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MEMORANDUM

Subject: Response to 9/25/19 Site Plan Review Hearing Comments

Project: **The Cotting School**
Gymnasium Expansion

Project No. 18005.00

Date: 27 November 2019

To: Town of Lexington
Planning Board

By: Megan Buczynski
Principal Civil Engineer

Delivery: via email *(mbelanger@lexingtonma.gov)*

Dear Lexington Planning Board Members,

The following are our responses to the comments received from the Design Review Board on September 12, 2019 and at the Site Plan Review Hearing on September 25, 2019. Summaries of the comments are provided for reference in *italics* and our responses are in **bold**.

The Planning Board would like to see a site traffic circulation and parking study to better understand how traffic on the Cotting School campus is currently circulating and parking on campus and to make any recommendations for Cotting to better utilize their property. The study should include the actual parking requirements of the Cotting School on a regular daily basis.

The Cotting School retained Vanasse & Associates Inc. to perform a traffic study on campus. The report is attached for review.

The Board would like Cotting School to perform a study for what it would take create a safe access to the 497 Concord Avenue property from Concord Avenue. The study should include how emergency vehicles would enter the 497 property through the right-of-way off of Concord Avenue.

The Cotting School retained Vanasse & Associates Inc. to perform a traffic study on campus. The study included review of typical vehicle and emergency vehicle access to and exit from the 497 property. In addition, the Parking Plan sheet PP1.1 attached shows vehicle turning radius diagrams at the 497 entrance and for access around the gymnasium building. The report is attached for review.

As noted in the traffic study, the entrance to the 497 property drive should be widened at the curb cut to allow for adequate space for an emergency vehicle to turn off Concord Avenue onto the drive as well as allow for cars to queue when leaving the drive onto Concord Ave. Sheet L5.1 489 Concord Ave Drive Site Plan outlines the work that will be done to widen the drive. You will also see recommendations for defining a school zone along Concord Avenue consistent with other school zones in town in addition to radar monitoring of traffic to assist in slowing traffic patterns on Concord Ave which are currently exceeding the posted limits. Please refer to the report for further information.

As noted in the report and previously noted by both Fire and Police, there is an existing 42" DBH tree located mostly on Cotting property, but with a small portion (approximately 4" based on measurements from AutoCAD) within the public right-of-way. The remaining part of the tree is on private land, but within the setback area and is therefore considered a protected tree. This tree prohibits sight lines in the existing conditions and it is desired to remove this tree to improve sight lines coming out of the driveway. Additionally, two trees (10" and 12") on the opposite side of the drive must be removed as a result of widening the access point. The Cotting School would like to provide mitigation for the removal by contributing $6,400 to the Lexington Tree Fund per Section 120-8.C.2 of the Lexington Town Tree By-Law. Refer to Sheet L5.1 for location of these trees.

The Board would like to confirm that all the plants on the proposed planting plan adhere to the Plant Materials Guide for Lexington, MA; specifically that all the proposed plant materials appear on the recommended plant materials list for species native to Middlesex County.

Please see revised sheets L3.1 and L3.2 of the Project Drawings that updates the plantings to species that can be found on the Plant Materials Guide for Lexington.

The Board would like the proposed project to include an invasive management plan.

Epsilon Associates visited the Cotting campus to review the invasive species present and recommended the following target species for management: Japanese Knotweed, Oriental Bittersweet, and Multiflora Rose. Presence of these species were found around the property. Epsilon identified means of managing the species including hand removal, mechanical removal, and chemical control. During the NOI process for this project, the project team did ask the Commission their opinion about trying to combat invasives at the site. The Commission did not provide a strong opinion on the matter, but rather did note the difficulty in trying to combat invasives in general. For the purposes of this Site Plan Application we would like to suggest limiting invasive species management to areas directly around the gravel parking lot area at the 489 property within 10' of the lot and outside of any wetland buffer areas. Cotting will engage a landscape company to utilize mechanical methods of removal of the above mentioned species

within this area. Cotting will monitor these areas on a yearly basis to try and limit growth within these areas to the extent practicable.

The Board has requested an updated Photometric Plan that shows the lights that will be installed at the exterior doors of the building.

Attached please find Sheet P1.1 Photometric Plan, which shows the light levels for the lighting at the site as well as at the egress doors at the addition. Please note that lighting at the 489 parking area has been previously reviewed by Zoning.

The Board would like to understand how the proposed project will help the Town of Lexington achieve their Net Zero Emissions goals.

The following is a summary of the sustainability efforts The Cotting School has undertaken since 2009:

HVAC

- **Converted boiler plant from oil to natural gas modular boilers (2009)**
- **Installed night set back controls on chiller and exhaust fans to manage consumption during off hours (2017)**

Electrical

- **Upgraded controls on all kitchen refrigeration units (2010 and 2019)**
- **Retrofit all interior, exterior, gymnasium lighting from T12 fluorescents to T8 electronic ballasts, incandescent to LED (2011, 2016)**
- **Installed new metal roof, insulation in attic (2016)**
- **Installed 1394 solar panels on the roof, producing 61% of electronical consumption (2017)**

Plumbing

- **Installed low flow toilets and sinks (2011)**

Paper and Supplies

- **Migrated to Google Classroom and Dropbox to reduce printing and paper consumption**
- **Changed vendors to partner with vendor for full recycling capabilities**

The following is a summary of the sustainable considerations being made for the expansion project:

Solar PV Array:

- **The roof over the new gymnasium will be Solar-Ready structurally and electrically.**
- **With current technology, approximate 6,400 SF of Solar PV panels could generate approximate 118,000-kilowatt hours of solar electricity annually (kWh/year).**

Electrical:

- **The lighting will be energy efficient LED fixtures.**
- **Lighting controls will conform to 2015 IECC energy code for occupant sensor controls, time-switch controls, light-reduction controls and daylight-responsive controls.**

HVAC:

- **The DOAS units have enthalpy energy recovery wheels. Their energy recovery effectiveness is around 53%. They recover (utilize heat that would otherwise be wasted) around 96,000 BTUH in the summer and around 235,000 BTUH in the winter.**
- **The VRF units have inverter driven compressors with Integrated Energy Efficiency Ratios (IEERs) of approximately 20. This is well above code efficiency requirements for standard air-cooled condensing units.**

The parking spaces are 9' x 18'. The bylaw requires 19', however if there is room for a bumper overhang, a shorter depth is allowed. Please note on the site plan or parking plan that there is no obstruction for bumper overhang. Otherwise, any new spaces must comply with the parking space depths and widths as set forth in Section 125-5.1.13.

The proposed parking spaces are sized at 9' x 18' to match the size of the existing parking spaces on campus. There is a vertical curb proposed adjacent to the parking spaces, however the car bumper can overhang the curb.

Please provide a fire truck turn diagram.

Attached refer to the Parking Plan PP1.1 which shows the fire truck turn analysis. The fire truck used for the turn analysis was reproduced from "Town of Lexington FD" information provided to Activitas on January 16, 2018.

Please provide a snow storage plan.

Refer to revised sheet L1.1 for the location of the snow storage at the back of the main campus lot. Snow storage associated with the 489 lot has been reviewed and accepted by Zoning. The snow storage at the back of the main campus lot has been reviewed with Conservation in regards to its location near the Conservation Restriction Area.

Please provide a height detail of the parking canopy and include the drive aisle width in this location.

The drive aisle is about 23' wide between the edge of the canopy and the end of the parking spaces across the drive aisle. The width of the drive aisle in this location has been included on the Parking Plan PP1.1.

The clear span between finish grade and the canopy is 11' – 11".

Please provide a revised Logistics Plan.

Please refer to the updated Construction Access Plan that has been updated with the Logistics Plan information originally submitted with the application and updated to reflect further information as discussed at the first Planning Board Hearing. This Construction Access Plan overrides the original Logistics Plan submitted with the original application.

Please provide a Zoning Analysis (to include parking calculations).

A Zoning Analysis was submitted with the original application. The remaining open item is in regards to parking counts at the site and how parking at Cotting fits within the context of the bylaw. As discussed at the first Planning Board Hearing on September 25, 2019, Cotting's programming does not fit within the typical "elementary school" bylaw parking category. As such the Board requested Cotting provide true parking counts for a typical day in which to base parking needs and include the entirety of the Cotting property. Vanasse & Associates Inc. has completed a campus traffic study, which has included parking counts. The full report is attached. The Parking Plan PP1.1 shows the locations and counts for the parking spaces on campus in the proposed condition. In comparison to the Vanasse Report, the proposed parking count slightly exceeds the typical daily counts included in the report which is appropriate for the campus to allow for additional visitor parking on days where a school event, series of meetings, or other such school related activity may take place.

In regards to the parking counts shown on PP1.1, please note that the Cotting School recently received approval from the Building and Zoning Department for the 489 Concord Ave parking area. Additionally, the 4 existing spaces associated with the 489 house, which are in the buffer zone, will be reviewed with Conservation on December 2nd.

As previously discussed the new gymnasium addition is to provide better services for the existing school population. It is not going to add students or staff to the school and therefore parking during peak hours will remain the same. The addition of the gym will not be an increased parking or traffic burden to the neighborhood.

As shown, discussed and included in the campus traffic study, the existing parking on-site is appropriate for the programming at the school. While no additional parking is included as part of the project, the overall parking space counts satisfy what is needed on the campus.

In addition to the items specifically noted above, this response also includes plan revisions that were submitted in response to comments received during the Notice of Intent hearings with the Lexington Conservation Commission. The Conservation Commission voted to approve the project with conditions on November 7, 2019. The Project Team is currently awaiting the issuance of the final Order of Conditions from the Conservation Commission. The revisions include:

- Revised Sheet C2.1; adjusting the location of the rip rap outside of the wetland edge and Conservation Easement.
- Revised Sheet C2.3; updating Detail 5 to remove the geotextile fabric from below the infiltration/detention system.
- Revised Sheet C2.4; updating Detail 2 to note that permeable filter fabric will wrap the free draining crushed stone in the stone drainage trench.
- Revised Sheet L1.1; updating the plan to include three (3) granite bound posts to note the edge of the Conservation Easement.
- Revised Sheet L1.4; adding a detail for the granite bound posts.

We trust these responses adequately address the comments, questions and recommendations made by the Planning Board. If you have any questions or comments on the enclosed information, please do not hesitate to contact me directly at (781) 355-7040 or by email at meb@activitas.com.

Respectfully,

ACTIVITAS

Megan Buczynski, PE
Principal Civil Engineer
meb@activitas.com

Attachments:

Traffic Study prepared by Vanasse & Associates Inc.
PP1.1 Parking Plan
Revised C1.2 Construction Access Plan
Revised Sheet L1.1
Revised Sheet L3.1
Revised Sheet L3.2
Sheet L5.1 489 Concord Ave Drive Site Plan

P1.1 Photometric Plan
Revised Sheet C2.1
Revised Sheet C2.3
Revised Sheet C2.4
Revised Sheet L1.4