Prepared for:
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Everett, Massachusetts

Wetland Report

Proposed Lowe's Home Center
Salem, Massachusetts

AECOM
July 2009
Document No.: 10544-003

AECOM

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1.0 Introduction

Lowe's Home Centers, Inc. is proposing the construction of a 153,063± square foot (sf) retail store including a 31,204± sf garden center on an approximate 12.4 acre site on Highland Avenue (Route 107) in Salem, Massachusetts. Figures 1A and 2A show the site location on a USGS Map and an Aerial Site View, respectively.

The project is proposed on land currently owned by Camp Lion and the City of Salem. The Lowe's site will be located on land owned by Camp Lion and the City. Figure 3, the Existing Conditions Plan shows the existing property ownership and site features.

The portion of the Site that is currently owned and occupied by Camp Lion contains structures and an access driveway that support a summer day camp. The Project includes improvements to the Camp facilities and the realignment of the existing driveway. Lowe's will be responsible for preparing rough graded, stabilized areas in support of the future construction of a 9,900± sf building, 50 parking spaces, a pool area, and a recreation field. The improvements will be constructed by the Camp at a future date.

The City of Salem owned parcel will become part of the Lowe's property. The City will be provided a portion of the existing Camp Lion property to construct a municipal water tower. Construction of the water tower will be coordinated with the overall project construction schedule. Access to the tower parcel will be provided through the project site.

The project, as proposed, will impact and replicate a section of Bordering Vegetated Wetland (BVW) and associated intermittent stream. The following sections describe the site including existing wetland resource areas, impacts within the project corridor, and replication measures for the intermittent stream and associated Bordering Vegetated Wetlands. A Detailed Wildlife Habitat Evaluation will also be provided on the site, as required by the Massachusetts Wetlands Protection Act (M.G.L. Ch. 131 § 40) under the Notice of Intent submittal process for impacts over the 50-linear feet of Bank impact threshold. The appendix to this report includes the information on the Abbreviated Notice of Resource Area Delineation that was performed on the impacted wetland resource location. The additional sections describe all work proposed within State and Federal regulated wetland resource areas and mitigative measures.

2.0 Existing Environment

The site currently has an access road to an existing Camp Lion facilities that includes a main office building, recreation building, swimming pool and associated lawn and parking areas. The access road is also used for the maintenance of an existing cell tower located to the northwest region of the site. The cell tower and associated building will not be impacted from the proposed development. There is an existing Walmart located to the northeast section of the site. Redevelopment of the existing Walmart and associated stormwater management system will be performed on the adjacent parcel and associated stormwater management system.

Field efforts conducted included a delineation review of the wetland areas (original flagging performed by others), the delineation of additional areas found during the field visits and characterization of all wetland resource areas.

Intermittent Stream (Wetland Area A and B):

The intermittent stream is associated with a thin linear fringe of Bordering Vegetated Wetland (BVW). The stream receives seasonal flows from a Palustrine Scrub-shrub seep wetland system, dominated by sweet pepperbush (*Clethra alnifolia*) and highbush blueberry (*Vaccinium corymbosum*), located to the northwest (wetland area D). The intermittent stream drains in a southeast direction and eventually is culverted under a private gravel drive to the existing Camp Lion's office building. The majority of flow infiltrates into the ground as it passes through an impacted or buried culvert underneath the drive. During high flow events, a portion of the stream at the culvert's outlet will emerge through the sand and stone and continue to flow through a portion of manicured lawn area before infiltrating into the ground along a steep forested embankment. The flow eventually reappears as groundwater emergence into the edge of a Palustrine Persistent Emergent wetland system that appears to be a kettle hole (wetland area E).

The Bordering Vegetated Wetland associated with the stream was flagged as Wetland Area A and Wetland Area B. The intermittent stream's delineated Bank starts with flag #1 on the upper access road side and continues northerly to Bank flag #21. The opposite Bank of the intermittent stream, starts with Bank flag #20 at the access road and continues upstream to Bank flag #3. The BVW associated with the upper side of the intermittent stream above the access road starts with wetland flag number A1 at the access road and continues northerly to wetland flag A-28. The opposite side of the stream starts with BVW flag number B-20 at the access road and continues along the intermittent stream channel and ends along an outcrop area located into the wetland basin to the north. The small section of stream on the opposite side of the access drive and adjacent to the Camp office was flagged with Bank flags 1-17 and associated BVW flags 1-8 and 1-10.

The intermittent stream runs through a region where bedrock appears to be shallow and outcrops are somewhat common throughout the study region as well. The region is mapped as Chatfield-Hollis-Rock outcrop complex with 3 to 15 percent slopes. The forested scrub-shrub wetland associated with the stream is generally dominated by woody species and has a tree and shrub layer. A significant herbaceous layer was not apparent due to the dense shading from the tree and shrub layers. The woody species documented include red maple (*Acer rubrum*), sweet pepperbush (*Clethra alnifolia*), and highbush blueberry (*Vaccinium corymbosum*). The less dominant woody species found at the wetland transition zone and within the wetland itself included winterberry (*Ilex verticillata*), willow (*Salix* sp.), arrowwood (*Viburnum recognitum*), meadowsweet (*Spiraea latifolia*), american elm (*Ulmus Americana*), and ash (*Fraxinus* sp.). Common greenbriar (*Smilax rotundifolia)* is also found along the stream corridor in areas. The herbaceous layer of the forested scrub-shrub wetland consists of a lower percentage of species such as Canada Mayflower (*Maianthemum canadense*), Sphagnum sp., and Goldenrod (*Solidago* sp.).

The intermittent stream has limited flow and is dry for most of the year. On March 26, 2009, the stream was already dry at most locations, including the entire region below the camp's drive. The upper reaches during

this spring (2009) still showed some stretches with a limited amount of shallow pooling from leaf dams. An ANRAD was filed for the intermittent stream and is attached in the appendix. The ANRAD also included a watershed determination for the small hilltop associated with the wetland area. The watershed for the intermittent stream was found to be only 0.026 square miles.

Bordering Vegetated Wetlands:

Wetland Area C

Wetland area A and B are associated with the wetland areas along the Banks of the intermittent stream and are previously described in the section above. Bordering Vegetated Wetland (BVW) Area C is a very small Palustrine Forested Wetland that begins as a hillside seep near the access road and is flagged as C1-C8. The area appears to contain surface water and discharges minor flow down the edge of the access road to the intermittent stream area when frost prevents infiltration. This area was further investigated during March 2009 for potential breeding habitat and the wetland was already found to contain no standing water. BVW data sheets were also submitted during the ANRAD review with accompanying photographs.

Wetland Area D

Bordering Vegetated Wetland D is the large Palustrine Scrub-shrub seep wetland to the northwest that discharges to the intermittent stream. The wetland flags are the continuation of the BVW along the intermittent stream and continues around this wetland basin ending at flag A-35 and B-47. The wetland is dominated by sweet pepperbush (*Clethra alnifolia*) and highbush blueberry (*Vaccinium corymbosum*) with a fringe of red maple (*Acer rubrum*) trees and saplings. The less dominant woody species found include winterberry (*Ilex verticillata*), arrowwood (*Viburnum recognitum*), meadowsweet (*Spiraea latifolia*), and Ash (*Fraxinus* sp.). The herbaceous layer of the forested scrub-shrub wetland consists of species such as sphagnum sp., and goldenrod (*Solidago* sp.). Areas of invasive phragmites (Phragmites australis) is located on the eastern regions. Common greenbriar (*Smilax rotundifolia)* is also found throughout this wetland's transition zone.

Wetland Area E

Bordering Vegetated Wetland Area E is a Palustrine Persistent Emergent wetland that is located to the southern property boundary. The wetland flags associated with this wetland start near the property line with wetland flag WF-1 and continue to the lower property line boundary near Highland Avenue. This wetland receives flows from the intermittent stream discharge. The wetland fringe is dominated by sweet pepperbush (*Clethra alnifolia*) and highbush blueberry (*Vaccinium corymbosum*) and red maple (*Acer rubrum*) trees. The less dominant woody species found include winterberry (*Ilex verticillata*), and arrowwood (*Viburnum recognitum*). This kettle hole discharges high flows to a catch basin in Highland Avenue as indicated on the project plans.

Wetland Area F

Bordering Vegetated Wetland F is a large Palustrine Scrub-shrub seep wetland to the north of the proposed Lowe's development area. The wetland is dominated by sweet pepperbush (*Clethra alnifolia*) and highbush blueberry (*Vaccinium corymbosum*) with a fringe of mature red maple (*Acer rubrum*) trees. The less dominant woody species found include winterberry (*Ilex verticillata*), and arrowwood (*Viburnum recognitum*). There is a limited herbaceous layer due to the shading from mature red maple trees. The herbaceous dominant layer consists of sphagnum species. Common greenbriar (*Smilax rotundifolia)* is also found throughout this wetland's transition zone. Wetland flags associated with the system continue to the north and end with WF-20. A small intermittent stream is associated with this wetland system and appears to flow only during spring events. The stream flows down a steep granite slope and immediately infiltrates into the ground at the toe of slope. The flagging associated with this intermittent channel ends with WF-5 at the infiltration area.

Wetland Area G

Bordering Vegetated Wetland Area G is a Palustrine Scrub-shrub Wetland that appears to be a small kettle hole to the west side of the proposed Boy Scout Camp relocation. The wetland fringe is dominated by sweet pepperbush (*Clethra alnifolia*) with a fringe of mature red maple (*Acer rubrum*) trees. There is a patch of common buttonbush (*Cephalanthus occidentalis*) located in the interior of this system. The less dominant woody species found include winterberry (*Ilex verticillata*), and arrowwood (*Viburnum recognitum*). The dense tree and shrub fringe and deeper water habitat has limited the herbaceous layer of the wetland. A large percentage of common greenbriar (*Smilax rotundifolia)* was also found throughout this wetland fringe and associated buffer zone. Wetland flag G1 starts at the existing stone wall or property boundary and the flagging extends to the northwest to flag G12. Seasonal flows from this wetland are located to the northwest and outside the 100-foot buffer zones associated with this project.

Wetland Area H

Bordering Vegetated Wetland Area H is a Palustrine Scrub-shrub Wetland that is located adjacent to wetland area F. The wetland fringe is dominated by sweet pepperbush (*Clethra alnifolia*) and highbush blueberry (*Vaccinium corymbosum*) with a fringe of red maple (*Acer rubrum*) trees and saplings. The less dominant woody species found include winterberry (*Ilex verticillata*), and arrowwood (*Viburnum recognitum*). Common greenbriar (*Smilax rotundifolia)* is found along the edge and upland areas associated with the wetland area. Wetland flags associated with the system continue to the north and end with WF-11. The dense trees has limited the herbaceous layer of the wetland.

3.0 Wetland Resource Impacts

3.1 Bank

The proposed Lowe's project will impact a section of the intermittent stream associated with wetland area A and B. A total 633 linear feet of Bank associated with the intermittent stream will be impacted. Wetland Bank mitigation is described in section 4.0. Details on the stream and associated BVW replication are indicated on the mitigation plan sheet.

3.2 Bordering Vegetated Wetland (BVW)

The proposed activities will result in the loss of 4,585 square feet of BVW. This total includes the BVW associated with the intermittent stream impact region (Area A and B on plans) and one small wetland adjacent to the existing Camp Lion access road. This small BVW area is indicated on the project plans as Area C. Photographs at different sections of the stream and associated BVW are indicated in the associated ANRAD application attached.

3.3 FEMA Floodzone

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the City of Salem, Massachusetts (Map No. 250102 0005 B, revised August 5, 1985) indicates that no portion of the site falls within a regulated floodzone. A copy of the FIRM is included in the ANRAD application attached and a copy of the MassGIS FEMA information is indicated in Figure 4A.

3.4 Rare Species

According to the 13th Ed. Heritage Atlas (October 1, 2008) and the most recent information on MassGIS updated by the Massachusetts Natural Heritage and Endangered Species Program (Figure 3A), the site is not located within an area of Estimated Habitats of Rare Wildlife or an area of Priority Habitats of Rare Species. Wetland Area C was also investigated to see if above ground water levels observed during the winter persisted during the spring for potential breeding habitat. The wetland was found to contain no above ground water on March 26, 2009. There are no certified vernal pools located on or near the site. AECOM did not observe any evidence of Rare or Endangered species during the site investigations.

4.0 Demonstration of Compliance

4.1 Bordering Vegetated Wetland and Stream Mitigation

4.1.1 Introduction

As discussed in Section 3 of Wetland Resource Impacts, approximately 4,585 square feet of BVW and 633 linear feet of Bank to intermittent stream will be impacted as a result of the proposed project (see project plans). There will be one replication area, instead of several, in order to maximize the success of the mitigation process. The mitigation area for the BVW and intermittent stream will be located in close proximity and in the same watershed to the impacted areas. Currently, the existing stream and BVW has limited infiltration due to shallow and exposed bedrock and quickly distributes flows to support the large open water wetland down slope. Instead of culverting the stream and providing traditional BVW mitigation options (i.e. additional BVW next to a wetland basin at higher mitigation ratios), the stream and associated BVW will be re-routed through a highly constrained shallow ledge and outcrop region (typical of the existing stream and surrounding area) and replicated in-kind to protect the interests of the Act. The replication design provides for a 1:1 ratio of BVW mitigation as compared to typical higher ratios. By replicating the same BVW area along the new stream channel it is felt that saturation levels will be more approximately matched throughout the year to that of the existing BVW to the stream and a higher success rate for establishment will result. In addition, matching the quick distribution of surrounding watershed runoff including upper wetland basin overflow volumes to the receiving open water wetland down slope will prevent potential impacts by helping to retain flow distribution timeframes per volume. By replicating the same stream and BVW ratio along the shallow bedrock terrain, flows from the wetland and stream will quickly be distributed to the down slope open water wetland and will approximate the impacted stream characteristics. A significant amount of cost will be associated with the removal of ledge outcrops and underlying bedrock throughout the proposed corridor of the intermittent stream to approximate characteristics of the existing channel. However, it is felt that the magnitude of the proposed project does warrant the cost associated with the stream section relocation.

Similar to existing conditions, the wetland basin will be designed to outlet from the same stream channel just prior to the impact area. The flows will travel to the access road where it will be culverted to the other side. The stream will then flow adjacent to the proposed access road to the new Camp Lion facilities where it will eventually flow back into the remaining section of stream just prior to Wetland Area E (see project plans). The stream has been designed to allow for similar characteristics as the impacted section. This includes the introduction of micropools and riffle areas, woody debris, the relocation of sections of hollow trees impacted and associated low lying areas to accommodate hydrologic connections for BVW. These characteristics are indicated in the mitigation drawing in detail with associated tree and shrub planting tables, cross-section of stream layout, overview of typical stream micropool and riffles design, and associated planting layout. As a result, the stream relocation and associated BVW replication design will allow for approximately 5,000 square feet of BVW and in excess of 633 linear feet of Bank.

4.1.2 Monitoring

The designated wetland scientist will provide monitoring reports to the Salem Conservation Commission which follow the DEP Inland Wetland Replication Guidelines (Section 4 Monitoring Requirements). The reports will also include colored photographs of the replicated stream and associated BVW. It is also anticipated that separate detailed monitoring will be provided as the requirement of the Army Corps of Engineers Programmatic General Permit application process (typically 5-year minimum).

The DEP guidelines followed during the construction and yearly monitoring relative to this replication area will include; 1) The monitoring during excavation of the altered area if vegetation is to be translocated in addition to the designated potted nursery stock, to the replication area to ensure survival of the plantings. 2) Before soil

translocation or addition into the replication area to inspect excavated elevations and likely post-construction ground water elevations for the replication area. 3) After each stage of grading work is completed the wetland scientist will inspect finished elevations. 4) During planting and seeding and after the first month of the growing season to inspect propagation techniques. 5) After one growing season to observe vegetation development and regulatory compliance as indicated in detail below. 6) After two growing seasons to determine vegetation development and regulatory compliance. 7) After subsequent growing seasons, if greater than 2-year monitoring program is required by inadequate success rates. However, It is anticipated that subsequent growing season monitoring after the 2-year period will not be warranted under the local and state (DEP) requirements. Further details on these guidelines along with additional criteria are indicated in the following sections below.

4.1.3 Wetland Replacement Specifications

The following indicate general wetland replacement specifications applicable to the replication of the intermittent stream and associated BVW. It shall be the responsibility of the Contractor to retain a Wetland Scientist with a minimum of two years experience in similar wetland replacements and thoroughly versed in the Commonwealth of Massachusetts Wetlands Protection Act and its Regulations (310 CMR 10.00) and all other relevant regulations of the Department of Environmental Protection. This individual, herein referred to as the "Environmental Monitor", shall be approved by the Salem Conservation Commission.

This intermittent stream replication area shall be performed under the direction and guidance of the Environmental Monitor and as specified in these provisions and those indicated on the mitigation plan details. The preparation and planting of the replication area shall be accomplished in the following manner after initial grades are met from earth and bedrock removal:

- The replication area shall be excavated to a minimum depth of 12-inches below finished grades as indicated on the plan. Wetland resource areas adjacent to the replication area shall be separated from the replacement area by a barrier of haybales, silt fence and crushed stone as shown on the drawing. This will include the new connection area between the existing stream and the new intermittent stream channel. Although the intermittent stream is dry for the majority of the year resulting in work being done in the dry, this will protect the downstream resource area from any potential of inundation from storm events.
- All soil within the top 12-inches of the replication area surface shall be inspected for rubble and debris. If found material shall be removed from the hydric soil. If the hydric soil is found to be unsuitable as determined by the Environmental Monitor, it shall be removed. Usable hydric soil from the impacted intermittent stream area can also be stockpiled for reuse. The Environmental Monitor shall inspect any hydric soil being relocated for this purpose from the impact area. An inspection shall be made to determine underlying mineral soils are not also being transferred and mixed into the overlying hydric soil layers.
- All trees stumps and foreign materials shall be removed from the wetland area including adjacent BVW replication transition zone limits. These are not to be stockpiled in the resource area buffer zones while awaiting disposal.
- The area underlying this site's replication area (both stream and adjacent BVW) will typically be constructed on exposed bedrock and other underlying materials, similar to that of the existing stream. As a result, there will not be sufficient underlying B horizons to allow for deep rooting shrubs and saplings. To retain this suitability, soil from the sites associated B horizon, from or similar to the characterizes found along the impacted stream, shall be used. C horizons shall not be used as part of this introduction. This will bring both the stream bed and associated BVW replication area up to within 1-foot of final grade prior to the 12-inches of hydric soil introduction and will allow for the replication of the underlying B horizon.

- A 12-inch layer of hydric soil shall be placed in the replication area. If there is not sufficient usable hydric soil from the impacted area or all material is brought in from off-site locations, an alternative mixture shall be used. This will consist of a minimum of 50% organic material mixed with loam. Loam should be in the silty loam texture range for this replication area and not a sandy loam. This is due to the infrequent inundation resulting in the need for more moisture holding characteristics of the A horizon. Peat moss shall not be used as a source of organic matter but peat (typically excavated commercially from bogs) can be used as the hydric soil medium.
- Finished grades shall be at an elevation which will provide a hydrologic connection between the intermittent stream area and adjacent BVW region. This is indicated with the proposed grades on the associated plans. The Contractor shall verify that this elevation is not at a level that would prevent the infrequent saturation from the intermittent stream flows.
- The introduction of materials indicated on the mitigation plan shall be introduced within and along the intermittent stream prior to the planting of tree saplings and shrubs. These materials include woody debris, logs, hollow sections of logs and stumps from the impact area, and stones and boulders placed into the stream channel as indicated in the stream overview detail.
- Upon completion of the replication area a haybale line or barrier shall be placed around the edge of the BVW associated with the intermittent stream. This will prevent fines from impacting the stream throughout final construction of the adjacent areas.
- The sedimentation barriers shall be removed at the completion of all construction, and stabilization measures for the project. The ground under the sedimentation barriers shall be reseeded when the barriers have been removed.
- Wetland planting shall be performed between April 15 and October 15 or as recommended by the Environmental Monitor and agreed upon by the Salem Conservation Commission. All plant material used shall be nursery grown and healthy, free of disease, insect pests, eggs or larvae, and shall have an adequate root system. Container grown plants shall have sufficient roots to hold the planting mix together after removal from containers but should not be severely root bound.
- The planting material shall consist of the sizes, numbers, and species specified on the mitigation plan. Any substitutions must be approved by the Environmental Monitor prior to planting.
- All wetland plantings shall be performed by hand. Shrubs and trees shall be planted in a random natural manner along the stream and associated BVW regions and adhere to the spacing requirements indicated on the mitigation plan. This will include grouping some similar species together, as indicated on the planting table, and allowing for associated communities. The Environmental Monitor is responsible for the layout and community structure established to match that typically found along a native intermittent stream location in this region. This should be done by laying out plants and shrubs along the replication area prior to the contractor planting the materials. The layout should similarly match that indicted on the mitigation plan. Planted materials shall be watered immediately after planting or during the same day.
- After the plantings are installed, hand raking shall be done to eliminate compaction. Raking will also be performed in order to maintain finish grades prior to seeding with the designated wetland seed mix indicated on the plan. Seed shall be sown by mechanical means and not by hand methods. Quick release fertilizer shall be broadcast at recommended rates along with the wetland seed mix. The fertilizer nutrient ratios shall not be higher than 10-10-10 (Nitrogen: Phosphorous: Potassium). Watering of the seeded area should take place within a couple days. Caution should be taken not to direct heavy sprays that would cause disturbance to the soil surface or would allow the migration of fine seeds associated with many of the designated herbaceous species.

4.1.4 Monitoring and Replacement

A field inspection shall be conducted at the end of the first growing season, or 180 growing season days after planting, whichever comes first. Following this inspection, the Contractor is required to replace all plants that have not shown satisfactory evidence of establishment. Invasive species should also be removed and disposed of properly off-site during site investigations. Areas of herbaceous growth may also need to be reseeded if at least 50% cover has not been established in areas. 50% healthy tree, shrub and herbaceous cover shall be assumed satisfactory evidence of establishment after the first growing season. All dead or unsatisfactory plants shall be removed and replaced in kind and size by the contractor. In the event that a specific species has shown difficulties in establishing at the site the Environmental Monitor may find it necessary to designate another species that will provide for a better success rate.

A second inspection shall be conducted at the end of the second growing season. The Contractor is responsible for the replacement of all shrubs and trees that have not shown to take adequate hold or establishment. At the time of the second inspection, the Environmental Monitor shall make a determination if the wetland replacement area has achieved the required 75% percent vegetation with native wetland species. 75% cover by wetland species shall be assumed satisfactory evidence of growth after the second growing season. If this percentage is not achieved, additional plantings or species, as approved by the Environmental Monitor, will be made and the wetland will be reassessed during the following year.

4.2 Erosion and Sedimentation Control

Erosion and sedimentation controls will be installed prior to construction along the boundary(s) of all wetland resource areas located down slope from project activities. This will ensure that no sediment is transported into adjacent wetland resource areas during construction and prior to permanent stabilization of all disturbed surfaces. Erosion and sedimentation control best management practices including sediment fence, fiber rolls, and a number of other structural and non structural measures will be employed during construction. Upon the completion of final grading, all exposed soils will be stabilized with the appropriate seed mix to provide permanent soil stabilization, erosion control, and vegetative cover. Seeded slopes will be temporarily stabilized with loose straw or hydro-seeded to prevent erosion before seed germinates and root networks establish.

Since the project will result in the disturbance of greater than one acre of land and runoff discharges to a wetland or waterway of the US, a Storm Water Pollution Prevention Plan (SWPPP) will be prepared and implemented in accordance with the EPA's General Permit for Storm Water Discharges from Construction Activities.

Lowe's Home Centers are committed to designing and implementing construction term erosion control plans that exceed the minimum requirements established by the EPA's Construction General Permit (CGP). Lowe's have established a National SWPPP development criteria with specific guidance to the design engineers to develop SWPPPs that are more stringent than the minimum requirements set forth in the CGP including: the frequency of required inspections; frequency and nature of monitoring and reporting; mandatory subcontractor training and certification; requirements to achieve final stabilization and monthly training of on-site personnel. The SWPPP criteria are established in the project specifications and provided to all contractors in the bid specifications. In addition, preconstruction training is mandatory and provided by Lowe's Project Management to the general site contractor to ensure that the contractor is aware of their responsibilities prior to the start of construction. The SWPPP will include site specific temporary and permanent stabilization practices and temporary and permanent structural practices in accordance with the Construction General Permit.

Upon the completion of final grading, all exposed soils will be stabilized with the appropriate seed mix to provide permanent soil stabilization, erosion control, and vegetative cover. Seeded slopes will be temporarily

stabilized with loose straw or hydro-seeded to prevent erosion before seed germinates and root networks establish.

4.3 Compliance with Massachusetts Stormwater Regulations

The Lowe's development will include the construction of a 153,063± sf Lowe's store, parking facilities, and associated circulation drives. A comprehensive storm water management system has been designed to treat storm water and control peak runoff rates and volumes. In post development, stormwater will be pre-treated prior to discharge. Stormwater runoff will be conveyed from collection points to the "treatment train" through a closed system. The storm drain pipes have been sized to adequately convey the 25 year storm event. A 15 inch minimum pipe diameter having a minimum slope of 0.005 ft/ft will be utilized for the Lowe's site.

The stormwater management system will include a "treatment train" consisting of source control, deep sump, hooded catch basins, mechanical stormwater treatment structures, and a sediment forebay to treat stormwater prior to discharge. A description of each link in the "treatment train" to address the rate, quantity, and quality of stormwater runoff from the project is as follows:

- *Source Control* is a comprehensive source control program which includes regular pavement sweeping, catch basin cleaning, and regular maintenance of all dumpsters, compactors, and loading areas.
- *Deep Sump, Hooded Catch Basins* trap debris, sediments, and floating contaminants before stormwater is conveyed to the closed piping network and the additional downstream treatment measures.
- *Water Quality Structures* remove suspended particles (TSS) from the runoff through the employment of hydrodynamic separation.
- *Above Ground Stormwater Detention* to provide peak flow attenuation and additional TSS removal through the use of a sediment forebay.

One above ground stormwater detention basin and sediment forebay is proposed to treat and detain stormwater runoff from the Lowe's roof, parking and access drives, and the water tower service drive; the basin will be located to the south of the Lowe's building. Stormwater runoff from Lowe's roof bypasses the sediment forebay and drains directly into the extended dry detention basin. The sediment forebay has been designed to hold the water quality volume below the invert of the stone weir such that the 2-year storm does not overtop the bench of the stone weir. The detention basin has approximately 100,282± cubic feet (2.30 acre-feet) of storage and has been designed to pass the 100 year storm event without over topping. Approximately 1 foot of freeboard is provided above the calculated 100 year water surface elevation. An emergency spillway is included at the southeast corner of the basin. The overflow elevation is set above the calculated 100 year elevation.

A multi-stage outlet control structure will be used to control discharge from the basin to the existing wetland system located along the southeast property boundary. The outlet control has been designed to approximate the existing rate of runoff to the wetlands.

USDA soil mapping indicates that the site is primarily comprised of "B" soil types. A preliminary geotechnical investigation has been completed for the proposed Lowe's parcel. The majority of the site is comprised of exposed and shallow bedrock. Other areas of the site are overlain by granular fill consisting of fine to coarse sand with some fines and gravel beneath the top soil and pavement. These layers were generally shallow, approximately 4-5 feet below ground surface, and underlain by bedrock. The extensive bedrock on site provides limited to no infiltration of stormwater. Although stormwater does permeate through the initial soil layer in areas where bedrock is not located at the surface, it is eventually intercepted by the underlying bedrock, preventing infiltration. The bedrock surfaces both exposed and shallow,

severely limit the site's ability to infiltrate stormwater and make the implementation of stormwater infiltration features technically infeasible. Although a hydrologic soil group "D" classification could be applied to the on-site soils; a hydrologic soil group "C" has been used in the design of the stormwater management system which results in a more conservatively sized system.

The proposed stormwater management system complies with all aspects of the Massachusetts DEP Stormwater Management Regulations as described below:

Low Impact Development (LID) Measures

The extent of proposed impervious surfaces has been minimized as much as possible. The proposed parking provides less than is required by zoning and in the prototypical configuration for Lowe's. One thousand twenty one (1,021) parking spaces are required per the City of Salem zoning ordinance, 378 parking spaces are provided. The prototypical Lowe's building requires 424 parking spaces. Loading access drives to the side and rear of the store have also been reduced from the prototypical configuration. Side access drives are prototypically 35 ft. in width. They have been reduced to 30 ft. and 25 ft. in the proposed site plan. The rear loading drive is typically 47'. It has been reduced to 35 ft. in the proposed condition.

Standard #1 – Untreated Storm Water

No point discharges of untreated storm water to resource areas are proposed. Storm water quality control for the project includes street sweeping, deep sump/hooded catch basins, infiltration basins and water quality structures. All points of discharge are designed to prevent erosion through the incorporation of velocity dissipation devices including rip-rap aprons.

Standard # 2 – Post-Development Peak Discharge Rates

DEP standards state that controls must be developed for the 2-year and 10-year, 24-hour storm events. The 100-year, 24-hour storm event must also be evaluated in order to demonstrate that there will not be increased flooding impacts off-site.

Storm water management controls were developed for the 2-, 10-, 25-, 50-, and 100-year 24-hour storm events. For all the analyzed storm events, there will be no increase in peak discharge rates as a result of the project.

Standard # 3 – Recharge to Groundwater

The site provides limited to no recharge to groundwater under the existing condition as a result of extensive bedrock. Meeting the requirement for recharge volume will be technically infeasible due to the presence of shallow ledge throughout the site as previously described.

Standard # 4 – 80% Total Suspended Solids Removal

Best Management Practices (BMPs) will be used to provide water quality. The following BMPs will be provided on-site: roadway sweeping, deep sump/hooded catch basins, water quality structures utilizing hydrodynamic separation, sedimentation forebay, and extended dry detention basins. The incorporation of these BMPs will achieve a cumulative TSS removal rate of approximately 91 percent which exceeds the 80% DEP requirement.

Standard # 5 – Higher Pollutant Load

The project is classified as one that will generate higher pollutant loads and therefore subject to the requirements of Standard 5 including pretreatment of storm water. Pretreatment of the storm water with water quality inlets, deep sump catch basins, and a sedimentation forebay will achieve a minimum TSS removal rate of 44% prior to discharge into the extended dry detention basin. In addition, the stormwater quality structures proposed as part of the Lowe's stormwater management system will be sized to accommodate the equivalent water quality flow rates for 1.0 inch of runoff.

Standard # 6 – Protection of Critical Areas

The project is not located in a critical area as defined by the MA DEP.

Standard # 7 – Redevelopment Projects

The Lowe's portion of the Project does not qualify as a redevelopment project.

Standard # 8 – Erosion/Sediment Control During Construction

Since the project will result in the disturbance of greater than one acre of land and results in the discharge of stormwater to a surface water of the US or a municipal separate storm system leading to surface waters of the US, it will requires the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges from Large and Small Construction Activities. The Construction General Permit (CGP) authorizes the discharge of storm water from construction activities.

A SWPPP will be prepared and include site specific temporary and permanent erosion and sedimentation control practices including silt fence between the limit of work and wetland resource areas, stabilized crushed stone construction entrances, temporary sedimentation traps and swales to manage stormwater runoff during construction, stabilization of all disturbed areas, site specific construction sequencing plans showing best management practices for each phase of construction and the implementation of temporary sedimentation basin(s) and diversion ditches to manage storm water runoff during construction.

Standard # 9 – Operation/Maintenance Plan

An Operation and Maintenance Plan has been developed in accordance with the Stormwater Management Standards and is included as part of the drainage analysis and provided in the Drainage Report, see Appendix G.

Standard # 10 – Illicit Discharges

The proposed stormwater system is designed to convey only stormwater and allowable non-storm discharges (firefighting water, landscape irrigation, air conditioning condensate, etc.) and will not contain any illicit discharges from prohibited sources.

The complete drainage study for the Lowe's portion of the Project can be found in Appendix G of the Expanded Environmental Notification Form. Figure 11 – Grading and Drainage Plan depicts the proposed stormwater management system. The post development total suspended solids (TSS) removal rate will be approximately 91%, which exceeds the 80% required per DEP Stormwater Management Standards.

A stormwater basin has been designed for Camp Lion's proposed layout area as indicated on the project plans and in the drainage report. For purposes of the full site build-out an above ground detention basin was designed to accommodate and attenuate post development conditions based on the future build- out. The Camp will be responsible for final design and construction of the system in accordance with Mass DEP Stormwater Regulations. Stormwater runoff from the developed areas of the City of Salem water tower parcel will be directed to stone lined swales along either side of the tower access road, collected in a closed drainage system, and routed through a stormwater quality unit and sediment forebay prior to discharge into the Lowe's extended dry detention basin located to the south of the Lowe's development.

4.4 Alternatives Analysis

Larger Prototype Alternative (117K)

The larger Lowe's prototype alternative development program reviewed for the site considered a building with an approximate 117,000± sf of sales floor with loading areas, offices, and garden center for a total of 169,112± sf. This building requires 1,128 parking spaces per the City of Salem zoning ordinance. A site layout plan was prepared for the site using the larger prototype.

The larger prototype alternative results in similar type impacts to those discussed in previous sections of this report. These impacts, however, are larger in scale than those resulting from the preferred site plan configuration. Additional impervious surfaces would be required for parking and loading to support the store, additional wetland impacts would be incurred as a result of the larger development footprint, additional traffic would be generated, and a slightly higher demand would be placed on utilities. Additional stormwater infrastructure would be required to properly collect and attenuate stormwater runoff. The larger development footprint would result in greater land disturbances, including additional blasting and earthwork. This alternative presents certain advantages as well. The larger building is consistent with adjacent land uses in the corridor and the zoning for this section of the City. It would also generate additional tax revenue.

In terms of impacts to wetlands, over 5,000 sf of Bordering Vegetated Wetlands would be impacted in conjunction with this alternative and would not be permitted under the Wetlands Protection Act. As a result, the larger prototype was eliminated from further consideration. A site layout using the larger prototype is included as Figure 18. A summary of Lowe's development alternatives is presented in Table 10.

Preferred Site Plan Alternative

The Preferred Site Plan Alternative, which reflects the current site plan proposal, represents a modified 103K prototype with a 153,063± sf building and 378 parking spaces. This building is smaller than the 117K Alternative and similar in square footage when compared to the Prototypical 103K Alternative. However, the building components have been reconfigured and the parking condensed to reduce the overall impervious coverage and to minimize disturbance to previously undeveloped areas. The overall impact to the abutting wetland system is significantly reduced when compared to the 117K alternative. The Preferred Site Plan Alternative is shown in Figure 13.

The Preferred Site Plan Alternative incorporates non-prototypical Lowe's building and parking configurations. The parking count associated with the preferred alternative is less than in the Lowe's 103K and 117K Alternatives.

The Preferred Site Plan Alternative incorporates the smallest modified Lowe's building prototype that will meet the demands of the market while maintaining the economic viability of the Project. The existing

roadway infrastructure along the site frontage will be improved and will include a shared signalized access with the Walmart development.

The Lowe's development will also benefit Camp Lion by presenting them with an opportunity to substantially upgrade their existing facilities, an opportunity that may not otherwise be afforded to them without the Lowe's project. Additionally, a significant amount of the earthwork and utility installation associated with the proposed water tower construction will be completed as part of the site work for the Lowe's and Walmart project.

The project is consistent with the City's plan for development along Route 107. As discussed above, this project represents a very important piece of the continued economic growth for the City of Salem. New construction jobs and full-time positions will be created as a result of the project and additional tax revenues will be generated for the City.

In terms of minimization and avoidance to wetlands, the intermittent stream traverses the parcel in a northeast / southwest orientation and any development of this nature would result in direct unavoidable impacts to the stream and its associated banks and bordering vegetated wetlands. Consideration of a smaller prototype would result in similar direct impacts to the stream in excess of 500 linear feet of bank and impacts to bordering vegetated wetlands of the same magnitude as the Preferred Site Plan Alternative. A site layout using the smaller prototype is included as Figure 17.

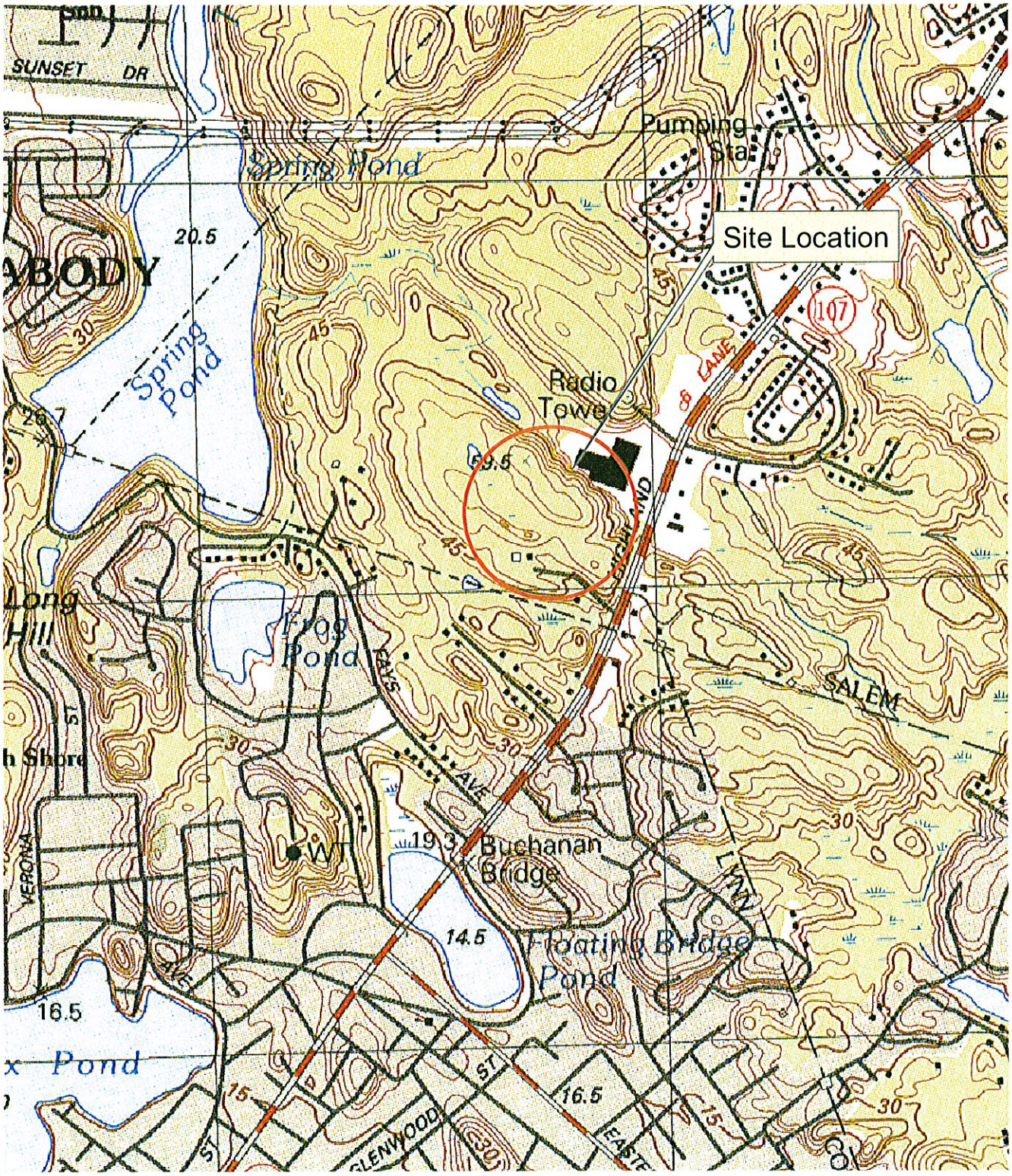
Appendix A

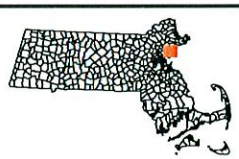
USGS Locus Map

Aerial Locus Map

NH&ESP Information Map

FEMA Floodzone Map





1 inch = 1,000 feet

USGS Locus Map
488-490 Highland Ave
Salem, Massachusetts

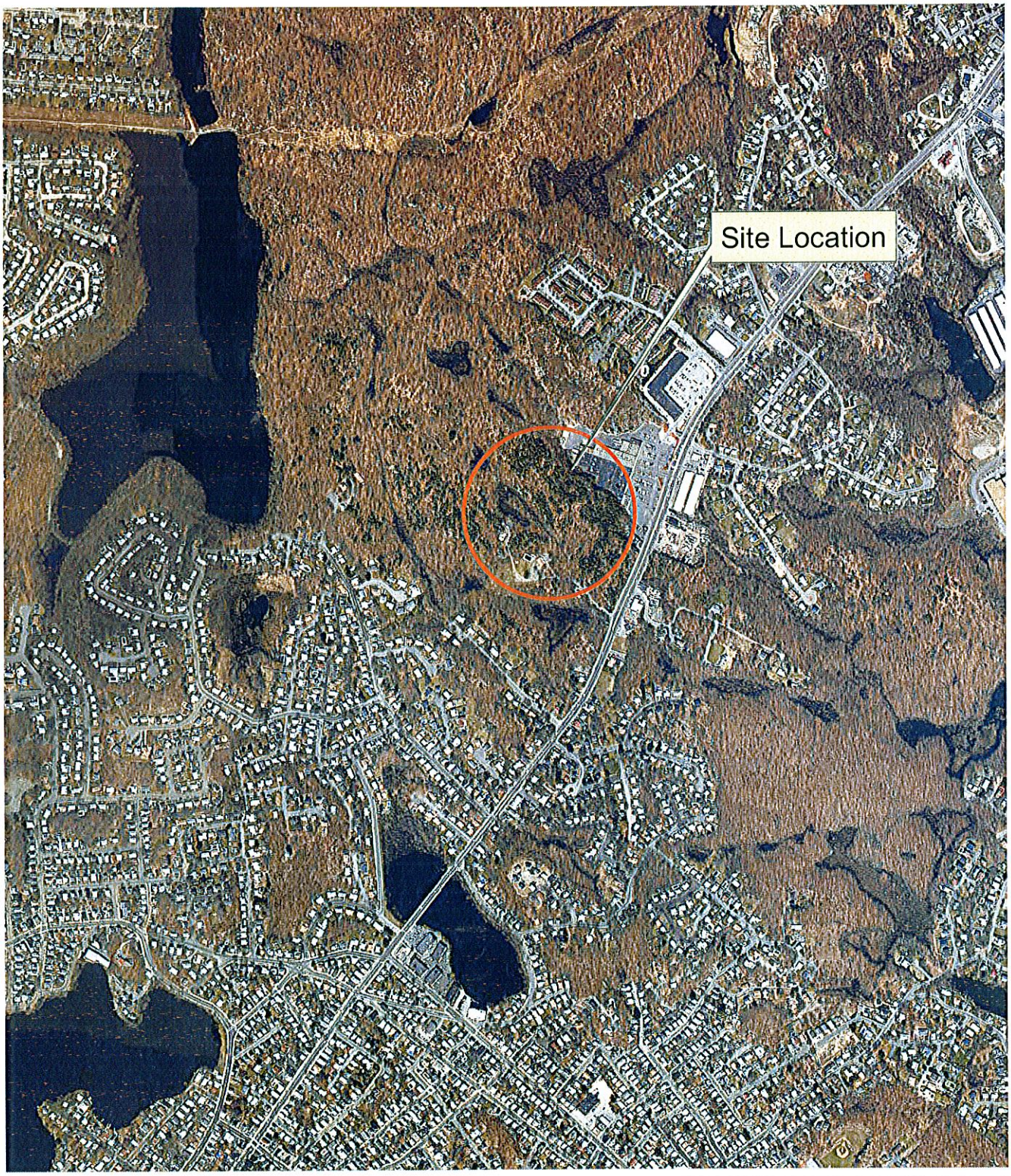
SCALE	DATE	PROJECT NO.
1:2000	7/09	10544-003

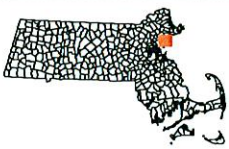
AECOM

Figure Number

1A

J:\Water\ProjectFiles\P100\10544003_Salem\Figure 1 USGS Locus.mxd





N
W E
S

1 inch = 1,000 feet

Aerial Photo Locus
488-490 Highland Ave
Salem, Massachusetts

SCALE	DATE	PROJECT NO.
1:2000	7/09	10544-003

AECOM

Figure Number

2A

J:\Water\ProjectFiles\P100\10544003_Salem\Figure 2A Aerial Photo Locus.mxd

NH&ESP Map
488-490 Highland Ave
Salem, Massachusetts

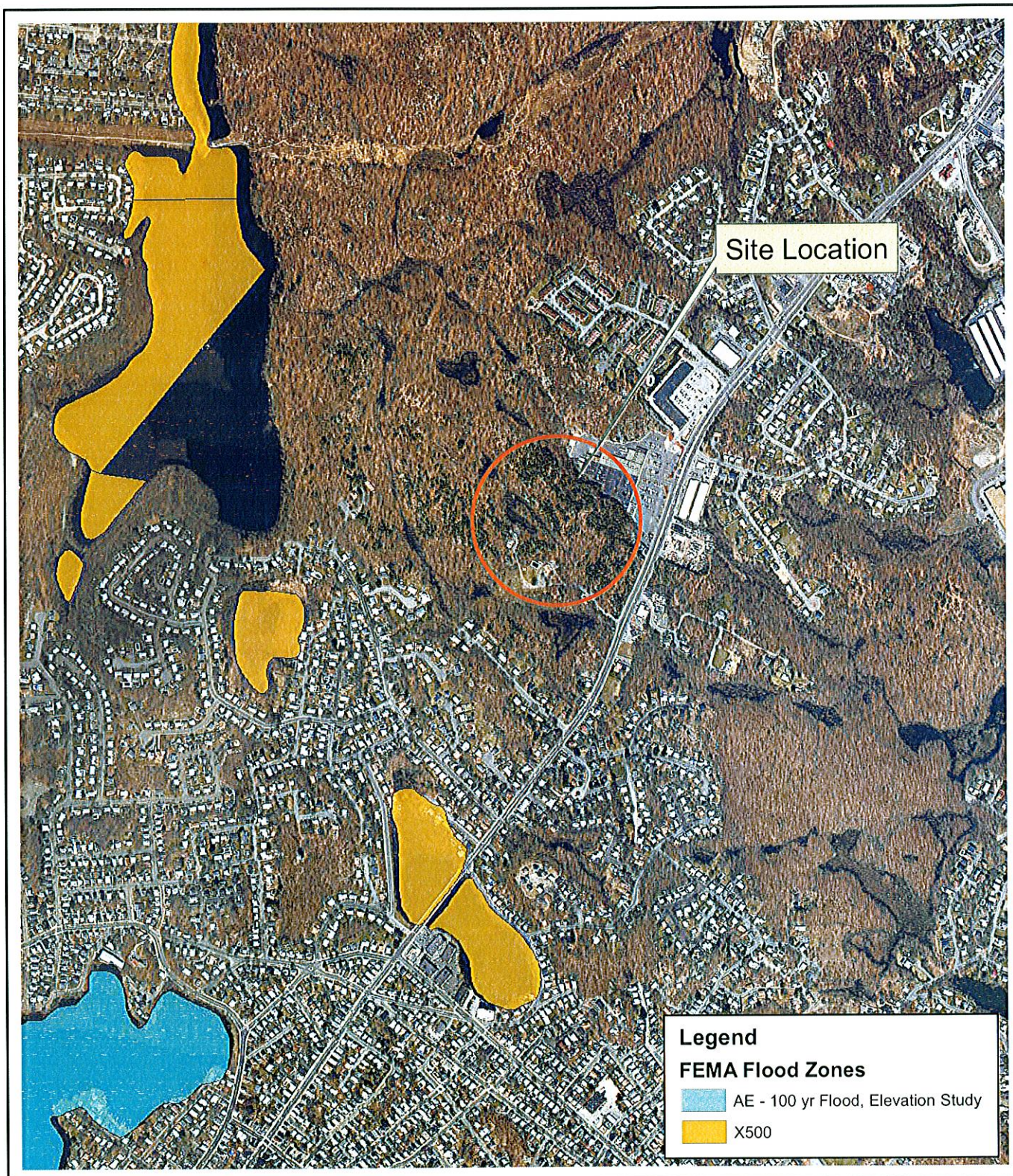
SCALE	DATE	PROJECT NO.
1:2000	7/09	10544-003

AECOM

Figure Number

3A

J:\Water\ProjectFiles\P100\10544003_Salem\Figure 3A NH&ESP Map.mxd



N
W E
S

1 inch = 1,000 feet

FEMA Map
488-490 Highland Ave
Salem, Massachusetts

SCALE	DATE	PROJECT NO.
1:2000	7/09	10544-003

AECOM

Figure Number

4A

J:\Water\ProjectFiles\P100\10544003_Salem\Figure 4A FEMA Map.mxd

Appendix B

ANRAD Application
Order of Resource Area Delineation

CITY OF SALEM
CONSERVATION COMMISSION

January 26, 2009

Terry Gensel
ENSR/AECOM
2 Technology Park Drive
Westford, MA 01886

Re: Order of Resource Area Delineation— DEP # 64-486
488 Highland Avenue

Dear Mr. Gensel:

Enclosed, please find the Order of Resource Area Delineation (ORAD) for the above referenced project. There is a 10-day appeal period which ends on February 7, 2009. As noted on page 7 of the ORAD this order should NOT be recorded since it was issued for purposes of Resource Area Delineation only. This Order is good for three years from the date of issuance, January 23, 2009.

If you have any further questions, please feel free to contact me 978-619-5685.

Sincerely,

Carey Duques
Conservation Agent/ Staff Planner

Enclosures

CC: DEP Northeast Regional Office
Kevin Donahue, Camp Lion of Lynn, Mass.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

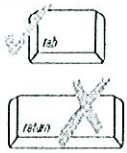
WPA Form 4B – Order of Resource Area Delineation

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

DEP File Number: 64-486 Provided by DEP

A. General Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Note: Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

From: Salem
1. Conservation Commission

2. This Issuance is for (check one):

a. ☒ Order of Resource Area Delineation Only

b. ☐ Order of Resource Area Delineation Subject to Simplified Review

1. ☐ Not Subject to Stormwater Policy

2. ☐ Subject to Stormwater Policy

c. ☐ Amended Order of Resource Area Delineation

3. To: Applicant:

Kevin	Donahue	Camp Lion of Lynn Mass., Inc.
a. First Name	b. Last Name	c. Company

73 North Common Street
d. Mailing Address

Lynn	MA	01902
e. City/Town	f. State	g. Zip Code

4. Property Owner (if different from applicant):

a. First Name	b. Last Name	c. Company

d. Mailing Address

e. City/Town	f. State	g. Zip Code

5. Project Location:

488 Highland Avenue	Salem
a. Street Address	b. City/Town
Map 3	Lot 1
c. Assessors Map/Plat Number	d. Parcel/Lot Number

Latitude and Longitude (**note:** electronic filers will click for GIS locator): 42.491718 e. Latitude; -70.935331 f. Longitude

6. Dates:

november 26, 2008	January 22, 2009	
a. Date Notice of Intent filed	b. Date Public Hearing Closed	c. Date of Issuance

7. Title and Date (or Revised Date if applicable) of Final Plans and Other Documents:

Highland Avenue ANRAD Camp Lion of Lynn, Mass., Inc	January 2009
a. Title	b. Date
Supplemental Information for the Abbreviated Notice of Resource Area Delineation	January 19, 2009
	d. Date

B. Order of Delineation

1. The Conservation Commission has determined the following (check whichever is applicable):

a. ☒ **Accurate**: The boundaries described on the referenced plan(s) above and in the Abbreviated Notice of Resource Area Delineation are accurately drawn for the following resource area(s):

1. ☒ Bordering Vegetated Wetlands

2. ☒ Other Resource Area(s), specifically:

Intermittent Stream-Bank

b. ☐ **Modified**: The boundaries described on the plan(s) referenced above, as modified by the Conservation Commission from the plans contained in the Abbreviated Notice of Resource Area Delineation, are accurately drawn from the following resource area(s):

1. ☐ Bordering Vegetated Wetlands

2. ☐ Other Resource Area(s), specifically:

c. ☐ **Inaccurate**: The boundaries described on the referenced plan(s) and in the Abbreviated Notice of Resource Area Delineation were found to be inaccurate and cannot be confirmed for the following resource area(s):

1. ☐ Bordering Vegetated Wetlands

2. ☐ Other Resource Area(s), specifically:

3. The boundaries were determined to be inaccurate because:

C. Simplified Buffer Zone Review

Work within the Buffer Zone pursuant to the Simplified Review (310 CMR 10.02) requires that you must comply with the following conditions. If your project does not meet these requirements, you are required to either file a Determination of Applicability or Notice of Intent or take other corrective measures as directed by the Conservation Commission.

Simplified Review Conditions:

Work conducted under Simplified Review requires the following:

1. No work of any kind shall occur within any wetland resource areas including Riverfront Area and Bordering Land Subject to Flooding.
2. The inner 0-to-50-foot wide area from the delineated wetland boundary that has a Buffer Zone shall not be disturbed by any work associated with this project, including placement of any stormwater management components.
3. No work shall occur in the Buffer Zone bordering an Outstanding Resource Water (e.g., certified vernal pool, public water supply reservoir or tributary), as defined in 314 CMR 4.00 or border coastal resource areas at 310 CMR 10.25-10.35.
4. No work shall occur in the Buffer Zone adjacent to wetland resources with estimated wildlife habitat (which is identified on the most recent Estimated Habitat Map of State-listed Rare Wetlands Wildlife).
5. Erosion and Sedimentation controls shall be installed and maintained at the 50-foot Buffer Zone line or limit of work (whichever is a greater distance from the resource area) to protect resource areas during construction.
6. If the project is subject to the Massachusetts Stormwater Policy, all work shall be conducted in conformance with an approved Stormwater Management Plan.
7. The Buffer Zone does not contain a slope greater than an average of 15% at its steepest gradient across the 100-foot Buffer Zone.
8. The amount of new impervious surface, in combination with existing impervious surfaces, shall not exceed 40% of the Buffer Zone between 50 and 100 feet.
9. No work is allowed, and no additional NOI or RDA shall be filed, for any work within the 0-to-50-foot Buffer Zone during the three-year term of an Order associated with this application.
10. Prior to any work being undertaken pursuant to this Order, the wetland resource boundary shall be flagged; all boundary delineation flagging should be maintained for the term of the Order.
11. If stormwater management structures are proposed in the Buffer Zone, the stormwater management structures shall be maintained as required in the Stormwater Plan. Such maintenance constitutes an ongoing condition and is not subject to further permitting requirements.
12. If this ORAD involves work as part of a Simplified Review, the ORAD shall be recorded at the Registry of Deeds prior to the commencement of work per the requirements of Section F.
13. Prior to proceeding with any work under Simplified Review, applicants are required to provide written notice to the Commission one week prior to commencing any work.
14. If work authorized under Simplified Review is commenced, no work is allowed, and no additional NOI or RDA may be filed, for any work within the 0-to-50-foot buffer zone during the term of an ORAD associated with this application. If work authorized under Simplified Review is <u>not</u> commenced, then future NOIs or RDAs may be filed for work within the 0-to-50-foot portion of the buffer zone.

--End of Conditions--

C. Simplified Buffer Zone Review (cont.)

Stormwater Applicability

1. ☐ The project is not subject to the Stormwater Policy.
2. ☐ The project is subject to the Stormwater Policy and the Stormwater Plan included for the project complies with all stormwater standards.

Ineligibility Determinations

Site Conditions: The applicant is not eligible for Simplified Buffer Zone review and must file a Determination of Applicability or Notice of Intent prior to any work because:

3. ☐ Work is within the Buffer Zone of a Coastal Resource Area as defined at 310 CMR 10.25-10.35.
4. ☐ The Buffer Zone contains existing slopes greater than an average of 15%.
5. ☐ Buffer Zone contains estimated rare wildlife habitat.[1]
6. ☐ The site borders an Outstanding Resource Water.[2]

Stormwater

7. ☐ The project is subject to the Stormwater Policy and the applicant has not submitted sufficient information to demonstrate compliance with the Stormwater Management Policy. Prior to any work, the applicant must submit plans showing compliance with the standards in the Stormwater Policy, the location of the work, the amount of impervious surface, and the location of erosion controls, to the Commission for its concurrence. (See instructions to ANRAD Form 4A.) The following necessary stormwater information was not submitted by the applicant:

   a. _____

8. ☐ The project is subject to the Stormwater Policy but the project does not comply with one or more of the stormwater standards (specify which standard(s) not met).
   a. Standard # : _____
   b. Standard # : _____
9. ☐ Impervious surface exceeds 40% of the area of the Buffer Zone between 50 and 100 feet from the resource area.
10. ☐ The applicant did not submit plans depicting adequate erosion and sedimentation controls located at the limit of work or at least 50 feet from any resource areas, whichever will be greater.
11. ☐ Work is proposed within 50 feet of a resource area.

Notice to Commission

Any applicant proposing to proceed under Simplified Buffer Zone Review, as specified in 310 CMR 10.02, must provide written notice to the Commission one week prior to any work.

---

[1] *Identified on the most recent Estimated Habitat Map of State-listed Rare Wetlands Wildlife of the Natural Heritage and Endangered Species Program.*

[2] *Certified Vernal Pools, public water supplies, or inland ACECs as identified in 314 CMR 4.00.*

D. Findings

This Order of Resource Area Delineation determines that the Stormwater Plan, if applicable, and the boundaries of those resource areas noted above, have been delineated and approved by the Commission and are binding as to all decisions rendered pursuant to the Massachusetts Wetlands Protection Act (M.G.L. c.131, § 40) and its regulations (310 CMR 10.00). This Order does not, however, determine the boundaries of any resource area or Buffer Zone to any resource area not specifically noted above, regardless of whether such boundaries are contained on the plans attached to this Order or to the Abbreviated Notice of Resource Area Delineation.

The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.

If the Abbreviated Notice of Resource Area Delineation was filed as Simplified Review for a Buffer Zone project, the applicant has certified that any work associated with the proposed project meets all eligibility requirements for Simplified Review listed in Section C of this Order. Any work that does not comply with the Simplified Review requirements will require a Notice of Intent or Request for Determination of Applicability.

The applicant is responsible for promptly requesting a Certificate of Compliance following completion of any work allowed pursuant to a Simplified Review or no later than three years from the date of the Order of Resource Area Delineation unless the Order is extended.

Failure to comply with the conditions of this Order is grounds for the Conservation Commission or the Department to take enforcement action.

This Order must be signed by a majority of the Conservation Commission. The Order must be sent by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate DEP Regional Office.

E. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate DEP Regional Office to issue a Superseding Order of Resource Area Delineation. When requested to issue a Superseding Order of Resource Area Delineation, the Department's review is limited to the objections to the resource area delineation(s) stated in the appeal request. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Request for Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant. Any appellants seeking to appeal the Department's Superseding Order associated with this appeal will be required to demonstrate prior participation in the review of this project. Previous participation in the permit proceeding means the submission of written information to the Conservation Commission prior to the close of the public hearing, requesting a Superseding Order or Determination, or providing written information to the Department prior to issuance of a Superseding Order or Determination.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act, (M.G.L. c. 131, § 40) and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal bylaw or ordinance, and not on the Massachusetts Wetlands Protection Act or regulations, the Department of Environmental Protection has no appellate jurisdiction.

F. Signatures and Notary Acknowledgement

Please indicate the number of members who will sign this form: 1. Number of Signers

Signature of Conservation Commission Member

Signature of Conservation Commission Member

Signature of Conservation Commission Member

Signature of Conservation Commission Member

Signature of Conservation Commission Member

Signature of Conservation Commission Member

Signature of Conservation Commission Member

This Order is valid for three years from the date of issuance.

This Order is issued to the applicant and the property owner (if different) as follows:

☐ by hand delivery on

Date

☒ by certified mail, return receipt requested on January 23, 2009

Date

Notary Acknowledgement

Commonwealth of Massachusetts County of Essex

On this 22 Day of January Month 2009 Year

Before me, the undersigned Notary Public, personally appeared D. Pabich, R. Christie, A. Hamilton, M. Blier, K. Glidden, K. Cornacchio
Name of Document Signer

proved to me through satisfactory evidence of identification, which was/were personally known
Description of evidence of identification

to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he/she signed it voluntarily for its stated purpose.

As member of Salem City/Town Conservation Commission

CAREY R. DUQUES
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
August 16, 2013

Signature of Notary Public

Carey R. Duques
Printed Name of Notary Public

August 16, 2013
My Commission Expires (Date)

Place notary seal and/or any stamp above

This Order is issued to the applicant as follows:

☐ by hand delivery on

Date

☐ by certified mail, return receipt requested, on

Date

G. Recording Information

If this Order is issued for purposes of Resource Area Delineation only, this Order should NOT be recorded.

If this Order of Resource Area Delineation is issued as part of a Simplified Review, this Order must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land subject to the Order of Conditions. The recording information on Page 6 of this form shall be submitted to the Conservation Commission listed below.

Salem
Conservation Commission

Detach on dotted line, have stamped by the Registry of Deeds and submit to the Conservation Commission.

To:

Salem
Conservation Commission

Please be advised that the Order of Conditions for the Project at:

488 Highland Avenue
Project Location

64-486
DEP File Number

Has been recorded at the Registry of Deeds of:

County | Book | Page

for:

Property Owner

and has been noted in the chain of title of the affected property in:

Book | Page

In accordance with the Order of Conditions issued on:

Date

If recorded land, the instrument number identifying this transaction is:

Instrument Number

If registered land, the document number identifying this transaction is:

Document Number

Signature of Applicant

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

DEP Regional Addresses
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Mail transmittal forms and DEP payments, payable to:

Commonwealth of Massachusetts
Department of Environmental Protection
Box 4062
Boston, MA 02211

DEP Western Region
436 Dwight Street
Suite 402
Springfield, MA 01103
Phone: 413-784-1100
Fax: 413-784-1149

Adams
Agawam
Alford
Amherst
Ashfield
Becket
Belchertown
Bernardston
Blandford
Brimfield
Buckland
Charlemont
Cheshire
Chester
Chesterfield
Chicopee
Clarksburg
Colrain
Conway
Cummington
Dalton
Deerfield
Easthampton
East Longmeadow
Egremont
Erving
Florida
Gill
Goshen
Granby
Granville
Great Barrington
Greenfield
Hadley
Hampden
Hancock
Hatfield
Hawley
Heath
Hinsdale
Holland
Holyoke
Huntington
Lanesborough
Lee
Lenox
Leverett
Leyden
Longmeadow
Ludlow
Middlefield
Monroe
Montague
Monterey
Montgomery
Monson
Mount Washington
New Ashford
New Marlborough
New Salem
North Adams
Northampton
Northfield
Orange
Otis
Palmer
Pelham
Peru
Pittsfield
Plainfield
Richmond
Rowe
Russell
Sandisfield
Savoy
Sheffield
Shelburne
Shutesbury
Southampton
South Hadley
Southwick
Springfield
Stockbridge
Sunderland
Tolland
Tyringham
Wales
Ware
Warwick
Washington
Wendell
Westfield
Westhampton
West Springfield
West Stockbridge
Whately
Wilbraham
Williamsburg
Williamstown
Windsor
Worthington

DEP Central Region
627 Main Street
Worcester, MA 01605
Phone: 508-792-7650
Fax: 508-792-7621
TDD: 508-767-2788

Acton
Ashburnham
Ashby
Athol
Auburn
Ayer
Barre
Bellingham
Berlin
Blackstone
Bolton
Boxborough
Boylston
Brookfield
Charlton
Clinton
Devens
Douglas
Dudley
Dunstable
East Brookfield
Fitchburg
Gardner
Grafton
Groton
Harvard
Hardwick
Holden
Hopedale
Hopkinton
Hubbardston
Hudson
Holliston
Lancaster
Leicester
Leominster
Littleton
Lunenburg
Marlborough
Maynard
Medway
Mendon
Milford
Millbury
Millville
New Braintree
Northborough
Northbridge
North Brookfield
Oakham
Oxford
Paxton
Pepperell
Petersham
Phillipston
Princeton
Royalston
Rutland
Shirley
Shrewsbury
Southborough
Southbridge
Spencer
Sterling
Stow
Sturbridge
Sutton
Templeton
Townsend
Tyngsborough
Upton
Uxbridge
Warren
Webster
Westborough
West Boylston
West Brookfield
Westford
Westminster
Winchendon
Worcester

DEP Southeast Region
20 Riverside Drive
Lakeville, MA 02347
Phone: 508-946-2700
Fax: 508-947-6557
TDD: 508-946-2795

Abington
Acushnet
Aquinnah
Attleboro
Avon
Barnstable
Berkley
Bourne
Brewster
Bridgewater
Brockton
Carver
Chatham
Chilmark
Dartmouth
Dennis
Dighton
Duxbury
Eastham
East Bridgewater
Easton
Edgartown
Fairhaven
Fall River
Falmouth
Foxborough
Franklin
Freetown
Gosnold
Halifax
Hanover
Hanson
Harwich
Kingston
Lakeville
Mansfield
Marion
Marshfield
Mashpee
Mattapoisett
Middleborough
Nantucket
New Bedford
North Attleborough
Norton
Norwell
Oak Bluffs
Orleans
Pembroke
Plainville
Plymouth
Plympton
Provincetown
Raynham
Rehoboth
Rochester
Rockland
Sandwich
Scituate
Seekonk
Sharon
Somerset
Stoughton
Swansea
Taunton
Tisbury
Truro
Wareham
Wellfleet
West Bridgewater
Westport
West Tisbury
Whitman
Wrentham
Yarmouth

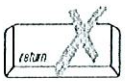
DEP Northeast Region
One Winter Street
Boston, MA 02108
Phone: 617-654-6500
Fax: 617-556-1049
TDD: 617-574-6868

Amesbury
Andover
Arlington
Ashland
Bedford
Belmont
Beverly
Billerica
Boston
Boxford
Braintree
Brookline
Burlington
Cambridge
Canton
Carlisle
Chelmsford
Chelsea
Cohasset
Concord
Danvers
Dedham
Dover
Dracut
Essex
Everett
Framingham
Georgetown
Gloucester
Groveland
Hamilton
Haverhill
Hingham
Holbrook
Hull
Ipswich
Lawrence
Lexington
Lincoln
Lowell
Lynn
Lynnfield
Malden
Manchester-By-The-Sea
Marblehead
Medfield
Medford
Melrose
Merrimac
Methuen
Middleton
Millis
Milton
Nahant
Natick
Needham
Newbury
Newburyport
Newton
Norfolk
North Andover
North Reading
Norwood
Peabody
Quincy
Randolph
Reading
Revere
Rockport
Rowley
Salem
Salisbury
Saugus
Sherborn
Somerville
Stoneham
Sudbury
Swampscott
Tewksbury
Topsfield
Wakefield
Walpole
Waltham
Watertown
Wayland
Wellesley
Wenham
West Newbury
Weston
Westwood
Weymouth
Wilmington
Winchester
Winthrop
Woburn

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
Request for Departmental Action Fee Transmittal Form
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

A. Request Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. Person or party making request (if appropriate, name the citizen group's representative):

Name

Mailing Address

City/Town | State | Zip Code

Phone Number | Fax Number (if applicable)

Project Location

Mailing Address

City/Town | State | Zip Code

2. Applicant (as shown on Notice of Intent (Form 3), Abbreviated Notice of Resource Area Delineation (Form 4A); or Request for Determination of Applicability (Form 1)):

Name

Mailing Address

City/Town | State | Zip Code

Phone Number | Fax Number (if applicable)

3. DEP File Number:

B. Instructions

1. When the Departmental action request is for (check one):

☐ Superseding Order of Conditions

☐ Superseding Determination of Applicability

☐ Superseding Order of Resource Area Delineation

Send this form and check or money order for $100.00 (single family house projects) or $200 (all other projects), payable to the *Commonwealth of Massachusetts* to:

Department of Environmental Protection
Box 4062
Boston, MA 02211

B. Instructions (cont.)

2. On a separate sheet attached to this form, state clearly and concisely the objections to the Determination or Order which is being appealed. To the extent that the Determination or Order is based on a municipal bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.

3. Send a **copy** of this form and a **copy** of the check or money order with the Request for a Superseding Determination or Order by certified mail or hand delivery to the appropriate DEP Regional Office.

4. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

Prepared for:
Camp Lion of Lynn Mass., Inc.
Salem, Massachusetts

Abbreviated Notice of Resource Area Delineation

488 Highland Avenue

Salem, Massachusetts

ENSR Corporation
November 2008

ENSR | AECOM

ENSR
2 Technology Park Drive, Westford, Massachusetts, 01886-3140
T 978.589.3000 F 978.589.3100 www.ensr.aecom.com

November 25, 2008

Salem Conservation Commission
Attention: Carey Duques, Conservation Agent
93 Washington Street
Salem, MA 01970

RE: Abbreviated Notice of Resource Area Delineation (ANRAD)
488 Highland Ave., Salem

Dear Commission Members and Ms. Duques:

On behalf of Camp Lion of Lynn Mass., Inc., ENSR is pleased to submit for your consideration the enclosed ANRAD for a site at 488 Highland Avenue, Salem, Mass. This ANRAD is being submitted specifically to request the Commission's review and confirmation of approximately 2,600 linear feet of Bordering Vegetated Wetland and 725 linear feet of Bank associated with an intermittent stream (as depicted on the enclosed plan). This will allow for project design in full compliance with the performance standards of 310 CMR 10.00.

Thank you in advance for your time in review of this application, and we look forward to further discussions regarding this site. Please call me at 978-589-3390 with any questions.

Sincerely,
ENSR

Terry E. Gensel
Wetland Scientist

Cc: DEP Northeast Region

Prepared for:
Camp Lion of Lynn Mass., Inc.
Salem, Massachusetts

Abbreviated Notice of Resource Area Delineation

488 Highland Avenue

Salem, Massachusetts

Prepared By

Reviewed By

Contents

ENSR Corporation
November 2008

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 4A – Abbreviated Notice of Resource Area Delineation
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Salem
City/Town

A. General Information

1. Project Type:

   a. ☒ Resource Area Delineation Only

   b. ☐ Resource Area Delineation Subject to Simplified Review

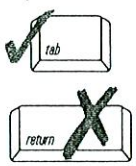
2. Project Location (**Note:** electronic filers will click on button for GIS locator):

   488 Highland Avenue — a. Street Address
   Salem — c. Zip Code: 01970

   Latitude and Longitude:
   42.491718 — d. Latitude
   -70.935331 — e. Longitude

   3 — f. Assessors Map/Plat Number
   1 — g. Parcel /Lot Number

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



3. Applicant:

   Kevin — a. First Name
   Donahue — b. Last Name
   Camp Lion of Lynn Mass., Inc. — c. Company
   73 North Common Street — d. Mailing Address
   Lynn — e. City/Town
   MA — f. State
   01902 — g. Zip Code
   781 598 6766 — h. Phone Number
   781 599 1658 — i. Fax Number
   j. Email address

4. Property owner (if different from applicant): ☐ Check if more than one owner

   Same — a. First Name
   b. Last Name
   c. Company
   d. Mailing Address
   e. City/Town
   f. State
   g. Zip Code
   h. Phone Number
   i. Fax Number
   j. Email address

Note: Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

5. Representative (if any):

   ENSR — a. Firm
   Terry — b. Contact Person First Name
   Gensel — c. Contact Person Last Name
   2 Technology Park Drive — d. Mailing Address
   Westford — e. City/Town
   MA — f. State
   01886 — g. Zip Code
   978-589-3000 — h. Phone Number
   978-589-3100 — i. Fax Number
   terry.gensel@aecom.com — j. Email address

Fees will be calculated for online users.

6. Total WPA Fee Paid (from attached ANRAD Wetland Fee Transmittal Form):

   $ 2,000 — a. Total Fee Paid
   $987.50 — b. State Fee Paid
   $1,012.50 — c. City/Town Fee Paid

B. Area(s) Delineated

1. Bordering Vegetated Wetland (BVW) — ~2,600 linear feet (Linear Feet of Boundary Delineated)

2. Check all methods used to delineate the Bordering Vegetated Wetland (BVW) boundary:

   a. ☒ MassDEP BVW Field Data Form (attached)

   b. ☐ Other Methods for Determining the BVW boundary (attach documentation):

      1. ☒ 50% or more wetland indicator plants
      2. ☒ Saturated/inundated conditions exist
      3. ☐ Groundwater indicators
      4. ☐ Direct observation
      5. ☒ Hydric soil indicators
      6. ☐ Credible evidence of conditions prior to disturbance

3. Indicate if any other resource area(s) are delineated:

a. Resource Area	b. Linear Feet Delineated
intermittent stream	~725'
c. Resource Area	d. Linear Feet Delineated

C. Additional Information

Applicants must include the following plans with this Abbreviated Notice of Resource Area Delineation. See instructions for details. **Online Users:** Attach the document transaction number (provided on your receipt page) for any of the following information you submit to the Department.

1. ☒ ANRAD (Delineation Plans only)
2. ☐ Simplified Review ANRAD with Stormwater (Delineation Plans and Project Plans)
3. ☐ Simplified Review ANRAD without Stormwater (Delineation Plans only)
4. ☒ USGS or other map of the area (along with a narrative description, if necessary) containing sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)
5. ☒ Plans identifying the boundaries of the Bordering Vegetated Wetlands (BVW) (and other resource areas, if applicable).
6. ☒ List the titles and final revision dates for all plans and other materials submitted with this Abbreviated Notice of Resource Area Delineation.

D. Simplified Review for Buffer Zone Projects

Simplified Review cannot be applied to work proposed within riverfront areas or bordering land subject to flooding.

I certify that the project design and construction, in order to be eligible for Buffer Zone Simplified Review, complies with the following requirements.

Boxes 1-10 must be checked in order for the application to be eligible.

1. ☐ No work of any kind will occur within any wetland resource areas including Riverfront Area and Bordering Land Subject to Flooding.
2. ☐ The inner 0-to-50-foot wide area from the delineated wetland boundary will not be disturbed by any work associated with this project, including placement of any stormwater management components.
3. ☐ The buffer zone where the work is proposed does not border an Outstanding Resource Water (e.g., certified vernal pool, public water supply reservoir or tributary), as defined in 314 CMR 4.00 or border coastal resource areas at 310 CMR 10.25-10.35.
4. ☐ The buffer zone is not adjacent to wetland resources with estimated wildlife habitat (which is identified on the most recent Estimated Habitat Map of State-listed Rare Wetlands Wildlife).
5. ☐ If the project is subject to the Massachusetts Stormwater Policy, all work will be conducted in conformance with an approved Stormwater Management Plan.
6. ☐ Erosion and Sedimentation controls will be provided at the 50-foot buffer zone line or limit of work (whichever is a greater distance from the resource area) and be sufficient to protect resource areas during construction.
7. ☐ The buffer zone does not contain an existing slope greater than an average of 15% at its steepest gradient across the 100-foot width of the buffer zone from the edge of the resource area to the outer edge of the buffer zone.
8. ☐ Following completion of the project, the amount of new impervious surface, in combination with existing impervious surfaces, will not exceed 40% of the buffer zone between 50 and 100 feet from a delineated boundary.
9. ☐ If work authorized under Simplified Review is commenced, no work is allowed, and no additional NOI or RDA may be filed, for any work within the 0-to-50-foot buffer zone during the term of an ORAD associated with this application. If work authorized under Simplified Review is **not** commenced, then future NOIs or RDAs may be filed for work within the 0-to-50-foot portion of the buffer zone.
10. The project a. ☐ is b. ☐ is not subject to the Massachusetts Stormwater Policy.

If the project is subject to the Stormwater Policy, check one of the following three boxes:

1. ☐ attached is a Stormwater Management Form (and supporting information)
2. ☐ no work contemplated at this time; a Stormwater Management Form (and supporting information) will be provided to the Conservation Commission for review and concurrence prior to the commencement of any work on the site.
3. ☐ Stormwater Management Form is being submitted for a previously issued Order of Resource Area Delineation (delineation only) dated: _____ a. Date

_____ b. Title of Stormwater Management Plan

_____ c. Date

_____ d. Signature of Applicant or Applicant's Representative

E. Fees

The fees for work proposed under each Abbreviated Notice of Resource Area Delineation must be calculated and submitted to the Conservation Commission and the Department (see Instructions and Wetland Fee Transmittal Form).

No filing fee shall be assessed for projects of any city, town, county, or district of the Commonwealth, federally recognized Indian tribe housing authority, municipal housing authority, or the Massachusetts Bay Transportation Authority.

Applicants must submit the following information (in addition to the attached Wetland Fee Transmittal Form) to confirm fee payment:

6853 1. Municipal Check Number	11-25-08 2. Check date
6852 3. State Check Number	11-25-08 4. Check date
Kennedy Development Group, Inc. 5. Payor name on check: First Name	- 6. Payor name on check: Last Name

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 4A – Abbreviated Notice of Resource Area Delineation
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Salem
City/Town

F. Signatures and Certification Requirements

I certify under the penalties of perjury that the foregoing Abbreviated Notice of Resource Area Delineation and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

I certify that any work associated with the proposed project meets all of the eligibility criteria listed in Section D above. If the project does not comply with the Section D eligibility requirements, or if I decide to not do the work allowed by the Simplified Review Approval, I will file a Notice of Intent or Request for Determination of Applicability for any proposed future work as required by the Conservation Commission.

I acknowledge that I am responsible for promptly requesting a Certificate of Compliance following completion of any work allowed pursuant to a Simplified Review or no later than three years from the date of the Order of Resource Area Delineation unless the Order is extended on Wetland Form 7, Extension Permit for Order of Conditions.

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made in writing by hand delivery or certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

I hereby grant permission, to the Agent or member of the Conservation Commission and the Department of Environmental Protection, to enter and inspect the area subject to this Notice at reasonable hours to evaluate the project subject to this Notice, and to require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.

I acknowledge that failure to comply with these certification requirements is grounds for the Conservation Commission or the Department to take enforcement action.

Kevin Donahue
1. Signature of Applicant

11/25/08
2. Date

3. Signature of Property Owner (if different)

4. Date

Terry L. Jensen (ENSR)
5. Signature of Representative (if any)

11/25/08
6. Date

For Conservation Commission:
Two copies of the completed Abbreviated Notice of Resource Area Delineation (Form 4A), including supporting plans and documents; two copies of the ANRAD Wetland Fee Transmittal Form; and the city/town fee payment must be sent to the Conservation Commission by certified mail or hand delivery.

For MassDEP:
One copy of the completed Abbreviated Notice of Resource Area Delineation (Form 4A), including supporting plans and documents; one copy of the ANRAD Wetland Fee Transmittal Form; and a copy of the state fee payment must be sent to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery. (E-filers may submit these electronically.)

Other:
If the applicant has checked the "yes" box in any part of Section C, refer to that section and the Instructions for additional submittal requirements.

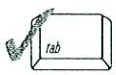
The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 4A – ANRAD Wetland Fee Transmittal Form

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A. Applicant Information

1. Applicant:

a. First Name	b. Last Name	c. Company
Kevin	Donahue	Camp Lion of Lynn Mass.,Inc

d. Mailing Address: 73 North Common Street

e. City/Town	f. State	g. Zip Code
Lynn	MA	01902

h. Phone Number: 781 598 6766

2. Property Owner (if different):

a. First Name	b. Last Name	c. Company
Same		

d. Mailing Address

e. City/Town	f. State	g. Zip Code

h. Phone Number

3. Project Location:

a. Street Address	b. City/Town

B. Fees

The fee is calculated as follows for each Resource Area Delineation included in the ANRAD (check applicable project type):

☐ **Online users:** check box if fee exempt.

Bordering Vegetated Wetland:

		a. linear feet	x $2.00 =	b. Total fee not to exceed $200
1. ☐	single family house project			
2. ☒	all other projects	2,600 lf		$2,000
		a. linear feet	x $2.00 =	b. Total fee not to exceed $2,000

Other Resource Area (e.g., bank, riverfront area, etc.):

		a. linear feet	x $2.00 =	b. Total fee not to exceed $200
3. ☐	single family house project			
4. ☐	all other projects			
		a. linear feet	x $2.00 =	b. Total fee not to exceed $2,000

State share of filing fee: $987.50
5. 1/2 of total fee **less** $12.50

City/Town share of filing fee: $1,012.50
6. 1/2 of total fee **plus** $12.50

WPA Form 4A – ANRAD Wetland Fee Transmittal Form

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

C. Submittal Requirements

a.) Send a copy of this form, with a check or money order for the state share of the fee, payable to the Commonwealth of Massachusetts, to:

Department of Environmental Protection
Box 4062
Boston, MA 02211

b.) **To the Conservation Commission:** Send the Abbreviated Notice of Resource Area Delineation; a **copy** of this form; and the city/town fee payment.

c.) **To MassDEP Regional Office** (see Instructions): Send one copy of the Abbreviated Notice of Resource Area Delineation (and any additional documentation required as part of a Simplified Review Buffer Zone Project); a **copy** of this form; and a **copy** of the state fee payment. (E-filers of Notices of Intent may submit these electronically.)

Attachment A

Site and Resource Area Narrative

Introduction

On behalf of Camp Lion of Lynn, Mass., Inc. ENSR herein submits an Abbreviated Notice of Resource Area Delineation for review. This report summarizes the results of investigations conducted by ENSR to identify potential wetland resource areas within the subject area. The site is located at 488 Highland Avenue, Salem, Massachusetts, as indicated on the attached USGS Locus Map (Figure1). ENSR wetland scientists investigated the above referenced area for the purpose of wetland resource areas subject to the jurisdiction of the Massachusetts Wetlands Protection Act (MWPA), and Section 404 of the federal Clean Water Act. ENSR uses a multi-parameter methodology, which incorporates the presence of hydric soils, dominance of hydrophytic vegetation, and other indicators of hydrology to determine the limits of state and federal jurisdictional wetlands.

As a result of the site investigation, the study region revealed several distinct wetlands that were considered jurisdictional wetland resource areas under the MWPA and its Regulations at 310 CMR 10.00. For the purpose of this ANRAD, a specific portion of these wetland areas is submitted for review. All other wetland areas on the property and within buffer zones from off-site adjacent properties will not be included for the purpose of this ANRAD submission. The wetland region submitted for this review consists of an intermittent stream channel (Bank) and associated Bordering Vegetated Wetland (BVW). The location and associated Bank and BVW flags are described in the following sections. The wetland delineated for this review in general consists of a forested scrub-shrub wetland, with an intermittent stream drainage channel. The wetland delineation flags have been located using ground survey and plotted on the site plans accompanying this report. In addition, wetland boundary data sheets and associated upland and hydric soil auger photographs are also included with this submission.

Description of Resource Areas

Bordering Vegetated Wetland / Bank

The Bordering Vegetated Wetland and associated intermittent stream Bank submitted for this review are located on the northeast side of the existing Camp Lion's drive. The intermittent stream flags, as indicated on the attached plan, start at the drive edge just after the camp's office building. The stream's Bank flags and associated BVW then extend through a forested region to the north or just beyond the northern side of the camp's pool region.

The intermittent stream's delineated Bank starts with flag #1 on the northern Bank at the access road and continues northerly to Bank flag #21. The opposite side, or southern Bank of the intermittent stream, starts with Bank flag #20 at the access road and continues to Bank flag #3. The intermittent stream runs through a

region where bedrock appears to be shallow and outcrops are somewhat common throughout the study region as well. The region is mapped as Chatfield-Hollis-Rock outcrop complex with 3 to 15 percent slopes.

The Bordering Vegetated Wetland associated with the stream and wetland basin were flagged as Wetland Area A and Wetland Area B. The BVW associated with the southern side of the intermittent stream starts with wetland flag number A1 at the access road and continues northerly to wetland flag A28. The opposite side of the stream starts with BVW flag number B20 at the access road and continues along the intermittent stream channel and ends along an outcrop area located into the wetland basin to the north.

The forested scrub-shrub wetland associated with the stream and wetland basin is generally dominated by woody species and has a dense tree and shrub layer. A significant herbaceous layer was not apparent due to the dense shading from the tree and shrub layers. The dominant woody species documented include Red Maple (*Acer rubrum*), Gray Birch (*Betula populifolia*), Sweet Pepperbush (*Clethra alnifolia*), and Highbush Blueberry (*Vaccinium corymbosum*). The less dominant woody species found at the wetland transition zone and within the wetland itself included Winterberry (*Ilex verticillata*), Willow (*Salix* sp.), Arrowwood (*Viburnum recognitum*), Meadowsweet (*Spiraea latifolia*), White Pine (*Pinus strobes*), American Elm (*Ulmus Americana*), and Ash (*Fraxinus* sp.). The herbaceous layer of the forested scrub-shrub wetland consists of a lower percentage of species such as Canada Mayflower (*Maianthemum canadense*), Skunk Cabbage (*Symplocarpus foetidus*), Sphagnum sp., and Goldenrod (*Solidago* sp.).

Bordering Land Subject to Flooding

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the City of Salem, Massachusetts (Map No. 250102 0005 B, revised August 5, 1985) indicates that no portion of the site falls within a regulated flodzone. A copy of the FIRM is included in the appendix of this report.

Rare Species

According to the most recent information on MassGIS, updated by the Massachusetts Natural Heritage and Endangered Species Program, the site is not located within an area of Estimated Habitats of Rare Wildlife or an area of Priority Habitats of Rare Species. There are no certified vernal pools located on or near the site. ENSR did not observe any evidence of rare or endangered species during the site investigations.

Attachment B

Wetland Delineation Data Sheets and Associated Photographs

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: _____ Prepared by : Terry Gensel Project Location: ~~488 Highland~~ Ave DEP File #: _____

Check all that apply:

☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
☒ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
☐ Method other than dominance test used (attach additional information)

Section I. Vegetation

Observation Plot Number: 1-Wet Transect Number: N/A Date: 11/18/08

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Tree:				
Red maple - Acer rubrum	38.0%	65.0%	Yes	Fac*
Gray Birch - Betula populifolia	20.5%	35.0%	Yes	FAC*
Shrub:				
Pepperbush - Clethra alnifolia	20.5%	100%	Yes	FAC*
Herbaceous:				
Skunk cabbage - Symplocarpus foetidus	20.5%	77.4%	Yes	Obl*
Sphagnum sp.	3.0	11.3%	No	Obl*
Canada mayflower - Maianthemum canadense	3.0	11.3%	No	Fac

NOTE: Wetland Plot

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c. 131, 40); plants in the genus Sphagnum; plants listed as FAC, FAC+, FACW-, FACW, FACW+, OR OBL; or plants with physiological or morphological adaptation. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetative conclusion:

Number of dominate Wetland Indicator Plants: 4 Number of Dominant non-wetland indicator plants: 0

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? yes ☒ no ☐

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey:

Is there a published soil survey for this site? ☒Yes ☐ No

title/date: NRCS Essex County Southern Part
Area data version 7 may 5, 2008
map number: MA606
soil type mapped 102C Chatfield-Hollis-Rock outcrock complex, 3-15% slopes
hydric soil inclusions

Are field observations consistent with soil survey? ☒Yes ☐No
Remarks:

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-6	7.5YR - 2.5/1	None
B	6-10	7.5YR - 3/1	None
B	10-18	7.5YR - 4/1	None

Remarks:

3. Other:

Conclusion: Is soil hydric? ☒Yes ☐No **NA**

Other Indicators of Hydrology: (Check all that apply and describe)

☒ Site inundated: _____
☒ Depth to free water in observation hole: ~~2"~~ _____
☐ Depth to soil saturation in observation hole: ~~1"~~ _____
☒ Water marks: _____
☐ Drift lines: _____
☐ Sediment deposits: _____
☒ Drainage patterns in BVW: _____
☒ Oxidized rhizospheres: _____
☒ Water-Stained leaves: _____
☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other): _____
_____
☐ Other: _____

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ➢ number of non-wetland indicator plants	☒	☐
Wetland hydrology present: hydric soil present	☒	☐
other indicators of hydrology present	☒	☐
Sample location is in a BVW	☒	☐

Submit this form with the Request for Determination of Applicability or Notice of Intent.

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: _____ Prepared by : Terry Gensel Project Location: ~~488 Highland~~ Ave DEP File #: _____

Check all that apply:

☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
☒ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
☐ Method other than dominance test used (attach additional information)

Section I. Vegetation

Observation Plot Number: 1-Up Transect Number: N/A Date: 11/18/08

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Tree:				
Red maple - Acer rubrum	10.5%	5.8%	No	Fac*
Gray Birch - Betula populifolia	10.5%	5.8%	No	Fac*
White Pine - Pinus strobus	63.0%	34.9%	Yes	FacU
Red Oak - Auercus rubra	38.0%	21.0%	Yes	FacU-
Shrub:				
Pepperbush - Clethra alnifolia	20.5%	100%	Yes	Fac*
Herbaceous:				
Canada mayflower - Maianthemum canadense	38.0%	100%	Yes	Fac*

Upland Plot

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c. 131, 40); plants in the genus Sphagnum; plants listed as FAC, FAC+, FACW-, FACW, FACW+, OR OBL; or plants with physiological or morphological adaptation. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetative conclusion:

Number of dominate Wetland Indicator Plants: 2 Number of Dominant non-wetland indicator plants: 2

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? yes ☒ no ☐

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey:

Is there a published soil survey for this site? ☒Yes ☐ No

title/date: NRCS Essex County Southern Part
Area data version 7 may 5, 2008
map number: MA606
soil type mapped 102C Chatfield-Hollis-Rock outcrock complex, 3-15% slopes
hydric soil inclusions

Are field observations consistent with soil survey? ☒Yes ☐No
Remarks:

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	1-3	7.5YR - 2.5/1	None
B	3-11	7.5YR - 4/4	None
B	11-18	7.5YR - 5/6	None

Remarks: Upland Plot

3. Other:

Conclusion: Is soil hydric? ☐Yes ☒No

Other Indicators of Hydrology: (Check all that apply and describe)

- ☐ Site inundated: _____
- ☒ Depth to free water in observation hole: ~~16"~~
- ☐ Depth to soil saturation in observation hole: ~~6"~~
- ☐ Water marks: _____
- ☐ Drift lines: _____
- ☐ Sediment deposits: _____
- ☐ Drainage patterns in BVW: _____
- ☐ Oxidized rhizospheres: _____
- ☐ Water-Stained leaves: _____
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other): _____
- ☐ Other: _____

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥ number of non-wetland indicator plants	☒	☐
Wetland hydrology present: hydric soil present	☐	☒
other indicators of hydrology present	☐	☒
Sample location is in a BVW	☐	☒

Submit this form with the Request for Determination of Applicability or Notice of Intent.

Photo 1: Representative of Upland soil auger near flag 7

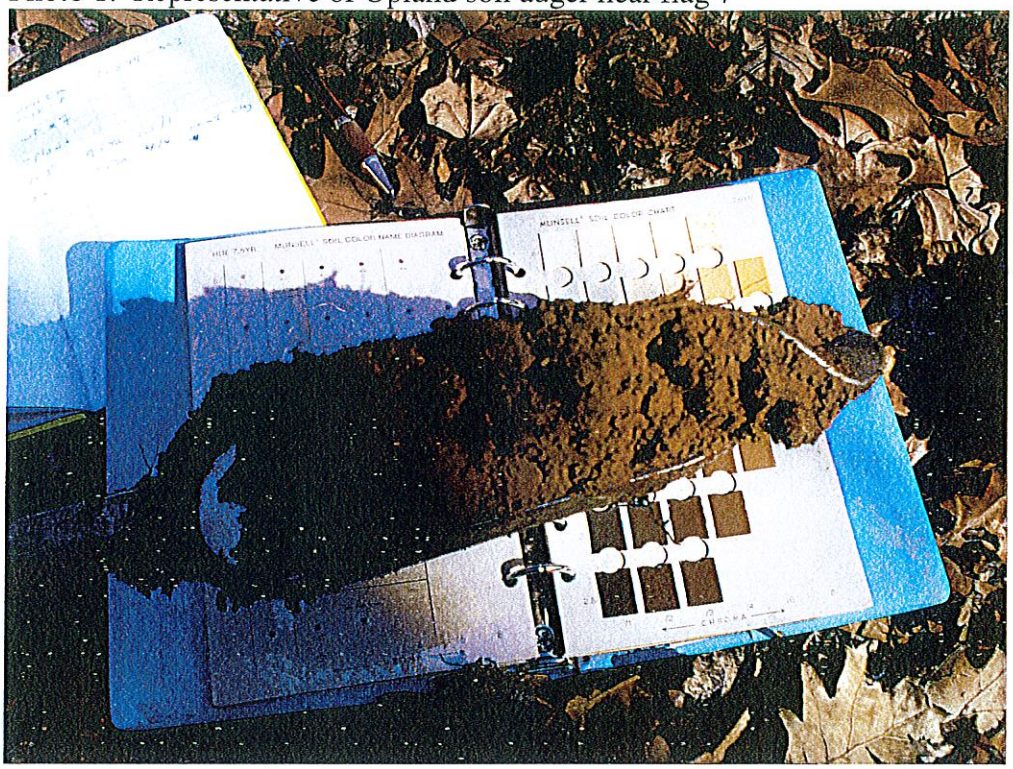


Photo 2: Representative of Hydric soil auger near flag 7

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: _____ Prepared by : Terry Gensel Project Location: ~~488 Highland~~ Ave DEP File #: _____

Check all that apply: **Sample location near flag 17B Region. Wetland Plot**

☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
☒ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
☐ Method other than dominance test used (attach additional information)

Section I. Vegetation Observation Plot Number: 2-Wet Transect Number: N/A Date: 11/18/08

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Tree:				
Red maple - Acer rubrum	20.5%	66.1%	Yes	Fac*
Gray Birch - Betula populifolia	10.5%	33.9%	Yes	Fac*
Shrub:				
Pepperbush - Clethra alnifolia	38.0%	78.3%	Yes	Fac*
Highbush Blueberry - Vaccinium corymbosum	10.5%	21.6%	Yes	FacW-*
Herbaceous:				
Canada mayflower - Maianthemum canadense	20.5%	60.3%	Yes	Fac*
Sphagnum sp.	10.5%	30.9%	Yes	Obl*
Goldenrod - Solidago sp.	3.0%	8.8%	No	FAC*

NOTE:

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c. 131, 40); plants in the genus Sphagnum; plants listed as FAC, FAC+, FACW-, FACW, FACW+, OR OBL; or plants with physiological or morphological adaptation. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetative conclusion:
Number of dominate Wetland Indicator Plants: 6 Number of Dominant non-wetland indicator plants: 1
Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? yes ☒ no ☐

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent. MA DEP; 3/95

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey:

Is there a published soil survey for this site? ☒Yes ☐ No

title/date: NRCS Essex County Southern Part
Area data version 7 may 5, 2008
map number: MA606
soil type mapped 102C Chatfield-Hollis-Rock outcrock complex, 3-15% slopes
hydric soil inclusions

Are field observations consistent with soil survey? ☒Yes ☐No
Remarks:

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	1-3	7.5YR - 2.5/1	None
B	4-9	7.5YR - 2.5/2	None
B	9-18	7.5YR - 3/2	10% 7.5YR 5/1

Remarks:

3. Other:

Conclusion: Is soil hydric? ☒Yes ☐No

Other Indicators of Hydrology: (Check all that apply and describe)

- ☒ Site inundated: _____
- ☒ Depth to free water in observation hole: 4" _____
- ☐ Depth to soil saturation in observation hole: 1" _____
- ☐ Water marks: _____
- ☐ Drift lines: _____
- ☐ Sediment deposits: _____
- ☐ Drainage patterns in BVW: _____
- ☒ Oxidized rhizospheres: _____
- ☒ Water-Stained leaves: _____
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other): _____
- ☐ Other: _____

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ➢ number of non-wetland indicator plants	☒	☐
Wetland hydrology present: hydric soil present	☒	☐
other indicators of hydrology present	☒	☐
Sample location is in a BVW	☒	☐

Submit this form with the Request for Determination of Applicability or Notice of Intent.

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: _____ Prepared by : Terry Gensel Project Location: ~~488 Highland~~ Ave DEP File #: _____

Check all that apply: **Sample location near flag 17B Region. Upland**

☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
☒ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
☐ Method other than dominance test used (attach additional information)

Section I. Vegetation

Observation Plot Number: 2-Up Transect Number: N/A Date: 11/18/08

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Tree:				
Red maple - Acer rubrum	3.0%	6.8%	No	Fac*
Gray Birch - Betula populifolia	20.5%	46.6%	Yes	Fac*
Red Oak - Auercus rubra	20.5%	46.6%	Yes	FacU-
Shrub:				
Pepperbush - Clethra alnifolia	3%	100%	Yes	Fac*
Herbaceous:				
Canada mayflower - Maianthemum canadense	20.5%	66.0%	Yes	Fac*
Goldenrod - Solidago sp.	10.5%	33.8%	Yes	FAC*

NOTE:

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c. 131, 40); plants in the genus Sphagnum; plants listed as FAC, FAC+, FACW-, FACW, FACW+, OR OBL; or plants with physiological or morphological adaptation. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetative conclusion:

Number of dominate Wetland Indicator Plants: 4 Number of Dominant non-wetland indicator plants: 1

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? yes ☒ no ☐

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent. MA DEP; 3/95

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey:

Is there a published soil survey for this site? ☒Yes ☐ No

title/date: NRCS Essex County Southern Part
Area data version 7 may 5, 2008
map number: MA606
soil type mapped 102C Chatfield-Hollis-Rock outcrock complex, 3-15% slopes
hydric soil inclusions

Are field observations consistent with soil survey? ☒Yes ☐No
Remarks:

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	1-4	7.5YR - 2.5/1	None
B	4-18	7.5YR - 4/4	None

Remarks: Upland Plot

3. Other:

Conclusion: Is soil hydric? ☐Yes ☒No

Other Indicators of Hydrology: (Check all that apply and describe)

- ☐ Site inundated: _____
- ☒ Depth to free water in observation hole: ~~17"~~
- ☐ Depth to soil saturation in observation hole: ~~8"~~
- ☐ Water marks: _____
- ☐ Drift lines: _____
- ☐ Sediment deposits: _____
- ☐ Drainage patterns in BVW: _____
- ☐ Oxidized rhizospheres: _____
- ☐ Water-Stained leaves: _____
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other): _____
- ☐ Other: _____

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥ number of non-wetland indicator plants	☒	☐
Wetland hydrology present: hydric soil present	☐	☒
other indicators of hydrology present	☐	☒
Sample location is in a BVW	☐	☒

Submit this form with the Request for Determination of Applicability or Notice of Intent.

Photo 3: Representative of Upland soil auger near flag 17B

Photo 4: Representative of Hydric soil auger near flag 17B

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: _____ Prepared by : Terry Gensel Project Location: ~~488 Highland~~ Ave DEP File #: _____

Check all that apply: **Sample location near flag 27A Region. Wetland Plot**

☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
☒ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
☐ Method other than dominance test used (attach additional information)

Section I. Vegetation

Observation Plot Number: 3-Wet Transect Number: N/A Date:

11/18/08

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Tree:				
Red maple - Acer rubrum	63.0%	86.0%	Yes	Fac*
Gray Birch - Betula populifolia	14.3%	33.9%	Yes	Fac*
Shrub:				
Pepperbush - Clethra alnifolia	85.5%	96.6%	Yes	Fac*
Highbush Blueberry - Vaccinium corymbosum	3.0%	3.4%	No	FacW-*
Herbaceous:				
Sphagnum sp.	38.0%	100%	Yes	Obl*

NOTE: Wetland Plot

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c. 131, 40); plants in the genus Sphagnum; plants listed as FAC, FAC+, FACW-, FACW, FACW+, OR OBL; or plants with physiological or morphological adaptation. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetative conclusion:

Number of dominate Wetland Indicator Plants: 4 Number of Dominant non-wetland indicator plants: 0

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? yes ☒ no ☐

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey:

Is there a published soil survey for this site? ☒Yes ☐ No

title/date: NRCS Essex County Southern Part
Area data version 7 may 5, 2008
map number: MA606
soil type mapped 102C Chatfield-Hollis-Rock outcrock complex, 3-15% slopes
hydric soil inclusions

Are field observations consistent with soil survey? ☒Yes ☐No
Remarks:

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	1-4	7.5YR - 2.5/1	None
B	4-10	7.5YR - 3/1	None
B	10-18	7.5YR - 4/1-6/1	

Remarks:

3. Other:

Conclusion: Is soil hydric? ☒Yes ☐No

Other Indicators of Hydrology: (Check all that apply and describe)

- ☒ Site inundated: _____
- ☒ Depth to free water in observation hole: ~~6"~~ _____
- ☐ Depth to soil saturation in observation hole: ~~2"~~ _____
- ☒ Water marks: _____
- ☐ Drift lines: _____
- ☐ Sediment deposits: _____
- ☒ Drainage patterns in BVW: _____
- ☒ Oxidized rhizospheres: _____
- ☒ Water-Stained leaves: _____
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other): _____
- ☐ Other: _____

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥ number of non-wetland indicator plants	☒	☐
Wetland hydrology present: hydric soil present	☒	☐
other indicators of hydrology present	☒	☐
Sample location is in a BVW	☒	☐

Submit this form with the Request for Determination of Applicability or Notice of Intent.

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: _____ Prepared by: Terry Gensel Project Location: ~~488 Highland~~ Ave DEP File #: _____

Check all that apply: **Sample location near flag 27A Region. Upland**

☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
☒ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
☐ Method other than dominance test used (attach additional information)

Section I. Vegetation

Observation Plot Number: 3-Up Transect Number: N/A Date: 11/18/08

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Tree:				
Red maple - Acer rubrum	20.5%	21.8%	Yes	Fac*
Black Cherry - Betula populifolia	10.5%	11.2%	No	FacU
Red Oak - Auercus rubra	63.0%	67.0%	Yes	FacU-
Shrub:				
Pepperbush - Clethra alnifolia	20.5%	100%	Yes	Fac*
Herbaceous:				
Goldenrod - Solidago sp.	10.5%	100%	Yes	FAC*

NOTE: Upland Plot

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c. 131, 40); plants in the genus Sphagnum; plants listed as FAC, FAC+, FACW-, FACW, FACW+, OR OBL; or plants with physiological or morphological adaptation. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetative conclusion:

Number of dominate Wetland Indicator Plants: 3 Number of Dominant non-wetland indicator plants: 1

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? yes ☒ no ☐

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent. MA DEP; 3/95

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey:

Is there a published soil survey for this site? ☒Yes ☐ No

title/date: NRCS Essex County Southern Part
Area data version 7 may 5, 2008
map number: MA606
soil type mapped 102C Chatfield-Hollis-Rock outcrock complex, 3-15% slopes
hydric soil inclusions

Are field observations consistent with soil survey? ☒Yes ☐No
Remarks:

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	1-2	7.5YR - 2.5/1	None
B	2-6	7.5YR - 4/2	None
B	6-18	7.5YR - 4/6	None

Remarks: Upland Plot

3. Other:

Conclusion: Is soil hydric? ☐Yes ☒No

Other Indicators of Hydrology: (Check all that apply and describe)

- ☐ Site inundated: _____
- ☒ Depth to free water in observation hole: ~~None~~ _____
- ☐ Depth to soil saturation in observation hole: ~~12"~~ _____
- ☐ Water marks: _____
- ☐ Drift lines: _____
- ☐ Sediment deposits: _____
- ☐ Drainage patterns in BVW: _____
- ☐ Oxidized rhizospheres: _____
- ☐ Water-Stained leaves: _____
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other): _____
- ☐ Other: _____

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥ number of non-wetland indicator plants	☒	☐
Wetland hydrology present: hydric soil present	☐	☒
other indicators of hydrology present	☐	☒
Sample location is in a BVW	☐	☒

Submit this form with the Request for Determination of Applicability or Notice of Intent.

Photo 5: Representative of Upland soil auger near flag 27A

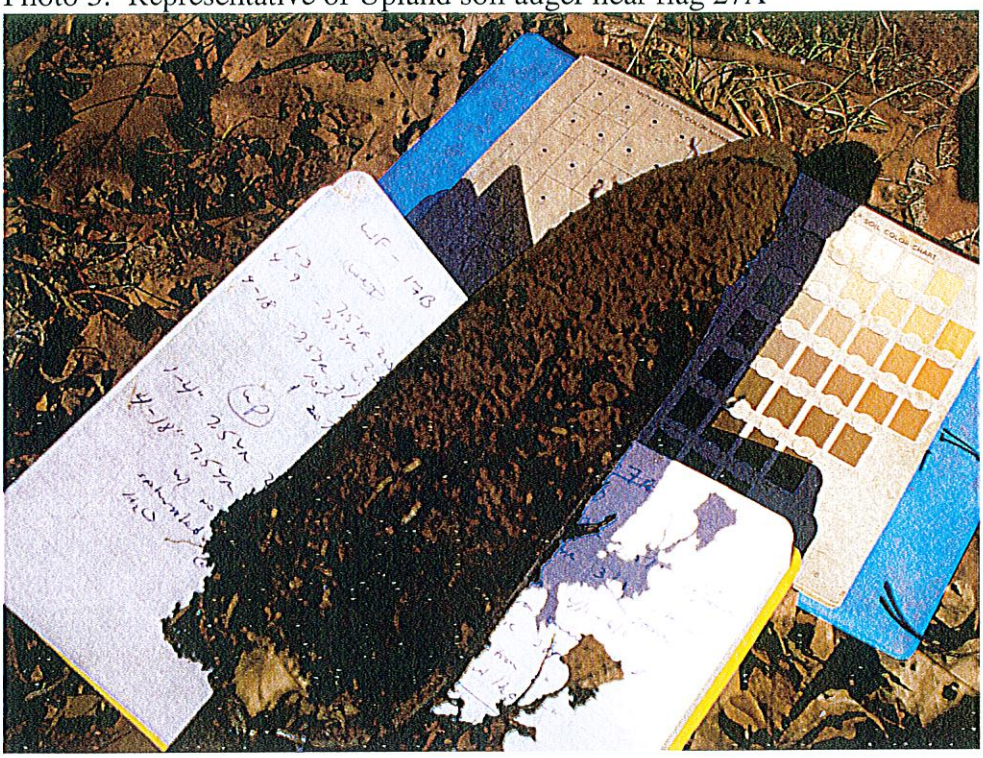
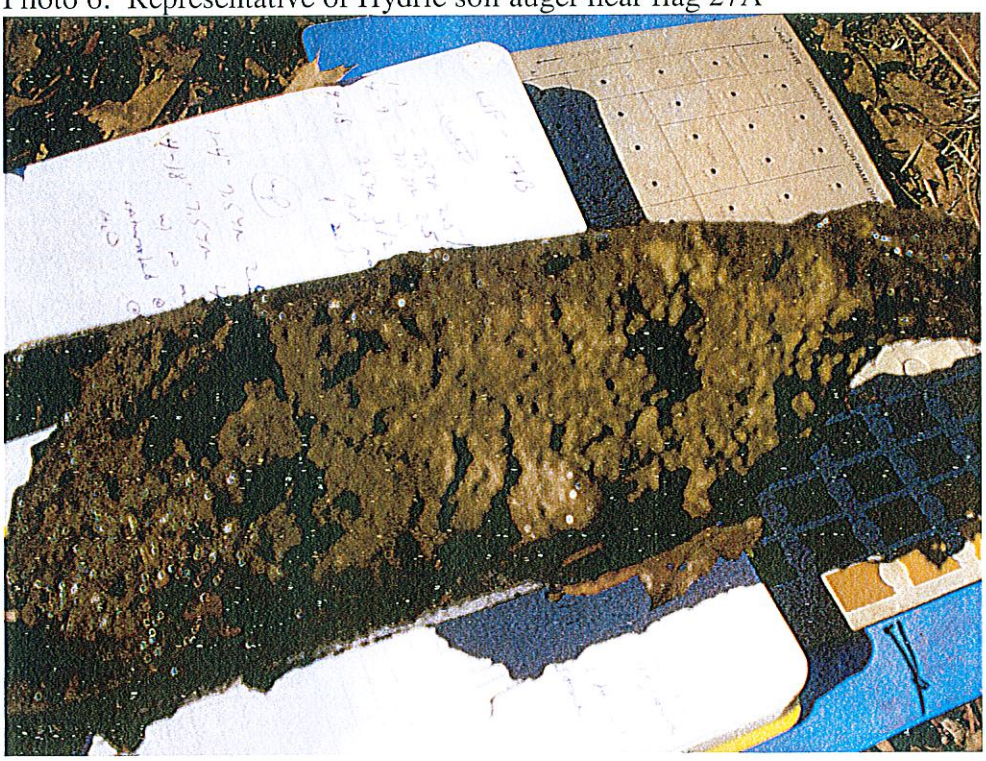
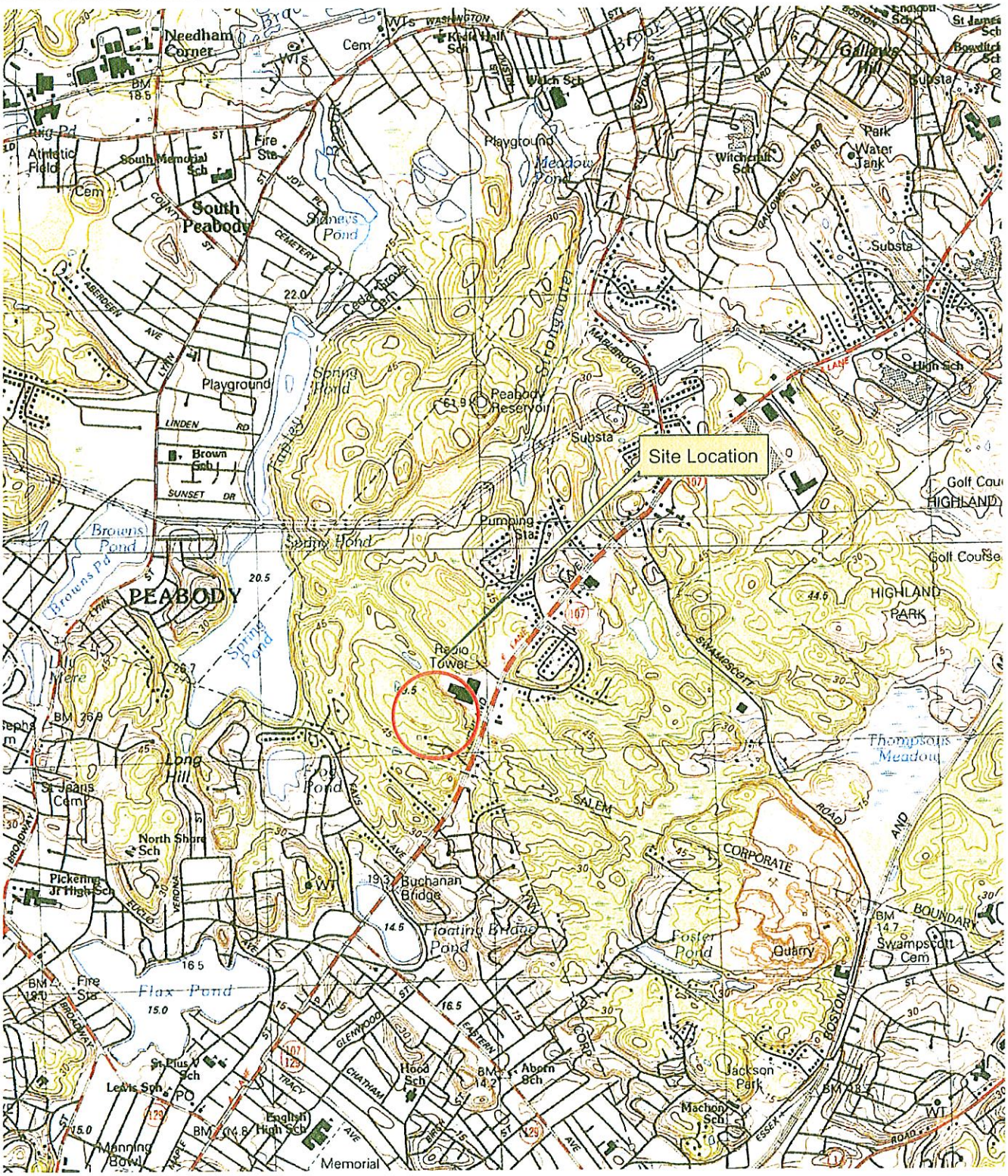


Photo 6: Representative of Hydric soil auger near flag 27A



Attachment C

Site Plan and Figures



N
W E
S

1 inch equals 2,000 feet

Abbreviated Notice of
Resource Area Delineation
488 Highland Ave
Salem, Massachusetts

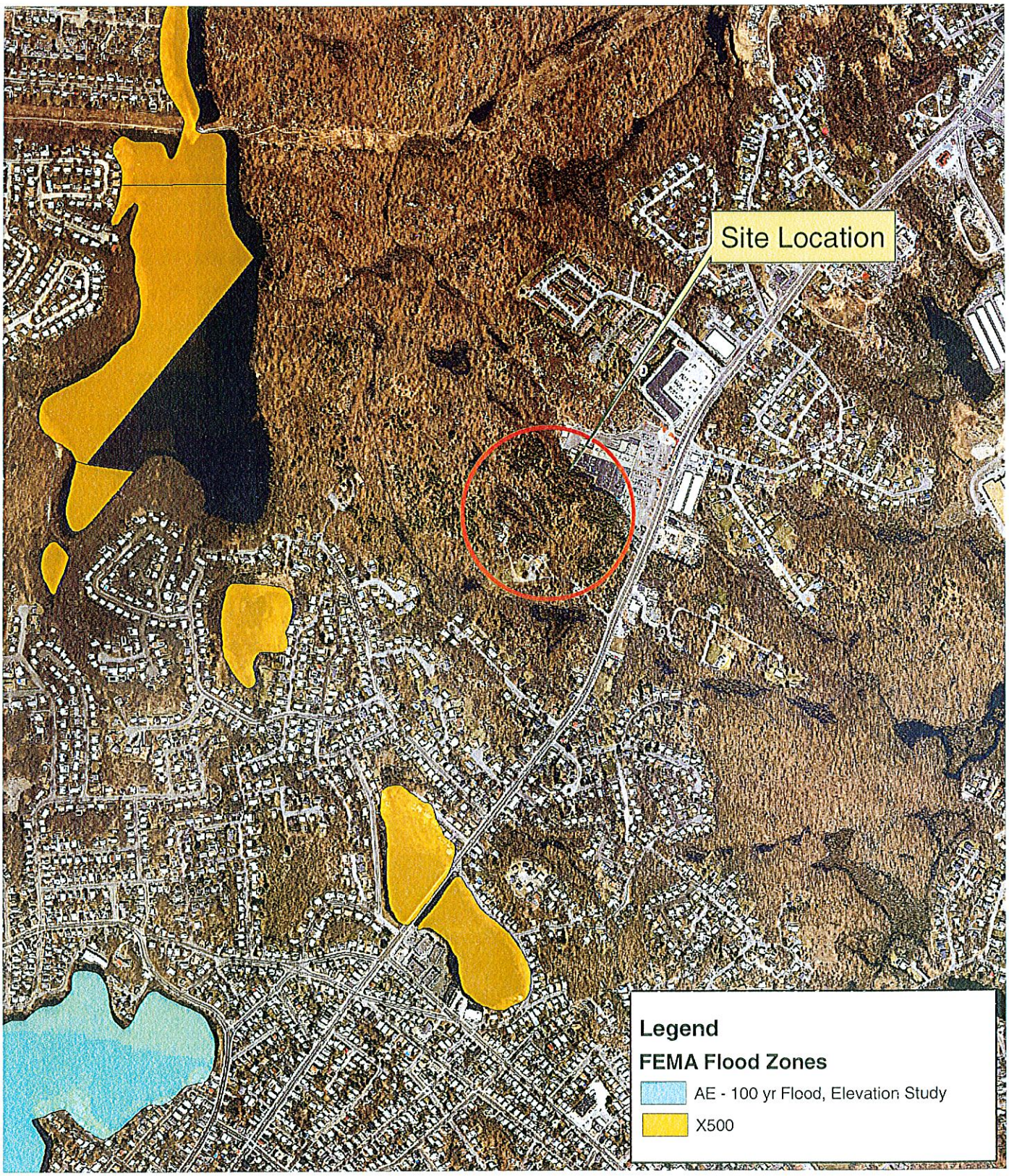
SCALE	DATE	PROJECT NO.
1:2000	07/2008	10544-003

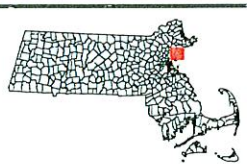
ENSR | AECOM

Figure Number

1

J:\Water\ProjectFiles\P100\10544003_Salem\Salem.mxd





N
W E
S

1 inch equals 1,000 feet

FEMA Map
488 Highland Ave
Salem, Massachusetts

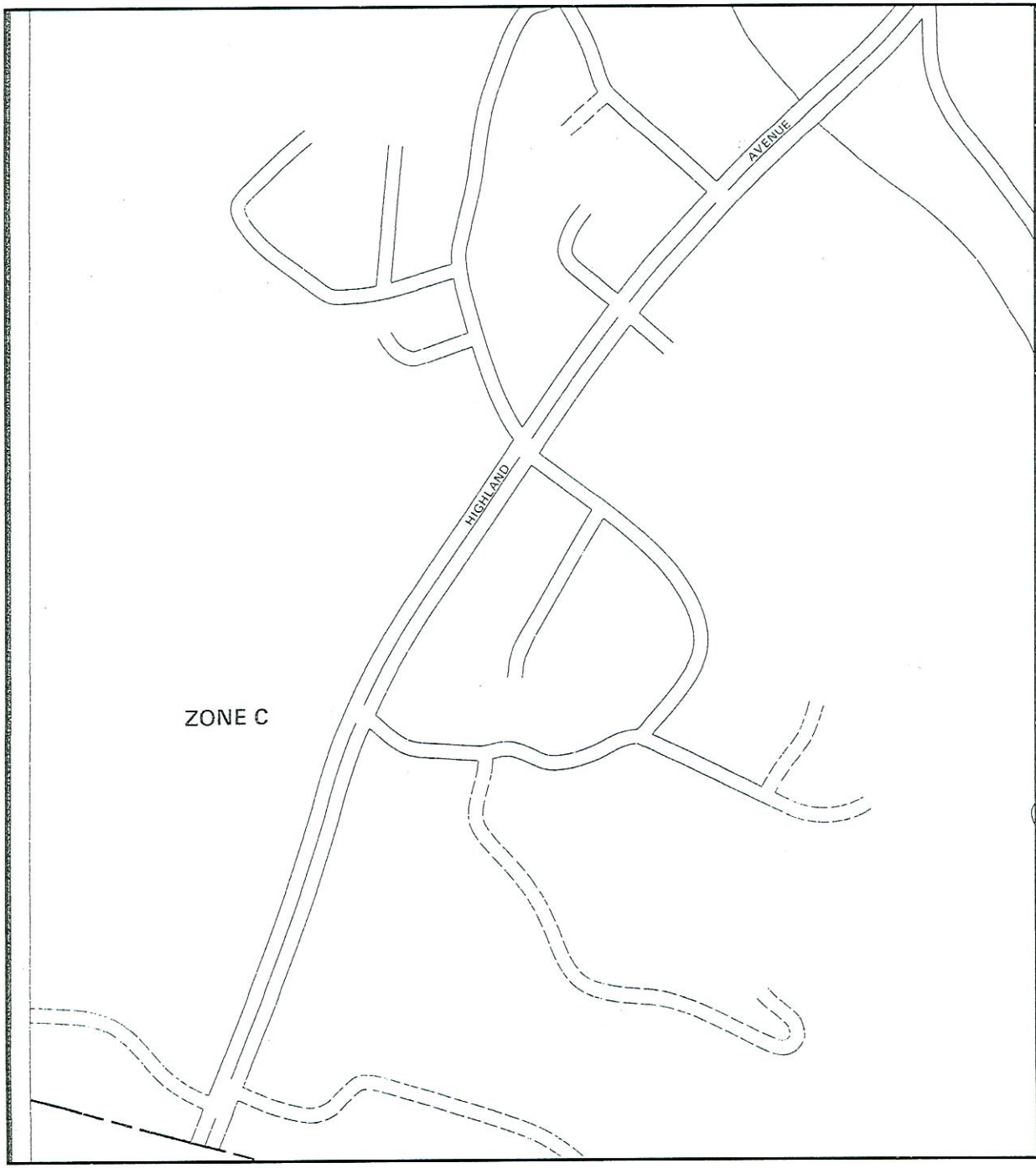
SCALE	DATE	PROJECT NO.
1:2000	07/2008	10544-003

ENSR | AECOM

Figure Number

2

J:\Water\ProjectFiles\P100\10544003_Salem\Salem.mxd



APPROXIMATE SCALE

500 0 500 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

CITY OF
SALEM,
MASSACHUSETTS
ESSEX COUNTY

PANEL 5 OF 5
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
250102 0005 B

MAP REVISED:
AUGUST 5, 1985

Federal Emergency Management Agency

CITY OF SALEM CONSERVATION COMMISSION
NOTICE OF PUBLIC HEARING
NOTIFICATION TO ABUTTERS

Under the Massachusetts Wetlands Protection Act
& the City of Salem Wetlands Protection Ordinance

A **Public Hearing** will be held at the City Hall Annex 120 Washington Street, Salem, MA 01970 at: 6 pm on December 11th.

To consider an Abbreviated Notice of Resource Area Delineation (ANRAD)

Of Camp Lion of Lynn Massachusetts, Inc.

For the property located at 488 Highland Ave., Map/Parcel 3/1

For the approval of a resource area delineation only. There is no work associated with this submission at this time. The delineation is for an intermittent stream (Bank) and associated Bordering Vegetated Wetland (BVW).

This is a joint hearing under the requirements of G.L. Ch 131 Section 40, as amended, and the Salem Wetlands Protection Ordinance and Regulations. Plans are available at the Department of Planning and Community Development at the City Hall Annex 120 Washington Street Salem, MA from 8 am- 4 pm Monday – Wednesday, 8 am -7 pm on Thursday, and 8 am- 12 pm on Friday. For information call the Conservation Agent at 978-619-5685.

Note: Notice of the public hearing, including its date, time and place, will be published at least a week prior to the meeting date in *The Salem News*.

Note: Notice of the public hearing, including its date, time, place, will be posted on the Public Meetings Bulletin Board in Salem City Hall not less than 48-hours in advance.

Note: You also may contact the Salem Conservation Commission or the nearest Department of Environmental Protection Regional Office for more information about this application or the Wetlands Protection Act.

To contact DEP call:

Central Region: (508) 792-7650
Southeast Region: (508) 946-2714
◈ **Northeast Region: (978) 694-3200**
Western Region: (413) 784-1100

CITY OF SALEM
ASSESSOR'S CERTIFICATION OF ABUTTERS AND PROPERTY OWNERS

BOARD/COMMISSION: **Conservation Commission**

PROJECT SITE: 488 Highland Avenue (03-0001-0)
488 Rear Highland Avenue (03-0139-0)

DESCRIPTION OF REQUIREMENT: **All abutters and any property owner within 100 feet of the property line of the land where the activity is proposed including if land is separated by a public or private street or a body of water and not unreasonably distant from the project site.**

This is to certify that the time of the last assessment for taxation made by the City of Salem, the names and addresses of those listed on the attached sheets are "abutters and property owners" (as defined by Wetlands Protection Act 310 CMR 10.05(4)(a)) to the parcel(s) of land listed above as the project site.

Assessor's Signature: _____ **Date:** Nov. 20, 2008

Number of initialed pages attached: 7

Once Certified, Return to:

Carey Duques, Department of Planning and Community Development

41

03_0006_923
GRIFFIN ROBERT J
1 CARRIAGE HILL LANE U2601
SALEM, MA 01970

03_0006_917
THE G. F. B. TRUST
10 CARRIAGE HILL LANE U2205
SALEM, MA 01970

03_0006_928
REGAN PAUL T
11 CARRIAGE HILL LANE U2606
SALEM, MA 01970

03_0006_918
HOEFLER HEIDI/HOEFLER GEORGE
12 CARRIAGE HILL LANE U2206
SALEM, MA 01970

03_0006_935
KORINS RICHARD
13 CARRIAGE HILL LANE U-2501
SALEM, MA 01970

03_0006_919
GOLDSTEIN STANLEY
14 CARRIAGE HILL LANE U2301
SALEM, MA 01970

03_0006_936
ALOISI JOSEPH A
15 CARRIAGE HILL LANE U2502
SALEM, MA 01970

03_0006_920
COSTA ROBERT A
16 CARRIAGE HILL LANE U2302
SALEM, MA 01970

03_0006_937
JACKSON STEVEN M
17 CARRIAGE HILL LANE U-2503
SALEM, MA 01970

03_0006_921
ARCHILLA ANABELA F
18 CARRIAGE HILL LANE U2303
SALEM, MA 01970

03_0006_938
HAZEL WILLIAM
19 CARRIAGE HILL LANE U-2504
SALEM, MA 01970

03_0006_913
WILLIAMS DONALD J JR
2 CARRIAGE HILL LANE U2201
SALEM, MA 01970

03_0006_922
FERGUSON JOHN H
20 CARRIAGE HILL LANE U2304
SALEM, MA 01970

03_0006_939
PRIMASON WEBB F
21 CARRIAGE HILL LANE U2505
SALEM, MA 01970

03_0006_940
THOMAS ANITA L
23 CARRIAGE HILL LANE U-2506
SALEM, MA 01970

03_0006_924
MARY L.MALCOLM 2007 REV TR
3 CARRIAGE HILL LANE U2602
SALEM, MA 01970

03_0006_914
POTASHNIKOV YURIY
4 CARRIAGE HILL LN U 2202
SALEM, MA 01970

03_0006_925
DEGAN SEAN C
5 CARRIAGE HILL LANE U2603
SALEM, MA 01970

03_0006_915
ALBANO EDWARD
6 CARRIAGE HILL LA U2203
SALEM, MA 01970

03_0006_926
JOHN F BURKE NOM TRUST
7 CARRIAGE HILL LANE 2604
SALEM, MA 01970

03_0006_916
GILMORE MARK B
8 CARRIAGE HILL LANE U2204
SALEM, MA 01970

03_0006_927
WALLACE SUSAN
9 CARRIAGE HILL LANE
SALEM, MA 01970

03_0006_867
BORRELLI RICHARD F
1 COUNTRYSIDE LN U1401
SALEM, MA 01970

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GARDYNA CONSTANCE T
10 COUNTRYSIDE LN U1305
SALEM, MA 01970

03_0006_872
DALEY ALICE M
11 COUNTRYSIDE LANE U1406
SALEM, MA 01970

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MARTIN JAMES H JR
12 COUNTRYSIDE LN U1306
SALEM, MA 01970

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LINDQUIST PAUL
2 COUNTRYSIDE LANE U1301
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BARON SANDRA R
3 COUNTRYSIDE LANE U1402
SALEM, MA 01970

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MUNRO CECILIA
4 COUNTRYSIDE LANE U1302
SALEM, MA 01970

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MORELLO ROBERT J
5 COUNTRYSIDE LANE U1403
SALEM, MA 01970

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REZNIKOV LEON
6 COUNTRYSIDE LANE U1303
SALEM, MA 01970

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GREEN JONAS SHAW
7 COUNTRYSIDE LANE
SALEM, MA 01970

03_0006_864
AUDREY E. GLASS NOMINEE TRUST
8 COUNTRYSIDE LN U1304
SALEM, MA 01970

03_0006_871
MAZER JOEL O
9 COUNTRYSIDE LA U1405
SALEM, MA 01970

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DOLAN WILLIAM J
191 FAYS AVENUE
LYNN, MA 01901

01_0004_0
HARDING AND CARBONE,INC
3903 BELLAIRE BLVD
HOUSTON, TX 77025

01_0002_0
SCHLEGEL FREDERICK J
201 FAYS AVENUE
LYNN, MA 01904-212

01_0006_0
PEABODY CITY OF
50 FARM AVENUE
PEABODY, MA 01960

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PEABODY CITY OF
PEABODY, MA 01960

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OLDE VILLAGE MALL REALTY TRUST
190 PLEASANT ST
MARBLEHEAD, MA 01945

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ROUTE 107 SALEM ASSOC LIM PRT
1330 BOYLSTON ST STE 212
CHESTNUT HILL, MA 02167

03_0003_0
SALEM CITY OF

03_0002_0
SUDENFIELD PAUL A
31 COLGATE RD
MARBLEHEAD, MA 01945

02_0009_0
A Z REALTY TRUST
11 STONEWOOD LANE
LYNN, MA 01904

02_0011_0
A Z REALTY TRUST
11 STONEWOOD LANE
LYNN, MA 01904

02_0010_0
MOST RE, LLC
8 MAVERICK COURT
MARBLEHEAD, MA 01945

02_0012_0
MALONE FENCE CO INC
471 HIGHLAND AVE
SALEM, MA 01970

02_0006_0
RENT-ALL INC
475 HIGHLAND AVENUE
SALEM, MA 01970

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PROODIAN ROBERT P
1 MANNING ROAD
LYNN, MA 01902

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PROODIAN ROBERT P
1 MANNING RD
LYNN, MA 01902

02_0043_0
PROODIAN ROBERT P
1 MANNING ROAD
LYNN, MA 01902

03_0001_0
CAMP LION OF LYNN MASS INC
73 NORTH COMMON ST
LYNN, MA 01902

03_0139_0
CAMP LION OF LYNN MASS INC
PO BOX 723597
ATLANTA, GA 31139

03_0136_0
CAMP LION OF LYNN MA INC
6100 ATLANTIC BOULEVARD
NORCROSS, GA 30071

03_0006_801
YANOFSKY BETH A
1 INDIAN HILL LANE U101
SALEM, MA 01970

03_0006_816
MITCHELL LINDA J
10 INDIAN HILL LANE U402
SALEM, MA 01970

03_0006_806
MONACO MICHAEL
11 INDIAN HILL LANE U202
SALEM, MA 01970

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LOONEY ROBERTA M
12 INDIAN HILL LANE U401
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DUBE ROBERT
13 INDIAN HILL LN U203
SALEM, MA 01970

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OCONNOR TIMOTHY P
14 INDIAN HILL LANE U304
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KURBAJ MANUEL
15 INDIAN HILL LANE U204
SALEM, MA 01970

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RUSSO ANTHONY
16 INDIAN HILL LANE U303
SALEM, MA 01970

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MALVERMI ROSEMARY E
17 INDIAN HILL LANE U205
SALEM, MA 01970

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WARNOCK SHARYN
18 INDIAN HILL LANE
SALEM, MA 01970

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WISH STACEY
19 INDIAN HILL LANE U206
SALEM, MA 01970

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TSOLOPOULOS KATHLEEN L
2 INDIAN HILL LANE U406
SALEM, MA 01970

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RUANE MICHAEL P
20 INDIAN HILL LN U301
SALEM, MA 01970

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MEOLA GERALD V
3 INDIAN HILL LANE U102
SALEM, MA 01970

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LARSON LARS W
4 INDIAN HILL LANE U405
SALEM, MA 01970

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GOLDSTEIN EDWARD M
5 INDIAN HILL LN U103
SALEM, MA 01970

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LAWRENCE JOHN R
6 INDIAN HILL LANE U404
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WORTH LAWRENCE L
7 INDIAN HILL LANE U104
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KEEFE ROBERT W
8 INDIAN HILL LN U403
SALEM, MA 01970

03_0006_805
SNIDER NORMAN
9 INDIAN HILL LANE U201
SALEM, MA 01970

03_0006_909
NUNE RAMA K
1 LIONS LANE U2101
SALEM, MA 01970

03_0006_889
CHALIFOUR NOMINEE TRUST THE
10 LIONS LANE U1705
SALEM, MA 01970

03_0006_904
GRANT MARJORIE A
11 LIONS LANE U2002
SALEM, MA 01970

03_0006_890
RYAN FAMILY REALTY TRUST
12 LIONS LANE (U1706)
SALEM, MA 01970

03_0006_905
EDDOWS WILLIAM R
13 LIONS LN U2003
SALEM, MA 01970

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ADAMO JOANNE
14 LIONS LANE U1801
SALEM, MA 01970

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KHUDISMAN LEONID
15 LIONS LANE U2004
SALEM, MA 01970

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GAUVIN WILLIAM A
16 LIONS LANE U1802
SALEM, MA 01970

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LUDENSKY NITA B
17 LIONS LANE U2005
SALEM, MA 01970

03_0006_893
ROSSI CLAUDIO L
18 LIONS LANE U1803
SALEM, MA 01970

03_0006_908
FITZSIMONS EDWARD S
19 LIONS LN U2006
SALEM, MA 01970

03_0006_885
HARRIS-DORVILIER MARIE J
2 LIONS LANE U1701
SALEM, MA 01970

03_0006_894
CARR, THEODORE H
20 LIONS LN U1804
SALEM, MA 01970

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BENSON DANIEL W
22 LIONS LANE U1805
SALEM, MA 01970

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BOMARSI JOANNE E
24 LIONS LANE U1806
SALEM, MA 01970

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VINOKUR GENNADIY
26 LIONS LANE U1906
SALEM, MA 01970

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DICINO CHARLES A
28 LIONS LANE U1905
SALEM, MA 01970

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LIBERTI ANTHONY J
3 LIONS LOANE U2102
SALEM, MA 01970

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BECKER LESLIE A
30 LIONS LANE U1904
SALEM, MA 01970

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WARD REALTY TRUST
32 LIONS LANE U1903
SALEM, MA 01970

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SHAPIRO MARGERY R
34 LIONS LN U1902
SALEM, MA 01970

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SCRYMGEOUR CHARLES E
36 LIONS LANE U1901
SALEM, MA 01970

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WOODWARD RICHARD G
38 LIONS LANE U2406
SALEM, MA 01970

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LLOYD BRUCE
4 LIONS LANE U 1702
SALEM, MA 01970

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SCALESE MICHAEL R
40 LIONS LANE U2405
SALEM, MA 01970

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LEVIN ROBERT E
42 LIONS LA
SALEM, MA 01970

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PERHAM DONALD L
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SALEM, MA 01970

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SHEEHAN MAUREEN
46 LIONS LANE U2402
SALEM, MA 01970

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WOJTOWICZ SUSAN A
48 LIONS LAND U2401
SALEM, MA 01970

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MANCINI MICHAEL S
5 LIONS LANE U2103
SALEM, MA 01970

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TEMPEST ROBERT J
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SALEM, MA 01970

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GOLDMAN LAURIE B
7 LIONS LANE U2104
SALEM, MA 01970

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HANSON RALPH T
8 LIONS LN U1704
SALEM, MA 01970

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WILSON KATHLEEN J
9 LIONS LN U2001
SALEM, MA 01970

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GRAY SHERI A
1 LONGFELLOW LANE U601
SALEM, MA 01970

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WEISMAN ELLEN JO
11 LONGFELLOW LANE U-606
SALEM, MA 01970

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PERHAM DONALD L JR
44 LIONS LANE
SALEM, MA 01970

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TRUDEAU ROBERT M
3 LONGFELLOW LANE U602
SALEM, MA 01970

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SHERRY RICHARD J
4 LONGFELLOW LANE U502
SALEM, MA 01970

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BINGER DESMOND
5 LONGFELLOW LANE U603
SALEM, MA 01970

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WESCOTT DONALD
6 LONGFELLOW LANE U503
SALEM, MA 01970

03_0006_828
SIV SAMNANG
117 LIBERTY STREET #2
DANVERS, MA 01923

03_0006_824
LEWIN JULIE C
8 LONGFELLOW LANE U504
SALEM, MA 01970

03_0006_829
MANCINELLI PATRICIA E
9 LONGFELLOW LANE U605
SALEM, MA 01970

03_0006_877
BARNES BEVERLEY C
11 OLDE VILLAGE DR U1505
SALEM, MA 01970

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STANGA THOMAS D
13 OLDE VILLAGE DR U1506
SALEM, MA 01970

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LENA CAROLINE M
15 OLDE VILLAGE DR U1601
SALEM, MA 01970

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DESYATNIK VLADIMIR
17 OLDE VILLAGE DR U1602
SALEM, MA 01970

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FLAHERTY MARJORIE A
19 OLDE VILLAGE DR U1603
SALEM, MA 01970

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MOGAURO VINCENT
21 OLDE VILLAGE DR U1604
SALEM, MA 01970

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CAMPBELL THOMAS A
23 OLDE VILLAGE DR U-1605
SALEM, MA 01970

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FANARA ANTHONY P
25 OLDE VILLAGE DR
SALEM, MA 01970

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TEDESCO DALE
3 OLDE VILLAGE DRIVE U1501
SALEM, MA 01970

03_0006_874
CHRISTIAN FREDERICK P
505 PARADISE ROAD #303
SWAMPSCOTT, MA 01907

03_0006_875
WILSON JAMES X
7 OLDE VILLAGE DR U-1503
SALEM, MA 01970

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HAMMOND MARK S
9 OLDE VILLAGE DR U1504
SALEM, MA 01970

03_0006_831
LUE FAMILY TRUST
1 TANGLEWOOD LANE U701
SALEM, MA 01970

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POLISSON PATRICIA M
10 TANGLEWOOD LN U202
SALEM, MA 01970

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WRIGHT BERNADETTE B
11 TANGLEWOOD LANE U706
SALEM, MA 01970

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ELLERY MARYANN
12 TANGLEWOOD LANE U1201
SALEM, MA 01970

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MELANSON PATRICIA ANN
13 TANGLEWOOD LN U801
SALEM, MA 01970

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BUTTER DEBBIE J
14 TANGLEWOOD LANE U11104
SALEM, MA 01970

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ZALTMAN MARJORIE B
15 TANGLEWOOD LN U802
SALEM, MA 01970

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CUDLITZ STEPHEN
16 TANGLEWOOD LANE U1103
SALEM, MA 01970-177

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WEISBERG SCOTT H
17 TANGLEWOOD LANE U803
SALEM, MA 01970

03_0006_852
MARUKELLI PATRICIA S
18 TANGLEWOOD LANE U1102
SALEM, MA 01970

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MCQUILLAN JOAN C
5 BELLINGHAM COURT
MIDDLETON, MA 01949-238

03_0006_860
ST PIERRE BRIAN F
2 TANGLEWOOD LANE U1206
SALEM, MA 01970

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WEISS JAMES R
20 TANGLEWOOD LANE U1101
SALEM, MA 01970

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BERRY ROBERTA A
21 TANGLEWOOD LANE U-901
SALEM, MA 01970

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LYNN CHRISTOPHER M
22 TANGLEWOOD LANE U1004
SALEM, MA 01970

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ODAY CLIFFORD A
23 TANGLEWWOD LANE U902
SALEM, MA 01970

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BURNHAM DEBBIE A
24 TANGLEWOOD LANE U 1003
SALEM, MA 01970

03_0006_843
ALEXANDER JOHN K
25 TANGLEWOOD LANE U903
SALEM, MA 01970

03_0006_848
BASILE JUNE
199 EAST FLAGLER STREET STE 277
MIAMI, FL 33131

03_0006_844
KNEELAND DEBORAH A
27 TANGLEWOOD DR U904
SALEM, MA 01970

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MONAHAN ROBERT F
28 TANGLEWOOD LN U1001
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SARNO MAURICE W
29 TANGLEWOOD LANE U905
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PRICE TIMOTHY F
3 TANGLEWOOD LANE U702
SALEM, MA 01970

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LAPORTE JOHN D
31 TANGLEWOOD LANE U1101
SALEM, MA 01970

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RENISKA KIM
4 TANGLEWOOD LANE U1205
SALEM, MA 01970

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SILVERMAN ELLEN R
5 TANGLEWOOD LANE U703
SALEM, MA 01970

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SHIELDS CHRISTINE R
6 TANGLEWOOD LANE U1204
SALEM, MA 01970

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FEELEY MICHAEL T
7 TANGLEWOOD LN U704
SALEM, MA 01970

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PAGNOTTI PAUL E
8 TANGLEWOOD LANE U1203
SALEM, MA 01970

03_0006_835
STIRLING SCOTT J
9 TANGLEWOOD LANE U705
SALEM, MA 01970

03_0001_0
CAMP LION OF LYNN MASS INC
73 NORTH COMMON ST
LYNN, MA 01902

03_0139_0
CAMP LION OF LYNN MASS INC
PO BOX 723597
ATLANTA, GA 31139

03_0136_0
CAMP LION OF LYNN MA INC
6100 ATLANTIC BOULEVARD
NORCROSS, GA 30071

KENNEDY DEVELOPMENT GROUP, INC.
500 BROADWAY
EVERETT, MA 02149

EASTERN BANK
53-179/113

6853

11/25/2008

PAY TO THE ORDER OF City of Salem $ **1,012.50

One Thousand Twelve and 50/100********** DOLLARS

City of Salem

MEMO

⑈006853⑈ ⑆011301798⑆ 60 0172688⑈

KENNEDY DEVELOPMENT GROUP, INC.
500 BROADWAY
EVERETT, MA 02149

EASTERN BANK
53-179/113

6852

11/25/2008

PAY TO THE ORDER OF Commonwealth of Massachusetts $ **987.50

Nine Hundred Eighty-Seven and 50/100********** DOLLARS

MEMO

⑈006852⑈ ⑆011301798⑆ 60 0172688⑈

About ENSR:

ENSR is a leading global full-service environmental health and safety firm with 2,200 staff in 90 worldwide locations. ENSR provides comprehensive consulting, engineering, remediation, compliance, permitting and environmental management solutions to multinational industrial companies and government agencies. ENSR is the recipient of numerous EHS, industry, client, business achievement and organizational innovation awards including eight health and safety awards in the past two years.

In 2007, two major EHS firms, RETEC (US) and HLA Envirosciences (Australia) merged with ENSR. RETEC has received three Phoenix Awards™ for leading-edge Brownfields site remediation redevelopment projects. HLA has been recognized with multiple Consultancy Excellence Awards from the Urban Development Institute of Australia.

As an AECOM company, ENSR is part of a global design and management company with over 30,000 employees worldwide serving the transportation, facilities, environmental and energy markets, with offices in over 60 countries.

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Washington
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Australia
Bolivia
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China
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France
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Japan
Malaysia
Philippines
Singapore
Thailand
Turkey
Venezuela

Headquarters

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ENSR | AECOM

AECOM
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December 10, 2008

Salem Conservation Commission
Attention: Carey Duques, Conservation Agent
93 Washington Street
Salem, MA 01970

RE: Supplemental information for intermittent stream
Abbreviated Notice of Resource Area Delineation (ANRAD)
488 Highland Ave., Salem

Dear Commission Members and Ms. Duques:

On behalf of Camp Lion of Lynn Mass., Inc., AECOM is pleased to submit for your consideration supplemental information on the ANRAD for a site at 488 Highland Avenue, Salem, Mass. After the ANRAD submission, it was discussed with the Commission's agent, Ms. Duques, that the watershed size for the intermittent stream was minor and not one square mile for the critical characteristic threshold as indicated in the wetlands protection act regulations.

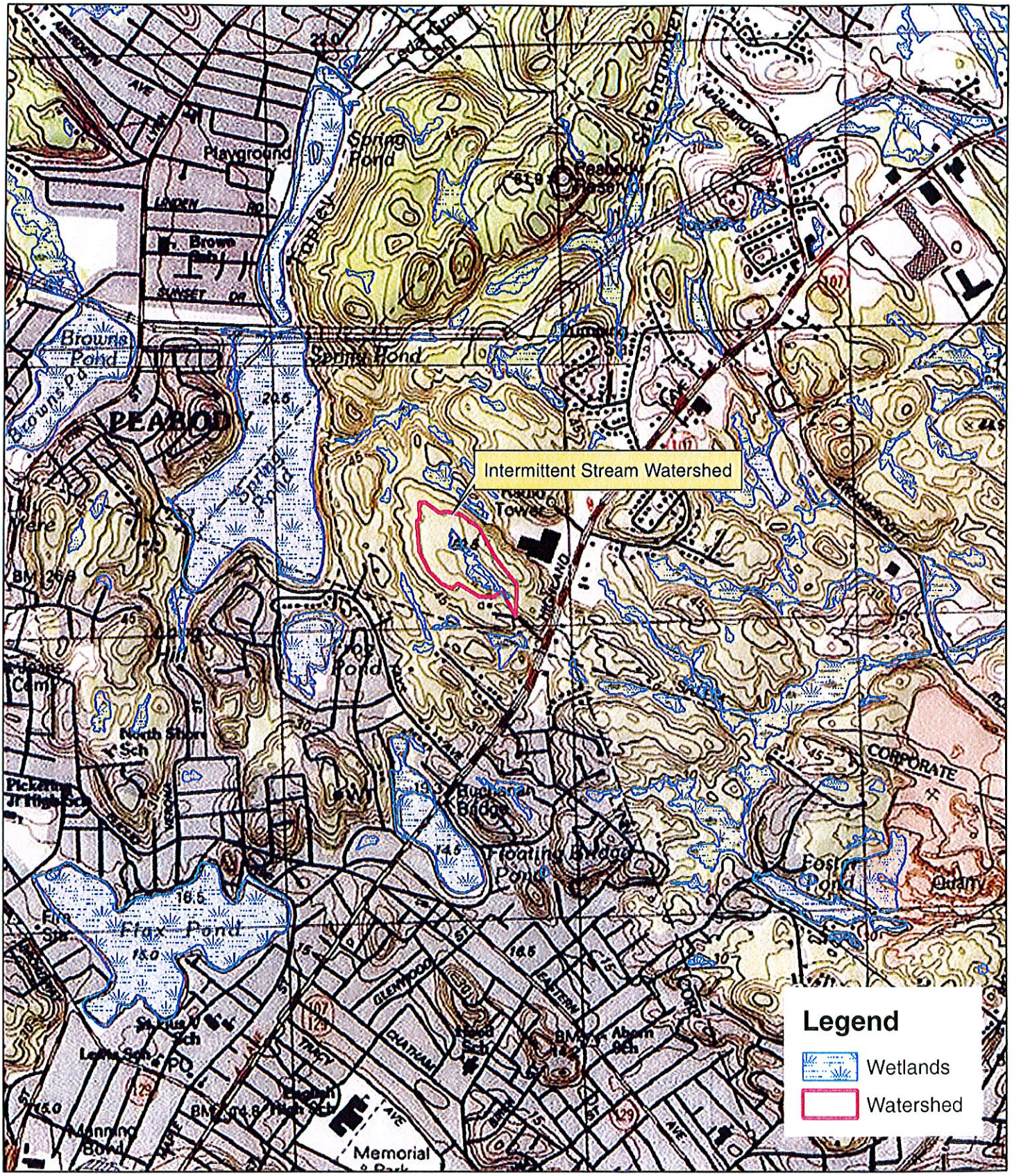
The watershed for the intermittent stream, as indicated on Figure A attached, was found to be 0.026 square miles. Additional sections of the wetland protection act under 10.58 Riverfront Area, require at least a one-half square mile threshold for predicted flow rates and surficial geology to be studied in determining intermittent stream status. The area's watershed does not meet the one-half square mile threshold as well for the additional sections.

Thank you for consideration of these additional findings. Please call me at 978-589-3390 with any questions.

Sincerely,
AECOM

Terry E. Gensel
Wetland Scientist

Cc: DEP Northeast Region



Watershed Map
488 Highland Ave
Salem, Massachusetts

SCALE	DATE	PROJECT NO.
1:2000	12/2008	10544-003

ENSR | AECOM

Figure

A

J:\Water\ProjectFiles\P100\10544003_Salem\ANRAD\GIS\Site location area.mxd

AECOM

Prepared for:
Camp Lion of Lynn Mass., Inc.
Salem, Massachusetts

Supplemental Information for the Abbreviated Notice of Resource Area Delineation

488 Highland Avenue

Salem, Massachusetts

AECOM Corporation
January 19, 2009

AECOM
2 Technology Park Drive, Westford, Massachusetts, 01886-3140
T 978.589.3000 F 978.589.3100 www.aecom.com

January 19, 2009

Salem Conservation Commission
Attention: Carey Duques, Conservation Agent
93 Washington Street
Salem, MA 01970

RE: Supplemental information for wetland resource areas
Abbreviated Notice of Resource Area Delineation (ANRAD)
488 Highland Ave., Salem
DEP File #064-0486

Dear Commission Members and Ms. Duques:

On behalf of Camp Lion of Lynn Mass., Inc., AECOM is pleased to submit for your consideration supplemental information on the ANRAD for a site at 488 Highland Avenue, Salem, Mass. During the site visit on January 3, 2009, a small pocket of standing water with sparse wetland vegetation was observed near the existing Camp Lion drive by Commission members and the Commission's agent, Ms. Duques. This area was further investigated for soils and determined to be a Bordering Vegetated Wetland (BVW) under the Wetlands Protection Act. In the attached supplemental packet please find BVW field data forms, representative photographs of this area, and a revised ANRAD plan.

In addition, the intermittent stream on the opposite or down slope side of the drive was not delineated by the former wetland scientist(s) for the review. As a result, additional field work included the delineation of this section of intermittent stream and the region is included in the revised ANRAD plan. Review of the former flagging on the site also included the extension of the Bank flags to the bottom of the hill on the upstream side of the drive and the replacement of Bank flags that continue to be removed or altered at this site. The last approximately ten feet of Bank flags stopped short to the dirt drive and the plan now indicates this additional correction.

Thank you for consideration of these additional findings. Please call me at 978-589-3390 with any questions.

Sincerely,
AECOM

Terry E. Gensel
Wetland Scientist

Cc: DEP Northeast Region

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: Camp Lion Prepared by : Terry Gensel Project Location: ~~488 Highland Ave~~ DEP File #: _____

Check all that apply:

Data sheet for small Bordering Wetland located along existing Camp drive and downslope from pool region. **Wetland Plot**

☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
☒ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
☐ Method other than dominance test used (attach additional information)

Section I. Vegetation Observation Plot Number: 4-Wet Transect Number: N/A Date: 1/6/09

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Tree:				
Red maple - Acer rubrum	85.5%	57.6%	Yes	Fac*
Red Oak - Auercus rubra	63.0%	42.4%	Yes	FacU-
Shrub:				
Winterberry – Ilex verticillata	10.5%	77.8%	Yes	FacW+*
Arrow-wood – Viburnum dentatum	3.0%	22.2%	Yes	Fac*
Sapling:				
Red maple - Acer rubrum	10.5%	100%	Yes	Fac*

NOTE: Soils performed to verify due to time of year or low herbaceous

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c. 131, 40); plants in the genus Sphagnum; plants listed as FAC, FAC+, FACW-, FACW, FACW+, OR OBL; or plants with physiological or morphological adaptation. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetative conclusion:
Number of dominate Wetland Indicator Plants: 4 Number of Dominant non-wetland indicator plants: 1
Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? yes ☒ no ☐

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent. MA DEP; 3/95

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey:

Is there a published soil survey for this site? ☒Yes ☐ No

title/date: NRCS Essex County Southern Part
Area data version 7 may 5, 2008
map number: MA606
soil type mapped 102C Chatfield-Hollis-Rock outcrock complex, 3-15% slopes
hydric soil inclusions

Are field observations consistent with soil survey? ☒Yes ☐No
Remarks:

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	1"	2.5YR - 3/1	None
B	2-18"	2.5YR – 2.5/1	None

Remarks: Soil – Histic Epipedon

3. Other:

Conclusion: Is soil hydric? ☒Yes ☐No

Other Indicators of Hydrology: (Check all that apply and describe)

- ☒ Site inundated: _____
- ☒ Depth to free water in observation hole: ~~flooded~~ _____
- ☐ Depth to soil saturation in observation hole: _____
- ☒ Water marks: ~~Boulders~~ _____
- ☐ Drift lines: _____
- ☐ Sediment deposits: _____
- ☒ Drainage patterns in BVW: _____
- ☐ Oxidized rhizospheres: _____
- ☒ Water-Stained leaves: _____
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other): _____
- ☐ Other: _____

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥ number of non-wetland indicator plants	☒	☐
Wetland hydrology present: hydric soil present	☒	☐
other indicators of hydrology present	☒	☐
Sample location is in a BVW	☒	☐

Submit this form with the Request for Determination of Applicability or Notice of Intent.

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: Camp Lion Prepared by : Terry Gensel Project Location: ~~488 Highland Ave~~ DEP File #: _____

Check all that apply:

Data sheet for small Bordering Wetland located along existing Camp drive and downslope from pool region. **Upland Plot**

☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
☒ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
☐ Method other than dominance test used (attach additional information)

Section I. Vegetation Observation Plot Number: 4-Up Transect Number: N/A Date: 1/6/09

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Tree:				
Red Oak - Quercus rubra	98.0%	100%	Yes	FacU-
Vine:				
Greenbrier – Smilax rotundifolia	10.5%	100%	Yes	Fac*
Sapling:				
Red maple - Acer rubrum	20.5%	49.4%	Yes	Fac*
Black Cherry - Betula populifolia	10.5%	25.3%	Yes	FacU
Red Oak - Auercus rubra	10.5%	25.3%	Yes	FacU-

NOTE: Soils performed to verify due to time of year or low herbaceous

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c. 131, 40); plants in the genus Sphagnum; plants listed as FAC, FAC+, FACW-, FACW, FACW+, OR OBL; or plants with physiological or morphological adaptation. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetative conclusion:

Number of dominate Wetland Indicator Plants: 2 Number of Dominant non-wetland indicator plants: 3

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? yes ☐ no ☒

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent. MA DEP: 3/95

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey:

Is there a published soil survey for this site? ☒Yes ☐ No

title/date: NRCS Essex County Southern Part
Area data version 7 may 5, 2008
map number: MA606
soil type mapped 102C Chatfield-Hollis-Rock outcrock complex, 3-15% slopes
hydric soil inclusions

Are field observations consistent with soil survey? ☒Yes ☐No
Remarks:

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	1-6"	10YR - 2/1	None
AB	6-8"	10YR – 3/3	None
Bw	8-18"	10YR – 4/4	None

Remarks:

3. Other:

Conclusion: Is soil hydric? ☐Yes ☒No

Other Indicators of Hydrology: (Check all that apply and describe)

- ☐ Site inundated: _____
- ☐ Depth to free water in observation hole: _____
- ☒ Depth to soil saturation in observation hole: ~~14"~~ _____
- ☐ Water marks: _____
- ☐ Drift lines: _____
- ☐ Sediment deposits: _____
- ☐ Drainage patterns in BVW: _____
- ☐ Oxidized rhizospheres: _____
- ☐ Water-Stained leaves: _____
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other): _____
- ☐ Other: _____

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥ number of non-wetland indicator plants	☐	☒
Wetland hydrology present: hydric soil present	☐	☒
other indicators of hydrology present	☐	☒
Sample location is in a BVW	☐	☒

Submit this form with the Request for Determination of Applicability or Notice of Intent.

Photograph 1: Area indicates small Bordering Vegetated Wetland located along the existing drive of Camp Lion.

Photograph 2: Area downslope from BVW indicating overland sheet flow along drive that discharges to intermittent stream crossing of drive.

Appendix C

Project Site Plans
Refer to EENF Figures 5, 9 and 10