predominance of wetland indicator plants.*

According to the *Bylaw* (Chapter 130-8, C), the terms “*marsh,*” “*freshwater wetland,*” “*swamp,*” “*wet meadow*” and “*bog*” as used in this by-law shall be defined as set forth in *M.G.L. Chapter 131, Section 40 and its regulations 310 CMR 10.04. Said resource areas shall be protected whether or not they border surface waters. The boundary of these wetlands is either the line within which 50% or more of the vegetation community consists of wetland plant species identified in M.G.L. Chapter 131, Section 40 or the line within which the soil conditions meet the technical criterion of a hydric soil as developed and revised by the National Technical Committee for Hydric Soils, whichever line or segment of line protects more wetlands in situations where two lines exist. [Amended 4-8-2002 ATM by Art. 22].*

Forested wetlands are located immediately north and west of the parking lot, and adjacent to the access drives extending from both Hartwell Avenue and Hartwell Place, with portions of the forested wetland transitioning to emergent marsh along the northern side of the parking lot. Additional forested wetlands are located within a topographic depression south of the Hartwell Avenue access drive and east of the building. This topographic depression is hydraulically connected to the northerly wetland via a 24-inch reinforced concrete pipe (RCP) roughly extending between LEC wetland flags 78 and 8. These wetlands border an unnamed perennial stream located roughly 300 feet west of the western property boundary.

The forested wetland contains a canopy dominated by red maple (*Acer rubrum*), with individual patches of gray birch (*Betula populifolia*), and individuals of eastern white pine, tupelo (*Nyssa sylvatica*), and willow (*Salix* sp.). The understory contains patches of European buckthorn, northern arrowwood (*Viburnum dentatum*), and sweet pepperbush (*Clethra alnifolia*), with individual patches of hazelnut (*Corylus* sp.) and highbush blueberry (*Vaccinium corymbosum*), and individual saplings from the canopy and sapling catalpa (*Catalpa speciosa*), bayberry (*Morella pensylvanica*), multiflora rose (*Rosa multiflora*), silky dogwood (*Cornus amomum*), and speckled alder (*Alnus incana*). The groundcover contains patches of cinnamon fern (*Osmunda cinnamomea*), sensitive fern, and poison ivy, with individual patches of New York fern (*Thelypteris noveboracensis*), royal fern (*Osmunda regalis*), rough stem goldenrod (*Solidago rugosa*), joe-pye weed (*Eutrochium* sp.), purple loosestrife (*Lythrum salicaria*), and individuals of lurid sedge (*Carex lurida*), grasses, and seedlings from the canopy. Common reed (*Phragmites australis*) vegetates the emergent marsh located north of the parking lot, roughly between LEC flagging stations 26 and 34.

LEC inspected soil conditions within the wetland and generally observed a 4-inch thick, mucky loamy coarse sand (A horizon) with a soil matrix color of 10YR 2/1.

Redoximorphic concentrations (10YR 6/6) and depletions (10YR 6/1) were observed within the A horizon. The topsoil is underlain by a 16-inch thick, fine sandy loam, weathered subsoil (B_w horizon) with a soil matrix color of 2.5Y 5/3 and redoximorphic concentrations with a color of 10YR 6/4. The observed wetland soil profiles are considered 'hydric' according to the *Field Indicators Guide*.

The landscape island drainage swale is located north of the existing structure, within the northern landscape island associated with the parking lot. This portion of the drainage swale measures 1,885± square feet and contains herbaceous wetland plants and hydric

soil indicators. While constructed as part of the site development for stormwater management, the drainage swale exhibits wetland characteristics that the Commission has determined *may* be jurisdictional under the *Act* and the *Bylaw*. Accordingly, for the purposes of this NOI Application, LEC is presuming this *Act* and *Bylaw* jurisdiction exists. Wetland functions and values associated with this drainage swale are largely limited to flood control and storm damage prevention.

3.2 **Bordering Land Subject to Flooding**

Bordering Land Subject to Flooding (BLSF) is defined in the *Act Regulations* [310 CMR 10.57 2a)] as *an area with low, flat topography adjacent to and inundated by flood waters rising from creeks, rivers, streams, ponds or lakes. It extends from the banks of these waterways and water bodies; where a bordering vegetated wetland occurs, it extends from said wetland.*

According to *the Bylaw* (section 130-8, C.), “bordering land subject to flooding” shall be defined as set forth in the regulations 310 CMR 10.04 of M.G.L. Chapter 131, Section 40, so the above definition prevails.

According to the July 6, 2016 *Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM)* for Middlesex County, Massachusetts (Community Panel Number: 25017C0384F), FEMA Flood Profile Data, and topographic survey by Precision Land Surveying, Inc., the majority of the Site is located within Zone AE (Elevation 118.5 NAVD88): *Special Flood Hazard Areas (SFHAs) subject to inundation by the 1% annual chance flood, Base Flood Elevations Determined*. The adjacent land is located within Zone X [unshaded] - *Areas determined to be outside of the 0.2% annual chance floodplain* (Appendix A, Figure 2). The 10-year floodplain elevation is 117.25 NAVD88.

4. **Proposed Activities**

The Applicant proposes to construct a Lab/Office Building with a footprint of 45,200± square-feet and a Parking Garage with a footprint of 42,800± square-feet, along with associated access drives, loading docks, utilities, walkways, stormwater management infrastructure, and a wetland replication area. The project as a whole reduces impervious surface associated with the project area by 0.52 acres, or roughly 17.5%. The majority of the site redevelopment is located within BLSF (comprised of existing parking and lawn

areas), and within the footprint of the landscape island stormwater swale. Work also is proposed within the 100-foot Buffer Zone.

As described above in the Introduction (Section 1), the project results in significant improvements compared to existing conditions by: reducing impervious surfaces, including within the 25-foot, 50-foot, and 100-foot Buffer Zones; significantly reducing pollutant potential – particularly within the 10-year floodplain by virtually eliminating surface parking (3 handicap parking spaces only); improving stormwater management through the use of Best Management Practices; and improving wetland functions and values by replacing the low-functioning landscape island stormwater swale with a high-functioning, 6,000± square-foot Wetland Replication Area containing native woody and herbaceous plants.

The *Exhibit Plan Set* showcases many of these improvements. For example:

- impervious surface within the 25-foot No Disturbance Zone is reduced by roughly 83% from 33,360± square feet to 5,860± square feet;
- impervious surface within the 50-foot Buffer Zone is reduced by 51% from 71,550± square feet to 35,010± square feet;
- The project meets the requirements under the *Act* and *Bylaw* for compensatory flood storage; and
- Stormwater management is dramatically improved compared to existing conditions.

4.1

Lab/Office Building

The Lab/Office Building (Building) with a footprint of 45,200± square feet is proposed within the northern portion of the existing Site development, within the footprint of existing paved parking, adjacent lawn areas and landscape islands, and within the landscape island drainage swale. While the Lab/Office Building is located farther from the BVW compared to the existing pavement, roughly 4% (1,800± square feet) remains within the 25-foot Buffer Zone. An 18-foot wide Emergency Access drive comprised of reinforced lawn is proposed off the rear of the Building (eastern portion), while a 30-foot wide Emergency Access space is provided between the Lab/Office Building and the adjacent Parking Garage. Maintenance access is proposed behind the remainder of the Building. This maintenance access strip will be seeded with a native conservation/wildlife mix and mowed once annually.

The horizontal support structures for the Building will be elevated, via concrete piles, at elevation 119.5 NAVD88, a minimum of 1 foot above the base flood elevation (Elevation 118.5 NAVD88), while the first floor elevation will be set at Elevation 123 NAVD88. The primary lobby entrance is proposed within the central portion of the southern Building façade, and two loading docks are proposed within the southwestern and southeastern building corners. These entrance/egress points require floodplain displacement in order for ground-level and truck dock access, but will occur above the 10-year flood elevation of 117.25 NAVD88. Compensatory flood storage is proposed for the BLSF displacement associated with the Lab/Office Building as further detailed below in Section 6.1, while Wetland Replication is proposed for the filling of the landscape island drainage swale as further detailed below in Section 6.2.

4.2

Parking Garage

The Parking Garage (Garage) has a footprint of 42,800± square-feet and is proposed within the northwestern portion of the existing Site development, within the footprint of existing paved parking, adjacent lawn areas and landscape islands. The Garage will provide one level of parking at grade, and an interior ramp system providing access to three levels of above-ground parking. A lobby/entrance is proposed at the southeastern Garage corner. While the Garage is located farther from the BVW boundary compared to the existing pavement, roughly 1,220 square feet (or 2.85%) of the Garage are proposed within the 25-foot Buffer Zone. Maintenance access is proposed north and west of the Garage, which will be seeded with a native conservation/wildlife mix and mowed once annually.

While the Garage is located within BLSF, the ground level of the Garage has been set slightly above the 10-year floodplain at Elevation 117.5 NAVD88. Compensatory flood storage is proposed for the BLSF displacement associated with the Garage, as further detailed below in Section 5.3.

4.3

Site Access, Walkways, Utilities, and Appurtenances

Primary site access is proposed via Hartwell Place located south of the Site. The existing paved driveway extending from the Hartwell Place *cul-de-sac* will be re-aligned to access the Garage entrance. A second paved drive (extending easterly from the primary site access drive as described above), will provide access (and turn-around access) to the loading dock located at the Building's southwest corner. A 12-foot wide, pervious pavement emergency truck access drive extends from just south of the Lobby Entrance

easterly toward Hartwell Avenue. Three feet of reinforced lawn will be established on either side of the porous pavement, and will provide access to the loading dock at the Building's southeastern corner.

American Disabilities Act (ADA)-compliant concrete walkways ranging from 5 to 10 feet wide are proposed to provide a campus style connection between the existing building entrances, proposed Office/Lab Building Lobby/Entrance, and the Parking Garage Lobby.

Utilities, including water, gas, and fire protection will be connected to existing infrastructure located beneath Hartwell Avenue via trenching and conduits installed within paved areas extending from the eastern truck dock and emergency truck access. Sewer will connect from the Garage to the Lab/Office Building, and from the Lab/Office Building around the eastern side of the existing building to existing sewer infrastructure beneath Hartwell Place.

5. Mitigation Measures

The Applicant intends to provide erosion controls during construction, provide stormwater management to mitigate for the stormwater run-off resulting from the proposed impervious areas, and wetland replication for the alteration of the landscape island drainage swale. A description of each of these mitigating measures is provided below.

5.1 Erosion and Sedimentation Control

The Applicant proposes to implement an erosion control program to protect adjacent resource areas from sedimentation during construction activities. The plan for the control of potential impacts to the adjacent Wetland Resource Areas is based on DEP guidelines, and will be comprised of a staked compost filter sock surrounding the work footprint. All barriers will remain in place until disturbed areas are stabilized by vegetation. A stabilized stone construction entrance measuring roughly 28 feet wide and 50 feet long will be established at the site construction entrance from the Hartwell Place *cul-de-sac*. Catch basin silt sacs will be installed, as needed, within down-gradient catch basins within the property and along Hartwell Place. Prior to construction, the Applicant will provide a copy of the Stormwater Pollution Prevention Plan (SWPPP) to the Commission. Weekly erosion control monitoring reports, as required under the National Pollutant Discharge Elimination System (NPDES), also can be provided to the Commission during construction.

5.2

Stormwater Management

Nitsch Engineering has designed a comprehensive stormwater management system for the run-off generated by the proposed structures and impervious areas. Since the Estimated Seasonal High Groundwater Table (ESHGWT) is within only a few feet of the land surface, and considering the Site limitations related to work within BLSF, traditional stormwater infrastructure, including catch basins, water quality inlets, etc., are not options for this project. Accordingly, the stormwater design relies more on overland flow to direct surface water to a series of wet basins for stormwater treatment prior to discharge. Specifically, downspouts for the Garage and Lab/Office Building will direct roof run-off to level spreaders (details provided on *Utility Details #2 Plan* of the *Plan Set*). Stormwater then flows overland toward the Stormwater Treatment Areas (Wet Basins 1 through 4). Similarly, stormwater run-off from the proposed internal access roadway, walkways, etc., also flows toward the wet basins for treatment prior to discharge. Generally, stormwater from the eastern portion of the Site is directed to Wet Basins 1 and 2, and eventually discharges toward the BVW located within the northeastern portion of the Site, while stormwater from the western portion of the Site is directed to Wet Basins 3 and 4, and eventually discharges to the Wetland Replication Area proposed within the southwestern portion of the Site. As depicted on the *Planting Plan* of the *Plan Set*, the wet basins will be planted with a variety of native herbaceous plugs, with native woody vegetation installed along the tops of the slopes. These plantings will contribute to pollutant attenuation and provide wildlife habitat, and will be replaced following sediment removal required for long-term wet basin maintenance. Details of the stormwater design and associated calculations are shown on the *Plan Set* (Appendix B) and are provided in the attached *Stormwater Report*.

5.3

Wetland Replication

A 6,000± square-foot Wetland Replication Area (WRA) is proposed within the southwestern portion of the Site. The intent of this WRA is to mitigate for alteration of the 1,885± square-foot landscape island drainage swale, and for the work within the Buffer Zone. LEC anticipates the WRA will significantly improve the Site's ability to contribute to the wetland interests identified in the *Act* and *Bylaw*. Below is an overview of the materials and methods to be applied to the creation of the 6,000± square-foot WRA.

5.3.1

Installation of Siltation/Erosion Control Devices

Siltation devices comprised of staked compost filter tubes will be installed along the BVW boundary roughly between LEC BVW flags 46 and 58. This siltation barrier will

remain in place until all proposed restoration activities have been completed and all areas have been stabilized by vegetation.

5.3.2 **Preparation of Replacement Area**

Preparing an area for wetland creation for this project involves the following activities: removal of existing pavement, aggregate, and soil; excavation to appropriate sub-grades; and introduction of organic soils. Following removal of existing pavement and aggregate, the replacement area will be excavated. Heavy equipment will be used to excavate to a sub-grade elevation approximately one foot below the adjacent BVW (roughly Elevation 113.5). A wetland scientist will be present to monitor and supervise this excavation effort in order to ensure that appropriate subgrades are established and groundwater hydrology is intercepted.

5.3.3 **Introduction of Hydric Soil**

Following the creation of the sub-grade, the area will be back-filled with approximately 1 foot of wetland soils. The wetland soils will be established by mixing the topsoil excavated from the wetland replication area with leaf compost at a roughly 1:1 ratio, resulting in a wetland soil with a minimum of 20% organic content. Final grades are proposed to be similar to those within the adjacent BVW.

5.3.4 **Interception of Hydrology**

Successful establishment of the appropriate surficial wetland hydrology is proposed to be achieved by reducing existing surficial elevations and intercepting ground water within the adjacent BVW. The proposed excavation activities will be supervised by a qualified wetland scientist to ensure establishment of appropriate sub-grades and, ultimately, the desired hydrologic regime.

5.3.5 **Re-Vegetation of Replacement Area**

In order to re-establish the forested wetland plant community of the lost wetland area, the Applicant will install a variety of native, hydrophytic sapling trees, shrubs, and ferns in accordance with the *Planting Plan*.

5.3.6 **Monitoring and Stewardship**

The success of the proposed wetland restoration and replacement activities will be monitored for two years by a qualified field biologist to ensure compliance with 310 CMR 10.55 (4) (b) 6. The Lexington Conservation Commission will be provided with annual reports documenting the health and vigor of the WRA. These reports will, at a minimum, provide data on the species composition of plants within the WRA, their

relative abundance, representative site photographs, and the percentage of exotic species. Furthermore, additional introduction of vegetation will be conducted should the biologist deem it necessary due to plant mortality. These activities are intended to encourage the establishment of native wetland plant community. All necessary maintenance activities will be clearly summarized in each of the monitoring reports.

Site evaluations and reports will cease following the completion of two growing seasons. At this time, the Lexington Conservation Commission will be invited to review the success of the re-vegetation process. LEC anticipates the achievement of 75% cover of the proposed wetland replacement area by indigenous wetland species by this time and the Commission will be requested to issue a Certificate of Compliance.

6. Regulatory Compliance

The *Act Regulations* provide specific performance standards for work within BVW, and BLSF. Pertinent citations of the regulatory performance standards and the project's compliance with said standards and the *Policy* are provided below.

6.1 Bordering Vegetated Wetlands Performance Standards

(1) *The surface of the replacement area to be created ("the replacement area") shall be equal to that of the area that will be lost ("the lost area"):*

The Applicant proposes to alter the 1,885± landscape island drainage swale with the construction of the Lab/Office Building. A 6,000± square-foot WRA is proposed within the southwestern portion of the Site, resulting in a >3:1 ratio of wetland replication to alteration.

(2) *Ground water and surface elevation of the replacement area shall be approximately equal to that of the lost area:*

The WRA is located immediately adjacent to the existing BVW, and final elevations within the WRA will approximate those within the adjacent BVW. Therefore, groundwater and surface elevation of the replication area will approximate this of the lost area.

(3) *The overall horizontal configuration and location of the replacement area with respect to the bank shall be similar to that of the lost area:*

The proposed WRA is situated along the same BVW as the landscape island drainage swale.

- (4) *The replacement area shall have an unrestricted hydraulic connection to the same water body or waterway associated with the lost area:*

The WRA is located immediately adjacent to the same BVW system, resulting in an unrestricted hydraulic connection.

- (5) *The replacement area shall be located within the same general area of the water body or reach of the waterway as the lost area:*

The WRA is located within several hundred feet of the landscape island drainage swale.

- (6) *At least 75% of the surface of the replacement area shall be reestablished with indigenous wetland plant species within two growing seasons, and prior to said vegetative re-establishment any exposed soil in the replacement area shall be temporarily stabilized to prevent erosion in accordance with standard U.S. Soil Conservation Service methods:*

LEC anticipates re-establishment of a native wetland plant community within the WRA through replanting with native saplings, shrubs, and herbaceous plugs. LEC anticipates that the Conservation Commission will require a 2-year monitoring program to ensure compliance with the above statute.

- (7) *The replacement area shall be provided in a manner which is consistent with all other General Performance Standards for each resource area in Part III of 310 CMR 10.00:*

The proposed wetland restoration complies with all other General Performance Standards for resource areas located on the Site.

6.2

Bordering Land Subject to Flooding Performance Standards

The *Act Regulations* at 310 CMR 10.57 (4) state that *work within BLSF shall conform to the following criteria:*

- (a) *Bordering Land Subject to Flooding*

- (1) *Compensatory storage shall be provided for all flood storage volume that will be lost as a result of the proposed work.*

Compensatory flood storage is provided for all lost flood storage volume. The project results in an increase of flood storage capacity, as detailed on the *Floodplain Exhibit – Exist. Conditions Plan* and the *Floodplain Exhibit – Prop. Conditions* included in the *Exhibit Plans*. Nitsch Engineering is currently

working on a revised floodplain table that provides the specific volumes of fill and compensatory flood storage for each incremental floodplain elevation.

- (2) *Work within BLSF...shall not restrict flows so as to cause an increase in flood stage or velocity.*

No such flow restrictions or increase in flood stage or velocity will result as part of the proposed project.

- (3) *within BLSF shall not impair its capacity to provide important wildlife habitat functions.*

According to the BLSF Preamble at 310 CMR 10.57 (1) (a) 3:

Certain portions of Bordering Land Subject to Flooding are also likely to be significant to the protection of wildlife habitat. These include all areas on the ten year floodplain or within 100 feet of the bank or bordering vegetated wetland (whichever is further from the water body or waterway, so long as such area is contained within the 100 year floodplain), and all vernal pool habitat on the 100 year floodplain, except for those portions of which have been so extensively altered by human activity that their important wildlife habitat functions have been effectively eliminated (such "altered" areas include paved and graveled areas, golf courses, cemeteries, playgrounds, landfills, fairgrounds, quarries, gravel pits, buildings, lawns, gardens, roadways (including median strips, areas enclosed within highway interchanges, shoulders, and embankments), railroad tracks (including ballast and embankments), and similar areas lawfully existing on November 1, 1987 and maintained as such since that time).

The portion of land located within BLSF is “altered” and is therefore not significant to the protection of wildlife habitat.

- (b) Protection of Rare Wildlife Species

- (1) *Notwithstanding the provisions of 310 CMR 10.57(4)(a) or (b), no project may be permitted which will have any adverse effect on specified wildlife habitat sites of rare vertebrate or invertebrate species.*

The Site is not located within Estimated Habitat of Rare Wildlife or Priority Habitat of Rare Species (see Section 2.1, above).

6.3

Bylaw Waiver Requests

Section 9 of the *Rules Adopted by the Lexington Conservation Commission Pursuant to the Code of the Town of Lexington for Wetland Protection, Chapter 130* (the *Bylaw Regulations*), discusses *Waiver of Regulations*, stating that: *Strict compliance with these rules and regulations may be waived when, in the judgement of the Conservation Commission, such action would serve a substantial public interest or when strict compliance would result in severe economic hardship far greater in magnitude than the public interest to be served. In the latter case, the Commission may require that compensatory or mitigating measures be taken, even at an offsite location, to protect the public interest in the Protected Resource Area to be removed, filled, dredged, built upon, or altered.*

The Applicant seeks waivers for two sections of the *Bylaw Regulations*, including Section 5(3) *Structures in Floodplain*, and Section 5(5) *Buffer Zone*.

Section 5(3) *Structures in Floodplain*, states: *No building of any kind, and no parking lot or any other facility for the temporary or permanent storage of automobiles, trucks, or other material shall be located below the 10-year flood level.*

Commentary: Buildings located within floodplains, despite reasonable precautions during their design, may be seriously damaged by floodwaters and objects borne by these waters. Access to such structures in periods of flood is hazardous but may be attempted for the protection of life or property. Floodproofing may fail during such periods, and materials stored in these structures, including potentially hazardous pollutants, may be released to floodwaters. Parking lots and other temporary storage facilities located within floodplains may cause harm to the interests identified in the Code in several ways. Oil, gasoline, grease, sand, salt, and other pollutants commonly found on parking lot surfaces will be swept into nearby wetlands by flood waters. Vehicles and other materials occupy space that otherwise would be available for flood storage, thereby increasing the severity of flooding elsewhere. Automobiles and other materials stored in such areas will be damaged by the rising floodwaters, causing economic loss, and attempts to prevent such loss during periods of flood may lead to injury and loss of life. Materials stored in such areas may be carried away by floodwaters and may block culverts and other constrictions, thereby increasing the severity of localized flooding.

As described above, the Site currently contains 395 paved surface parking spaces, all of which are within the 100-year floodplain, and most of which are located within the 10-year floodplain. The proposed Garage eliminates all surface parking (except three handicap parking spaces that need to be located closest to the front entry of the buildings) and all of the parking within the 10-year floodplain. The Garage also elevates most of the proposed parking above the 100-year floodplain elevation. Further, the Applicant proposes to implement a Vehicle Evacuation Program in the event a 10-year or greater statistical storm event is forecast. This program takes into consideration the delay time between precipitation and rising flood waters, allowing time for vehicle owners and, if necessary, tow trucks, to remove the vehicles from the Site well in advance of such flooding should it occur. This effort significantly reduces the pollutant potential that currently exists at the site, with much of the parking lot located at or below the 10-year floodplain, and no program for evacuating vehicles in the event of a forecast 10-year or larger statistical storm event under existing conditions.

Section 5(5) *Buffer Zone* states:

A. New Construction

1. *No setbacks for structures necessary for upland access where reasonable alternative access is unavailable, for wetland dependent structures such as drain outfalls, weirs, etc. and for underground utilities.*
2. *25 feet - 100 feet for roads, driveways, retaining walls.*
3. *50 feet - 100 feet for all other structures: residential and commercial buildings, garages, parking lots, decks, etc.*
4. *100 feet plus for underground storage of gasoline, oil or other fuels and hazardous materials*

B. Existing Structures

Properties presently not in compliance with the above will not be permitted to increase their degree of non-conformance, e.g., owners of a house currently 35 feet from the wetlands edge can build an addition that maintains a 35-foot setback, but not one that has a 30-foot setback.

C. Site Development and Landscaping

1. *Of contiguous land within the 100-foot buffer zone, construction activities can disturb no more than 50% or the amount not presently supporting a natural community, whichever is greater.*
2. *Within 25 feet of a wetland a critical edge shall be required where:*
 - a. *there shall be no clearcutting of trees and surface vegetation, only selective thinning of trees to a spacing of not more than 20 feet;*
 - b. *brush may be topped to a height of three feet or replaced with a more desirable species;*
 - c. *areas disturbed by construction must be planted with a continuous groundcover requiring no fertilizers or pesticides for maintenance.*
3. *Critical edge may be waived to provide access to bodies of water.*

Commentary: Past experience has shown that construction within these buffer zones is very likely to cause significant harm to the interests sought to be protected by the General Code for Wetland Protection. The Conservation Commission will therefore not approve any smaller buffer zone unless it is persuaded by clear and convincing evidence that the smaller buffer zone will secure the protection of those interests.

As described above and depicted on the *Plan Set*, the existing pavement along the northern parking lot edge measures only several feet from the BVW boundary. The proposed Garage and Building largely meet the 25-foot Buffer Zone setback, with only minor encroachments into this zone due to the proposed layouts and architectural design. The land between the Building and Garage and the BVW boundary will be vegetated open space – a significant improvement over existing conditions.

While the Garage and Building are located within the 50-foot Buffer Zone, the project must also comply with Federal Aviation Administration (FAA) height restrictions associated with the adjacent Hanscom Field, and balance the long-term financial considerations associated with constructing the Garage and the available rental space in the Building.

The proposed redevelopment balances the protection of Wetland Resource Areas, and significantly contributes to the protection of the interests identified in the *Act* and the *Bylaw* by: reducing impervious area associated with the project area by 0.52 acres, or roughly 17.5%, including an 83% reduction of impervious area within the 25-foot

Buffer Zone and 51% decrease in impervious area within the 50-foot Buffer Zone; increasing the distance between the development and the adjacent Wetland Resource Areas; significantly reducing the current pollutant potential associated with surface parking at or below the 10-year floodplain; providing an improved stormwater management design; and providing a 6,000 square-foot Wetland Replication Area. Accordingly, the Applicant is requesting Waivers from Sections 5(3) and 5(5) of the *Bylaw Regulations*.

7. Summary

On behalf of the Applicant, Meridian Lexington Owner, LLC (c/o John Cappellano), LEC is filing this NOI Application with the Lexington Conservation Commission for the construction of a Lab/Office Building and above-ground Parking Garage, with associated access drives, loading docks, utilities, walkways, stormwater management infrastructure, and a Wetland Replication Area. The NOI Application has been completed in accordance with the *Act* and the *Act Regulations* and the *Bylaw*.

Portions of the proposed project are located within BLSF, the 100-foot Buffer Zone to BVW, and within a landscape island drainage swale that *may* be jurisdictional as BVW under the *Act* and the *Bylaw*. The Applicant proposes erosion controls, stormwater management, compensatory flood storage, and wetland replication as part of the project in accordance with the standards provided under the *Act* and the *Bylaw*. Waivers are requested under the *Bylaw* for three handicap parking spaces within the 10-year floodplain, and for work within the 25 and 50-foot Buffer Zones.

The project proposed herein results in significant improvements over existing conditions by: reducing impervious areas associated with the project area, including significant reductions within the 25-foot and 50-foot Buffer Zones; significantly reducing pollutant potential – particularly within the 10-year floodplain by virtually eliminating surface parking; improving stormwater management through the use of Best Management Practices in accordance with DEP and Lexington standards; and improving wetland functions and values by replacing a low-functioning wetland within a mowed, parking lot landscape island with a 6,000± square-foot Wetland Replication Area containing native woody and herbaceous plants. Accordingly, the Applicant requests that the Commission issue an Order of Conditions approving the project as proposed herein.

Lexington Conservation Commission, *Code of the Town of Lexington General By-Law for Wetland Protection* (Chapter 130, Bylaw). Town of Lexington, Massachusetts.

Massachusetts Department of Environmental Protection, Division of Wetlands and Waterways 1995. *Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act, A Handbook*. 89 pp.

Massachusetts Department of Environmental Protection, Bureau of Resource Protection, Wetlands and Waterways Division. March 2002. *Massachusetts Inland Wetland Replication Guidelines*. 35 pp.

Massachusetts Natural Heritage and Endangered Species Program Atlas of Estimated Habitat of State-listed Rare Wetlands Wildlife. Natural Heritage & Endangered Species Program, Massachusetts Division of Fisheries & Wildlife, Route 135, Westborough, MA 01581, www.state.ma.us/dfwele/dfw. August 2017.

Massachusetts Wetlands Protection Act (M.G.L. c. 131, §. 40), www.state.ma.us/dep Massachusetts Wetlands Protection Act Regulations (310 CMR 10.00 & 310 CMR 10.58 (2) (a) 1.d.), www.state.ma.us/dep

National Flood Insurance Program, Federal Emergency Management Agency Flood Insurance Rate Map, Middlesex County, Massachusetts. July 6, 2016 (Community Panel Number 25017C0384F).

New England Hydric Soils Technical Committee, *Field Indicators for Identifying Hydric Soils in New England*, Version 4, May 2017.

NRCS Web Soil Survey. <http://websoilsurvey.nrcs.usda.gov/app/websoilsurvey.aspx>