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October 2, 2020

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
FINAL ENVIRONMENTAL IMPACT REPORT

PROJECT NAME : Waltham High School
PROJECT MUNICIPALITY : Waltham
PROJECT WATERSHED : Charles
EEA NUMBER : 16097
PROJECT PROPONENT : City of Waltham
DATE NOTICED IN MONITOR : August 26, 2020

Pursuant to the Massachusetts Environmental Policy Act (M.G.L. c. 30, ss. 61-62I) and Section 11.08 of the MEPA Regulations (301 CMR 11.00), I have reviewed the Final Environmental Impact Report (FEIR) and hereby determine that it **adequately and properly complies** with MEPA and its implementing regulations. The FEIR has described the project, its environmental impacts, and measures proposed to avoid, minimize and mitigate such impacts. Additionally, the City has revised the design of the Preferred Alternative during MEPA review to further reduce environmental impacts and State Agencies have not requested additional analysis in the form of a Supplemental EIR.

Comments from Waltham Public Schools Superintendent Brian Reagan, Waltham Public Schools Human Resources Administrator George Frost, and others express support for the project and identify the need for a new facility. Comment letters from residents and abutters identify concerns regarding tree clearing, stormwater quality, and traffic and construction period impacts. MEPA review of the project has served to identify alternatives to reduce associated environmental impacts, as well as identify issues that should be addressed during the permitting process. The local permitting boards and State Agencies have sufficient regulatory authority to address outstanding issues that are identified in this Certificate and these processes will provide additional opportunities for public review and comment.

Project Description

As described in the FEIR, the project includes the demolition of existing structures (a retreat house and conference center) and construction of a new high school building (414,850 gross square feet (sf); 484,240 gross sf including the parking structure) with associated site work, utilities, above- and below-ground parking, on-site access roadways, stormwater infrastructure, and two athletic fields (an existing natural field and a new synthetic turf field). The project is proposed to meet the full programmatic requirements for a 1,830-student, 9th-through-12th-grade high school. The project includes significant earthwork to achieve final design grades of the project, including bedrock excavation using a combination of hoe ramming and controlled blasting techniques. An early site preparation phase will include clearing, earthwork, blasting, grading, and preparation for the building construction followed by construction of the building. The existing high school building will be repurposed for other uses at a later time, no earlier than 2024.

As noted in the prior MEPA submittals, the City is in need of additional space for either a Kindergarten (K) through 8th grade school or a middle school to relieve overcrowded conditions. Following construction of the new high school, the City will repurpose the existing high school to meet these needs. For the purpose of evaluating environmental impacts, the City assumed that the McDevitt Middle School (grades 6-8) and the Dual Language School at the Waltham Community and Cultural Center (formerly South School) (K-5) would be relocated to the existing high school building. It also assumed the existing high school building would house the District's Central Office and Parent Information Center (PIC). Renovation of the existing high school for these uses is not anticipated to commence until 2024 at the earliest.

Project Site

The approximately 52.5-acre project site is comprised of three parcels located at 554 Lexington Street (46.5 acres) and one adjacent parcel known as Jericho Hill II located at 131R Lincoln Street (6 acres) in Waltham. The site is generally bounded by undeveloped land to the west (known as Sanderson Heights), residential areas to the north and south, and Lexington Street and residences to the east. The site was previously owned by the Stigmatine Fathers Inc. Trust and contains buildings associated with the Espousal Retreat House and Conference Center which will be demolished as part of the project. Existing development is located on the southern portion of the site. The remainder of the site is undeveloped and contains areas of relatively steep slopes. Topography ranges from an elevation of 106 ft at Lexington Street to 286 ft at the highest portion of the site near the northern property line. Site access is provided via a single driveway from Lexington Street.

An intermittent stream runs north to south through the center of the site and has associated areas of Bordering Vegetated Wetlands (BVW). The stream extends from a high point in the north central portion of the site to a point in the middle of the site where the stream enters underground piping that extends off the site and under Lexington Street to Chester Brook. The project site contains one building that is listed in the Massachusetts Historical Commission's (MHC) Inventory of Historic and Archaeological Assets of the Commonwealth and is identified as MHC ID# WLT.138. The Environmental Notification Form (ENF) included correspondence from MHC (dated February 19, 2019) which acknowledged the building would be demolished and indicated that no further MHC review is required for the project.

Environmental Impacts and Mitigation

Potential environmental impacts associated with the project include: alteration of 10.2 acres of land, creation of 8.54 acres of impervious area, generation of 1,851 average daily vehicle trips (adt), an increase in water demand of 43,560 gallons per day (gpd), and an increase in wastewater flows of 39,594 gpd. Greenhouse gas emissions are associated with the project's energy use and trip generation.

Measures to avoid, minimize, and mitigate environmental impacts include: an upgraded stormwater management system, redesigning the project to eliminate wetland impacts, restoration of historically impacted wetlands, traffic signalization and roadway improvements, implementation of energy efficient building systems and features, and implementation of a construction management plan.

Jurisdiction and Permitting

The project is undergoing MEPA review and requires preparation of an ENF pursuant to Sections 11.03(1)(b)(2), 11.03(6)(b)(14), and 11.03(6)(b)(15) of the MEPA regulations because it requires a State Agency Action and will result in the following: creation of five or more acres of impervious area; generation of 1,000 or more New adt on roadways providing access to a single location and construction of 150 or more New parking spaces at a single location; and construction of 300 or more New parking spaces at a single location (respectively). The project will receive Financial Assistance from the Massachusetts School Building Authority (MSBA).

The project requires an Order of Conditions from the Waltham Conservation Commission (or in the case of an appeal, a Superseding Order of Conditions from the Massachusetts Department of Environmental Protection (MassDEP)). The project is subject to review by and requires permits from several City of Waltham agencies, including: a Variance from the Zoning Board of Appeals (ZBA), Special Permit from the Board of Survey and Planning, Demolition and Construction Permits from the Building Department, Blasting Permit from the Fire Department, and approval for curb cuts and street opening from the Consolidated Public Works Department. It also requires a National Pollutant Discharge Elimination System (NPDES) Construction General Permit from the U.S. Environmental Protection Agency (EPA).

Because the project will receive Financial Assistance from the MSBA, MEPA jurisdiction for this project is broad and extends to all aspects of the project that are likely, directly or indirectly, to cause Damage to the Environment as defined in the MEPA regulations.

Review of the FEIR

The FEIR was generally responsive to the Scope, which was limited to land alteration/drainage, GHG emissions, climate change adaptation and resiliency, construction period, response to comments, and revisions to mitigation measures and draft Section 61 Findings. The FEIR included a description of the project and described potential environmental impacts and mitigation measures. The FEIR indicated that the project layout remains unchanged from that presented in the NPC/DEIR. Administrative and permitting changes since the NPC/DEIR were submitted include the hiring of the Construction Manager (CM), issuance of the Abatement and Demolition bid documents, and approval of the traffic signal concept from the Waltham Traffic Commission which resulted in elimination of one exit lane

(previously 2) to allow for right-turn-on-red. The FEIR included a list of Financial Assistance and local and federal approvals and an update on the status of each pending action. It included a revised GHG analysis in accordance with the MEPA Greenhouse Gas Policy and Protocol (GHG Policy), responses to comments, and revised draft Section 61 Findings.

As requested by the Scope, the FEIR identified the frequency and circumstances under which the natural turf field would be used for overflow parking. It provided clarification on the two secondary access driveways to the site. The 40-ft wide access road to Lexington Street (located north of the main entrance to the site) will be gated and used only for emergency access. The FEIR indicated that the 20-ft wide water, sewer, and drainage easement (Lincoln Street Extension) which will also be used for emergency access was taken by eminent domain by the City in 1984. The FEIR provided a copy of the order of taking and asserted that the fire and police departments have the legal right to use the right-of-way under exigent public safety or emergency situations involving potential risks to public safety. The FEIR clarified that the easement will not need to be widened to accommodate emergency vehicles, though limited tree clearing will be required to extend the pavement and water line to the property line at the new high school. The FEIR indicated that there will be a reduction in stormwater discharge to this portion of the project site and noted the City is evaluating whether stormwater runoff can be collected from the emergency roadway and discharged to the existing drainage infrastructure within the street.

The FEIR identified the width of the right of way (60-ft) at Lexington Street and clarified that approximately 800-linear-feet (lf) of dedicated bike lane near the new high school entrance will be eliminated in order to install a left-turn lane into the project site. The project will also install “sharrow” pavement markings, signage, and bicycle detection at the High School traffic signals to aid bicyclists in activating the lights at this location. I encourage the City to continue evaluating opportunities to promote safe and accessible pedestrian and bicycle access for students to and throughout the project site.

Alternatives Analysis

As previously noted in the NPC/DEIR, the City indicated that proposed alternatives were evaluated against criteria established by the School Building Committee, including the site’s ability to allow adequate space to provide for the master plan which includes the school, 650 parking spots, and room for future expansion and relocation of as many off-site athletic fields to the site as possible/practical. The project site was selected in part because it met these criteria. The Scope required clarification as to whether this is still applicable given that the Jericho Hill II Parcel was incorporated into the site to enable revisions that would eliminate development from the northeastern portion of the site. The FEIR clarified that the alternative sites were eliminated for a variety of reasons, but never specifically because of the lack of ability to allow relocation of fields in the future. Based on this, the FEIR asserted that elimination of this criteria would not change any previous determination on preferred sites, that the prior analysis remains valid, and that the reasons for selection of 554 Lexington Street as the preferred site still stand.

Land/Drainage

The proposed building layout allows the existing natural field and north-central portion of the site to remain as undisturbed wooded area. In response to concerns identified in comment letters regarding development of open space, the Scope requested that the City consider placing a conservation

restriction (CR) on the portion of the site which will remain undeveloped, or at an alternative off-site location, in order to permanently protect such land as publicly accessible open space. The FEIR indicated that the Mayor is willing to recommend to the City Council that the Council approve placement of a CR on a 5.97-acre portion of City-owned land located adjacent to the existing high school at 0 Chesterbrook Road (aka 605R Lexington Street). Supplemental information from the City's consultant indicated that the City Council voted on September 21st to approve placing a CR on the 5.97-acre parcel.¹ Regarding the permanent protection of portions of the project site that will remain undeveloped, the FEIR stated that the City has transferred care, custody, and control of the parcels comprising the project site to the School Department as part of the new high school project "thus clearly demonstrating its dedication to educational use (i.e. not Article 97)."² I note that this would not preclude the City from placing a CR on the portion of the site that will remain undeveloped, and I continue to urge the City to do so. The permanent protection of the undeveloped portions of the site continues to be requested in many comment letters. Should the City choose to pursue development of the undeveloped portions of the project site, the City is directed to consult with the MEPA Office to determine if additional MEPA review is required.

The FEIR included additional description of the stormwater management system. Currently, all stormwater that leaves the site eventually discharges to Chester Brook. As previously noted in the NPC/DEIR, the project will not change the tributary area that drains to Chester Brook; however, earthwork and the rock wall will cut off flows from a 0.4 acre portion of the intermittent stream's contributing watershed (20.39 total acres). The FEIR clarified that the flows from this area will be collected in either the trench at the base of the rock wall or in catch basins within the school's internal roadway and will combine with flows from the project before discharging to Chester Brook. The FEIR indicated that this reduction is insignificant (2% of the existing intermittent stream watershed) and that the loss of tributary area is not anticipated to adversely affect the streamflow. The FEIR indicated this will continue to be evaluated based on the results of the subsurface exploration program.

The City's consultant provided supplemental information to the MEPA Office on September 18 and 29, 2020 which described changes that have been incorporated into the stormwater management system to further reduce phosphorous loading.³ This information identified discrepancies in the phosphorous loading calculations previously provided in the NPC/DEIR and provided updated phosphorous loading calculations based on revisions to the stormwater management system that occurred after the FEIR was filed. Specifically, impervious area has been further reduced by 1-acre and additional phosphorous-removing BMPs have been incorporated into the stormwater management design. The information noted that these changes were described in the Notice of Intent (NOI) application which was submitted to the Conservation Commission on August 19, 2020 and presented at their two public hearings on September 3 and 17, 2020. The updated calculations indicate that the project will reduce phosphorous loading by 6.9 lbs/year for a post-development export of approximately 22.5 lbs/year. Phosphorous loading was not discussed in the FEIR as it was not included in the Scope; however, the draft Sections 61 Findings referenced the phosphorous loading calculations. I refer the City to comments from the Charles River Watershed (CRWA) which acknowledge ongoing consultation with

¹ Email from Lorraine Finnegan (SMMA) to Page Czepiga (MEPA Office) sent 9/28/20.

² The NPC/DEIR indicated that the City took the 554 Lexington Street parcels by eminent domain in 2018 for the purpose of educational use, open space, or combination thereof and the City obtained the Jericho Hill II parcel through a friendly taking/purchase for municipal purposes.

³ Emails from Lorraine Finnegan (SMMA) to Page Czepiga (MEPA Office) sent 9/18/20 and 9/29/20.

the project team regarding phosphorous reduction. The City should continue to work with the CRWA to evaluate opportunities to reduce phosphorous loading and should incorporate revised mitigation measures into updated Section 61 Findings to be filed with the MEPA Office.

As noted in the NPC/DEIR, down gradient abutters to the east and south currently experience flooding caused by stormwater or groundwater from the site. The project has incorporated a swale along the eastern edge of the property to capture stormwater draining from the site towards those properties. The FEIR indicated that site grading will direct runoff to the stormwater management features instead of towards properties to the south. Proposed finished grade elevations are up to approximately 100-ft lower than the observed groundwater levels. Groundwater will be controlled through a network of piping at the base of the rock wall cut. Groundwater at the school and parking garage will be managed and collected as a part of the under slab drainage system below the school and the site drainage system. As requested by the Scope, the FEIR described the various components of the subsurface exploration program that will inform the design of the groundwater management system and identified their anticipated completion dates. The program includes test borings, geophysical testing, laboratory testing, down-the-hole packer testing, an aquifer pumping tests. This information will be used to identify bedrock fracture and joint locations and orientation and to understand the anticipated groundwater inflow rates to the underdrain system and the volume of water that will exit the rock face. The subsurface exploration program is anticipated to be completed by September 2020. The program will be used to estimate groundwater flow rates across the site and to estimate the time required for groundwater stabilization. The FEIR also identified the testing protocols that will be used for testing the solid turf materials and water quality for Per- and Polyfluoroalkyl substances (PFAS).

Climate Change

The GHG Policy and its requirements to analyze the effects of climate change through EIR review is an important part of the Commonwealth's statewide strategy to prepare for climate change. The FEIR provided an analysis of stationary- and mobile-source GHG emissions and identified measures to mitigate the project's GHG impacts. As described below, it also included a general discussion of how the project will adapt to climate change conditions.

Greenhouse Gas Emissions

The FEIR included an updated GHG analysis based on the MEPA Greenhouse Gas (GHG) Policy and Protocol (the Policy). As requested by DOER, the FEIR provided a revised Base Case model which is based on the update to the Stretch Code that was initially scheduled to go into effect in August 2020, but will be delayed until at least November (referred to herein as "updated Stretch Code"). As required by the updated Energy Code, the revised energy model incorporates additional energy conservation measures and the following three Section C406 measures into the Base Case and Preferred Alternative energy model: C406.3 (reduced lighting power density), C402.4 (advanced digital daylighting controls), and C402.9 (air infiltration reduction). The overall GHG reduction for stationary sources has been adjusted downward from the 33% claimed in the NPC/DEIR, to 14% as compared to the updated Stretch Code Base Case.

The FEIR evaluated additional electrification scenarios, including: (i) the currently proposed building will be retrofitted to electric heating in the future; and (ii) an electrification scenario assuming

an improved envelope that could accommodate downsizing of HVAC systems (and thereby reduce electric loads) (Scenario 4). The FEIR evaluated a scenario with all-electric heating and cooling system with an improved building envelope (Scenario 4). However, this scenario included electric resistance water heating and assumed a larger and more costly emergency generator. The FEIR indicated that Scenario 4 results in reduced energy use and an additional 5.7% reduction in GHG emissions (an additional 100 tpy) when compared to the proposed design. According to the FEIR, GHG reductions resulting from the improved building envelope are limited by the overall plug load end use, which includes a large comprehensive program (culinary, automotive, and carpentry). The FEIR also included a 30-year Life Cycle Cost Analysis (LCCA) for Scenario 4 which indicated it resulted in an additional \$51,004 of annual energy costs compared to the Stretch Code, while the Preferred Alternative results in \$49,099 of annual energy costs savings. The FEIR therefore concluded that Scenario 4, while having energy reduction benefits, was not cost effective. The FEIR did not address why Scenario 4 assumed electric resistance water heating (which may increase operational costs and negatively impact the LCCA) when the proposed design will utilize condensing gas boilers. The FEIR did not evaluate the scenario where the currently proposed building will be retrofitted to electric heating in the future.

The City's consultant provided supplemental information during the MEPA review period on September 30, 2020 which included a letter from the Director of Facilities for Waltham Public Schools and an evaluation of additional electrification scenarios, including (i) retrofit proposed building to electric space heating in the future (Scenario 2A); (ii) proposed building envelope with electrification of space heating and natural gas domestic hot water (DHW) system (Scenario 3A); and a modified version of Scenario 4 that assumes a natural gas DHW system instead of electric resistance water heating (Scenario 4A).⁴ The correspondence from the Director of Facilities confirms that the all-electric heating system options were previously presented to the City and discussed at the onset of the project. This letter indicated that the City selected the proposed design over a scenario with efficient electrification of space heating based on maintenance requirements and concerns about the cost of electricity (vs natural gas). The City has elected to maintain the proposed design despite the deferred increased costs of retrofitting to electric space heating in the future (Scenario 2A). Additionally, comments from DOER assert that the efficient electrification Scenario 3A will cost less to construct (at initial construction), less to operate, less to replace at end of life, and will cost only marginally more to maintain. According to DOER, the 30-year LCCA of Scenario 3A indicates that this approach will cost the City of Waltham almost \$2 million less and will reduce GHG emissions by 5,000 tons compared to the proposed design. Their comments also identify potential errors within the additional analysis provided by the City's consultant. As suggested by DOER, I continue to encourage the City to reconsider additional energy efficiency measures such as initial efficient electrification of space heating.

As requested by the Scope, the FEIR clarified that the Building Code requires that 40% of the rooftop be constructed as "solar ready" and included a solar photovoltaic (PV) feasibility analysis. The analysis included a conceptual roof plan that identified the "usable areas" for potential solar PV systems, rooftop HVAC equipment, and other appurtenances. The analysis assumed a 634 kw solar PV array would be installed on 40% (52,858 sf) of the total rooftop area (128,254 sf). The analysis indicated that this array would generate 4,972,400 kWh/year which would offset approximately 12.8% of the high school's annual energy use and reduce GHG emissions by 236 tons per year (tpy). According to the FEIR, this solar installation would have a payback period of 21 years. Based on this long payback period, the FEIR indicated that the City will set aside 40% of the rooftop as "solar ready" pursuant to

⁴ Emails from Martine Dion and Lorraine Finnegan (SMMA Inc) to Page Czepiga (MEPA Office) sent September 30, 2020.

code requirements, but does not intend to install a solar PV array at this time. I continue to urge the City to commit to the installation of a rooftop PV system or to reconsider the viability of a PV system developed by a third-party and subject to a Power Purchase Agreement.

The FEIR included a revised mobile source GHG analysis that incorporated an expanded study area. Specifically, the study area was expanded from 4 roadway segments to 17 roadway segments. Mobile source emissions were calculated for the 2024 No-Build Condition, 2024 Build Condition, and 2024 Build with Mitigation (with proposed high school driveway intersection signalization and TDMs). The GHG analysis indicates that the Base Case for the entire project (based on the updated Stretch Code) will generate approximately 2,496 tons per year (tpy) of GHG emissions, consisting of 1,580 tpy of stationary source emissions and 916 tpy of mobile source emissions.⁵ The Preferred Alternative will reduce stationary source emissions by 226 tpy, an approximate 14% reduction, and will reduce mobile source emissions by 58 tpd, a 6% reduction. Overall emissions will be reduced by 284 tpy for an approximate 11% reduction. Reductions to mobile source emissions are associated with implementation of the TDM plan and improvements to and signalization of the site driveway's intersection with Lexington Street.

Adaptation and Resiliency

The FEIR clarified that the stormwater management system was designed using the National Oceanic Atmospheric Administrations (NOAA) Atlas 14 Volume 10 precipitation data and included a discussion of future climate conditions using data from the Climate Change Clearinghouse for the Commonwealth which was developed by the Northeast Climate Science Center at the University of Massachusetts at Amherst. The climate discussion in the FEIR and presented below used median values based on model scenarios for two future greenhouse gas emissions pathways: RCP 4.5 and RCP 8.5 (the medium and high emissions scenarios, respectively). According to the FEIR, the Charles River Basin will experience a median precipitation increase of 3.8 inches by the end of the century (year 2100), in excess of the 30-year mean of approximately 48 inches in 2000. The models predicted a median increase of 1.4 days per year with at least 1-inch of precipitation by the end of the century, above the 30-year mean of 8 days per year. The FEIR indicates that projection would result in one or two rainfall events per year that would exceed the 1-inch water quality treatment volume for which stormwater BMPs were designed. The FEIR indicated that stormwater basins are designed to discharge the 100-year storm event through broad berms or piped culverts. The closed drainage system (i.e. collection piping and conveyance infrastructure) has been designed to convey the 25-year storm event. According to the FEIR, the 25-year storm design is a City of Waltham regulation and an industry standard and oversizing the conveyance system is considered unnecessary and costly. However, the design of the stormwater management system has improved since the FEIR was submitted and now includes additional mitigation strategies to provide enhanced resiliency. The information provided by the City's consultant indicated that five stormwater basins are designed to treat a minimum of 1.5 inches of rainfall, which exceeds the required 0.5-inch water quality volume. Additionally, four of the stormwater basins will be sized to provide additional storage volume beyond that which is required. The City should continue to evaluate the design of the stormwater management system to ensure it adequately captures the impacts of climate change given the project's design life. According to the FEIR, the most significant change predicted by the models appears to be the increases in temperature; annual average temperatures statewide are

⁵ The Base Case project-related mobile source GHG emissions are 2,290 tpy; which represents the net difference in mobile source emissions between the 2024 No-Build and 2024 Build Conditions.

expected to increase between 4°F and 11°F. The FEIR indicated this increase in temperature will not impact the design of the stormwater system.

The FEIR clarified that the groundwater management system will be designed to account for the future change in precipitation by accounting for a possible rise in groundwater elevation and increase in surface water and groundwater flow rates. Specifically, the system will be designed based on an elevation that is 2-ft higher than the current estimated seasonal high groundwater elevation. The FEIR indicated the City will evaluate the feasibility of upsizing the design to accommodate increased flow upon conclusion of the subsurface exploration program, once the groundwater flow rate across the site has been evaluated.

Construction Period

The project will be constructed in multiple phases over the course of four years. Construction activity will occur between 7:00 AM and 5:00 PM weekdays and 8:00 AM to 4:00 PM on Saturdays. According to the FEIR, reducing the construction hours would extend the overall schedule and delay the opening of the new high school, currently planned for the 2024 school year. The FEIR clarified that blasting will occur on weekdays between 8:00 AM and 4:00 PM. On average, there will be one- to three-blasting events per day, followed by rock removal. The FEIR provided additional information on the dust, noise, and vibration impacts associated with the project and identified additional mitigation measures to address these construction period impacts. As requested by the Scope, the FEIR included a conceptual figure that identified the approximately 500-ft pre-blast inspection survey radius and described the blasting notification procedure for abutters that will be used by the contractor. The pre-blast surveys are anticipated to commence November 2020 and will be completed within a 4 to 6 week timeframe. The FEIR identified how the CM will ensure compliance with the Massachusetts Idling regulation at 310 CMR 7.11. Idling restrictions will be specified in all subcontracts and enforced on-site via anti-idling signage and by CM personnel and subcontractor contractual language. The CM will include a requirement for ultra-low sulfur diesel fuel and equipment retrofitted with emissions control equipment.

The Scope requested the FEIR identify a process for addressing noise, vibration, or dust complaints from abutters during the construction phase of the project. The FEIR noted that complaints about vibration should be addressed to the local fire department. The FEIR did not identify a process for addressing noise or dust complaints. I received comments that continue to request that I mandate monitoring of construction period impacts by independent third parties. While I strongly encourage the City to closely monitor construction period impacts and communicate with abutters and residents, this is an issue that is more appropriately addressed during review of the project at the local level. As noted previously, I also expect full compliance with MassDEP regulations governing noise, idling, air quality and other impacts, including the blasting regulations at 527 CMR 1.00 which identify requirements for a blast analysis, blast design plan, pre-blast inspection surveys, allowable limits of effects of blasting, and blasting regulatory review.

Mitigation and Draft Section 61 Findings

The FEIR contained a separate chapter on mitigation measures and draft Section 61 Findings for use by the MSBA. It described mitigation measures and contained clear commitments to mitigation. I

expect the City will update the draft Section 61 Findings accordingly to incorporate recent revisions to the stormwater management design and phosphorous loading calculations. The draft Section 61 Findings included a commitment to provide a GHG self-certification document to the MEPA Office that is signed by an appropriate professional (e.g., engineer, architect, transportation planner, general contractor) and indicates that all of the required mitigation measures, or their equivalents, have been completed. As described in the FEIR and prior MEPA submittals, the City has committed to implement the following measures to avoid, minimize, and mitigate environmental impacts:

Land Alteration

- Revising the project layout to reduce land alteration and impervious area;
- Construction of a parking garage with approximately 450 spaces which will reduce impervious area compared to additional surface parking; and
- Permanent protection a 5.97-acre portion of City-owned land located adjacent to the existing high school at 0 Chesterbrook Road (aka 605R Lexington Street).

Wetlands/Stormwater

- Revising the project layout to reduce land alteration and impervious area and to avoid impacts to wetland resource areas;
- Restoration of historically impacted wetlands on the project site;
- Construction of a stormwater management system that will incorporate bioretention swales, subsurface detention basins, hooded deep sump catch basins, and structural water quality units and will comply with the SMS to the maximum extent practicable;
- Installation of non-structural (street sweeping, litter collection, prohibit application of fertilizers containing phosphorus) and structural (additional bio-swale basins, expanded water quality swale, and engineered tree boxes) BMPs to reduce phosphorous loading by 6.9 lbs/year for a post-development export of approximately 22.5 lbs/year; and
- Installation of a drainage swale along the eastern side of the property line and site grading along the southern edge of the property which will intercept stormwater runoff from the site and direct it to the on-site drainage system to improve drainage conditions on abutting properties.

Traffic/Transportation

- Signalization of the site driveway's intersection with Lexington Street and installation of turning lanes on Lexington Street;
- Traffic signal will include adaptive signal control technology which will be implemented and sequenced with previous and subsequent traffic lights along Lexington Street;
- Installation of a shared bike lane with "sharrow" pavement markings, signage, and bicycle detection at the High School traffic signals to aid bicyclists in activating the lights at this location;
- Provision of 30 bicycle racks on the project site;
- Installation of new crosswalks on Lexington Street; and
- Implementation of a Transportation Demand Management (TDM) program which may include the following measures:
 - Encouraging and incentivizing the use of buses;
 - Limiting bus and vehicle idling at the school;
 - Providing improved site circulation and intersection design to reduce idling times for vehicles;

- Encouraging the use of bicycles and pedestrian traffic to the school and providing numerous secure bike racks/storage;
- Providing vehicle charging stations for electrical vehicles;
- Offering preferred parking for carpool and low emission vehicles; and
- Providing assigned parking spaces to minimize travel time on-site.

Greenhouse Gas Emissions

- Measures to avoid, minimize or mitigate GHG emissions include:
 - High-performing building envelope (roof = R-50, walls = R28.5, glazing = U-0.32 with SHGC of 0.27) with exterior shading devices, and light colored reflective roof;
 - Whole building air infiltration testing;
 - High efficiency lighting systems with reduced light power density (LPD), vacancy and daylight controls, advanced digital network controls, and LED fixtures for all exterior lighting;
 - High efficiency transformers;
 - Energy star rated appliances and equipment;
 - High efficiency mechanical systems (condensing natural gas boilers, variable frequency drives on pumps, DOAS ventilation with heat recovery, high-performance air-cooled chiller, demand control ventilation, energy management system and controls, high efficiency domestic hot water, and kitchen hood controls);
 - Enhanced commissioning for mechanical, electrical, plumbing, and building enclosure systems,
 - High performance elevators;
 - Solar-ready rooftop (40%) and electrical system; and
 - Electric-Vehicle (EV) charging stations for 2% of parking spaces.
- Roadway improvements and signalization of the site driveway's intersection with Lexington Street and implementation of a TDM program (as described above) to reduce mobile source emissions 58 tpy (6% reduction of mobile source emissions) ;
- The project will be designed to reduce stationary source GHG emissions by 226 tpy, a 14% reduction compared to the updated Stretch Code Base Case; and
- The Proponent will submit a post-construction self-certification document to the MEPA Office which will be signed by an appropriate professional (e.g., engineer, architect, transportation planner, general contractor) and prior to occupancy. The self-certification will indicate that all of the required mitigation measures, or their equivalent, have been completed. In addition, if GHG commitments cannot be achieved or are reduced as a result of TDM monitoring, any changes to such commitments must be included in the GHG self-certifications. The certification should be supported by plans that clearly illustrate what type of GHG mitigation measures have been incorporated into the project. For those measures that are operational in nature (i.e. TDM, recycling, parking management), the Proponent should provide an updated plan identifying the measures, the schedule for implementation and how progress towards achieving the measures will be obtained.

Climate Change Adaptation and Resiliency

- Designing the groundwater management system based on a groundwater elevation two-ft higher than the current seasonal high groundwater elevation to account for the future change in precipitation;

- Sizing stormwater basins to accommodate higher rainfall volumes and to provide increased storage volume;
- Light colored roofing and provision of green vegetated roofs on the third floor of the building (approximately 3% of the overall roof area) to reduce heat island effect;
- Planting native and drought resistant plantings and limiting irrigation to reduce outdoor water use;
- Provision of electric vehicle (EV) charging for 2% of parking spaces; and
- Installation of a back-up emergency generator for use during power outages.

Water Supply/Wastewater

- Replacement of the 4,900 linear foot (lf) water main in Lexington Street and reconstruction of 375 lf of sewer main in Stanley Road;
- Compliance with MassDEP and the City of Waltham's I/I removal requirements; and
- Installation of low flow fixtures to reduce water consumption.

Construction Period

- Hours of construction will be limited to 7:00 am to 5:00 pm on weekdays and from 8:00 am to 4:00 pm on Saturdays. Blasting will occur on weekdays from 8:00 am to 4:00 pm and no blasting will occur on Saturdays, Sundays, or holidays;
- Implementation of appropriate acoustical mitigation measures for both construction noise and final project noise generating equipment as recommended by an acoustician;
- Use of sound blankets at perimeter fence to mitigate noise to abutters;
- Use of earth berms or other sound barriers to reduce noise from on-site rock crushing and use of double matting during all blasting operations to mitigate debris, dust, and noise impacts;
- Dust suppression techniques such as wetting agents, gravel trucking pads, wheel cleaning, street cleaning, dumpster control, and soil stabilization;
- Use of negative air machines, HEPA filters, and additional measures to comply with MassDEP's Asbestos regulations;
- Contractor will require use of ultra-low sulfur diesel fuel and equipment retrofitted with emissions control equipment;
- The Massachusetts' Anti-Idling law (310 CMR 7.11) will be specified in all contract documents and enforced during construction with the installation of anti-idling signage at loading and by CM personnel; and
- Blasting will be conducted and subject to regulatory requirements.

Conclusion

Based on a review of the FEIR, comments letters, and consultation with State Agencies, I find that the FEIR adequately and properly complies with MEPA and its implementing regulations. Outstanding issues can be addressed during the subsequent permitting and review processes. The project may proceed to permitting. State Agencies should forward copies of the final Section 61 Findings to the MEPA Office for publication in accordance with 301 CMR 11.12.

As noted above, should the City choose to pursue development of the undeveloped portions of the project site, the City is directed to consult with the MEPA Office to determine if additional MEPA review is required.

October 2, 2020

Date

K. Theoharides

Kathleen A. Theoharides

Comments received:

8/26/2020	Superintendent Brian Reagan
8/28/2020	Amy Brown
8/31/2020	George Frost, Human Resources Administrator, Waltham Public Schools
9/03/2020	Carolina Lara
9/03/2020	Debra Abberton
9/21/2020	Rachel Weinstein
9/22/2020	Laura Cannon
9/22/2020	Orlando Medeiros
9/24/2020	Paula Hughes (1 of 2)
9/25/2020	Waltham Land Trust
9/25/2020	Paula Hughes (2 of 2)
9/25/2020	Charles River Watershed Association (CRWA)
9/25/2020	Christine Reynolds
9/25/2020	Jennifer Rose
9/25/2020	Robert Coleman
9/25/2020	John Allen
9/25/2020	Massachusetts Water Resources Authority (MWRA)
9/29/2020	Anonymous
10/02/2020	Department of Energy Resources (DOER)

KAT/PRC/prc



Waltham Public Schools

Brian K. Reagan, Ed. D., Superintendent
brianreagan@walthampublicschools.org

August 26, 2020

Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs
Attn: MEPA Office
Ms. Page Czepiga
100 Cambridge Street, Suite 900
Boston, MA 02114

Dear Ms. Czepiga,

Please extend our sincere gratitude to Secretary Theoharides for her detailed and thoughtful response to the DEIR submitted for the new Waltham High School and for the issuance of the certificate.

The School Building Committee and Designers continue to seek ways to mitigate impact on the environment. Three neighborhood meetings were held in July to hear and address residents' concerns and suggestions regarding wildlife, wetlands, noise and traffic. The School Building Committee continues to provide information and answers to the community during their bimonthly meetings.

Consigli Construction Company has been hired as the CM-R for the project, largely based on their expertise in building schools, but also for their respect for the environment and community engagement. Consigli has been highly informative regarding storm water management and the establishment of noise, vibration and dust monitoring stations. Their construction blast monitoring standards exceed the State requirements. The Designers continue to look at parking distribution and the potential to reduce up to forty at-grade parking spaces to further mitigate impact to the environment.

The School Building Committee has worked hard to establish a first-class, environmentally responsible team of Lefffield LP, Symmes, Maini, McKee and Associates and Consigli Construction, to build our new state-of-the-art Waltham High School. I respectfully request approval of the FEIR so we may continue to move this project forward. Thank you for your consideration.

Sincerely,

Brian K. Reagan, Ed.D.
Superintendent

From: [Amy Brown](#)
To: [Czepiga, Page \(EEA\)](#)
Subject: EEA #16097 - Waltham High School FEIR
Date: Friday, August 28, 2020 10:08:58 AM

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Good morning, Ms. Czepiga,

I am writing in support of your agency extending a final permit to the City of Waltham in support of the new Waltham High School building project at 554 Lexington Street.

This is an important project for the children and residents of the City of Waltham. The City, along with their architect, SMMA, has revised the site design specifically to address issues that your agency requested. The site design now completely avoids the potential intermittent stream and wetland. As such, I urge your agency to permit the project and allow the new Waltham High School to begin site development and construction immediately.

My husband and I started following this project five years ago when our daughter was 6-years old and in kindergarten. She is now 11-years old and entering 6th grade. We are hopeful that she will receive three years of education in this new, world-class high school and open her future to endless opportunities. This new high school is key to much of those educational and life opportunities. The new Waltham High School will be a central piece of our community for both students and adults. Its central location will create equality in education and access for our diverse population.

Thank you for moving this critical project forward for the City of Waltham and generations of our residents.

Warm regards,

Amy Brown
138 Florence Road
Waltham, MA 02453
617-275-6937



Waltham Public Schools

George Frost, Human Resources Administrator
georgefrost@walthampublicschools.org

August 31, 2020

Secretary of Energy and Environmental Affairs
Executive Office of Energy and Environmental Affairs
Attn: MEPA Office
Ms. Page Czepiga
100 Cambridge Street, Suite 900
Boston, MA 02114

Dear Ms. Czepiga,

As we move forward with the Design Development of the new Waltham High School, we continue to seek ways to further mitigate the impact to the environment and the neighborhood surrounding 554 Lexington Street.

As noted in my June 4, 2020 letter to you, we have relocated the multi-purpose field and garage behind the building, away from the BVW and intermittent stream. This plan also allows for a reduction in rock removal on the northeast portion of the site. Additionally, our designers have proposed a reduction of forty at-grade parking spaces, which will result in less disruption to the site and provide a greater buffer to the southerly neighbors.

In July the School Building Committee was pleased to contract with Consigli Construction Company as the CM-R for the project. Their extensive knowledge, commitment and respect for building environmentally smart and sustainable schools, led them to be the top-ranked firm during the interview process. At our meetings it is evident they will, along with Lefffield, and SMMA, adhere to and in many cases exceed, the City and State standards for dust, noise and rodent control and SWPPP. As an example, an environmental noise analysis, recently conducted by Acentech, concluded the noise mitigation proposed by the project meets the City and State requirements. Consigli's steps to reduce blast impact exceeds those required by the Commonwealth. I firmly believe we have partnered with a state-of-the-art team for our state-of-the-art high school.

Please extend my sincere thank you to Secretary Theoharides for issuing the DEIR certificate in June. I respectfully request approval of the Final Environmental Impact Report, so that we may continue to move this project forward.

Respectfully,

George Frost
Human Resources Administrator
Waltham School Building Committee Member

From: [Carolina Lara](#)
To: [Finnegan, Lorraine](#); [Czepiga, Page \(EEA\)](#); [MEPA \(EEA\)](#)
Subject: Re: Waltham High School EEA#16097 - FEIR Submission
Date: Thursday, September 3, 2020 2:06:47 PM

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

First off, I hope you are all well and in good health.

Thank you for sending this extensive report and good follow up information. I read through it and see it as a positive sign that the modified school site plan makes a better environmental choice. I think the efforts that have been made by our city are sufficient to move this project along to final permits. Please don't delay what has all ready been studied, evaluated and debated, for the betterment of our community.

As always thank you for doing your best,

Carolina Lara
Waltham Resident
Carolara@hotmail.com

From: Finnegan, Lorraine <lfinnegan@smma.com>

Sent: Monday, August 17, 2020 12:55 PM

To: MEPA@mass.gov

Cc: Mary Pichetti; George Frost; christinpic@gmail.com;
nadenestein@walthampublicschools.org; mrimmer@rimmerenv.com;
helena.boccardo@mass.gov; john.d.viola@mass.gov; lionel.lucien@dot.state.ma.us;
connie.raaphael@dot.state.ma.us; mhc@sec.state.ma.us; brona.simon@state.ma.us;
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Colette; alyvons@stanfordalumni.org; Laura Cannon; Jrman75@hotmail.com;
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hanleybnl@icloud.com; Rcolema1@ix.netcom.com; whanley1@gmail.com;
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rebeccaacyr@comcast.net; Liz Homan; jdavidson@local22.net; Paula Hughes;
Jdevin501@verizon.net; Aliciageorge623@hotmail.com; revad@comcast.net;
tdonroe@gmail.com; carol_12343@hotmail.com; jeanniejoe@gmail.com;
sdurkee@city.waltham.ma.us; heatherj1964@gmail.com; jeffreyesposito@hotmail.com;
roscojjj@gmail.com; dcesary@yahoo.com; jacobkatz@walthampublicschools.org;

kitfintz@gmail.com; 89pkatz@gmail.com; bflowerma@yahoo.com; sharon.katz@comcast.net; mckern4527@gmail.com; Kristen858@gmail.com; David King; gerinederhoff@gmail.com; Tkkk2008@comcast.net; e.ordile8@gmail.com; benkuchler@gmail.com; Luisa Pandolfi; ekuno@outlook.com; alysiaparkes@gmail.com; carolara@hotmail.com; sueparr39@gmail.com; eliz.lear@gmail.com; megletendre@gmail.com; brandice_hermann@hotmail.com; donlucente@yahoo.com; kleepruy@gmail.com; cannon781@aol.com; evreilly2468@gmail.com; Lara, Carolina; sarah.remage-healey@brighthorizons.com; rubyelizabethlopez@live.com; doug.macdonald@ymail.com; Patricia.roche133@verizon.net; thom.maclellan@hotmail.com; patrickrooney996@gmail.com; pradipm@busitants.com; jennifer@downtown-diva.com; kathimartuza@gmail.com; cmatteod@gmail.com; Jennr5000@yahoo.com; Mayor; divapegret@yahoo.com; medeiom@outlook.com; caren_dunn@yahoo.com; bostonhector@aol.com; jpnmom@aol.com; vcsharpe129@gmail.com; Celeste Woodside; jimsimeone37@gmail.com; hmiller@crwa.org; kathleensimpson14@gmail.com; galen@massbike.org; jsallen@bikexprt.com; lsumner660@gmail.com; john.d.viola@mass.gov; kaj.telenar@gmail.com; alexurquhart@comcast.net; Brendan Kearney; lauraurquhart@comcast.net; Celeste Woodside; rachel_weinstein@hotmail.com; WHC@city.waltham.ma.us; davidwestner@gmail.com; donna_ayres5@hotmail.com; wisehearte@gmail.com; steve@profwolff.org; arichardson@walthamlandtrust.org; swadman@walthamlandtrust.org; mrudnick@walthamlandtrust.org; mccallac@gmail.com; christy@ckhrconsulting.com; Boeri, Robert (EEA); jsaxeman@gmail.com; Tipton, Nathaniel (DCR); mmd@juno.com; mmd65@juno.com; gary.moran@state.ma.us; pawprints227@yahoo.com; pbrasco@brascofuneralhome.com; paul.stedman@state.ma.us; pke041@aol.com; Lally, Kyle (DEP); Rwrubel@massaudubon.org; Cheeseman, Melany (FWE); Anna Richardson; mpillsbury@mapc.org; wdoyle@city.waltham.ma.us; serafina.t.zeringo@state.ma.us; Howejeff@comcast.net; marianparrella@walthampublicschools.org; Lawn, John - Rep. (HOU); Barrett, Mike (SEN); kris071254@gmail.com; rdandm@comcast.net; gjgpjm24@gmail.com; Brian Reagan; 16030_Waltham

Subject: Waltham High School EEA#16097 - FEIR Submission

Ms. Czepiga,

We are pleased to submit the Final Environmental Impact Report (FEIR) for Waltham High School on behalf of the City of Waltham.

As this submission is electronic, three links below are provided for:

- (1) the report [Waltham HS EEAA16097 FEIR Report](#)
- (2) report appendices [Waltham HS EEAA16097 FEIR Appendices](#)
- (3) project plans [Waltham HS EEAA16097 FEIR Site Plans](#)

We have included on this e-mail all parties who submitted comments to the ENF and DEIR.

Due to the current state of emergency relating to COVID-19, we will post the FEIR submission to the

Project website:

<https://sites.google.com/a/walthampublicschools.org/high-school-building-project/home>

For those who request (beyond those on this email), we will provide an electronic copy of this submission (via download link or zip file).

To obtain an electronic version of the FEIR, please email Erin Prestileo at eprestileo@smma.com.

We are aware that the public comment period closes on September 25, 2020 and that comments should be submitted to you via email at or to the general MEPA email address at MEPA@mass.gov or through the MEPA Public comment portal at

<https://eeaonline.eea.state.ma.us/EEA/PublicComment/Landing/>

Include the project Name and EEA#16097 in the subject line of all comments.

Thank You

Lorraine

Lorraine B. Finnegan, AIA, LEED AP BD+C, MCPPO

Principal | Vice President

Director of K-12 Studio | Project Manager

SMMA

t: 617.520.9468 | m: 781.640.3756

www.smma.com



From: [Deb Abberton](#)
To: [Czepiga, Page \(EEA\)](#)
Subject: Waltham High School Building Project at 554 Lexington Street EEA# 16097
Date: Thursday, September 3, 2020 7:45:33 PM

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Dear Ms. Page Czepiga (attn: MEPA office),

I'm a parent and resident of Waltham MA and I wanted to write to you regarding the project to build a new Waltham High School Building at 554 Lexington St. I have always been, and continue to be, a huge proponent of the need of this project. I feel this project is paramount to the needs of the Waltham community, most especially of course to the children of Waltham. Any unnecessary delays, are in my eyes, a negative both in terms of costs to future students (fewer students receive the benefits of a new school) and actual cost of the project (costs are always going up over time).

In these days of Covid-19 the need is even stronger to have a modern building. As it is the newer/younger school buildings (i.e. elementary and middle) were able to consider a full time in person option because the buildings were modern and the current high school was a non starter because the facilities are so old that there was no way that they could handle the needs of a full population of high schools students.

Thank you for your continued consideration of this project,
Debra Abberton

From: [Rachel Weinstein](#)
To: [Czepiga, Page \(EEA\)](#)
Subject: Waltham High School EEA#16097
Date: Monday, September 21, 2020 8:11:44 AM

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35 reasons why 554 is not the right site to build the Waltham High School:

- 1- devastation of green space, destroying open space, 20 acres of woodland deforested
- 2- annexing Jericho Hill without a public hearing
- 3- turning conservation land into a parking lot
- 4- taking land and purposing it and guaranteeing it without a site evaluation
- 5- damage to wetlands, wildlife homes and all the other environmental damage and repercussions.
- 6 - 12 - 18 months wasted blasting ledge and then 3+ more years of construction. Let's save valuable educational time and money and build on flat land
- 7- project is feet from residential homes many of which are historical
- 8- noise violations - jackhammering and general construction noise
- 9- 40-70 18-wheelers/day going to/from site on tiny site streets without sidewalks
- 10- \$100 million going to strip mining none to education; general fiscal irresponsibility. The \$100 million spent on blasting could send 8000 Waltham seniors to UMass for free.
- 11- Waltham traffic commissioner has thumbs down this project due to projected grid lock traffic; only one egress to/from the school. Traffic will be a nightmare; fumes will be a public health risk. I am asking the city and state to document cancer, asthma and other public health risk rates before/after this project.
- 12- intersection rating down to an E
- 13- emergency access is not on a proper road. There are photos of emergency vehicles unable to get up the road. The Mayor promised no more eminent domain but we are hearing it may be necessary to make the road accessible.
- 14- loss of master plan because the site didn't work so let's save time, money, and go back to original site
- 15- finances of project. No money has been mentioned since covid and budget keeps ballooning.
- 16- learn from covid research of correlation between deforestation/lack of trees and diseases and other challenges. Let's keep green spaces green.
17. neither bike lanes. A biker got hit last week and was wounded due to construction related to 554 Lexington
18. nor sidewalks on street parallel to 554 Lexington - Curve street, College Farm road and others. Due to the wooded terrain there will be neither walking nor bike paths.
19. closed door deals i.e. pending request at the AG for closed door meeting minutes
20. Abutters questions not being answered. Neighborhood liaison not answering questions nor attending meetings and moving out of the neighborhood.
21. The former Ward 2 counselor who voted for this project is also moving out of the neighborhood to avoid this project.
22. Hypocrisy of State level reps accepting money from environmental groups and then endorsing this project.
23. There are no checks and balances in Waltham. The Mayor has nominated everyone on every committee so she is surrounded by yes people regardless of the project's feasibility. This project is not respecting the city's zoning laws and I am confident the zoning committee will yes the project through as everyone on the committee was nominated by the mayor.

24. There has been no fiscal transparency from the city. The residents do not know how much our taxes will go up due to this project. With office parks and hotels empty due to COVID, all fiscal responsibility of this project will fall on residents. I am confident the project will burn through money through the blasting phase and there will be no money left to create the state-of-the-art school the city is promised. Taxes will spiral out of the control and the very people the school is built to educate will be chased out of the city due to its unaffordability.
25. Please note, Representative Lawn endorsed this project but he was defeated by his opponent Leary in Waltham. Ergo, the residents of Lawn's Waltham wards neither support Lawn nor this project.
26. No legislative reps have been at neighborhood meetings which have been videotaped; it would be inauthentic of them to put in writing residents support this project when there has only been fear and anger around this project.
27. The neighborhood rep asked residents to cut and paste comments for the prior environmental report, ergo many of the comments are fraudulent and phony.
28. Tragically ironic and hypocritical that the city is destroying acres of green space to build an environmentally friendly building.
29. The proposed high school is out of code but the mayor nominated everyone on the zoning committee so it is inevitable the school will be out of code, an eye sore and not follow zoning codes.
30. The Mass environmental office must stop this project as it will destroy wildlife homes as well as the community in terms of noise, light and air pollution, dust and vibrations.
31. SMMA is putting the school designed for 614 Lexington Street, picking it up and plopping it on top of 554 Lexington street. If 554 is the better location, why can't they design a school that blends with the environment (examples below). Why do we have to blow up a mountain to build a school.
32. No one has guaranteed there will be money left after this building is built to bring Waltham HS up to the top 10th percentiles of schools. What is the plan to improve teaching, instruction, racially diverse, cutting edge curriculum? How will the staff represent the population it teaches? Will there be money for teacher training? Maintaining the green roof? (see below) How can we change the conversation so money purposed for education is spent on instruction not blasting, drilling, rock crushing.
33. There will be a fence circling the school. Are there are examples of schools completely enclosed by a fence and towered with the 150" rock wall? 34. Why are we wasting millions of dollars on a fence and constructing an unwalkable, unbikable school? How is this healthy for families, children, staff and our environment? At obesity and diabetes rates at an all-time high, wouldn't we encourage a walkable and bikeable school?
35. Waltham needs a 21st century high school but please find another spot to put it; keep 554 Lexington green. Let's build a school our children will respect us for, not be angry at us for destroying green space to build a monstrosity.

<https://www.bostonmagazine.com/education/best-public-high-schools-boston-2020-chart/>
<https://dotearth.blogs.nytimes.com/2013/03/06/schools-and-syllabuses-designed-with-the-environment-in-mind/>
https://www.ted.com/talks/takaharu_tezuka_the_best_kindergarten_you_ve_ever_seen

The best kindergarten you've
ever seen



At this school in Tokyo, five-year-olds cause traffic jams and windows are for Santa to climb into. Meet: the world's cutest kindergarten, designed by architect Takaharu Tezuka. In this charming talk, he walks us through a design process that really lets kids be kids.

www.ted.com

Rachel Weinstein 78 Lincoln Street Waltham

cell: 978.590.0877 - text, Whatsapp

Land Line: 781.893.1636

<https://www.linkedin.com/in/rachel-weinstein-msw-med-4134a21/>

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LAURA M. CANNON

JOHN J. FOSTER
(1898-1963)

JOHN J. FOSTER, JR.
(1933-1986)

EDWARD W. FOSTER
(1928-2007)

September 22, 2020

The Secretary of Energy and Environmental Affairs
100 Cambridge Street Suite 900
Boston, Ma 02114

Attention :MEPA Office

Re EEA # 16097 Waltham High Project
Location 554 Lexington Street Waltham Ma

Attn: Page Czepiga

Dear Ms. Czepiga,

I have reviewed the final environmental report and would state that I support the City of Waltham's latest plans dated July 2020 as this plan minimizes the environmental impact to this land. As previously stated in order to truly limit the Environmental impact on this site the state should require the City to place Conservation Restrictions on the undeveloped portion of the site or require that if in the future the City of Waltham plans on modifying this plan for the site they are required again to file an Environmental Impact Report and be subject to the same standard. In the future if the City were to expand the plan and build on the undeveloped area they would be required again to prove that the new plan has the least environmental impact on the land.

In support of this protection I would state that the City of Waltham beginning in 1990 developed a Greenway plan to connect various open space parcels from the Town of Belmont line to Prospect Hill. This parcel at 554 Lexington St., the newly added 6 acre parcel known as Jericho Hill and Sanderson Heights are part of this Greenway plan. The City of Waltham's proposed site plan accompanying this filing does in fact carve out an area to complete the Greenway plan. With the requirement of placing a Conservation Restriction on 554 Lexington and on the undeveloped area of Jericho Hill as well as Sanderson Heights, the City will in fact complete the Waltham Greenway.

Leaving a legacy of continuous open space which supports a vibrant ecosystem and wildlife habitat throughout the City of Waltham. Again I would urge that the state make this Conservation Restriction part of the MEPA final certification. (See proposed plan of the restricted area attached)

As you are aware contiguous open space is crucial to the preservation of Wildlife Habitat. The migratory animals seen in the attached photographs are only a few species which thrive in these woods. The stream itself supports an abundance of wildlife. On one of the Conservation Commission site views we observed deer hoof tracks and a mature buck's antler in the woods near the stream. Flocks of Wild Turkeys nest in the woods and field area. (photographs attached) Also predators need an abundance of open space to hunt. Red Fox, Coyote and other hunters truly require these connected spaces to survive.

In addition to the migratory animals many birds nest and hunt in this area. The red tail hawk and recently a juvenile bald eagle have been sighted in this area. Although the land is not currently recognized on the state's Natural Heritage Rare Species and Vernal Pool registration site (NHESP) website the fact that approximately 30 acres of natural forested land exists in a vibrant City of Waltham 10 miles from Boston , should be enough to encourage the state to recognize and protect this beautiful land.

In addition to the wildlife there is an abundance of plant species in the woods. Lady Slippers, Jack in the Pulpit, princess pines, skunk cabbage and Indian pipes are only a few of the plant life that thrives here. The trees alone represent a diverse sample of our native trees. Sugar Maples , pines both Norway red and white, and birch trees. All of these natural wonders are threatened by development and climate change,

The local Conservation Commission has preserved the intermittent stream and as part of the development of the school they are restoring the stream where it had once been filled . The buffer zones associated with the stream provide some protection but that is truly not enough, Both State and Federal Government agencies have recently recognized the need to preserve and protect open space. The recent passing of the Great American Outdoors Act provides funding to Cities to encourage and preserve open space and to ensure these areas are forever enjoyed and cherished by the public. MEPA recognizes the importance of this protection and the need to preserve biodiversity and critical habitats. (recent Newspapers Article Attached)

The risk of development of the Natural Forested Area not only impacts this site and the Habitats associated with the site but it may have a lasting impact on the Charles River. As you are aware the stream which flows through the site is a tributary to Chesterbrook which eventually flows into the Charles River. At the recent Conservation Commission Meeting the fact that the development of this site may increase the level of Phosphorus flowing into the Charles River is of great concern. This element can speed up the reduction of Oxygen in the River . This reduction caused algae to grow and can choke a river. The Charles River is an incredible resource to all citizens of Waltham and the State. Testimony was provided stating that if the undeveloped land was destroyed

the Phosphorus levels would be extremely high and would in fact have a detrimental impact on the Chesterbrook and in turn the Charles River. Again the only way to ensure this will not happen is to place Conservation Restrictions on the undeveloped portion of 554 Lexington Street Waltham in perpetuity. This would complete the Greenway which has been part of our City Plan for 30 years and would create an environmental and habitat protection not only for our City but for the people of the Commonwealth.

Thank you for your time and consideration.

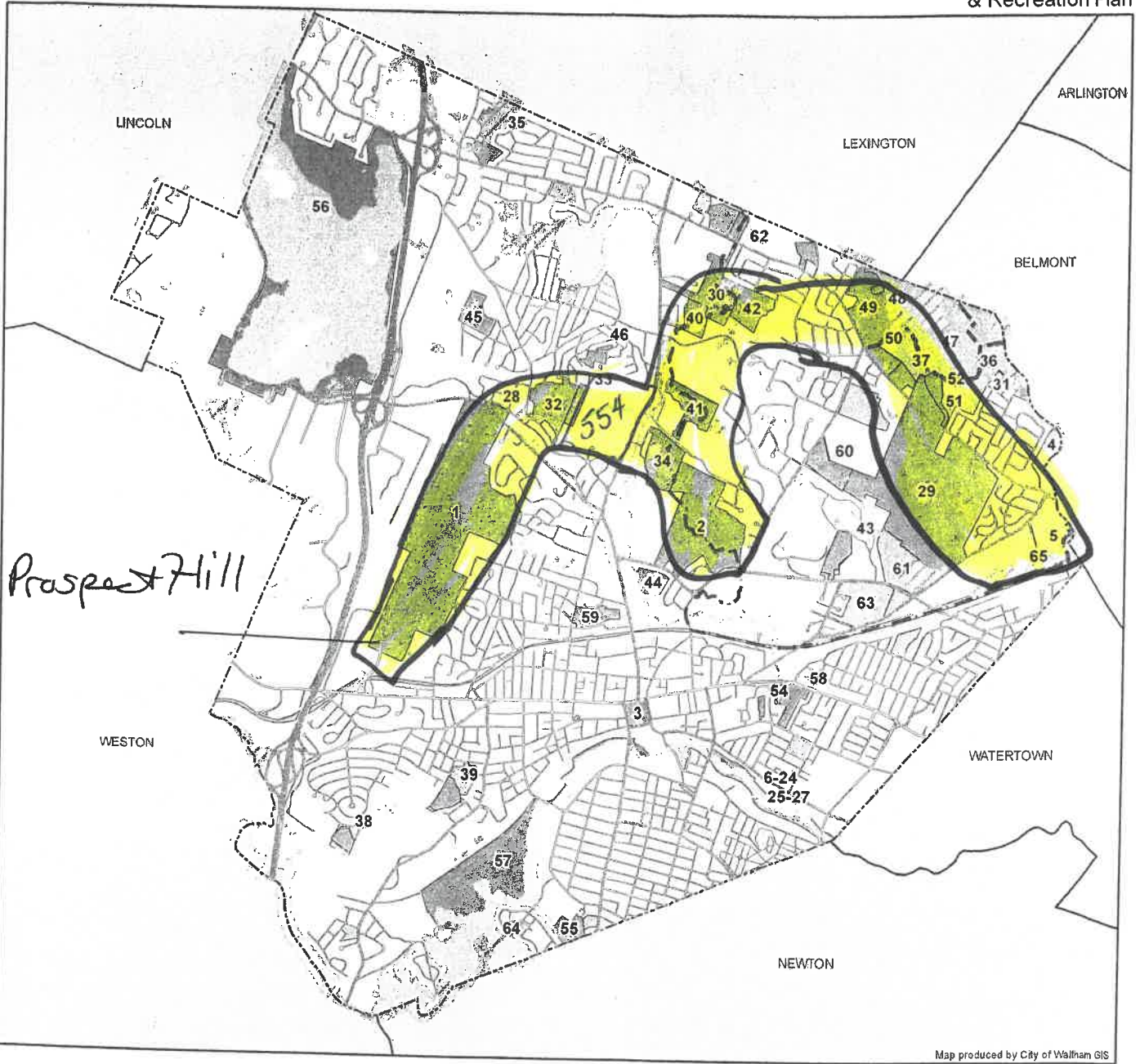
Very Truly Yours



Laura M Cannon
578 & 586 Lexington St
Waltham, Ma 02452
Cell 781-724-1807

Greenway Plan

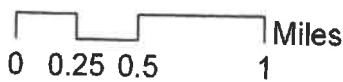
Public/Non-Profit Open Space
 Waltham, MA
 2015 Open Space
 & Recreation Plan



Document Path: G:\Planning_GIS\Open Space Plan\Open Space Inventory.mxd

Map produced by City of Waltham GIS

Legend	
Western Greenway	City of Cambridge
Main Roads	City Owned
Streets	DCR/State Owned
Water Bodies	City Playgrounds
Upland	City Boundary
Wetland Area	

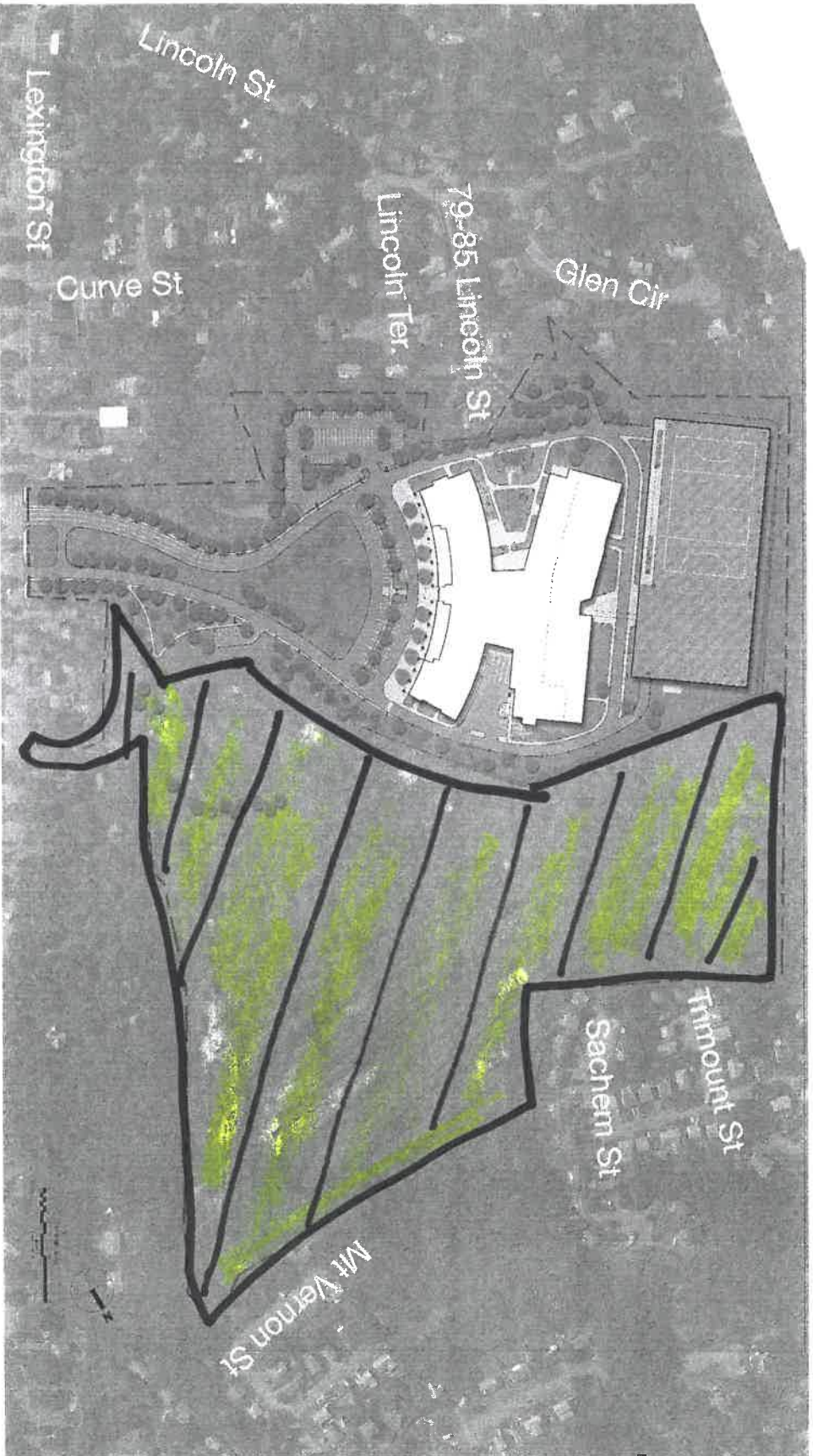


= 554 Lexington JH



= Proposed Conservation Restriction

Alternate Jericho Site Plan



Jericho Hill

Parcel ID R032 005 0038

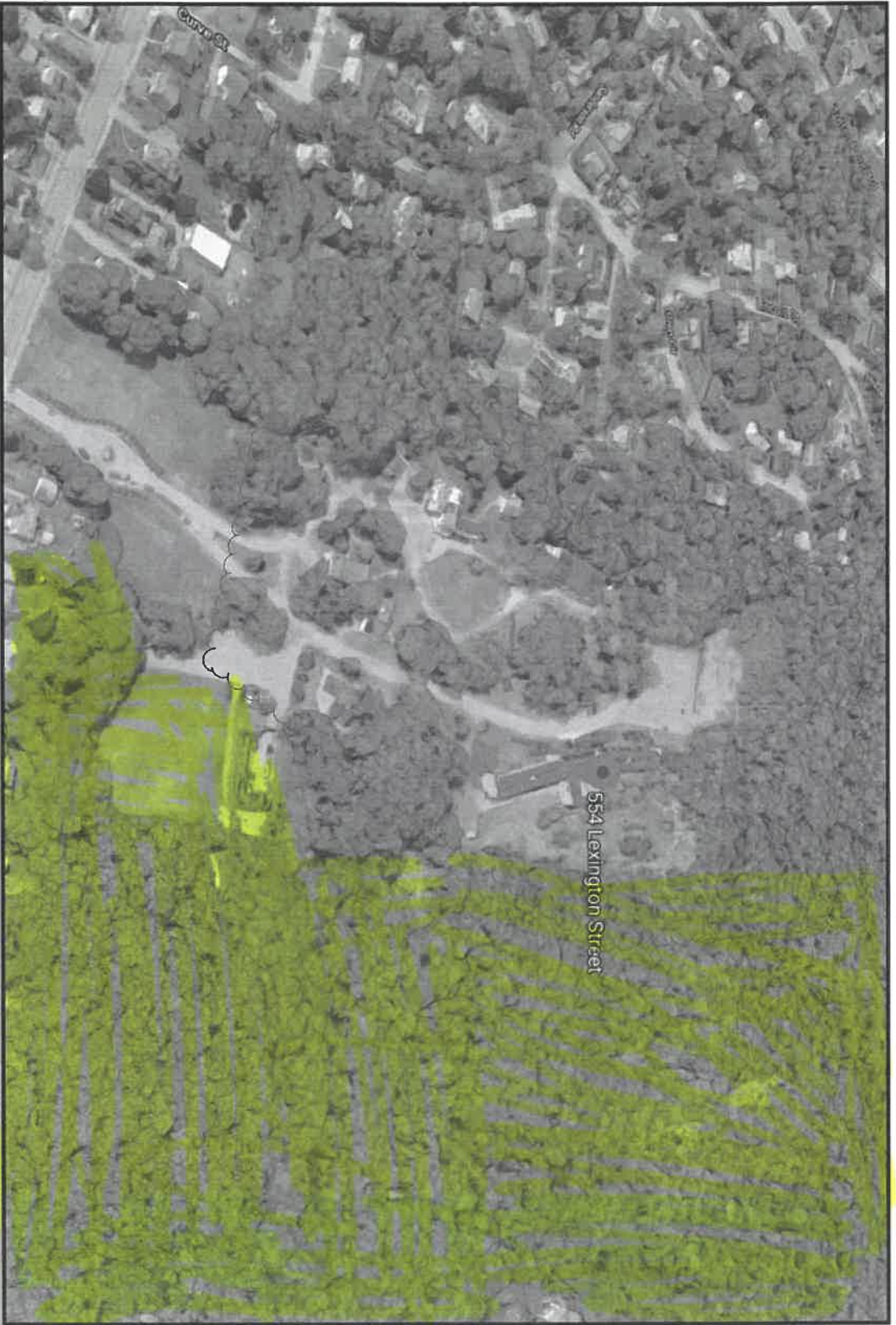
131 R Lincoln Street

Acres: 6.0



- Proposed conservation Restriction

EXISTING CONDITIONS



Massachusetts recognizes signing of Great American Outdoors Act

The Baker-Polito Administration recently applauded the passage of the Great American Outdoors Act.

The bipartisan legislation, signed by President Donald Trump on Aug. 4, ensures permanent full funding for the Land and Water Conservation Fund Grant Program and addresses deferred maintenance in national parks across the country including the commonwealth's Cape Cod National Seashore, Minuteman National Historical Park, Lowell National Historical Park and Boston National Historical Park.

"Massachusetts has incredible natural resources and open space throughout the state, and our administration is committed to continuing to invest in our parks," said Gov. Charlie Baker. "We're grateful

to the Massachusetts' congressional delegation for its support in passing this historic legislation that will help ensure the commonwealth's national, state and local parks maintain their environmental and recreational benefits."

"This legislation ensures funding for the Land and Water Conservation Fund is stable and secure in perpetuity, ensuring local parks in Massachusetts can make important improvements," said Lt. Gov. Karyn Polito. "Parks and historical sites across the commonwealth will receive significant funding and critical maintenance as a result of this legislation, and we applaud the Massachusetts congressional delegation for its work to conserve these precious natural resources for generations to come."

The Great American Outdoors Act permanently funds the LWCF at \$900 million per year to secure public access, improve recreational opportunities and preserve ecosystem benefits for local communities. The legislation will also appropriate \$1.9 billion per year for five years in non-taxpayer money for deferred maintenance at properties managed by the National Park Service, United States Forest Service, the Fish and Wildlife Service, the Bureau of Land Management and the Bureau of Indian Education.

"Massachusetts is home to an abundance of national parks and historical sites and beautiful state and local parks close to home that offer unique recreational opportunities, critical habitats that support our biodiversity and important

landmarks for our country," said Energy and Environmental Affairs Secretary Kathleen Theoharides. "The Great American Outdoors Act will help ensure that the commonwealth's natural resources are preserved for the continued enjoyment of the public."

With an estimated \$20 billion deferred maintenance backlog on federal public lands, the Great American Outdoors Act will establish the National Parks and Public Land Legacy Restoration Fund to ensure the protection of critical public lands and serve as an economic stimulus for local economies. Massachusetts is home to 15 official national park service sites that welcome over 10 million visitors annually. Locally, it is estimated that Massachusetts has a backlog of approximately

\$244 million in deferred maintenance at National Parks properties across the state.

Aimed at supporting and preserving conservation programs, the LWCF continues its mission to protect parks and public lands, sustain working landscapes and rural economies, and increase access for recreation for all Americans. The legislation ensures non-taxpayer funds collected annually from offshore energy receipts to be spent on the improvement of access to public lands. LWCF funds can be used for designing, acquiring and developing outdoor recreation facilities, and the commonwealth will be looking at ways to use these funds to address climate change, promote equity and improve the health of community residents. Since

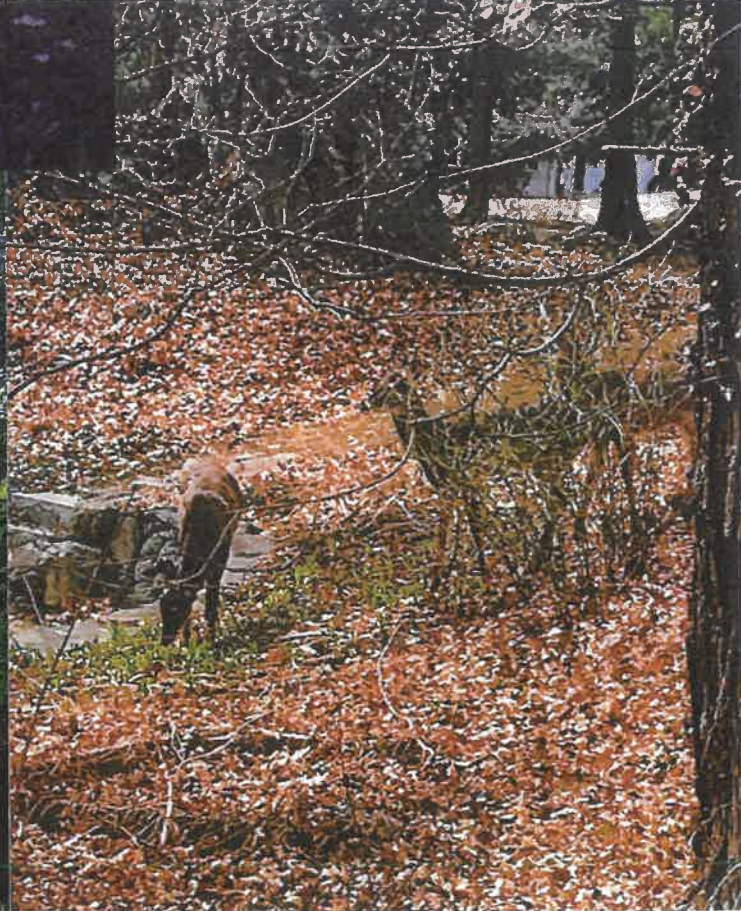
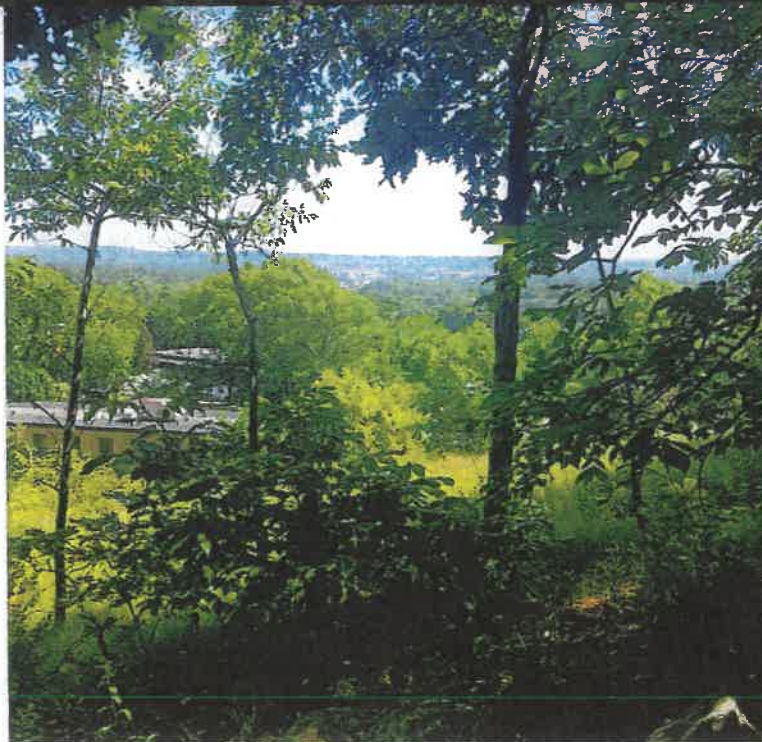
being authorized by Congress in 1964 the LWCF has funded 523 projects in the commonwealth from the Appalachian Trail to the Cape Cod National Seashore and many projects in between including parks and recreational infrastructure totaling almost \$117 million.

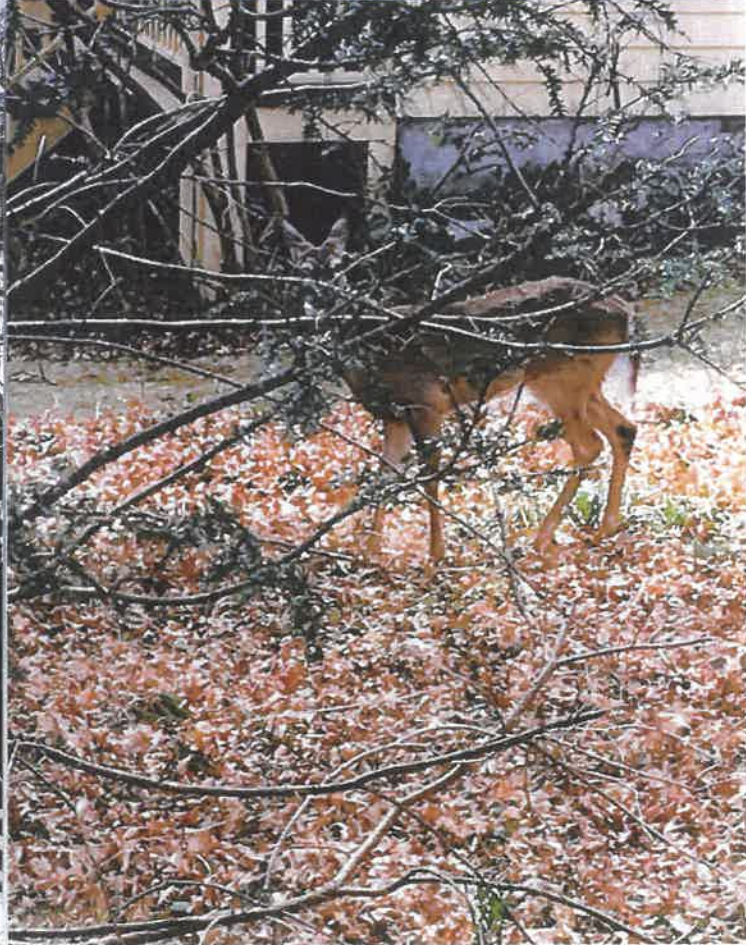
In Massachusetts, the Executive Office of Energy and Environmental Affairs administers LWCF grants on behalf of the national park service and offers these funds through a grant program to municipalities with an up-to-date Open Space and Recreation Plan, as well as to the departments of conservation and recreation and fish and game. The Baker-Polito Administration recently announced \$4 million in Mass Trails Grants to 55 local trail projects throughout the commonwealth.

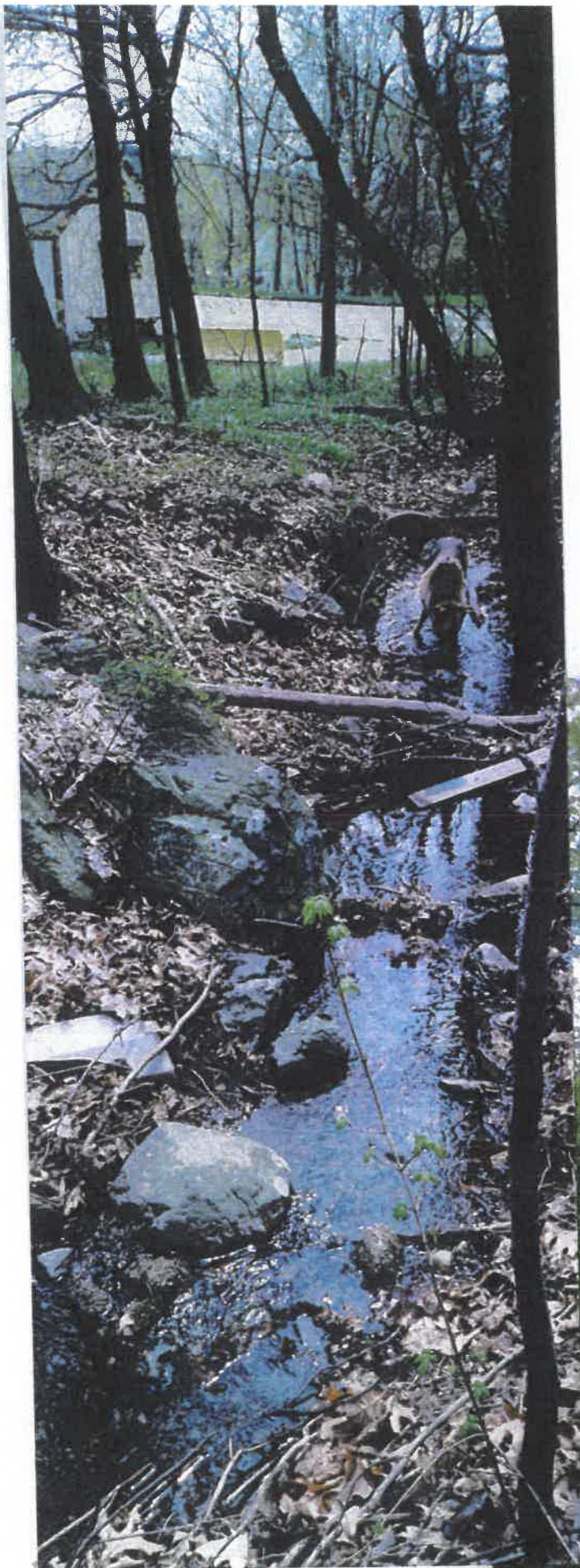
Massachusetts distributes relief funding to seafood industries

The... Boston... The... Division of... The... Federal... Administration... Commercial...











From: [Orlando Medeiros](#)
To: [Czepiga, Page \(EEA\)](#)
Subject: EEA 16097
Date: Tuesday, September 22, 2020 10:58:04 AM

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Hello Page,

As a concerned neighbor in the city of Waltham, I must inform you the contamination by the WHS into the Charles River by the City of Waltham from cutting 20 acres of trees and dumping phosphorus into the Chesterbrook which empties into the Charles River. This is a clear violation of conservation laws, please look into this matter and let me know of any questions.

Best,
Orlando

Paula Hughes
588 Lexington Street
Waltham MA 02452
hughespaula@comcast.net

September 24, 2020

Via Email: [Page Czepiga- page.czepiga@mass.gov](mailto:Page.Czepiga@mass.gov)
The Secretary of Energy and Environmental Affairs
100 Cambridge Street Suite 900
Boston MA 02114
Attention MEPA Office

Re EEA #16097 Waltham High Project
Location 554 Lexington Street Waltham MA

Dear Page,

I would like to thank you for all your time and effort in trying to help protect our community and environment from destruction.

As a direct abutter I wanted to confirm that you know that not only will this project destroy the environment around us, but it will permanently destroy and displace the homes of hundreds of wildlife species and this will be detrimental to our environment and community.

I'm very concerned that this project is being started without completed building plans, without any permits and the fact that many facts are still unclear. I believe regular practice is to have these items complete before a shovel hits the ground.

The Waltham Conservation Commission ordered SMMA/City of Waltham to clean up and delineate the undefined wetland area on the Stream at 554 Lexington St. To date, nothing has been done or attempted to be done to comply with the Enforcement Order. Asphalt shingles, scraps of wood, stumps, other debris, sand and rocks litter this area. This area needs to be brought back to its original state to define the Bordering Vegetated Wetland, the Bank and the wetland buffer area before demolition and construction are permitted to begin. During this process I feel that officials from DEP and/or MEPA should be on site to survey the area and to lookout for the spotted salamanders that once lived here before the area was polluted, as they need to be protected.

With regard to the wetland area it was suggested to SMMA that they flipflop the first-floor classroom configuration back to its original plan where the autobody and automotive shops with their grease trap and oil separators and the loading dock were on the south side of the building far away from the wetland area to help protect the stream from potentially hazardous

contamination. To date this has not happened. Having these shops near the stream could potentially allow overspray of paint to enter the stream or accidental spillage of motor oil, antifreeze, brake fluid, gasoline, diesel fuel or paint solvents and dumpster debris to leach into the stream and eventually enter the Chesterbrook stream killing wildlife and plants from these chemicals. Please make this change as part of your ruling to help protect our waterways, wildlife and plants.

According to SMMA's current preferred alternative plans they will be blasting a rock wall 20'± to 80' ± below the elevation of the stream within feet of the stream in the wetland buffer causing water to flow through fissures in the rock into the access road area and possibly into our properties as I have experienced in the past. Once the water has entered these fissures it cannot be controlled. I am particularly concerned that blasting 747,000 cu. yds. of ledge will result in water flowing through the fissures in the ledge, that will flow below ground onto our property. The planned bioswale on the easterly edge of the turf field will not capture this underground water which is our issue. Exactly how will they test, monitor and mitigate the water flow in the fissures resulting from the blasting and rock crushing?

Previously the Arrigo Farm area of this site (northerly end of 554 Lexington St.) was determined not to be a Bordering Vegetated Wetland area. I feel that this decision should be revisited since David Burke the peer reviewer hired by SMMA & The City of Waltham Conservation Commission stated, if we could show the area maintaining water for more than 7 day's he would reconsider his decision and I shared pictures supporting this to you back in June. Also skunk cabbage, a wetland indicator plant, was shown in a picture to you growing along the stone wall in the area.

The City of Waltham has transferred six acres of Jericho Hill to the school department in order to build the new school on the 554 site. It was suggested by MEPA that the northerly portion of the property from the wetland resource and rock wall to the northerly property line be subject to a conservation restriction limiting its future use. To date this has not happened, and the City has resisted this important commitment. Implementation of this conservation restriction must be made as part of the final Section 61 findings. NO remote substitutes or alternatives should be allowed that will not protect the important northerly area of 554 Lexington Street and Jericho Hill. Protecting this open space will keep the commitment made repeatedly since 1994 to the Citizens of Waltham, in the original and subsequent open space master plans, that 554 Lexington Street and Jericho Hill would be acquired and used for open space. Even the Order of Taking for 554 Lexington Street anticipated using the property for open space and furthermore it would help complete the Western Greenway from Belmont MA to Prospect Hill in Waltham.

The blasting of a 100' high wall into this property will not only displace the wildlife, it will emit radon gasses into our air, it will create a scar across the land making it not only unsightly and changing the entire landscape of our neighborhood for eternity and disrupting the peace and harmony of all abutters, it will be dangerously attractive to adventurous teenagers. The 100' rock wall is right next to the Sanderson Heights open space with its vernal pools and streams. Won't the scar in the hillside have a negative impact on the open space? What will they do to

monitor the impact on this valuable natural resource especially if they are blasting below the water table?

The project is planning to place fencing around the property line with proximity to the natural turf field, if the natural turf field is not going to be used and will only have the grass cut twice a year, I feel it best to keep the existing natural perimeter as it exists today with no extensive site work and remove the fencing altogether. This will help to keep as much pristine green space as possible in that area and will keep the natural air cleaning and phosphorus removal system that the mature trees now provide and with their absorption of ground water, they can continue to provide protection to abutting properties. Once gone, the mature trees cannot be replaced. Once the project is close to completion there should then be a 1'-2' berm made out of soil placed along the perimeter of the turf field behind the abutting homes grading the soil pitching towards the middle of the natural turf field to help mitigate the water overflow.

We abutters were promised on several occasions that the private way which is shared with two homes would not be part of the project and as of today it is still included. Keeping this part of the project is an obstruction of our rite of way on the property. Gates and fencing if necessary, should be placed around the perimeter of the natural turf field and not brought down the private way.

SMMA has moved the underground parking garage structure and playing field to the rear of the school building to protect Bordering Vegetated Wetland area and will keep the existing natural turf field as is with the occasional use of that field for overflow parking. I believe using this natural turf field as a parking lot will again potentially cause gasoline, diesel fuel, antifreeze, brake fluid or motor oil to leach into the soil and potentially enter the Chesterbrook stream killing wildlife and plants. Hundreds of mature trees 30-50 feet in height are being cut down as part of this project, so why is not the City replacing these trees based on a 5 to 1 ratio of new saplings to each mature tree in site that is cut. This provision should be incorporated into the Secretary's Certificate and Section 61 findings also.

If this project is allowed to move forward, I would like to ask that as part of the Secretary's Certificate And Section 61 findings that the project managers have to provide proper 24-7-365 monitoring of the site that will include daily monitoring of the dust, dirt, noise, vibration, water, traffic, parking, deliveries and any other environmentally problematic item that could arise by an independent third party appointed by your agency. We are particularly concerned about the traffic issues especially with the large volume of 18-wheel trucks anticipated during construction. School children, pedestrians, bicyclists, and motorists will be at particular risk from Lake Street to Totten Pond Road. Multiple cameras and results of monitoring devices should be available to Waltham Citizens and all regulators continuously online. Also, peer reviews and monitoring of the environmentally threatening and complex aspects should be incorporated into the Secretary's Certificate and Section 61 findings.

Unfortunately concerned neighbors are still not being given the opportunity to ask questions, or to get answers, we just keep being ignored by the people who run the process, and this is unfair and undemocratic! There were three neighborhood meetings that were videotaped, but

somehow half of the last meeting conveniently didn't get recorded. These meetings were hosted by the appointed community liaison who didn't have much information regarding the project.

Interestingly, there are several abutters who supported this project from the beginning that are now selling their homes and moving because the project is going to be too intrusive to our neighborhood. Former Ward 2 Councilor Bill Fowler, our Community Liaison Bill Hanley and former teacher Dan Keohane and of course they all have made up good excuses as to why they are moving but we all know it is because of the construction.

When this project is all said and done, and everyone has gone home to continue with life as it was before the project started, we abutters will be left with a torn-up and blasted neighborhood, a vast wasteland and rock wall with no mature trees, disrupted wildlife, disrupted waterways, a completely changed area hydrology, and significantly disrupted and gridlocked streets with many safety hazards. More importantly, we will be faced with neighbor against neighbor, because of the disruption caused by this project and an extraordinary cost burden that we all must pay, homeowners, tenants, and commercial taxpayers. Much of this could have been avoided had the project been built at the original preferred site, chosen by the School Building Committee, on November 14, 2016, 617 Lexington Street, and had that original site been used, the school would be close to completion today!

Sincerely,

Paula Hughes

Paula Hughes



Waltham Land Trust, Inc.
P.O. Box 541120
Waltham, MA 02454-1120
www.walthamlandtrust.org
781-893-3355

A non-profit organization dedicated to preserving our community's natural resources through open space advocacy, education, acquisition, and protection.

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**Protecting
Waltham's land
...forever.**

September 25, 2020

Via Email Only

Page Czepiga, Assistant Director
Massachusetts Environmental Policy Act Office
100 Cambridge Street, 9th Floor, Boston, MA 02114
page.czepiga@mass.gov

Re: Waltham High School EEA#16097 – FEIR Submission

Dear Assistant Director Czepiga:

In accordance with 301 CMR 11.08, the Waltham Land Trust (WLT) writes to submit the organization's comments to the Final Environmental Impact Report (FEIR) concerning the plans for the Waltham High School dated August 17, 2020.¹

In its June 17, 2020 comments on the Draft Environmental Impact Report (DEIR), WLT expressed both its overall general support for locating the High School at 554 Lexington Street, and its concerns about the environmental impact of the project. Specifically, WLT encouraged additional mitigating measures to offset the addition of six acres of the open space parcel referred to as "Jericho II" to the high school site, via the set aside of six acres of developable land of comparable conservation value.

In the FEIR, the City proposed to set aside six acres of open space land in an area the community refers to as the Chesterbrook Woods. For a host of reasons, WLT does not consider this land to be an adequate mitigating substitute. However, as the Land Trust has previously expressed, it is its desire to reduce community conflict around the high school project. It would therefore be counterproductive to that end goal to state those reasons here.

In its response to the DEIR, WLT called for efforts to reduce divisiveness and promote greater community unity around this project. However, because City Solicitor Cervone has again named WLT specifically in his August 17, 2020 Memorandum regarding whether Article 97 applies to the Jericho II parcel, WLT again feels compelled to respond.

As was noted in our June 17, 2020 comments, WLT believes that reasonable minds can differ regarding the interpretation of *Smith v. City of Westfield*, 478 Mass. 49 (2017). This includes whether Article 97 protection applied to the Jericho II parcel. It is regrettable that WLT's comments to that effect, which

¹ Please note that the Waltham Land Trust Board includes a City Councillor, a member of the Waltham Historical Commission, and a member of the School Building Committee. These individuals recused themselves from the discussion and development of these comments.

were essentially agreeing to disagree so the community could move forward, were met with unfounded accusations.

Throughout this process, the Land Trust has continuously acted in good faith. It is the organization's responsibility to act to advance its mission to preserve land for the benefit of all of the people of Waltham for generations to come. WLT wants the same children who will attend the new high school to also have a healthier future that includes access to natural open space and all of its benefits, especially for those who live in parts of the City where safe outdoor space is very limited.

To ensure there is absolutely no confusion, WLT would like to take this opportunity to clearly state that, while it remains steadfast in its commitment to its mission, the Land Trust has no desire to delay or obstruct Waltham's new high school.

WLT indicated in its June 17, 2020 response to the DEIR that it would raise its broader concerns about open space preservation with the community directly and outside the MEPA process. The Land Trust recently did just that with regards to the Chesterbrook Woods (<https://walthamlandtrust.org/storer-paine-chesterbrook/>). Waltham can and must make conservation a co-equal priority for our community and have a clearer and more collaborative dialogue about what land is, or needs to be, permanently protected. There will be continuing divisive community conflict each time other land use needs arise otherwise.

Finally, after reading the various comments on the DEIR, some of which cite to WLT's information or materials, the Land Trust would like to clarify its process for when the organization takes an official position on an issue. WLT is a membership organization and its members elect a Board of Directors which is responsible for determining when and how the organization will comment publicly on matters such as this one. While other commenters may refer to Land Trust membership, information, or materials, those references should not be interpreted as an endorsement of those comments by WLT.

Sincerely,



Anna Richardson, Clerk
On Behalf of the Waltham Land Trust Board of Directors

From: [Paula Hughes](#)
To: [Czepiga, Page \(EEA\)](#)
Cc: [Lally, Kyle \(DEP\)](#); [Paula Hughes](#)
Subject: EEA #16097 Waltham High Project Location 554 Lexington Street Waltham MA
Date: Friday, September 25, 2020 11:55:19 AM

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Good morning Page,

In addition to my letter yesterday I would like to add two videos from this morning. One that supports my reason for no fencing around the natural turf field and the other which is one of several dump truck's visiting behind our home dumping dirt. Can you see the pollutants in the air? Who is monitoring our air quality?

Thank you,

Paula Hughes

[Click to Download](#)

5BDF7452-9F83-4852-8B83-2267D1328989.mp4
12.7 MB

[Click to Download](#)

592793D1-D151-4A96-A586-4476DA265A3D.mov
204.9 MB



September 25, 2020

Via Email

Page Czepiga
Assistant Director, MEPA Office
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114
page.czepiga@state.ma.us

Re: Comments on Waltham High School FEIR, 554 Lexington Street, Waltham

Dear Page:

Charles River Watershed Association (“CRWA”) submits the following comments on the Final Environmental Impact Report (“FEIR”) for the Waltham High School project in Waltham, Massachusetts. The City of Waltham’s proposed development includes a new school building, athletic field, garage, parking lots, roadways, and pedestrian paths. CRWA has provided comments throughout the MEPA process and has the following outstanding concerns and recommendations.

Impervious Surface and Stormwater Management

CRWA had significant concerns about the stormwater management plan proposed for the site and specifically, the reduction in phosphorus loading from the site. CRWA has been in direct communication with the project team about managing stormwater from the site’s proposed impervious surfaces. Specifically, we have provided recommendations related to compliance with the phosphorus reduction requirements in the MS4 permit and reducing total phosphorus loading from the site. CRWA expects that the phosphorus loading from impervious cover will be reduced by 65%. We plan to continue to have a direct dialogue with the project team and the Waltham Conservation Commission as the project moves forward.

Land Alteration and Tree Preservation

The City is proposing to clear 10 acres of currently wooded area for the new school building and grounds. As we have commented previously, trees and other vegetation protect air and water quality, help to control stormwater runoff and flooding, and provide natural cooling. The City still has not evaluated the impacts of clearing trees and vegetation on the site, nor has it indicated how many mature trees will be removed (though it is presumably many).

Given the significant land clearing and tree cutting that is being proposed for this project, EEA has encouraged the City to place areas of the site that will remain as open space under a

conservation restriction. The City's response in the FEIR does not directly address why it will not consider a conservation restriction on the site's remaining open space, instead stating that "the Mayor is willing to recommend to the City Council that a conservation restriction be placed on an alternative off-site location nearby that is currently held in the City's General Inventory and is currently undeveloped." The City says that a conservation restriction on 5.97 acres of adjacent land known as "O Chesterbrook Road" will preserve open space and protect wetlands and "other environmental concerns." While that may be true, it doesn't answer the question of why the remaining open space on the project site will not be permanently protected.

Permanently protecting 5.97 acres also will not make up for the 10 acres of ecosystem services and climate resilience benefits being lost. It is in the City's best interest—as well as local residents'—to permanently protect as much surrounding open space as possible given the enormous amount of open space being lost as a result of this project. The City could protect the 5.97 acres of adjacent land *and* the remaining open space on the site. As CRWA previously commented, a GIS analysis of the Charles River watershed conducted by CRWA and The Nature Conservancy (<https://maps.coastalresilience.org/massachusetts/>) indicates that a large area of this site is unprotected and undeveloped land that is important for protecting drinking water supplies and sustaining biodiversity. By preserving more wooded area and the ecosystem processes it provides, the City would improve its climate resilience and be better able to handle drought. Furthermore, given that this property is located within an environmental justice community and a green space desert, protecting the natural resources on site provides critical environmental benefits in an area where they are particularly needed.

Climate Resilience

The Secretary's Certificate indicated that the FEIR should include a discussion of future climate conditions, as well as an evaluation of whether the stormwater system will be designed to account for the potential impacts of increased precipitation frequency and volume due to climate change. The City has included a discussion of future precipitation and stormwater management capacity in the FEIR. However, consideration of future climate conditions and resilience should not be limited to increased precipitation only; other climate impacts identified in the Secretary's Certificate include winter storms, high winds, flooding, heat waves, droughts, and brush fire. There is no discussion of these climate impacts as they relate to the project or measures the project has taken to be resilient to these threats. For example, the FEIR asserts in numerous places that the project will result in reduced heat island effects but never explains how that will be accomplished, especially in light of the proposed clearing of 10 acres of woods.

Waltham's MVP plan identifies the high school as an emergency shelter in the event of a disaster, making it an even more critical facility and making its resilience to climate change threats all the more important. The FEIR does not mention this, but it is an important consideration in the context of climate resilience.

Thank you for considering these comments, and please do not hesitate to reach out with any questions.

Sincerely,

A handwritten signature in blue ink that reads "Heather Miller". The signature is written in a cursive, flowing style.

Heather Miller, Esq.

General Counsel & Policy Director

hmill@crwa.org

781-788-0007 x 234

Ms. Christine Reynolds
52 Piedmont Avenue
Waltham, MA 02451

Re: Waltham
Waltham High School
554 Lexington Street
EEA #16097

September 25, 2020

Kathleen A. Theoharides, Secretary Executive Office of
Energy & Environmental Affairs 100 Cambridge Street
Boston MA, 02114
Attn: MEPA Unit

Dear Secretary Theoharides:

I am following up to the responses to my June 18 letter in the August 17 SMMA Final Environmental Impact Report, written on behalf of the City of Waltham for the proposed new construction of the Waltham High School at 554 Lexington Street.

I have included new questions/issues as well as those not addressed in the previous SMMA reply:

Impervious areas exceeded

- Per the initial Report (2/p3), this plan will create 9.54 acres of impervious area, but the ENF threshold is only 5.0 acres. How can this be mitigated?

- **Concern about blasting rock below the water table**

What steps will be taken to lessen the impact on the the wetlands hydrology when blasting will be done below the water table?

- **Concern about pollution run off**

How will the pollution run off and phosphorus levels be controlled during the building phase and afterwards?

- **On existing mature trees**

—Proposed are the creation of two acres of lawn by clearcutting, which would affect the soil's water retention capacity. A large lawn would be an expense to maintain. I recommend that the landscaping for this area incorporates the existing mature trees.

—Give the Waltham Tree Warden jurisdiction to determine the choice of mature trees which will not be cut down, and to monitor the tree inventory and replacement. The scope of the City Tree Warden's job "includes responsibility for all community trees – on streets and town commons as well as in parks, schoolyards, and town forests – to oversee the care, maintenance, or removal of all public shade trees. As both manager and advocate, the tree warden must protect the trees and, where necessary, protect the public from the trees." (from the website: www.masstreewardens.org/what-is-a-tree-warden)

— If the Waltham Tree Warden is not involved, who is responsible?

- **Exchange of six acres of open land**

The City Council voted on Sept. 21 to give permanent conservation status to approximately six acres in the Chesterbrook woods area to mitigate the six acres of Jericho Hill Parcel II taken for the high school. However, as this Chesterbrook land is not suitable for trails or public use, it is not an equitable substitute.

The city should give permanent conservation status to land within the 554 Lexington Street area which will not be developed with the school construction. This area between the proposed school and the neighborhood with Sachem and Trimount streets there remains an area of wooded land. It contains a series of dirt paths, stone walls, and the summit of Jericho Hill. This area could be proactively developed with professionally designed trails and kiosks to provide an educational experience regarding the history of the land and stone walls from geological and cultural perspectives, in addition to featuring a view of Boston from the summit. These trails/paths would work in tandem with the new fence that will be placed along the perimeter of the edges. Taking steps now to control the paths would protect people, land, and wildlife. Constructed paths could also lead east down the hill to Lexington Street, and south into the Sanderson Heights area to connect to existing trails.

Thank you,

Sincerely,

Christine Reynolds

From: [Jennifer Rose](#)
To: [Czepiga, Page \(EEA\)](#)
Cc: [Caren Dunn](#); [alafauci](#)
Subject: Waltham High School project, EEA #16097
Date: Friday, September 25, 2020 3:43:46 PM

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Dear Ms. Czepiga:

I'm writing in reference to the Waltham High School project, EEA #16097.

I live at 35 Chester Brook Road, Waltham, less than 1,000 feet from the proposed site of the new high school at 554 Lexington Street.

I continue to oppose the use of this site for the new high school and am dismayed that ground was broken today—even without final reports and Conservation Commission decisions regarding damage to wetlands and stormwater runoff. This mirrors the entire process of choosing this site: no real site evaluation was even possible before the property was taken by eminent domain. And it's become clearer and clearer that the site is not a good fit for the high school campus. The design will involve one full year of blasting ledge and deforesting 20 acres of trees. Furthermore, after saying that the acreage would be plentiful for its needs, the City of Waltham has now annexed additional open space—Jericho Hill—for parking (and without a public hearing).

Although the City and project architects responded to numerous public comments about this in the Draft Environmental Impact Report, saying the "Jericho Hill Parcel II was never taken or dedicated as open space/conservation land," that is completely disingenuous. Jericho Hill was taken—and has been consistently used and identified in local planning documents—as public open space. The City's failure to protect it with a deed restriction is negligence, not a defense for legally being able to use it.

The City is not a trustworthy steward of conservation land. It has not protected a number of spaces it should have—including Jericho Hill and Chesterbrook Woods (which it briefly proposed utilizing for the high school). Even now, as part of the state-suggested conservation "land swap," the mayor it is not proposing to protect Chesterbrook Woods in their entirety, but only a narrow buffer near houses, leaving the rest open to development. (Woodlands outside the 554 Lexington project area are also not slated for protection.)

For many years, the city's open space plan called for the preservation of 554 Lexington Street. Instead, the proposed plan will utterly destroy it.

The city and its students would be better served by pivoting the project back to the current high school site—as originally voted by the School Building Committee in 2016—and then utilizing the already-developed parts of the Stigmatine property for fields, satellite parking and ultimately for the smaller school now planned for the current high school site. This would also allow Jericho Hill to remain as open space and wildlife habitat.

I beg your agency to protect this wildlife habitat, green space and public land. Please send the architects and the City back to the drawing board. It's not too late to make a more environmentally conscious plan.

Thank you for your consideration.

Sincerely,
Jennifer Rose
35 Chester Brook Road
Waltham, MA 02452
(617) 548-6330

September 25, 2020

Via Email: page.czepiga@mass.gov

Kathleen A. Theoharides
The Secretary of Energy and Environmental Affairs
Commonwealth of Massachusetts
100 Cambridge Street, Suite 900
Boston, MA 02114
Attention: Page Czepiga, MEPA Office

Re: **EEA #16097 Waltham High Project**
Location: **554 Lexington Street, Waltham MA**

Dear Secretary Theoharides:

As a resident and citizen of North Waltham, Massachusetts for many years, I am again writing to express my continuing dire concern about the proposed new Waltham High School (WHS) at 554 Lexington Street and 131R Lincoln Street in Waltham and to request that you carefully review, analyze, vet and consider the Final Environmental Impact Report (FEIR) submitted by SMMA/City of Waltham in connection with this project, which fails to accurately, adequately and appropriately respond to the Certificate of Secretary of Energy and Environmental Affairs on the Environmental Notification Form, promulgated on June 26, 2020. In my opinion this FEIR is a distortion of reality in many ways and the FEIR submission fails to address the additional information and analysis requested by the Secretary of Energy and Environmental Affairs.

Extraordinary Site Work

The project includes significant and dramatic earthwork to achieve final design grades of the project including significant bedrock excavation of 747,000 cubic yards of ledge to create a 1,920-foot-long blast wall using blasting techniques lasting up to a year from the start. The site which is comprised of the 46+ acre Stigmatine parcel and the 6+ acre Jericho Hill parcel is composed of 42 acres of pristine woodlands and wetland that is home to a multiplicity of wildlife species of mammals, birds, insects, and pollinators. The early site preparation phase will include, but not be limited to:

- environmental abatement
- demolition of seven major buildings
- clearcutting 10-15 acres of trees
- stump removal and disposal for hundreds of trees

Kathleen A. Theoharides

September 25, 2020

Page 2

- clearing topsoil off 15+ acres of ledge
- fence installation
- drilling of up to 110 feet of ledge
- blasting
- excavation of blasted rock even in the wetland buffer zone
- rock crushing of all the blast tailings, and stockpiling the rock
- loading crushed rock into 40-70 trucks daily and then moving it to be sold to several end line users.

Site preparation earthwork and grading will then take place with installation of utilities and drainage structures, blasting, grading, and preparation for the building construction followed by construction of the building. The work will occur in a site with grade variations from elevation 106 near Lexington Street to elevation 330 at the top of Jericho Hill.

This significant site work will occur in preparation of the construction of an "X"-shaped 4+ story high school monolith containing 414,485 square feet, a 490-car parking garage with a 138,000 square foot multipurpose field on top, a natural turf field, 160 surface parking spaces and over a mile of impervious paving material on a 52+ acre campus.

Need for Continuous Monitoring, Testing and Reporting

In the event that this project is allowed to start construction, because of the complexity of the project, the dramatic environmental impacts and the plethora of sources of pollution during environmental clean-up, demolition, site work--especially during blasting, during rock crushing, and during construction--this site should be publicly and openly monitored 24/7/365 from the commencement of work for at least two years after the completion of construction.

The absolute need for extensive continuous monitoring of this site for all manner of pollution, especially during construction, warrants the utilization of at least four (4) audio and video cameras. These cameras which should be accessible to the public and regulatory observers, need to be positioned to document the dramatic tree cutting, tree stump removal, overburden removal, drilling, blasting, site work, excavation, rock crushing, trucking, and work in the wetland resource area and the wetland buffer. A vigilant documented oversight of the site using cameras should be maintained to assure regulators, public officials, and citizens about the impacts of work in the wetland resource area, the wetland buffer, the impacts of the blasting, rock crushing, stormwater and phosphorus runoff, and the impacts of the erosion and sedimentation problems, as a result of the project.

Drone videos should be made available to the public and regulators as well online. Significant monitoring devices which are accessible 24/7/365 from the School Building Committee Website should also be installed, at least on the southerly, westerly, easterly, and northerly property lines documenting the noise pollution, particulate pollution, dust, air quality pollution, vibration pollution, light pollution, the stormwater

Kathleen A. Theoharides

September 25, 2020

Page 3

flow, erosion from the site, and discharge of phosphorus-laden stormwater from the site. Test wells, pump tests, hydrogeologic investigations, and evaluations of the site hydrology should be constant and ongoing so that irreparable damage will not be done to the environment. All this monitoring should be constant, continuous, documented and well preserved so that both citizens and regulatory authorities will have access at all times to photos, videos, drone videos, test results and reports, and results of monitoring devices used to record all activity of any type conducted on the property.

Another location that should be monitored closely is the traffic entering and leaving the site at the Stanley Road/Lexington Street intersection including cameras at the intersection and on Lexington Street from Lake Street to Beaver Street. The impact of traffic at this intersection has been recognized by the City Traffic Engineer as cause for concern. Monitoring at all times so that traffic conditions, accidents, and threats to the public safety of pedestrians and bicyclists from this project, as well as to vehicles, are fully understood, documented, and dealt with by proper public authorities, will be important. The extraordinary volume of 18-wheel truckloads anticipated from this project (40 to 70 trucks, generating 80 to 140 trips daily), especially during construction, pose a significant risk to pedestrians, bicyclists, and automobile traffic.

The Certificate of the Secretary of Energy and Environmental Affairs in connection with the FEIR, should document the need for monitoring all these items and incorporate them into Section 61 findings for this project.

Need for Peer Review and Monitoring of All Environmentally Sensitive and Complex Engineering Aspects of the Project

A review of the FEIR illustrates the complexity of this project, the dramatic changes to the property, the neighborhood, and the City of Waltham, that will be occasioned by the City of Waltham/SMMA proposal for this property. As a result of this review and the misstatements and erroneous information presented in the FEIR, there is a clear need for a series of peer reviews of the underlying information presented and a need for continuous monitoring of many of these issues during construction and at least for a full year following construction. Even the Waltham Conservation Commission at its most recent hearing on September 17, 2020, in connection with the Notice of Intent filed by the City of Waltham, voted to retain a peer reviewer (SWCA of Amherst) to review many of the aspects of the project that will be the subject of the ultimate Order of Conditions being sought by Waltham. Most prominent on the areas for peer review are the issues around stormwater flow, hydrology, phosphorous calculations and discharge into the Chesterbrook, identifying and restoring the damaged wetland area, the impact of blasting a rock wall below the area water table within feet of the wetland resource and the potential for damage to the resource area, and the hydrology and evapotranspiration changes that will take place on the property as the result of significant tree cutting in the wetland buffer and the areas adjacent to it.

Other areas of discussion included measuring the quantity of drainage discharge from the property and the water quality of the discharge. Other areas of controversy

discussed include the appropriate size of both drainage pipes into both existing sewer and drain line connections which reportedly have been inaccurately reported, the need to determine the jurisdiction of the Conservation Commission where the discharge takes place in the Chesterbrook and where the new 375-foot sewer line crosses the Chesterbrook. It was recently revealed that only within the last two weeks has the project team met with the new City Engineer and his associates to discuss the details of the City systems where the connections will take place.

Following is the City of Waltham GIS Map showing the location of the utility lines and the source of the controversy.



Again, this is an area of controversy which is ripe for a peer review given the unsettled nature of the engineering and the inconsistencies.

Other areas that are ripe for a peer review and monitoring because of the issues and complexity include the following:

1. **Emergency Access from Lincoln Street.** The design, layout, location, topography, drainage and soil conditions, and property rights issues deserve review by a competent title examiner, an engineer, and a geotechnical engineer.
2. **Bicycle and Pedestrian Access.** Issues exist on Lexington Street, Curve Street, Lincoln Street, Winter Street, and College Farm Road...all of which have deficiencies either in their ability to provide bicycle access or pedestrian access

on sidewalks resulting in significant safety issues, especially since the school is reportedly suggesting access via both of these methods.

3. **The Dual Signal Traffic Intersection Design.** The front of 554 Lexington Street is incomplete for a variety of reasons including (a) the lack of a special permit and traffic commission approval authorizing the size and design of the two intersections, (b) incomplete information about turning radii of busses and 18 wheelers entering and leaving the site so that the busses and trucks will not have to cross into a second lane in order to make the turn, and (c) the need for clear safety provisions for both pedestrians and bicyclists entering and leaving the site at the same time as busses, vans and other vehicles. Also, not available for consideration are the Lexington Street corridor traffic improvements from Beaver Street on the south to Trapelo Road on the north including the Totten Pond Road intersection and the entry and exit lanes of Jack's Way. Furthermore, little consideration has been given to traffic cues in the area and residents whose driveways connect with busy Lexington Street. Travel lanes, slip lanes, and left turn lanes appear to pose significant logistical risks on busy Lexington Street which will be subject to an additional 1,890 ADT to and from this site when the school opens. On-site circulation patterns for pedestrians and bicyclists fail to show adequate and appropriate crosswalks to accommodate users especially during school openings and closings.
4. **Water and Wastewater Flow.** Confusion exists about both the quantity of sewer discharge from this project as well as the appropriate mitigation for Inflow and Infiltration for this project. There are also questions about the availability of adequate capacity in the bank for use in connection with this project.
5. **Conservation Restriction.** There is a clear need for a conservation restriction on the wetland, wetland buffer, hill, and forested portions (approximating 20 acres) of 554 Lexington Street and Jericho Hill as has been spelled out in the City's Open Space and Recreation Plan since 1994 and following. This area has been recognized by the Secretary of EEA and others as an important open space worthy of environmental protection. The City's current bait and switch methodology substituting only 5.97 acres of 0 Chesterbrook Road--not the full 26 acres--a site which is already subject to Conservation/Recreation Zoning district, rings hollow in light of the protections needed and warranted at 554 Lexington Street and Jericho Hill. In light of the Article 97 controversy at both 554 and Jericho Hill and the inclusion of the "open space" language in the Order of Taking for 554 Lexington Street, there should be a more equitable protection of the 20 acres which would help complete the Western Greenway from Belmont to Prospect Hill. A review of this situation by competent conservationists is indeed warranted.
6. **Stormwater Management.** One of the most significant and lasting impacts of this project on the environment is the issue of stormwater management.

Stormwater management during construction, especially during blasting, where significant phosphorus runoff is likely, groundwater recharge issues prevail, stormwater flow onto the properties of the neighbors both to the east and south, evapotranspiration issues because of the loss of every growing thing on 20 acres of the site are all important issues. Also discharge quantification and testing of all water released from the property and sent to Chesterbrook, warrant peer review and continuous monitoring. The fact that much of the blasting will be in areas of the property which are below the water table is particularly perplexing and warrants both peer review and detailed monitoring. Measurement of the amount of water being discharged and testing of its water quality as the flow enters the drainpipe on Lexington Street also warrant peer review and management.

7. **Hydrology, Flooding and Groundwater.** To date, Haley & Aldrich, the firm doing the groundwater pump testing and geologic analysis of the underlying bedrock, has not yet completed its study of the site. As a result, it is premature to characterize the geology and hydrology of the site. Particularly important is the waterflow in the fissures created by blasting. Groundwater flow rates, drainage from the rock wall faces, and dispersion of the flow, have not yet been determined and thus, actual quantification and analysis will be most difficult. Of particular importance is the impact that a year's worth of blasting and rock crushing will have upon the wetland resource and wetland buffer. Currently, the blast wall will be mere feet from the wetland resource and the blast level will be significantly below the grade of the resource and wetland buffer posing a significant threat to the viability of the wetland resource. Throughout the 20+ acres of construction area, every square inch of the property will be subject to hydrogeologic change as a result of the clear cutting of trees, the removal of all existing topsoil, the dramatic and significant blasting for up to a year, and the changes in groundwater flow as a result. Even the proposed improvements on the site, school building, parking garage, artificial turf fields, extensive pavement, and surface parking lots, will dramatically affect the hydrology.
8. **Climate Change.** The carbon footprint of the project, both during construction and after construction, will be significant. The cutting of 15± acres of trees and every living thing, creates a significant carbon discharge for this site. The use of fossil fuel-powered construction equipment also adds to the carbon footprint. Blasting and excavation also contribute to the amount of carbon emitted from the site and then when construction is completed, gas will be utilized to heat, air condition, and cook in the school cafeteria. No source of renewable energy will be utilized when this building opens for use by Waltham High School students. Another area requiring greater scrutiny and analysis is the impact of busses, cars, vans, trucks, and other motorized vehicles on the environment. Even the parking aspects of the property will have a carbon footprint impact. Reportedly, studies have been done justifying the use of fossil fuels, but have they been peer reviewed and analyzed by competent engineering experts? Also, what Section

61 findings will be incorporated into the Secretary's decision related to these items?

9. **Construction.** Particularly troubling about this project is the extraordinary amount of site work necessary to accommodate the buildings and improvements. The topography differences of over 200 feet on the site, the extensive amounts of woodlands, the large quantify of ledge underlying the whole site, the wetland resources on the property, and the sole point of access and egress on Lexington Street, all combine to present extraordinary challenges that can only be solved by dramatically changing the existing physical condition of the site. Clearcutting of trees and every living thing, excavation of all topsoil, drilling and blasting, rock crushing, trucking, and excavating for over a year will result in one of the most dramatic and unwelcomed changes to open space in Waltham. This site development activity deserves extraordinary scrutiny by all local, state, and federal regulatory agency as permitting for this work begins. Planning for and implementing significant mitigation efforts will need to be incorporated into all permitting documents including the Section 61 findings. Continuous monitoring and testing, under camera observation, needs to be conducted so that the full implementation of all mitigation efforts is undertaken and achieved. Hours of operation, access control to the site, appropriate use of all equipment, noise, vibration, dust, air quality, particulate emissions, and environmentally sensitive treatment of wildlife, are but a few of the mitigation issues that should be covered by the regulators and Section 61 findings in connection with this project. Control of erosion, stormwater management, and water quality need to be dealt with so that the impacts upon abutters and neighbors will be minimized and hopefully eliminated.

10. **Traffic and Offsite Impacts of Construction.** Given the size of the workforce, the size and types of equipment that will be needed, and the length of the project construction, there will be extraordinary amounts of new traffic introduced to this neighborhood, both during and following construction. Lexington Street from Beaver Street on the south to Trapelo Road on the north, will be inundated with all types and manner of vehicular traffic. At the same time, the Kennedy Junior High School, the existing Waltham High School, the McArthur School, and the Plympton School, all proximate in location, will need to maintain student accessibility during the school year utilizing these same roads. Of particular concern is safety to pedestrians, bicyclist, school busses, and automobiles, especially when there are 80 to 140 18-wheel truck trips per day for up to a year, necessary to accommodate the removal of 747,000 cubic yards of ledge from the site. Control and enforcement efforts relative to this traffic will need to increase so that public safety is assured. Monitoring and mitigation efforts will need to be conducted during this project so that the impacts of all traffic is minimized on the community.

Other major issues that deserve attention in any analysis of this project include the following:

1. There is a continuous need for a hydrogeological study of both the surface and subsurface conditions for this property. This aspect of the project is likely to be one of the most impactful aspects of this project.
2. Currently, the City of Waltham is the subject of at least two administrative consent orders with Mass DEP. The first of these deals with the total maximum daily load for nutrients being discharged into the Charles River, which requires that no additional phosphorus inputs or discharge be made to the river. This warrants a clear and careful analysis of all aspects of any discharge into the Chesterbrook and ultimately into the Charles River. The second matter subject to an administrative consent order is the amount of inflow and infiltration that occurs within the sewer system of the City of Waltham that requires a 4 to 1 mitigation of discharge into the sewer system of the City and ultimately into the MWRA system. Here too, careful analysis and monitoring of this situation continues to be an important consideration.
3. The proposed Waltham High School site is an important part of the Jericho Hill watershed system. The dramatic impacts of the construction proposed in this project warrants monitoring and continuing analysis to minimize the impacts on the watershed.
4. One of the broadest impacts of this project of the City of Waltham will be the traffic impact both during construction and following completion of the new High School. Any prudent analysis of this situation would recognize the need for a careful study and adjustment to all traffic signals on Lexington Street between Trapelo Road and Beaver Street. Computerized traffic controls in this area of Lexington Street are warranted so that all traffic impacts can be minimized on the community. Further, a significant concern is the traffic impact on bicyclists and pedestrians. Curve Street, Lincoln Street, Winter Street, and College Farm Road all are devoid of sidewalks to service pedestrian traffic. Bicyclists will be forced to compete with either four, or possibly five, lanes of vehicular traffic on Lexington Street. Current plans on both issues ignore or minimize the many safety concerns that they cause.
5. Because of Waltham's expanding population of school-aged children, there is a realistic possibility that there will be a distinct need to expand the existing High School within the next ten (10) years. Based upon the proposed school configuration, the question comes: How and where will the school be expanded? Will the current design accommodate a rooftop expansion? What will be the level of disruption to this facility when such an expansion takes place? What will be the impact on rooftop gardens and mechanical equipment?

6. Greenhouse gas emissions continue to be a source of concern after examining the proposed HVAC system, the proposed window glazing and fenestration, the use of fossil fuels, the lack of renewable energy sources, the failure of analysis related to changing climate conditions and the need for a more sustainable design for the project. Why not attempt to replicate the hundreds of trees lost to in the open space between Lexington Street and the new school entry to mitigate the green house gas emissions.
7. Mitigation measures identified in the NPC/DEIR include: erosion and sedimentation control measures, designated truck routes, scheduling deliveries during non-peak hours, noise and vibration control measures, dust control measures, prohibition of excessive idling of construction equipment, development of a rodent control program, and a commitment to reuse or recycle a minimum of 75-percent of construction debris and yet the FEIR contains little concrete commitment to implementing the maximum possible mitigation measures for this project. Of particular concern to the neighborhood is the implementation of mitigation measures dealing with drilling, blasting, vibration, noise, air quality, particulate levels, and surface and subsurface water runoff. Specific commitments need to be made by the City to the neighbors and abutters whose daily lives will be impacted by these life stressors. Exactly how will the neighbors be allowed to report these inconveniences to local, state, and federal authorities? What agency or who will be the point of contact with the City, the construction company, the owner's project manager, and the architect when mitigation of these life changing issues become a problem? No clear or convincing methodology has been devised and provided to area residents about exactly what they need to do when they experience problems from the construction and how they will get a response.
8. The details of the regulatory approvals required for the project have been minimized in the discussion up to now. Specifically relating to the project will be the variances and exceptions to the various regulatory requirements which will be needed to build this school. Will there be any federal, state, or local variances for this school to be constructed, and exactly what will they be?
9. Little attention has been paid to the impacts and construction of the parking garage and multipurpose field on top of it. Its location on the southerly end of the Jericho Hill open space will require the most significant blasting in all the complex. Looming over the improvements will be a rock wall over 100-feet in height that will cast shadows on the playing field every afternoon. The artificial turf on the field is a questionable environmental impact. The drainage system of this 3+ acre site may be impacted from the runoff of water from the artificial turf. The exact location and methodology for conveying the water deposited on the fields during a major rainstorm is of particular concern to the neighbors on the southerly side of the complex. Also questionable is the impact of the water on the concrete and the rebar which comprise the structure's frame. What will happen

Kathleen A. Theoharides

September 25, 2020

Page 10

to the deck when we have one of our 36 or more-inch snowstorms with significant drifting conditions caused by the height of the rock wall? There is little discussion of the impact that a gas leak, an oil leak, a brake fluid leak, or antifreeze leak would have on the concrete surface of the garage or the runoff therefrom. What best management practices will be put in place to deal with these eventualities?

10. One of the important rights that citizens of Waltham have is the right to quiet enjoyment of their residences. This project poses one of the most significant threats possible to that right given the environmental disruptions that are a certainty. Up to this point, the City has been unwilling to even engage in a discussion about the impact that this project will have on those rights. Why should the neighbors near this project be forced to bear the environmental impacts and inconveniences which will daily dominate their lives, especially during the construction period? How will the City address their concerns during construction and after construction is complete?

I urge you and the Massachusetts Office of Energy and Environmental Affairs to consider my comments and consider extending the period of analysis and review for this project, especially considering the Governor's order regarding COVID-19.

I thank you for your time and patience in reading the materials assembled in this letter to you. Please acknowledge that you have received this letter and please keep me on your mailing list, especially for all your decisions.

Sincerely,



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CASELLA

Guardian2

Guardian2 Multi-Agent Monitoring Station

Guardian2 is designed to help you remain compliant with site emission levels, using remote monitoring and reporting of noise, dust, windspeed and direction, vibration and VOCs.

Powered by mains, solar or battery, the Guardian2 is ideal for any location.

www.casellasolutions.com



Guardian2

Guardian2 is a web-based remote monitoring system for noise, particulates, VOCs and ground vibration, either as single 'agents' or in multiple combinations. It is ideal for construction & demolition sites plus many more fence-line applications.

To ensure environmental and workplace compliance whilst retaining good relationships with neighbouring people and businesses, the Guardian2 can guarantee the smooth progress of your project or manufacturing operations.

Key Features

- Real-time particulate, noise and ground vibration (PPV) and VOC
- Wind parameters to identify dust sources
- Simultaneous PM10, PM2.5 and PM1.0 monitoring
- Web-hosted data with secure, password protected login
- Optional VOC sensor measures to 6000ppm
- Optional, maintenance free windspeed & direction sensor
- Email and text alerts to nominated recipients
- Manual or automatic reports
- IEC 61672-1 Class 1 compliant sound level meter
- Wall or pole mounted
- Powered by mains (100-250VAC), solar or battery



Data Anywhere with www.casella247.com

The mHUB datalogger incorporates an electronic SIM which means that the system will search for the strongest cellular signal but in the event of a lack of connectivity, the mHUB will continue to log then push the stored data to the server when communication is re-established. The Casella 24/7 Data Management System is accessible via a secure log-in, giving organisational administrators and nominated users access rights to data, reports and alerts.



Multiple Sensors

Guardian2 can be equipped with multiple environmental sensors to suit your needs. The system is flexible to have any combination of noise, dust, vibration, VOC and wind sensors.

Plug and Play

Integrated into a small, unobtrusive environmentally sealed housing, Guardian2 can be configured at the time of ordering for a variety of 'agents' depending upon the specific application or requirements. Installation couldn't be simpler; just bolt to a wall or mount on a pole, apply power and then within a few moments begin transmitting data using cellular connectivity to a secure server.

Communication Options

The Casella247 web platform based on cloud functionality ensures that the users get live updates from their Guardian2.

Users can select to receive alerts via email, SMS, website or even choose to setup their own FTP site to receive live data.

Power Sources

Guardian2 takes into account various power requirements for sites. Hence users can choose between mains, battery and solar power options.

FTP Settings

Casella 24/7 gives you an option and flexibility to transfer your Guardian2 data directly to your organisation's own website using FTP settings. This means that users don't need to rely on cloud hosting only.

The data will be pushed to the user's website in order to be integrated with other larger and meaningful data sets. This functionality benefits all organisations and system integrators dealing with complex environmental systems and projects.

Reporting and Alerts

Users can choose a number of people who have access to data as their can be multiple user sites with Guardian installations. Users can also switch between sites to view and receive alerts for the site of their interest.

Configure Reports

- For single or multiple agents at once e.g. noise and dust
- Automatic reports can be set to report daily, weekly or monthly data, direct to your inbox
- Graphical or tabular reports

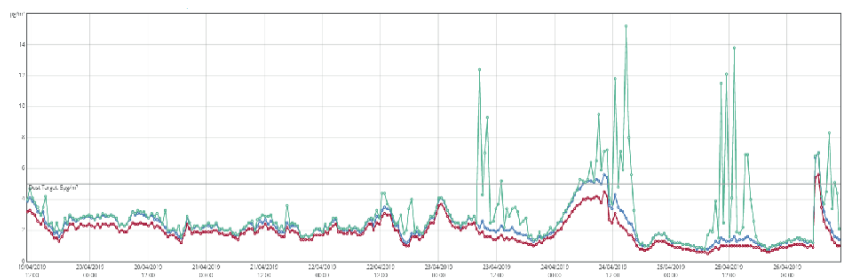
Alert Configuration

- Configure alerts by text or email
- Can be configured for any measured parameter
- Error alerts, e.g. for power loss

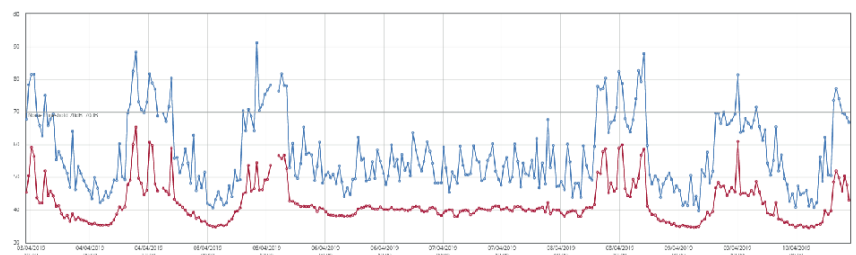
User Configuration

- Different levels of access can be configured to Casella247.com
- Specify who just receives reports, or administrator access to configure reports and see Guardian2 units
- Configure Guardian2 units on different sites remotely

Report showing PM10, PM2.5 and PM1.0 dust levels



Report showing weekly noise data



Specification

Noise:

Accuracy: Class 1 to IEC61672-1
 Parameters: L_{Aeq} , L_{Amax} , L_{Amin} , $L_{A10\%}$, $L_{A90\%}$, 10 hour L_{Aeq}
 Measurement range: 20-140dB RMS
 Calibration: Via optional acoustic calibrator

Particulate:

Sensitivity: $1\mu\text{g}/\text{m}^3$
 Zero stability: $\pm 2\mu\text{g}/\text{m}^3$
 Size fractions: Simultaneous PM10, PM2.5 & PM1.0
 Inlet: Heated to reduce moisture affecting measurements

Vibration:

Transducer type: Geophone outputting PPV and Hz data
 Number of channels: 3-axis
 Frequency range: 2-250 Hz
 Measurement range: ± 200 mm/s
 Resolution: 0.01 mm/s
 Environmental rating: IP65

Wind Speed:

Range: 0-60m/s
 Accuracy: $\pm 2\%$
 Resolution: 0.01m/s
 Threshold: 0.01m/s

Wind Direction:

Range: 0-359° (No deadband)
 Accuracy: $\pm 3\%$
 Resolution: 0.1 degrees

Volatile Organic Compounds (VOC):

Range: 0-6000ppm
 Detection limit: 0.1ppm
 T90 response time: 3 seconds
 Lamp: 10.6eV

General:

Enclosure protection: IP65

Ordering Information

Guardian2 - Part Numbers				
Part Number	Particulate (PM10 & PM2.5)	Noise	Vibration	Windspeed & Direction
208049D			●	●
208052D		●	●	
208054D		●		●
208057D		●		
208061D			●	
208063D		●	●	●
208170D	●	●	●	●
208171D	●	●		●
208172D	●		●	●
208173D	●			●
208174D	●	●	●	
208175D	●	●		
208176D	●			
208177D	●		●	

For VOC Sensor Assembly simply add /VOC to the end of the part number above

Optional Accessories	Part Number
Replacement windshield enclosure system	208041C
Windshield enclosure System extension kit (incl. 5m extension & bracket)	208104D
Spare 5m windshield extension cable	208083C
Replacement foam	208022C
Acoustic calibrator	CEL-120/1
VOC calibrator kit (gas not supplied)	208147A

Solar Power Parts	Part Number
Solar Controller & Battery Enclosure*	208500D
Single Solar Panel Array	208512D
Dual Solar Panel Array	208511D
Triple Solar Panel Array	208510D

For details of how many solar panels are required for a specific territory please visit the casella website. Solar panels come complete with mounts for scaffold poles.

Battery Power Parts	Part Number
<i>Will power a Guardian2 for between 5-9 days depending on the configuration</i>	
Battery enclosure*	208503D

Battery Backup Parts	Part Number
<i>Battery will provide backup power in the event of mains failure</i>	
Mains/Battery enclosure*	208504D

*Order battery separately

Battery	Part Number
12V Leisure Battery (130Ah)	B162

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Distributed By:

From: [John S. Allen](#)
To: [Czepiga, Page \(EEA\)](#)
Subject: MEPA 16097, Waltham High School
Date: Friday, September 25, 2020 5:06:42 PM

CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Here's a second sending of my message -- I was rushed before. Now I have given myself time to do a bit of proofreading.

Secretary of Energy and Environmental Affairs Kathleen Theoharides
Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office, Attn: Page Czepiga
100 Cambridge Street, Suite 900
Boston MA 02114

This morning I attended a protest at the groundbreaking for the new Waltham High School. Yes, the groundbreaking, on the same day which is the last for comments on the Final Environmental Impact Statement for the project. The city has, to put it succinctly, jumped the gun on the environmental review process. I also understand that city committees were not consulted, and that there was no public process at important stages in the planning.

Other commenters will have plenty to say about the loss of greenspace, environmental degradation and the impact on residents of a year of blasting to level acres of hillside. I stand with them on those issues. But my specific concerns as a Waltham resident, motorist and bicyclist are with traffic issues. The current location of the High School is about as good as it could possibly be from a transportation standpoint, with free access from two major streets, and pedestrian access in three other corridors. The planned location is about as bad as possible for transportation. To summarize:

The current High School and Kennedy Middle School site has

- Access for all modes from Lexington Street, at a wide section with traffic signals and only a very few residential driveways on the opposite side from the schools;
- Also, access for all modes from Forest Street via Woodcliff Drive, carrying 40% of the motor traffic to and from the High School;
- Bicycle and pedestrian access from Amelia Drive by a path on an easement provided by a public-spirited citizen -- see my Web page here -- <http://bikepolt.com/bikepol/facil/tribune.htm>;
- Pedestrian access from Lyman Street and Beaver Street on paths through the Stonehurst Estate and Storer Conservation Land;
- Pedestrian access from Bishop's Forest Drive on the Western Greenway;
- Also probably semi-clandestine pedestrian access to the Western Greenway, High School and Kennedy Middle School from inside the Bishop's Forest development. (It is necessary to walk between buildings of this condo development to reach the Greenway - - but the land between buildings is managed by the condo trust, not by individual homeowners.)

In contrast, the new location will have vehicular access only from Lexington Street, at a

location lined by residences on both sides, and additional pedestrian access only from Lincoln Street, along most of which there are no sidewalks. The long-ago work of the City to improve access to the High School cannot be duplicated here. The City's Traffic Engineer has reported that traffic congestion will be at level E --not E for Excellent but E which is one step above F, total failure, and that is a stretch. The road diet and installation of bike lanes only a couple of years ago are made irrelevant; the improvements to traffic flow now underway at the troublesome Piety Corner intersection south of the site are deeply undercut. Pedestrian access from the nearby Lake Street neighborhood, which Brendan Kearney of WalkBoston and I proposed in comments on the draft EIR, is not to be provided - increasing the amount of busing required, and its expense to the City.

My wife just retired this year from teaching at Newton North High School, which constructed its new building on the existing site by temporarily dispersing parking to nearby streets and moving athletic events to other fields. It seems to me that with some imagination and planning, and staged construction, a similar process could work at the current Kennedy Middle School and Waltham High School site.

The current site location at which groundbreaking occurred today, jumping the gun on your review, is an environmental, greenspace and traffic disaster. Please call a halt to this project.

Very truly yours,

John S. Allen
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MASSACHUSETTS WATER RESOURCES AUTHORITY

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Frederick A. Laskey
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September 25, 2020

Kathleen A. Theoharides, Secretary
Executive Office of Energy and Environmental Affairs
100 Cambridge St, Suite 900
Attn: MEPA Office, Page Czepiga
Boston, MA 02114

Subject: EOEPA #16097 – Final Environmental Impact Report and
Waltham High School, Waltham, MA

Dear Secretary Theoharides,

The Massachusetts Water Resources Authority (MWRA) appreciates the opportunity to comment on the Final Environmental Impact Report (FEIR) submitted by the City of Waltham (the “Proponent”) for Waltham High School (the “Project”) in Waltham, Massachusetts. The Project consists of the construction of a new High School to be located at 554 Lexington Street. MEPA review of the Project also considers impacts of future redevelopment of the former High School site at 617 Lexington Street. MWRA commented on the Project Draft Environmental Impact Report and Notice of Project Change (DEIR/NPC) on June 19, 2020. MWRA’s comments on the FEIR continue to related wastewater issues emphasizing the need for Infiltration/Inflow (I/I) Removal and Discharge Permitting from the Toxic Reduction and Control (TRAC) Department.

Wastewater

MWRA’s comments on the DEIR/NPC stated the need to ensure that the Project’s new wastewater flow does not increase surcharging and overflows in large storms, and that the Proponent should fully offset the Project’s wastewater impacts with I/I removal at the rate of four gallons removed for every gallon of new wastewater flow, in compliance with MassDEP regulation at 314 CMR 12.04(2)(d) and in accordance with Town of Waltham’s I/I Mitigation City Ordinance. Therefore, to achieve the 4:1 removal rate required by MassDEP and the City Ordinance, removal of 158,376 gpd of I/I from the wastewater system is required.

The Proponent acknowledges this requirement in Section 1.5.1 of the FEIR, which states that the Project will result in a net increase of 39,594 gallons per day (gpd) in wastewater generation. This reflects estimated wastewater generation from both the Project site of the new High School and future development at the former High School site. The FEIR further states that

the required I/I mitigation of 158,376 gallons will be accomplished by deducting from the City's sewer bank.

TRAC Discharge Permitting

MWRA prohibits the discharge of groundwater and stormwater to the sanitary sewer system, pursuant to 360 C.M.R. 10.023(1) except in a combined sewer area when permitted by the Authority and the local community. The Project site has access to a storm drain system and is not located in a combined sewer area. Therefore, the discharge of groundwater and stormwater to the sanitary sewer system associated with this Project is prohibited. The FEIR acknowledges this restriction.

Any gas/oil separators in parking garages associated with the Project must comply with 360 C.M.R. 10.016 and State Plumbing Code. The installation of the proposed gas/oil separators may not be back filled until inspected and approved by the MWRA and the Local Plumbing Inspector. For assistance in obtaining an inspection the Proponent should contact John Feeney, Source Coordinator in the TRAC Department at 1 (617) 305-5631. The FEIR acknowledges this requirement.

On behalf of the MWRA, thank you for the opportunity to provide comments on this Project. Please do not hesitate to contact me at 1 (617) 788-4958 with any questions or concerns.

Sincerely,

A handwritten signature in black ink, appearing to read 'B. Card', written in a cursive style.

Bethany Card
Director
Environmental and Regulatory Affairs

cc: John Viola, DEP

Note: The items in blue are requests from the state, or responses from the city, then items in red are the discrepancies as I see them. There are so many but here's a bullet point list of the top concerns. All of them relevant to the environment as well as to the rights of the abutters in the forefront:

1. Revisiting prior site options:

“given that the Jericho Hill II Parcel was incorporated into the site to enable revisions that would eliminate development from the northeastern portion of the site. To the extent the potential for future expansion is no longer a project goal, the City should address how this would impact the prior analysis of other locations considered for the site which would not require the use of designated public open space”

Still not addressed

2. Conservation Restriction:

The City should address in the FEIR whether it will consider placing a conservation restriction on the portion of the site which will remain undeveloped, or at an alternative off-site location, to permanently protect such land as publicly accessible open space.

The point of a resolution brought forth by Councillor Dunn was to connect the Western Greenway. The only way to do that is to put a CR on the land at 554, not offsite. 0 Chesterbrook, an unusable piece of wooded, rocky and inaccessible land bordered by private homes, does nothing to advance that goal. The land proposed is not publicly accessible.

The measure proposed to protect acreage at 554 was neither a stalling tactic as was suggested by proponents of this problematic building location nor an affront on any other piece of unprotected open space in the city. This resolution's purpose is to recognize what has been lost and what can still be gained from the taking of Jericho Hill. It's the silver lining many people are looking for. In addition, the

proposed protected property at 0 Chesterbrook isn't even in the ward that is most affected by the building of the school.

It's clear that there isn't going to be a way to implement the master plan due to the wetlands and topography so this is likely the end to any more building opportunity at 554. In addition, more construction at a later date would disrupt the concentration of the students within, which was a stated goal of selecting 554 in the first place.

Future expansion =more floors= disruption for students.

We should be teaching the young the value of land not just for its ability to sustain a building, but for its lessons outside of the classroom.

3. Tree cutting:

It's been communicated that since the property is under the control of School Dept. therefore the Waltham Tree Warden is unauthorized to be a part of the process. Nevertheless, the 10+ acres of clear cutting should involve a tree warden to identify, inventory, and put a plan in place to reduce the swath of cutting at the emergency access at Lincoln St. Extension, thereby keeping a buffer for the neighbors to the south of the project. And to enforce a plan to replace mature trees with a reasonable ratio of new saplings. In addition, reducing the front "lawn" by keeping natural tree cover would save **2 acres** of site work there.

4. Calculations:

The FEIR responses should not be using the 617 location in any calculations for the 554 project. There is no guarantee in 5 years time that 617 will be utilized the way it has been suggested today.

5. Prompted, canned letters from supporters:

Please do not put stock into the letters telling you that the 554 location was selected by unanimous council votes. The councillors that voiced opposition by disagreeing with the location are now mysteriously and conveniently no longer elected officials. And a reminder- the school building committee is an appointed (not elected) group meant to move the bean forward, not to be cognizant of the environment.

6. Developers were interested in buying and creating low income housing:

No developer would be interested in this property. It costs too much to prep the ground in order to build, (and then to construct a 40 B! where the rent is required to be reduced?!) The area also needs extensive wetland protection and numerous variances. Only a city with unlimited funds and an unsuspecting public could take on a project like this with no cap and no need to ever make a return on the investment in the builder's lifetime. Instead, the investment is in the ground, and not the education system.

7. Parking: Reduce the at grade parking spaces.

The Project includes construction of 650 parking spaces, of which 450 spaces are proposed below the synthetic turf field and 200 spaces at-grade.

The project could theoretically reduce the quantity of parking which in turn would likely reduce impervious area and disturbed area, but this is not feasible. In developing the proposed parking program for the new school, School Building Committee considered that many students have afterschool commitments, such as jobs or athletic obligations, which require students to leave school either before or after school buses depart for the day. Additionally, this could result in increased ADT as parents would potentially need to drop off and pick up.

A requirement that all students utilize bussing to get to and from school would likely positively impact mobile source green house gas analysis, presented in section 4.4 of the FEIR. But as described above, student parking is provided in part to allow students with afterschool commitments to leave either before or after the school buses depart for the day.

Will the building's carbon footprint be offset by clean energy plan -ok, one small green roof and who will maintain that? Isn't a large parking garage meant to encourage students to drive to school thereby negatively contribute to emissions? If you don't build that much parking or restrict it to teachers and seniors then the kids would be forced to find other (green) ways to school- like we did.

8. Construction Hours:

The project is complying with the City of Waltham construction hours. The project could theoretically limit the construction hours however this would result in a longer duration of the overall project thereby having the neighbors endure prolonged construction and add unnecessary cost to the project. (let's let those most affected-abutters- decide if they want to deal with Saturday construction)

9. Rock Crushing:

The project is proposing to conduct the rock crushing operation on site. The size of the rock will dictate the length of time required to crush the rock. The project team is reviewing options to optimize the size, however removing the rock from the site without any crushing would result in significantly more trucking as the volumes of rock would be reduced due to the larger sizes and voids created. Off sourcing the crushing operation is not financially feasible for the project and some of the material is planned for reuse on site to save the project importing new materials (hence more trucks). (let's let those most affected-abutters- decide)

10. Noise:

The FEIR should clarify whether noise or dust from construction activities will create a nuisance condition by interfering with enjoyment of property. The FEIR should continue to analyze potential noise and vibration impacts associated with blasting and crushing operations, and propose appropriate mitigation measures.

Based on a video circulating today (!) mere hours after the groundbreaking ceremony, there is noise and dust already emanating from the site. No one is monitoring, no one has sound barriers or sprayers out taking care of the particles. This can only get worse. Let me know if you do not yet have a copy of this video.

11. Ongoing disruption of quiet enjoyment of personal property.

The issue of light pollution has for the most part been addressed but no one is addressing the noise pollution from the activities on site after the school is built. It's not an office building where people arrive in the am and leave in the pm. It's an active building with various ongoing noises throughout the day and night.

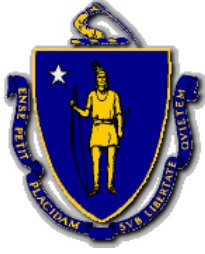
We should be considering and requesting:

Sound barriers from the field activities to the neighbors on all sides.

Sound barriers from the bus idling area to the neighbors on all sides.

Sound barriers around the auto body shop protecting neighbors from all sides.

Reminder that this is a 100% residential neighborhood. People bought their homes with the understanding that they lived next to a wooded sanctuary. It's upsetting to change this on the homeowners without regard to their ongoing peaceful enjoyment of their own properties.



COMMONWEALTH OF MASSACHUSETTS
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Karyn E. Polito
Lt. Governor

Kathleen A. Theoharides
Secretary

Patrick Woodcock
Commissioner

2 October 2020

Kathleen Theoharides, Secretary
Executive Office of Energy & Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02114
Attn: MEPA Unit

RE: Waltham High School, Waltham, MA, EEA #16097

Cc: Maggie McCarey, Director of Energy Efficiency, Department of Energy Resources
Patrick Woodcock, Commissioner, Department of Energy Resources

Dear Secretary Theoharides:

We've reviewed the Final Environmental Impact Report (FEIR) for the above project. The proposed project consists of a 4-story high school with traditional classrooms and technical training space totally 414,800-sf in area.

Review Summary

The proposed project has a Mitigation Level¹ of 13%. This can be improved with increased envelope performance and efficient electric heating.

In our DEIR review comments, we recommended three strategies be thoroughly investigated to analyze the cost-effectiveness of additional greenhouse gas mitigation measures. These were: (i) building with efficient electrification of space heating at initial construction, (ii) building with gas heating at initial construction, then retrofitting to efficient electric heating in the future, and, (iii) building with efficient electric space heating at initial construction, but with envelope further improved beyond what is currently proposed.

¹ Mitigation Level is the percent GHG reduction beyond the reduction that would occur as a result of following state and local building codes. A Mitigation Level of 0% means that no mitigation is proposed.

i. Efficient Electrification of Space Heating (Scenario 3a in FEIR submission)

Electrification of space heating entails swapping natural gas condensing systems with electric air-source heat pumps. Currently (year 2020), due to Massachusetts' grid electricity emissions rates, efficient electric space heating has approximately **50% lower** emissions than even best-in-class efficiency (95% +) condensing natural gas space heating. As Massachusetts continues to increase the renewable component of its grid, by 2050, efficient electric space heating is expected to have approximately **85% lower** emissions than even best in class condensing natural gas space heating. Accordingly, the proponent performed a life cycle cost analysis (LCCA) of a scenario with efficient electric space heating built as part of initial construction.

ii. Gas Heating w/ Efficient Electric Retrofit in Future (Scenario 2a in FEIR submission)

The proponent's DEIR stated that, while the project would not pursue efficiency electrification at this time, the project would plan to retrofit with efficient electric space heating in the future at the end of equipment life. In its comments on the DEIR, DOER recommended that the proponent take the costs of retrofitting the gas equipment in the future into account as part of its analysis. Accordingly, the proponent performed a life cycle cost analysis (LCCA) of a scenario retrofitting gas space heating systems to electric heating in the future.

iii. Efficient Electrification of Space Heating w/ Improved Envelope (Scenario 4a in FEIR submission)

The FEIR submission also analyzed a scenario with envelope performance which was further improved beyond currently proposed. In this scenario, no gas space heating is used and efficient electrification is built at the initial construction.

Analysis Results

The FEIR analyses confirm that constructing with efficient electric space heating (first row of table below, this scenario is labeled “Scenario 3a” in the FEIR) at initial construction costs less to construct, costs less to operate, costs less to replace at end of life, and costs only marginally more to maintain. Putting all these together, a 30-year life cycle cost analysis (LCCA) shows that this approach will cost almost **\$2M less**. This approach will also emit about 5,000 tons less emissions compared to building with gas systems at initial construction.

Scenario <i>Arranged least to highest LCCA</i>	Installation Cost (\$ M)	Operating Cost Present Value (\$ M)	Maintenance Cost Present Value (\$ M)	End of Life Cost to Replace (\$ M)	Demolition and Retrofit Cost (\$ M)	30 Year LCCA (\$ M)	30 Year Carbon Footprint (Tons)
Scenario 3a: Electric heating, no retrofit	17.6	10.0	0.331	10.2		38.2	25,811
Scenario 2a: Proposed Gas heating with electric retrofit in future	17.7	10.2	0.312		11.8	40.0	30,833
Scenario 4a: Electric heating, improved envelop, no retrofit	20.0	9.8	0.331	12.5		42.7	25,537

In contrast, constructing with gas heating today, then retrofitting with efficient electric at end of equipment life (second row, labeled in the FEIR as “Scenario 2a”), costs more to build initially and more to operate. Further, at the end of equipment life, this scenario requires significantly more to replace and retrofit. This scenario also has the highest emissions.

A scenario with a further improved envelope (third row, “Scenario 4a”) delivers additional emissions reductions and utility savings, but increases life cycle costs due to the increased upfront cost.

FEIR Potential Errors

The FEIR contains a number of potential errors which have been adjusted to create the table above. These include:

1. The present value calculations in the FEIR appear to contain significant errors. For example, for Scenario 3a, the reported annual operating cost is \$511,566 per year and the reported present value over 30 years at 3% annual interest is \$61,905,069. This is approximately x6 too large. The actual present value of an annual operating cost of \$511,566 over 30 years at 3% annual interest should be \$10,026,919. Similar errors are present in the other scenarios as well.
2. For Scenarios 3a and 4a, reported water heating end use consumption (2,699 MMBtu/yr) was changed to be equal to the water heating end consumption used in Scenario 2 (2,410

Waltham High School, EEA #16097
Waltham, Massachusetts

MMBtu/yr). This was done because the system fuel use, efficiencies, sizing, and hot water load is the same for both scenarios.

3. For Scenario 3a, reported space cooling end use consumption (859 MMBtu/yr) was changed to be equal to the space cooling end consumption from Scenario 2a (427 MMBtu/yr). This was done because the system efficiency in Scenarios 3a actually increased (11.9 SEER to 12 SEER) compared to 2a. Further, Scenarios 3a and 2a have the same envelope.

Recommendations

Based on the findings presented in the FEIR with the corrections noted above, our recommendation is that the high school be built with efficient electric space heating during initial construction. This approach costs less to build, costs less to operate, and has lower life cycle cost and much lower emissions than building with gas space heating today then, retrofitting to efficient electric space heating in the future.

Sincerely,



Paul F. Ormond, P.E.
Energy Efficiency Engineer
Massachusetts Department of Energy Resources



Brendan Place
Clean Energy Engineer
Massachusetts Department of Energy Resources