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February 23, 2018

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS  
ON THE  
ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME : The Preserve at Abbyville and Abbyville Commons  
PROJECT MUNICIPALITY : Norfolk  
PROJECT WATERSHED : Charles River Watershed  
EEA NUMBER : 15796  
PROJECT PROPONENT : Abbyville Residential LLC and Abbyville Development LLC  
DATE NOTICED IN MONITOR : January 24, 2018

Pursuant to the Massachusetts Environmental Policy Act (MEPA; M.G. L. c. 30, ss. 61-62I) and Section 11.06 of the MEPA regulations (301 CMR 11.00), I have reviewed the Environmental Notification Form (ENF) and hereby determine that this project **requires** a Mandatory Environmental Impact Report (EIR). The Proponent should submit a Draft EIR (DEIR) in accordance with the Scope below.

Project Description

As described in the ENF, the project consists of the development of 204 housing units on approximately 63 acres of a 203-acre site. The project is proposed in accordance with the Massachusetts Affordable Housing Law M.G.L. Chapter 40B. Approximately 46% of the units will meet state requirements for affordability. The units consist of 148 single-family homes known as the Preserve at Abbyville as well as a 56-unit rental development referred to as Abbyville Commons. Both projects are collectively referred to as "Abbyville." The development will include 374 parking spaces including two 12-car garages for the rental units, a Common Area pavilion, an open-air boathouse with floating dock at Bush Pond, an approximately 64,000 gpd wastewater treatment facility (WWTF), approximately 10,250 linear feet (lf) of roadways with sidewalks, approximately 10,220 lf of water mains, and 10,250 lf of

sewer mains. Approximately 140 acres of the site is proposed as open space. Access to the development will be provided from two locations on Lawrence Street.

The project includes extensive excavation and grading. Site preparation and construction is proposed in five phases over a seven-year period. The development is proposed in the southwest corner of the site which will avoid disturbance of the area subject to an Activity and Use Limitation (AUL) and will facilitate the potential development of a municipal well in the northern portion of the site.

### Project Site

The 203-acre project site is located in a residential neighborhood in the southwest portion of Norfolk. The project area is bounded by Lawrence Street and a residential area to the south, Bush Pond to the east, the Franklin town line to the west, and the MBTA Franklin Commuter Rail Line and conservation land owned by the Town of Franklin. Existing conditions include slab foundations and paved areas associated with former industrial uses at the site. The site includes approximately 14 acres of disturbed land associated with mining of a gravel pit. The project site consists of six contiguous parcels owned by several different owners. They will be combined and subdivided into two parcels. The parcels that are not owned by the Proponent are under purchase and sale agreements. The project site includes forested uplands and wetlands associated with the Mill River and an unnamed tributary to the River and Bush Pond. Several vernal pools and potential vernal pools are located on the site. The project site includes a 12-acre area that is subject to a AUL under the Massachusetts Contingency Plan (MCP). The area includes a capped disposal area, former wastewater lagoons and a "tailrace" canal.

The entire project site is located within a Zone II Groundwater Protection Zone associated with the Town of Franklin public drinking water supply. Elevations on the site range from 246 feet to 186 feet. The project site does not include *Estimated or Priority Habitat of Rare Species* according to the 14<sup>th</sup> Edition of the Massachusetts Natural Heritage Atlas.

### Jurisdiction and Permitting

The project is undergoing MEPA review and is subject to a Mandatory EIR pursuant to 301 CMR 11.03(1)(a)(2) because it requires a State Agency Action and will result in the creation of ten or more acres of impervious area. The project also exceeds ENF thresholds at 11.03(1)(b)(1) direct alteration of 25 or more acres of land; 11.03(5)(b)(3)(c) installation of ½ or more miles of new sewer main not within the right of way of existing roadways; 11.03(5)(b)(4)(c)(i) new discharge to groundwater of 10,000 or more gallons per day of sewage within an area, zone or district established, delineated or identified as necessary or appropriate to protect a public drinking water supply; 11.03(6)(b)(14) generation of 1,000 or more new average daily trips (adt) on roadways providing access to a single location and construction of 150 or more new parking spaces at a single location. The project requires a Groundwater Discharge Permit from the Massachusetts Department of Environmental Protection (MassDEP).

The project will require an Order of Conditions from the Norfolk Conservation Commission (or in the case of an appeal, a Superseding Order of Conditions from the Massachusetts Department of Environmental Protection (MassDEP)). The project requires a Comprehensive Permit from the Norfolk Zoning Board of Appeals. If the Comprehensive Permit is appealed, it will require review by the

Housing Appeals Committee (HAC) pursuant to Chapter 40B. The project also requires a National Pollutant Discharge Elimination System (NPDES) Construction General Permit from the United States Environmental Protection Agency (EPA).

Because the Proponent is not seeking Financial Assistance from the Commonwealth for the project, MEPA jurisdiction extends to those aspects of the project that are within the subject matter of required or potentially required State Agency Actions and that may cause Damage to the Environment as defined in the MEPA regulations. In this case, MEPA jurisdiction extends to land alteration, stormwater, wetlands, hazardous waste, wastewater, and GHG emissions and air quality.

### Environmental Impacts and Mitigation

Potential environmental impacts associated with the project include: the creation of 15.6 acres of new impervious area; 43.74 acres of new land alteration; impacts to 65 sf of Bordering Vegetated Wetlands (BVW), 10 lf of Bank and 2,400 sf of Riverfront Area; 62,920 gpd of water use; 64,000 gpd of wastewater discharge within a Zone II; installation of 1.94 miles of new sewer main and water main; and generation of 1,970 new vehicle trips and creation of 374 new parking spaces. In addition, construction period impacts will include noise, fugitive dust emissions, potential erosion and sedimentation, and traffic impacts.

Measures to avoid, minimize and mitigate potential impacts include clustering the development in the southwest portion of the site to incorporate open space, implementation of construction period mitigation measures including sedimentation controls and traffic management plan, installation of a stormwater management system, and use of a wastewater treatment facility.

### Review of the ENF

The ENF included a project description, alternatives analysis, existing and proposed conditions plans and identified potential environmental impacts and proposed mitigation measures. The ENF indicated that the Town received a MassWorks grant for the reconstruction of the Lawrence Street Causeway.

The ENF included a GHG analysis and results of an Hydrogeologic Evaluation Report prepared in accordance with the Groundwater Discharge Permit Program Regulations (314 CMR 5.00). The ENF included a Construction Management Plan (CMP), Greenhouse Gas Analysis, and a Phase 1 Environmental Site Assessment which was performed in 2017. The ENF included peer reviews of the CMP and Stormwater Management Plan. The ENF also included a copy of the Notice of Noncompliance issued by MassDEP.

### *Alternatives Analysis*

The alternatives analysis discussed four alternatives, including a No-Build Alternative, a Current Zoning Alternative, a Title 5 Alternative, and the Preferred Alternative. Under the No-Build Alternative, the project site would remain in its current state and would continue to be used for passive recreation and unauthorized ORV/ATV use which may contribute to erosion and sediment runoff. No increases in traffic or land disturbance would occur. The Proponent determined that the No-Build Alternative was not a financially feasible alternative and could potentially result in future build-out of

the site that would foreclose development of a future municipal well and preservation of open space. The No-Build Alternative would not create affordable housing. Affordable housing comprises 3.6% of the housing supply in Norfolk which is below the 10% state mandate. The Current Zoning Alternative involves the construction of a low density residential development consisting of 63 residences on 55,000 sf lots. Under current zoning regulations (Residential 3), religious uses, public education uses, senior centers, agricultural uses, child care facilities, dog kennels and low density residential development are allowed at the project site. This Proponent asserts that this alternative would require development of most of the uplands and would require crossing of the Mill River to provide vehicular access to the site. Environmental impacts associated with this alternative include additional grading and fill removal, impacts to wetland resources areas, and the use of individual septic systems to treat wastewater. This alternative would reduce traffic trips (697 tpd compared to 1,970), wastewater generation and GHG emissions compared to the Preferred Alternative; however, it was dismissed because it would require the development of a significant amount of open space and would create fewer affordable housing units (between 6-7). The Title 5 Alternative consists of the Preferred Alternative 40B development layout with the use of Title 5 compliant septic systems for 203 units rather than a WWTF with centralized wastewater discharge. The Title 5 alternative was dismissed based on local concerns regarding nitrogen loading and impacts to drinking water compared to a WWTF. The Proponent selected the Preferred Alternative based on its ability to supply affordable housing and preserve open space through a clustered development with a WWTF.

## SCOPE

### General

The Draft EIR (DEIR) should follow Section 11.07 of the MEPA regulations for outline and content, as modified by this Scope.

### Project Description and Permitting

The DEIR should include a detailed description of the project and describe any changes to the project since the filing of the ENF. The DEIR should include updated site plans for existing and proposed conditions. The DEIR should provide a summary, on a building by building basis, of floor area by use, and overall height (i.e., stories). Conceptual plans should be provided at a legible scale and clearly identify: all major project components (existing and proposed buildings, access roads, etc.); impervious areas; ownership of parcels including easement areas; pedestrian and bicycle accommodations; stormwater and utility infrastructure; and wetland resource areas. Conceptual plans should be provided for on-site work as well as any proposed off-site work for transportation or utility improvements.

The DEIR should provide a brief description and analysis of applicable statutory and regulatory standards and requirements, and a description of how the project will meet those standards. The DEIR should include a list of required State Agency Permits, Financial Assistance, or other State approvals and provide an update on the status of each of these pending actions. The DEIR should identify and describe local review and permitting requirements including the status of the Comprehensive Permit process.

I received many comments from residents of Norfolk and Franklin that identify concerns with the extensive amount of earth removal, potential blasting, and water quality impacts. Many residents expressed concern regarding the migration of contaminants associated with construction activities, the stormwater management system and groundwater discharge associated with the WWTF. The DEIR should address these concerns to the extent feasible.

### Land Alteration

The project proposes a significant amount of clearing, grading, and earth removal. It will remove approximately 990,000 cubic yards of fill. Approximately 43.7 acres of land will be altered, including the creation 15.6 new acres of impervious surface for a total of 17.7 acres of impervious surface. The DEIR should explain the purpose of the excavation and demonstrate that it is necessary for the development of the project. The DEIR should include site plans that clearly locate and delineate areas proposed for development and those to be left undisturbed. Project plans should clearly identify proposed grading and identify buffer areas to existing residential neighborhoods.

The DEIR should provide a comprehensive evaluation of all measures to reduce the amount of land alteration, including reductions in roadway widths, impervious surfaces, and parking. It should evaluate the use of pervious pavement for low intensity parking areas and sidewalks.

The DEIR should identify open space that will remain undisturbed and/or restored upon completion of construction. The DEIR should consider placing a conservation restriction on portion(s) of the site designated as open space, including areas containing wetlands, to ensure their permanent protection. The DEIR should provide additional detail regarding the existing trail locations throughout the property, and address whether these paths will be improved or formalized.

### Greenhouse Gas Emissions

This project is subject to review under the May 5, 2010 MEPA GHG Policy. The ENF included a GHG analysis which quantifies the carbon dioxide (CO<sub>2</sub>) emissions associated with direct emissions of CO<sub>2</sub> from stationary sources, including natural gas combustion for space heating and hot water; indirect emissions of CO<sub>2</sub> from electricity generated offsite and used on site for building cooling and ventilation and equipment operation; and emissions of CO<sub>2</sub> from project generated traffic. CO<sub>2</sub> emissions were quantified for the Base Case and Mitigation Alternative. The Base Case was based on the 9<sup>th</sup> Edition of the Massachusetts Residential Building Code (IECC 2015 Residential Building Code with Massachusetts Amendments). The Base Case would generate approximately 1,756.6 tpy of CO<sub>2</sub>. The project's stationary source CO<sub>2</sub> emissions were estimated at 1,553.6 tpy in the Base Case. The mitigation measures included in the Mitigation Alternative will reduce GHG emissions to 1,343.6 tpy, a reduction of 210 tpy (13.5%). CO<sub>2</sub> emissions associated with trip generation is estimated to be 203 tpy. The ENF asserts that TDM for residential development not served by public transportation result will not be effective in reducing vehicle trips and associated GHG emissions. The DEIR should reassess and incorporate TDM measures such as shuttle services to nearby public transportation including the MBTA commuter rail line, electric vehicle (EV) charging stations and pedestrian and bicycle accommodations.

The DEIR should include a revised GHG analysis which incorporates the feasibility of using of Cold Climate Air Source Heat Pumps (ccASHP) and Passivehouse Design in addition to the continued

evaluation of air source heat pumps and solar PV. I refer the Proponent to the guidance provided by Department of Energy Resources (DOER). The DEIR should respond to each of the comments provided in the DOER comment letter.

The GHG analysis should discuss the feasibility of installing EV charging stations, lighting and climate controls within common areas, and use of directed shielded and LED lighting for exterior areas to reduce glare and light pollution.

#### Climate Change Adaptation and Resiliency

The DEIR should provide an analysis and discussion of vulnerabilities of the site to the potential effects associated with climate change including increased frequency and intensity of precipitation events and extreme heat events. To assist in the evaluation of climate change resiliency and adaptation measures the Proponent should review EEA's *Climate Change Adaptation Report* (September 2011): <https://www.mass.gov/files/documents/2017/11/29/Full%20report.pdf>.

#### Wetlands and Stormwater

As noted previously, the project will result impacts to Riverfront Area, BVW and Bank associated with the installation of a boat house and floating dock system. The Norfolk Conservation Commission will review the project to determine its consistency with the Wetlands Protection Act (WPA), the Wetlands Regulations (310 CMR 10.00), and associated performance standards, including stormwater management standards (SMS). The DEIR should identify wetlands replication area for BVW impacts. If no replication area is proposed, the project may require a 401 Water Quality Certification (WQC) from MassDEP. The DEIR should include information on the structural integrity of the Bush Pond earthen dam.

The project will add approximately 15.3 acres of impervious area and will include a stormwater management system designed in accordance with the MassDEP Stormwater Management Handbook. The system will include best management practices (BMPs) such as deep sump catch basins, sediment forebays and detention/infiltration ponds. The DEIR should include the Stormwater Management Plan for the project.

The DEIR should evaluate incorporation of Low Impact Development (LID) measures into the stormwater management plan, including reducing the amount of impervious surfaces, use of site design techniques that disperse stormwater controls across the site, and narrow roadway widths, porous pavements, water quality swales, box-tree filters, and rain gardens. The Proponent will be required to prepare a Stormwater Pollution Prevention Plan (SWPPP) in accordance with the NPDES Permit.

#### Water Supply and Wastewater

The Town of Norfolk is regulated through MassDEP's Water Management Act (WMA) program. Water demand associated with the project is estimated at 62,920 gpd. The ENF included a water system subdivision review as requested by the Norfolk DPW. The review recommends the installation of service stubs to the property line of parcels on Lawrence Street as well as side street stubs at Cranberry Road, Eagle Drive and Bretts Farm Road along the 1.94 mile water main extension route. The DEIR should include the locations of potential water supply stubs along Lawrence Street and

surrounding side streets. The ENF identifies a potential municipal drinking well site known as the Lawrence Street Well. The DEIR should discuss how or if the development will affect nitrate levels at the potential well site. The Zone 1 area should be clearly indicated on project plans. The DEIR should include information on proposed water supply sources that the Town is pursuing and further evaluation of how the project's water demands will be met throughout project phasing.

Wastewater generated onsite will be treated by a privately owned WWTF. It will be located in the southeast portion of the site and leach fields will be located underneath the common pavilion area. The DEIR should identify the proposed ownership of the WWTF and how homeowners and owners of the apartment buildings will share financial responsibility.

### Hazardous Materials

A 12-acre portion of the site is currently being regulated under the MCP as Release Tracking Number 2-3000173 RAO 3. Hazardous materials associated with textile manufacturing wastewater and byproducts were previously identified. Remediation efforts culminated in 2001 with a Class A-3 Response Action Outcome now referred to a Permanent Solution with Conditions. The affected portions of the site include an AUL which allows only passive and active non-invasive recreation. The ENF includes the results of a Phase 1 Environmental Site Assessment completed in August 2017 and a Notice of Noncompliance associated with the site's Permanent Solutions Statement. The Notice of Noncompliance requires the property owner to submit a revised Permanent Solution Statement or a Tier Classification Request and Notice of Delay. The DEIR should include an update of a response to the Notice of Noncompliance. In addition the DEIR should include results of the most recent sediment and groundwater sampling available and information on the integrity of the disposal site cap.

The Proponent is advised that excavating, removing, and/or disposing of contaminated soil, pumping of contaminated groundwater, or working in contaminated media must be done under the provisions of M.G.L. c. 21E and the Occupational Safety and Health Act (OSHA). If oil and/or hazardous material are identified during the implementation of this project, notification pursuant to the MCP must be made to MassDEP. The Proponent should prepare a Spills Contingency Plan. The DEIR should describe how it will comply with M.G.L. c. 21E during construction.

### Construction Period

The ENF evaluated construction period impacts and included a CMP to address erosion and sedimentation controls, air quality and construction generated traffic. The Proponent has committed to daily limits on export volumes (60 loads or 120 trips), hours/day of operation (weekdays from 8:30 AM until 2:15 PM) and designated trucking routes during the construction period.

The DEIR should identify any potential blasting activities associated with the project. The DEIR should include a draft blast plan approval that will be submitted to the Norfolk Fire Department, identify pre-blast survey work, and outline a baseline monitoring plan to document existing vibration levels within the project vicinity.

The Proponent must comply with MassDEP's Solid Waste and Air Quality Control regulations, pursuant to M.G.L. Chapter 40, Section 54, during construction. All construction activities should be

undertaken in compliance with the conditions of all State and local permits. The DEIR should discuss potential construction period activities and related permitting requirements.

The DEIR should provide information regarding the project's generation, handling, recycling, and disposal of construction and demolition debris. The DEIR should describe the management and disposal of any asbestos containing materials (ACM). The DEIR should quantify and characterize the material to be generated and define waste management and diversion goals to be implemented by the contractors constructing the project. The DEIR should discuss the solid waste and air quality regulatory requirements raised in MassDEP's comment letter and identify specific and aggressive construction recycling and source reduction goals. The DEIR should address compliance with the waste bans regulations (310 CMR 19.017). The DEIR should describe the project's commitment to MassDEP's Clean Air Construction initiative and should include this as a mitigation measure in the Section 61 findings. The DEIR should address how the project will support compliance with the Massachusetts Idling regulation at 310 CMR 7.11.

### Mitigation and Section 61 Findings

The DEIR should include a separate chapter summarizing proposed mitigation measures. This chapter should also include draft Section 61 Findings for each State Agency that will issue permits for the project. The DEIR should contain clear commitments to implement mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and contain a schedule for implementation.

### Responses to Comments

The DEIR should contain a copy of this Certificate and a copy of each comment letter received. In order to ensure that the issues raised by commenters are addressed, the DEIR should include direct responses to comments to the extent that they are within MEPA jurisdiction. This directive is not intended, and shall not be construed, to enlarge the scope of the DEIR beyond what has been expressly identified in this certificate.

### Circulation

The Proponent should circulate the DEIR to those parties who commented on the ENF, to any State and municipal agencies from which the Proponent will seek permits or approvals, and to any parties specified in section 11.16 of the MEPA regulations. To save paper and other resources, the Proponent may circulate copies of the DEIR to commenters other than State Agencies in a digital format (e.g., CD-ROM, USB drive) or post to an online website. However, the Proponent should make available a reasonable number of hard copies to accommodate those without convenient access to a computer to be distributed upon request on a first come, first served basis. The Proponent should send a letter accompanying the digital copy or identifying the web address of the online version of the DEIR indicating that hard copies are available upon request, noting relevant comment deadlines, and appropriate addresses for submission of comments. The DEIR submitted to the MEPA office should include a digital copy of the complete document. A copy of the DEIR should be made available for review in the Franklin and Norfolk Town Libraries.




February 23, 2018

Date

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Matthew A. Beaton

## Comments received:

01/30/2018	Karen Deoliviera
01/30/2018	William Gross
02/02/2018	Charles and Patricia Chicklis
02/07/2018	Adele Lemenager
02/07/2018	Angela Wilcox
02/08/2018	Time Mirabile and Jill Bachal
02/09/2018	Brian Lowe
02/12/2018	Debra Gursha
02/12/2018	Brian Kahaly
02/12/2018	Cathy Witter
02/12/2018	Dave Poirier
02/12/2018	Dorothea Collins
02/12/2018	Elizabeth Andon
02/12/2018	Kathryn Cahill-Pauly
02/12/2018	Margaret Kahaly
02/12/2018	Nancy Murphy
02/12/2018	Paul Belle Isle
02/12/2018	Paul Citarell
02/12/2018	Ronnie O'Shea
02/12/2018	Susan Meyer
02/13/2018	Christopher Wagner
02/13/2018	Ashley Secondini
02/13/2018	Betty Ann Wakely
02/13/2018	Bryan Lowe (2)
02/13/2018	Christopher Wagner (2)
02/13/2018	Charles River Watershed Association (CRWA)
02/13/2018	David Dimond
02/13/2018	David Mastro
02/13/2018	Karen McCabe
02/13/2018	Kerry Keefe
02/13/2018	Lynne Dimond
02/13/2018	Massachusetts Department of Environmental Protection – Central Regional Office (MassDEP – CERO)
02/13/2018	Michele Burch
02/13/2018	Peg Bedard
02/13/2018	Sandra Myatt

EEA# 15796

ENF Certificate

February 23, 2018

02/13/2018

Susan Rayner

02/13/2018

Thomas Ryan

02/13/2018

Michael Guidice

MAB/EFF/eff

Secretary of Energy and Environmental Affairs  
Executive Office of Energy and Environmental Affairs (EEA)  
Attn: MEPA Office  
Erin Flaherty, EEA No. 15796  
100 Cambridge Street, Suite 900  
Boston, MA 02114

Ms. Flaherty,

I have many concerns regarding the significant environmental impacts associated with the proposed Abbyville Commons and Preserve at Abbyville projects (EEA No. 15796). I will limit my comments to several.

1. As currently designed, the proposed project will include the clear-cutting of more than 40 acres of forest and the removal of approximately 1 million cubic yards of earth from the site. This will require more than 80,000 tractor trailer truck trips over an 8-year construction period. The duration of earth removal activities alone will be the equivalent of approximately four continuous calendar years, five days per week, six hours per day. Trucks will be entering and exiting the site every 3 to 4 minutes every work day during this time period. This level of truck activity only accounts for trucks associated with earth removal activities; it does not include other trucking activity associated with the construction of more than 200 housing units. This volume of earth removal and truck traffic is incredibly excessive by any rational measure.

Environmental impacts associated with this excessive earth removal include dust, noise, erosion, sedimentation from runoff and greenhouse gas emissions in addition to serious public safety issues related to the increased truck traffic on local roadways.

The applicant should be required to evaluate and present alternative site layouts that follow the natural topography of the site in order to significantly reduce the volume of material to be removed and thereby reducing the volume of truck traffic for earth removal. As currently designed, the project is essentially a commercial gravel operation followed by housing construction.

2. With regard to the Town of Norfolk undertaking the reconstruction of the Lawrence Street bridge, the applicant indicates that *"The Project is not contingent upon this work because there is alternative access to the site that could be utilized during the construction phase."* (ENF Project Narrative, Section 1.8, page A-5). This statement is contrary to the discussions that have occurred during Norfolk Zoning Board of Appeal (ZBA) hearings on the subject project. If the applicant intends to enter and exit the site from Mill Street in Franklin, he should be required to notify and coordinate with Town of Franklin officials. Mill Street is a very narrow, windy road and is not capable of safely supporting the levels of construction traffic indicated for this project.

Thank you for your consideration of these concerns.

A handwritten signature in black ink, appearing to read "Michael Guidice". The signature is written in a cursive style with some loops and flourishes.

Michael Guidice  
6 Eagle Drive  
Norfolk, MA 02056

**From:** [Thomas Ryan](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** Abbyville EEA#15796  
**Date:** Tuesday, February 13, 2018 5:56:01 PM

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Hi Erin,

I live at 95 Park St. in Norfolk. I'm writing to express my concerns over the Abbyville project, especially as it relates to a possible environmental impact.

About a year ago, I purchased a 32 panel, ground-mount solar system. In 2017 I produced approximately 11 MW of energy. I live about 1/4 of a mile from the proposed construction site. It is my understanding that a significant and consistent amount of dust would be produced by the excavation of the site and, given the nature of excavation, would certainly produce a high-volume of airborne dust, impacting solar production for me and anyone else in the surrounding area with solar. The excavation portion of this project is expected to last approximately eight years. Given that length of time, it is my believe that the potential impact on solar production could be immense.

Please note my objection to this project. If you have any questions, I can be reached at this email.  
Thanks.

Thomas Ryan  
95 Park St.  
Norfolk, MA 02056

**From:** [Susan Rayner](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** Abbyville EEA#15796  
**Date:** Tuesday, February 13, 2018 11:41:48 AM

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Dear Erin,

I am writing in regard to the Abbyville project in Norfolk, and have many concerns regarding this. The biggest concern I have is the impact that this gigantic project will have on the water supply and quality of the water for the many wells that are abutters to this project. At the February 2nd meeting at the library in Norfolk, we heard that the wastewater treatment of 64,000 gallons of water per day are going to be sent out of the plant toward the northeast - exactly the direction of Bush Pond Road, where my neighbors and I live. This treated water also heads directly toward the AUL of buried contaminants with no protective barrier under the contaminants. Close by, next to the wastewater treatment plant will also be a large storm water drain pit. All of that water from both sources headed toward the AUL would put quite a lot of pressure on that unprotected, contaminated area and could send contaminated water toward our wells. My well is 650 feet deep, and many of the Bush Pond Road residents also have deep wells that would be impacted by this possibly contaminated water flow. The developer had a hydrogeologist talk about how clean the water will be when it leaves the wastewater treatment plant. That will supposedly be monitored. Once that water flows through the AUL area on a daily basis our concern is :will we be drinking contaminated water from our now polluted wells? More testing must be done on the AUL to determine the effect of all that pressured water going toward it on a daily basis.

We are also concerned about the effect that blasting would have on our deep pipes and the possible rock shifting underground near our wells and in the Bush Pond and Mill River area. We are concerned about the quality and quantity of our water and the several possible negative impacts that this project could cause for the surrounding neighborhood families and their wells as well as the river itself. Who would mitigate these pollution issues should they occur? Current plans are to have the homeowners' association of Abbyville be in charge of the AUL. We believe the developer should post some kind of bond to protect abutter-homeowners from possible contamination and/or alteration in the quantity of water to their wells.

We, as a neighborhood, are very concerned about the effect of removing 1 million cubic yards of soil from the property and the impact of that on the habitat for animals, birds, and other wildlife. The pollution/ run off from the gravel pit operation would impact Bush Pond, the Mill River, and the wetlands. Noise pollution, and air pollution from dust and particulates are a potential health risk. There needs to be much more DEP study into the potential negative effects of the current plan for Abbyville.

Thank you for your time and consideration in this matter, Erin.

Sincerely,

Susan Rayner  
9 Bush Pond Road  
Norfolk

February 13, 2018

Dear Ms. Flaherty,

I have been following the Abbyville proposal since July of 2017 and have many concerns with this project that I want to share as part of the Massachusetts Environmental Policy Act Office review in response to the Environmental Notification Form filed for 17 Lawrence Street dated January 16, 2018. I met you at the site walk and hope that gave you a sense of the neighborhood and the environment. We have lived in Norfolk for nearly 30 years to raise our family. I have a background in mechanical engineering and after looking at this 40b proposal, I cannot understand **why the site excavation of nearly a million cubic yards of earth, sand and gravel, is essential for the construction of homes. The average home needs only 200 cubic yards. With 204 homes, we would expect 40,800 cubic yards.** This site excavation is the source of many issues that are going to impact the environment and I implore you to seriously evaluate the impacts and the damage associated with Abbyville gravel mining. The only way to circumvent the local Zoning Bylaws, which specifies this land as R3 (the least dense part of Norfolk, see page A-8 of ENF) is to propose the subdivision as affordable 40b housing and ask for waivers. Both Applicants are in the construction business and the earth removal products (Soil, Sand and Gravel) are like gold. If this was not a 40b, the Zoning Board of Appeals would never grant the waiver to the Earth Removal Bylaw, nor the other 67 waivers requested. As residents, we are left with the possibility of facing 8 years of noise and air pollution, and associated health and safety risks arising from this project. The environmental impacts will forever displace wildlife and potentially harm wells in the area. All the land is in the ZONE II Wellhead Protection District (see page A-8, A-12 and A-18 of ENF), so protecting the water source is especially important and our biggest concern with the earth removal. In addition there will be a wastewater treatment plant on site. The magnitude of the development and the amount of wastewater is alarming and our fears are that the site is not capable of sustaining this size of subdivision. On page A-9 of the ENF, it states "*the Proponent has been working with local officials and the community to develop this 40B Project in a mutually satisfactory manner.*" This project has not been worked on in a "mutually satisfactory manner". In fact, the neighbors have requested that we be represented at the "working group" meetings that have taken place regularly on this project, but have been told these do not fall under Open Meeting Law (which is debatable as these have been happening for years) and we have been excluded from modification discussions with Town Officials and the Applicants. The earth removal reduction of 24% (pg A-9 ENF) indicates just how massive the excavation proposal was initially, but the "community" would like to see a 100% reduction in offsite earth removal operations at this location for this project to move forward.

We feel that the 40b state guidelines should have been followed. As you will see, for Abbyville, they were not: (<https://www.mass.gov/files/documents/2017/10/10/guidecomprehensivepermit.pdf>) (pg IV 2&3). For instance, "*Relationship to Adjacent Building Typology – Generally, a Project is developed in the context of single family dwellings and introduces a different form of housing into the neighborhood. Assuming that this is the case, it is important to mitigate the height and scale of the buildings to adjoining sites. In this context, it is particularly important to consider the predominant building types, setbacks, and roof lines of the existing context.*" The excavation means that the Lawrence Street homes abutting Abbyville will be approximately 50' above the base of the subdivision. That means that the 40B is being built in a pit that is 7 stories BELOW the surrounding homes. This is NOT making a continuous roofline to match the surrounding homes. It also states, "*Where possible, the site plan should take advantage of the natural topography and site features, or the addition of landscaping, to help buffer massing.*" Once again, these guidelines have been ignored and there will be nothing left of the existing topography once it is deforested and mined. And finally, "*Relationship to Adjacent Streets – The manner in which the buildings relate to adjacent streets is critically important. Massing should take*

*into account the pattern of the existing street frontage as well as maintain a human scale by reasonably relating the height of buildings to the width of the public way.*" This guideline echoes the concern that the 40b will bear no relation to the surrounding homes due to the elevation differences. If the basic guidelines were followed, it would be a different design.

The most important environmental concern is the disruption of the quality and flows of groundwater to area wells due to the mining operations. We feel that the site contains bedrock not too far beneath the surface (as well as significant stone hill outcroppings) and that the Applicant should definitively know if he will be blasting. The Applicant repeatedly avoids a "yes" or "no" answer to this question: Will there be blasting? Since he had to write his costs for site prep in order to qualify for a 40b, then he has to know the site work costs and report them on his financial disclosures. If he has not reported the costs accurately, the state should know that as well. Blasting could destroy the wells in the area. The impact to all should be made public and every board or government agency concerned about the drinking water in the area should ask the question: Will there be blasting? It is critical to the water quality that silt not be generated by years of explosions. The turbidity of the water could increase so much that people may lose the use of their wells. This would be catastrophic as there is no public water supply option to many of the homes in the area. *"Excessive turbidity, or cloudiness, in drinking water is aesthetically unappealing, and may also represent a health concern. Turbidity can provide food and shelter for pathogens. If not removed, turbidity can promote regrowth of pathogens in the distribution system, leading to waterborne disease outbreaks, which have caused significant cases of gastroenteritis throughout the United States and the world."* (<https://water.usgs.gov/edu/turbidity.html>). Drinking water preservation is one of our main concerns, but there are many that we feel need to be addressed before any kind of permit is issued. More investigations are needed and I hope that your office will be able to ask for some of the missing data.

The issues are complex, as the project is for 204 units to be built over 8 years, so I have chosen to discuss them individually in the following pages to best introduce you to not only my concerns, but the concerns of many of the neighbors in the Lawrence Street area. We wish the site was developed with the environment, wildlife and the health and safety of all residents in mind. A much smaller 40b that has no net export of earth and preserves more Open Space as a Wildlife Corridor is what should be designed for this rural property.

Thank you for your attention to these concerns.

Sandra Myatt

Norfolk, MA



## 1. MASSIVE EARTH REMOVAL

THE GRAVEL MINING OPERATIONS present clear health and safety risks to those in the surrounding neighborhoods in Norfolk, Franklin and Wrentham, as well as risks to the environment and groundwater through deforestation, excavation, and associated trucking. Residents oppose the plan because of the unnecessary harm it will bring, during construction and after. This project will impact significantly those living in the area, like my family, and those who will move in during the early phases and be subjected to the constant dust, noise and odors from the wastewater treatment plant.

**DESCRIPTION:** 1 MILLION cubic yards of earth to be mined and removed from the site:

(Cubic Yards)

Cut = 1,205,000

Fill = 211,000

Net = 994,000

(ENF Attachment E, Peer Review 12/19/17 Tetra Tech Peer Review Status Update Letter)

Note: Typical for home: 200 Cubic Yards

204 homes x 200CuYd=40,800CuYd.

Why excavate so much extra?

Note: Going rate for sand and gravel is \$18-20 per cubic yard, less expenses to mine, netting approximately \$15 per cubic yard. This would mean Applicant profits nearly \$15 Million which would need to be claimed on 40b paperwork. This gravel income is not publicly noted in financial data on the Norfolk town website for this 40b. Request financial accountability. (<http://plymouth.wickedlocal.com/article/20140926/News/140928708> =Ref for going rate of sand and gravel)

NOTE: The area of the Property that was previously a sand and gravel mining operation is not part of the 17 Lawrence Street parcel. That gravel mining operation was on land that is currently owned by one of the partners of Abbyville Residential LLC and Abbyville Development LLC. This project shows an intent to continue the sand and gravel mining into the previously undisturbed portions of 17 Lawrence Street. The only way to legally get to this material is via a 40b bylaw waiver request as the Property is now zoned R3. Years ago, there were mill operations on site, but these resulted in a toxic waste landfill with an Activity and Use Limitation order on the Property

### IMPACTS:

Noise

Dust

Silica Dust

Traffic

Dust Mitigation Runoff

Diesel Exhausts

Greenhouse Gas Emissions

Vehicle oil/fuel spills

Loss of trees (CO2)

Erosion

The properties of the subsurface soils after the excavation are not known, so the estimates of groundwater flows cannot be verified. Altering the Property, which contains an AUL, may be prohibited per the activities that are allowed on the Property. **SEE ITEM #4 Below**

## 2. IMPACTS DUE TO EARTH REMOVAL and MINING

**DESCRIPTION:** The site is said to be designed “to avoid and minimize impacts” (pg A-5, Abbyville ENF). I do not believe this to be true. With at least 7 years of excavation, the impacts to the environment and neighborhood will be significant. The project’s earth removal operation will result in a permanent alteration of the site with a pit 50’ deep behind existing homes on Lawrence Street. We oppose this plan because it is too damaging to the environment. The site was previously designed with a 23-home subdivision site plan, and now there are 204 units proposed with a wastewater treatment plant next to a pond and wetlands. The “Current Zoning Alternative” (pg A-8 of ENF) indicates 63 homes, BUT this number of homes would NEVER be built due to wetlands issues as stated 4 years ago by the Conservation Commission Chair at a Round Table Discussion (view time 38:50 - <https://www.youtube.com/watch?v=-U7cJf-La24>.) If Applicant compared the “Proposed Project” (which I cannot call the “Preferred Alternative” as Section 2.3 of ENF is titled), to the 23-home build-out, then a more realistic picture of environmental comparison could be made. The Current Zoning Alternative with 23 homes could incorporate open space preservation and preserve the future water supply if the Applicant did not cross the wetlands. The “No-Build” option is the “preferred alternative” to me as it would allow for open space for passive recreation and the preservation of a wildlife corridor.

The site needs a subdivision layout that works with the natural topography to avoid and minimize impacts. Instead, the land is proposed to be irrevocably altered with significant harm to the environment. The Applicant is hoping to run a mining operation using the affordable housing permitting process. We are fighting to stop this aspect. If our efforts fail, regulations and buffer zones like those for actual gravel pits should be implemented to mitigate the impacts of mining.

### COMMON SENSE BUFFER ZONES and OTHER MINING GUIDELINES VS ABBYVILLE:

Other towns in Massachusetts regulate mining operations. Here are the guidelines for PLYMOUTH, which has experience in earth removal operations and sand pits.

[https://www.plymouth-ma.gov/sites/plymouthma/files/uploads/zoning\\_bylaw\\_complete\\_amended\\_10-21-17.pdf](https://www.plymouth-ma.gov/sites/plymouthma/files/uploads/zoning_bylaw_complete_amended_10-21-17.pdf)

See regulations on gravel removal from above document with page references in parentheses:

1. No excavation within 200’ of residential zone boundary (pg 205-37) Abbyville excavates to the property line, see Figure 7, ENF Proposed Conditions
2. Must include a 100’ vegetated natural buffer. (pg 205-37) Abbyville leaves no natural buffers at the property lines
3. 12” topsoil in ZONE II restoration (pg 205-37) Abbyville ZBA hearing discussed 6” of topsoil for restoration. Suggest MEPA Verify with Landscape Plan or Landscape Designer a 12” layer
4. Time Limit of Earth Removal 3 Years (pg 205-40) Abbyville proposed 7 years
5. Max Heavy Vehicle Truck Trips: 40 Round Trips per day (205-49) Abbyville wants max 60
6. Slopes greater than 35% should be avoided.(pg 205-35) Abbyville has 50% or 2:1 slopes-see behind existing Lawrence Street homes on Figure 7 of ENF “Proposed Conditions” (Note, FIGURE 7 does not show all the existing homes abutting the property behind LOTS 54-62. Look on Google Maps for structures on these lots that are shown empty.) THESE SLOPES ARE DANGEROUS FOR RESIDENTS, PRONE TO EROSION WITH FURTHER LOSS OF PRIVATE PROPERTY IF LAND BECOMES UNSTABLE.
7. Slopes 25-35% should have riprap or terracing (pg 205-35) Abbyville plans to landscape slopes only, which may not be adequate for erosion control and safety.

Currently there are NO BUFFER ZONES behind existing homes on Lawrence Street. Buffer zones would help shield residents from noise and dust, and most importantly protect their private wells which are in the rear yards. Buffers would also help prevent the erosion of private property over the years. **Excavation to the property lines is a significant environmental and safety impact that is**

not discussed in the ENF.

### 3. A CLOSER LOOK AT STORMWATER STANDARDS

**DESCRIPTION: Standard 6 – Stormwater discharges within Zone II.** Will this be safe indefinitely?

**IMPACTS: Several considerations which will impact environment may need further investigation:**

The Property, which is in the ZONE II wellhead protection district, will be used as a forest harvesting site, as well as a gravel mining and processing site, as part of the 40b site prep. Environmental concerns stemming from these operations include the water runoff from dust mitigation measures. It is suggested that the necessary permits be required as if this was a forest harvest and processing facility. For instance, stone and sand will be processed on site as stated in each of the 5 Phases discussed in the Construction Management Plan (in the ENF) in Paragraph 2.4.4 (Note there are multiple paragraphs all with the same number 2.4.4 listed under each Phase I-V.) They state *“during the cut phase, an adequate supply of material will be processed for sand, pipe bedding and possibly stone for the infrastructure. This process will take place at the face of the cut and the material will be temporarily stockpiled.”* Rock crushing dust mitigation watering should fall under the permit process for a Rock Crushing Facility. See 314 CMR 3.03. All policies/rules/regulations regarding forest harvesting and gravel/sand mining should be outlined to the Applicant to safeguard the environment. See also Best Management Practices Manual for Forest Harvesting:

<http://www.mass.gov/eea/docs/dcr/stewardship/forestry/ma-forestry-bmp-manual-rd.pdf>

The EPA has Stormwater Fact Sheet for Mineral Mining and Processing facilities and practices should apply to Abbyville site prep as well: [https://www.epa.gov/sites/production/files/2015-10/documents/sector\\_j\\_mineralmining.pdf](https://www.epa.gov/sites/production/files/2015-10/documents/sector_j_mineralmining.pdf)

It is our hope that these industrial activities will never occur in this residential zone. If they do, we would like to see all the controls that any other mining and forest harvesting business would use, implemented to protect the environment and for the health and safety of residents. Any other guidelines your office can specify to add further protections would help.

4. **FURTHER EXAMINATION OF ACTIVITIES ALLOWED PER THE RESPONSE ACTION OUTCOME** <http://public.dep.state.ma.us/fileviewer/Scanned.aspx?id=300240>

August 2001 Document by Camp Dresser & McKee

CLASS A-3 RESPONSE ACTION OUTCOME AND RELEASE ABATEMENT MEASURE COMPLETION REPORT BUCKLEY & MANN INC., NORFOLK, MASSACHUSETTS BUREAU OF WASTE SITE CLEANUP SITE NUMBER 3-0173

**DESCRIPTION: Notice of Activity and Use Limitation (AUL) - WHAT IS A PERMISSIBLE ACTIVITY?** Note:

“Property” = parcel of land owned by Mann Family at 17 Lawrence Street – where 40B is located

“Portion of the Property” = the area governed by the AUL – not being developed, but lies in wetlands

The drastic changes to the land known as the “Property” by clearcutting and excavating 60 acres is an activity which “may result in a significant risk of harm to the health, safety, public welfare, or environment”. (Harm via dust, noise, trucking, nonpoint source pollution, etc). SEE APPENDIX I, Section 2A of the above linked RAO.

The 40B Applicants have requested 67 waivers to the zoning bylaws even though the excavation and tree clearcutting are strictly prohibited activities according to current local bylaws.

The authors of the RAO could not have foreseen that a 40b subdivision would circumvent the Zoning Bylaws and I wonder if this subdivision as designed is a prohibited activity per the RAO.

The Town of Norfolk will grant a comprehensive permit, otherwise the state will likely override a denial. This is a very serious situation because now the possibility exists that the activities associated with the construction of Abbyville, which may “cause physical, chemical, or structural damage to the protective barrier layer in the designated AUL area” will be unstoppable. The presence of bedrock and outcroppings means there will be significant site work, likely blasting and drilling for years, which can lead to vibrations that may damage the geotextile cover in the AUL. This component of the Proposed Project deserves further investigation by MEPA to gain clarity as to the impacts to the AUL and if such activities were ever meant to be allowed on the Property as a whole.

**IMPACTS:** The activities of clearcutting and excavation may be considered activities that are inconsistent with THE OBJECTIVES of the NOTICE OF ACTIVITY AND USE LIMITATION and therefore may be required to be banned from the site. It was NOT the INTENT OF THE RAO to allow this type of damage to the barrier or to allow for extreme deviations from the collective body of local bylaws.

**MEPA, please request further evaluations to protect the environment and examine the RAO.**

Remember, the AUL sits in the middle of wetlands and the water table is possibly high enough to commingle with the buried contaminants. Buried contaminants are about 3 feet thick (pg 8 of RAO). They lie below 3 feet of sand. (pg 10 of RAO). The bottom of contaminants is 6’ below the surface, an elevation that is unknown (Approx 170’ from GIS).The AUL lies partially in the 100 year ZONE A FEMA Flood Plain with Base Flood Elevation of 162’ per FEMA Flood Map Service Center.

*“Activities and uses which are inconsistent with the objectives of this Notice of Activity and Use Limitation, and which, if implemented at the Property, may result in a significant risk of harm to health, safety, public welfare, or the environment or in a substantial hazard, are as follows:*

*(i)Excavation of soils at a depth of greater than three feet below ground surface, except as described in IA (iv) above. Such non-emergency invasive subsurface activities, which may be part of utility repair or maintenance, or construction, cannot be performed without the involvement of an LSP, and must be conducted in accordance with the Massachusetts Contingency Plan and applicable DEP policies appropriate to the protection of human health and the environment.*

*(ii) Any activities and uses which may cause physical, chemical, or structural damage to the protective barrier layer in the designated AUL area, except those conducted in accordance with Obligation (i) of this Notice of AUL.*

(iii) Any activities otherwise prohibited by Zoning, Bylaws, other regulatory programs, or deed restriction, unless permitted by the appropriate governmental body. (RAO pg 223, 2A)

#### **5. Riverfront Area at the Tail Race Breached by Project Location**

**DESCRIPTION:** The 200' locus Riverfront Area has been selected for the wastewater treatment plant and Stormwater Infiltration Basin 1. Table 4-1, Standard 5 of the ENF states that "*The Infiltration Basins are located outside to 100-foot Buffer Zones to wetland resource areas and 200-foot Riverfront Area to the Mill River.*" However, THERE is a Riverfront Area to the Tail Race which has been breached by elements of the project. The wastewater treatment plant and the Infiltration Basin 1 both partially lie in the 200' Tail Race Riverfront zone.

COMPONENTS SHOULD BE OUT OF THE 200' Riverfront of the Tail Race which is also in the AUL. The RAO again should be followed. The home construction area is also within 100' of the AUL (Area Use Limitation), which is where the toxic wastes were buried. (See Lot 9). Please look at Figure 6 of the ENF "Environmental Resources Map" to compare against the Figure 11 of ENF Landscape Plan and Figure 7 Proposed Conditions and MEPA can verify that the Riverfront Area has been breached.

Construction of the Stormwater Infiltration Basin - 1 and the Wastewater Treatment Facility partially lie in the Riverbank Area as does the corner of house LOT 9.

Some construction equipment has already altered the land in this protected zone as seen on the site walk. Where are the proper notices related for this work? Is that a violation to work in these areas? Abbyville Applicants should move all structures out of the Riverbank Area/AUL buffer zones.

**IMPACTS:** Work inside the 200-foot Riverfront Area buffer zone will impact the resource areas and the AUL, with significant site work proposed to happen less than 100' away. The project proposes to permanently create a basin which will hold water that seeps into the ground in the immediate vicinity of the AUL. How will this groundwater flow to the AUL and possible touch the buried contaminants? Knowing the depth of the buried contaminants to be 6' from the surface of the AUL (see #4 above), can MEPA be sure that the changes to groundwater levels, especially during 100-year flood, will not flow through the subsurface contaminants?

Figure 7 of ENF show the 200' Locus of the Riverfront Area

See the FEMA flood zone map for this property.

<https://msc.fema.gov/portal/search?AddressQuery=17%20Lawrence%20Street%2C%20Norfolk%2C%20MA#searchresultsanchor> (This link from FEMA shows the Base Flood Elevation is 152' in the AUL)

Further investigation as to the groundwater levels after excavation and buildout at the Tail Race and other parts of the AUL are critical to guarantee stability of the AUL. These calculations have not been done. **The question remains, what is the existing groundwater elevation beneath the contaminants under the geotextile barrier? Will work on Abbyville alter the levels of groundwater at the Tail Race Riverfront Area and the AUL?**

**6. Is the Geotextile Barrier in the AUL sufficient to protect groundwater from contamination if Abbyville proceeds?**

**DESCRIPTION:** The documentation of the barrier separating the buried contaminants from the three feet of sand covering is found in RAO:

<http://public.dep.state.ma.us/fileviewer/Scanned.aspx?id=300240>.

The barrier, however, needs clarification as to what is its function.

This is what we know:

Geotextile barrier is *“a 70-mil non-woven geotextile fabric was placed over the entire limits of the material. The fabric delineates the top of the consolidated material and serves as a separation layer between the material and the clean sand cover. Approximately 8,000 square yards of #4551 geotextile fabric, manufactured by Amoco Fabrics and Fibers Co. and supplied by A.H. Harris & Sons, Inc., was installed over the consolidation area.”* (pg 9-10 of above linked RAO

Amoco Propex® 4551 was a nonwoven, needlepunched geotextile made of 100% polypropylene. Amoco Propex® 4551 is NO LONGER MANUFACTURED as of 2005

**IMPACT:** The geotextile barrier was meant to control the spread of contaminants on the Buckley and Mann property. I do not understand the logic behind burying the contaminants in the low lying area surrounded by wetlands. The AUL encompasses the Tail Race and lagoons. These waterways flow into the Charles River Watershed. It is imperative that the cleanliness of the rivers are not impacted by this development. The changes to the stormwater flows due to the construction of 204 units, and the leaching of the wastewater treatment plant waters will alter the groundwater levels. What are groundwater levels below the AUL? What contaminants are leaching out of the AUL into the Tail Race?

THERE IS NO DOCUMENTATION AS TO THE IMPACT OF THE EARTH REMOVAL ON GROUNDWATER ELEVATIONS BELOW THE AUL FILED IN THE ENF. Since there are “impaired waters” at this site requiring a TMDL, it is imperative that the Applicant not add to the environmental issues.

Further investigations are needed. Are chemicals leaching out into the Tail Race? MEPA needs to make sure to do a water quality test to determine what chemicals, if any, are exiting the AUL into the Tail Race. As seen at the site walk (2/2/2018), the waters of the Tail Race are discolored and orange. See Images of the Tail Race with the AUL sub Area A located behind it. The orange contaminants seem to be coming from the ground under the landfill. Other areas of the Tail Race did not have this discoloration and it is probably good to investigate this now, before residents move onto this property with their children. Recall that chromium, zinc, lead and other chemicals were found on the site.



TAIL RACE WATERS AS SEEN ON MEPA SITE VISIT 2/2/2018. Is this discoloration from chemicals leaching out of the AUL, located right behind the water? TESTING is WARRANTED before dumping more wastewater on site.



## 7. Exposure to Carcinogen Silica from Excavation

**DESCRIPTION:** *“Bedrock was encountered at 10 feet below grade adjacent to the Tail Race in MW-3A, installed in May 1986. The bedrock was reported to be Rhyolite-Quartz Alkali Feldspar mineral, some plagioclase and mafic minerals, with tightly-closed, 1/8-inch, silt-filled fractures.”* per Section 5 of RAO  
The massive excavation will create dust each and every day trucks roll in and out the project. The content of the earth to be mined is documented to be sand and rhyolite (per RAO). Both sand and rhyolite contain silica. Silica dust is a known carcinogen and with the extended mining operation, neighbors are concerned with the potential long term exposure and the risks for silicosis, an incurable lung disease from inhaling silica dust. The finer the particles, the further they will travel in the wind, and the deeper they will lodge in the lung. This is why mining operations should not be permitted in a residential zone, and if it were not tied to the 40b site prep, this mining operation would not be allowed. The removal and processing of this carcinogen on site is a health risk to all those who will come in contact with the dust. Dust mitigation measures will not control 100% of the dust. I pray no one gets sick from this development. The liability will be great to all agencies.

### **IMPACT:** Air Quality Concerns:

Dangers from exposure to Silica Dust

Potential breathing problems & Potential Lung Disease

Pets and Children Play outdoors in the yards where the dust has settled over the 8 year timeline risking exposure to harmful particulates

The mining operation is the source of major environmental impacts. In order to protect residents, wildlife and the environment, halting the mining operations before they start will be the best protection possible instead of trying to mitigate the issues of dust and long term wildlife harm. Silica dust is a carcinogen and there is no cure for silicosis which is caused by airborne silica.

Ambient Air Quality State of MA

<http://www.mass.gov/eea/docs/dep/service/regulations/310cmr06.pdf>

There are serious environmental impacts to the wildlife and waterways nearby as well. The dust control measures will waste large amounts of water. And what is the source of this water to control the dust and where will this runoff go while the stormwater basins are being constructed? A redesign can eliminate the offsite earth removal and all of the mining activities.

Issues related to Mining and Environment:

<http://www.civilsocietyinstitute.org/media/pdfs/092514%20CSI%20BAR%20frac%20sand%20mining%20report%20FINAL2%20-%20EMBARGOED.pdf>

This is the OSHA Fact sheet - but protections for the general public are also needed, not just protections for the workers from SILICA exposure.

[https://www.osha.gov/OshDoc/data\\_General\\_Facts/crystalline-factsheet.pdf](https://www.osha.gov/OshDoc/data_General_Facts/crystalline-factsheet.pdf)

Wisconsin example of recognizing risks from Silica:

<https://www.dhs.wisconsin.gov/publications/p0/p00369.pdf>

MEPA, please review the risks of SILICA DUST on the surrounding neighborhoods, to protect the people and pets that will be exposed to the dust generated for 8 years in this residential zone. It is extremely dangerous to operate this gravel pit knowing that the content of the dust will contain silica. Now MEPA, and the Applicant are aware the dangers of SILICA at ABBYVILLE. If all government agencies fail to stop this excavation and people develop silicosis, there will be grounds for lawsuits, Since there is no cure for this disease, the costs will be high for ignoring these warnings. Why risk it?

This project needs Particulate Air Monitoring equipment to monitor not only the level of particulates but the CONTENT of what is in the dust over the life of the project. Readings at the boundaries of the project, in particular at those locations where the winds blow and where the nearest neighbors reside, are definitely needed. Daily logs should be reviewed by a neighborhood safety committee and made part of the public record in case of disease clusters.

It is not right to put the need for affordable housing above the health and safety of all those in the area.



## 8. BLASTING

### Blasting Needs to be Ruled Out or Specified; NO MORE VAGUE ANSWERS

**DESCRIPTION:** There are many visible signs of stone outcroppings on the property. The surrounding area was once a gravel pit. With engineering soil samples from the areas where stone outcropping exist, and strategically placed borings, it is reasonable to expect a reputable engineering firm can produce a report of the need for blasting, or rule it out completely.

ALL OTHER NOISE: Section 4.1 of the CMP in the ENF discusses Construction Period Noise but mitigation does not include noise monitors to be sure the levels meet state noise guidelines.

**IMPACTS:** People live within 100' of the excavation. Many residents will be impacted by all the noise generated at the construction site. This is not going to be easy for residents as the noise will impact young children trying to sleep as well as work-at-home residents who will be trying to concentrate and conduct teleconferences. The noise pollution will be ongoing for years and quickly become unbearable. The noise will also cause stress on all the wildlife in the area.

Everyone and everything will also be impacted by the vibrations and noise of blasting. Blasting can cause emotional stress on residents and their pets. There are septic tanks, home foundations, and private wells which could be damaged by the underground vibrations from blasting.

Each time the question of blasting has been brought forward at ZBA Public Hearings, the vague answer has been that blasting is not foreseen, but if needed, permits will be filed. This is NOT an acceptable answer on a project of this size and for the duration of 8 years. A DEFINITIVE BLASTING PLAN should be developed BEFORE ANY PERMITS are issued.

**IF BLASTING IS DONE, there are chemicals to avoid. SPECIFY NO PERCHLORATES are to be used in the blasting products.** This reflects the regulations for a ZONE II under "Potential Environmental Contamination from the Use of Perchlorate-Containing Explosive Products" with the reference online:

<http://www.mass.gov/eea/agencies/massdep/cleanup/regulations/contamination-perchlorate-containing-explosive-products.html>

This is just one reason to have enough knowledge to know if blasting is going to be needed or not on this site.

## 9. DEFORESTATION

**DESCRIPTION:** Clearcutting of 60 acres. There will be some development within the 200' Rivers Act Buffer as previously noted.

Although A Forest Cutting Plan is not required because clearing land for building is exempt (per <https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXIX/Chapter132/Section44>), the deforestation for profit related to this 40b site prep will negatively impact the environment. As with the gravel mining operation, the logging operation becomes unregulated when considered "site prep" for 40b. The Best Management Practices for Forestry offer reasonable guidelines. Can we implement these on the Abbyville site? This is the link to Best Management Practices for Forestry with Guidelines:

<http://www.mass.gov/eea/docs/dcr/stewardship/forestry/ma-forestry-bmp-manual-rd.pdf>

### IMPACTS:

Loss of wildlife habitats

Erosion

Decreased air quality

Loss of CO2 Terrestrial Sequestration

Contributes to Global Warming

## 10. Slash Law Requirements would add element of environmental safety and fire prevention

**DESCRIPTION:** Slash = tops, branches, damaged trees...or debris left from logging or land clearing operations” must be disposed of in specific manner according to Mass General Laws if this was a purely forest harvest and did not lead to subdivision build. It would be prudent to follow the safety guidelines of the Slash Law for two reasons. 1) the extended duration of the harvest phased over 8 years and 2) the proximity to other forest lands abutting this property.  
See page A-16 of ENF where stump grindings will be used onsite and stored.

**IMPACT:** The Abbyville project abuts the Franklin Open Space and wooded parcels to the west. Figure 8: Proposed Project Phasing from Abbyville ENF pg 97, shows 3 locations for material storage, including stump grindings. Since the debris piles greater than 2’ high, within 40’ of any woodland of another pose a fire risk, these piles are unsafe. This is environmentally a fire hazard and whatever needs to be done to relocate tree debris away from property lines should be done.

<https://malegislature.gov/Laws/GeneralLaws/PartI/TitleVII/Chapter48/Section16>

#### **11.Hydrogeological Impact of the earth removal and new wastewater flows**

**DESCRIPTION:** Unknown hydrological impact due to altered topography, removal of a million cubic yards of earth, introduction of impervious surfaces, all while directing runoff towards Tail Race may impact negatively on the wetlands, the AUL and the Bush Pond ecosystem. There is an independent hydrogeological impact study pending which is due to be presented at the next ZBA Public Hearing on 2/13. This meeting was postponed. The results of this study by Horsely Witten should be made available to you so that your office can review the impacts of the earth removal.

**IMPACT:**

Possible change in the water table

Possible negative impact on private well water quality and quantity for many in the area

Impact on wetland resources in the ENF does not take into account altered hydrology resulting from the earth removal and deforestation.

Possible loss of existing vernal pools due to redirected runoff

#### **12.Construction entrance located within feet of Bush Pond**

**DESCRIPTION:** Proposed gravel Construction vehicle driveway with a sediment entry mat is proposed at the western edge of Bush Pond

**IMPACT:** Potential vehicle washing runoff at the beginning of the project will have to be collected somehow and prevented from ending up in Bush Pond. How will this be done before systems are constructed to manage this truck runoff? Need to protect Bush Pond from Non-point source pollution and vehicle washing wastewater which will exist at day 1.

**13.Piping Underneath Foundations Have Not Been Checked for Contaminants. Some piping may be feeding the Riverfront Area of the Tail Race**

**DESCRIPTION:** The plan calls for the removal of existing foundations. Piping still exists under these foundations. Some piping under foundations were used to move toxic waste to lagoons when the mills were running. The Tail Race piping connecting from Bush Pond at a small wooded dam is likely still feeding the Tail Race and should be investigated prior to any demolition. This pipe may be integral to the existence of the RiverFront Area. Therefore, the connection of the Tail Race via foundation piping to the Pond should not be severed to preserve the Tail Race and the two potential vernal pools at the nearby lagoons.

See Page A-16 of ENF where it states, “foundations will be crushed on-site to remove impervious area from the site” The removal of foundations may present risk to environment as piping under foundations may have been used to move toxic materials.

**IMPACT:** Uncontrolled demolition of foundations presents a RISK TO THE ENVIRONMENT from unknown presence of contaminants that were never completely flushed from the pipes. There needs to be a thorough review of all foundations and through the use of sonar, or other methods, determine where underground piping may exist so they can be checked for toxic levels before demolition.

See Figure 6: Environmental Resources Map from Abbyville ENF. Shows potential Vernal Pools at the lagoons and the Riverfront Area at the Tail Race. These wetlands need to be preserved. Those underground pipes connecting Bush Pond to the Tail Race should not be destroyed.

#### 14. NOISE POLLUTION

**DESCRIPTION:** Noise pollution from heavy equipment for earth removal, deforestation, excavation machinery, construction activity, infrastructure creation, and all associated activities will burden this residential neighborhood for extended period of at least 8 years if the schedule does not slip; longer with any kind of delay. Calling this activity a nuisance for this residential zone would be an understatement. In fact, this area is designated and R3 Zone, which is supposed to be the most rural part of town with the least density of homes with the Zoning Requirements listed on Page A-8 of the ENF. Residents bought in this location specifically knowing that this was the zoning. Construction and excavation noise to be made continuously for 8 years does not belong here, next to wetlands, woodlands and wildlife.

**IMPACTS:** People should have the right to live peacefully in their homes. Those who work from home need to communicate with coworkers via conference calls. How can they maintain their livelihoods with the noise that will be generated at Abbyville and all along the truck routes? How will neighborhood children have quiet time for naps? How will pets and wildlife react to the noise levels throughout the day? It will be very stressful and take an emotional toll. Construction will even occur on Saturdays. How can people even have a birthday party or enjoy a Saturday in their back yards? All of this will be worse if blasting is used to clear outcroppings or dig through ledge. The noise pollution cannot be mitigated by phasing the construction or mufflers on equipment as described in the Construction Management Plan in the ENF. It's going to be noisy for a very long time, so much so that people's health may suffer. MEPA should require further analysis of the truck noise that will be heard along the truck routes as well as the other construction machinery to determine the noise levels residents will be subjected to.

Put limits on the noise levels that will be heard at the closest properties not to exceed 10dBA above ambient noise as per state law

<https://www.mass.gov/files/documents/2018/01/31/noise-interpretation.pdf>

Failure to comply with noise ordinance levels will result in a stop work order and/or fines.

<http://www.airandnoise.com/MA310CMR710.html>

#### 15. DEP Notice of Non-Compliance

**DESCRIPTION:** Buckley and Mann, Inc / Mrs. Mann were notified of two violations by MassDEP

1. Violations related to Specifics of AUL-should prohibit homes
2. Violation for failure to perform Stage 1 Environmental Screening

See letter via this link:

<http://eeaonline.eea.state.ma.us/EEA/FileViewer/Default.aspx?formdataid=0&documentid=423796>

**IMPACT:** The impact of the contaminants (chromium, lead, zinc, Total Petroleum Hydrocarbons (TPH), on wetland and terrestrial habitats is needed. Samples had been collected from the carbonizer lagoon and trenches in 2001 but current soil samples from these locations need to be done and evaluated within 180 days of Notice. Failure to include *Stage 1 Environmental Screening* is a violation. Before any permits are issued, the results of the new soil samples (NOT THE OLD DATA RESUBMITTED AS SUGGESTED BY THE APPLICANT/APPLICANT'S ENGINEERS) needs to be reviewed and documented.

**16. Wildlife**

**DESCRIPTION:** Negative impacts on a very active wildlife corridor, and loss of habitat because of the Abbyville Projects

**IMPACT:** Mass Wildlife has not evaluated the potential vernal pools in the AUL lagoons, nor the impact on the current certified vernal pools on the property. The National Heritage Map recently (AUGUST 2017) omitted portions of this parcel from protection and residents do not understand how data to be submitted by the owner of said property, who wishes it to be sold to the Applicant, can be trusted to be accurate. The timing is too suspicious, coinciding with this proposal. Spring is a time that these vernal pools should be reevaluated by independent wetland scientists to make sure that there are no wildlife species or plants that need protection on this property.

**17. Carbonizer Lagoon Trench and Carbonizer Lagoon omitted from drawings**

**DESCRIPTION:** Figure 7: Proposed Conditions for Abbyville Preserve and Commons, ENF, 1/16/2018 omit the location of the Carbonizer Lagoon and Trench which had high lead and Total Petroleum Hydrocarbons (TPH). New Data is pending to clear the Notice of Non-Compliance.

**IMPACT:** Potential contaminants may exist that are not included in AUL. If the Carbonizer Lagoon and Trench are contaminated, the waters could harm wildlife and surrounding wetland waters, not only of the adjacent Mill River, but the groundwater and the downstream waters of the Charles River Watershed as well.

(Trench= 3' wide x 300' L

Carbonizer Lagoon= 1 acre

It is very important that these areas are thoroughly tested.

**18. TRUCK TRAFFIC DANGERS**

**DESCRIPTION:** "Project phasing will reduce the intensity of impacts associated with truck traffic, noise generation, and fugitive dust emissions." ENF statements like these create a false narrative. The impacts will be directly felt by all the neighbors and those along the truck routes each weekday for 8 years. The intensity of impacts will not be reduced by phasing because the fumes, dust and noise levels for a truck do not change when you phase the project. The ENF statement has no scientific basis.

**IMPACT:** The 18-wheeler 34 ton gravel hauling trucks pose a risk to all who drive in the area because of their size and weight and frequency. Any collision with a car, cyclist or pedestrian would be deadly. Project phasing is not a way to mitigate these dangers. The need for affordable housing cannot put the health and safety of residents at risk and these trucks most certainly are going to add an unnecessary element of danger to our rural roads.

### **19. Greenhouse Gas From Trucking Not Calculated**

**DESCRIPTION:** Residents are very concerned with the enormous amount of greenhouse gases and diesel fumes that will be generated by the trucks. Area residents range in age from the very young to senior citizens, some with health issues related to breathing, cancer, heart disease and autoimmune diseases. 60 trucks a day mean 120 trucks (60 COMING and 60 GOING) max.

Estimates of greenhouse gas emissions from gravel trucks alone (not counting the logging trucks, cement trucks or host of other construction vehicles) are significant and will impact the environment. THESE VALUES ARE NOT ACCOUNTED FOR IN THE CO2 Worksheets in Appendix B of ENF.

The gravel removal is not necessary, and this harmful release of CO2 only contributes to the ever growing problem of global warming. It is ironic that Norfolk voted to become a "Stretch Community" within the past few months where green building standards make the town eligible for state grants. Meanwhile, the biggest producer of CO2 in our town will be these trucks for the next 8 years. The ENF erroneously states that Norfolk is not a "stretch community".

**IMPACT:** CO2 Due to gravel trucks alone will be 300% higher than the normal traffic at full build:

**Minimum estimates CO2 emissions every day for next 8 years: 7800kg/day from Gravel trucks alone.**

(Full build is 2595kg/day per Table B-2 Abbyville ENF)

**The dangers of industrialized nations of the world continuing to pump CO2 into the atmosphere are well documented. These trucks are totally unnecessary, and we must say no to these trucks for the simple reason that we do not want to harm the oceans, which ultimately are absorbing the rising temperatures. Have you seen Chasing Coral? If not, please do so and then decide if these trucks are truly necessary. A talented developer could step in and design a project with no net gravel removal, homes with solar and wind driven turbines utilizing the hills of the site to create a beautiful and desirable smaller subdivision.**

## **20 Cancer Risk and Other Health Issues - Increased**

**DESCRIPTION:** It is reported by the MA Department of Health that Norfolk -- which is highly dependent on well water for human consumption -- has a higher rate of Cancer incidence than expected.

**IMPACT:** In the DEP Notice of Audit Findings and Noncomplicane

(see:

<http://eeaonline.eea.state.ma.us/EEA/FileViewer/Default.aspx?formdataid=0&documentid=423796>)

the Violation #2 cites the need for further evaluation is needed for environmental screening. In a section of that violation it is noted that "sediment samples were collected from the carbonizer lagoon and trench . Some of these results included chemicals which have been linked to increased risk for Cancer.

The site has not been tested and evaluated by a town or state appointed peer. Site work, demolition of mill foundations, blasting and other disruptions could increase the amount of toxins which could put our private and the new town wells at risk. Further testing needed.

**From:** [Bedard, Margaret](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** The Preserve at Abbyville and Abbyville Commons, EEA# 15796  
**Date:** Tuesday, February 13, 2018 4:58:45 PM  
**Attachments:** [Abbyville MEPA.docx](#)

---

Dear Erin,

Please see my attached concerns regarding the Abbyville project. I wish I had more time to address my concerns. They are many!!!

**Peg Bedard**  
Office Administrator

TRIA  
21 Drydock Avenue, Suite 310W  
Boston, MA 02210  
o: [617-530-1620](tel:617-530-1620)  
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[www.clearswift.com](http://www.clearswift.com)

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Dear Ms. Flaherty,

In regards to your environmental investigation of the property at 17 Lawrence Street, Norfolk, MA, I would like to express my earnest concerns. Your input is essential to address the serious health risks to the current and future residents of the Town of Norfolk.

Please understand, I do not have a background in science, so please know that Sandra Myatt has spoken on my behalf on this property. Her vast knowledge of this development and its detrimental effects should help you in understanding how catastrophic this development will be to the neighborhoods surrounding "Abbyville".

Clearly you would not be investigating this project if a threshold had not been exceeded, it appears there are at least 8 of the 12 that will be broken if you do not take action.

1. Creates 10 or more acres of impervious area
  - This is an enormous project that first removes just under one million cubic yard of earth only to replace it with over 10 acres of asphalt. Health effects from exposure to asphalt fumes include headache, skin rash, sensitization, fatigue, reduced appetite, throat and eye irritation, cough, and skin cancer.
2. Alters more than 25 acres
  - This will be altering over double the amount of your current threshold.
3. Installs more than 1/2 mile of new sewer main not in existing roadway
  - Not only will the grade of this development be 60ft below the current grade but they will excavate below that to add the sewer.
4. Installs more than 1/2 mile of new sewer main not in existing roadway
5. New sewer mains over 1/2 mile
6. New discharge over 10,000 gpd of sewage within Zone II aquifer
7. Generates over 1000 new average daily trips (adt)
8. Construction of 150 or more new parking spaces

Note: the Project is subject to MEPA's Greenhouse Gas Policy requires a groundwater discharge permit and an Order of Conditions from Norfolk Conservation Commission.

In regards to the Greenhouse gases, besides having a detrimental effect on the air quality. Diesel trucks will be operating every day, except Sunday's for a minimum of 7 years. Diesel fuel creates Short-term exposure can irritate your eyes, nose, throat and lungs; it can cause coughs, bronchitis, headaches, lightheadedness and nausea. Long-term effects are death from respiratory and cardiovascular causes, including strokes, increased mortality in infants and young children, increased numbers of heart attacks, especially among the elderly and in people with heart conditions, inflammation of lung tissue in young, healthy adults increased hospitalization for cardiovascular disease, including strokes and congestive heart failure, increased emergency room visits for patients suffering from acute respiratory ailments, increased hospitalization for asthma among children, increased severity of asthma attacks in children, oxidative stress-mediated inflammation in your brain cortex

The amount of soil being removed from this property will detrimentally effect the new development and the surrounding areas. The land that exists acts as a sponge. Retaining water for future use and holding water to prevent flooding. I have great water flow from my well and am very concerned that will not be the case once this earth is removed. I cannot imagine anyone doesn't believe nature didn't know better than developers in placing that land as it is. Predictions can be made regarding removal of the earth, but it will not in any way represent the true damage this earth removal will create in the new development and its surrounding areas.

In addition, during the earth removal there will be a stir up of all the chemicals that are currently buried on this site. The chemical are cromium, lead, zinc, PAH, TPH. It appears there is tricholoroethene, arsenic, acenaphthene, naphthalene, fluorene, 1-methylnap, 2-methylnap, biphenyl, phenanthrene, fluaranthene, pyrene, benzo anthracene, chrysene and benzo fluoranthene. All listed on the various documents I have been pouring over.

These are the waterbodies that were assessed to be "IMPAIRED".

The Rivers Act states 200' buffer zones required. Abbyville drawings show only 100' buffers at the Tail Race. Please allow only for appropriate buffers.

The proposed excavation will take place next to 12 acre TOXIC LANDFILL. Is that safe for the children who will live there? The AUL allows for passive recreation. Kids playing on fields for a few hours in a week. They are not designed for people to live next to them 24 hours/day, 7 days/week, 365 days/year. Exposure to the chemicals in the AUL will create illnesses for all.

The site has bedrock that is rhyolite. Rhyolite has high silica content. Exposure to even small particles of silica can cause silicosis, an incurable lung disease.

According to Environmental Partners Group letter dated July 28, 2017 the impact of Abbyville Preserve is as follows:

"Additionally, the Town's existing available water supply sources cannot support its existing water customers if either of its two sources are rendered inoperable or placed out of service. If either the Gold Street Wells or the Spruce Road Wells are out of service, the Town would have to rely on emergency interconnections with neighboring communities to meet seasonal water demands. EPG recommends that the Town continue to pursue development of a new water supply source to meet projected future demands and minimize Norfolk's dependence on existing interconnections with the communities of Wrentham and Franklin.

Additional testing and study is needed at the Lawrence Street well site to determine its viability as a public water supply for the Town and to understand the potential effects the development could have on water quality. It is recommended that an aquifer test be performed using a minimum 8-inch diameter test well to stress the aquifer and evaluate potential well yield. If the aquifer test has favorable results, a groundwater flow study should be performed to determine the development's effects on nitrate levels at the well. In the interim, the limits of the 400-ft radius for TW-1 should be confirmed and the Zone 1 area reserved from development."

Additionally Environmental Partners Group letter dated July 28, 2017 stated the impact of Abbyville Commons will be as follows:

“The Abbyville Commons residential development will increase the water system demand for the Town of Norfolk by approximately 7,392 gpd representing approximately 12% of the new services that the system can support through 2019 under the Town’s existing Water Management Act permit, as described in EPG’s 2017 Water Supply Assessment report. The combined reliable daily capacity of the Gold Street and Spruce Road facilities (0.96 MGD) is approximately equal to the Town’s current summer maximum day demands (2015 Maximum Day = 0.93 MGD). Projected maximum day demands for the proposed development of 0.016 MGD will increase the system’s reliance on storage to meet high demand periods and increase the likelihood that an interconnection with a neighboring Town will need to be activated. The pace of this development’s construction should be closely monitored in conjunction with other development in Town to ensure that WMA permit limits are not exceeded. Approximately 50 new water services per year can be supported by the WMA permit through 2029.

Additionally, the Town’s existing available water supply sources cannot support its existing water customers if either of its two sources are rendered inoperable or placed out of service. If either the Gold Street Wells or the Spruce Road Wells are out of service, the Town would have to rely on emergency interconnections with neighboring communities to meet seasonal water demands. EPG recommends that the Town continue to pursue development of a new water supply source to meet projected future demands and minimize Norfolk’s dependence on existing interconnections with the communities of Wrentham and Franklin.

Additional testing and study is needed at the Lawrence Street well site to determine its viability as a public water supply for the Town and to understand the potential effects the development could have on water quality. It is recommended that an aquifer test be performed using a minimum 8-inch diameter test well to stress the aquifer and evaluate potential well yield. If the aquifer test has favorable results, a groundwater flow study should be performed to determine the development’s effects on nitrate levels at the well. In the interim, the limits of the 400-ft radius for TW-1 should be confirmed and the Zone 1 area reserved from development.”

Please understand the comment regarding shared water uses by surrounding towns holds no value, since surrounding towns have as little water resources as Norfolk.

“Temporary Impacts of construction”:

- New land disturbance of approximately 43.7 acres from clearing and grading activities;
- New impervious area of approximately 15.6 acres;
- Noise and fugitive dust emissions from equipment used for vegetation clearing, grading, installation of site infrastructure and construction activities;
- Increased traffic associated with workers, supplies/materials deliveries, and excavate removal;
- Increased potential for erosion and sedimentation impacts within uplands and adjacent to wetlands
- due to construction activities on the site; and
- Temporary disruption of traffic along Lawrence Street during roadway improvements

**These temporary disruptions will be an absolute minimum of 2 years.**

“Long-term Impacts”

- Stormwater increase associated with new impervious area;

- Traffic increase of approximately 1,970 adt;
- Greenhouse Gas Emissions associated with traffic generation and energy use;
- Groundwater discharge of treated effluent within a Zone II;
- GHG emissions modeling results indicate a CO2 emissions increase of 1,546.6 tons/year with the implementation of appropriate mitigation measures.

All of these long-term impacts that will never go away.

After the pre-construction for the infrastructure needed to develop Abbyville, there is a prediction of 7 years construction. Likely it will be longer. A child will live their entire life with construction in their back yard (9+ years). This will be 10-15% of most adults lives.

Our health, safety and environment are all being detrimentally effected. The need for affordable housing cannot outweigh the safety or welfare of the surrounding community.

Please consider our health and safety in your findings.

**From:** [Michele Burch](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** Abbyville EEA# 15796  
**Date:** Tuesday, February 13, 2018 1:57:30 PM

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Dear Ms. Flaherty

I am writing to express my concern about the Abbyville development project proposed by Diplacido Development Corp for construction at the old Buckley and Mann site in Norfolk, MA. The size and scope of the development seems to be out of proportion to what the land, community, infrastructure and neighborhoods could support. The development plan calls for an excessive amount of earth removal which will generate years of truck noise and air pollution. In addition to the noise and air pollution just from the trucking there is a larger concern for the contaminants that are currently buried to become exposed airborne and the impact they would have on the environment and the surrounding wells. Many other potential issue of concern would be safety impact from additional traffic flow and trucks, loss of wildlife habitat within the acres, well water quality and levels, and potential structural damage to tanks, wells and foundation of surrounding areas if blasting is allowed.

I appreciate the opportunity to voice some of the many concerns and request that you strongly consider denying the waivers that would grant the Abbyville developers the ability to pursue this project.

Thank you for your consideration in this matter.

Respectfully,

Michele Burch  
Lawrence Street resident



Commonwealth of Massachusetts  
Executive Office of Energy & Environmental Affairs

## Department of Environmental Protection

Central Regional Office • 8 New Bond Street, Worcester MA 01606 • 508-792-7650

Charles D. Baker  
Governor

Karyn E. Polito  
Lieutenant Governor

Matthew A. Beaton  
Secretary

Martin Suuberg  
Commissioner

February 13, 2018

Secretary Matthew A. Beaton  
Executive Office of Environmental Affairs  
100 Cambridge Street, 9<sup>th</sup> Floor  
Boston, MA 02114

Attention: MEPA Unit – Erin Flaherty

Re: Environmental Notification Form (ENF)  
The Preserve at Abbyville and Abbyville Commons  
Norfolk  
EEA #15796

Dear Secretary Beaton,

The Massachusetts Department of Environmental Protection's ("MassDEP") Central Regional Office has reviewed the ENF for the Preserve at Abbyville and Abbyville Commons Project (the "Project") in Norfolk. The Project is proposed by Abbyville Residential LLC and Abbyville Development LLC (collectively, the "Proponent"). The Project consists of the construction of 148 single-family homes and a 56-unit rental development on approximately 203 acres of land in Norfolk. The Project includes the construction of associated access roads and parking, a wastewater treatment facility and stormwater management system. An approximately 140-acre open space area is proposed. The Project will be designed in accordance with the Massachusetts Affordable Housing Law (Chapter 40B).

The construction of the Project is expected to result in the alteration of 43.74 acres of land; create 15.6 acres of impervious surfaces; generate 1,970 new average daily trips (adt); create 352 new parking spaces; impact 2,400 square feet (sf) of Riverfront area and 10 linear feet of Bank; increase water use by 62,920 gallons per day (gpd) and generate approximately 64,000 gpd of waste water.

The Project requires MEPA review and the submission of a Mandatory EIR and is subject to MEPA's Greenhouse Gas Policy.

The Project is under MEPA review because it meets or exceeds the following review threshold:

- 301 CMR 11.03(1)(a)(2) - Creation of ten or more acres of impervious area.
- 301 CMR 11.03(1)(b)(1) - Direct alteration of 25 or more acres of land.
- 301 CMR 11.03(5)(b)(3)(c) - ½ or more miles of new sewer main not within the right of way of existing roadways.
- 301 CMR 11.03(5)(b)(4)(c)(i) - New discharge to groundwater of 10,000 or more gpd of sewage within an area, zone or district established, delineated or identified as necessary or appropriate to protect a public drinking water supply.
- 301 CMR 11.03(6)(b)(14) - Generation of 1,000 or more new adt on roadways providing access

The Project requires the following State Agency Permits:

- MassDEP – Groundwater Discharge Permit

MassDEP offers the following comments on the Project:

### **Solid Waste**

The Proponent will be developing property that is adjacent to a listed disposal site with an Activity and Use Limitation (AUL) area, which is regulated under M.G.L.c.21E, and the Massachusetts Contingency Plan, 310 CMR 40.0000. Work on the Project may encounter contaminated media associated with the former mill buildings. Construction work near the disposal site should have direct oversight of a Licensed Site Professional (LSP) to monitor for the presence of contaminated soil. If contaminated soil is encountered the Proponent must manage and dispose of the soil per requirements of 310 CMR 40.0000. Contamination found outside the disposal site boundaries as defined in the September 4, 2001, Class A-3 Response Action Outcome Statement may require notification to MassDEP.

Bureau of Waste Site Clean Up (BWSC) conducted a comprehensive audit of the Class A-3 Response Action Outcome (RAO) Statement, submitted to MassDEP in August 2001. An AUL was applied to two portions of the disposal site. The disposal site encompasses 12 acres out of the approximate 203 acre property. The Project is entirely outside of the RAO boundary. On November 17 2017, BWSC issued a Notice of Noncompliance to Buckley & Mann, Inc. for violations involving the AUL documentation and failure to conduct an adequate ecological risk characterization. Buckley & Mann was given a deadline of May 17, 2018 to resolve the cited violations.

### **Wetlands**

The Project will alter 65 sf of Bordering Vegetated Wetlands and 10 linear feet of Bank at the location of a proposed floating dock, and 2,400 sf of Riverfront Area associated with vegetation maintenance along proposed walking paths. The ENF does not quantify or discuss impacts to Land Under Waterbody, however, impacts may occur if aquatic vegetation is shaded or removed at the dock location, or if supports are installed to anchor the dock. The Proponent estimates that 42,000 sf of Buffer Zone will be altered by the Project. Within the northeast portion of the Project, the 200-foot limit of Riverfront Area is more extensive on “Figure 7: Proposed Conditions” when compared to “Figure 6: Environmental Resources Map.” The ENF describes Riverfront Area impacts only as those related to the proposed walking trails, while Figure 7 depicts a stormwater infiltration basin and a portion of the wastewater treatment facility within Riverfront Area. The Proponent should correct inconsistencies between the ENF Site Plans and narrative.

The Proponent will be required to submit a Notice of Intent (NOI) for the proposed work to the Norfolk Conservation Commission and MassDEP. Upon receipt of the Notice of Intent filing, MassDEP may provide project-specific comments to the Norfolk Conservation Commission and the Proponent as part of the File Number Issuance Notification Letter. The Project shall be designed to meet all performance standards identified in the Massachusetts Wetlands Protection Act Regulations (310 CMR 10.00) for work proposed in each affected wetland resource area. The NOI for the project must include an alternatives analysis for all proposed Riverfront Area impacts.

The ENF does not discuss wetland replication as a proposed mitigation measure for impacts to Bordering Vegetated Wetlands. MassDEP recommends that wetland replication be incorporated into the final Project design. If Bordering Vegetated Wetland impacts are not replicated the Proponent may be required to obtain 401 Water Quality Certification from MassDEP. The Proponent should identify areas of degraded Riverfront Area on the property that could be restored as mitigation for proposed impacts to Riverfront Area.

The proposed stormwater management system will be comprised of deep sump catch basins, sediment forebays and detention/infiltration ponds. The ENF states that the site design is in full compliance with the Massachusetts Stormwater Standards. Given the presence of a Certified Vernal Pool and two Potential Vernal Pools within the immediate vicinity of the Project, MassDEP advises that the Proponent provide confirmation during the NOI review process that the proposed stormwater system and site grading will not adversely affect the hydrology of these vernal pools.

MassDEP recommends that the Proponent incorporate any anticipated repair or maintenance work to the Bush Pond Dam into the MEPA review and the forthcoming NOI filing. As stated in the Massachusetts Dam Removal Guidance, “The Executive Office of Energy and Environmental Affairs (EOEEA) is committed to restoring natural river ecology, re-establishing river continuity, and maintaining public safety, while avoiding inadvertent or adverse impacts to important natural and cultural resources. EOEEA considers the removal of out-dated dams – dams whose negative impacts outweigh their benefits – to be a critical mechanism in achieving these goals.”

## **Water Supply**

The Project proposes 62,920 gpd of drinking water use. The Town of Norfolk is regulated through MassDEP’s Water Management Program to withdraw a maximum of 0.57 million gallons per day (MGD) from March 2019 through February 2024 and 0.60 MGD from March 2024 through February 2029. Actual withdrawals from 2012 through 2016 ranged from 0.40 to 0.47 MGD. The Water Management Act (WMA) regulations require mitigation of withdrawals over a baseline volume. The baseline volume for Norfolk is 0.52 MGD; therefore, Norfolk will need to have an approved mitigation plan in place prior to withdrawing more than the baseline volume.

Treated wastewater from the Project will be disposed of through an on-site groundwater discharge. An 85% reduction in the volume required to be mitigated is allowed for WMA Permittees where wastewater is discharged to the ground. The mitigation projects proposed in the ENF may not be applicable as WMA mitigation because those projects are a result of the Project construction. Mitigation projects suitable for the WMA program are, for example, those that return developed land to an undeveloped state (i.e. removing impervious surfaces) or otherwise improve surface water habitat. Any potential WMA mitigation proposals should be submitted to MassDEP for consideration.



The Town of Norfolk is not currently able to meet its peak day demand with either its Spruce Road or Gold Street wells offline. The Town is currently pursuing the construction of a new wellfield to address this issue. A pumping test has been conducted on the wellfield, but the results of the test have not yet been submitted to MassDEP. Preliminary results of the pumping test were favorable and the Town expects to submit the relevant applications soon.

Two assessments of the water system hydraulics were included in the ENF, but the total average day demand that was reviewed was only 30,184 gpd. It is estimated that 1.94 miles of new water mains will be constructed to connect the Project to the Town of Norfolk's water system. If it is determined that a pump station is also needed, then the Town of Norfolk will need to submit a distribution system modification application to MassDEP for approval prior to construction.

The ENF does not discuss if irrigation is desired for the Project. Ornamental shrubs and grasses should be drought tolerant and irrigation minimized if used at all. The Proponent should consider the capture and reuse of stormwater for irrigation if needed.

## **Wastewater**

The Project's combined wastewater flow from the single-family homes at The Preserve at Abbyville and the apartments at Abbyville Commons will be collected through an on-site sewer system. Treated effluent will be discharged to the ground from a wastewater treatment facility permitted under the Groundwater Discharge Permit regulations at 314 CMR 5.00. Abbyville Commons will be comprised of 56 rental units consisting of (12) one-bedroom units, (40) two-bedroom units, and (4) three-bedroom units. The Preserve at Abbyville will be comprised of 148 individually owned homes consisting of (32) two-bedroom homes, (60) three-bedroom homes, and (56) four-bedroom homes. Total combined design flow based on the number of bedrooms is 62,920 gpd. The Proponent will be required to submit a groundwater discharge permit application (BRP WP 79) for MassDEP review and approval prior to any construction of wastewater-related appurtenances.

The Proponent submitted a hydrogeologic evaluation report to MassDEP on December 15, 2017, which provided detailed hydrogeologic information of the site. The Project site is within a delineated Zone II sensitive area. The Zone II is associated with the Town of Franklin's public water supply sources (PWS #2101000-04G, GP Well 4, and 2101000-05G). The Project will be served by Norfolk's municipal water supply. The Project is also in close proximity to Norfolk's potential water supply test well site. To assess impacts to Franklin's Miller Street public wells (2101000-04G and 2101000-05G) and the potential water supply test wells, the Proponent conducted a time of travel analysis. Franklin's wells are 6,740' north of the discharge and the new test wells are 1,730' north of the discharge. The time of travel to Franklin's well and the test wells are 3.61 years and 1.09 years respectively. MassDEP approved the hydrogeologic evaluation on January 17, 2018.

As a result of the discharge within a Zone II of a public water supply and also within the two-year travel time to Norfolk's test well site, the Proponent is required to meet the most stringent effluent requirements stated within 310 CMR 5.10(4A)(b), which include effluent limits of 5 mg/l total suspended solids, 2 NTU for turbidity, 10 mg/l of biochemical oxygen demand, 1 mg/l of total organic carbon, and 5 mg/l of total nitrogen and nitrate nitrogen. These are the most stringent limits within the groundwater discharge permit program. As part of the groundwater discharge permit application the Proponent will provide detailed plans and specifications of how these effluent limits can be met.

The Groundwater Discharge Permit regulations at 314 CMR 5.15 require a single responsible entity be the permittee responsible for the operation of the facility. If a privately owned wastewater treatment facility (PWTF) treats wastewater generated by activities that are owned or control by persons other than the single responsible entity, the Proponent shall demonstrate that all stakeholders share the financial and operation responsibilities for the PWTF. In the EIR, the Proponent should provide details of the proposed ownership of the PWTF, and whether a single responsible entity will be created. The EIR should also describe how the 48 single-family homeowners and the owner(s) of the apartment buildings will share financial and operational responsibilities for the PWTF. Additionally, as a permit requirement, the Proponent will need to develop a financial assurance mechanism (FAM) for the PWTF specifically designated as an immediate repair and replacement account. This escrow account managed by a third-party agent must be funded based on 25% of the estimated construction cost.

## **Air Quality**

### *Dust and Noise Control*

Clearing/grading operations and construction of buildings, parking areas and roadways/access ways have the potential to generate dust, odor and/or noise. The Proponent has adequately described the measures that will be taken to mitigate fugitive dust and noise in Table 10-1 and in Attachment E of the ENF.

### *Asbestos, Demolition and/or Solid Waste*

The Proponent has not identified any demolition activities in the ENF. However, in the Summary of Existing Conditions, the site plans, and the aerial photographs of the site, the existing concrete slabs and pavement on the property are shown and estimated to be 2.1 acres. The Proponent is advised that demolition activity must comply with both Solid Waste and Air Quality Control regulations.

In accordance with the revised Asbestos Regulations at 310 CMR 7.15(4), any owner or operator of a facility or facility component that contains suspect asbestos containing material (ACM) shall, prior to conducting any demolition or renovation, employ a DLS licensed asbestos inspector to thoroughly inspect the facility or facility component, to identify the presence, location and quantity of any ACM or suspect ACM and to prepare a written asbestos survey report.

Asphalt, brick and concrete (ABC) rubble, such as the rubble generated by the demolition of buildings must be handled in accordance with Massachusetts solid waste regulations. These regulations allow, and MassDEP encourages, the recycling/reuse of ABC rubble.

### *Greenhouse Gas (GHG) Emissions*

GHG mitigation measures outlined in the ENF have satisfactorily addressed GHG emissions pursuant to the GHG Emissions Policy and Protocol. The ENF residential design includes a specific list of energy efficiency measures for the building designs/operation, the use of environmental-friendly construction materials, recycling of construction and demolition debris where possible, as well as transportation mitigation measures.

The Proponent should not discount mitigation measures, even if it not currently feasible to quantify the GHG reduction impact, including: water conserving approaches such as low flow plumbing fixtures, gray water reuse, and low impact landscaping and irrigation designs. All these measures will be

considered when evaluating whether the Proponent mitigated GHG emissions to the greatest practicable extent.

MassDEP recommends that the Proponent also consider the following energy efficiency measures: the option of installing electric vehicle recharging stations; installation of lighting and climate controls, especially in the common areas in the rental units and in spaces that are occupied infrequently (such as storage areas); and use of directed, shielded, and non-blue-rich LED lighting (i.e. ‘warm-white’ LED lights) for exterior lighting to reduce glare, light pollution, and adverse effects on human vision and wildlife behavior.

MassDEP appreciates the opportunity to comment on the Project. If you have any questions regarding these comments, please do not hesitate to contact Stella Tamul, Central Regional Office MEPA Coordinator, at (508) 767-2763.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Mary Jude Pigsley".

Mary Jude Pigsley  
Regional Director

cc: Commissioner’s Office, MassDEP

From: [Lynne Dimond](#)  
To: [Flaherty, Erin \(EEA\)](#)  
Subject: Abbyville EEA# 15796  
Date: Tuesday, February 13, 2018 3:29:18 PM

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Erin,

Thank you for reviewing our concerns on the detrimental environmental impact that the Abbyville development will cause to Norfolk and the surrounding communities.

- **ABBYVILLE=56 rental & 148 ownership units (204 total) proposed with a request for waivers of 67 Town Bylaws**
- **15.6 acres new + 2.1 acres current = 17.7 TOTAL acres impervious area = MORE STORMWATER to wetlands, possibly decrease water to aquifer which supplies local public and private wells. NEEDS FURTHER STUDY.**
- **43.7 acres new land altered by deforestation = LOSS OF HABITAT for animals, birds and all other wildlife**
- **1 MILLION cubic yards of earth is a "substantial net export"<sup>1</sup> (VS 200 cu yds avg home) =GRAVEL PIT IN R3 ZONE**
- **90 TRUCK TRIPS/day AVG; 120 TRUCK TRIPS/day MAX (pg 15-16 Construction Management Plan)=POLLUTION**
- **82,000 Gravel Truck Trips of 18-wheelers on Park St and Main St = HEALTH & SAFETY RISK to PUBLIC WELFARE**
- **Logging trucks/construction vehicles not included in number of truck trips or traffic studies=BIGGER PROBELMS**
- **Excavation depths up to 60' in 5 Phases over 8-years (Phasing Timeline & Figure 7 ENF<sup>2</sup>)=EROSION + HAZARD**
- **Located in ZONE II Wellhead Protection Area with Toxic Landfill on Buckley & Mann property (Figure 6 ENF<sup>2</sup>)**
- **WASTEWATER of 64,000 GPD treatment plant design unfinished, raises groundwater elevations 5.6' to 178' at the leach fields and 2-3" rise near the Tail Race. (pg A24 ENF)=COULD IMPACT AUL BURIED CONTAMINANTS.**
- **NEED TO DETERMINE GROUNDWATER ELEVATIONS WITHIN AUL, ESPECIALLY NOW WHEN GROUND SATURATED**
- **BATTLE of INDIAN ROCK Norfolk Indians, Native Americans lived/died here=ARCHOEOLOGICAL/CULTURAL AREA**
- **Amphidrome Wastewater Treatment System (ENF pg A-4) is not odor free; NEEDS ODOR CONTROL SYSTEM**
- **Greenhouse Gas analysis does not account for gravel trucks = 6500 Metric TONS CO<sub>2</sub> MORE GHG ESTIMATED**
- **Dust Pollution from excavation, possible silica content=NEED PERIMETER AIR MONITORS for levels & content**
- **Possible Breathing difficulties for the young and old due to air pollutants and particulates = HEALTH RISK**
- **NON-POINT SOURCE POLLUTION from gravel pit impact on Bush Pond, Mill River, wetlands and wildlife**
- **NOISE POLLUTION 8 years in residential zone impacting children, families and work-at-home residents**
- **NOISE POLLUTION & possible STRUCTURAL DAMAGE to septic tanks, foundations & wells if BLASTING occurs**
- **Structural integrity of Geotextile on Landfill in jeopardy from construction/changes to site topology=SERIOUS**

- No protective barrier under contaminants buried on site in Landfill known as AUL (Activity and Use Limitation)
- Piping in/under foundations once carried contaminants to lagoons=NEEDS EPA STUDY verify if safe to remove
- Two Potential Vernal Pools near Wastewater Treatment Plant and Infiltration Basin #1 may be impacted
- Potential public wellfield H<sub>2</sub>O at 3.55 mg/L nitrate (MassDEP max 5mg/L) (pg 5 Water Review 7.28.17 in ENF): TOWN LOW ON WATER SUPPLIES-POSSIBLE WELLFIELDS NEED TO REMAIN VIABLE

Thank you,

Lynne Dimond

**From:** [Kerri Keefe](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** The Preserve at Abbyville and Abbyville Commons EEA #15796  
**Date:** Tuesday, February 13, 2018 3:34:39 PM

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Dear Ms. Flaherty,

I am writing to express my concerns regarding the proposed Abbyville development currently under review for construction in Norfolk, MA.

With all that is involved in creating a development of this size, negative environmental impacts appear inevitable. Most concerning to my family is the impact that the unprecedented amount of earth removal will have on the surrounding environment. As you may know, this development disrupts land associated with a former industrial site. A portion of that land, though distant from the proposed construction site, contains known contaminants. Specific concerns include:

- Are there contaminants in other areas? Is there a way to guarantee that there aren't?
- With the vast amount of earth removal, what guarantee is there that any potential contaminants won't be disrupted?
- With over 80,000 truck trips to and from this site, there will be dust migration (including potential contaminants).
- Is there a risk, however small it may be, that the current AUL will be disrupted?

In addition to these concerns, there are many other environmental issues to consider, including clear-cutting of the land, dust migration (possibly affecting Mill River which empties into the Charles River), traffic impacts on greenhouse gases (80,000 truck trips plus new residents traffic), impact on vernal pools, on area wells, etc. I am well aware of the many studies, reports, and mitigation efforts that have been discussed by the developer. However, there really is no way of knowing what kind of impact excavating close to one million cubic yards of earth will have, regardless of the number of studies done, as it is unprecedented. Therefore, as residents, we are left with many concerns for our health and for our environment.

Thank you for taking the time to understand not only the sincere concerns of nearby residents, but to also investigate all potential impacts that a disruption to this site may yield before making a decision that will affect many for years to come.

Sincerely,  
Kerri Keefe

**From:** [Karen McCabe](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** Abbyville EEA#15796  
**Date:** Tuesday, February 13, 2018 12:40:59 PM  
**Attachments:** [Abbyville EEA#15796 Concerned Resident Karen McCabe.pdf](#)

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Dear Ms. Flaherty,

I am writing you on some major environmental and health concerns with the Abbyville Commons and Preserve at Abbyville 17 Lawrence St Norfolk, MA EEA#15796. Major concern is due to environmental and health concerns. This site was once a mill and some of the land is already marked as AUL and the land abuts Bush Pond which feeds into Charles River and there are many personal wells near the site (my personal well included) plus town of Franklin well along with a potential town of Norfolk well. The cleaned up contaminated site has only a cover and it does not have a liner which is concerning especially with the blasting that will take place and the ground water. The developer has not officially confirmed blasting but there will be a need for blasting as they are digging 60 feet down and on the walk it was confirmed that they only went down a small amount and hit granite, never mind, the outcroppings of rock which will need to be removed. We need monitoring wells in the AUL area. Another environmental health concern is the dirt that is being dug up in excess. This is a gravel mining project on a rural road under the cover of a 40b project. They are mining close to 1 million cubic yards of dirt via huge dump trucks at a rate about 40-60 dump trucks a day for 7 years. This does not include the other trucks that come with construction like logging trucks and delivering of materials such as pipes, wood and roofing etc. We are very concerned about the dust from the digging and the excess pollution from so many trucks in a condensed area very close to current residents, water and newly purchased houses residents for so many years. The silica dust is of great concern and we are requesting dust meters everywhere around the site to monitor and have residents have easy access to the readings. If there is any type of air pollution meters that could monitor and noise pollution that could be monitored from the digging and the trucks. This is a very rural area that is quiet and noise carries which is not suited for such a mining and trucking business and does not fit the current environment. All the trucks leaving will be washed down on a site shown on the maps as a staging area. The staging area is within a few feet of Bush Pond and the runoff of all the dirt, dust and debris from the trucks will wash right into Bush Pond and travel down the Charles River and impact majority of the state of Massachusetts. Also of concern is the added runoff from the new streets and sidewalks and buildings. This runoff will impact Bush and the tributaries from the pond which are category 5 impaired waterways. Bush Pond is already impacted by the current runoff and can only get worse not better with this development. We need to try to save the environment a little at a time and this is where we can save it but stopping this development. There will be a waste water treatment plant due to the large amount of houses in such a small area. This concerns us especially for the residents that have wells so close to the site. The current residents need some rights and we need your help to protect the current resident's health and well-being. Finally, the wildlife that currently live and pass through the area. This area is considered one of Norfolk's most significant wildlife corridors and can be ruined with this one very large oversized project. Just a few weeks ago a Bald Eagle was spotted at Bush Pond. This is a usual stopping location for Bald Eagles and possible nesting site and with this development it will be ruined. We need to protect the wild animals. One of the areas that they plan on building on which closer to the Franklin side has restrictions due to an endangered salamander. Residents in the area can't add onto their houses due to the salamander and now this huge development can be put in with no discretion of the wild animals in the area including the endangered salamander.

In conclusion, Abbyville Commons and Preserve at Abbyville at 17 Lawrence St Norfolk, MA is of great environment and health concerns for nearby residents and those downstream in Massachusetts. I am requesting you stop the development due to the health and environmental

concerns. If you can't stop the development if you could impose restrictions which I am requesting are:

1. Have the development be smaller for less environmental impacts including removing houses being so close to the waterways and Pond
2. Demand less dirt being removed even if it is at the cost of not doing phase 5 which would reduce blasting and large portion of dirt removal.
3. Residents wells will be tested monthly at the cost to the developer often throughout the entire project,
4. Air and dust meters be put up throughout the project on nearby streets to monitor the dust pollution and results easily accessible to everyone
5. Noise meters be put up throughout the project and nearby streets to monitor noise pollution
6. Developer retain the stormwater runoff from at least the 2" storm on site and show that anything running into the Mill River or Bush Pond is treated
7. Wastewater reuse the treated effluent for irrigation and toilet flushing to reduce the demand on the potable water sources, monitoring wells in the AUL area
8. Have environmental representative on the site at all times to ensure that environment is treated as top priority

Thank you for your interest in gathering concerns of the residents of Norfolk and surrounding towns and the possible catastrophic impacts to the area and health of the residents. I look forward to heard back from you regarding my concerns and be happy to discuss any of them in more detail.

Thank You,

Karen McCabe

26 Lawrence St

Norfolk, MA 02056



Dear Ms. Flaherty,

I am writing you on some major environmental and health concerns with the Abbyville Commons and Preserve at Abbyville 17 Lawrence St Norfolk, MA EEA#15796. Major concern is due to environmental and health concerns. This site was once a mill and some of the land is already marked as AUL and the land abuts Bush Pond which feeds into Charles River and there are many personal wells near the site (my personal well included) plus town of Franklin well along with a potential town of Norfolk well. The cleaned up contaminated site has only a cover and it does not have a liner which is concerning especially with the blasting that will take place and the ground water. The developer has not officially confirmed blasting but there will be a need for blasting as they are digging 60 feet down and on the walk it was confirmed that they only went down a small amount and hit granite, never mind, the outcroppings of rock which will need to be removed. We need monitoring wells in the AUL area. Another environmental health concern is the dirt that is being dug up in excess. This is a gravel mining project on a rural road under the cover of a 40b project. They are mining close to 1 million cubic yards of dirt via huge dump trucks at a rate about 40-60 dump trucks a day for 7 years. This does not include the other trucks that come with construction like logging trucks and delivering of materials such as pipes, wood and roofing etc. We are very concerned about the dust from the digging and the excess pollution from so many trucks in a condensed area very close to current residents, water and newly purchased houses residents for so many years. The silica dust is of great concern and we are requesting dust meters everywhere around the site to monitor and have residents have easy access to the readings. If there is any type of air pollution meters that could monitor and noise pollution that could be monitored from the digging and the trucks. This is a very rural area that is quiet and noise carries which is not suited for such a mining and trucking business and does not fit the current environment. All the trucks leaving will be washed down on a site shown on the maps as a staging area. The staging area is within a few feet of Bush Pond and the runoff of all the dirt, dust and debris from the trucks will wash right into Bush Pond and travel down the Charles River and impact majority of the state of Massachusetts. Also of concern is the added runoff from the new streets and sidewalks and buildings. This runoff will impact Bush and the tributaries from the pond which are category 5 impaired waterways. Bush Pond is already impacted by the current runoff and can only get worse not better with this development. We need to try to save the environment a little at a time and this is where we can save it but stopping this development. There will be a waste water treatment plant due to the large amount of houses in such a small area. This concerns us especially for the residents that have wells so close to the site. The current residents need some rights and we need your help to protect the current resident's health and well-being. Finally, the wildlife that currently live and pass through the area. This area is considered one of Norfolk's most significant wildlife corridors and can be ruined with this one very large oversized project. Just a few weeks ago a Bald Eagle was spotted at Bush Pond. This is a usual stopping location for Bald Eagles and possible nesting site and with this development it will be ruined. We need to protect the wild animals. One of the areas that they plan on building on which closer to the Franklin side has restrictions due to an endangered salamander. Residents in the area can't add onto their houses due to the salamander and now this huge development can be put in with no discretion of the wild animals in the area including the endangered salamander.

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8. Have environmental representative on the site at all times to ensure that environment is treated as top priority

Thank you for your interest in gathering concerns of the residents of Norfolk and surrounding towns and the possible catastrophic impacts to the area and health of the residents. I look forward to heard back from you regarding my concerns and be happy to discuss any of them in more detail.

Thank You,

Karen McCabe

26 Lawrence St

Norfolk, MA 02056

**From:** [David Mastro](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** Abbyville EEA#15796  
**Date:** Tuesday, February 13, 2018 7:54:39 AM

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Hi Erin,

I am writing on behalf of the towns people of Norfolk and the neighbors of the Abbyville project. I know a lot of my concern neighbors have written letters about the devastating effect this proposed development will have on the environment and the town itself. I know your agency is only concerned with the effect of the environment on the area. I was on the walk with you two Fridays ago and I really want to point out one single thing from that walk that I think will go unnoticed by everyone. When we were walking with the developers hydro and waste guy, they pointed out a test well that went only 30 feet deep and was dry for its entire existence. I asked the guy, and you were right next to me, so you hit bedrock at 30 feet? His response was yes and the well has always been dry. We were standing in the phase 3 section of the build out and if there is bedrock at 30 feet, there is no way the developer is not going to blast that bedrock away. The developer has to blast to remove the bedrock, especially if it is a high likelihood it is a ledge. The entire development across Lawrence Street sits on a ledge and has radon. So with that blasting which is a high likelihood is going to cause seismic vibrations which could end up releasing more radon in our houses and what other gases being stored in that bedrock. That whole area is of the same rock formation. Those blasts will be close to Lawrence Street because that phase is in the front part of the project. So now the developer is going to add noise pollution from all 90 truck trips a day and the noise from deforestation of 43.7 acres, along with blasting. If you take a Google Map and align his proposed development it sits right on top of the bedrock is showing plus we know now from his experts that a well is dry because it hit bedrock at 30 feet down. If this area the Mill River watershed is a tributary to the Charles River and the state has spent hundreds of millions of dollars to clean it up, why would the state take a chance that this development could pollute it again.

I am without doubt that this developer is going to blast bedrock from this site multiple times, and it will change and cause damage to my well, septic tank and my foundation. It is extremely sad that the developer can take advantage of a law that is supposed to help people make it in this world, instead my one person over 20 million dollars on this development

but leave hundreds with livable conditions when done. If the developer was confident at the beginning of this project he was not going to blast and his experts say there is no harm will come to us who live off Lawrence Street, why will he not float a cash bond to protect our wells, septic tank and foundations. I truly thought this country and state were about protecting the life, liberty and pursuit of happiness of its inhabitants. This government was for the people, but I guess one guy can do what he wants destroy everything with it.

Again this developer has not been honest from the get go. He has change and lied about his projection over and over. With all of the cry from the public and the world climate change and warming, we will let a man destroy 43.7 acres of land and remove 1 million cubic yards of earth. There is no way that much destruction will have no effect on the environment. That is such a joke to think it will not have a detrimental effect on the environment. It is so laughable. I promise you that he will blast at this site multiple times and it will have an adverse effect on the people and environment of that area.

Best Regards,

David Mastro  
26 Lawrence Street  
Norfolk, MA 02056

Cell 617-416-2318

**From:** [David Dimond](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** Re: Abbyville EEA#15796  
**Date:** Tuesday, February 13, 2018 4:58:38 PM  
**Attachments:** [AbbyvilleConcernsFRevised0213\\_0430PM.pdf](#)  
[Photos on Overlay.pdf](#)  
[PIP Process Golf Course.pdf](#)  
[PIP Process Memos Selectmen.pdf](#)  
[SiteWalkMap.pdf](#)

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Hi Erin,

Please see the revised letter below which I have also attached in a PDF file. For simplicity sake I think it would be easiest for you and cleanest for the record to delete my prior correspondence and to use this email, and the (5) attachments as my letter of concern. I am sorry for this additional step. I you could please reply it would be helpful so that I know you have this update. Thank you. David Dimond +1-508-400-7494

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Dear Ms. Flaherty

I am writing you to express concerns about the environmental health risks associated with the Abbyville development project which is referred to by the Norfolk Zoning Board of Approvals as 17 Lawrence Street in Norfolk, MA.

In particular, I am most concerned about the risk to human health both due to the condition the of development site as it stands today but more importantly what could happen if the land were to be developed without recognition of the potential for increased health risks.

I spoke about this at the recent hearing at the library and then again when I attended the site walk-through with you. We then visited what was referred to as “hot spots” (areas of concern) that were identified during a Public Involvement Plan (PIP) process which was started back in 2001 when the considered purchasing the land from Buckley and Mann Inc. who – to the best of my understanding - is still the owner of the property.

In particular, I am very concerned about the current risk of Cancer to people who utilize private well water in Norfolk and the potential for future increased risk for those with private wells which are near the development site (both Norfolk and Franklin). In addition, I am very concerned about the potential for a new town owned well to be established in close proximity to the Area of Use Limitation (AUL).

Norfolk already has a significantly increased rate of Cancer. It is reported by the Massachusetts Department of Health that Norfolk – which is highly dependent on well water for human consumption – has a higher rate of Cancer incidence than expected. Here are some of the existing risk incidences which are greater than expected for residents in our

town: Female Breast - 127%; Female Colon - 103%; Male Leukemia - 118%; Male Melanoma of the Skin – 140%, Female Melanoma of the Skin – 161%, Male Non-Hodgkin Lymphoma - 104%; Male Stomach - 205%, Female Thyroid 112%. Please see the Massachusetts Cancer Registry <sup>(1)</sup> and specifically the Town of Norfolk Report <sup>(2)</sup> for further details.

As we discussed during the site walk-through, I have attached materials from the PIP process which might be helpful to for your organization during this evaluation process. I am also providing the site map which was annotated and handed out. Also some photos of the locations which were visited or which have been referenced in the PIP documentation (e.g. Carbonizer Pit / Trench, Tail Race, etc).

Thank you for your genuine interest in hearing the concerns of the residents of Norfolk, Franklin and surrounding towns who draw on the Charles River Watershed while evaluating the impact of this project. I look forward to hearing back from you regarding these concerns and would be interested in discussing them further as you continue your process. I have been following the clean-up of the Buckley and Mann site for 28 years and have reviewed all of the documents in great detail.

Respectfully,

David Dimond  
3 Brett's Farm Road  
Norfolk, MA 02056

PS: Please note that I am not writing to you in any official or professional capacity. All of the PIP process output information <sup>(3)</sup> provided herein came from publically available sources. Some of the photos were taken by participants while at site visits; some others were retrieved from public social media sites and historical archives.

1) <http://www.mass.gov/eohhs/gov/departments/dph/programs/admin/dmoa/cancer-registry/> The city/town series report provides standardized incidence ratios (SIRs) for twenty-three types of cancer in the 351 cities and towns of Massachusetts for a five-year time period.

2) The data was retrieved from the Norfolk page (#4) of <http://www.mass.gov/eohhs/docs/dph/cancer/city/2009-2013/registry-city-09-13-newbury-royalston.pdf>

3) The PIP process documents where sourced from Norfolk.Net, the minutes from the Board of Selectmen's meetings and from the Town Archives.

On Tue, Feb 13, 2018 at 4:18 PM, David Dimond <[digitaldimond@gmail.com](mailto:digitaldimond@gmail.com)>

wrote:

Urgent: Incorrect Cancer Rates

Hi Erin - I just left you a phone message that the cancer rates I had in my letter are not correct. I am redrafting the letter now so that you have the correct information. Thankfully the correct rates are much lower in many cases. Sorry for this error, please delete the prior letter as I will restate and submit a new one to you in a few minutes. Call me if you have any questions or concerns. Dave Dimond [508-400-7494](tel:508-400-7494)

On Tue, Feb 13, 2018 at 2:49 AM, David Dimond <[digitaldimond@gmail.com](mailto:digitaldimond@gmail.com)> wrote:

Dear Ms. Flaherty

I am writing you to express concerns about the environmental health risks associated with the Abbyville development project which is referred to by the Norfolk Zoning Board of Approvals as 17 Lawrence Street in Norfolk, MA.

In particular, I am most concerned about the risk to human health both due to the condition the of development site as it stands today but most importantly what could happen if the land were to be developed without recognition of the potential for increased health risks.

I spoke of this at your recent hearing at the town library and then again when I attended the site walk-through with you. We then visited what was referred to as “hot spots” (areas of concern) that were identified during a Public Involvement Plan (PIP) process which was started back in 2001 when the town was considering purchasing the land from Buckley and Mann Inc. who – to the best of my understanding - is still the owner of the property.

In particular, I am very concerned about the current risk of Cancer to people who utilize private well water in Norfolk and the potential for future increased risk for those with private wells which are nearby the development site (both Norfolk and Franklin). In addition, I am very concerned about the potential for a new town owned well to be established in close proximity to the Area of Use Limitation (AUL).

Norfolk already has a significantly increased rate of Cancer. It is reported by the Massachusetts Department of Health that Norfolk – which is highly dependent on well water for human consumption – has a much higher rate of Cancer incidence than expected. Here are some of the existing risks incidences which are much greater than expected for residents in our town: Bladder - 202%; Colon - 153%; Esophagus - 191%; Kidney - 167%; Liver - 209%; Lung - 149%; Lymphoma - 129%; Pancreas - 169%; Stomach - 155%. Please see the Massachusetts Cancer Registry <sup>(1)</sup> and specifically the Town of

Norfolk Report <sup>(2)</sup> for further details.

As we discussed during the site walk-through, I have attached materials from the PIP process which might be helpful to for your organization during this evaluation process. I am also providing the site map which was annotated and handed out. Also some photo of the locations which were visited or which have been referenced in the PIP documentation (e.g. Carbonizer Pit / Trench, Tail Race, etc).

Thank you for your genuine interest in gathering the concerns of the residents of Norfolk, Franklin and surrounding towns who draw on the Charles River Watershed while evaluating the impact of this project. I look forward to hearing back from you regarding these concerns and would be interested in discussing them further as you continue your process. I have been following the clean-up of the Buckley and Mann site for 28 years and have reviewed all of the documents in great detail.

Respectfully,

David Dimond  
3 Brett's Farm Road  
Norfolk, MA 02056

PS: Please note that I am not writing to you in any official or professional capacity. All of the PIP process output information <sup>(3)</sup> provided herein came from publically available sources. Some of the photos were taken by participants while at site visits; some others were retrieved from public social media sites and historical archives.

1) <http://www.mass.gov/eohhs/gov/departments/dph/programs/admin/dmoa/cancer-registry/> The city/town series report provides standardized incidence ratios (SIRs) for twenty-three types of cancer in the 351 cities and towns of Massachusetts for a five-year time period.

2) The data was retrieved from the 5<sup>th</sup> page of <http://www.mass.gov/eohhs/docs/dph/cancer/city/2009-2013/registry-city-09-13-newbury-royalston.pdf>

3) The PIP process documents where sourced from Norfolk.Net, the minutes from the Board of Selectmen's meetings and from the Town Archives.

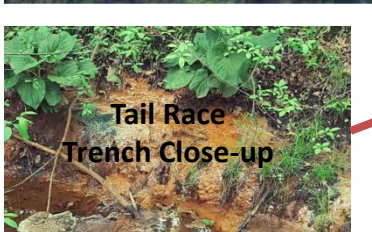
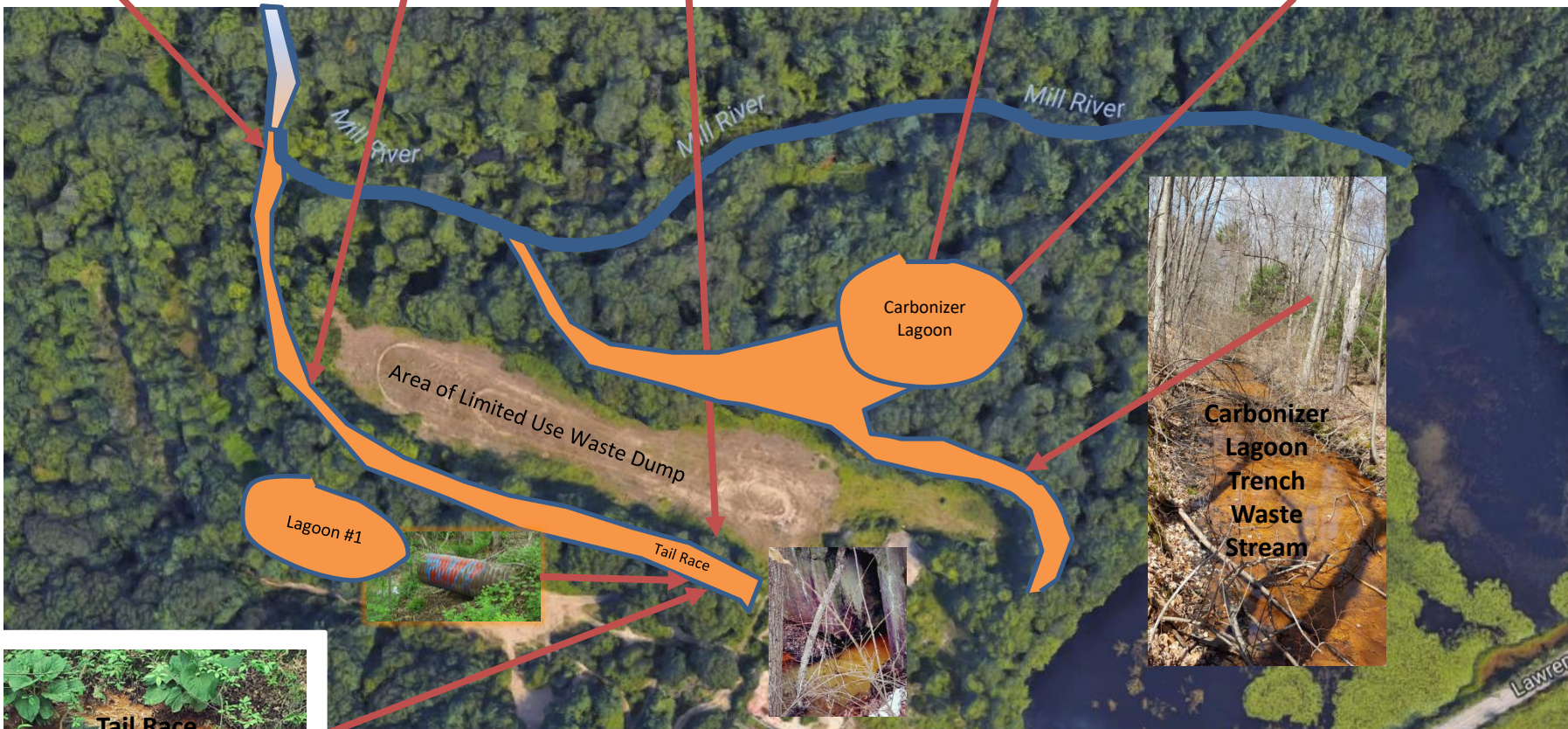
List of Attachments:

- 1) Memorandum to Camp Dresser and McKee from Public Involvement Plan petitioners
- 2) Buckley and Mann PIP Group Information – LSP Questions, Memo to Town Boards, Q&A



3) Site Walkthrough Map with Circles for PIP Areas for Concern

4) Photos Related to PIP Areas of Concern (including site before buildings were removed)



A quote from Page 5 of a Memo from "Public Involvement Plan (PIP) petitioners - Buckley and Mann property, Norfolk ([http://www.norfolknet.com/norfolk/town/golf\\_rao.txt](http://www.norfolknet.com/norfolk/town/golf_rao.txt)):

**"\* Soil samples from Areas #3, #4, #5, and #6, all of which represented materials removed from the bottom of Lagoon #1 or the trench between the dyehouse and the lagoon, had one or more of the following compounds: lead, chromium, total petroleum hydrocarbons, and certain Polynuclear Aromatic Hydrocarbon (PAH) compounds."**

B&M operated a Carbonizer process through the 1940s to reclaim wool from used garments. The raw material was conveyed through acid vapor to char the cotton threads on the seams, zippers, buttons, etc., and facilitate separation of the wool. The wool was neutralized, rinsed, and reused. Solid residue consisting of fiber and fasteners was discarded on site in Area #10 ('). Wastewater was discharged through the Carbonizer Trench (Area #9) to the Carbonizer Lagoon (Area #11) for settling and facultative biological treatment. The Carbonizer business declined after the 1940s and the facility was demolished in 1965. B&M operated a dyehouse until 1986. **The dyehouse discharged approximately 40,000 gallons per week to Lagoons #1 and #2 for settling and facultative biological treatment. The effluent from these shallow lagoons, operated in series, percolated into the ground adjacent to the Tail Race, a manmade brook parallel to the Mill River.**

























## MEMORANDUM

To: Mr. Robert A. Dangel, LSP, Camp Dresser & McKee  
Cc: Ms. Karen Stromberg/DEP-NERO, Mr. William R. Swanson, VP, Camp Dresser & McKee  
Cc: Buckley and Mann, Inc.  
Cc: Norfolk Board of Selectmen, Norfolk Town Administrator, Norfolk Board of Health, Norfolk Conservation Commission, Norfolk Golf Committee  
Cc: National Golf Foundation, Earth Tech (both via Town Administrator)  
From: Public Involvement Plan (PIP) petitioners - Buckley and Mann property, Norfolk  
Date: October 3, 2001  
Re: August 2001 Class A-3 Response Action Outcome and Release Abatement Measure Completion Report, Buckley and Mann, Inc., Norfolk, MA

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This document has been prepared by members of the Public Involvement Plan (PIP) group for the Buckley and Mann site in Norfolk, MA, in preparation for the October 23, 2001 public hearing. Following our review of the RAO, we have assembled a list of questions regarding the work done to date. For your convenience, we are making this list available in advance of the meeting, and we would appreciate a written list of responses.

The document is structured as follows: Section 1 addresses site assessment and remediation activities; Section 2 describes the risk characterization conducted at the site; and Section 3 discusses the Activity and Use Limitation implemented prior to filing the Response Action Outcome.

### 1.0 SITE ASSESSMENT AND REMEDIATION ACTIVITIES

#### 1.1 *Areas Included in the Response Action Outcome (RAO)*

The following section describes the portions of the site that have been investigated and included within the Response Action Outcome.

As described in the report, work to date has been limited to approximately 12 acres of the 143-acre property. These 12 acres, which comprise the extent of the disposal site covered by the Response Action Outcome (RAO), include a 2-acre former on-site landfill; three lagoons, each approximately 1 acre in extent; and seven acres of adjacent land located between the Tail Race (which is a manmade brook) and the Mill River. Within this area, the following were identified as areas of concern during site investigation activities:

- Area #1 - material at the bottom of Lagoon #1
- Area #2 - material at the bottom of Lagoon #1
- Areas #3, 4, and 5 - material excavated from Lagoon #1 in 1975 and 1988
- Area #6 - material excavated from the former dyehouse trench to Lagoon #1

- Area #7 - material collected in 1986 from a small pit where wooden drum(s) with dye paste were buried
- Area #8 - the pit from which wooden drum(s) with dye paste were excavated (a small area within Area 10)
- Areas #9, 10, and 11 - the carbonizer lagoon; carbonizer spoils and old building demolition debris; and the trench to the carbonizer lagoon, respectively. (Note: As described in the report, carbonizing was a process used to reclaim wool from used garments. The raw material was conveyed through acid vapor, which charred the cotton threads on the seams and fasteners and facilitated separation of the wool. The wool was neutralized, rinsed, and reused. The solid residue, consisting of fiber and fasteners, was discarded on site in Area #10, and wastewater was discharged through the carbonizer trench (Area #11) to the carbonizer lagoon (Area #9).
- Area #12 - fire pit (a small area within Area #10).

[Note: Investigations to date have not included the area of the dyehouse, which was operating until 1986 and which discharged effluent to the lagoons; any of the other on-site factory buildings; or the diesel and fuel oil underground storage tanks that were removed between 1986 and 1993. The reviewers understand that these areas were not included in CDM's scope of work, and they are listed in order to inform town officials and other readers of this document of the limitations of the workscope and areas of potential future concern.

## **1.2 Summary of Site Investigation Activities**

Initial site investigation activities were conducted in 1986, and were followed by sampling around the carbonizer lagoon in 1992. Further assessment was conducted in 1995, when 28 pits were dug at the site. Solid samples were collected from 21 of these pits: 3 samples from Area #1, 6 samples from Area #2, 1 sample each from Areas #3, #5, and #6, 2 samples from Area #4, 6 samples from the 2-acre Area #10, and 1 sample from Area #12 (Appendix A, Table A-1). The material in the pits was consistent with the property usage as a textile mill, and included coal ash, building debris, fasteners (buttons, zippers, etc), and textile machinery.

The results of the assessments, as described in the RAO document, are summarized below.

- The following compounds were present in solid samples collected from the bottoms of wastewater Lagoons 1 and 2 (Areas #1 and #2) between 1986 and 2000: trace Volatile Organic Compounds (VOCs), lead, chromium, total petroleum hydrocarbons, 1,1-biphenyl (representative of dye carrier compounds), and PAHs. Although the analytical results were not presented in the RAO, Section 6.0 of the RAO stated that traces of dye carrier volatile hydrocarbons were present in dyehouse wastewater and Lagoon #1 surface water prior to and in 1986. According to Appendix A of the RAO report, it was concluded following the 1986 investigation that there was groundwater contamination (as represented by Chemical Oxygen Demand) under Lagoons 1 and 2 and the adjacent 30-foot-wide earthen bank separating the lagoons from the Tail Race.

- Soil samples from Areas #3, #4, #5, and #6, all of which represented materials removed from the bottom of Lagoon #1 or the trench between the dyehouse and the lagoon, had one or more of the following compounds: lead, chromium, total petroleum hydrocarbons, and certain Polynuclear Aromatic Hydrocarbon (PAH) compounds.
- At least two solid samples were collected from the carbonizer lagoon area in 1988, and were found to have metals including lead and chromium. Two additional samples were collected in 1992, from the edge of the carbonizer lagoon and from the trench to the carbonizer lagoon; these samples were reported to have metals, total petroleum hydrocarbons, and polychlorinated biphenyl compounds (PCBs). In addition, a sample of carbonizer washtub discharge (with buttons, buckles, zippers, and fibers) and a sample (with old brick, glass, and rubbish) from a disposal area near the carbonizer that was periodically burned were also analyzed in 1992; these areas are reported to have been consolidated into Area 10.
- The following compounds were detected in soil samples from landfill Area #10: lead, chromium, total petroleum hydrocarbons, and certain Polynuclear Aromatic Hydrocarbon (PAH) compounds.

### **1.3 Remediation Activities**

As described in Section 7 of the RAO, a Release Abatement Measure (RAM) Plan was implemented between 1998 and 1999 to reduce the risk posed by soil at the site.

In brief, the material in Area #10, part of which falls within a wetland buffer zone, was excavated. The material was sorted to remove debris such as concrete, lumber, machinery, building debris, and other solid (non-hazardous) waste, which was stockpiled for future disposal (according to the RAO, this will be conducted at the time of building demolition). Approximately 315 cubic yards of material from test pit #10, which was known to have high levels of chromium and lead, were shipped off site for disposal.

The rest of the excavated material from Area #10, plus materials from Areas #3 through #8 and Area #12, were visually inspected and were then consolidated at the former location of Area #10. The consolidated material was graded and covered with a geotextile fabric, followed by 3 feet of clean sand cover. This area is subject to an Activity and Use Limitation (deed restriction).

### **1.4 Reviewer Questions and Comments re: Site Investigation and Remediation Activities**

#### ***Has the vertical extent of contamination in the soil been delineated, as required by the MCP (310 CMR 40.0904(2))?***

[This review did not note any references to vertical delineation in any areas of the site. In particular, it was noted in the Appendix A, Nov/Dec 1997 report summary that "the depth of the fill material in Area #10 was not fully known [...]." Since metals and PAH compounds are documented to have been present in the fill material sampled by the shallow test pits in Area #10, it is possible that additional



contaminants are present in the fill material at depth. Similarly, the presence and/or depth of contamination in soil immediately adjacent to or beneath the lagoons and the earthen bank has not been documented].

***Why was no further sampling of PCBs conducted at the site?***

[The report indicates that PCBs at levels exceeding benchmark values were detected in samples from the carbonizer lagoon and trench in May 1992. However, no further analytical data for PCBs was included in the RAO report or summary tables].

***Why was no sampling conducted following individual phases of excavation to confirm that all material with concentrations exceeding standards had been removed?***

[For example, why was no sampling conducted around and beneath test pit 10 to confirm that all the material with high Cr and Pb concentrations had been removed off site? Similarly, why were no samples collected from the base of the landfill subgrade, prior to consolidation, to evaluate potential concentrations at depth?]

***What is the average depth to groundwater in the area of former landfill #10? What, if any, evaluation was conducted to determine the potential for groundwater infiltration into the consolidated materials, and the consequent leaching of contaminants to groundwater?***

***Why was no barrier material placed beneath the consolidated materials to prevent potential downward migration of contaminants over time?***

***Why was only one round of groundwater sampling conducted at the site?***

[QA/QC note: According to page 18 of the laboratory report in Appendix E, the sample preparation for analysis by EPA Method 8270 was conducted past the 7-day holding period.]

***Given the location of the Tail Race and Mill River near areas of known contamination and within 200 feet of wells with OHM, why were no surface water and sediment samples collected from either the Tail Race or the river to evaluate potential impact, as required by 310 CMR 40.0904(2)(c)?***

***How does the RAM Plan, as implemented, vary from on-site storage of Remediation Waste?***

[The material consolidated and left in place in the landfill area meets the definition of Contaminated Media, which includes Contaminated Soil, defined as "soil containing OHM at concentrations equal to or greater than a release notification threshold established by 310 CMR 40.0300 and 40.1600" (definition in 310 CMR 40.0006). And Contaminated Media is included in the definition of Remediation Waste, so it would seem that the on-site consolidation falls under MCP regulations governing the management of remediation waste. The MCP states that:

310 CMR 40.0036(2): "where practicable, stockpiling or consolidating of Remediation Waste near sensitive human health receptors such as public and private water supply wells or sensitive environmental receptors such as wetlands, surface water bodies, or marine environments shall be avoided; and

310 CMR 40.0036(3): all remediation waste stored at the site of generation [...] shall be placed entirely on a base composed of an impermeable material [...].

Further, 310 CMR 40.0036(4) says that any failure of materials or procedures used in employing the base layer or cover layer as described in 310 CMR 40.0036(3) shall be immediately repaired, replaced, or re-secured.]

## **2.0 RISK CHARACTERIZATION**

No risk characterization was included in the RAO document. It is assumed, from references throughout the document, that a Method 1 risk characterization was conducted, with a Method 2 used to evaluate the risk posed by biphenyl in the solid samples from the lagoons.

It is further assumed, based on a statement in Appendix B, that S-2 standards are being applied to Area #10 following the installation of clean cover material, and that S-1 standards apply to the rest of the site. The applicable groundwater standards are GW-1 due to the site's location within a Zone II for public water supply wells, and GW-3 to protect surface waters.

### **2.1 Comparison of Chemical Concentrations to Standards**

**Soil:** In Section 10.2, the RAO refers to the soil currently under cover in the Area #10 Consolidation Area as follows: "The averages for several PAH compounds and lead exceed MCP S-1 and S-2 standards. The Total Petroleum Hydrocarbon (TPH) concentrations exceeded the current (2001) MCP standards, although the TPH test has since been replaced by the Extractable Petroleum Hydrocarbon (EPH) procedure [...]"

**Groundwater:** Groundwater sampling was conducted in 1998, when the concentrations of dissolved PAHs (in 3 select wells) and metals (in 8 wells) were found to be below applicable standards. Analysis for PCBs, which were detected in the carbonizer lagoon samples, was not conducted. No groundwater sampling was conducted following the excavation and consolidation activities at the site.

**Sediment:** [Note to readers: This section describes solid samples collected from the bottom of lagoons at the site. Such materials are commonly described as sediment, and the recommended benchmarks for evaluating sediments are typically much lower than the equivalent standards for soil. However, in Appendix G, Camp Dresser & McKee referred to the solid samples collected from the bottom of the Lagoons #1 and #2 as follows: "CDM uses the term soil, rather than sediment, because the lagoons are man-made and the bottoms were graded with sand and gravel during construction and in the case of Lagoon #1, subsequent maintenance. The soil on the bottom is not naturally deposited sediment like that found in ponds." This interpretation is open to question (see below).]

Section 10.3 of the RAO describes Lagoons #1 and #2 and states that in 1995 "metals concentrations in the Lagoon soils were below MCP S-1/GW-1 and S-1/GW-3 standards, and that naphthalene and methyl naphthalene slightly exceeded the S-1/GW-1 limits. The 1995 Total Petroleum Hydrocarbon (TPH) concentrations exceeded the current (2001) MCP standards, although the TPH test has since been replaced by the Extractable Petroleum Hydrocarbon (EPH) procedure". In referring to data collected in October 2000, it states that "only one PAH compound, biphenyl, exceeded MCP S-1/GW-1 standards. The biphenyl concentrations ranged from 1.6 to 2.6 mg/kg, relative to the 1 mg/kg standard. "

Further, Section 10.4 of the RAO summarizes the carbonizer lagoon area by saying that "soil/sediment data collected in the carbonizer lagoon and the carbonizer lagoon trench" exceeded the S-1/GW-1 standard for lead in one sample, that all other metals concentrations were below the S-1/GW-1 standards, and that TPH concentrations in two samples collected in 1992 exceeded the S-1/GW-1 standards. Although not stated in the text of the RAO, the supporting summaries in Appendix B and the carbonizer lagoon and trench summary table C-1 in Appendix C both state that "*the MCP standards are for soil, and are not directly applicable to the sediment in the carbonizer lagoon.*"

**Surface Water:** only one reference to surface water sampling was noted in the RAO, when it was stated (in Section 6) that traces of dye carrier volatile hydrocarbons in [...] Lagoon #1 surface water were found prior to and in 1986. No surface water sampling of either the Mill River or the Tail Race was documented in the RAO.

## **2.2 Reviewer Questions and Comments re: the Risk Characterization**

### ***Why would S-2 standards apply in the consolidated landfill area following the implementation of the AUL?***

[The AUL appears to permit unrestricted use of the landfill area by children for high intensity (active recreation) activities. As such, the landfill area could be used for a playground or playing fields within the terms of the AUL. Given that the soil in this area is potentially accessible, wouldn't the combination of high frequency and high intensity use by children make the soil classification S-1, not S-2?]

### ***Given the wetlands nature of the site, and the known presence of aquatic life such as frogs in Lagoon #2 (Appendix B), why were no environmental receptors identified as required by 310 CMR 40.0922?***

### ***What regulatory reference permits the comparison of materials at the base of man-made lagoons to soil, as opposed to sediment, standards?***

[This distinction was noted in the case of Lagoons #1 and #2. According to the MCP Section 310 CMR 40.0006, sediments are defined as "all detrital and inorganic or organic matter situated on the bottom of lakes, ponds, streams, rivers, the ocean, or other surface water bodies", with no distinction made for the origin of the material. Further, since sediment benchmarks were established to be protective of ecological risk, and since the RAO documents that the lagoons have well-established vegetative cover and frog life, comparison to soil standards alone omits a key part of the risk characterization process required by the MCP. Specifically, as stated in the DEP Q&A dated February 1995, "Method 1 or Method 2 standards may be used to assess human exposures to sediment (but) a Method 3 environmental risk characterization would also be required as the Method 1 soil standards do not consider the potential ecological risks posed by contaminated sediments."]

### ***Why was none of the data from any of the lagoons, including the carbonizer lagoon, compared to sediment benchmarks?***

[Appendix B and Table C-1 of the RAO acknowledge that soil standards do not apply to the sediment samples collected from the carbonizer lagoon. In such cases, the MCP and DEP's risk characterization guidance document require that sediment data be evaluated via an ecological risk

characterization. This can be done by comparing data to sediment benchmarks as part of a Stage I Environmental Screening.]

***Why was a Method 3 Risk Characterization not conducted for the site?***

[There are several situations in which a Method 1 may not be used, and a Method 3 risk characterization is required by the MCP. Section 310 CMR 40.0971 of the MCP states that if contamination is present in one or more environmental media other than soil or groundwater, Method 1 alone shall not be used. Sediments and surface water both meet the definition of other media, so at this site, the presence of sediments as described above, as well as the presence of contaminants in surface water as stated in Section 6 of the report, would require the use of a Method 3. Also, Section 310 CMR 40.0942 of the MCP requires that a Method 3 be conducted if environmental receptors have been identified for a site, and if OHM known to bioaccumulate are present within 2 feet of the ground surface, as is the case in the lagoons].

***[Additional Reviewer Notes:*** this review included a preliminary comparison of the sediment data from the two wastewater lagoons and the carbonizer lagoon to DEP-recommended freshwater sediment benchmarks (EPA region IV, OSWER, and the Ontario MOE low values). The results indicated that the average concentration of cadmium, chromium, mercury, lead, and zinc in samples from the carbonizer lagoon and trench, as documented in Table C-1, were 2 to 10 times higher than the recommended benchmarks. Samples from the carbonizer lagoon area also had PCB levels ranging from 0.2 to 0.76 mg/kg, compared to benchmark values of 0.023 to 0.070 mg/kg. Similarly, PAH and chromium values, as well as the biphenyl values consistently present in solid samples from the base of Lagoon 1 and Lagoon 2, exceeded the corresponding sediment benchmarks. A thorough ecological risk evaluation, including potential impact to surface water and wetlands posed by all contaminants including PCBs, would be needed to characterize the potential risk associated with the affected wetlands areas of the site.

Also, Appendix B of the RAO, in referring to the carbonizer lagoon area, concludes that remediation would be contrary to DEP policy discouraging work in wetlands solely to reduce contaminant concentrations to background. It should be noted that the MCP and associated DEP regulations make a distinction between concentrations that exceed applicable risk-based standards/benchmarks and concentrations that exceed background; in the case of the former, remediation is required to achieve a condition of No Significant Risk.]

### 3.0 RESPONSE ACTION OUTCOME AND ACTIVITY AND USE LIMITATION

The Response Action Outcome (RAO) at this site is based primarily on the use of an Activity and Use Limitation (AUL) to restrict future uses of the site. In brief, the AUL seeks to maintain future uses and activities in the consolidated Area #10 such that they are consistent with the S-2 designation said to have been created by the clean cover material. However, in Section 10.2, the RAO refers to the soil currently under cover in the Area #10 Consolidation Area as follows: "The averages for several PAH compounds and lead exceed MCP S-1 and S-2 standards. The Total Petroleum Hydrocarbon (TPH) concentrations exceeded the current (2001) MCP S-1 standards, although the TPH test has since been replaced by the Extractable Petroleum Hydrocarbon (EPH) procedure [...] Because these average concentrations exceed the Method 1 S-1 and S-2 standards, B&M has imposed an Activity and Use Limitation on the covered consolidation area in Area #10."

#### 3.1 Reviewer Questions and Comments re: RAO and AUL at the site

***Since the contaminated soil in Area #10 has not been placed on any kind of impermeable layer, the vertical extent of contamination in the landfill area has not been defined, and concentrations exceeding applicable standards have been left in place, how have the minimum requirements for an RAO been met?***

[310 CMR 40.1003(5)(a) states that: A Class A or Class B RAO shall not be achieved unless and until each source of OHM which is resulting or likely to result in an increase in concentrations of OHM in an environmental medium, either as a consequence of a direct discharge or through intermedia transfer of OHM, is eliminated or controlled. Such sources may include, without limitation: [...] contaminated fill, soil, sediment, and waste deposits.]

***How could an AUL be implemented at the site when soil concentrations exceed applicable Method 1 standards?***

As described in DEP's May 1999 Guidance on Implementing Activity and Use Limitations, Interim Final Policy #WSC 99-300:

#### **Section 2.5.3 Prohibited Uses of AULs**

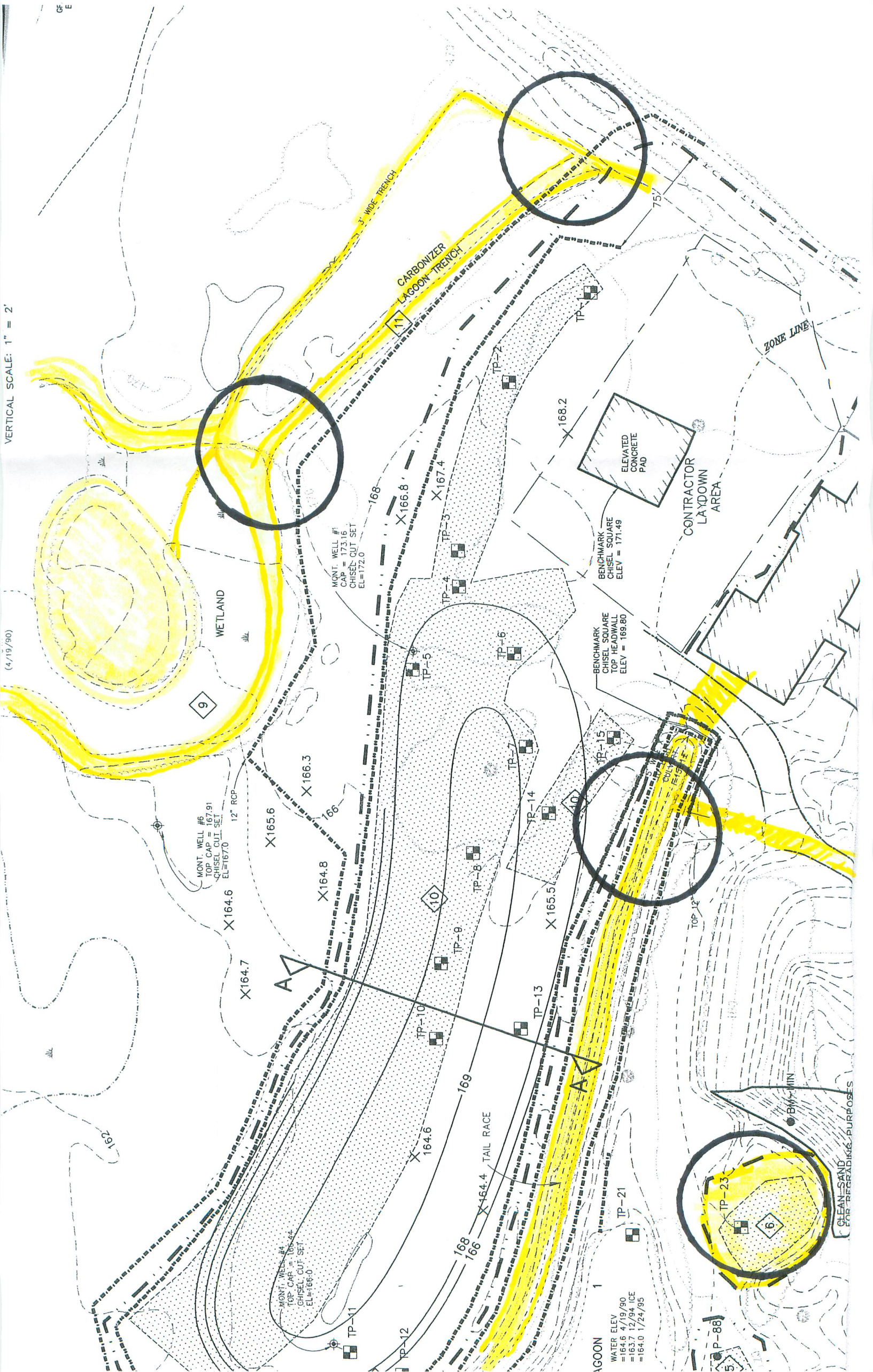
310 CMR 40.1012(4) states explicitly that an AUL cannot be used in lieu of an applicable Method standard. For example, when using Method 1, if the soil is categorized as S-2 and the calculated exposure point concentrations exceed an S-2 standard, cleanup to meet the S-2 level is needed to achieve a permanent solution. The implementation of an AUL does not negate the requirement to meet the applicable standards. Specifically, 310 CMR 40.1012(4) states that an AUL cannot be used to:

- change the category of groundwater categorized as GW-1 or GW-2 (except as provided in 310 CMR 40.0932(5)(d) with respect to existing private wells); or
- justify a conclusion of No Significant Risk when using Method 1 or 2 if an applicable standard is exceeded.

Further information provided by DEP in their February 1995 Q&A indicates that it is not possible to leave contaminated soil which exceeds Method 1 or Method 2 standards without using a Method 3 approach, which evaluates site-specific risk exposures.

VERTICAL SCALE: 1" = 2'

(4/19/90)



LAGOON  
 WATER ELEV  
 = 164.6 4/19/90  
 = 163.7 12/94 ICE  
 = 164.0 1/24/95

CLEAN SAND FOR REGRADING PURPOSES

# BUCKLEY & MANN

## PIP GROUP INFORMATION

### Contents:

- Licensed Site Professional questions - 10/3/01.
- Memo. to Town Boards dated 10/4/01.
- Q&A #1 dated 10/8/01.
- Letter from ANDERSON & KREIGER LTD dated 8/29/01

**Q&A #1**

**Prepared by the Public Involvement Plan (PIP)<sup>1</sup> Group for the Buckley and Mann site**

**What is this all about?**

A group of residents has learned that one of the properties being considered for the municipal Golf Course has been and still is contaminated, so we are trying to obtain information about the likely future liability for the town. We have prepared this Q&A based on information in a report<sup>2</sup> prepared by Camp Dresser & McKee, environmental consultants to the current owner.

**What does contamination mean?**

That there are toxic pollutants in the soil at the site, and that they are present at concentrations harmful to human health and the environment.

**Why does that matter to us?**

Because if the town buys the land, then by law it will be our responsibility to pay for the study (site assessment) and cleanup of the contamination. The study and cleanup costs have not been included in projected costs, and they could be hundreds of thousands or even millions of additional dollars. Depending on the extent of the contamination, it could also affect the time table for the proposed golf course, which would mean a delay in revenues from the project.

**But wouldn't this be taken care of, once we get environmental permitting for the Golf Course?**

No. There are two separate sets of regulations, the Massachusetts Environmental Protection Act (MEPA), which is the permitting commonly referred to when talking about the Golf Course, and the Massachusetts Contingency Plan (MCP), which regulates cleanup of contaminated sites. In order to build the Golf Course, the Town needs to get a MEPA permit, but that process primarily considers the potential impact of the Golf Course on the environment. Whether or not the MEPA permit is issued, once the Town buys contaminated land, it is responsible for studying and cleaning it up in accordance with the MCP.

**What is known about the contamination at the site?**

That there are toxic compounds exceeding health standards in the soil at a former landfill, and that there are toxic compounds present in nearby lagoons and wetlands. These are the only areas that have been studied so far, so we do not know the extent of any contamination that may be present in other parts of the site, such as the former mill buildings.

**What are the contaminants that are present?**

They are called PAHs<sup>3</sup>, PCBs, and metals such as lead and chromium. According to the EPA, the types of PAHs in the soil at the site are probable human carcinogens (i.e. cancer-causing chemicals). The use of PCBs has been banned in the US because of their severe health impact; they are a particular concern near ponds and rivers because they accumulate in fish and small animals, and ultimately in people who fish or hunt in such areas. Chromium is a known human carcinogen, and lead can cause neurological damage, particularly in children. We do not know what contaminants may be present in other parts of the site because they have not been studied. However, based on the age and use of the property as an industrial site, there may also be asbestos, lead paint, waste/debris, or chemicals that were used in operations in those areas.

**Has any of the contamination been cleaned up?**

Some, but not all. A small amount [315 cubic yards] of soil was removed off site for disposal. The rest of the soil with contaminants - about 4,500 yards - was excavated and then buried in the landfill area without any lining beneath it. According to the reports, the contaminant levels in the soil still exceed human health standards.



### **What does this mean for the town, if we buy the property?**

If the town buys the property, we will assume the liability for all cleanup that is required by State regulations and the cost of all subsequent investigation and remediation in the future. This includes the known problems of finding out the extent of the contamination in the landfill and the lagoons, cleaning up the material in the landfill area so that it doesn't pose a risk to human health or to the wetlands, and possibly conducting a cleanup in the lagoons area. Also, because the contaminants are so close to the Mill River and Tail Race brook, we would have to pay for a study of those areas, and for a cleanup if necessary. And all of this doesn't include other areas of the property, such as the area of the mill buildings, which haven't yet been studied.

### **What kinds of contamination could be present in the areas that have not been studied?**

Potentially asbestos, lead paint, chemicals, PCBs. According to the consultant's report, scraps of building material found at the property were believed to be asbestos from the original siding. If there is asbestos present in the mill buildings, there would be costs associated with abatement or disposal. Also, because of the age of the buildings, there may be lead paint present. Other potential sources that would need to be investigated include spills of chemicals associated with former industrial operations, floor drains, sumps, equipment pits, fuel tanks, and on-site transformers that may have used PCBs. Based on its long history as an industrial site, the property warrants a thorough investigation.

### **What would the total costs be?**

It's hard to say, because only partial work has been done so far. Depending on the total amount of contamination, costs for cleanup in wetlands areas, cleaning up groundwater so that it's safe to drink, and cleaning up asbestos can run into millions of dollars, so it's important for the town to know the extent of the problem.

### **How can I learn more about this?**

Come to the public hearing to be held at the Freeman Centennial Auditorium at 7 pm on Tuesday, October 23, 2001. There will be a presentation by the owner's consultant, followed by a question-and-answer session. Written information about the site can be found in the library's reference section and at the Conservation Commission offices in Town Hall, and updates of the PIP group's activities will be occasionally posted on-line at [www.norfolknet.com](http://www.norfolknet.com).

#### Footnotes:

- (1) The MA Department of Environmental Protection's "Public Involvement Plan (PIP)" process is a process by which concerned residents can get information about and provide input to cleanup activities at contaminated sites in their community.
- (2) Information in this Q&A was obtained from the following report prepared by Camp Dresser and McKee, Inc., consultants to the current property owners: *August 2001 Class A-3 Response Action Outcome and Release Abatement Measure Completion Report, Buckley and Mann, Inc., Norfolk, MA.*
- (3) PAHs: Polycyclic Aromatic Hydrocarbons; PCBs: Polynuclear Aromatic Hydrocarbons. Additional information about the compounds present at the site can be found at: <http://www.atsdr.cdc.gov/toxfaq.html>

## MEMORANDUM

To: Norfolk Board of Selectmen, Norfolk Town Administrator, Norfolk Board of Health, Norfolk Conservation Commission, Norfolk Golf Committee  
From: Public Involvement Plan (PIP) petitioners - Buckley and Mann property, Norfolk  
Date: October 4, 2001  
Re: Environmental Issues at the Buckley and Mann property

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This document has been prepared to complement the memorandum submitted by the PIP group to the Licensed Site Professional for the Buckley and Mann property located on Lawrence Street, in Norfolk, Massachusetts. Its objective is to outline, in non-technical terms, some of the environmental issues and liabilities associated with the property.

### Summary of Site Conditions

- Contaminated soil exceeding applicable human health risk standards has been left in place at the former landfill area, and, based upon the information included in the Response Action Outcome Report (closure report) dated August 2001, the depth of the contamination has not been determined. This suggests that work to date has not achieved a condition of "No Significant Risk" as defined by the regulations.
- According to the closure report, contamination, including PCBs and metals, has been found at concentrations exceeding ecological risk benchmarks in the lagoons at the site. No further assessment, risk characterization, or remediation of these areas was conducted.
- Because a deed restriction has been filed for the site, the State Department of Environmental Protection will conduct an audit of the work done to date as mandated by law. If a property transfer occurs prior to that audit, the new owner of the property will be liable for remediating all deficiencies identified by the audit, and for completing the assessment and cleanup activities required to bring the site into compliance with regulations.
- Based upon the information presented in the report, work done to date was limited to the former landfill and lagoons. Other areas of operation, including the former mill buildings, dyehouse, and tanks, have not been investigated. Unless stated so in legal documents associated with the sale of the property, if the property is sold, the new owner will be liable for all existing environmental contamination found during their ownership.
- According to the RAO report, it is believed that asbestos was present in the original building siding materials. If the presence of asbestos on the property is confirmed, asbestos abatement and/or disposal would be the responsibility of the owner at the time of building renovation or demolition. With the age of the buildings dating back to the early 1900's, lead paint may also be present.

### **Current Regulatory Status**

Approximately 12 acres of the 143-acre property have been investigated since 1986, and in August 2001, a Response Action Outcome (RAO) with an Activity and Use Limitation (AUL) was filed for the site. The filing of the RAO means that a Licensed Site Professional (LSP) employed by the property owners concluded that sufficient work had been conducted to meet the requirements of the Massachusetts Contingency Plan (MCP), which regulates subsurface environmental assessment and remediation activities in Massachusetts. In general, the AUL is a deed restriction which limits certain uses of parts of the property. This deed restriction may limit the type of development, site excavation, and other future site activities. The AUL also requires long term obligations such as monitoring, inspections or repairs of the engineered barriers which are incorporated into the AUL at the Buckley and Mann property.

Once an RAO has been filed, the site is subject to audit by the MA Department of Environmental Protection (MADEP). Because an AUL has been filed as well, the Brownfields Act of 1998 applies: "The Department of Environmental Protection shall perform a targeted audit on all sites at which an activity and use limitation has been implemented in order to ensure that response actions not overseen or conducted by the department are performed in compliance with Chapter 21E and regulations promulgated thereunder. In the event the department determines that a targeted site is not in compliance with Chapter 21E, it shall take any and all action it deems appropriate to enforce the provisions of said chapter." There is no statute of limitations on the timing of the audit, although the audit will be typically completed within 5 years of the RAO report being submitted.

Any deficiencies identified during a future audit, as well as any environmental risks identified during future use of the site that require notification to the MADEP, would be the liability of the property owner at the time of the audit or notification, not the owner at the time of the original release, unless legal documents associated with the property transfer specifically stated otherwise.

### **Summary of Environmental Assessment and Remediation**

The primary areas of the site that were investigated include a 2-acre former landfill, two wastewater lagoons, and a carbonizer lagoon. These areas are located between the Mill River and the Tail Race (brook), in an area that has been designated as a Zone II to protect a neighboring town's drinking water supply. Samples were collected from these areas and analyzed for metals, total petroleum hydrocarbons (TPH), and polynuclear aromatic hydrocarbons (PAHs - heavy petroleum compounds); samples from the carbonizer lagoon were also analyzed for polychlorinated bi-phenyl compounds (PCBs).

Soil from some of the areas investigated was found to exceed applicable soil standards for lead, TPH, and some of the PAHs. The depth of contamination in the landfill area was not determined. Approximately 315 yards of soil with high metals concentrations was transported off-site for disposal. The rest of the soil with contaminants, as well soil from the landfill area (a total of 4,550 cubic yards), was excavated, consolidated, and then placed back in the landfill area with no underlying barrier to prevent leaching into the groundwater. The RAO report states that some concentrations in the area exceed applicable human health risk standards, and that an AUL (deed restriction) was therefore filed for the site. The AUL requires that 3 feet of clean cover and

an impermeable fabric barrier be maintained over the landfill area, prohibiting unrestricted use of the area.

In addition, sediment from the carbonizer lagoon area was found to have cadmium, chromium, mercury, lead, and zinc concentrations at 2 to 10 times higher than sediment benchmarks, and PCB levels that ranged from 3 to 30 times benchmark values (comparison conducted by PIP members). Similarly, PAH, chromium, and biphenyl values in the other lagoons exceeded corresponding sediment benchmarks. No ecological risk characterization, as required by the MCP, was conducted in the area of the lagoons, and no remediation was conducted; instead, this area was also placed under a deed restriction limiting future use.

### **Known Environmental Issues**

Existing contamination has been left in place at the landfill area, at concentrations exceeding the human-health standards that would apply to current and future users of the site.

According to the Massachusetts Contingency Plan (MCP), which is the regulation that governs assessment and cleanup in MA, an RAO cannot be achieved until existing sources of contamination, including contaminated soil or sediment, have been eliminated or controlled. The MCP further states that an AUL (deed restriction) cannot be implemented in lieu of meeting an applicable standard. Therefore, it appears likely that a State audit of the site will characterize the existing RAO and AUL as deficient. The property owner at the time of audit would be responsible for conducting whatever assessment, risk characterization, or remediation activities were required to meet applicable standards.

The extent of contamination has not been fully determined, especially with respect to depth, in the area of the landfill.

Additional assessment and remediation activities, if required by an audit, are likely to encounter groundwater, and to hence be more expensive due to costs associated with engineering controls (excavation shoring, pumping groundwater, etc.) and potential wetlands regulations.

Contamination, including metals and PCBs, is present in the lagoons at the site at concentrations that exceed ecological benchmarks.

The extent of these contaminants has not been determined, and the ecological risk was not evaluated as required by the regulations. The property owner at the time of audit is likely to be required to evaluate extent and risk, as well as to conduct remediation if warranted by the data. Given the applicability of the Wetlands Protection Act to parts of this site, assessment and remediation activities could be significantly more costly than in a non-wetlands area with similar concentrations.

The sampling program was limited (for example, it excluded the Tail Race and Mill River).

Because of their proximity to areas of contamination, regulations require that these areas be assessed, and if such sampling were to be conducted as the result of an audit, it would be at the (new) owner's expense.

### **Potential Environmental Issues**

Investigations to date did not include the area of the dyehouse, which was operating until 1986 and which discharged effluent to the lagoons; any of the other on-site factory buildings; or the diesel and fuel oil underground storage tanks that were removed between 1986 and 1993. Therefore, it is not conclusively known whether there is any subsurface contamination from former operations in this area, or from the tanks. Assessment and remediation of any releases that may be found during future operations at the site will be the responsibility of the owner at the time of release identification, not the original property owner.

The RAO refers to the off-site disposal of Transite panel scraps that were trimmings from original installation of Transite panel building siding used on site, and states that the panels were believed to be asbestos-containing material. This suggests that there may be additional asbestos in the on-site buildings, which would require abatement and/or disposal during any future renovation or demolition activities.

The RAO further states that "all textile processing equipment debris, large timbers and concrete blocks were segregated and stockpiled out of the work area. This material will be disposed of coincident with demolition of the buildings, at a later date." The quantity and cost of removing this material is unknown, but it may be the responsibility of a future property owner.

### **Conclusions**

Review of the RAO suggests that there are deficiencies in the RAO and AUL documents filed for the site. An audit of the site is mandated by law, and the property owner at the time of audit will be liable for costs associated with remediating deficiencies identified by the audit. Therefore, a comprehensive evaluation of the work done to date, plus a conservative estimation of the cost for full compliance with regulatory requirements, is warranted at this site. The evaluation should also consider the limitations established by the AUL, since these restrict future use of the site and may hence affect its potential value to the town, and the costs associated with maintaining the restrictions established by the AUL for the foreseeable future.

In addition to a review of the work done to date, an investigation should be conducted to establish the extent of potential releases in areas that have not been investigated thus far. This assessment should, at a minimum, include an evaluation of asbestos abatement/removal requirements, potential spills and releases associated with the former textile mill operations (including, for example floor drains, sumps, equipment pits, PCB transformers, and lead paint), and potential spills and releases associated with the former underground tanks on the property. It may also include additional assessment in the wetlands and surface water body areas of the site in order to estimate potential cleanup costs in those areas.

The results of these evaluations would not necessarily preclude the purchase of the property, but they should be incorporated into a feasibility study of the land purchase and use plans. Potential mechanisms to protect town interests include indemnification of the town against known and unknown existing environmental contamination, lease of the land in lieu of purchase, and/or the use of escrow accounts to reserve monies for environmental cleanup activities.



**CRWA**

Saving the Charles River since 1965

February 13, 2018

Matthew A. Beaton, Secretary  
Executive Office of Energy and Environmental Affairs  
Attn: Erin Flaherty, MEPA Office  
100 Cambridge Street, Suite 900  
Boston, MA 02114

***RE: Environmental Notification Form The Preserve at Abbyville and Abbyville Commons, EEA #15796***

Dear Secretary Beaton:

The Charles River Watershed Association (CRWA) has reviewed the Environmental Notification Form for The Preserve at Abbyville and Abbyville Commons (the “project”). The project, as proposed, will have a significant impact on the natural environment and the Charles River and requires additional investigations and changes prior to implementation. In particular, more detail regarding the stormwater management plan needs to be presented in the DEIR and additional opportunities to employ low impact development (LID) techniques should be included.

The project, as noted in the ENF, does meet a need for housing and specifically affordable housing, however the project will result in nearly 44 acres of alteration to primarily forested and successional natural land. Trees and forests provide significant benefits in the form of water quality improvements, flood control, air quality improvements, and temperature regulation. One-to-one mitigation of trees removed should be required onsite, to the maximum extent feasible, and offsite within the Town of Norfolk otherwise. The benefits of new young trees will not be the same as the mature trees removed but a minimum of one-to one tree replacement should be required.

Furthermore, this project involves increasing impervious cover on an area of very well-draining soils which will alter the hydrologic cycle in this subwatershed which is already impacted (Net Groundwater Depletion Category 5). The ENF notes that runoff from up to the 100-year storm will be infiltrated on-site but does not specifically demonstrate how the project will comply with the Total Maximum Daily Load (TMDL) for Nutrients in the Upper/Middle Charles River, Massachusetts. The ENF references some additional stormwater management documents regarding system sizing, these should be submitted to MEPA along with calculations showing that the project complies with the TMDL which requires no additional inputs of phosphorus to the river and a significant reduction from existing development. Given the site’s conditions, the project developer and the Town of Norfolk should consider opportunities to treat additional, off-site runoff on the project site as well. The ENF also refers to “infiltrating roof downspouts, landscaping with trees and shrubs, and vegetated filter strips” but does not provide any specifics regarding locations or volume of stormwater treated.

The ENF states that the project utilizes a clustered design, however, this and other LID design tools and techniques could be taken further. The stormwater management plan includes multiple large infiltration/detention basins on site, however, there are considerable opportunities to incorporate small scale, onsite infiltration systems such as rain gardens, permeable driveways, and infiltrating tree trenches along roadways. The applicant should also explore the use of vegetated swales as an alternative to underground, grey stormwater infrastructure; green roofs for larger buildings; and each single occupancy residence should be required to have a water reuse cistern system for lawn and garden irrigation. Stormwater infiltration (or reuse to infiltration) is a win-win for this project, since it will enhance groundwater supplies, which in turn provide needed baseflow to surface waters and reduce stress on the Town's already stressed water supply.

The project should explore further reduction of lot size and shared driveways to increase "clustering". Landscaping around the housing units should be natural, employing native, drought tolerant plants, not lawn area as Norfolk has strict limits on outdoor watering. It is encouraging that the project as proposed involves the preservation of approximately 140 acres of open space, however, it is not clear what, if anything, would prevent development on that area in the future. This land should be transferred to the Town or a local Land Trust, or have a permanent conservation easement attached.

The site abuts the Mill River, an important tributary to the Charles River. While the Charles River is classified as medium stressed under the Water Resources Commission's *Stressed Basins Report* (2001), this section of the watershed should more properly be classified as high stress. Flows in Mill River are already impacted by water withdrawals and the water body is listed as a category 5 waterway impaired for temperature; new imperviousness only exacerbates this problem, although infiltration of stormwater and wastewater will help mitigate impacts. Irrigation water should be supplied by harvested rainwater or treated wastewater.

The groundwater analysis neglects to include mobilization of contaminated soil or groundwater as a potential impact. As the groundwater flow is demonstrated to move across the site toward the AUL area and then toward the Mill River there is a potential risk of contaminant mobilization into the Mill River. The project should consider the use of a natural wetland system to reintroduce treated wastewater effluent back into the environment. The wetland system could direct effluent around the AUL area and provide water quality and habitat benefits.

The onsite wastewater treatment system should be designed as a Community Water and Energy Resource Center (or CWERC), a system equipped with energy generation such as thermal heat pumps, anaerobic digestion, and combined heat and power systems to offset energy use at the treatment facility. CWERCs also produce reuse water for onsite use and recycle nutrients through composting or nutrient extraction. Treated water should be used within the development for irrigation and toilet flushing. The Town of Littleton is currently planning a CWERC facility that will treat a relatively small flow volume from their downtown area that can serve as a model for this project.

As noted, the Town of Norfolk's water supply system is stressed in the summer month under existing conditions. Despite strict watering bans, they saw an increase in water use during the summer of 2016, the state's historic drought. The DEIR should include more discussion of potable water demand and potential stress on the system and as stated above, include additional water conservation measures to ensure no potable water is used for irrigation and reduce in house potable demand.

The boathouse design should be refigured to avoid and wetland impacts. The temporary dock should be installed without causing any bank erosion. The boathouse and dock should be open to the public. Any new trails or walking paths should all be constructed with pervious cover surfaces.

The project should be required to fund regular shuttle to nearby public transportation facilities to further reduce vehicle miles traveled and greenhouse gas emissions. The project should include a bike sharing station for bicycle access by residents who do not own their own bike. The project should be required to utilize only energy efficient lighting and appliances. All plumbing fixtures and appliances should be low-flow systems with high water conservation ratings.

Please feel free to contact me should you have any questions at (781) 788-0007 or via email: [jwood@crwa.org](mailto:jwood@crwa.org).

Sincerely,

A handwritten signature in black ink that reads "Julie Dyer Wood". The signature is written in a cursive, flowing style.

Julie Wood  
Director of Projects, CRWA

cc: Janet DeLonga, Agent, Norfolk Conservation Commission



**From:** [Christopher Wagner](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** Re: Abbyville EEA#15796  
**Date:** Tuesday, February 13, 2018 7:17:52 AM

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Hi Erin,

I'm sorry for the multiple emails, but I recalled something I forgot to mention. We have concerns with both the use of the Buckley and Mann former mill site for a staging area, and the subsequent dismantling of the foundations and culverts in the area. Although the buildings were razed by the town, this land was never previously tested by the DEP. We do not know what exists in these soils and structures, which would be disturbed and released with these proposed construction activities. Toxic chemicals were released into landfill area and wastewater lagoons, as found by the DEP, so logic would hold that those same hazardous materials existent around and beneath ear the buildings where they were handled. The ENF makes no mention of this likelihood in discussions of this demolition and handling and disposal of the resultant solid waste. I feel that there are multiple concerns for release of carcinogens and other hazardous waste into the water supply and air, which are not being taken seriously by the applicant. Please be aware that the land owners and applicant are not in compliance with the DEP's remediation plan. The AUL and the protective barrier and cap have not been inspected since the original work was done in the early 2000's. The town did not purchase this land due to concerns with the hazardous waste, and now the applicant proposes that it pass into ownership of the home owners association. Endangering public health, and passing the buck in this manner should not be allowed, nor taken lightly.

Thank you again

On Tue, Feb 13, 2018 at 1:11 AM Christopher Wagner <[wags67@gmail.com](mailto:wags67@gmail.com)> wrote:  
Additional details on our concerns can be seen in the attached table. It is not polished, or complete, but it demonstrates many of our concerns.

On Tue, Feb 13, 2018 at 2:07 AM, Christopher Wagner <[wags67@gmail.com](mailto:wags67@gmail.com)> wrote:

Hello Erin,

My name is Chris Wagner and I am writing to express my serious concerns regarding the proposed Abbyville Commons and Abbyville Preserve projects at 17 Lawrence Street and adjacent parcels. In addition, in reading the final Environmental Notification Form (ENF), I have found many inconsistencies and inaccuracies. I will address them in the order presented in the ENF.

In the description of the physical elements of the project, and it's existing conditions, the ENF states that 18.1 acres of the 62 acre footprint was previously disturbed and that 43.74 acres of new land is to be altered. I contest that of the 18.1 acres of previously disturbed land, only the 2.06 acres of the former mill area should not be considered newly altered land. The impervious surfaces of the mill areas have not returned to a natural state. However, the gravel pits have not been used in over 30 years. In that time, they have reforested. This land is not simply "open sand and successional areas"; it is now comprised of a pine forest and vernal pools. That land will be clear cut, and further excavated with this project. In the 14 acre gravel pit resides large outcroppings of ledge

that are designated as cut areas on the TetraTech cut/fill analysis. Additionally, "Figure 4: Existing Conditions" does not clearly delineate the 14 acre former SM Lorusso gravel pit area, or show where the supposed 4.1 acre open gravel pit in the northern interior of the site is actually located.

Therefore, when we consider the Summary of Impacts, the new land disturbance is really 59.78 acres. Much of this land is oak forest, which is not even mentioned in the existing vegetative cover portion of the ENF. The land disturbance is listed as a "temporary impact" during the construction phase. This land disturbance is in no way a temporary impact. The project plan would completely alter the topography of the area, taking previously undisturbed land, clearing it of all vegetation, and removing off site nearly 1 million cubic yards of material. Cut areas change the elevation 65 feet, effectively extending the previous gravel pit throughout the property. I would be remiss if I didn't mention that SM Lorusso, the current owner of all lots that are not the 17 Lawrence Street Buckley and Mann property, ran the previous gravel mining and is now a partner in Abbyville LLC.

The ENF specifically mentions two certified vernal pools in very close proximity to the proposed project footprint, as well as four other potential vernal pools. There has been no evaluation of whether those four additional vernal pools represent habitat for protected species, therefore, any suggestion that this project represents no take of habitat is not valid. I am particularly concerned since the [BSG Group, Inc.'s report and findings included in DiPlacido Development Corporation's request for a Project Review](#) dated 6/12/17, notes the following two areas on the property.

- Wetland G - "...has been certified as a vernal pool and characterized as a cottonwood open pool cover type. The pool appears to have been certified due to the presence of fairy shrimp but does not appear to support mole salamander species."
- Wetland L - "...includes two basins with sufficient biological indicator evidence to be certified as vernal pools. This is one of the areas on site mapped as Woodland Vernal Pool cover type, and provides potential breeding habitat for the marbled salamander."

Yet, there has been absolutely no effort made to examine these vernal pools. I feel that the Massachusetts Division of Fisheries & Wildlife needs to dig further here. Given the diversion of stormwater runoff away from the certified vernal pool "Wetland G", I doubt it will continue to fill with water in the spring, and the other potential vernal pools are well within the 1000 foot buffer required of marbled salamander habitat.

This project is extending a gravel mining operation through untouched oak forest and highlands of the Buckley and Mann property. This level of earthworks is in no way necessary or incidental to the development of the land. NO attempt has been made to work with the existing topography. The extensive "grading" is not "due to site topography", as the ENF suggests, but is a for profit excavation of materials. This gravel mining results in extreme truck traffic. Although the ENF states that truck "loads" will be limited to 60 "loads" per day, that number equates to 120 actual truck trips per day. Based on the proposed 6 hours allowed for these trucks, equates to a truck entering or exiting the site every 3 minutes. These are 18-wheel dump trucks traveling on narrow country roads for nearly a decade.

The full environmental impact of such drastic alterations in topography are dubiously lacking in the ENF. It states that "results of the hydrogeological

evaluation for the groundwater discharge indicate that flows will not adversely impact nearby sensitive environmental resources, including the existing Franklin Mill Wells, the potential municipal well, and the private wells on nearby properties." That hydrogeological evaluation was determined by the Norfolk Zoning Board of Appeals to not fully address the town's concerns. For that reason, the town acquired the services of Horsley Witten to conduct an independent evaluation. We do not have enough evidence as to what this earth removal will mean when we look at ground water supplies for private wells. All of that 990,000 cubic yards of earth current stores and filters water, but it would be gone if this project moves forward. What does such an unprecedented practice mean to the subsequent water quantity and quality? Furthermore, the developer's hydrogeological study mentions that a "bedrock valley likely constrains groundwater flow towards the northeast. Yet, the project proposes cuts as deep as 65 feet. How deep is this bedrock valley? I worry that these excessively deep cuts will dig down to, and below bedrock. There are bedrock outcrops currently on the property, suggesting that further bedrock will certainly be encountered, necessitating extensive blasting, and likely alteration of this "bedrock valley". Thus, groundwater flow constraints cannot be guaranteed in any way.

Other "temporary" impacts of construction are far from temporary given the fact that this project is proposed to last at least 7 years. Thus, there would be nearly a decade of drastically increased traffic, noise, fugitive dust, etc. Additionally, stating that "existing vegetation will remain when feasible", is extraordinarily misleading when 59.78 acres out of the 62 acre footprint is to be disturbed, and 43.7 acres of was never previously cleared in any way. The Summary of Mitigation actually states that "the project was designed to avoid and minimize impacts." In no logical world is 1 million cubic yards of earth removal a minimized impact. This property could be developed with far less earth removal...ideally staying within town bylaw limitations on earth removal (not to exceed 5,000 cubic yards with a special permit).

The Alternatives Analysis is rife with inaccuracies that misrepresent the truth. The "No Build" Alternative posits that unauthorized ATV/ORV activity on the property results in additional runoff, and dares to compare that minimal runoff to the effects of a commercial gravel mining operation followed by the introduction of more than 15 acres of new impervious surface. The fact that this unauthorized use could be mitigated is not even mentioned. Furthermore, all of the waste water from the proposed development will flow towards the AUL. Present topography has half of the runoff flowing away from the AUL, due to the elevation disparity. The proposed development would completely remove the highlands that separate the gravel pit from Bush Pond, the Mill River, and the AUL. We legitimately do not know what impact groundwater mounding, no matter how minimal, will impact the AUL. The AUL includes the tail race canal, which has very slow flowing water that does not freeze. Just recently we had unprecedented cold weather yet the water in the tail race did not freeze. I have serious concerns about the impact that all of these earth works and likely blasting will have on the existing toxic materials and their migration downstream.

The Current Zoning Alternative states that a potential scenario for a subdivision buildout under R-3 zoning resulted in 63 55,000 square foot lots on the property. That property analysis was conducted by Thomas DiPlacido (the developer of this proposed project) and presented to the Norfolk Board of Selectmen in

January of 2014. At that meeting, the head of the conservation commission shot down the feasibility of that scenario due to the unmitigated and serious impacts on existing wetlands. Issues included roadways, a bridge, and buildings far too close to wetland resources. In fact, a proposed subdivision on this same property brought to the Town of Norfolk by Colwell Homes at least 6 years earlier comprised of far fewer than 30 house lots. None of that proposed subdivision attempted to build on the east side of Bush Pond and the Mill River due to wetland concerns. The 2008 real estate collapse ended the Colwell subdivision plans, but I feel that Colwell's plan layout is the reasonable extent to which a traditional subdivision would spread. For these reasons, the entirety of the argument against following current zoning laws for development of this property are unfounded. A subdivision following R-3 zoning would not preclude the preservation of open space, and would not result in additional grading and earth removal. The current proposed footprint of this development is the maximum extent of land that could be considered for development.

The "Preferred Alternative" is preferred only by the developer, and the majority of the "benefits" would occur without this development. The 140 acres of open space is currently open space, and would remain open space wither with the no build or current zoning options. The potential future municipal well site could still be pursued by the Town of Norfolk without this development, and there is no statement of the actual potential for that well, or the impact it would have on the Charles River Watershed area, or the surrounding private wells. The wastewater and stormwater management is only necessary due to the incredibly dense proposed development. Finally, this cluster style development does not minimize impacts to environmental resources when it results in clearcutting and mining 60 acres of land in a Zone II groundwater protection area in close proximity to a toxic landfill.

I'm not even certain why the Title V Alternative is mentioned at all when the developer is proposing over 200 units. Title V is a viable alternative if the developer were to follow existing town zoning, conservation laws, and other town bylaws regarding subdivisions.

A final statement that I must question is the following, "The Town of Norfolk is undertaking the reconstruction of the small concrete bridge along Lawrence Street. The bridge reconstruction is long overdue and necessary regardless of the Abbyville Project. The Project is not contingent upon this work because there is alternative access to the site that could be utilized during the construction phase. The Town recently received a MassWorks grant to support the bridge reconstruction."

This quote is extraordinarily inaccurate. The "town" project pushed for and monetarily augmented by the developer involves not just the small concrete bridge, but also over 500 feet of causeway, roadway, and a retaining wall and walkway. Additionally, the TetraTech letter included in the ENF contradicts the statement that this proposed project is not contingent upon the bridge and causeway project. It states, "The CMP agrees to defer earth removal trucking until improvements to the Lawrence Street causeway section have been completed and suggests appropriate measures should the reconstruction of Lawrence Street be delayed."

Although bridge improvements are necessary, the vastly increased heavy truck

traffic and post-buildout traffic are the real reasons for the accelerated project. In fact, the MassWorks grant requires a project with a housing density of 4 homes per acre. Therefore, the two projects are interdependent. Furthermore, no "alternative access to the site" was ever discussed with the Town of Norfolk, or adjacent town of Franklin.

Abbyville Commons and Abbyville Preserve represent an utterly unnecessary and unprecedented earthworks operation masquerading as affordable housing. In fact, retaining only the Abbyville Commons project, and vastly reducing the earthworks and footprint of the project would actually have a bigger impact on the percentage of affordable housing in the town. Abbyville represents more total units and acreage than the 7 other 40B projects currently submitted to the Town of Norfolk combined. The earthworks proposed are for monetary gain, and I believe they represent a significant risk to the environment, wildlife, and public safety. This plot and roadway plan needs to be re-worked to fit with the natural topography of the land.

Thank you for your consideration,  
Christopher, Arthur, and Geraldine Wagner

**From:** [Bryan Lowe](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** Abbyville EEA#15796 CONSERVATION COMM  
**Date:** Tuesday, February 13, 2018 2:03:42 PM

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Hi Erin,

Please help us! We cannot allow this strip mining activity in our woods. This is right behind my house and the amount of animals that reside in these woods is immeasurable. This "Abbyville" proposal was never announced to the Residents of Franklin, which is where all of the displaced wildlife will end up fleeing to. Our concerns include but are no where near limited to ground water, contamination, blasting, dust, noise, pollution, wildlife, traffic, safety, etc. I could rant to you all day, but I just want you to be aware that this proposal is being done WITHOUT notifying an entire town (Franklin). We haven't even had enough time to do our research, let alone come up with a plan to save out animals and our Open Space. Please help us and our wildlife. This proposal is devastating to our local community and I cannot sleep knowing that this was being passed without the knowledge of Franklin Residents.

Please Help!  
Bryan Lowe

**From:** [Betty Ann Wakely](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** The Preserve at Abbyville and Abbyville Commons EEA#15796  
**Date:** Tuesday, February 13, 2018 11:12:18 AM

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Erin,

I am writing to you about my concerns that the proposed Abbyville project on Lawrence St in Norfolk will have on that land, but also on the surrounding environment, not only during construction, but also in the long run. I was part of the group of residents who participated in the Site walk on Friday, February 2. Although I have lived in Bretts Farm across from the Buckley Mann property for 20 years I have never walked all those beautiful, hilly trails before. I was struck by how magnificent that land is but also shocked to understand the magnitude of the cuts and fills that are part of the existing plans. I ask that you consider pushing back on the applicant to reduce the amount of cuts to the land in order to retain as much of the natural topography as possible. Obviously a reduction in the cuts and fills will also reduce the number of truck trips that occur through our neighborhoods emitting both noise and air pollution.

As we have a private well, I am also quite concerned about the potential impact a new town well at that site may have on our well's flow. Additionally, we are very concerned that the utmost caution be exercised with blasting for the impact on our gunite pool, foundation, septic tank and well.

I echo all the other concerns that my neighbors have raised about the wetlands issues and the potential disturbance of the unlined AUL.

--[if !supportLists]-->• <!--[endif]-->**15.6 acres new + 2.1 acres current = 17.7 TOTAL acres impervious area = MORE STORMWATER to wetlands, possibly decrease water to aquifer which supplies local public and private wells. NEEDS FURTHER STUDY.**

--[if !supportLists]-->• <!--[endif]-->**43.7 acres new land altered by deforestation = LOSS OF HABITAT for animals, birds and all other wildlife**

--[if !supportLists]-->• <!--[endif]-->**1 MILLION cubic yards of earth is a "substantial net export"<sup>1</sup> (VS 200 cu yds avg home) =GRAVEL PIT IN R3 ZONE**

--[if !supportLists]-->• <!--[endif]-->**90 TRUCK TRIPS/day AVG; 120 TRUCK TRIPS/day MAX (pg 15-16 Construction Management Plan)=POLLUTION**

--[if !supportLists]-->• <!--[endif]--> **82,000 Gravel Truck Trips of 18-wheelers on Park St and Main St = HEALTH & SAFETY RISK to PUBLIC WELFARE**

--[if !supportLists]-->• <!--[endif]-->**Logging trucks/construction vehicles not included in number of truck trips or traffic studies=BIGGER PROBELMS**

--[if !supportLists]-->• <!--[endif]-->**Excavation depths up to 60' in 5 Phases over 8-years (Phasing Timeline & Figure 7 ENF<sup>2</sup>)=EROSION + HAZARD**

- [if !supportLists]-->• <!--[endif]-->**Located in ZONE II Wellhead Protection Area with Toxic Landfill on Buckley & Mann property (Figure 6 ENF<sup>2</sup>)**
- [if !supportLists]-->• <!--[endif]-->**WASTEWATER of 64,000 GPD treatment plant design unfinished, raises groundwater elevations 5.6' to 178' at the leach fields and 2-3" rise near the Tail Race. (pg A24 ENF)=COULD IMPACT AUL BURIED CONTAMINANTS.**
- [if !supportLists]-->• <!--[endif]-->**NEED TO DETERMINE GROUNDWATER ELEVATIONS WITHIN AUL, ESPECIALLY NOW WHEN GROUND SATURATED**
- [if !supportLists]-->• <!--[endif]-->**BATTLE of INDIAN ROCK Norfolk Indians, Native Americans lived/died here=ARCHOEOLOGICAL/CULTURAL AREA**
- [if !supportLists]-->• <!--[endif]-->**Amphidrome Wastewater Treatment System (ENF pg A-4) is not odor free; NEEDS ODOR CONTROL SYSTEM**
- [if !supportLists]-->• <!--[endif]-->**Greenhouse Gas analysis does not account for gravel trucks = 6500 Metric TONS CO<sub>2</sub> MORE GHG ESTIMATED**
- [if !supportLists]-->• <!--[endif]-->**Dust Pollution from excavation, possible silica content=NEED PERIMETER AIR MONITORS for levels & content**
- [if !supportLists]-->• <!--[endif]-->**Possible Breathing difficulties for the young and old due to air pollutants and particulates = HEALTH RISK**
- [if !supportLists]-->• <!--[endif]-->**NON-POINT SOURCE POLLUTION from gravel pit impact on Bush Pond, Mill River, wetlands and wildlife**
- [if !supportLists]-->• <!--[endif]-->**NOISE POLLUTION 8 years in residential zone impacting children, families and work-at-home residents**
- [if !supportLists]-->• <!--[endif]-->**NOISE POLLUTION & possible STRUCTURAL DAMAGE to septic tanks, foundations & wells if BLASTING occurs**
- [if !supportLists]-->• <!--[endif]-->**Structural integrity of Geotextile on Landfill in jeopardy from construction/changes to site topology=SERIOUS**
- [if !supportLists]-->• <!--[endif]-->**No protective barrier under contaminants buried on site in Landfill known as AUL (Activity and Use Limitation)**
- [if !supportLists]-->• <!--[endif]-->**Piping in/under foundations once carried contaminants to lagoons=NEEDS EPA STUDY verify if safe to remove**
- [if !supportLists]-->• <!--[endif]-->**Two Potential Vernal Pools near Wastewater Treatment Plant and Infiltration Basin #1 may be impacted**
- [if !supportLists]-->• <!--[endif]-->**Potential public wellfield H<sub>2</sub>O at 3.55 mg/L nitrate (MassDEP max 5mg/L) (pg 5 Water Review 7.28.17 in ENF): TOWN LOW ON WATER SUPPLIES-POSSIBLE WELLFIELDS NEED TO REMAIN VIABLE**



Thank you for your consideration of all our concerns.

Sincerely,  
Betty Ann Wakely  
22 Bretts Farm Road  
Norfolk

**From:** [Ashley Secondini](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** Fwd: The Preserve at Abbyville and Abbyville Commons, EEA#15796  
**Date:** Tuesday, February 13, 2018 1:29:20 PM

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Hello Erin,

I am writing to voice my concerns with The Preserve at Abbyville and Abbyville Commons project in Norfolk.

If this project goes through, the entire town and surrounding towns will be negatively affected. Residents of Norfolk will have to pay for bigger schools and repairs to fix roads after those 80,000 truck trips of 18 wheelers remove nearly 1 million cubic yards of gravel/earth. My family and I live right on Main Street in Norfolk and this directly impacts us and our day-to-day activities and neighborhood safety as those 18 wheelers come bounding down the road. Children wait for the school bus on our corner (where there are no sidewalks), pulling out of our driveway is already a hassle on the busy street but now we want to add over 100 dump truck trips, 6 days a week.

The environmental impacts include constant dust and noise pollution, deforestation from clear cutting, greenhouse gas emissions from the trucks, impacts to wildlife through loss of habitats (Norfolk is already overrun with wild life as we build more houses driving them out of their natural habitats), impact on aquatic life in Bush Pond, Mill River and nearby vernal pools/potential vernal pools. Possible impact to the stability of the toxic landfill on site from excavation is also a possibility.

Please let me know if there is any other information I can provide.

Thanks,  
Ashley Secondini

**From:** [Christopher Wagner](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** Re: Abbyville EEA#15796  
**Date:** Tuesday, February 13, 2018 2:12:10 AM  
**Attachments:** [Abbyville Environmental Concerns.pdf](#)

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Additional details on our concerns can be seen in the attached table. It is not polished, or complete, but it demonstrates many of our concerns.

On Tue, Feb 13, 2018 at 2:07 AM, Christopher Wagner <[wags67@gmail.com](mailto:wags67@gmail.com)> wrote:

Hello Erin,

My name is Chris Wagner and I am writing to express my serious concerns regarding the proposed Abbyville Commons and Abbyville Preserve projects at 17 Lawrence Street and adjacent parcels. In addition, in reading the final Environmental Notification Form (ENF), I have found many inconsistencies and inaccuracies. I will address them in the order presented in the ENF.

In the description of the physical elements of the project, and its existing conditions, the ENF states that 18.1 acres of the 62 acre footprint was previously disturbed and that 43.74 acres of new land is to be altered. I contest that of the 18.1 acres of previously disturbed land, only the 2.06 acres of the former mill area should not be considered newly altered land. The impervious surfaces of the mill areas have not returned to a natural state. However, the gravel pits have not been used in over 30 years. In that time, they have reforested. This land is not simply "open sand and successional areas"; it is now comprised of a pine forest and vernal pools. That land will be clear cut, and further excavated with this project. In the 14 acre gravel pit resides large outcroppings of ledge that are designated as cut areas on the TetraTech cut/fill analysis. Additionally, "Figure 4: Existing Conditions" does not clearly delineate the 14 acre former SM Lorusso gravel pit area, or show where the supposed 4.1 acre open gravel pit in the northern interior of the site is actually located.

Therefore, when we consider the Summary of Impacts, the new land disturbance is really 59.78 acres. Much of this land is oak forest, which is not even mentioned in the existing vegetative cover portion of the ENF. The land disturbance is listed as a "temporary impact" during the construction phase. This land disturbance is in no way a temporary impact. The project plan would completely alter the topography of the area, taking previously undisturbed land, clearing it of all vegetation, and removing off site nearly 1 million cubic yards of material. Cut areas change the elevation 65 feet, effectively extending the previous gravel pit throughout the property. I would be remiss if I didn't mention that SM Lorusso, the current owner of all lots that are not the 17 Lawrence Street Buckley and Mann property, ran the previous gravel mining and is now a partner in Abbyville LLC.

The ENF specifically mentions two certified vernal pools in very close proximity to the proposed project footprint, as well as four other potential vernal pools. There has been no evaluation of whether those four additional vernal pools represent habitat for protected species, therefore, any suggestion that this project represents no take of habitat is not valid. I am particularly concerned since the [BSG Group, Inc.'s report and findings included in DiPlacido Development Corporation's request for a Project Review](#) dated

6/12/17, notes the following two areas on the property.

- Wetland G - "...has been certified as a vernal pool and characterized as a cottonwood open pool cover type. The pool appears to have been certified due to the presence of fairy shrimp but does not appear to support mole salamander species."
- Wetland L - "...includes two basins with sufficient biological indicator evidence to be certified as vernal pools. This is one of the areas on site mapped as Woodland Vernal Pool cover type, and provides potential breeding habitat for the marbled salamander."

Yet, there has been absolutely no effort made to examine these vernal pools. I feel that the Massachusetts Division of Fisheries & Wildlife needs to dig further here. Given the diversion of stormwater runoff away from the certified vernal pool "Wetland G", I doubt it will continue to fill with water in the spring, and the other potential vernal pools are well within the 1000 foot buffer required of marbled salamander habitat.

This project is extending a gravel mining operation through untouched oak forest and highlands of the Buckley and Mann property. This level of earthworks is in no way necessary or incidental to the development of the land. NO attempt has been made to work with the existing topography. The extensive "grading" is not "due to site topography", as the ENF suggests, but is a for profit excavation of materials. This gravel mining results in extreme truck traffic. Although the ENF states that truck "loads" will be limited to 60 "loads" per day, that number equates to 120 actual truck trips per day. Based on the proposed 6 hours allowed for these trucks, equates to a truck entering or exiting the site every 3 minutes. These are 18-wheel dump trucks traveling on narrow country roads for nearly a decade.

The full environmental impact of such drastic alterations in topography are dubiously lacking in the ENF. It states that "results of the hydrogeological evaluation for the groundwater discharge indicate that flows will not adversely impact nearby sensitive environmental resources, including the existing Franklin Mill Wells, the potential municipal well, and the private wells on nearby properties." That hydrogeological evaluation was determined by the Norfolk Zoning Board of Appeals to not fully address the towns concerns. For that reason, the town acquired the services of Horsley Witten to conduct an independent evaluation. We do not have enough evidence as to what this earth removal will mean when we look at ground water supplies for private wells. All of that 990,000 cubic yards of earth current stores and filters water, but it would be gone if this project moves forward. What does such an unprecedented practice mean to the subsequent water quantity and quality? Furthermore, the developer's hydrogeological study mentions that a "bedrock valley likely constrains groundwater flow towards the northeast. Yet, the project proposes cuts as deep as 65 feet. How deep is this bedrock valley? I worry that these excessively deep cut will dig down to, and below bedrock. There are bedrock outcrops currently on the property, suggesting that further bedrock will certainly be encountered, necessitating extensive blasting, and likely alteration of this "bedrock valley". Thus, groundwater flow constraints cannot be guaranteed in any way.

Other "temporary" impacts of construction are far from temporary given the fact that this project is proposed to last at least 7 years. Thus, there would be nearly a decade of drastically increased traffic, noise, fugitive dust, etc. Additionally, stating that "existing vegetation will remain when feasible", is extraordinarily misleading when 59.78 acres out of the 62 acre footprint is to be disturbed, and 43.7 acres of was never previously cleared in any way. The Summary of Mitigation actually states

that "the project was designed to avoid and minimize impacts." In no logical world is 1 million cubic yards of earth removal a minimized impact. This property could be developed with far less earth removal...ideally staying within town bylaw limitations on earth removal (not to exceed 5,000 cubic yards with a special permit).

The Alternatives Analysis is rife with inaccuracies that misrepresent the truth. The "No Build" Alternative posits that unauthorized ATV/ORV activity on the property results in additional runoff, and dares to compare that minimal runoff to the affects of a commercial gravel mining operation followed by the introduction of more than 15 acres of new impervious surface. The fact that this unauthorized use could be mitigated is not even mentioned. Furthermore, all of the waste water from the proposed development will flow towards the AUL. Present topography has half of the runoff flowing away from the AUL, due to the elevation disparity. The proposed development would completely remove the highlands that separate the gravel pit from Bush Pond, the Mill River, and the AUL. We legitimately do not know what impact groundwater mounding, no matter how minimal, will impact the AUL. The AUL includes the tail race canal, which has very slow flowing water that does not freeze. Just recently we had unprecedented cold weather yet the water in the tail race did not freeze. I have serious concerns about the impact that all of these earth works and likely blasting will have on the existing toxic materials and their migration downstream.

The Current Zoning Alternative states that a potential scenario for a subdivision buildout under R-3 zoning resulted in 63 55,000 square foot lots on the property. That property analysis was conducted by Thomas DiPlacido (the developer of this proposed project) and presented to the Norfolk Board of Selectmen in January of 2014. At that meeting, the head of the conservation commission shot down the feasibility of that scenario due to the unmitigated and serious impacts on existing wetlands. Issues included roadways, a bridge, and buildings far too close to wetland resources. In fact, a proposed subdivision on this same property brought to the Town of Norfolk by Colwell Homes at least 6 years earlier comprised of far fewer than 30 house lots. None of that proposed subdivision attempted to build on the east side of Bush Pond and the Mill River due to wetland concerns. The 2008 real estate collapse ended the Colwell subdivision plans, but I feel that Colwell's plan layout is the reasonable extent to which a traditional subdivision would spread. For these reasons, the entirety of the argument against following current zoning laws for development of this property are unfounded. A subdivision following R-3 zoning would not preclude the preservation of open space, and would not result in additional grading and earth removal. The current proposed footprint of this development is the maximum extend of land that could be considered for development.

The "Preferred Alternative" is preferred only by the developer, and the majority of the "benefits" would occur without this development. The 140 acres of open space is currently open space, and would remain open space wither with the no build or current zoning options. The potential future municipal well site could still be pursued by the Town of Norfolk without this development, and there is no statement of the actual potential for that well, or the impact it would have on the Charles River Watershed area, or the surrounding private wells. The wastewater and stormwater management is only necessary due to the incredibly dense proposed development. Finally, this cluster style development does not minimize impacts to environmental resources when it results in clearcutting and mining 60

acres of land in a Zone II groundwater protection area in close proximity to a toxic landfill.

I'm not even certain why the Title V Alternative is mentioned at all when the developer is proposing over 200 units. Title V is a viable alternative if the developer were to follow existing town zoning, conservation laws, and other town bylaws regarding subdivisions.

A final statement that I must question is the following, "The Town of Norfolk is undertaking the reconstruction of the small concrete bridge along Lawrence Street. The bridge reconstruction is long overdue and necessary regardless of the Abbyville Project. The Project is not contingent upon this work because there is alternative access to the site that could be utilized during the construction phase. The Town recently received a MassWorks grant to support the bridge reconstruction."

This quote is extraordinarily inaccurate. The "town" project pushed for and monetarily augmented by the developer involves not just the small concrete bridge, but also over 500 feet of causeway, roadway, and a retaining wall and walkway. Additionally, the TetraTech letter included in the ENF contradicts the statement that this proposed project is not contingent upon the bridge and causeway project. It states, "The CMP agrees to defer earth removal trucking until improvements to the Lawrence Street causeway section have been completed and suggests appropriate measures should the reconstruction of Lawrence Street be delayed."

Although bridge improvements are necessary, the vastly increased heavy truck traffic and post-buildout traffic are the real reasons for the accelerated project. In fact, the MassWorks grant requires a project with a housing density of 4 homes per acre. Therefore, the two projects are interdependent. Furthermore, no "alternative access to the site" was ever discussed with the Town of Norfolk, or adjacent town of Franklin.

Abbyville Commons and Abbyville Preserve represent an utterly unnecessary and unprecedented earthworks operation masquerading as affordable housing. In fact, retaining only the Abbyville Commons project, and vastly reducing the earthworks and footprint of the project would actually have a bigger impact on the percentage of affordable housing in the town. Abbyville represents more total units and acreage than the 7 other 40B projects currently submitted to the Town of Norfolk combined. The earthworks proposed are for monetary gain, and I believe they represent a significant risk to the environment, wildlife, and public safety. This plot and roadway plan needs to be re-worked to fit with the natural topography of the land.

Thank you for your consideration,  
Christopher, Arthur, and Geraldine Wagner

Massachusetts Environmental Policy Act (MEPA) Review Issues

	<b>Area of Concern</b>	<b>Description</b>	<b>Concerns and Possible Impacts</b>	<b>References</b>	<b>Images</b>
1	<p><b>Massive Earth Removal</b></p> <p><b>THE GRAVEL MINING OPERATIONS NEED to BE STOPPED to PROTECT the ENVIRONMENT and the Health and Safety of those in the surrounding neighborhoods in Norfolk, Franklin and Wrentham</b></p>	<p>1,000,000 cubic yards of earth to be mined and removed from the site: (Cubic Yards) Cut = 1,204,755.70 Fill = 210,940.87 Net = 993,814.83 Note: Typical for home: 200 Cubic Yards 204 homes x 200CuYd=40,800CuYd. Why excavate so much extra? Note: Going rate for sand and gravel is \$18-20 per cubic yard, less expenses to mine, netting approximately \$15 per cubic yard. This would mean Applicant profits \$15 Million which would need to be claimed on 40b paperwork. This gravel income is not publically noted in financial data. Request financial accountability.</p> <p>The area of the property that was previously a sand and gravel mining operation is not part of the 17 Lawrence Street parcel. That gravel mining operation was on land that is currently owned by one of the partners of Abbyville Residential LLC and Abbyville Development LLC. This project shows an intent to continue the sand and gravel mining into the previously undisturbed portions of 17 Lawrence Street.</p>	<p>Noise Dust Silica Dust Traffic Dust Mitigation Runoff Diesel Exhausts Greenhouse Gas Emissions Vehicle oil/fuel spills Loss of trees (CO2)</p> <p>The properties of the soils after the excavation are not known, so the estimates of groundwater flows cannot be verified. Altering the Property which contains an AUL may be prohibited. SEE ITEM #</p>	<p><a href="http://plymouth.wickedlocal.com/article/20140926/News/140928708">http://plymouth.wickedlocal.com/article/20140926/News/140928708</a> Ref for going rate of sand and gravel</p>	

2	<p><b>Regulations for Gravel Mining and Sand Pits Exist to Protect the Environment</b></p> <p><b>If this Project continues, these regulations should be incorporated and required to be followed by MEPA</b></p>	<p>The site is said to be designed “to avoid and minimize impacts” (pg A-5, Abbyville ENF). A very different scenario will play out if Abbyville as designed is allowed to move forward.</p> <p>With 7-8 Years of excavation, the impacts to the environment will be significant, with a permanent alteration of the site to create a pit 50’ down before home construction. We oppose this plan. The site was once previously proposed for 23 standard homes, and now there are 204 units proposed with a wastewater treatment plant next to Bush Pond. The “Current Zoning Alternative” (pg A-8 of ENF) indicates 63 homes BUT this number of homes would NEVER be built due to wetlands issues as stated 4 years ago by the Conservation Commission Chair at a Round Table Discussion at time 38:50 - <a href="https://www.youtube.com/watch?v=-U7cJf-La24">https://www.youtube.com/watch?v=-U7cJf-La24</a>. If Applicant compared to the 23 home build-out, then the true picture of environmental comparison could be made. The site needs a subdivision layout that works with the natural topography to avoid and minimize impacts. Instead, the land is proposed to be irrevocably altered with significant harm to the environment.</p>	<p>FACT: deforested and excavated for 7-8 years  FACT: Commercial Gravel operation not allowed in this R3 Zone.  FACT: 40b affordable housing never meant to allow businesses to thwart local bylaws for profit  FACT: Excavation impacts the health and safety of wildlife and waterways/wetlands  FACT: Environmental damage from deforestation, loss of habitats and soil in Zone II Aquifer.  FACT: Nonpoint Source Pollution impacts Bush Pond, Mill River, the Tail Race, Vernal pools and potential vernal pools all located on this property</p>	<p>Other towns regulate this type of operation:  PLYMOUTH:  <a href="https://www.plymouthma.gov/sites/plymouthma/files/uploads/zoning_bylaw_complete_amended_10-21-17.pdf">https://www.plymouthma.gov/sites/plymouthma/files/uploads/zoning_bylaw_complete_amended_10-21-17.pdf</a></p> <p>See Regulation on gravel removal on page 205-37 which states no excavation within 200’ of Rural Residential (RR) zone boundary and must include a 100’ vegetated natural buffer. THIS SHOULD BE PART OF THE ABBYVILLE DESIGN SETBACKS to Property Lines.</p>	
3	<p><b>Excavation Too Close to Property</b></p>	<p>First of all, not all homes abutting the development are shown on Figure 7 from the Abbyville ENF. For the 3 existing lots</p>	<p>Excavation so close to existing homes will not only be a nuisance, but</p>	<p>Buffer Zones should be specified:  <b>No Excavation</b></p>	



	<p><b>Lines and Gravel Mining not Zoned for this Location.</b></p>	<p>(51, 49 and unnumbered) all lots have homes on the properties. The excavation starts immediately at the Applicant's property line.          BUFFER ZONES NEEDED which means the Applicant needs to          REDUCE SUBDIVISION FOOTPRINT</p>	<p>the noise levels and dust levels will be particularly high, so much so, that these homeowners will lose the right to live in their homes safely. Residents nearby will all be impacted for years. The property is Zoned R3, which is the most rural part of town. Homes were purchased with the expectation that a gravel mining operation is NOT allowed in this area. Please respect the zoning and rights of all to live and prosper in the homes and neighborhood. How can people co-exist with gravel trucks every 4 minutes, plus all the other additional trucks (logging, cement and building supply trucks, etc?)</p>	<p><b>within 200' of property line. Include 100' of vegetative buffer.</b>          This means that 100' of natural woods should be left at the property line of this development and excavation should be moved back 200' of the property line. See above Regulations from Plymouth for guidance on setbacks.</p>	
4	<p><b>Project Falls within the Riverfront Area</b></p>	<p>The 200' locus Riverfront Area has been selected for the wastewater treatment plant and Stormwater Infiltration Basin 1. Table 4-1, Standard 5 of the ENF states</p>	<p>Work inside the 200-foot Riverfront Area buffer zone should not occur. Consider the impact on</p>	<p>Figure 7 of ENF show the 200' Locus of the Riverfront Area</p>	

		<p>that “The Infiltration Basins are located outside to 100-foot Buffer Zones to wetland resource areas and 200-foot Riverfront Area to the Mill River.”</p> <p>However, THERE is a Riverfront Area to the Tail Race which is the location of some of the wastewater treatment plant and the Infiltration Basin 1. This presents unnecessary risks to the nearby waterways of the Tail Race and Mill River and these components likely should be out of the buffer zone of the Tail Race. The construction area is also within 100’ of the AUL (Area Use Limitation) , which is where the toxic wastes were buried. (See Lot 9) Please look at Figure 6 of the ENF “Environmental Resources Map” to compare against the Figure 11 of ENF Landscape Plan and Figure 7 Proposed Conditions.</p>	<p>these resource areas and the AUL with significant site work proposed to happen less than 100’ away, permanently creating a basin which will hold water that seeps into the groundwater in the immediate vicinity of the AUL. How will this groundwater flow to the AUL and possible touch the buried contaminants? The depth of the buried contaminants is unknown, so how can MEPA be sure that the changes to groundwater levels will not flow through the contaminants, especially since the AUL lies in the 100 year flood zone.</p>	<p>See the FEMA flood zone map for this property.  <a href="https://msc.fema.gov/portal/search?AddressQuery=17%20Lawrence%20Street%2C%20Norfolk%2C%20MA#searchresultsanchor">https://msc.fema.gov/portal/search?AddressQuery=17%20Lawrence%20Street%2C%20Norfolk%2C%20MA#searchresultsanchor</a></p> <p>This link from FEMA shows the Base Flood Elevation is 152’ in the AUL</p> <p>Further investigation as to the new groundwater levels at the Tail Race and other parts of the AUL are critical to guarantee Stability of the AUL.</p>	
5	<p><b>Exposure to Carcinogen Silica from Excavation</b></p>	<p>“Bedrock was encountered at 10 feet below grade adjacent to the Tail Race in MW-3A, installed in May 1986. The bedrock was reported to be Rhyolite-Quartz Alkali Feldspar mineral, some plagioclase and mafic minerals, with</p>	<p>The trouble with this site excavation is that it is a <b>sand/gravel mining operation disguised as site prep</b>. It is located in a residential zone which</p>	<p>RAO:  <a href="http://public.dep.state.ma.us/fileviewer/Scanned.aspx?id=300240">http://public.dep.state.ma.us/fileviewer/Scanned.aspx?id=300240</a></p>	

		<p>tightly-closed, 1/8-inch, silt-filled fractures.” per Section 5 of RAO: SEE REFERENCES</p> <p>Rhyolite is high in silica content, as is sand. The removal and processing of this carcinogen on site is a health risk to all those who will come in contact with the dust. The finer the particle, the further they will travel.</p> <p>The mining operation is the source of major environmental impacts. In order to protect residents, wildlife and the environment, halting the mining operations before they start will be the best protection possible instead of trying to mitigate the issues of dust and noise pollution, public health risks and long term wildlife harm.</p>	<p>will expose residents to the hazards associated with mining, especially particulates in the air.</p> <p>There are serious environmental impacts to the wilife and waterways nearby as well. The dust control measures will waste large amounts of water. And what is the source of this water to control the dust and where will this runoff go while the stormwater basins are being constructed? A redesign can eliminate the offsite earth removal and all of the mining activities.</p>	<p>Issues related to Mining and Environment:  <a href="http://www.civilsocietyinstitute.org/media/pdfs/092514%20CSI%20BAR%20frac%20sand%20mining%20report%20FINAL2%20-%20EMBARGOED.pdf">http://www.civilsocietyinstitute.org/media/pdfs/092514%20CSI%20BAR%20frac%20sand%20mining%20report%20FINAL2%20-%20EMBARGOED.pdf</a></p> <p>This is the OSHA Fact sheet - but protections for the general public are also needed, not just protections for the workers:  <a href="https://www.osha.gov/OshDoc/data_General_Facts/crystalline-factsheet.pdf">https://www.osha.gov/OshDoc/data_General_Facts/crystalline-factsheet.pdf</a></p> <p>Wisconsin example of recognizing risks from Silica:  <a href="https://www.dhs.wisconsin.gov/publications/p0/p00369.pdf">https://www.dhs.wisconsin.gov/publications/p0/p00369.pdf</a></p>	
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6	<b>Blasting Needs to be Ruled Out or Specified; NO MORE VAGUE ANSWERS</b>	<p>There are many visible signs to stone outcroppings on this site. The surrounding area was once a gravel pit. With engineering soil samples from the areas where stone outcropping exist, and strategically placed borings, it is reasonable to expect a reputable engineering firm can produce a report of the need for blasting, or rule it out completely. People live within 100' of the excavation. Many residents will be impacted by the vibrations and noise of blasting. There are septic tanks, home foundations, private wells which could be damaged by the underground vibrations from blasting.</p>	<p>Each time the question of blasting has been brought forward, the vague answer has been that blasting is not foreseen, but if needed, permits will be filed. This is NOT acceptable on a project this size and for the duration of 7+ years. A DEFINITIVE BLASTING PLAN should be developed BEFORE ANY PERMITS are issued.</p>		
7	<b>Deforestation</b>	<p>Clearcutting of 60 acres with some development within the 200' Rivers Act Buffer  Although A Forest Cutting Plan is not required because clearing land for building is exempt (per <a href="https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXIX/Chapter132/Section44">https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXIX/Chapter132/Section44</a>), the deforestation related to this 40b site prep will negatively impact the environment for profit from the harvest and sale of this mature forest. As with the gravel mining operation, the logging operation becomes unregulated when considered "site prep" for 40b. The Best Management Practices for Forestry</p>	<p>Loss of wildlife habitats  Erosion  Decreased air quality  Loss of CO2 Terrestrial Sequestration  Contributes to Global Warming</p>	<p>Can we implement these on the Abbyville site? This is the link to Best Management Practices for Forestry with Guideines:  <a href="http://www.mass.gov/eea/docs/dcr/stewardship/forestry/mal-forestry-bmp-manual-rd.pdf">http://www.mass.gov/eea/docs/dcr/stewardship/forestry/mal-forestry-bmp-manual-rd.pdf</a></p>	

8	<p><b>Slash Law Requirements would add element of environmental safety</b></p>	<p>‘Slash = tops, branches, damaged trees...or debris left from logging or land clearing operations’ must be disposed of in specific manner according to Mass General Laws if this was a purely forest harvest and did not lead to subdivision build. It would be prudent to follow the safety guidelines of the Slash Law for two reasons. 1) the extended duration of the harvest phased over 7 years and 2)the proximity to other forest lands abutting this property. See page A-16 of ENF where stump grindings will be used onsite and stored.</p>	<p>The Abbyville project abuts the Franklin Open Space and wooded parcels to the west. Figure 8: Proposed Project Phasing from Abbyville ENF pg 97, shows 3 locations for material storage, including stump grindings. Since the debris piles greater than 2’ high within 40’ of any woodland of another pose a fire risk, suggest they be relocated away from property lines.</p>	<p><a href="https://malegislature.gov/Laws/GeneralLaws/PartI/TitleVII/Chapter48/Section16">https://malegislature.gov/Laws/GeneralLaws/PartI/TitleVII/Chapter48/Section16</a></p>	
9	<p><b>Noise Pollution</b></p>	<p>Noise pollution from heavy equipment for earth removal, deforestation, excavation machinery, construction activity, infrastructure creation, and all associated activities will burden this residential neighborhood for extended period of at least 7-8 years if the schedule does not slip; longer with any kind of delay. Calling this activity a nuisance for this residential zone would be an understatement. In fact, this area is designated and R3 Zone, which is supposed to be the most rural part of town with the least density of homes with the Zoning Requirements</p>	<p>People should have the right to live peacefully in their homes. Those who work from home need to communicate with coworkers via conference calls. How can they maintain their livelihoods with the noise that will be generated at Abbyville and all along the truck routes? How will neighborhood children</p>	<p>Put limits on the noise levels that will be heard at the closest properties to exceed 10dBA above ambient noise as per state law <a href="https://www.mass.gov/files/documents/2018/01/31/noise-interpretation.pdf">https://www.mass.gov/files/documents/2018/01/31/noise-interpretation.pdf</a></p>	

		<p>listed on P A-8 of the ENF. Residents bought in this location specifically knowing that this was the zoning. Construction and excavation noise to be made continuously for 7-8 years does not belong here, next to wetlands, woodlands and wildlife.</p>	<p>have quiet time for naps? How will pets and wildlife react to the noise levels throughout the day? All of this will be worse if blasting is used to clear outcroppings or dig through ledge. The noise pollution cannot be mitigated by phasing the construction or mufflers on equipment. It's going to be noisy for a very long time.</p>	<p>Failure to comply with noise ordinance levels will result in a stop work order and/or fines.  <a href="http://www.airandnoise.com/MA310CMR710.html">http://www.airandnoise.com/MA310CMR710.html</a></p>	
10	Activity and Use Limitation Area (AUL)	<p>Current state of AUL and impact of earthworks and construction thereof is unknown</p> <p><b>Activity and Use Limitation (AUL) issued in 2001 limits activities on the "Property" (the entire parcel, not just AUL) which are "prohibited by Zoning, Bylaws...unless permitted by appropriate governmental agency." The waivers requested from the local bylaws are not explained as to why they are needed and should be denied as these activities "may result in a significant risk of harm to health, safety, public welfare or the environment or in a substantial hazard..." see paragraph 2A and 2B</b></p>	<p>Potential impacts on containment of toxic materials</p> <ul style="list-style-type: none"> <li>• Change in water table</li> <li>• Vibrations from earth removal and construction operations</li> </ul>	<p>Class A-3 Response Action Outcome and Release Abatement Measure Completion Report August 2001</p> <p><a href="http://public.dep.state.ma.us/fileviewer/Scanned.aspx?id=300240">http://public.dep.state.ma.us/fileviewer/Scanned.aspx?id=300240</a></p>	

		<a href="http://www.virtualnorfolk.org/public_documents/norfolkma_zoning/40_B_Projects/Abbyville/170612%20AUL%20Summary%20&amp;%20Recorded%20Documentation.pdf">http://www.virtualnorfolk.org/public_documents/norfolkma_zoning/40_B_Projects/Abbyville/170612%20AUL%20Summary%20&amp;%20Recorded%20Documentation.pdf</a>  THE MEPA review should demand a reason for each of the Zoning Bylaw waivers and establish for certain that they WILL NOT HARM the AUL or the environment.			
11	Hydrology  Add traffic and discuss how traffic impact studies omit trucking. Will be dangerous levels and no lights	Unknown hydrological impact due to altered topography, introduction of impervious surfaces, and directing runoff to wastewater treatment facilities.	Possible change in the water table  Negative impact on private well water quality and quantity  Impact on wetland resources does not take into account altered hydrology resultant from the earthworks and deforestation.  Loss of existing vernal pools due to redirected runoff		
12	Construction Entrance and Exit near the banks of Bush	Proposed gravel Construction vehicle driveway with a sediment entry mat is proposed at the western edge of Bush Pond.	Potential vehicle washing runoff will be collected where at the start of the project?	See page 97 of Abbyville ENF Figure 8: Proposed Project Phasing	

	Pond		Need to protect Bush Pond from Non-point source pollution and vehicle washing wastewater.		
13	Piping Underneath Foundations Have Not Been Checked for Contaminants	<p>The plan calls for the removal of existing foundations. Piping still exists under these foundations which were used to move toxic waste to lagoons when the mills were running. The Tail Race piping from the dam at Bush Pond is likely still feeding the Tail Race and should be investigated. Not only might this pipe still contain toxic elements, but the pipe itself is integral to the existence of the RiverFront Area. Therefore the connection of the Tail Race via foundation piping to the Pond should not be severed to preserve the Tail Race and the two potential vernal pools at the nearby lagoons</p> <p>See Page A-16 of ENF where it states “foundations will be crushed on-site to remove impervious area from the site”</p> <p>These removal of foundations may present risk to environment.</p>	Uncontrolled demolition of foundations presents a RISK TO THE ENVIRONMENT from unknown presence of contaminants that were never completely flushed from the pipes. There needs to be a thorough review of all foundations and through the use of sonar, or other methods, determine where underground piping may exist so they can be checked for toxic levels before demolition.	See Figure 6: Environmental Resources Map from Abbyville ENF. Shows potential Vernal Pools at the lagoons and the Riverfront Area at the Tail Race.	
14	<b>Air Pollution</b>	The massive excavation will create dust each and every day trucks roll in and out the project. The content of the earth to be mined is said to be sand and rhyolite (per RAO). Both sand and rhyolite contain silica. Silica dust is a known carcinogen and with the extended mining operation,	Air Quality Concerns: Dangers from exposure to Silica Dust Potential breathing problems Potential Lung Disease Pets and Children Play	<a href="http://www.mass.gov/eea/docs/dep/service/regulations/310cmr06.pdf">http://www.mass.gov/eea/docs/dep/service/regulations/310cmr06.pdf</a>	



		<p>neighbors are concerned with the potential long term exposure and the risks for silicosis, an incurable lung disease from inhaling silica dust. The finer the particles, the further they will travel in the wind, and the deeper they will lodge in the lung. This is why mining operations should not be permitted in a residential zone, and if it were not tied to the 40b site prep, this mining operation would not be allowed.</p>	<p>outdoors in the yards where the dust has settled over the 7-8 year timeline risking exposure to harmful particulates</p> <p>This project needs Particulate Air Monitoring equipment to monitor not only the level of articulates but the CONTENT of what is in the dust over the life of the project IS NEEDED. Reading at the boundaries of the project, in particular at those locations where the winds blow and where the nearest neighbors reside, are definitely needed. Daily logs should be reviewed by a neighborhood safety committee and made part of the public record in case of disease clusters.</p>		
15	Waivers --pertain to environment				
16	DEP Notice of	November 17, 2017 the owners of the	The impact of the	<a href="http://eeaonline.eea">http://eeaonline.eea</a>	

	Non-Compliance	<p>Buckley and Mann, Inc were notified of two violations by MassDEP</p> <ol style="list-style-type: none"> <li>1. Violations related to Specifics of AUL</li> <li>2. Violation for failure to perform Stage 1 Environmental Screening.</li> </ol>	<p>contaminants (chromium, lead, zinc, Total Petroleum Hydrocarbons (TPH), on wetland and terrestrial habitats is needed. Samples had been collected from the carbonizer lagoon and trenches in 2001 but current soil samples from these locations need to be done and evaluated within 180 days of Notice. Failure to include <i>Stage 1 Environmental Screening</i> is a violation</p>	<p><a href="http://state.ma.us/EEA/FileViewer/Default.aspx?formdataid=0&amp;documentid=423795">.state.ma.us/EEA/FileViewer/Default.aspx?formdataid=0&amp;documentid=423795</a></p>	
17	Wildlife	<p>Negative impacts on a very active wildlife corridor, and loss of habitat</p>	<p>Mass Wildlife has not evaluated the potential vernal pools in the AUL lagoons, nor the impact of the current certified vernal pool on the property.</p>		
18	Carbonizer Lagoon Trench and Carbonizer Lagoon omitted from	<p>Figure 7: Proposed Conditions for Abbyville Preserve and Commons, ENF, 1/16/2018 omit the location of the Carbonizer Lagoon and Trench which had high lead and Total Petroleum Hydrocarbons (TPH)</p>	<p>Potential contaminants not included in AUL could harm wildlife and water quality, not only of the adjacent Mill River, but the groundwater and</p>	<p>See Page 14 of RAO  <a href="http://public.dep.state.ma.us/fileviewer/Scanned.aspx?id=300240">http://public.dep.state.ma.us/fileviewer/Scanned.aspx?id=300240</a></p>	<p>Shareable Link will be created for photo</p>

	drawings		the downstream waters of the Charles River Watershed. (Trench= 3' wide x 300' L Carbonizer Lagoon= 1 acre	For drawing Pg 16 for dimensions	
19	Riverbank Protection breached	The Tail Race Riverfront Area which extends 200' to both sides of the Tail Race is not protected.	Construction of the Stormwater Infiltration Basin - 1 and the Wastewater Treatment Facility partially lie in the Riverbank Area as does the corner of house LOT 9. Some movement of earth has already occurred in this zone as seen on the site walk. Where are the proper notices related for this work? Plans should move all structures out of the Riverbank Area.		
20	<b>Notice of Noncompliance</b> currently exists on this property from Mass DEP from Audit initiated on September 7,	Two Violations Identified 1. AUL should prohibit homes 2. Stage 1 Environmental Screening needed	Stage 1 Environmental Screening was <b>Never Done</b> . The Carbonizer lagoon and trench in wetlands area contained TPH, Lead and Zinc. This area needs further testing to rule out contamination.	<a href="http://eeaonline.eea.state.ma.us/EEA/FileViewer/Default.aspx?formdataid=0&amp;documentid=423796">http://eeaonline.eea.state.ma.us/EEA/FileViewer/Default.aspx?formdataid=0&amp;documentid=423796</a>	

	2017.				
	<b>TRUCK TRAFFIC DANGERS</b>	<p>“Project phasing will reduce the intensity of impacts associated with truck traffic, noise generation, and fugitive dust emissions.” ENF statements like these create a false scenario. The impacts will be directly felt by all the neighbors and those along the truck routes each weekday for 7 years. The intensity of impacts will not be reduced by phasing because the fumes, dust and noise levels for a truck do not change when you phase the project. This statement has no scientific basis.</p>	<p>The trucks pose a risk to all who drive in the area because of their size and weight and frequency. Any collision with a car, cyclist or pedestrian would be deadly. Project phasing is not a way to mitigate these dangers.</p>		
	<b>Greenhouse Gas From Trucking</b>	<p>Residents are very concerned with the high amount of greenhouse gas and diesel fumes generated by the trucks. Area residents range in age from the very young to senior citizens, some with health issues related to breathing, cancer, heart and autoimmune diseases. 60 trucks a day mean 120 trucks (60 COMING and 60 GOING).</p> <p>Estimates of greenhouse gas emissions from gravel trucks alone (not counting the logging trucks, cement trucks or host of other construction vehicles) are significant and will impact the environment. THESE VALUES ARE NOT ACCOUNTED FOR IN THE CO2 Worksheets in Appendix B of ENF.</p> <p>The gravel removal is not necessary and this harmful release of CO2 only</p>	<p>CO2 Due to gravel trucks alone will be 300% higher than the normal traffic at full build:</p> <p><b>Minimum estimates CO2 emissions every day for next 7-8 years: 7800kg/day from Gravel trucks alone</b> (Full build is 2595kg/day per Table B-2 Abbyville ENF)</p>		

		<p>contributes to the ever growing problem of global warming. It is ironic that Norfolk voted to become a "Stretch Community" within the past few months where green building standards make the town eligible for state grants. Meanwhile, the biggest producer of CO2 in our town will be these trucks for the next 7-8 years.</p>			
	<p><b>Cancer Risk - Increased</b></p>	<p>It is reported by the MA Department of Health that Norfolk -- which is highly dependent on well water for human consumption -- has a much higher rate of Cancer incidence than expected.</p> <p>Here are some % greater risks incidences (gender specific):</p> <ul style="list-style-type: none"> <li>Bladder - 202%</li> <li>Colon - 153%</li> <li>Esophagus - 191%</li> <li>Kidney - 167%</li> <li>Liver - 209%</li> <li>Lung - 149%</li> <li>Lymphoma - 129%</li> <li>Pancreas - 169%</li> <li>Stomach - 155%</li> </ul> <p>This is of great concern because the application includes the permitting of a new town well.</p>	<p>In the DEP Notice of Audit Findings and Noncomplicane (see: <a href="http://eeaonline.eea.state.ma.us/EEA/FileViewer/Default.aspx?formdataid=0&amp;documentid=423796">http://eeaonline.eea.state.ma.us/EEA/FileViewer/Default.aspx?formdataid=0&amp;documentid=423796</a> ) the Violation #2 cites the need for further evaluation is needed for for environmental screening. In a section of that violation it is noted that "sediment samples were collected from the carbonizer lagoon and trench" . Some of these results included chemicals which have been linked to increased risk for Cancer.</p>	<p><a href="#">Cancer Incidence in MA Dept Health (See Page 5 for Norfolk)</a> ;</p> <p><a href="http://www.mass.gov/eohhs/docs/dph/cancer/city/2009-2013/registry-city-09-13-newbury-royalston.pdf">http://www.mass.gov/eohhs/docs/dph/cancer/city/2009-2013/registry-city-09-13-newbury-royalston.pdf</a></p>	

			<p>Concern: The site has not been tested and evaluated by a town or state appointed peer. Site work, demolition of mill foundations, blasting and other disruptions could increase the amount of toxins which could put our private and the new town wells at risk.</p>		
	<b>Potential Vernal Pool Protection</b>	The Lagoons are listed as Potential Vernal Pools, however a 200' buffer does not exist to protect these locations.			
	<b>Historic Records</b>	Before the settlers of the 1600s, local Native Americans inhabited the areas of Norfolk (which was part of Wrentham) and nearby Franklin. The areas around the Buckley and Mann property would have served as fishing and hunting grounds due to the presence of the Mill River. (note the earthen dam which created Bush Pond was not always there)	Section 4.3 of ENF only mentions the history of the site as a mill location.	<a href="http://www.virtualnorfolk.org/public_documents/norfolkma_historical/indians">http://www.virtualnorfolk.org/public_documents/norfolkma_historical/indians</a> Go to the Paragraph entitled "The Battle of Indian Rock"  <a href="#">Norfolk Historical</a>	

				<a href="#">Commission - Indians of Norfolk</a>	
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**From:** [Susan Meyer](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** Abbyville EEA#15796  
**Date:** Monday, February 12, 2018 10:11:16 AM  
**Attachments:** [Flyer Feb 2018R1 \(1\).docx](#)

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Dear Ms. Flaherty:

As you can see from the attached flyer, residents from three towns (Norfolk, Franklin and Wrentham) who live in the area of this proposed development have significant concerns about Abbyville. It is an extremely large development for the tri-town neighborhood and requires so much earth removal that we are all concerned about the environmental impact during the years long constructions process and after. Aside from the obvious concerns about increased traffic and air pollution from the earth removal, I am particularly concerned about this project negatively impacting the area's water supplies. I am also concerned about unforeseen impacts on the area by the removal of so much earth.

I don't believe anyone expects to stop this project from happening but we would all feel much better about it if it was significantly reduced in size. I'm not sure if you are familiar with this area, but if you see it for yourself, you would understand why we are so concerned about its impact. Thank you for your consideration.

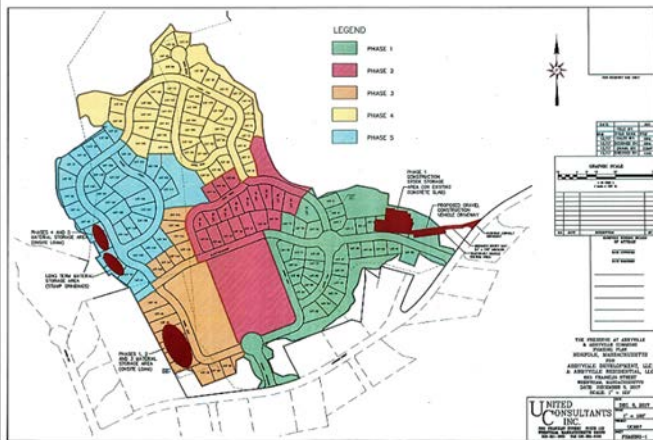
Kind regards,

Susan Meyer  
52 Mill Street  
Franklin



# SAVE OUR ENVIRONMENT: NorfolkBigDig.com

**PLEASE SEND EMAIL NOW for Mass Environmental Policy Act Review DUE 2/13!**



**YOU CAN DO THIS FROM YOUR PHONES  
SEND ENVIRONMENTAL CONCERNS TO:**

**[erin.flaherty@state.ma.us](mailto:erin.flaherty@state.ma.us)**

**Subject: Abbyville EEA#15796**

**ZBA PUBLIC HEARING**

**TUES 2/13 at 7PM**

**King Philip Middle School, 18 King Street, Norfolk**

**CONSERVATION COMM Wed 2/14 7:30pm Norfolk**

**Town Hall TOPIC: Lawrence St. Bridge NOI**

- **ABBYVILLE=56 rental & 148 ownership units (204 total) proposed with a request for waivers of 67 Town Bylaws**
- **15.6 acres new + 2.1 acres current = 17.7 TOTAL acres impervious area = MORE STORMWATER to wetlands, possibly decrease water to aquifer which supplies local public and private wells. NEEDS FURTHER STUDY.**
- **43.7 acres new land altered by deforestation = LOSS OF HABITAT for animals, birds and all other wildlife**
- **1 MILLION cubic yards of earth is a "substantial net export"<sup>1</sup> (VS 200 cu yds avg home) =GRAVEL PIT IN R3 ZONE**
- **90 TRUCK TRIPS/day AVG; 120 TRUCK TRIPS/day MAX (pg 15-16 Construction Management Plan)=POLLUTION**
- **82,000 Gravel Truck Trips of 18-wheelers on Park St and Main St = HEALTH & SAFETY RISK to PUBLIC WELFARE**
- **Logging trucks/construction vehicles not included in number of truck trips or traffic studies=BIGGER PROBELMS**
- **Excavation depths up to 60' in 5 Phases over 8-years (Phasing Timeline & Figure 7 ENF<sup>2</sup>)=EROSION + HAZARD**
- **Located in ZONE II Wellhead Protection Area with Toxic Landfill on Buckley & Mann property (Figure 6 ENF<sup>2</sup>)**
- **WASTEWATER of 64,000 GPD treatment plant design unfinished, raises groundwater elevations 5.6' to 178' at the leach fields and 2-3" rise near the Tail Race. (pg A24 ENF)=COULD IMPACT AUL BURIED CONTAMINANTS.**
- **NEED TO DETERMINE GROUNDWATER ELEVATIONS WITHIN AUL, ESPECIALLY NOW WHEN GROUND SATURATED**
- **BATTLE of INDIAN ROCK Norfolk Indians, Native Americans lived/died here=ARCHOEOLOGICAL/CULTURAL AREA**
- **Amphidrome Wastewater Treatment System (ENF pg A-4) is not odor free; NEEDS ODOR CONTROL SYSTEM**
- **Greenhouse Gas analysis does not account for gravel trucks = 6500 Metric TONS CO<sub>2</sub> MORE GHG ESTIMATED**
- **Dust Pollution from excavation, possible silica content=NEED PERIMETER AIR MONITORS for levels & content**
- **Possible Breathing difficulties for the young and old due to air pollutants and particulates = HEALTH RISK**
- **NON-POINT SOURCE POLLUTION from gravel pit impact on Bush Pond, Mill River, wetlands and wildlife**
- **NOISE POLLUTION 8 years in residential zone impacting children, families and work-at-home residents**
- **NOISE POLLUTION & possible STRUCTURAL DAMAGE to septic tanks, foundations & wells if BLASTING occurs**
- **Structural integrity of Geotextile on Landfill in jeopardy from construction/changes to site topology=SERIOUS**
- **No protective barrier under contaminants buried on site in Landfill known as AUL (Activity and Use Limitation)**
- **Piping in/under foundations once carried contaminants to lagoons=NEEDS EPA STUDY verify if safe to remove**
- **Two Potential Vernal Pools near Wastewater Treatment Plant and Infiltration Basin #1 may be impacted**
- **Potential public wellfield H<sub>2</sub>O at 3.55 mg/L nitrate (MassDEP max 5mg/L) (pg 5 Water Review 7.28.17 in ENF): TOWN LOW ON WATER SUPPLIES-POSSIBLE WELLFIELDS NEED TO REMAIN VIABLE**
- **LOSS of green corridor for wildlife as identified in Open Space Corridor Protection Strategic Plan of Norfolk**

**From:** [Ronnie O'Shea](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** Abbyville Concerns  
**Date:** Monday, February 12, 2018 8:05:00 AM

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I am writing to express my deep concerns with this project. What has been discussed and detailed below is a major issue for all surrounding neighbors. My family, friends and neighbors urge you the Massachusetts Environmental and Policy Act (MEPA) Office, to fully examine and explore the ramifications of such a project, that has never been experienced in such a condensed residential area. It is not a location fit for this major impact on the road ways, wetlands, environment in general. Please consider what the existing residents will endure if this is allowed to happen. This "project" will eliminate the quality of life, so many have worked throughout their lives to provide for their families – for several years, if not forever.

- **ABBYVILLE=56 rental & 148 ownership units (204 total) proposed with a request for waivers of 67 Town Bylaws**
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**From:** [Paul Citarell](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** Abbyville EEA#15796  
**Date:** Monday, February 12, 2018 11:19:18 PM

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Ms. Flaherty,

We sincerely appreciate your time and attention to thoroughly dissect and review this 40b subdivision project. We would like to note that although we are vehemently opposed to this "forced project" that would override 67 of our own town bylaws, we believe that affordable housing is an important issue. We do not however believe that this is a proper location for a massive project of this size and scale and we do not believe that the need for affordable housing outweighs the need to protect an environmentally sensitive ecosystem nor outweigh the need to protect the health and safety of all that are within reach of this massive land grab and for-profit mining operation.

We have been in our current home for the last 14 years and we are only a few hundred yards from this proposed project. Besides the many safety concerns surrounding this 8 year mining project, we believe that there are many significant environmental issues and concerns affecting the public welfare and habitat for wildlife.

Stripping, clear-cutting and mining 50 acres of land up to 60 feet deep and removing 1mm plus cubic yards of soil will have many ramifications that we do not believe the town or state fully comprehend. There are many potential hazards (besides the immediate impact on wildlife). We could have a significant impact on our wells (quality and quantity of water), there could be significant impact with storm water and waste water runoff not only on the wetlands (Bush Pond, Mill River, Eagle Brook and at least two vernal pools) but on an AUL/Toxic Landfill site that has no protective under barrier and could cause re-contamination of the surrounding soil and wetlands. We also believe that there will be significant impact from the eight years of mining/blasting with dust (silica) and diesel exhaust on the public, wetlands and environment. Not to mention the noise pollution inflicted on neighbors and wildlife six days a week.

There is currently one endangered species on this side of Lawrence Street (The Marbled Salamander) and recently there was a reported sighting to NHESP of a Bald Eagle on Bush Pond. We don't believe there has been an exhaustive study to see if there are any other plants or species on or near this land that could be affected.

In conclusion there are many in our state government and town government that want to approve this project regardless of the impact on the environment or those who live in close proximity to this massive proposed project all in the name of 40b affordable housing - we are hoping that your due diligence will bring a halt to this certain disaster.

Sincerely,

Paul and Amy Citarell  
18 Bretts Farm Road  
Norfolk, MA

**From:** [Paul P. Belle Isle](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** Abbyville EEA#15796  
**Date:** Monday, February 12, 2018 4:49:27 PM

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Dear Ms. Flaherty

I am writing to express my deep concern about the Abbyville development project proposed by Diplacido Development Corporation (DDC) for construction in Norfolk, MA.

The size and scope of the development is wildly out of proportion to what the land, the surrounding neighborhood, and the community can support, and it appears to be driven much more by the developer's desire to extract gravel for resale than to protect the environment or genuinely serve the needs of Norfolk and neighboring Franklin.

The development plan calls for the removal of an excessive amount of earth - more than 990,000 cubic yards, which will generate approximately 82,000 truck trips on surround roads over a period of 7 years. Since the development will be on a former industrial site, in addition to the noise pollution and dangerous airborne silica dust from the mining operation, there is likelihood that the surrounding environment will be exposed to contaminants that are currently buried. There were plenty of other issues as well, affecting soil, drainage, well integrity and well water quality, traffic lines of sight, ongoing noise and dust, etc.

Construction companies should not be allowed to run open pit gravel mines in residential areas using the premise that it's essential to building 40b housing. If this is permitted, it will set a precedent that will allow future developers who want to mine the earth for profit to do so under cover of serving housing needs, significantly and adversely affecting the health of both nearby residents and the surrounding environment.

I urge you in the strongest possible terms not to grant waivers to the Abbyville developers and to ensure that the health and safety of residents in Norfolk and Franklin - as well as the local environment - are of paramount importance.

Respectfully,  
Paul P. Belle Isle

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**Paul P. Belle Isle**  
75 Stewart Street  
Franklin, MA 02038-1239  
(617) 600-8724

**From:** [Nancy Murphy](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** abbyville EEA#15796  
**Date:** Monday, February 12, 2018 4:45:43 PM

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Dear Erin,

Thank you for taking the time to read this email. I am writing in regards to my concerns with the Abbyville project EEA#15796 in Norfolk. You see, i live at 16 Lawrence street which is directly across the street from the projected project. When my husband and i bought our house 8 years ago, we were told by the Norfolk Town Hall it was zoned for 25 future homes. So we felt comfortable with the size, and purchased our home and now have 2 young boys.

The size and magnitude of over 200 houses and apartments now is extremely disturbing to us. We have several concerns including, safety, traffic and the affects this will have on our water well, which is our only source. The amount of trucks going in and out of this site is calculated at over 90 trips a day. If i have a ball roll down my driveway and my son goes after it, i can't begin to imagine the horrible disasters that could take place.

I truly hope that this land is closely reviewed with the amount on noise pollution, structural damage, air pollution and of course loss of habitat for the animals and wildlife on the 43.7 acres of new land altered by deforestation. Please feel free to reach out to me if you would like to discuss this further.

Sincerely, Nancy Murphy, 16 Lawrence street, Norfolk MA

**From:** [Margaret Kahaly](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** Abbyville EEA#15796  
**Date:** Monday, February 12, 2018 9:54:20 PM

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Ms. Flaherty,

I am reaching to you today to list my concerns and issues which are not only environmentally devastating, but pose numerous health and safety issues to the area as well. I reside on Cranberry Meadow RD in Norfolk and have lived here for 27 years. I am truly concerned about the scope and magnitude of this project.

I am listing my concerns below

- The Abbyville project proposes 204 units, 56 rental and 148 ownership. Norfolk has never entertained a project of this size, and does not have the infrastructure or resources to accommodate it.
- 43.7 acres will be altered or deforested from this project.
- 17.7 acres of impervious area equates to more storm water to wetlands, which decreases water to the aquifer that supports local and private wells.
- 1 MILLION cubic yards of earth will be removed. This equates to a gravel pit in an R3 zone.
- It is estimated that there will be 90-120 truck trips PER DAY removing earth. This does not include logging and gravel 18 wheelers, and other construction vehicles, traveling on local roads that are barely usable or wide enough for local automobile traffic.
- This excavation will be in some places up to 60', done in 5 phases over an 8 YEAR expected projected time period.
- This project is located in a Zone 2 Wellhead Protection Area with toxic landfill on the Buckley and Mann property.
- Piping under the foundations of the previous plant were used to pipe contaminants to lagoons. This needs an EPA study.
- There is NO PROTECTIVE BARRIER under the buried contaminants on this site. There is a massive risk of this being disturbed, and leaching into the aquifer and local wells.
- Wastewater of 64000 GPD treatment plant design is unfinished.
- This will raise groundwater elevations from 5.6' to 178' at the leach fields and 2-3' near the trail race, which ultimately will impact the buried contaminants on the site.
- The proposed Amphidrome Wastewater System is not odor free, and needs a control system.
- The Greenhouse Gas analysis does not account for the incredible amount of construction trucks and vehicles which will generate tons of Co2 gases in the area, posing a drastic health risk.
- Dust pollution from the excavation with possible silica content poses another health risk to the area.
- Noise pollution over an 8 year period will impact the local residents.
- Structural damage to septic tanks, wells and foundations, from blasting.
- Potential public wellfields will reduce water supplies needed to keep wellfields viable.

The battle of Indian rock took place on this land and it should be properly protected

Native Americans lived and died here

The loss of crucial wildlife and forestry to  
Protect them.

Please take these issues under consideration and investigation. I believe your findings will justify my concerns.

Thank you,

Margaret Kahaly



**From:** [Kathryn Cahill-Pauly](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** Abbyville EEA#15796  
**Date:** Monday, February 12, 2018 9:38:53 PM

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Dear Ms. Flaherty,

I am writing in regard to the proposed Abbyville 40B development on Lawrence Street in Norfolk, Massachusetts. There are some concerns I want to highlight for the Mass Environmental Policy Act Review.

The development is proposing a large amount of earth and gravel to be removed from the site. This will require up to 120 truck trips every day and will come to a total of about 82,000 truck trips. This will occur throughout the course of up to 8 years. Pertaining to the excavation and number of truck trips:

1. I am worried about road safety and noise pollution that will impact quality of life of residents near the proposed construction site and on the truck routes. How can we reduce these truck trips and the noise pollution they will cause? We need to be mindful of the impact these trucks will have on residents' quality of life.
2. I would like to understand the added air pollution and greenhouse gasses that will be the result of the 82,000 truck trips. Furthermore, other construction and logging vehicles were not counted in the 82,000 truck trips or traffic studies so there may be more trips/emissions to consider.
3. The excavation will release dust and may cause health hazards for nearby residents. Are there plans in place to control this dust and monitor air quality?

Finally, Most of the nearby homes have private wells and with such a drastic change in landscape, construction near the AUL, and potential blasting, we need to make sure there is due diligence to ensure the quality of well water will not impacted. We need more information to verify that the changes in the landscape do not reduce the current water flow to wells. We also need to make sure contaminants from the construction site will not pollute residents' well water.

Thank you for your assistance,

Kathryn Cahill-Pauly

**From:** [Elizabeth Andon](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** Abbyville EEA#15796  
**Date:** Monday, February 12, 2018 11:58:58 AM

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Dear Ms. Flaherty,

I'm writing this letter of concern regarding the environmental impact of the massive and unprecedented development off of Lawrence street in Norfolk Massachusetts. The 1 million cubic yards of earth removal will create a gravel pit right in our back yards. There will be 120 dump trucks coming and going off this site daily and I do not believe Lawrence Street can handle the added pollutants of exhaust , dust and noise. If there is blasting, our wells will be impacted as well as Bush Pond and it's water way. I'm afraid this will also have a negative impact on the wetlands surrounding the development. The development will have a waste water treatment plant with no provisions for odor control. This massive development will also deforest 43 plus acres of forest. We frequently see wild fowl, deer, coyotes, fisher cats, otters and turtles. This will have an incredible impact on their habitat. There is also the known contamination of soil that was discovered just as recently as 10 years ago. What's going to prevent the contamination from entering our drinking water. The impact of this massive development will negatively affect us and the environment for years to come.

Thank you for your time in this matter,

Elizabeth Andon

**From:** [Dorothea Collins](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** The Preserve at Abbyville and Abbyville Commons ENF  
**Date:** Monday, February 12, 2018 10:01:19 PM  
**Attachments:** [Abbyville ENF Comments.pdf](#)  
[BC Environmental Law Review - Earth Removal and Enironmental Protection - excerpts.pdf](#)  
[TetraTech Peer Review Abbyville.pdf](#)  
[ATT00001.txt](#)

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Erin,

I am an abutter to the Preserve at Abbyville and Abbyville Commons, and I have serious concerns regarding this project. Attached, please find the following documents:

- 1) Concerns regarding the ENF
- 2) Selections from Earth Removal and Environmental Protection, by Alexandra D. Dawson from the Boston College Environmental Affairs Law Review
- 3) A peer review letter to the Norfolk ZBA attorney regarding the project

Respectfully,

Dorothea Collins  
51 Lawrence Street  
Norfolk, MA 02056

To: Erin Flaherty  
Environmental Analyst  
Massachusetts Environmental Policy Act Office  
100 Cambridge Street, Suite 900  
Boston, Massachusetts 02114

From: Dorothea Collins  
51 Lawrence Street  
Norfolk, Massachusetts 02056

Date: February 12, 2018

Re: ENF - The Preserve at Abbyville and Abbyville Commons

Erin,

I am writing to express my deep concerns regarding the proposed development at 17 Lawrence Street, Norfolk (The Preserve at Abbyville and Abbyville Commons - hereafter referred to as the Project).

I have included some excerpts from a Boston College Environmental Affairs Law Review article by Alexandra D. Dawson on Earth Removal and Environmental Protection. Although the article is from the 1970's, it discusses scenarios that are strikingly similar to those the abutters of the Project are confronting. The Project's location is an esker on the edge of town in a modest residential district. The developer plans to remove approximately 1,000,000 cu. yd. of material (mostly sand and gravel) from the site. This does not include the utility excavation and excavation to sub-grade which is likely to add an additional 100,00 cu. yd. of export. Also, if the developer is reporting the in-place volume, then the volume upon export could be 20% higher. Thus, the total export could be as much as 1.4 million cu. yd. Of course, this is only if the calculations provided by the developer are correct. He previously miscalculated the number of truck trips required to export the gravel, underestimating the number by 33% (see attached letter from Tetra Tech dated September 26, 2017). This is huge volume of earth removal speaks to a gravel mine masquerading as site preparation for a development.

Indeed, an abutting parcel is an abandoned gravel pit owned by the Lorusso family (known for mining and production of construction aggregates). A portion of the Project includes other parcels owned by the Lorusso family. The Project developer himself owns a construction aggregate business in nearby Wrentham, MA. The ZBA has been told by the developer that the sale of the sand and gravel figure into the financial viability of the project but there is no explicit accounting of this in the financial statements.

The volume of earth to be removed at this site is staggering. Think 5 football fields, end to end and 100 feet deep. Smaller mines have been rejected by nearby towns. This is 2,000 times earth removal the limit allowed by Norfolk bylaws and 5,000 times the average excavation for a typical home foundation. Because the Project falls under M.G.L. 40B, the developer can receive exemptions from these bylaws. In fact, the bylaws exemptions for the Project run 10+ pages and include a blanket waiver from all requirements for which the Project is inconsistent.

The mining activity will have a substantial and lasting impact on the health of the local residents, animals and environment. Emissions from the Project will include silica dust and diesel fumes. Silica dust is of particular concern with an earth removal project of this size. Crystalline silica can cause lung damage or cancer. There is no cure for silicosis and the the closer you are to the source the high the concentration and danger. This is of particular concern to me as

excavation will occur up to my property line. Silica dust infiltrates home heating and cooling systems and clings to anything it comes in contact with. It is dispersed, literally, in any direction the wind blows. Fugitive dust from the mining activities are likely to impact the nearby wetlands and vegetation.

Diesel fumes will be emitted by the large construction equipment required for the mining operation. Diesel fumes will also be emitted during the estimated 100,000 truck trips that will be required to export the sand and gravel from the site. These trucks will travel the local rural roads, (including crossing Bush pond and its narrow causeway).

Dust mitigation involves suppression with water. It is unclear where this water will come from and where the runoff from the site will be directed. Oil, sediment, building materials trash or other substances may be picked up as rainwater flows across a construction site. The rainwater can then carry these pollutant-containing materials to the storm sewer system, which typically releases the stormwater to a nearby river, stream or lake.

Impact to the aquifer is similarly troubling. Aquifers are recharged as precipitation infiltrates from the ground surface and moves downward to the water table. Thus, it seems reasonable that the removal of > 1,000,000 cu. yd. of earth would impact the aquifer ([http://www.mgwa.org/meetings/2010\\_spring/quarries\\_impacts\\_dnr.pdf](http://www.mgwa.org/meetings/2010_spring/quarries_impacts_dnr.pdf)).

The excavation will hug much of my northern property line. While many towns don't allow gravel mining within a few hundred feet of residences, this mine will excavate up to my property line, leaving a 60 foot embankment at the rear of my property (the height of a 6 story building). The nearest home will be less 200 feet from my home and almost as close to my well, which sits at the northeastern corner of the property. My well will not be much further from the Project's massive leach field. The excavation will leave a 60 foot embankment at the rear of my property (the height of a 6 story building).

At the southern entrance to the project are the remnants of the Buckley & Mann textile mill, which operated in that location for more than 90 years. . In the 1980's, the mill applied for a permit to discharge pollutants. The EPA issued a draft permit, however, no final permit was issued (MA DEP Division of Watershed Management CHARLES RIVER Watershed 2002 Biological Assessment, 7 December, 2005). According to the New York Times series on Toxic Waters (<https://www.nytimes.com/interactive/projects/toxic-waters/polluters/massachusetts/index.html>) the Commonwealth has no inspection records for the site.

The eventual remediation of the site included on-site consolidation of hazardous materials and soils. This is now an AUL. The contaminated soil has a protective cap, however, there is nothing containing the the AUL from below. This is of concern since blasting is likely to occur during site preparation (there is a large ledge in the construction area). Vibrations from blasting can disrupt the AUL and discharge pockets of contaminants. The AUL is also near where the developer plans to wash the exiting gravel trucks. Runoff from this area must be managed to protect the pond and other wetlands as the AUL has high pollutant loads.

Recently the DEP issued a notice of Non-Compliance to the owners of the property (Buckley and Mann Inc.). The violations related to disturbance of the AUL and failure to perform a Stage 1 Environmental Screening. A Method 1 risk characterization included in the 2001 RAO did not include the evaluation of potential risk to environmental receptors in sufficient detail. The carbonizer lagoons testing indicated a need for a Stage I Environmental Screening. This violation occurred in 2001 and, as of this writing, compliance has not been demonstrated.

The developer plans to remove the remaining Buckley & Mann foundations. However, piping used to move toxic waste from the mill to the nearby lagoons still exists under these

foundations. Improper removal of these pipes could result in contamination of groundwater and surrounding wetlands. The developer has not been asked for, nor provided, a plan for the controlled and environmentally responsible removal of this piping.

The size of the earth removal project and associated land clearing means extensive loss of habitat. The animal welfare issues have yet to be addressed. There is a nearly continuous green corridor encompassing the perimeter of the town that has been identified for preservation (The Norfolk Open Space Corridor Protection Strategic Plan [http://www.virtualnorfolk.org/public\\_documents/NorfolkMA\\_documents/towndocs/F000193AF/Planning%20Board%20Rules%20&%20Regulations/NorfolkOSFinal.pdf](http://www.virtualnorfolk.org/public_documents/NorfolkMA_documents/towndocs/F000193AF/Planning%20Board%20Rules%20&%20Regulations/NorfolkOSFinal.pdf)). This corridor includes Foley Farm (to the north of Bush Pond), Bush Pond and Buckley & Mann and cranberry bogs (south of Bush Pond). The project will severely narrow this corridor, creating a bottle neck that will force wildlife into local roads.

There exist numerous wetlands issues that must be thoroughly investigated. For instance, the wastewater treatment building appears to be near a buffer zone, and the leach field is in a nitrogen sensitive area. In fact many of the discharge locations on the site appear to be in close proximity to wetlands. The abutters to this project are depending on MEPA and the Executive Office of Energy and Environmental Affairs to perform a complete, thorough, and scientific review of the project including the impact on surrounding wetlands, wildlife habitat and homeowners.

Thank you in advance for your consideration of these comments,

Dorothea Collins

1-1-1974

## Earth Removal and Environmental Protection

Alexandra D. Dawson

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 Part of the [Environmental Law Commons](#)

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### Recommended Citation

Alexandra D. Dawson, *Earth Removal and Environmental Protection*, 3 B.C. Env'tl. Aff. L. Rev. 166 (1974), <http://lawdigitalcommons.bc.edu/ealr/vol3/iss1/11>

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"Chapter 40A" (the Zoning Enabling Act) or by "Chapter 40" of the General Laws.<sup>20</sup>

If the earth removal takes place in a wetland area, some protection may be afforded by the state wetland protection laws. In a district protected by a state Wetlands Restriction, a permit is required from the Department of Natural Resources, Division of Conservation Services.<sup>21</sup> If work is planned in a wetland not under such restriction, the "Hatch-Jones" dredge and fill law applies, and a hearing must be held before the local Conservation Commission.<sup>22</sup> For work to be done in an area zoned by the municipality as a flood plain district, a local permit will be also required, usually from the Board of Appeals.<sup>23</sup> It should be noted that since NEPA and MEPA do not apply to municipal licensing activity (with one minor exception), no environmental impact report is required of a municipality issuing a wetlands or earth removal permit regardless of the scope of the activity. The wetlands laws, then, are not of major importance in earth removal regulation.

Suppose a typical local situation: a large glacial esker in a "nice" suburb near enough to the metropolitan area to make commercial extraction profitable. The land is high and dry and is located in a modest residential district on the outskirts of town.<sup>24</sup> A small amount of land has been excavated from scattered pits by a one-truck, family operation. Suddenly, a big sand and gravel operator buys up the whole hundred acre tract and proceeds to run one truck a minute in and out of the pit, down a residential street, starting at four a.m. every morning. Hypothesize, further, that the townspeople seek relief, for themselves and the environment, under the following circumstances: (a) the town has no permit system whatsoever for earth removal; (b) the town has a permit system, but the operator claims his expanded use is protected by the former owner's permit; (c) the town has a permit system under a ch. 40 bylaw, but the operator claims his work is exempt under such bylaw, as a site preparation for a plan approved by the planning board; (d) the town rushes out and passes a very stiff permit system, but the operator claims exemption as a previously existing, non-conforming use; (e) the town passes a bylaw prohibiting sand and gravel removal in any district throughout the town, and the operator attacks the bylaw as an unconstitutional infringement upon private property rights. What are the limits of municipal regulation under these conditions?

#### IV. MUNICIPAL REGULATION UNDER MASSACHUSETTS LAW

As stated in the introduction, the power of a municipality to



ch. 40, §21(17). In contrast, a municipality is generally subject to its zoning ordinances or bylaws.<sup>28</sup> Second, ch. 40 exempts all earth removal occasioned by requirements of a subdivision plan approved by the local planning board. Although this exemption may be limited to site preparation work absolutely required by the final contours on an approved and properly recorded subdivision plan, many municipalities prefer the regulation under ch. 40A where it is clear that there need be no exemption for site preparation work.<sup>29</sup> However, most ch. 40A permit systems do in fact exempt site preparation work below a certain size, usually related to cellar hole plus driveway so as not to impose permit requirements for minor, routine construction jobs. From an environmental point of view, the ch. 40A regulation is preferable in this area. Planning boards in towns with ch. 40 regulations have found themselves confronted with what they suspected were "fake" subdivision plans: massive earth removal operations masquerading as "site preparation." In spite of such suspicions, however, planning boards must generally approve any plan conforming to its regulations because of the narrow wording of the Subdivision Control Law.<sup>30</sup>

To confuse the issue further, however, if a town chooses to rely entirely on its 40A zoning bylaws it will find that land shown on plans previously approved and recorded under the Subdivision Control Law is entirely exempt for three to seven years from any new zoning bylaw prohibiting earth removal.<sup>31</sup> No such protection is given subdivisions against new bylaws adopted under ch. 40, §21(17). Consequently, many localities employ a combination of ch. 40 and ch.40A regulatory laws.

The most difficult distinction between ch. 40 and ch. 40A regulations is the protection afforded to pre-existing non-conforming uses. Chapter 40A, §5, provides that a zoning bylaw:

shall not apply . . . to the existing use . . . of land to the extent to which it is used at the time of the adoption of the . . . bylaw, but it shall apply to any change of use . . . .

Section 5 further provides that a local bylaw "may regulate non-use of non-conforming buildings and structures so as not to unduly prolong the life of non-conforming uses." Presumably in reliance upon this language, it has been held that a non-conforming use of land may be lost by abandonment or non-use.<sup>32</sup> Between the extremes of radical expansion and complete abandonment, a whole body of law which will be discussed below has grown up regarding protection of non-conforming uses under the zoning laws.

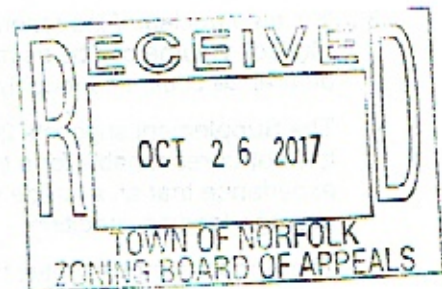
The recent case of *Kelleher v. Board of Selectmen of Pembroke*<sup>33</sup>



**TETRA TECH**

September 26, 2017

Daniel C. Hill, Esq.  
Hill Law  
43 Thorndike Street  
Cambridge, MA 02141



Re: **40B - Peer Review**  
**Abbyville Commons/Preserve at Abbyville**  
**Lawrence Street**  
**Norfolk, Massachusetts**

Dear Mr. Hill:

The following are comments generated during the course of our review of applicant submittal materials and peer review comment letters related to the above-referenced projects (Project). As discussed, our comments focus on the larger issues which have not been addressed to date or whose eventual resolution may substantially impact Project design and include specific comments related to proposed earth removal activities and representations made by the applicant. The following is a list of specific documents reviewed:

- *The Preserve at Abbyville, Norfolk Massachusetts – Grading and Utility Plans* by United Consultants dated March 15, 2017 (Rev 2 – 8/2017) hereinafter referred to as "Preserve Grading Plans".
- *Abbyville Commons, Norfolk, Massachusetts – Grading and Utility Plans* by United Consultants dated March 15, 2017 hereinafter referred to as "Commons Grading Plans".
- *Norfolk, MA – The Preserve at Abbyville/Abbyville Commons, Comprehensive Plan – Peer Review Letter* by Beta Group, Inc. dated June 30, 2017 hereinafter referred to as "Beta Civil Peer Review".
- *Norfolk, MA – The Preserve at Abbyville and Abbyville Commons, Traffic Peer Review Letters* by Beta Group, Inc. dated July 21, 2017 (2 total) hereinafter referred to as "Beta Traffic Peer Review".
- *Supplement for Earth Removal (undated and unassigned)* hereinafter referred to as "Supplement".
- *UCI Response Letters dated June 30, 2017 and August 29, 2017*
- *Green International Affiliates, Inc. Response Letters dated August 28, 2017 (3 total)*
- *Smolak and Vaughan LLP Status Update Letter dated July 5, 2017*
- *Traffic peer review comments*
- *Misc. Comment Letters*

## Comments

The following are specific comments generated during the course of our review. Comments are generally grouped by submittal and overlapping comments are only mentioned once.

### Earth Removal

1. The Earth Removal Summary estimates a total project net cut (Total Earth Removal) of 1,327,543 cubic yards. It is unclear how this amount was calculated or what it specifically represents.
2. If the amount reported represents the net volume change from existing finish grade to proposed finished grade then additional export volume should be considered to account for additional excavation

Infrastructure Northeast  
Marlborough Technology Park, 100 Nickerson Road, Marlborough, MA 01752  
Tel 508.786.2200 Fax 508.786.2201 tetratech.com

for utility excavation and excavation to subgrade. Consideration of this volume could add roughly 100,000 cubic yards of export.

3. It is also unclear if the reported volume represents excavated or in-place volume. Excavated or "fluffed" volume can be as much as 20% higher than calculated in-place volume. Consideration of this difference could add roughly 250,000 cubic yards of export.
4. The Supplement suggests 26.5 cubic yards can be removed from the site on an "average truck". While it is not unreasonable for a trailer dump to carry 26.5 cubic yards of lower weight soils, it is our experience that an average size of 24 cubic yards/load better represents an average vehicle under average loading conditions.
5. The Supplement estimates that earth removal trips will be spread equally over the entirety of the construction schedule. This is wholly inconsistent with typical construction operations in which bulk site excavation and earth removal is necessarily concentrated in early phases of construction to provide access and grading needed to accomplish the balance of construction. We would typically expect bulk site earth work to be concentrated in the first 10-15% of project schedule.
6. As mentioned in Michael Guidice Comment Letter (August 17, 2017) the Supplement appears to miscalculate Estimated Daily Truck Trips for Earth Removal (EDTTER). EDTTER is under-reported by in the summary column by 33%. Please note, trips for earth removal represent only a fraction of expected truck trips during construction, the actual number of truck trips is significantly greater since estimates to date include only exported soil and does not include bulk aggregate and building materials delivered to the site.
7. Given our comments above, specific conditions limiting truck trips is the only reasonable way to ensure actual trip frequencies align with those suggested in the Supplement. Otherwise we suggest residents be prepared for actual truck volume during earth removal that is 10-20 times higher than projected in the Supplement.

#### Site Plans

8. Roundabout geometry does not appear to comply with MassDOT design guidance. We recommend any approval include a condition that roadway geometry meet minimum standards prescribed by MassDOT and local regulations and that required right of way is provided.
9. It is unclear how the two projects are severable. Care is required to ensure approvals consider contingent improvements of each project. For example, both the Preserve and Common Plans show the same entry and access improvements. It is unclear which project has responsibility for completing the improvements.
10. The development appears to be served by an 8-inch extension/connection to an existing water main in Lawrence Street. Given the number of homes proposed and the length of on-site water main we recommend the Board require the applicant to provide a water system evaluation showing safe water supply (volume and pressure) can be maintained during fire events. The evaluation should address issues identified in the March 7, 2017 Water Supply Assessment Memo prepared by Environmental Partners Group.
11. Septic systems are shown on each lot and appear to only meet minimum requirements for sizing and spacing without on-site testing to support those assumptions. Additionally, no reserve areas are identified. If actual field conditions (percolation rates, depth to groundwater) vary from assumed conditions it will likely result in changes to home and lot layout.
12. The project will include nearly 200 homes served by on-site Title 5 subsurface wastewater disposal systems in what appears to be naturally pervious soils. This aggregation of flows in such a small area may result in elevated down gradient nitrogen levels and the project should be considered and evaluated based on its total impact.
13. The plans indicate site and septic design plans will be prepared for each lot (Notes: 1). Septic designs must be in compliance with Title 5 but it is unclear what, if any, site plan review is required. We

recommend any approval be conditioned in a manner that maintains impervious coverage at or below what is shown on the approved plans.

14. It is unclear how visitor parking will be accommodated. Many driveways shown on the Preserve Plans are not long enough to accommodate a parked vehicle and the Commons Plans do not show parking accommodations. Given the relatively narrow roadway widths proposed any overflow onto streets could impact emergency vehicle access or otherwise result in unsafe vehicle/pedestrian travel conditions. We recommend the applicant clearly indicate where on-site parking will be provided and justify the sufficiency to serve the development.
15. Proposed roadway geometry includes several dead end street without adequate access for emergency vehicles or normal activity. We recommend the Board require the applicant to provide documentation showing how emergency vehicles and normal traffic will safely maneuver dead end streets when parking spaces are full.
16. In general roadway layouts appear to be narrow and include small curve radii. We recommend the Board require the applicant to show how truck traffic and emergency vehicles will safely navigate internal roadways. In particular, documentation should show how a large truck or fire apparatus can navigate roads without trespass into travel ways of opposing traffic.
17. We did not notice any provisions for pedestrian crossings. Although not likely to impact development we suggest the Board require the applicant to provide a plan showing safe pedestrian accommodation throughout the site and how it connects to local pedestrian accommodations off-site.
18. Given the expectation that roadways will eventually be accepted as public ways we recommend the applicant be required to provide roadway and utility designs meeting the minimum requirements of the Town of Norfolk Subdivision Plans and that no waivers be granted that reduce the quality of construction or the scope of review related to rights of way that are to become the responsibility of the Town.

#### Traffic Study/Comments

19. The Applicant's traffic consultant has identified several changes to roadway/driveway layout to accommodate emergency vehicle access. These changes should be shown on the site plans and property lines and septic systems adjusted accordingly.
20. Based on information reviewed in correspondence related to intersection site distances there appears to be some concern related to adequacy of site distances at proposed driveways. This is a critical safety issue as inadequate sight distance can increase potential for and severity of accidents at proposed driveways. We recommend site distances be calculated based on proposed/existing vertical and horizontal roadway layout and 85<sup>th</sup> percentile speed. Site distance triangles should be shown clearly on the plans and provisions made to ensure maintenance.
21. We recommend the Board clearly define expected completion sequence for off-site mitigation and certificates of occupancy to ensure traffic safety concerns are addressed prior to residents occupying the homes.

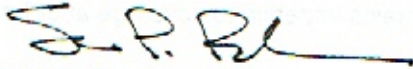
#### Beta Comment Letter (June 30, 2017)

We agree with and support the comments offered with the following exceptions:

1. Comment 18: Basin infiltration rates will degrade over time and we do not recommend adjusting design infiltration rates unless the adjustment is based on an adequately supported "Saturated Hydraulic Conductivity" and includes provisions for reduced effectiveness over time.

We are happy to discuss any of our comments at your request. Please don't hesitate to contact us with any questions, or if you require additional information.

Very truly yours,



Sean P. Reardon, P.E.,  
Vice President

P:\125280\143-125280-19001\DOCS\HILL-NORFOLK 408 REVIEW LETTER.DOCX

**From:** [David Poirier](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** Abbyville EEA#15796  
**Date:** Monday, February 12, 2018 2:09:44 PM

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To allow this project to happen and to allow a commercial gravel yard to operate for 8 years, in a residential area, is not in the public interest. The negative impacts to the environment and to those of us that choose to raise our families in close proximity to the proposed site far outweigh the positives of the project as it is currently proposed.

This is a commercial money making endeavor (quarry/gravel pit) made to look like a housing project. One that will strip the land and have ramifications for generations.

I am firmly against this project.

Sincerely,

Dave Poirier  
20 Laurie Lane  
Wrentham, MA 02093  
508-954-1043

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**From:** [wittersinma@verizon.net](mailto:wittersinma@verizon.net)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** Abbyville EEA#15796  
**Date:** Monday, February 12, 2018 8:13:25 PM

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Hello Erin,

We have been residents in the town of Norfolk for fourteen years. We live in a cul de sac one block away from the impending Abbyville development. We are concerned about our water supply, increased traffic, overcrowding, and eight years worth of construction noise.

Because of an already low water supply we have had a process called hydrofraction conducted on our well and we have also installed a more powerful pump. We are very concerned about the impact this new development will have on our already struggling water supply.

Lawrence street is already a narrow road that struggles to fit two cars abreast. Does not seem feasible that we will now be sharing that same road with equipment vehicles for eight years. Exiting our cul de sac onto Lawrence street poses a problem given the blind spot that exists on a bend that is about where one of the proposed entrances to the development will be. We can only imagine how dangerous that bend is going to be with an exponentially greater amount of traffic both during and after construction. We are also concerned with the amount of noise and air pollution that eight years of construction will generate. We moved to Norfolk for a quiet atmosphere and a beautiful setting. We feel that this environment is threatened by the Abbyville development.

Thank you,  
Cathy Witter  
3 Eagle Drive  
Norfolk, MA  
02056

**From:** [Brian Kahaly](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** Abbyville EEA#15796  
**Date:** Monday, February 12, 2018 8:20:38 PM

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Ms. Flaherty,

My name is Brian Kahaly. I live directly across from an immense 40B housing development called Abbyville being proposed off of Lawrence St. in Norfolk, Massachusetts.

I am reaching to you today to list my concerns and issues which are not only environmentally devastating, but pose numerous health and safety issues to the area as well.

My hope is that the state looks deeply into the overall ramifications of these incredible alterations and recognizes how a project of this magnitude will be a huge detriment to this area.

I am listing these critical points as follows:

- The Abbyville project proposes 204 units, 56 rental and 148 ownership. Norfolk has never entertained a project of this size, and does not have the infrastructure or resources to accommodate it.
- 43.7 acres will be altered or deforested from this project.
- 17.7 acres of impervious area equates to more storm water to wetlands, which decreases water to the aquifer that supports local and private wells.
- 1 MILLION cubic yards of earth will be removed. This equates to a gravel pit in an R3 zone.
- It is estimated that there will be 90-120 truck trips PER DAY removing earth. This does not include logging and gravel 18 wheelers, and other construction vehicles, traveling on local roads that are barely usable or wide enough for local automobile traffic.
- This excavation will be in some places up to 60', done in 5 phases over an 8 YEAR expected projected time period.
- This project is located in a Zone 2 Wellhead Protection Area with toxic landfill on the Buckley and Mann property.
- Piping under the foundations of the previous plant were used to pipe contaminants to lagoons. This needs an EPA study.
- There is NO PROTECTIVE BARRIER under the buried contaminants on this site. There is a massive risk of this being disturbed, and leaching into the aquifer and local wells.
- Wastewater of 64000 GPD treatment plant design is unfinished.
- This will raise groundwater elevations from 5.6' to 178' at the leach fields and 2-3' near the trail race, which ultimately will impact the buried contaminants on the site.
- The proposed Amphidrome Wastewater System is not odor free, and needs a control



system.

- The Greenhouse Gas analysis does not account for the incredible amount of construction trucks and vehicles which will generate tons of Co2 gases in the area, posing a drastic health risk.
- Dust pollution from the excavation with possible silica content poses another health risk to the area.
- Noise pollution over an 8 year period will impact the local residents.
- Structural damage to septic tanks, wells and foundations, from blasting.
- Potential public wellfields will reduce water supplies needed to keep wellfields viable.

Please take all these issues under consideration and investigation. I believe your findings will justify my concerns.

Regards,

Brian Kahaly  
Chief Operating Officer  
LPM & Affiliates  
24 Main St.  
Maynard, Ma. 01754  
Office # 978-897-0660 ext. 137  
Cell # 978-423-8218  
Fax # 978-897-3719  
[bkahaly@lpmhci.com](mailto:bkahaly@lpmhci.com)

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143 Seekonk Street  
Norfolk, MA 02056  
February 12, 2018

Ms. Erin Flaherty  
MA DEP  
1 Winter Street  
Boston, MA

Dear Ms. Flaherty:

I am writing to you on behalf of the town of Norfolk as a concerned citizen related to the Abbyville Project : EEA #15796.

There is a proposal to build a large housing project plus apartments in an area where there is a large rock formation. This is ludicrous. The only way to build a housing project on the piece of land is to dynamite it for several years, removing tons of rock from the area. This will be quite disruptive to the town in general.

This piece of land is located in a fragile ecosystem area. It is not fair to destroy this piece of land to build low income housing.

Please do not approve this housing project for the sake of low income housing. Folks can move to Attleboro or Brockton if they want low income housing.

Thank you,

*Debra M Gursha*

Debra and James Gursha

**From:** [Bryan Lowe](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** The Preserve at Abbyville and Abbyville Commons EEA #15796  
**Date:** Friday, February 09, 2018 9:11:12 AM

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Dear Ms. Flaherty,

My name is Bryan Lowe and I am a resident of Stewart Street in Franklin Massachusetts. My home borders the woods that are going to be destroyed by this project. I am 23 and have lived at this house my entire life. I grew up in these woods and feel particularly attached to this open space that offers so much for our environment. Maybe Mr. Diplacido does not realize this, as he is constantly back there surveying with large and noisy equipment, but these woods are home to an abundance of wildlife. Deer, fisher cats, coyotes, foxes, rabbits, turkeys, and red tail hawks are only a few of the species that inhabit the area. I beg you to please help us stop this project before it is too late and these 60+ acres of untouched woods that separates Franklin from Norfolk becomes a clear cut, gravel pit and eventually a 200+ home subdivision.

I will not bother you with my complaints about the safety of our communities due to this construction activity as I understand you deal primarily in the environmental side of things. I urge you to please visit this proposed site if you have not done so yet. It is a shame that someone would want to destroy one of the last few untouched spaces of woods that are enjoyed by so many animals and humans. My neighbors and I all walk our animals back in these woods and one neighbor even rides his horse! I have personally lost a cat to these woods, no doubt the work of a coyote. The displacement of these animals will be tremendously detrimental to our local ecosystem and environment. These animals will have no place to go. Again, if you have not, I implore you to visit this site and to see for yourself the devastation that this site will cause for our community.

I always expected that this day would come as a kid adventuring in these woods. I told myself that when it did, I would try to do anything and everything in my power to protect one of the last pieces of untouched nature preserve in my surrounding area. I feel particularly blindsided by this entire initiative because these builders are dealing with this entirely on the Norfolk (King Phillip) side with little to no notice for Franklin residents. There are two sides to these woods! Franklin has been given 0 notice of these advances, meaning we have not had any time to stand up for our woods. I personally am notifying every home (109) in my neighborhood of these proposed happenings and upcoming meetings in Norfolk because they do not want to notify the Franklin residents! More people would be emailing you if they only knew what was being passed right under our very noses. At the end of the day, the environment will be the thing that suffers most. I beg of you to please help us stop the clear cutting, excavating, and building that will displace thousands of animals. Have environmental and ecological

scientists even been able to inspect the area to see what is being destroyed? Please help our local environment!

Sincerely,

Bryan Lowe  
Stewart Street Resident,  
Franklin, MA 02038 (The town they forgot to notify!)

Best,  
Bryan

Bryan Lowe, Client Services and Human Resource Assistant  
Mediate Management Company, Inc.  
4 Bunker Hill Industrial Park  
Boston, MA 02129  
[bryan@mediatemanagement.com](mailto:bryan@mediatemanagement.com)  
T: (617) 316-3308  
F: (617) 316-3358

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& Property Management**

**From:** [Thomas Mirabile](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Cc:** [Jill Bahcall](#)  
**Subject:** The Preserve at Abbyville, EEA#15796  
**Date:** Thursday, February 08, 2018 4:37:10 PM

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Erin Flaherty:

As residents of the town of Norfolk, MA., I would like you and the Office of the Massachusetts Environmental Policy Act (MEPA) to be acutely aware of our views on this proposed monstrosity known as the Preserve at Abbyville and Abbyville Commons to be constructed on Lawrence Street in Norfolk, MA.

It is difficult to imagine a project that comes with so many alarming and devastating issues—public safety issues, water issues, environmental issues, traffic issues, school, fire, and police issues—to name just a few. The very size and impact of this project borders on the preposterous. In combination with the present and future flood of 40B developments, I implore both you and your colleagues to carefully and thoroughly examine the potential seriousness and dramatic impact on the local environment this particular long-term project will impose on Norfolk and its surrounding areas.

We are fully aware that the State may override denial of the appropriate permits by local and town boards due to the unintentional loopholes and continuing abuse of the 40B statute by developers throughout the state of Massachusetts. This particular project, as you may be aware, will include a massive gravel pit operation that has nothing to do with 40B and its original intentions.

It has been estimated that this side operation alone will include over 80,000 truck-hauling trips of close to a million cubic yards of gravel and earth over a ten-year period and with that will come daily environmental disruption, pollution, and irreparable damage to nearby ponds, streams, vernal pools, wildlife, as well as affecting the lives and health of hundreds of residents living in the immediate area.

It is our hope you will examine this project with meticulous care and give your full attention to its potential for so much irreversible damage to so many.

Sincerely,

Tom Mirabile  
Jill Bahcall  
79 Fruit Street  
Norfolk, MA 02056  
508-520-3667

**From:** [Angela Wilcox](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** The Preserve at Abbyville and Abbyville Commons, EEA#15796  
**Date:** Wednesday, February 07, 2018 1:35:11 PM

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Dear Ms. Flaherty,

I'm writing to express my concerns regarding the prospective new development at Abbyville and Abbyville Commons. I'm vehemently opposed to this development for the following reasons. Tax payers and community residents will be required to pay for repairs to fix roads after 80,000 truck trips of 18-wheelers remove nearly 1 million cubic yards of gravel/earth. The environmental impacts include dust and noise pollution, deforestation from clear cutting, greenhouse gas emissions from the trucks, impacts to wildlife through loss of habitats, impact on aquatic life in Bush Pond, Mill River and nearby vernal pools and potential vernal pools. Possible impact to the stability of the toxic landfill on site from excavation is another major concern.

I'm not opposed to providing housing for those in need, however, developers taking advantage of small communities for their own personal gain, is unjust and needs to be handled. Please consider the hazardous impacts this development will have on our community and help business owners and homeowners like myself who just want to do the right thing.

Sincerely,  
Angela Wilcox

--

Angela Wilcox  
Principal  
AMW Marketing  
[www.amw-marketing.com](http://www.amw-marketing.com)  
twitter: @amw-marketing  
blog: <http://amw-marketing.blogspot.com/>

22 Fleetwood Drive  
Norfolk, MA 02056  
781-241-2083

**From:** [Adele Lemenager](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** The Preserve at Abbyville and Abbyville Commons, EEA#15796  
**Date:** Wednesday, February 07, 2018 9:15:41 PM

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Good Evening,

I hope this email finds you well. My name is Adele Lemenager and I am a resident of Norfolk, Ma. I received your information from a member of the community. I'm writing in regards to the development that is going up across the street from my home, on Mill Street "Abbyville".

I'm hoping that you can help me find the right person to talk to about the environmental effects this project will have on my property. I live on Park Street, and the river that feeds Bush Pond runs through my property. The vegetation is living off that stream. I've had a number of tree guys and landscapers tell me if the stream dries up, these trees will weaken and fall on my home.

I've also heard my animals (chickens and dogs) are at harm from the contaminants of this project in the stream. I am so anxious and frightened for what can happen to my children, my home, my animals, our wellbeing and safety. Any information you may have with who I can speak with about these concerns, would be so very much appreciated.

Thank you so much for your time and I look forward to hearing back from you.

Adele Lemenager  
781-858-6485

Sent from my iPhone



**From:** [Chicklis, Charlie](#)  
**To:** [Flaherty, Erin \(EEA\)](#)  
**Subject:** BIG DIG  
**Date:** Friday, February 02, 2018 4:28:53 PM

---

As a resident of Mill Street in Franklin, I strongly oppose the Norfolk "Big Dig" at the end of Lawrence Street. Not only will it have a negative impact on the pond and wildlife, but it will involve thousands of truck trips up and down Mill Street on the Franklin end of Lawrence. We urge you to deny the Earth Removal Bylaw Waiver. . Thank you.



Sincerely,  
Charles and Patricia Chicklis

--

Charlie Chicklis  
89 Mill St.  
Franklin, MA 02038  
508-520-1612

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**From:** [William Gross](#)  
**To:** [William Gross](#); [Flaherty, Erin \(EEA\)](#)  
**Subject:** Abbyville Project - Norfolk, MA  
**Date:** Tuesday, January 30, 2018 9:54:54 PM

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Hi Erin,

My understanding is the above project is under environmental review and has reached your desk at the state level. I am not terribly familiar with government and certainly not familiar with the process in which we have advanced this project. What I can express is tremendous concern over a project that is simply terrifying and so dramatic in scale that the short and long term environmental impact greatly outweighs the greater good. .

I've attended meeting, listened to the developers, residents and other discuss this project. I am disappointed in how Norfolk administration has conducted this process but that aside I can say with all honesty that there is no way this land should be developed, period. It is very fragile land to say the least.

The potential harm to our water supplies, dramatic earth movement, the disruption of acres of habitat, the fear of blasting, the traffic for our children in concentrated areas, fire safety, silica dust to name a very small list of concerns are all real.

If you need specifics please talk with residents. Bald eagles have been reported seen here, salamander, turtles, fairy shrimp and frogs in the vernal Pools, there are deer tracks all throughout this beautiful land. When you walk the property you would understand that this is devastating on so many levels.

I am a 7 year resident of Norfolk. Aside from the contamination, the wild life, the traffic and length of project I'd ask that you look at the community as a whole and ask yourself is this really the best project for all?

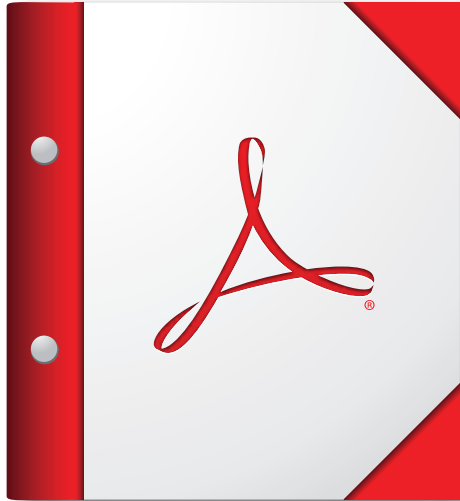
I pray that the contamination found in the soil is minimal but my suspicion is that it is not. Others tried to develop this property in the past and have not for this reason, among others. Please look it up.

Please, please look closely at this and understand this is simply coming down to greed without real thought to betterment to our community as a whole. The residents of Norfolk know this and will continue to fight this dreadful idea called Abbyville.

Regards, Bill Gross  
21 Essex Street, Norfolk

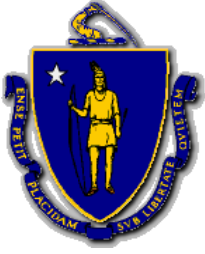
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Billy sent this from Gmail



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**Charles D. Baker**  
Governor

**Matthew A. Beaton**  
Secretary

**Karyn E. Polito**  
Lt. Governor

**Judith F. Judson**  
Commissioner

14 February 2018

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

RE: The Preserve at Abbyville and Abbyville Commons, Norfolk, Massachusetts, EEA  
#15796

Cc: Ian Finlayson, Acting Director of Energy Efficiency Programs, Department of Energy  
Resources  
Judith Judson, Commissioner, Department of Energy Resources

Dear Secretary Beaton:

We've reviewed the Environmental Notification Form (ENF) for the above project. The purpose of this letter is to identify emission reduction measures consistent with MEPA policy objectives to avoid, mitigate, and reduce greenhouse gas emissions. The proposed project consists of 204 single family and duplex houses, totaling approximately 370,000 sf of new construction.

In summary:

- The currently-proposed project Mitigation Level<sup>1</sup> is 13%. However, about ½ of this mitigation is attributable to reduction in lighting power density. We recommend pursuing other mitigation strategies as high efficiency LED lighting is already effectively mandated through minimum efficacy standards contained in residential code. Further, this measure would be difficult to enforce or ensure implementation in a single-family or duplex setting.

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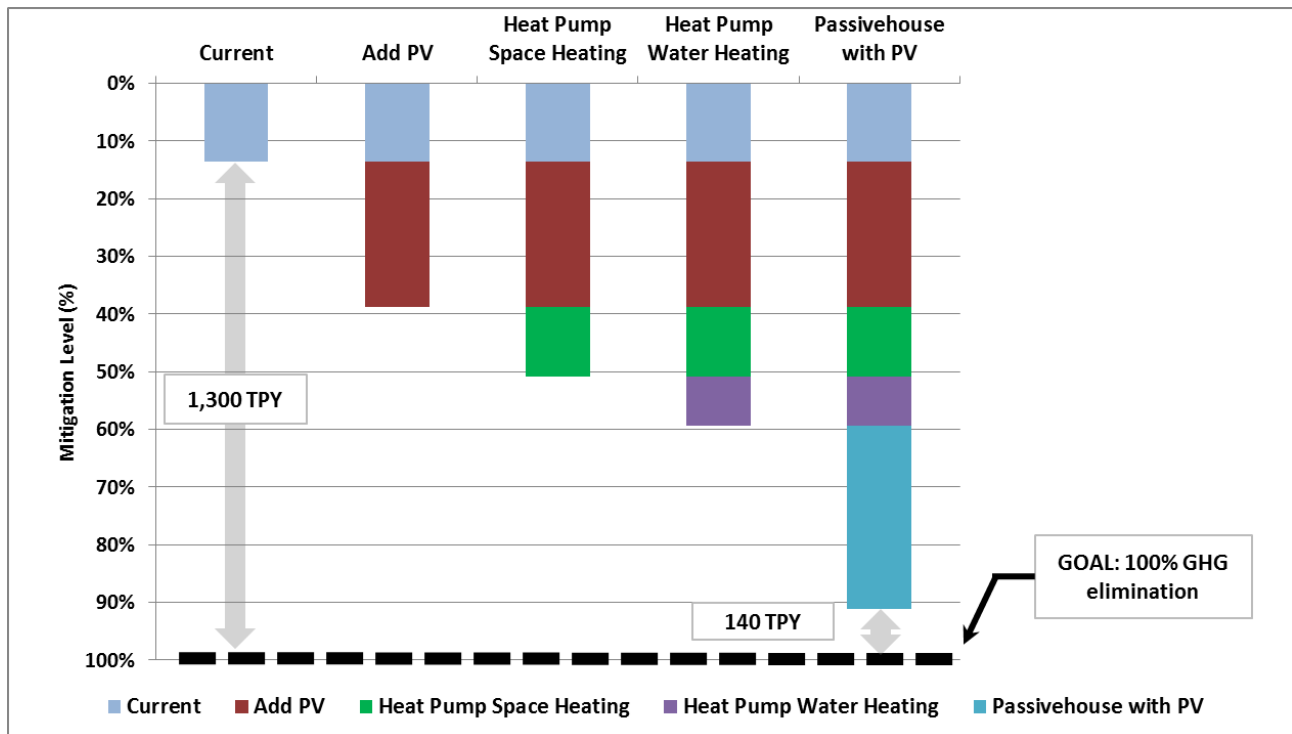
<sup>1</sup> GHG Mitigation Level is the percent GHG reduction beyond the reduction that would occur as a result of following state and local building codes. A GHG Mitigation Level of 0% means no mitigation is proposed while a Mitigation Level of 100% means that all building-related project emissions have been eliminated or offset.

- The proponent has been responsive to investigate heat pumps and solar PV. Both measures provide significant mitigation. Both will continue to be evaluated.
- Alternative Energy Credits (AECs) worth approximately \$480,000 to \$780,000 would be potentially available by using qualified air source heat pumps. These AECs would potentially be available to the proponent upon completion of construction.
- Mitigation Level can be increased to over 90% using PV and Passivehouse design. Passivehouse may be an attractive option for some homeowners.

Our detailed comments follow.

### Pathway to 91% GHG Reduction

GHG Mitigation Level can be improved from currently-planned 13% to over 90%, a sevenfold improvement. Project emissions would be reduced from 1,300 tpy to 140 tpy; or, nearly zero emissions.



The pathway is as follows (referencing the illustration above, from left to right):

- Addition of PV would improve Mitigation Level from 13 to 39%;
- Using air source heat pumps for space heating would improve Mitigation level from 39 to 51%.

- Using heat pump water heating would improve Mitigation level to 59%.
- Building the houses to PHIUS or PHI passivehouse standards would improve Mitigation level to 91%.

### **Cold Climate Air Source Heat Pumps**

A thorough analysis of cold climate air source heat pumps (ccASHP) was performed, including assessment of the potential value of Alternative Energy Credits (AECs). Cold climate heat pumps were found to be feasible and will continue to be evaluated. The estimated value of AECs is between 480,000 to \$780,000, issued upon completion of construction. The upper bound estimate applies if the homes are built to passivehouse standards (either PHIUS or PHI, more below); or, if a HERS rating of 50 or lower is achieved; or, if the homes are built to Zero Energy standards as defined by the Department of Energy.

In addition, qualifying ccASHPs would be potentially eligible for Massachusetts Clean Energy Center (MCEC) rebates. (See here for more information <http://www.masscec.com/business/clean-heating-and-cooling>.)

In summary, using qualified ccASHP would:

- Eliminate the need for a conventional boiler or furnace; such units could be deleted from the project.
- Be able to be used for cooling, providing central air.
- Be potentially eligible for up to \$780,000 worth of AECs, issued upon completion of each home.
- Be potentially eligible for MCEC rebates. MCEC rebates also increase for affordable housing.

### **Passivehouse**

We recommend a thorough investigation of passivehouse, pursuing either Passive House Institute United States (PHIUS) or Passive House Institute (PHI) certifications for some or all the homes. Homebuyers may wish to have a passivehouse option in order to gain the comfort, quality of construction, and energy savings that passivehouse delivers.

Because utility costs will be about 75% less than a code-built house, passivehouse homeowners who amortize the premium construction costs over a 30 year mortgage typically pay less in total monthly ownership costs (mortgage plus utilities) than code-built home ownership costs. In addition, they gain a valuable, resilient asset. Passivehouse homeowners that itemize their taxes convert utility liabilities to tax-advantaged real property.

## **Rooftop Solar PV**

A thorough analysis of solar PV was also provided, including an assessment of emissions reduction and potential incentives. In summary, PV on the roofs would have a large, positive impact on GHG reduction, improving GHG reduction to almost 40%.

Solar readiness is now required by code in most circumstances for residential construction. We recommend reviewing Appendix U of the code (link below) and updating the area estimates based on the minimum space requirements.

[https://www.mass.gov/files/documents/2017/10/13/780%20CMR%20ninth%20edition%2C%20residential%20code%20amendments\\_0.pdf](https://www.mass.gov/files/documents/2017/10/13/780%20CMR%20ninth%20edition%2C%20residential%20code%20amendments_0.pdf)

## **Heat Pump Water Heaters**

Heat pump water heaters have efficiencies of over 200%; more than double the efficiency of even the highest performing gas-fired units. Such units may also be eligible for utility incentives. We recommend a thorough evaluation of heat pump water heating as water heating makes up one of the largest end uses.

## **Recommendations for Future Submissions**

We recommend the following for future submissions:

1. Consider less reliance on lighting power improvements and more reliance on space and water heating improvements, as well as passive design.
2. As cold climate air source heat pump evaluations advance, consider the value of:
  - Alternative energy credits
  - MCEC grants
  - Eliminating boilers/furnaces from project
3. Develop rooftop plans showing locations for PV as required by solar readiness provisions in the code. Estimate total area.
4. Evaluate options for offering passivehouse as an alternative option for homebuyers.

Sincerely,



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