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August 9, 2021

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

PROJECT NAME	: Essex Pastures
PROJECT MUNICIPALITY	: Ipswich
PROJECT WATERSHED	: Ipswich River
EEA NUMBER	: 16399
PROJECT PROPONENT	: Essex Pastures, LLC
DATE NOTICED IN MONITOR	: July 9, 2021

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 hereby determine that this project **does not require** an Environmental Impact Report (EIR).

While this project may now proceed to permitting and other approvals, I acknowledge the concerns expressed by the Town of Ipswich's (Town) Conservation Agent, residents and Ipswich Citizens for Responsible Growth, about the scale and impacts of this project. Specifically, comments identify concerns regarding the density of the project and associated traffic, water, and wastewater impacts. Comments also identify concerns with development within the 100-foot buffer zone to wetland resource areas. While environmental impacts should continue to be considered in future approvals and permitting, including through the Department of Housing and Community Development's (DHCD) Housing Appeals Committee (HAC), none of these impacts exceeds mandatory EIR thresholds and future permitting agencies have sufficient authority to resolve outstanding issues through their respective processes.

MEPA review is not a permitting process, nor does it serve as an appeal for local decisions. It does not pass judgment on whether a project is or is not beneficial, or whether a project can or should receive a particular permit. Rather, the MEPA process requires public disclosure of a project's environmental impacts as well as the measures that the proponent will undertake to avoid, minimize and mitigate these impacts. MEPA review occurs before public agencies act to issue permits and approvals for a proposed project to ensure that those agencies

are fully cognizant of the environmental consequences of their actions. I encourage concerned residents to continue to participate in the review of the project by HAC and other permitting agencies to ensure that appropriate mitigation measures, including those identified through the ENF filing, are incorporated into permits and approvals issued for the project.

Project Description

As described in the ENF, the project includes construction of 173 residential apartment units, 18 residential townhouse style units, and 1,000 square feet (sf) of additional medical office space. Approximately 25-percent (48 of the 191 total units) will be affordable units pursuant to M.G.L. c. 40B. The project also includes construction of site amenities for the residential units, including a pool, clubhouse, a maintenance building, bike storage, and five detached garages. Site access will be provided via two new full-movement driveways that will intersect Essex Road (Route 133), east of County Road (Route 1A). An existing medical office building with four apartment units will remain on the site. The project will be served by the municipal water and sewer infrastructure.

Project Site

The 13.25-acre project site is comprised of five contiguous parcels located at 26-44 Essex Road in Ipswich. The site is generally bounded by undeveloped land and residential properties to the west, north, and east. Essex Road (Route 133) borders the site to the south. The site currently contains Bruni Marketplace (a small mixed-use development which includes 8,500 sf of commercial space), the Lahey Health Primary Care Ipswich facility (approximately 6,900 sf of medical office space), four apartments above the Lahey Health Primary Care building and three single-family residences. There are currently five driveways into the site (two at Bruni Market Place and three serving the single-family homes). The Lahey Health Primary Care facility and four apartments will remain on the site and the three single family homes and 1,600 sf of commercial retail space will be demolished as part of the project.

The project site is located within an Environmental Justice (EJ) population that is designated based on income. The project is located within Block Group 1, Census Tract 2231, Essex County which has a median income that is 63.4-percent of the state's median. Total minority population is 18.3-percent and households experiencing language isolation is 1.4-percent.

A portion of the site contains a Bordering Vegetated Wetland (BVW) and its associated 100-ft buffer zone. The project site is not located in Priority and/or Estimated Habitat as mapped by the Division of Fisheries and Wildlife's (DFW) Natural Heritage and Endangered Species Program (NHESP) or an Area of Critical Environmental Concern (ACEC).

Environmental Impacts and Mitigation

Potential environmental impacts of the project include alteration of approximately 7.72 acres of land (including creation of 4.95 acres of impervious area), generation of 1,336 average daily trips (adt), use of 36,507 gallons per day (gpd) of water and generation of 36,507 gpd of wastewater.

Measures to avoid, minimize, and mitigate environmental impacts identified in the ENF include construction of a stormwater management system that will meet the requirements of the Massachusetts Stormwater Management Standards (SMS); implementation of a Stormwater Pollution Prevention Plan (SWPPP) to minimize water quality impacts during the construction period; implementation of a Transportation Demand Management (TDM) program to reduce vehicle trips, improvements to the intersection of Route 1A with Route 133 (if warranted based on monitoring results); use of rainwater for the irrigation system; and implementation of construction period Best Management Practices (BMPs).

Permitting and Jurisdiction

The project is undergoing MEPA review and requires an ENF pursuant to 301 CMR 11.03(6)(b)(14) because it requires a State Agency Action and will result in the generation of 1,000 or more New average daily vehicle trips (adt) and construction of 150 or more New parking spaces at a single location. The project requires a Highway Access Permit from the Massachusetts Department of Transportation (MassDOT) and a Comprehensive Permit from the Housing Appeals Committee (HAC) pursuant to M.G.L. c. 40B.

The project will require an Order of Conditions from the Conservation Commission (or in the case of an appeal, a Superseding Order of Conditions from MassDEP). It requires a National Pollutant Discharge Elimination System (NPDES) Construction General Permit from the U.S. Environmental Protection Agency (EPA).

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 is functionally equivalent to broad, or full scope, jurisdiction pursuant to 301 CMR 11.01 (2)(a)(3) because of the broad subject matter of the HAC review and approval process.

Review of the ENF

The ENF included a description of existing and proposed conditions, including preliminary project plans, and an alternatives analysis. It identified the project's environmental impacts and proposed mitigation measures. It included a series of transportation memoranda that evaluated potential traffic impacts and identified mitigation measures and a copy of a letter from the Town of Ipswich to the property owner that identified the project site as a potentially suitable location for affordable housing. The project site was one of 20 properties chosen in Ipswich as a favorable parcel for affordable housing based on a number of characteristics, including the site's proximity to public amenities, its existing infrastructure, complementary land uses, and size of the overall parcel.

The Proponent distributed supplemental information on June 30, 2021 and July 21, 2021 regarding an additional alternative, updated information related to Environmental Justice populations in the vicinity of the project, the stormwater report, and climate change adaptation and resiliency. Additional information regarding buffer zone impacts was provided to the MEPA Office on August 5, 2021 to facilitate review of the project. For purposes of clarity, all supplemental materials provided by the Proponent are referred to herein as the ENF unless otherwise referenced.

As noted above, the project site is located within an EJ population that is designed based on income criteria. The ENF asserts that the project will serve as a benefit to the EJ population because it will create affordable housing units immediately within a low-income block group. According to the ENF, the Proponent has performed a good deal of local outreach to the community and the project has undergone extensive public review at the local level through the Comprehensive Permit process.

Alternatives Analysis

The ENF and supplemental information provided by the Proponent evaluated the following alternatives: No-Build, Shopping Center, Preferred Alternative (as described herein), and Zoning Board of Appeals (ZBA) Alternative. The No Build Alternative would not generate any impacts as it would maintain the existing conditions of the site. According to the ENF, the No Build was dismissed as it would remain an underutilized site and would not provide a residential or mixed-use development, which are needs recognized by the Town in its letter. The Shopping Center Alternative, which was previously considered for the site, would consist of a 64,500 sf shopping center development. The ENF indicated this alternative was eliminated due to its higher land use intensity, inconsistency with surrounding uses, and increased impervious coverage and traffic impacts; in addition, it would not provide affordable housing units. The ZBA issued a Comprehensive Permit on May 25, 2021 that reduced the number of housing units from 191 to 151 units through elimination of Building E (33 units), reducing Building C from 33 to 27 units, and elimination of one of the townhouses from Building Cluster H. This alternative would reduce impervious area (by 1.37 acres), vehicle trips (by 318 trips), parking spaces (by 73 spaces), and water demand and wastewater generation (each by 7,705 gpd) as compared to the Preferred Alternative. As described in the ENF, the building cost of this alternative would be reduced but the infrastructure cost would remain essentially the same. Supplemental information provided by the Proponent clarified that the majority of economically viable rental projects in the Boston area are at 20 units per acre or hire and that the Essex Pastures project is already at 14 units per acre. According to the ENF, the Proponent determined that the reduction of 40 units would make the project economically infeasible. I received comment letters which note that a pro-forma (financial analysis) was requested but not provided during the ZBA's review of the project to support the assertion that a 151-unit development would be financially infeasible. Other comment letters raise concerns with the density of the project and associated traffic, water, and wastewater impacts. The question of whether a particular density of affordable housing is economically feasible and whether a particular set of conditions would or would not render the development economically infeasible, are central issues to be resolved by HAC. While a lower density development generally provides environmental benefits, a further evaluation of economic feasibility through the MEPA process has little added value as this issue will be fully adjudicated before the HAC.

Land Alteration/Stormwater/Wetlands

The project will create 4.95 acres of impervious area. The ENF indicated that the stormwater management system was designed to comply with MassDEP's Stormwater Management Standards. The stormwater management system will collect and treat surface and roof runoff while mitigating any increase in peak flows. The design of the stormwater management system includes Best Management Practices (BMPs) such as deep-sump catch

basins, hydrodynamic separators, underground infiltration areas, and a centrally-located detention basin. Roof runoff will be routed through one of the infiltration areas to promote groundwater recharge before flowing to the central detention basin. Surface runoff will be collected by deep-sump catch basins, and suspended solids will be removed by hydrodynamic separators, prior to being routed through infiltration areas and discharge to the central detention basin. The stormwater report indicated that the individual drainage structures will be sized and calculations will be provided to confirm that TSS removal requirements are being met once the design of the stormwater management system has progressed. During future permitting and approval processes, the Proponent should demonstrate, with supporting calculations and other data, that the stormwater management system will meet SMS requirements. I encourage the Proponent to continue to evaluate ways to reduce impervious area, including through the use of permeable pavers, reducing roadway widths, and incorporation of additional low impact development (LID) measures.

The ENF indicated that the project will require an Order of Conditions from the Ipswich Conservation Commission to address impacts to buffer zone. According to the ENF, the project will impact approximately 25,512 sf of buffer zone. The project will not result in any direct filling or alteration of wetlands. Comment letters identify concerns that the Proponent has requested a waiver of portions of the local wetland bylaw that restricts development within the 100-ft buffer zone. Specifically, the Proponent has requested a waiver of the locally regulated 50-ft no disturb and the 65-ft no-build zones from wetland resource areas. According to supplemental information provided by the Proponent, the project requires a waiver from the locally regulated no-build and/or no-disturb zones for the following structures: stairs associated with a townhouse in Building J; rear decks and stairs associated with two townhouse units in Building I; stairs associated with two townhouse units in Building H; and riprap associated with the drainage outfall from the roof infiltration system for Building H. The Proponent has indicated that the location of this outfall is dependent on elevation and that it cannot be moved farther away. The project will also eliminate an existing drainage outfall that currently discharges untreated stormwater within the 50-ft no disturb zone. Supplemental information from the Proponent indicates that it is common practice to allow work in the buffer zone and asserts that encroachment into the buffer zone has been minimized to the greatest extent feasible.

Traffic and Transportation

Vehicular access to the site is proposed via two new full-movement driveways from Route 133, a state-controlled roadway under the jurisdiction of MassDOT. The ENF included a series of transportation memoranda that evaluated potential traffic impacts and identified mitigation measures (collectively referred to herein as the Traffic Impact and Access Study; TIAS). Comments from MassDOT recommend that no further environmental review be required based on transportation-related issues.

The TIAS described traffic volumes and conditions, anticipated trip generation rates, crash rate data, and levels-of-service (LOS) operations at signalized and unsignalized intersections under 2020 No Build (assuming existing conditions), 2027 No Build (without the project), and 2027 Build conditions. The Study Area included eight intersections, including project site driveways. Comments from MassDOT note their general agreement with the study area intersections based on the trip distribution and trip assignment. Based on information from the TIAS, study area intersections are not experiencing crash rates above the state and

MassDOT-District 4 averages and there are no identified Highway Safety Improvement Program (HSIP)-eligible clusters near the site.

The project's trip generation was based on trip rates published in the Institute of Transportation Engineers' (ITE) *Trip Generation Handbook, 10th Edition*. Based upon ITE land us codes (LUCs) 220 (multi-family housing) and 720 (medical office), the project will generate 1,454 adt, including 93 trips in the weekday morning peak hour and 111 trips in the weekday evening peak period. According to the TIAS, all the intersections within the study area are expected to operate at acceptable levels of service (LOS) and delay during the weekday morning and weekday peak hours, except for the intersection of Route 1A with Route 133. This location is expected to experience slight worsening of already poor conditions during the weekday morning and evening peak hours. To address these impacts, the Proponent has committed to monitor this intersection 12 and 24 months after issuance of the Final Certificate of Occupancy for the Project. If the resulting measured average delay for the critical movements at the intersection (left turns from Route 133 to Route 1A) exceeds 50 seconds, the Proponent will commit to providing design plans for the signalization of the intersection. I refer the Proponent to comments from MassDOT which also request a traffic signal warrant analysis be provided or that an alternative design such as a round-about be evaluated prior to implementing signalization at this location. I refer the Proponent to MassDOT's comment letter for additional guidance on this issue.

The TIAS included a detailed Transportation Demand Management (TDM) program to reduce vehicle trips by residents and employees of the project. The TDM program included the following measures:

- Designation of a transportation coordinator responsible for overseeing the TDM program;
- Promotion of ridesharing to tenants by way of carpools and distributing information regarding carpooling and its benefits to all residents and posting it in common areas;
- Provision of two parking spaces for carpooling which will be clearly marked with signage;
- Provision of secure bicycle facilities; and
- Continued consideration of reserving one parking space for car sharing services.

The TIAS indicated that the Proponent will conduct a traffic monitoring and reporting program to evaluate the effectives of the TDM plan. The monitoring plan will include a survey of residents and employee participation in the TDM program. The traffic monitoring program will include measuring traffic volumes at the access points to the project over a continuous 7-day, week-long period and will be conducted at 12 and 24 months after issuance of the Final Certificate of Occupancy for the Project. This monitoring will also include the intersection of Essex Road and County Road.

Water/Wastewater

According to the ENF, the project will increase both water demand and wastewater flow by 36,507 gpd. According to the ENF, a third-party peer review of the project's water and sewer impacts indicated that there is ample sewer capacity to serve the project; however, upgrades to the water system are required to accommodate the additional water demand. As recommended by the third-party peer reviewer, the Proponent will replace 1,300 linear feet (lf) of water main within Essex Road. Sewer will connect to the municipal system located in Essex Road via a

proposed upgraded on-site sewer pump station. Water will be supplied to the site via the municipal system located in Essex Road. An 8-inch main will be looped through the site and will connect to Essex Road at two locations. Municipal water will only be used for domestic and firefighting supply. The irrigation system will be served by a proposed underground cistern that will collect and store roof runoff and will be supplemented by trucked in water. The proposed pool and hot tub will also be filled with trucked-in water. I encourage the Proponent to implement additional water conservation measures, such as using drought-resistant, native plants for landscaping and installing low-flow plumbing fixtures in the residential units.

Climate Change

Governor Baker's Executive Order 569: Establishing an Integrated Climate Change Strategy for the Commonwealth (EO 569; the Order) was issued on September 16, 2016. The Order recognizes the serious threat presented by climate change and directs Executive Branch agencies to develop and implement an integrated strategy that leverages state resources to combat climate change and prepare for its impacts. The Order seeks to ensure that Massachusetts will meet greenhouse gas (GHG) emissions reduction limits established under the Global Warming Solution Act of 2008 (GWSA) and will work to prepare state government and cities and towns for the impacts of climate change. I note that the MEPA statute directs all State Agencies to consider reasonably foreseeable climate change impacts, including additional greenhouse gas emissions, and effects, such as predicted sea level rise, when issuing permits, licenses and other administrative approvals and decisions. M.G.L. c. 30, § 61.

Adaptation and Resiliency

The project site is not identified as located in a FEMA-mapped floodplain. I encourage the Proponent to consult the data available on the resilientMA.org website to develop climate change scenarios for the site and incorporate adaptation measures into the project to increase its resiliency. The *Massachusetts Integrated State Hazard Mitigation and Climate Adaptation Plan* (2018)[1] and EEA's *Climate Change Adaptation Report* (2011)[2] may provide additional resources to assist in this analysis. The newly released RMAT Climate Resilience Design Standards Tool[3] is also a resource that could be considered, including recommended design strategies to address the climate risk identified through the tool. Additionally, the Town participates in the Commonwealth's Municipal Vulnerability Preparedness (MVP) program. The MVP program is a community-driven process to define natural hazards, identify existing and future vulnerabilities and strengths of infrastructure, environmental resources and vulnerable populations, and develop, prioritize and implement specific actions a municipality can take to reduce risk and build resilience.

Some comments identify concerns that increased impervious area will exacerbate flooding on proximate Heartbreak Road. Flooding on this road was identified as a concern in the Town's "*Hazard Mitigation Plan – 2019 Update*".[4] I encourage the Proponent to consult the data available from the Town identifying climate vulnerabilities and potential resiliency measures,

[1] Available at: https://www.mass.gov/service-details/massachusetts-integrated-state-hazard-mitigation-and-climate-adaptation-plan
[2] Available at: https://www.mass.gov/service-details/2011-massachusetts-climate-change-adaptation-report
[3] Available at: https://resilientma.org/rmat_home/designstandards/
[4] Available at: https://www.ipswichma.gov/718/Plans-and-Studies

including the "*Hazard Mitigation Plan - 2019 Update*" and "*Municipal Vulnerability Preparedness Plan – Community Resilience Building Workshop Summary of Findings Report*" dated May 2019.[5] The Proponent should consult with the Town regarding the findings of its community resilience workshops, including priority hazards, vulnerabilities, strengths, and actions.

The ENF indicated that the stormwater management system was designed using Northeast Regional Climate Center data for extreme precipitation events to account for future increases in precipitation associated with climate change. Additionally, the central detention basin has been designed to provide approximately 2-ft of freeboard during the current 100-year storm. The basin also has a multi-stage outlet structure with three openings and an overflow grate at various elevations that can control rates and volumes of flow for different storm events. Supplemental information provided by the Proponent described how the multi-stage outfall structure in the basin could be modified in the future to accommodate additional increases in precipitation. I encourage the Proponent to consider incorporating other site elements that could minimize impacts associated more frequent and intense storms and extreme heat waves including:

- Ecosystem-based adaptation measures to reduce heat island effect and mitigate stormwater runoff, such as integration of tree canopy cover, rain gardens, and low impact development (LID) stormwater management techniques;
- Use of on-site renewable energy systems may provide added resiliency during periods of power loss during storms;
- Protection of emergency generator fuel supplies from effects of extreme weather and flood proofing;
- Expansion of the size of emergency generators to allow for select common areas and other emergency and life safety systems to remain operational for a period of time beyond code requirements, specifically in residential buildings; and
- Construction of residential buildings to Passivehouse standards.

Greenhouse Gas Emissions (GHG)

While this project does not exceed the thresholds for application of MEPA's Greenhouse Gas (GHG) Policy and Protocol, it does represent a new residential development that will add to GHG emissions from the building sector. I strongly encourage the Proponent to voluntarily undertake measures to minimize the GHG emissions of the project by incorporating energy conservation measures into the project design. Energy efficiency measures may also reduce the heating and cooling costs for the future residents of the homes. Measures that may be suitable for the project include:

- Designing residential buildings to achieve Passivehouse standards;
- Roof and wall insulation with high R-values and energy efficient windows;
- Electrification of space and water heating, including the use of air-source or ground source heat pumps;
- Use of energy efficient appliances (i.e., Energy Star);
- Installation of low-flow plumbing fixtures;

[5] Available at: https://www.ipswichma.gov/718/Plans-and-Studies

- Use of LED lighting; and,
- Rooftop solar photovoltaic (PV) systems.

Construction Period

All construction and demolition activities should be managed in accordance with applicable MassDEP's regulations regarding Air Pollution Control (310 CMR 7.01, 7.09-7.10), and Solid Waste Facilities (310 CMR 16.00 and 310 CMR 19.00, including the waste ban provision at 310 CMR 19.017). The project should include measures to reduce construction period impacts, including noise and dust. The Proponent should implement measures to minimize emissions of air pollutants from equipment, including anti-idling measures in accordance with the Air Quality regulations (310 CMR 7.11). Contractors should be required to use construction equipment with engines manufactured to Tier 4 federal emission standards, or select project contractors that have installed retrofit emissions control devices or vehicles that use alternative fuels to reduce emissions of volatile organic compounds (VOCs), carbon monoxide (CO) and particulate matter (PM) from diesel-powered equipment. Off-road vehicles are required to use ultra-low sulfur diesel fuel (ULSD). If oil and/or hazardous materials are found during construction, the Proponent should notify MassDEP in accordance with the Massachusetts Contingency Plan (310 CMR 40.00). All construction activities should be undertaken in compliance with the conditions of all State and local permits. I encourage the Proponent to reuse or recycle construction and demolition (C&D) debris to the maximum extent.

Conclusion

The ENF has adequately described and analyzed the project and its alternatives and assessed its potential environmental impacts and mitigation measures. Based on review of the ENF and comments received on it, and in consultation with State Agencies, I have determined that an EIR is not required. Outstanding issues may be addressed during permitting and approvals, including the HAC process. If the project undergoes material revisions during the permitting process, the Proponent should consult with the MEPA office to determine whether any additional MEPA review is required.

K. Theoharides

August 9, 2021
Date

Kathleen A. Theoharides

Comments received:

07/23/2021 Rob Spurrier and Paula Jones
07/25/2021 Keri MacRae
07/26/2021 Jacki Kronenberg

07/27/2021	Ipswich Citizens for Sustainable Growth, including appended letter from Attorney Dennis Murphy to the ZBA, dated 04/08/2021
07/29/2021	Brendan Lynch, Ipswich Conservation Agent
07/29/2021	Don Finocchio
07/29/2021	Massachusetts Department of Environmental Protection (MassDEP)
07/29/2021	Richard and Martha Stout

KAT/PRC/prc

From: PAJones
To: Czepiga, Page (EEA)
Subject: EEA# 16399 Essex Pastures
Date: Sunday, July 25, 2021 3:00:43 PM
Attachments: Screen Shot 2021-07-23 at 2.24.41 PM.png

Robert S. Spurrier
Paula A. Jones
40 Lakemans Lane
Ipswich, MA 01938

Page Czepiga | Assistant Director
Massachusetts Environmental Policy Act Office
100 Cambridge Street, 9th Floor,
Boston, MA 02114

July 23, 2021

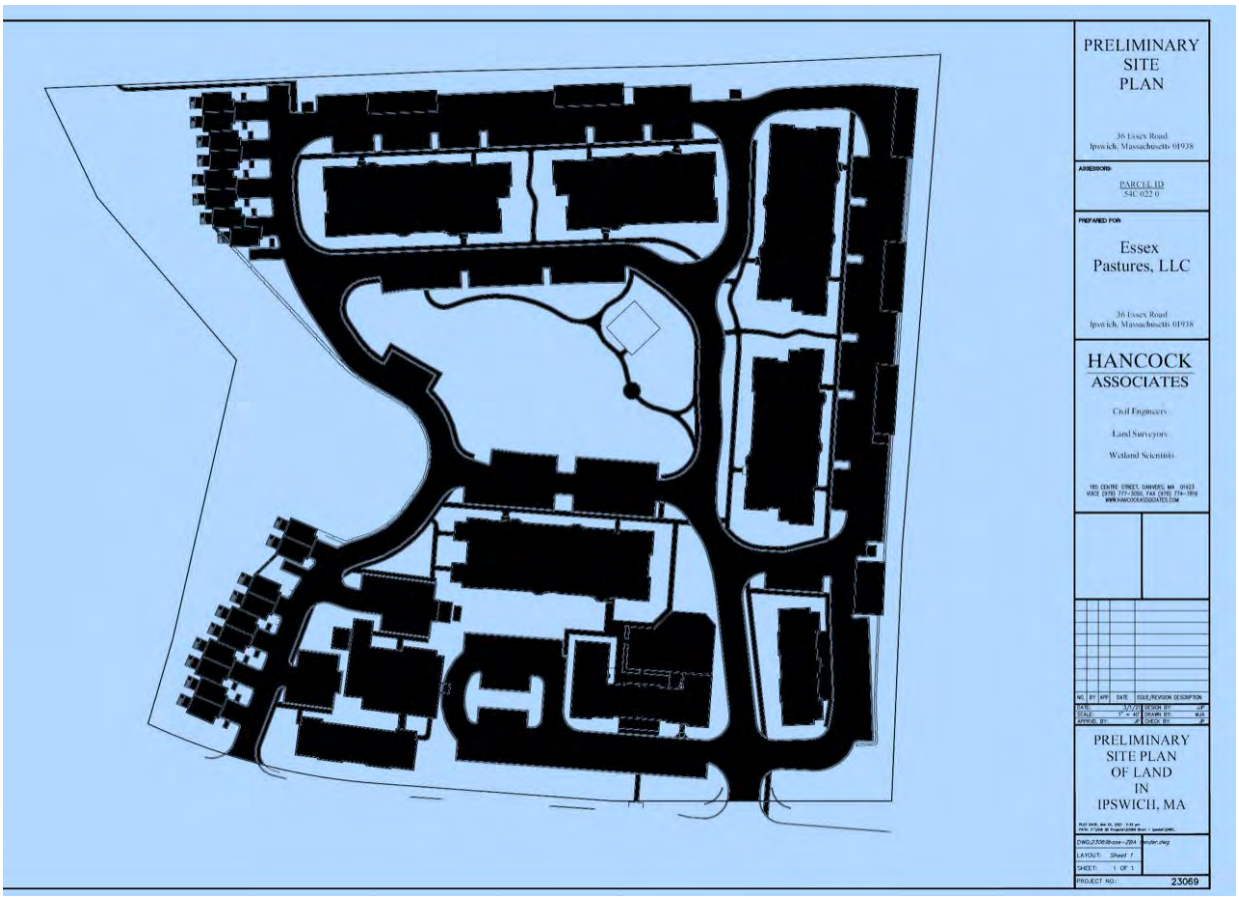
Dear Ms. Czepiga,

As longtime residents of Ipswich, we are concerned about the environmental impacts of the oversized proposed Essex Pastures 40B development. Many of our concerns are also shared by **all Ipswich municipal leaders and of hundreds of townspeople** who have publicly voiced their fears and concerns about the impacts regarding the use of water from our endangered Ipswich river, lack of pervious surfaces, and stormwater impacts to our fragile wetlands.

The developer, John Bruni, has a 32-page list of waiver requests, some which ask for zoning relief from our Local Wetlands Protection Bylaw, Ipswich Wetlands Protection Rules and Regulations, and related policies of the Conservation Commission. Yet, our Town's Conservation Commission was not given the time to weigh in on requested waivers or to view the site and perform an updated ORAD (the old one is now expired) on the project. All public comments were ended by the developer and the ZBA had to complete its decision without a lot of information. Some of our local bylaws still apply to 40B developments and they cannot be waived. Our Conservation Commission has the right to deny these waivers and **they should be given an opportunity to review the plan**.

The Essex Pastures project site is adjacent to wetlands that drain into Saltonstall Brook, a tributary to the Ipswich River. As such the replacement of natural vegetation cover to impervious, paved and developed surfaces and structures will have a direct effect on our Town's water resources.
It is unfortunate that the proposed surrounding neighborhood of Essex Pastures is highly concentrated with paved areas exacerbating polluted storm runoff. The developer is asking that restrictions in "no-build" and "no disturb" zones be waived. For one example, the developer wants sets of town house steps and porches added into parts of the development that are in wetland buffer zones.

Please see the below attached “contrast plan”which shows the extent of **impervious** surfaces.



Black areas show impervious paving. This graphic was submitted by the developer to Ipswich ZBA.

The **Ipswich River Water Association** has been very concerned about the environmental impacts of this project and we agree with **their** following demands for conditions on it:

• ***Calculations of the proposal’s projected water use should be required and independently reviewed by the Town****. The project at a minimum should offset 100% of this projected water use and should strive to offset its water use by better than 100%. This can be achieved through minimization of water use within the project (and by the developer off-setting any additional use by working with town officials to reduce water use in other areas of town through a water bank or similar program.*

• *The project will **minimize its production of stormwater** through site design and infiltrate 100% of its stormwater runoff on-site.*

• *Landscapes should be planted with **drought tolerant native species** which do not require irrigation (beyond the establishment phase) Landscapes should be managed organically without the use of synthetic fertilizers or pesticides.*

• ***Non-pervious surfaces should be minimized** (**there are many pervious pavers that***

could be used

in walkways) *and use of salt and chemical deicers on all common areas should also be minimized*
in favor of sand and environmentally safe deicers.

• *The developer should be encouraged* ***to meet as much of the requirements of the local Ipswich Wetlands Protection bylaw as possible, especially by minimization of the amount of development in the buffer zone.***

• *There should be a proactive and ongoing educational effort put in place for residents to divert all hazardous materials from the waste stream with a focus on household cleaners and pharmaceuticals.*
(Information on these hazardous materials is easily accessed on the Ipswich Town website.)

• *A third party, other than property owners, should be contracted with to maintain the stormwater and wastewater systems* ***in perpetuity****.*

We hope that you will give serious consideration to the size and design of this development and that
you add protective denials and restrictions to those waivers that are sought which jeopardize our environment.
Besides endangering our wetlands and water supply, the oversized nature of this development will create
excessive traffic, as well as stresses on our police, fire, and school departments. Essex Pastures also seeks permission
for multifamily use in the Rural Residence A ("RRA") District where such use is prohibited— all this without
providing true affordability of housing.

Thank you for considering our remarks on this inappropriate development.

Sincerely,
Rob Spurrier and Paula Jones

From:	Keri MacRae
To:	Czepiga, Page (EEA)
Subject:	EEA#16399 Essex Pastures
Date:	Sunday, July 25, 2021 3:58:16 PM
Attachments:	Gmail - Fwd 2018 Ipswich Hazard Mitigation Plan Draft-Drainage Study Heartbreak County Saltonstall.pdf Essex Pastures (Bruni) - Letter to ZBA from IRWA - 8.13.18 (1).pdf 6784.0-Drainage Analysis Recommendations Letter-Heartbreak Road SIGNED (00000003).pdf Essex Rd Response 03242021 (1).pdf Gmail - RE Essex Rd 40b 194 Units.pdf Heart Break Update 13.15.21.pdf 6784.0-Drainage Analysis Recommendations Letter-11March2011 FINAL COMPLETE (00000003).pdf

Dear Ms. Czepiga,

I am a direct abutter to the Essex Pastures 40b and live on Heartbreak Rd. I would like to submit comments for your review. My apologies for the volume of attachments. These are supporting documents and emails related to my statements below.

The development is situated in the middle of a Watershed consisting of @498 acres. The site is hydrologically connected to the "storage area" consisting of 77.3 acres of a wetland system. My road consistently floods due to climate issues and due to increased impervious developments in the area. Parts of this area (including my road) have been identified as Top priorities on the Town's Hazard Mitigation Plan. The Town's Climate Resiliency plan has also identified increased inland flooding due to climate issues and increases in impervious developments.

The developer has not been before our Conservation Commission for project review. There is an ORAD on file, which was initiated in 2014 and renewed for 3 years in 2017. Due to Covid the developer was not required to reapply in 2020. Those extensions have since expired. The Conservation Commission has stated they need to review the property, as the conditions have changed and they do not agree with the developer's wetland advisor. (I understand local wetland by-laws can be ignored and only State wetland laws need to be adhered to.)

The increase in parked vehicles, traffic and emissions will further erode the environment of this area. Heartbreak and Lakeman's Lane will see more cut-through traffic due to this development. The area is already overstressed with existing traffic. An after the fact stop light is not adequate. The addition of 300 plus parked cars will allow for contaminants to enter the watershed and cause more pollutants. Emissions from stalled traffic and the addition of all these vehicles will cause more particulates to enter our air, and ultimately increase greenhouse gases. The closest grocery store is 2.3 miles. The commuter rail is 1.4 miles. The addition of bike racks will not decrease the number of daily trips.

I would request related agencies do further review and studies of the potential impact to this area. Given the volume/increase of impervious surfaces and lack of open

space, the project will increase flooding. We will see our road become impassable more frequently. The project will release more toxins into the watershed, which will ultimately impact our dwindling water supply. We do have public and private wells in the general area, which all draw from this watershed.

"This is a lot of units at once," said Town Planner Ethan Parsons. "The town has never before experienced project of this scope." (Ipswich WickedLocal 3/6/2017)

Please feel free to contact me with any questions. I have tried to keep this brief and only related to this particular subject, as I know you will be getting other emails.

Best regards,

Keri

Keri MacRae
31 Heartbreak Rd.
Ipswich, MA 01938

Attachments:

Coneco Drainage & Analysis Assessment Ipswich DPW 3/25/11

Coneco Drainage & Analysis Assessment Heartbreak Rd. 10/2/19

Ipswich River Watershed Letter to ZBA 8/13/18

Town of Ipswich Heartbreak Rd. Update 3/15/21

Email From IRWA re impact to Heartbreak 10/15/18

Various emails between me/town/mapc (various dates)

Letter from me to ZBA regarding above issues 3/24/21

Links:

Ipswich Hazard Mitigation Plan updated 2019

https://www.ipswichma.gov/DocumentCenter/View/11364/Ipswich_MA_Final_Plan_APA_2019-03-14?bidId=

Ipswich Vulnerability Preparedness Plan

https://www.mass.gov/files/documents/2019/07/11/Ipswich%20Report.pdf

Excerpt: In addition to coastal flooding, riverine and inland flooding is a concern for Ipswich. According to the Town's Hazard Mitigation Plan, flooding, caused by hurricanes, northeasters, intense rainstorms and thunderstorms, is the most prevalent and serious natural hazard in the community. Most flooding in Ipswich has historically occurred upstream of the Ipswich Mill Dam located in the Downtown area. However, over the last several decades, development throughout the upper Ipswich River Watershed has resulted in an increase in impervious surfaces. As a result, during large storm events the stormwater storage capacity throughout the Ipswich River Watershed becomes easily overwhelmed and results in more widespread flooding.

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CIVIL ENGINEERING
ENVIRONMENTAL CONSULTING
ECOLOGICAL SERVICES
SURVEYING

March 25, 2011

Mr. Richard Clarke
Public Works Director
Town of Ipswich
25 Green Street
Ipswich, Massachusetts, 01938

Subject: Existing Drainage Analysis & Recommendations
Ipswich DPW Yard
100 County Road, Ipswich, Massachusetts 01938

Dear Mr. Clarke:

Coneco Engineers & Scientists, Incorporated (Coneco) is pleased to provide you with this analysis of the existing drainage system that encompasses the Ipswich DPW yard located at 100 County Road in Ipswich, Massachusetts. In this letter report we have provided an overview of the analysis that Coneco has performed, a summary of the results of that analysis, and a statement of recommendations that would improve the drainage conditions within the area. Based on our discussions, we have tailored our recommendations to those improvements that could be performed by DPW forces with minimal effort. It is important to note that, based on our evaluation, it is apparent that significant improvements could be completed to further improve the drainage conditions in this area. However, any major improvements would require significant permitting, design and construction efforts, which would require more time and funding than is currently available.

1.0 EVALUATION METHODOLOGY

Existing conditions information was gathered for the entire drainage system watershed from a number of sources, including:

- USGS Topographic Maps obtained from MassGIS;
- a limited site survey of the drainage area along County Road near the entrance to the DPW yard and extending to the discharge point at the Ipswich River; and
- direct observations of the area under varying weather conditions.

To analyze the existing drainage system, Coneco used the collected existing conditions information, ungaged site conditions, and employed the USGS (Wandle) Method as outlined in the Mass DOT 2006 Design Guide, Section 8.3.2.1. The USGS Wandle Method is the preferred hydrologic method for sizing stream culverts.

1.1 Description of Watershed

Based on the collected information, the entire watershed area was determined to be 498.3 acres in size. The highest point of the watershed is the top of Heartbreak Hill and the outlet of the watershed is the Ipswich River (Figures 1 and 2). The main channel slope was determined to be 21.1 feet per mile. The storage area for the watershed is the large wetland system between County Road

and Heartbreak Road, with an area of approximately 77.3 acres and a mean elevation of 19 feet. From these parameters, the design flow for the 10-yr storm was determined to be 61.1 cubic feet per second (cfs).

1.2 Existing County Road Drainage System

Using the USGS Wandle Method, Coneco analyzed each of the culverts and the connecting drainage swales between the wetland system outlet, located along County Road near the entrance to the DPW yard, and the watershed outlet at the Ipswich River (Figure 3) using 10-year design storm parameters. The results of this evaluation revealed that several of these culverts and drainage swales fail under 10-year design storm conditions due to several factors including inadequate pipe size and insufficient pipe and channel slope. In addition, beaver activity in the area has significantly impacted the capacities of the culverts and swales, and regular maintenance is required to maintain even the reduced flow capacities within the area.

The inability of the undersized pipes and shallow swales to pass the flows generated under even the 10-year design storm scenario results in varying degrees of flooding in the area near the entrance to the DPW yard, the adjacent single family home located at 102 County Road, and the immediate portion of County Road.

2.0 OVERALL RECOMMENDATIONS

To significantly improve the conditions within the project area, significant improvements to the swale and culvert system would be required. These improvements, which could include the construction of an improved drainage swale and culvert system, would require extensive permitting and construction within a wetland area, as well as improvements to the culvert that passes under the historic Saltenstall Bridge. It is expected that these improvements would require an extended schedule and increased capital expenditure. However, understanding that immediate improvements are needed to provide a level of flooding relief for both the DPW yard and nearby private properties, Coneco has developed recommended short-term improvements to improve flow within the area and alleviate some of the flooding that has occurred in the recent past. It is anticipated that these improvements can be completed by DPW forces and that limited approvals would be necessary to complete the recommended work.

In the sections below we have provided an overview of our recommended improvements. To outline the recommendations, we have divided the drainage system into sections, beginning with the channel section that extends from the Ipswich River County Road, and continuing upstream to the culvert that passes beneath the access driveway for the DPW yard and that serves as the inlet to the drainage system that runs along County Road.

2.1 Ipswich River to Discharge of County Road Culvert

Existing Conditions

The existing channel that carries flow from the County Road culvert to the Ipswich River is approximately 630 feet in total length, with an average slope of 0.54%. The upper portion of this channel has been stone lined to improve bank stability, while the remaining portions consist of an earth bottom and sideslopes.

Recommended Immediate Improvements

Although there is an average positive slope from the County Road culvert to the river, sediment buildup within the channel has created sections within the channel that posses a negative slope. In

these areas, the sediment acts similar to a dam, causing water to pond and backup upstream. This condition is especially prevalent near the outlet to the County Road culvert, where the collected sediment causes water to pool within the channel and backup into the culvert, creating tailwater conditions at the culvert that reduce the capacity of the drainage system.

As a recommended immediate improvement, a constant positive slope should be maintained throughout the length of the discharge channel. This would be created by removing collected sediment from the channel, either by hand, or minimally intrusive mechanical methods (i.e.; vacuum excavating). By creating and maintaining a positive slope in the final portion of the drainage system, flow out of the system and into the Ipswich River would no longer be restricted by the presence of collected sediments in the last section of the drainage system, allowing the drainage system to continuously drain water within the upstream sections of the system.

Potential Long-Term Improvements

Long-term improvements to the drainage system would be completed to increase the flow capacity of the entire drainage system while reducing the potential for silt deposition. Long-term improvements for this section of the system may include improving the stability of the channel through the placement of rip rap or other suitable materials to better define the channel cross-section to hold the underlying earth and channel sidewalls in-place.

2.2 County Road Culvert

Existing Conditions

This culvert is an approximately 36-inch by 36-inch stone box culvert that has been constructed into the stone bridge. Since this section of County Road is maintained by the Massachusetts Department of Transportation (MassDOT), the bridge and culvert are also maintained by MassDOT. In addition, this bridge is likely considered an historic bridge, and therefore, any modifications to the bridge will require special permit considerations.

Beavers have continually dammed this culvert, significantly reducing the capacity of the box culvert and increasing the occurrences of flooding in the area. MassDOT has attempted to deter beaver activity by inserting an 18-inch diameter pipe into the box culvert and constructing a wire mesh "beaver deceiver" at the inlet side of the pipe. Although this retrofit has made it more difficult for beavers to dam water passage under the bridge, the reduced cross-sectional area of the pipe versus the box culvert has significantly reduced the hydraulic capacity of the culvert.

Although the "beaver deceiver" at the end of the pipe did provide a deterrent for beavers, it has not completely eliminated their ability to stop flow through the pipe. The combination of the reduced hydraulic capacity and the continued damming by beavers has significantly reduced the flow through the culvert and caused significant flooding in upstream areas.

Recommended Immediate Improvements

Coneco recently met with personnel from MassDOT and the Ipswich DPW to discuss the ongoing problems at the culvert. As an initial step, it was agreed that MassDOT would remove the pipe from the box culvert and clean the culvert to re-establish the original capacity of the box culvert as soon as weather permits. (Extensive silt buildup within the culvert will reduce its capacity and the silt, along with the presence of the pipe at the culvert inlet, has impacted our ability to accurately determine invert elevations and the size of the box culvert.) MassDOT has also agreed to construct a new deceiver at the inlet to the culvert to slow their blocking of the culvert.

Potential Long-Term Improvements

Both the condition and capacity of the existing culvert should be verified to determine whether the culvert can accommodate flows generated under the appropriate design storm conditions. Once completed, the results of the evaluation may reveal that improvements to the culvert will be necessary to improve the hydraulic capacity of the system, which would require a complete design and permitting effort under the direction of MassDOT. Construction of an improved culvert is also likely to require temporary road closings along the portion of County Road, causing traffic delays along County Road (Route 1A).

2.3 116 Ft Brook Section

Existing Conditions

Flow enters the County Road culvert from a roughly defined brook that extends approximately 116 feet from the County Road culvert to the next upstream culvert. As shown on Figure 3, this brook has a slope of approximately -0.5%, and therefore, does not provide positive drainage to the downstream culvert. Because of this negative slope, this section fails under the 10-year design storm scenario.

Recommended Immediate Improvements

Immediate improvements to this section of brook will be difficult. Extensive permitting, including wetland protection act, Massachusetts Environmental Policy Act (MEPA), etc. will likely be required to complete any modifications in this area. However, increasing the capacities of the downstream County Road culvert and channel section is anticipated to improve the flow conditions in the area and reduce the occurrences of flooding.

Potential Long-Term Improvements

To improve flow through this section of the drainage system, the creation of a well defined channel would better direct flow toward the drainage culvert and minimize occurrences of overtopping, which impacts nearby properties. As shown on Figure 4, a constructed drainage channel with a bottom width of six feet and with a minimal slope of 0.15% could be constructed to direct flow to the culvert. The 0.15% slope is based on invert information currently available, which includes the invert of the 18-inch diameter pipe that has been inserted into the County Road box culvert. After that pipe is removed, and the box culvert cleaned, the actual culvert invert can be determined and the recommendations for this section of brook may be modified.

2.4 36-Inch Driveway Culvert and 24-Inch Overflow Culvert

Existing Conditions

Upstream from the 116 foot brook section, two culverts carry flow beneath one of driveways for the home at 102 County Road. The primary culvert is a 36-inch diameter concrete culvert that is set at a lower elevation. The secondary culvert, which is 24-inches in diameter, is set at a higher elevation and appears to function as an overflow culvert. Based on the results of our hydraulic analysis, the 36-inch diameter culvert is adequate to accommodate the flow generated during a 10-year design storm.

Recommended Immediate Improvements

None at this time

Potential Long-Term Improvements

None at this time

2.5 103 Ft Brook Section

Existing Conditions

Flow is carried to the 36-inch diameter concrete culvert by an approximately 103 foot long, roughly defined drainage brook. As shown on Figure 3, this brook has a slope of approximately 0.36%, and based on the results of the drainage analysis, this section fails under the 10-year design storm scenario.

Recommended Immediate Improvements

None at this time. Similar to the previously described 116 foot section, immediate improvements to this section of brook will be difficult. Extensive permitting, including wetland protection act, Massachusetts Environmental Policy Act (MEPA), etc. will likely be required to complete any modifications in this area. However, improvements to the downstream culvert are anticipated to improve the overall flow conditions in the area. Although limited elevation currently exists to significantly increase the bottom slope of a defined channel, the establishment of defined, stable sideslopes and a channel bottom would improve the flow-through capability of this section of brook.

Potential Long-Term Improvements

To improve flow through this section of the drainage system, the creation of a well defined channel would better direct flow toward the drainage culverts and minimize occurrences of overtopping, which impacts nearby properties. As shown on Figure 4, a constructed drainage channel with a bottom width of six feet and 3:1 sideslopes would have the capacity to accommodate the flow generated by a 10-year storm event.

2.6 36-inch Diameter Concrete Driveway Culvert

Existing Conditions

Upstream from the 103 foot brook section, a single 24 foot long, 36-inch diameter concrete culvert directs flow beneath the second driveway at 102 County Road. This culvert is presently set at a slope of 1.54%, which provides the flow capacity to accommodate 10-year design storm flows.

Recommended Immediate Improvements

None at this time. The existing culvert has the capacity to accommodate the design storm flows.

Potential Long-Term Improvements

To improve the overall capacity of the entire drainage system, modifications to the drainage channel slopes are recommended. As upstream channel slopes are improved, invert elevations at the culverts must be modified to accept the channel flows. As will be described below, at 0.16%, the drainage system upstream from this culvert does not have a constant bottom slope that can accommodate the 10-year design storm flows. Increasing the slope of the upstream channel will require adjustments to the culvert to match the improved channel grading. As a long-term recommendation, the slope of the existing 36-inch diameter culvert may be reduced to a minimal slope of 0.5% by lowering the

elevation of the inlet invert. However, at this reduced slope, the capacity of the culvert will also be reduced, which would require the installation of a second, 24-inch diameter culvert to improve the flow-through capacity beneath the driveway. These modifications will likely require significant permitting, as described previously.

2.7 185 Ft Brook Section

Existing Conditions

Flow is carried to the existing 36-inch diameter concrete driveway culvert by an approximately 185 foot long, roughly defined drainage brook. As shown on Figure 3, this brook has a slope of approximately 0.16%, and based on the results of the drainage analysis, this section fails under the 10-year design storm scenario.

Recommended Immediate Improvements

None at this time. Extensive permitting, including wetland protection act, Massachusetts Environmental Policy Act (MEPA), etc. will likely be required to complete any modifications in this area. However, improvements to the downstream culvert is anticipated to improve the overall flow conditions in the area. Although limited elevation currently exists to significantly increase the bottom slope of a defined channel, the establishment of defined, stable sideslopes and a channel bottom would improve the flow-through capability of this section of brook.

Potential Long-Term Improvements

To improve flow through this section of the drainage system, the creation of a well defined channel would better direct flow toward the drainage culverts and minimize occurrences of overtopping, which impacts nearby properties. As shown on Figure 4, a constructed drainage channel with a bottom width of six feet and 3:1 sideslopes, and with a minimal slope of 0.3% would have the capacity to accommodate the flow generated by a 10-year storm event. In addition, an existing 12-inch pipe is located within this section of brook that appears to have been installed as a "beaver deceiver". During summer months, when the water level is lower throughout the system, this pipe should be further investigated and its removal considered.

2.8 System Entry Culvert

The entire wetland system currently discharges through a 30" corrugated metal pipe (CMP) culvert that crosses under the DPW yard driveway and directs flow into the drainage system. Constructed at a slope of 0.35%, this culvert does not have the capacity to accommodate the flows generated during the 10-year design storm event.

Recommended Immediate Improvements

None at this time. Although the existing culvert is insufficient to accommodate the design storm, it is currently acting to restrict flow into the drainage system. Until downstream improvements are completed, it is recommended that this culvert remain unchanged so that it continues to serve as a restriction to the downstream system.

Potential Long-Term Improvements

To increase the capacity of this culvert, long-term improvements may include increasing the diameter of the culvert from 30-inches to 36-inches. This would increase the capacity of the culvert to accommodate the flow generated under a 10-year design storm, while preserving the limited available elevation difference between this culvert and the County Road culvert.

3.0 CONCLUSIONS

Under existing conditions, the existing drainage system cannot accommodate the flow generated by the 10-year design storm. Recommended short-term improvements to downstream portions of the system, which include the removal of the existing beaver deceiver at the inlet to the County Road culvert and sediment removal from within the channel the leads to the Ipswich River would improve the flow conditions and reduce the occurrence of flooding in the area. However, more significant improvements to the entire drainage system will be required to upgrade the drainage system to accommodate the appropriate design conditions.

If you should have any questions regarding the information contained herein please do not hesitate to contact me at (617) 640-7949.

Very truly yours,
Coneco Engineers & Scientists

Kevin M. McHugh, P.E.
Senior Project Manager

Attachments:

Figure 1 – Aerial Map
Figure 2 – USGS Topographic Map
Figure 3 – Existing Conditions
Figure 4 – Proposed Conditions

Appendix 1 – Results of Drainage Analysis

NOTE:
INFORMATION ON THIS PLAN WAS OBTAINED FROM MASS GIS AERIAL PHOTOGRAPHIC IMAGES, APRIL 2005.

COUNTY ROAD DRAINAGE ANALYSIS, IPSWICH, MASSACHUSETTS

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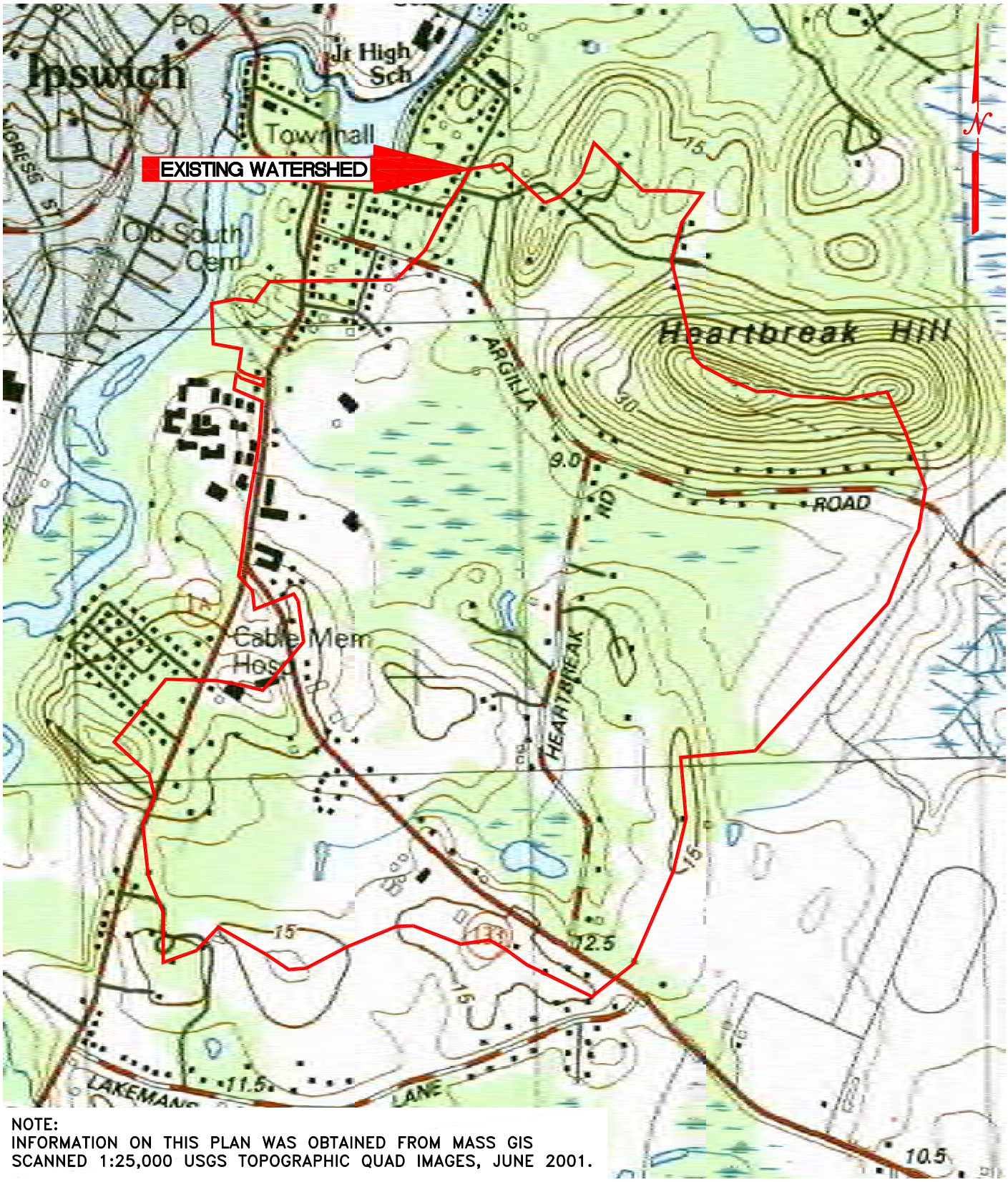
PREPARED FOR:	PLAN SET:
TOWN OF IPSWICH	DRAINAGE FIGURES

SCALE	DATE	PROJECT NO.	TITLE:
1"=1,000'	07/02/2010	6784.0	FIGURE 1 AERIAL MAP



NOTE:
INFORMATION ON THIS PLAN WAS OBTAINED FROM MASS GIS SCANNED 1:25,000 USGS TOPOGRAPHIC QUAD IMAGES, JUNE 2001.

COUNTY ROAD DRAINAGE ANALYSIS, IPSWICH, MASSACHUSETTS

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PREPARED FOR:		PLAN SET:	
TOWN OF IPSWICH		DRAINAGE FIGURES	
SCALE	DATE	PROJECT NO.	TITLE:
1"=1,000'	10/26/2010	6784.0	FIGURE 2 USGS TOPOGRAPHIC MAP

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PROJECT:
EXISTING DRAINAGE ANALYSIS
COUNTY STREET
IPSWICH, MASSACHUSETTS

PREPARED FOR:
TOWN OF IPSWICH

PLAN SET:
DRAINAGE ANALYSIS PLANS

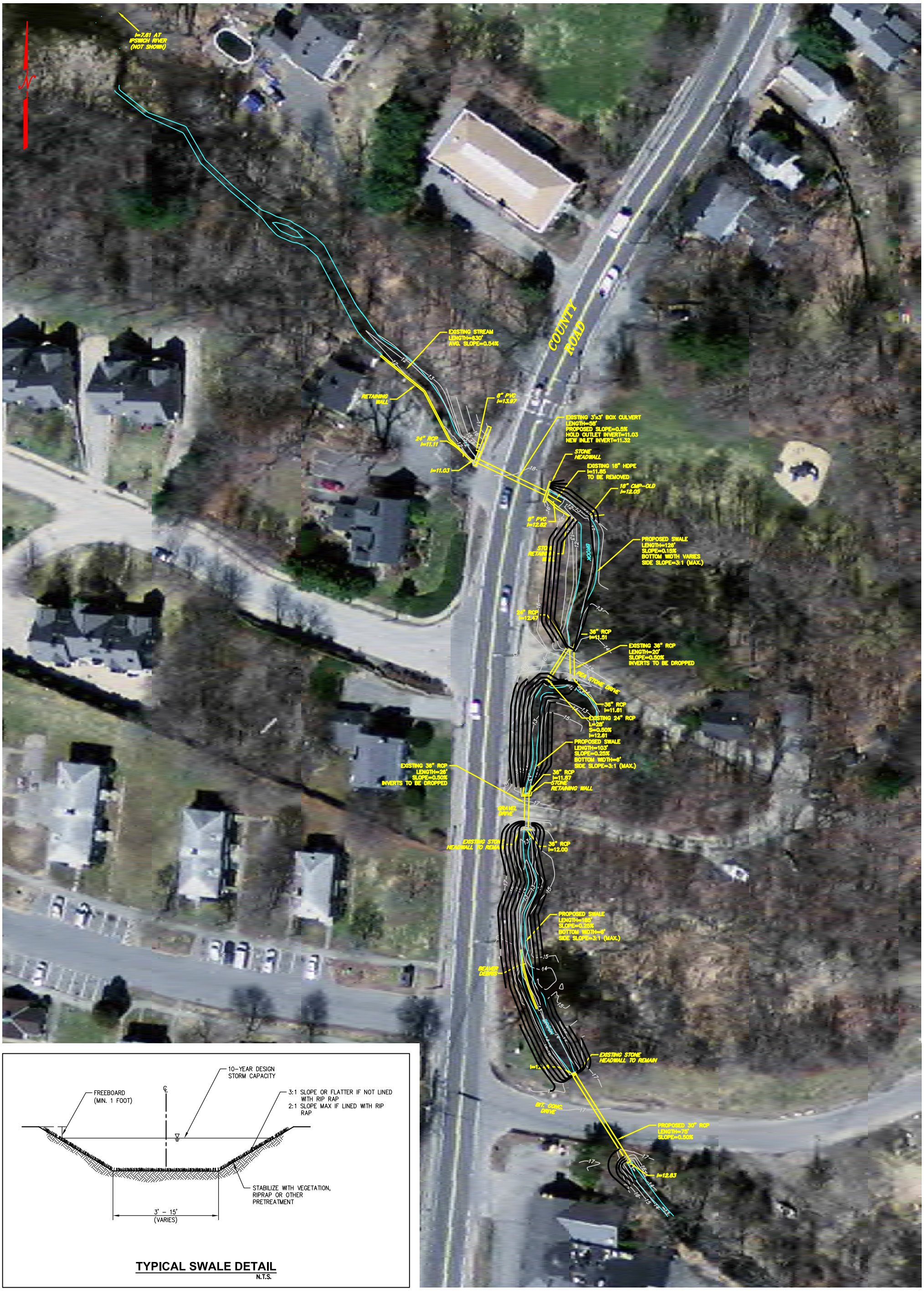
DRAWING:
EXISTING CONDITIONS PLAN

0 30 60
SCALE: 1"=30'

REVISIONS

NO.	DATE	DESCRIPTION	DR/CK

DATE:	10/26/2010
DRAWN/ CHECK:	TLD/KEM
SCALE:	1" = 30'
PROJECT #:	6784.0
SHEET NO.	3 OF 04



TYPICAL SWALE DETAIL
N.T.S.

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PROJECT: EXISTING DRAINAGE ANALYSIS
COUNTY STREET
IPSWICH, MASSACHUSETTS

PREPARED FOR: TOWN OF IPSWICH

PLAN SET: DRAINAGE ANALYSIS PLANS

DRAWING: CONCEPTUAL DRAINAGE PLAN

0 30 60
SCALE: 1"=30'

REVISIONS

NO.	DATE	DESCRIPTION	DR/CK

DATE:	10/26/2010
DRAWN/ CHECK:	TLD/KEM
SCALE:	1" = 30'
PROJECT #:	6784.0
SHEET NO.	4 OF 04

6784.0 TLD
Ipswich DPW 7/13/2010

- Drainage Analysis
  USGS (Wandle) Method → See Mass Hwy 2006 Ch 8 Page 15

  - Preferred hydrologic method for sizing stream culverts
  - Drainage Area = 498.326 ac.
    = 0.778634 mi^2
  - Main Channel Slope = 0.40 %
    = .004 ft/ft
    = 21.12 ft/mi
  - Storage Area = 77.2825 ac.
    = 0.120754 mi^2
  - Mean Basin Elev. = 19 ft

UNGAGED SITE

  - Design Assuming Ungaged Site

$$Q_{10} = 72.12\,A^{0.660}$$
$$= 72.12\,(0.778634)^{0.660}$$
$$= 61.14 \text{ cfs}$$
$$Q_{25} = 96.71\,A^{0.651}$$
$$= 96.71\,(0.778634)^{0.651}$$
$$= 82.173 \text{ cfs}$$

GAGED SITE - IPSWICH RIVER

  - Design Using Gaged Site - Sta# 01102000 Ipswich River at Ipswich

$$Q_{25} = \frac{(Q_{25(s)} \times N) + (Q_{25(r)} \times E)}{N + E}$$

CivilTools ROUND PIPE HYDRAULICS

Calculations for a round pipe flowing full or partially full

ROUND PIPE HYDRAULIC CALCULATIONS		
Pipe Diameter (D):	**24**	Inches
Pipe Slope:	**0.50%**	
Manning's 'n':	**0.012**	
Full Velocity (Vf):	**5.516**	ft/sec.
Pipe Capacity (Qf):	**17.329**	cfs
Design Q (Qd, cms):	**61.14**	cfs
Qd/Qf:	352.8%	
Depth Ratio:	100.0%	
Vd/Vf:	352.8%	
Flow Depth (d):	**24**	surcharged
Flow Velocity (Vd):	**19.46**	ft/sec.
Slope for full flow:	6.22%	

CivilTools ROUND PIPE HYDRAULICS

Calculations for a round pipe flowing full or partially full

ROUND PIPE HYDRAULIC CALCULATIONS		
Pipe Diameter (D):	**30**	Inches
Pipe Slope:	**0.50%**	
Manning's 'n':	**0.012**	
Full Velocity (Vf):	**6.401**	ft/sec.
Pipe Capacity (Qf):	**31.420**	cfs
Design Q (Qd, cms):	**30.57**	cfs
Qd/Qf:	97.3%	
Depth Ratio:	79.6%	
Vd/Vf:	114.0%	
Flow Depth (d):	**24**	Inches
Flow Velocity (Vd):	**7.29**	ft/sec.
Slope for full flow:	0.47%	

CivilTools ROUND PIPE HYDRAULICS

Calculations for a round pipe flowing full or partially full

ROUND PIPE HYDRAULIC CALCULATIONS		
Pipe Diameter (D):	**36**	Inches
Pipe Slope:	**0.50%**	
Manning's 'n':	**0.012**	
Full Velocity (Vf):	**7.228**	ft/sec.
Pipe Capacity (Qf):	**51.093**	cfs
Design Q (Qd, cms):	**61.14**	cfs
Qd/Qf:	119.7%	
Depth Ratio:	100.0%	
Vd/Vf:	119.7%	
Flow Depth (d):	**36**	surcharged
Flow Velocity (Vd):	**8.65**	ft/sec.
Slope for full flow:	0.72%	

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Engineers & Scientists

ENVIRONMENTAL
ECOLOGICAL
ENERGY
SURVEY
CIVIL

October 2, 2019

Mr. Rick Clarke
Public Works Director
Town of Ipswich
25 Green Street
Ipswich, Massachusetts, 01938

Subject: Existing Drainage Analysis & Recommendations
Heartbreak Road, Ipswich, Massachusetts 01938

Dear Mr. Clark:

Coneco Engineers & Scientists, Incorporated (Coneco) is pleased to provide you with this analysis of the existing drainage conditions of Heartbreak Road in Ipswich, Massachusetts. Coneco is providing the results of our assessment of the existing drainage conditions as well as recommendations for proposed drainage improvements for the area of concern, the results of which are as follows.

Results

The existing drainage system was analyzed using the USGS (Wandle) Method as outlined in the Mass DOT 2006 Design Guide, Section 8.3.2.1. The USGS Wandle Method is the preferred hydrologic method for sizing stream culverts. The site was analyzed using ungaged site conditions. The existing drainage system watershed was determined from the USGS Topographic Map, obtained from MassGIS, and also from direct observation during a site visit. During the site visit five culverts were identified along the length of Heartbreak Road (Figure 1). The existing conditions of the culvert were found to be in a variety of conditions including blocked with sediment, functioning, or submerged in standing water. Culvert 1 was an 18" HDPE pipe that had 118.8 acres directly discharging to the culvert. Culvert 2 consisted of a 12" HDPE pipe that had 159.3 acres of flow being directed to the pipe. This flow consisted of the upgradient flow from the east and flow from culverts 3, 4, & 5. Culvert 3 consisted of a 24" RCP that had 125.7 acres of flow being directed to the culvert. Culvert 4 appeared to be nonfunctioning due to accumulated sediment. The inlet for culvert 5 was found, but no apparent outlet was found in the field. The modeling for culvert 2 and 3 took these conditions into account and directed the flow from the contributary areas of culverts 4 & 5 to culvert 2. For all culvert analysis we compared the full flow conditions (derived through Manning's Equation) to a selection of storm flows (derived through the Wandle Method). The results from the analysis are summarized below:

Culvert 1

The flow from the storm events are:

Storm Event	*Flow **Q (CFS)***
2 Year	11.50
10 Year	23.80
25 Year	32.40
50 Year	39.90
100 Year	48.90

Assuming a minimal slope (0.5%), the existing full flow capacity of the 18" HDPE pipe is 7.45 CFS.

Comparing this capacity to the storm events the culvert does not have the capacity for a 2-year event and will back up during this storm and all larger events.

To accommodate the 100-year storm the existing pipe capacity would need to be increase to the equivalent of 7-18" pipes or 4-24" pipes.

Culvert 2

The flow from the storm events are:

Storm Event	**Flow, Q (CFS)**
2 Year	14.10
10 Year	28.80
25 Year	39.10
50 Year	48.20
100 Year	58.90

Assuming a minimal slope (0.5%), the existing full flow capacity of the 18" HDPE pipe is 4.89 CFS.

Comparing this capacity to the storm events the culvert does not have the capacity for a 2-year event and will back up during this storm and all larger events.

To accommodate the 100-year storm the existing pipe capacity would need to be increase to the equivalent of 13-12" pipes or 2-24" pipes.

Culvert 3

The flow from the storm events are:

Storm Event	Flow, **Q (CFS)**
2 Year	11.90
10 Year	24.50
25 Year	33.40
50 Year	41.10
100 Year	50.40

Assuming a minimal slope (0.5%), the existing full flow capacity of the 18" HDPE pipe is 16.04 CFS.

Comparing this capacity to the storm events the culvert is able to accommodate the 2-year event but will not accommodate any of the larger storms.

To accommodate the 100-year storm the existing pipe capacity would need to be increase to the equivalent 4-24" pipes.

Summary

All of the existing culverts are currently undersized for all storms larger than the 2-year storm event. The extent of the backup or overtopping of Heartbreak road was not analyzed at this time, but these calculations show that there will be significant impacts to the road during frequent storm events.

Recommendations

In an effort to create a full design to alleviate the flooding along Heartbreak Road we recommend the following steps.

- Additional survey
  - Detailed survey of the culverts for final culvert design
  - Roadway survey in the areas of concern to determine areas of potential overtopping
  - Existing conditions of stream to determine if there are any constraints (i.e. blockages, impasses)
- Expanded analysis and design

If you should have any questions regarding the information contained herein, please do not hesitate to contact me at (617) 640-7949.

Very truly yours,
Coneco Engineers & Scientists

Kevin McHugh, P.E.
Senior Project Manager

IPSWICH RIVER WATERSHED ASSOCIATION
The Voice of the River
P.O. Box 576
Ipswich, MA 01938

August 13, 2018

Robert Gambale, Chair
Ipswich Zoning Board of Appeals
25 Green St.
Ipswich, MA 01938

Re: Essex Pastures Comprehensive 40B Permit

Dear Mr. Gambale,

Thank you for the opportunity to comment on the proposed *Essex Pastures Comprehensive 40B Permit* currently before the Ipswich Zoning Board. Before offering specific comments on the project, I would like to provide some background on the environmental sensitivity of the site, relative to the Ipswich River Watershed.

The Ipswich River is the most flow-depleted river in Massachusetts due to extensive water withdrawals (ground and surface) and other impacts to the natural water balance in the watershed (wastewater and drinking water exports, impervious surfaces, etc.). In addition, the Ipswich River is the lifeblood of the North Shore providing drinking water to 330,000 people every day (including residents of Ipswich), and it supports significant ecological resources. Thus, protecting both the water availability and water quality of the Ipswich Watershed is critical. It is therefore the positon of the Ipswich River Watershed Association that every new development or redevelopment project in the Ipswich Watershed should not increase water use or water export, or negatively impact water quality *in any way.* Ideally, each project will contribute to *improving* current conditions.

The Essex Pastures project site is adjacent to wetlands that drain into Saltonstall Brook, a tributary to the Ipswich River. As such the replacement of natural land cover to impervious, paved and developed surfaces and structures will have a direct effect on these water resources. In locations such as this, it is critical to consider both water quality and water quantity issues at the highest level.

With this backdrop, we have reviewed the application and associated documents and offer the following specific comments.

Water Quantity

The project should be conditioned to minimize water use to the greatest extent possible, especially non-essential uses such as outdoor water use which does not recharge the groundwater. This is particularly

important now that the State's newly promulgated water withdrawal regulations prohibit any increase in municipal withdrawals from the highly stressed Ipswich Basin and will likely not approve any increase in withdrawals from the increasingly stressed Parker Basin (the two watersheds from which the Town of Ipswich draws its water). Ipswich will likely ***be required by the State to live within its current permitted volume in perpetuity such that any new water demand in the town will need to come from existing allocations.*** As such, the Town of Ipswich should immediately begin planning to ensure that new development is conditioned so as not to increase water demand in the community. Thankfully, there exist technologies, management alternatives and technical assistance resources to make this readily achievable in Ipswich should regulators require it. Under that backdrop, we offer the following specific recommendations to ensure that water use by the proposed development does not further stress the local and regional water supply:

- Calculations of the proposal's projected water use should be required and independently reviewed by the Town. The project at a minimum should offset 100% of this projected water use and should strive to offset its water use by better than 100%. This can be achieved through minimization of water use within the project (e.g. ultra-efficient fixtures, minimized outdoor water use, use of rainwater for toilet flushing, etc.) and by the developer off-setting any additional use by working with town officials to reduce water use in other areas of town through a water bank or similar program (e.g. pay a fee for leak detection, upgrade of fixtures in municipal buildings, support for a public rebate program, etc.).
- The project will minimize its production of stormwater through site design (e.g. minimization of impervious areas) and infiltrate 100% of its stormwater runoff on-site.
- Landscapes should be planted with drought tolerant native species which do not require irrigation (beyond the establishment phase) and irrigation systems should be prohibited (automatic irrigation systems are guaranteed to use a lot of water and will fail over time). The amount of lawn should be minimized and where required, planted with drought tolerant turf grasses such as fescues. Conditions should be imposed to ensure that drought tolerant plants are used and that there is no additional water demand for irrigation beyond the establishment phase.
- In most instances, we are generally opposed to the use of municipal wastewater collection systems for new development and advocate for the treatement of wastewater on-site so that it recharges the groundwater. As mentioned above, wastewater export outside the watershed is a leading contributor to the severe water balance problem in the Ipswich River Watershed. Because Ipswich's wastewater is discharged into the ocean it in effect discharges outside the basin and contributes to this imbalance. However, we recognize that this condition may not be enforceable in this case. In lieu of requiring on-site wastewater disposal, we would like to re-emphasize the above request that the project be required to be net zero ***or better*** in terms of new water demand which will help to minimize its impact to this water imbalance.

Water Quality

- As mentioned above, the project should adequately treat 100% of its runoff on-site.
- Landscapes should be managed organically without the use of synthetic fertilizers or pesticides.
- Non-pervious surfaces should be minimized and use of salt and chemical deicers on all common areas should be minimized in favor of sand and environmentally safe deicers.

- The developer should be encouraged to meet as much of the requirements of the Ipswich Wetlands Protection bylaw as possible, especially by minimization of the amount of development in the buffer zone.
- There should be a proactive and ongoing educational effort and systems put in place for residents to divert all hazardous materials from the waste stream with a focus on household cleaners and pharmaceuticals.
- A third party, other than property owners, should be contracted with to maintain the stormwater and wastewater systems in perpetuity.

While some of these measures exceed current minimum regulatory requirements, they are readily achievable using modern Low Impact Development Standards and should be required in environmentally sensitive areas such as this. The Ipswich River Watershed Association can advise the developer and/or the Zoning Board and the community on the implementation of these measures and stands ready to assist you in any way to achieve these protections.

Please incorporate these comments into the public record of the hearing on this matter, and please contact me if you have any questions about these comments. Thank you for your consideration.

Sincerely,

Wayne Castonguay
Executive Director

TOWN OF IPSWICH

Public Works Department
25 Green Street
Ipswich, Massachusetts 01938

Richard W. Clarke, Director

Office: (978) 356-6612
Fax: (978) 356-6616

Heartbreak Road

Two preliminary studies have been completed, the first was completed in 2011 and focused on the existing drainage in the area of the DPW Garage, while the second was completed in 2019 and looked at the drainage in the Heartbreak Road area. I've attached copies of both evaluation reports for reference.

2011 Investigation

The area of interest that was investigated as a part of the 2011 evaluation included the existing drainage swale and culvert system that extends from the DPW Garage Driveway to the Ipswich River. In that report, a series of short-term and long-term recommendations were provided. They are summarized below:

Short-Term:
Dredge the swale that leads from the Saltonstall Culvert that passes beneath County Road to create a positive slope from County Road to the River. Currently, due to sediment buildup, a section of the swale drains back toward County Road causing flow to backup in the system. To dredge the swale would require extensive permitting, including Army Corps of Engineers approval. As an alternative, DPW has met with Essex County Mosquito Control to see if they could perform the needed dredging. That group is allowed to dredge streams if they can prove the mosquito larvae exists in the stream. My understanding is that they are planning to inspect the area this spring and if larvae is found, they could add the section of stream to their list of projects. However, that list is extensive.

Clean the Saltonstall Culvert to improve flow. The culvert passes beneath County Road which is a MassDOT roadway so the culvert is managed by MassDOT. DPW coordinated with MassDOT and had the culvert cleaned a few years ago.
Maintain the existing swale and culvert system from the DPW Garage to the Saltonstall Culvert. This includes adding beaver deceivers where needed. Beaver deceivers have been added at a number of locations within the watershed, including at the culvert that passes beneath the DPW Garage driveway.

Long-Term:

1. Increase the cross section and stabilize the stream that flows to the Ipswich River to improve flow.
2. Investigate increasing the size of the Saltonstall Culvert with MassDOT. It is believed that it is an historic structure so changes may be difficult.
3. Improve the culvert and swale system to increase capacity and stabilize the swale banks.

2019 Investigation

This most recent evaluation focused on the area that contributes flow to Heartbreak Road and passes beneath the road. To keep the summary short, the evaluation revealed that all of the culverts that pass beneath Heartbreak Road and significantly undersized to accommodate the standard design flows. DPW has replaced a number of culverts and added beaver deceivers to try help improve drainage in the short-

term, but what this study confirmed, when combined with the 2011 study, is that the problem cannot be improved by simply replacing or increasing the size of individual culverts. The problem is regional within the entire watershed that occupies more than 400 acres. Without addressing the drainage backups along County Road the collected water cannot flow freely to the Ipswich River so it backs up in the system. A regional approach to the drainage system, needs to be investigated. And the improvements need to be completed by working from the Ipswich River back into the watershed. This will cause changes to the wetland area which will require significant permitting. The ultimate improvements may include raising Heartbreak Road and adding larger capacity culverts while improving the slow through the County Road system and into the river.

It is recommended that the Town investigate grants to assist with the assessment. Some possible options include: a hazard mitigation grant (now BRIC Grant, next application round late 2021), National Coastal Resilience Fund grant (next application round Spring 2021), MVP Grant (next application round Spring 2021), etc.

Dear Chair Gambale and ZBA Board,

RE: Storm Water and Wetlands Waivers

Please do not allow the Storm Water and Wetlands Waivers.

1. The applicant should appear before the experts, the Conservation Commission.
2. The applicant has not fulfilled its obligations under our own Application and Rules documents. **(please see below and my additional comments attached to each)**
3. As Local concerns include Health, Safety, Environmental, Design, Open Space, Planning and Other, it is the ZBA's obligation to insure the Applicant will not impact these concerns. This development will impact our Health, Safety and Environment.
    a. The depletion of Open Space by this development will also detriment these concerns.
        i. Total Open Space is 46.7% (less than Town required 50%) and in the RRA lots, it is only 35%.
    b. Flooding:
        i. The applicant only addressed the flooding at the DPW site.
        ii. They did not address the general flooding in the area, in particular, Heartbreak Rd. We have wells and private septic systems that will be compromised WHEN, NOT IF, the road floods and the water table rises.
        iii. The road has existed for over 300 years. ANY increase in impervious surface, in the watershed area needs to be more thoroughly examined.
    c. This site is in the midst of a 498 acre Watershed that includes a 77 acre wetland system. There is an hydrologic connector directly into the wetlands. This will impact our water supply and our environment.
    d. Per Pages 4-5 in the Town 40b Rules: Further Studies should be carried out to show true impact and what can be done (if anything) for mitigation.

Please deny any Blanket Waivers or any Waiver which impacts our Local Concerns, unless the Applicant is specific about the waiver and can show economic impact.

Please consider Our Local Concerns vastly outweigh the need for "Affordable Housing" in a development of this magnitude.

Please consider this Applicant has done the BARE minimum and has not worked with this Board or the Town in a manner that would bring us a better project.

Please consider this Applicant has changed the project multiple times, has not provided timely information and has not allowed the process to play out in any meaningful way.

Maps are also attached, showing the Watershed area, the hydrologic connector and the impervious surfaces in the general area.

Best regards,

Keri

Keri MacRae
31 Heartbreak Rd.
978-758-6756
Kerimacrae11@gmail.com

Application (emphasis is added by me)

Page 1:

A report, together with a plan(s) if applicable, regarding existing site conditions and a summary of conditions in the surrounding areas, showing the location and nature of existing buildings, existing street elevations, traffic patterns ***and character of open areas, if any, in the neighborhood***

My comment: This has not been adequately addressed.

Page 2:

Projects shall contain a statement of the community impact in terms of the project in terms of traffic, public safety, ***schools, recreation, and the effect on open space and the natural environment.***

My comment: This has not been adequately addressed.

Rules (emphasis is added by me)

Page 3:

Report on Existing Site Conditions: A report on and summary of existing site conditions ***and those in the surrounding areas.***

My comment: Given the Drainage study, this has not been adequately addressed and the surrounding area should include the entire existing watershed.

Page 4:

(ix) List of Requested Exceptions to Local Requirements and Regulations: A detailed list of requested exceptions to local requirements and regulations, ***which shall include an analysis of each requirement or regulation for which an exception is sought, the location on the plans for which the exception is sought (if applicable) and an explanation of why the exception is required****. In the event an applicant contends that denial of any such exception renders the proposed project uneconomic, the applicant shall submit a pro forma in accordance with § 3.01(c), below, together with an explanation of the financial impact on the proposed project of adhering to each requirement or regulation from which an exception is sought.*

My comment: The applicant has had plenty of opportunity to provide this information.

Pages 4-5:

The following materials are requested to be submitted to the Board: (i) Environmental Impact Analysis: ***An "Environmental Impact Analysis" prepared by a qualified environmental scientist, professional wetland scientist (PWS), certified soil scientist, botanist, hydrogeologist and/or other scientific professional with demonstrated qualifications (e.g. education, training, or demonstrated experience) provided to the Board. The Environmental Impact Analysis shall assess the impact of the development on the environment within the development and adjacent thereto. Such analysis shall include, but shall*** not ***be limited to, an evaluation of pre-development conditions and postdevelopment impacts on: 5 a. surface and groundwater quality; b. groundwater recharge of upper aquifers and perched groundwater layers; c. wildlife habitats and corridors; d. wetlands and bodies of water, including streams and rivers, both localized and general; e. existing and potential domestic water supplies; f. species of special concern in Massachusetts;*** *g. historic structures or historic areas; and h. road salt and fertilizer loading.* ***Such analysis shall include proposed mitigation of any identified post-development impacts. Mitigation measures requiring continuing or periodic maintenance shall be identified and a proposed maintenance plan shall be included with the Environmental Impact Analysis.***

My comment: This has not been adequately addressed. I have been asking for an hydrologist for some time.

Page 10:

(b) Approval with Conditions The Board may approve a comprehensive ***permit subject to conditions and limitations necessary to protect the health or safety of the occupants of the proposed project or of the residents of the Town, to protect the natural environment, to promote better site and building design in relation to the surroundings and municipal and regional planning and to preserve open spaces (the "Local Concerns").*** *A comprehensive permit issued by the Board may be subject to the grant of a subsidy by the applicant's subsidizing agency, the issuance of final approval by said subsidizing agency, the receipt of permit or approval required from any state or federal agency and/or the receipt of any waiver ordered by the Board from fees normally imposed by Local Boards. (****c) Denial The Board may deny a comprehensive permit if it finds that there are no conditions that will adequately address Local Concerns****, or for any other reason which may be provided for by the Act or the Regulations, as amended from time to time.*

My comment: Numerous local concerns have not been addressed.

Page 11:

6.05 ***Burden of Proof It shall be the applicant's burden to demonstrate that the waiver of any particular local requirement or regulation is necessary to maintain the project's economic viability,*** *except a condition imposed by the Board to decrease the number of units in a Project by 5% or more shall create a rebuttable presumption that the applicant will not be able to achieve a reasonable return..* ***There shall be a presumption that the waiver of any such local requirement or regulation will adversely affect legitimate municipal interests and Local Concerns.***

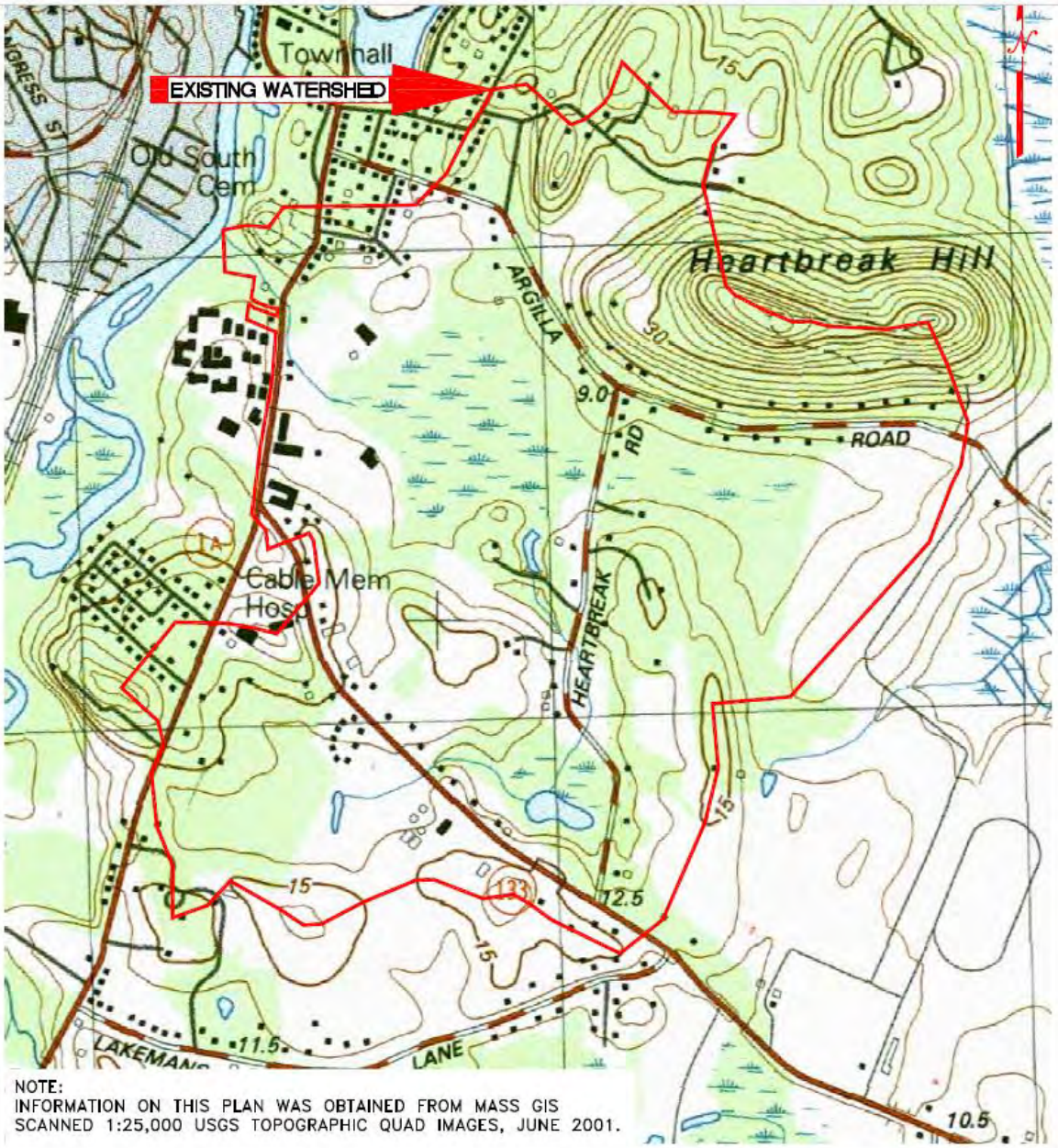
My comment: The applicant has failed to demonstrate why waivers are necessary. Waivers will adversely affect our local concerns.

NOTE:
INFORMATION ON THIS PLAN WAS OBTAINED FROM MASS GIS AERIAL PHOTOGRAPHIC IMAGES, APRIL 2005.

COUNTY ROAD DRAINAGE ANALYSIS, IPSWICH, MASSACHUSETTS

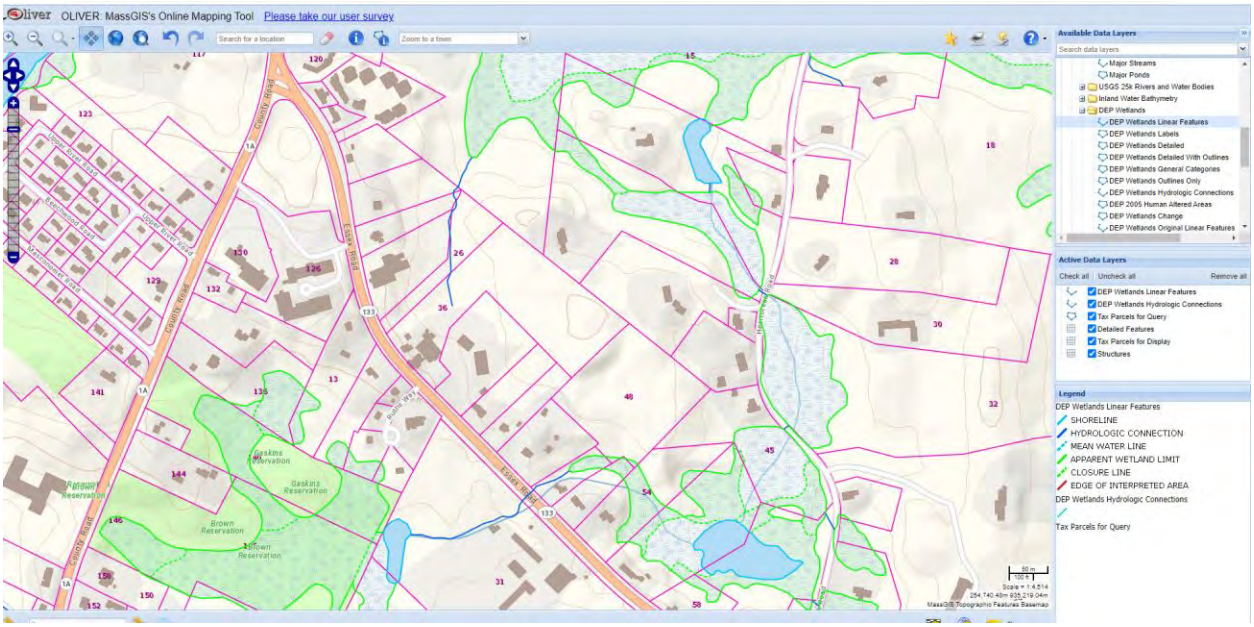
CONECO
Engineers, Scientists & Surveyors
4 FIRST STREET, BRIDGEWATER, MASSACHUSETTS 02324
PHONE 508-697-3101 • 800-548-3388 • FAX 508-697-3005

PREPARED FOR:		PLAN SET:	
TOWN OF IPSWICH		DRAINAGE FIGURES	
SCALE	DATE	PROJECT NO.	TITLE:
1"=1,000'	07/02/2010	6784.0	FIGURE 1 AERIAL MAP



NOTE:
INFORMATION ON THIS PLAN WAS OBTAINED FROM MASS GIS SCANNED 1:25,000 USGS TOPOGRAPHIC QUAD IMAGES, JUNE 2001.

COUNTY ROAD DRAINAGE ANALYSIS, IPSWICH, MASSACHUSETTS


OLIVER: MassGIS's Online Mapping Tool
Please take our user survey
Available Data Layers
Major Streams
Major Ponds
USGS 25k Rivers and Water Bodies
Inland Water Bathymetry
DEP Wetlands
DEP Wetlands Linear Features
DEP Wetlands Labels
DEP Wetlands Detailed
DEP Wetlands Detailed With Outlines
DEP Wetlands General Categories
DEP Wetlands Outlines Only
DEP Wetlands Hydrologic Connections
DEP 2005 Human Altered Areas
DEP Wetlands Change
DEP Wetlands Original Linear Features
Active Data Layers
Check all
Uncheck all
Remove all
DEP Wetlands Linear Features
DEP Wetlands Hydrologic Connections
Tax Parcels for Query
Detailed Features
Tax Parcels for Display
Structures
Legend
DEP Wetlands Linear Features
SHORELINE
HYDROLOGIC CONNECTION
MEAN WATER LINE
APPARENT WETLAND LIMIT
CLOSURE LINE
EDGE OF INTERPRETED AREA
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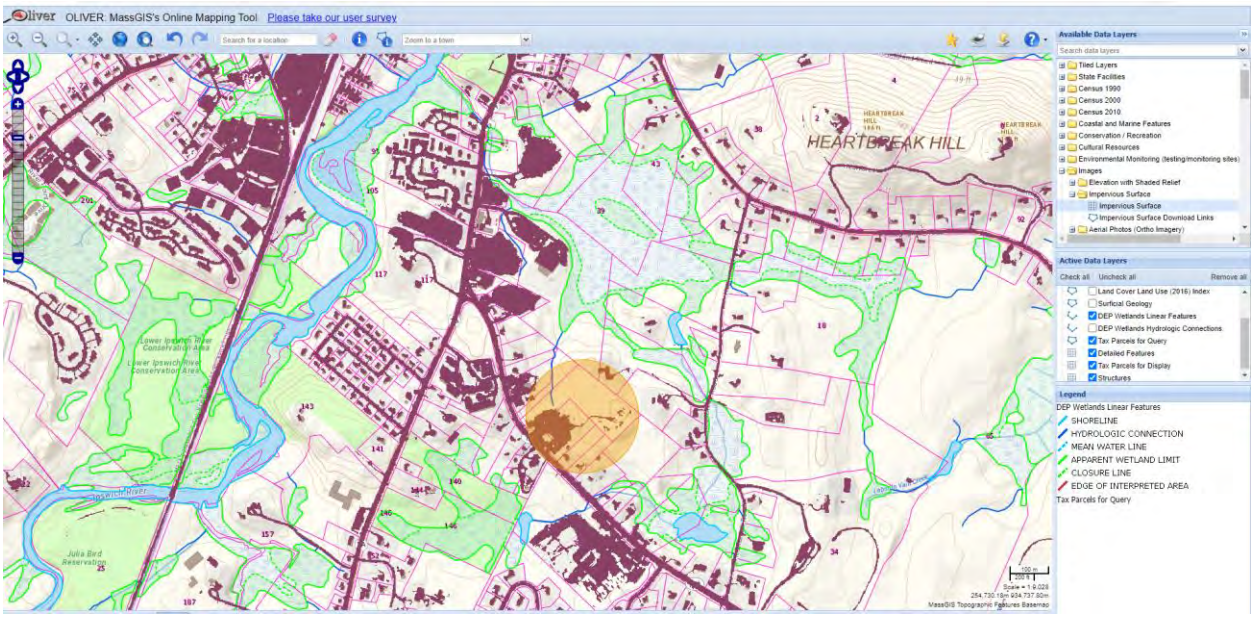
Tax Parcels for Query


OLIVER: MassGIS's Online Mapping Tool
Please take our user survey
HEARTBREAK HILL
Available Data Layers
Tiled Layers
State Facilities
Census 1990
Census 2000
Census 2010
Coastal and Marine Features
Conservation / Recreation
Cultural Resources
Environmental Monitoring (testing/monitoring sites)
Images
Elevation with Shaded Relief
Impervious Surface
Impervious Surface
Impervious Surface Download Links
Aerial Photos (Ortho Imagery)
Active Data Layers
Check all
Uncheck all
Remove all
Land Cover Land Use (2016) Index
Surficial Geology
DEP Wetlands Linear Features
DEP Wetlands Hydrologic Connections
Tax Parcels for Query
Detailed Features
Tax Parcels for Display
Structures
Legend
DEP Wetlands Linear Features
SHORELINE
HYDROLOGIC CONNECTION
MEAN WATER LINE
APPARENT WETLAND LIMIT
CLOSURE LINE
EDGE OF INTERPRETED AREA
Tax Parcels for Query

Fwd: 2018 Ipswich Hazard Mitigation Plan Draft-Drainage Study Heartbreak/County/Saltonstall

1 message

Keri MacRae <kerimacrae11@gmail.com> Wed, Mar 17, 2021 at 3:41 PM
To: Keri MacRae <kerimacrae11@gmail.com>

---------- Forwarded message ---------
From: **Keri MacRae** <kerimacrae11@gmail.com>
Date: Fri, Feb 1, 2019 at 9:22 AM
Subject: Fwd: 2018 Ipswich Hazard Mitigation Plan Draft-Drainage Study Heartbreak/County/Saltonstall
To: mothercharlene1@gmail com <mothercharlene1@gmail.com>

Attached is the old and partial study.

---------- Forwarded message ---------
From: **Frank Ventimiglia** <frankv@ipswichma.gov>
Date: Thu, Dec 20, 2018 at 3:07 PM
Subject: RE: 2018 Ipswich Hazard Mitigation Plan Draft-Drainage Study Heartbreak/County/Saltonstall
To: Alicia Geilen <aliciag@ipswichma.gov>, Keri MacRae <kerimacrae11@gmail.com>, Ethan Parsons <ethanp@ipswichma.gov>
Cc: Anthony Marino <tonym@ipswichma.gov>, Rick Clarke <rickc@ipswichma.gov>, Jonathan Hubbard <jhubbard@ipswichpolice.org>, BOARD of SELECTPERSONS <selectboard@ipswichma.gov>, Marie Rodgers <marier@ipswichma.gov>, Janet Rice <janetr@ipswichma.gov>

Good A. ernoon Keri,

Following up on the other responses, I forwarded your comments onto MAPC who is putting the Hazard Mi□ga□on Plan update together for the Town to be included in the public comment sec□on. As a result we have adjusted the wording on the task from **"Drainage study of affected areas"** to **"Conduct drainage study and implement drainage improvements"**. Attached is MAPC's email response to your ques□ons that will be part of the Hazard Mi□ga□on Plan as an appendix with other public outreach and response info.

Also attached is the drainage analysis that was done in 2011 on a por□on of the Saltonstall watershed and focused on the DPW Yard located at 100 County Rd. Within the analysis on page 8, Figure 1 shows the complete watershed area that would be further studied if funding becomes available. Please let us know if you have any follow up ques□ons after reviewing the informa□on.

Sincerely,

Frank Ven□miglia

Town of Ipswich

Public Works

p. 978-356-6612

f. 978-356-6616

From: Alicia Geilen
Sent: Thursday, December 20, 2018 12:51 PM
To: Keri MacRae <kerimacrae11@gmail.com>; Ethan Parsons <ethanp@ipswichma.gov>; Frank Ven□miglia <frankv@ipswichma.gov>
Cc: Anthony Marino <tonym@ipswichma.gov>; Rick Clarke <rickc@ipswichma.gov>; Jonathan Hubbard <jhubbard@ipswichpolice.org>; BOARD of SELECTPERSONS <selectboard@ipswichma.gov>; Marie Rodgers <marier@ipswichma.gov>; Janet Rice <janetr@ipswichma.gov>
Subject: RE: 2018 Ipswich Hazard Mi□ga□on Plan Draft-Drainage Study Heartbreak/County/Saltonstall

Keri,

I apologize for not getting back to you sooner.

The drainage study you asked about is well before my □me, so I am not familiar with it. I have gone through my files (99% of which are related to permit filings with the Commission) and **I do not have a copy of the drainage study** referred to in the mee□ng minutes from 2011. The fact that there is a drainage study referred to in the "document control" sec□on of the minutes leads me to believe that a study was in fact completed. The minutes refer to a study "by DPW", so I assume that DPW commissioned the study. Please see Frank Ven□miglia to find out if his office s□ll has a copy. This work may have been before his □me as well, so he may not be familiar with it either. All that said, I will ask the Commission members who were serving in 2011 (there are four) what they remember. I'll let you know if they remember anything, or have a copy of that report.

I did find a report from 2004 about dredging Saltonstall Brook by former Ipswich Conserva□on Commission (ICC) member Dave Standley (attached). I have not had a chance to review it.

I also found a file on ICC approval of floodplain compensa□on work at the YMCA (apparently associated with Powderhouse Village development). The ICC approval was appealed to the state, who then approved it. This project has since been closed out with a Cer□ficate of Compliance. If you wish to view this file, or the Powderhouse Village permit file, please let me know and I'll have them ready for you. Once you've looked at the file, I can scan any item for free and email it to you, or make copies for a small fee. It may take up to 10 business days to provide either of those, due to holiday schedules and workloads.

On a related note, any new development that will disturb greater than 10,000 square feet of land must meet the town's stormwater management bylaw and regula□ons. In addi□on, any project that will occur in ICC jurisdic□on, and exceeds the state's thresholds, must meet the state's stormwater management rules. To demonstrate compliance with these requirements, the applicant prepares a detailed drainage study of poten□al impacts from the proposed project. These drainage studies are generally sent out for an independent peer review by the permitting authority (e.g, Planning ZBA, or ICC). All informa□on submitted is part of the public record and available for review.

I hope this helps.

Best,

Alicia Geilen

Conserva□on Agent

From: Keri MacRae [mailto:kerimacrae11@gmail.com]
Sent: Wednesday, December 19, 2018 1:23 PM
To: Ethan Parsons <ethanp@ipswichma.gov>; Alicia Geilen <aliciag@ipswichma.gov>; Frank Ven□miglia <frankv@ipswichma.gov>
Cc: Anthony Marino <tonym@ipswichma.gov>; Rick Clarke <rickc@ipswichma.gov>; Jonathan Hubbard <jhubbard@ipswichpolice.org>; BOARD of SELECTPERSONS <selectboard@ipswichma.gov>; Marie Rodgers <marier@ipswichma.gov>
Subject: Re: 2018 Ipswich Hazard Mi□ga□on Plan Draft-Drainage Study Heartbreak/County/Saltonstall

Good Morning All,

I have not heard back from anyone but Ethan (thank you!). I have found reference to the study in the ConsCom minutes/agendas which I have attached. These references were from March and April of 2011. I have searched the Town Website to see if any follow up occurred at the 4/20/11 meeting, but can't find any more.

So it appears a Study may have been done.

This has direct impact to Heartbreak Rd and County Rd residents. Especially with all the recent development and proposed development within the area. It is disturbing that developments (past and future) have or will exacerbate a known issue. The Study (if it existed) should have been made known during these developments. There is no way to determine if the drainage improvements were (prior development) or will (future development) be adequate without the Study. If the Study does not exist- Various Departments and Boards had knowledge it was needed and did not follow up on it or make it a priority.

I have added the Selectboard and ZBA to this thread. This Study should be made a priority today. This issue, and recommended Study, was identified as early as 2008 (Initial meetings for 2012 Mitigation Plan). 10 years ago. And should have been performed after the YMCA (late 90's) and Powder House Village (2011) had been built.

I look forward to hearing from anyone who has further knowledge or who can make a decision about this Study.

Thanks,

Keri

03/16/11

Saltonstall Brook drainage study by DPW-along County Road from YMCA/DPW to Jepson/Firmin Park, then under Rte 1A; then along the Brook through private properties west of Rte 1A to the Ipswich River

This item was deferred for lack of study

04/06/11

Saltonstall Brook drainage study by DPW-County Road from YMCA/DPW to Jepson/Firmin Park, then under Rte 1A; then along the Brook through private properties west of Rte 1A to the Ipswich River

- **A motion was made by ffolliott to continue to 4/20/11 due to late submission of the document. The motion was seconded by McDavitt and passed unanimously.**

Documents and/or exhibits submitted with filing and/or used during discussion:

1. *Saltonstall Brook Drainage Study*

On Mon, Dec 10, 2018 at 10:57 AM Parsons, Ethan <ethanp@ipswich-ma.gov> wrote:

> Good morning Keri,
>
> I'll have to let others respond to your ques□ons about the drainage study, what it would achieve and why it wasn't completed post-2012? This isn't something I have history with. As the plan is currently drafted it's clearly s□ll a high priority. I am not aware of documenta□on of the problem, grant applica□ons, or other material related to the project. As drafted the plan assigns responsibility to the DPW and MassDOT. If there's an opportunity for the Planning Department to contribute to getting it done I'm on board.
>
> My observa□on is the Planning Board has been aware of the sensi□vity of the wetland and watershed area in the vicinity of the County Road stretch toward Heartbreak. The projects you cited resulted in significant improvements to stormwater management through the Planning Board's site plan review process. The Aubuchon, True North and Medical building site was an untreated parking lot and Aubuchon building but is now improved with a major stormwater filtra□on and recharge system, which results in a decrease in rate and volume and untreated runoff. Similarly, the YMCA project resulted in an overall reduc□on in rate, volume and untreated runoff. The YMCA installed a significant vegetated wetland, which should be a model for low impact development in sensi□ve areas. Both these projects were also the subject of Orders of Condi□ons. I'm not as familiar with the Whittier project as it preceded me but I believe it would also have been subject to state and local stormwater management requirements. I'm not sugges□ng any of these developments are ideal but they were controlled appropriately so as not to nega□vely impact flooding or runoff.
>
> I have shared the draft plan with the Planning Board and they hosted a public mee□ng on it several months ago. There are some lower priority steps the Planning Department/Board is responsible for in the plan: carrying on the Ipswich Mills Dam Removal Feasibility Study and assessing overall flood reduc□on town-wide by pursuing the FEMA Community Ra□ng System program. Currently the Planning Department is suppor□ng both these items.
>
> Ethan

From: Keri MacRae [mailto:kerimacrae11@gmail.com]
Sent: Friday, December 07, 2018 2:32 PM
To: Geilen, Alicia <aliciag@ipswich-ma.gov>; Parsons, Ethan <ethanp@ipswich-ma.gov>; Ven□miglia, Frank <frankv@ipswich-ma.gov>
Cc: tm@ipswich-ma.gov; Clarke, Rick <rickc@ipswich-ma.gov>
Subject: 2018 Ipswich Hazard Mi□ga□on Plan Draft

Hi All,

I am not sure who to direct this email to. If it isn't one of you, please let me know who I should be contacting.

After reading most of the 2018 Ipswich Hazard Mitigation Plan Draft, I have a couple of questions related to Heartbreak and County Rds.

1. What is a drainage study? What areas would this study cover? For example: All of the Saltonstall Watershed? Some of it? Only the hydrologic connected marshes, streams and intermittent streams?

2. Why was this not done on the original hazard plan from 2012? Were grants pursued?

3. Who/what department is in charge of this?

4. What documentation is available on this problem? If this has been identified as a problem area (since at least 2012) and MAPC is aware, I assume there is documentation. I would like to be provided with such information.

5. I see the Time-line for completion is 2023. Is this a typo? You mean it takes over 11 years to get a study done? Never mind address the issue?

6. Are Boards and Departments required to review the plan? I am hard pressed to understand how the Planning Board (or other) has approved all the development in the area (Aubochon, True North, Medical Building, Whittier Motel addition,YMCA expansion and Pool) if they had knowledge of this issue.

I look forward to hearing from someone.

Thanks,

Keri

Keri MacRae

31 Heartbreak Rd.

Ipswich, MA

978-758-6756

---------- Forwarded message ----------
From: "Pillsbury, Martin" <MPillsbury@mapc.org>
To: Frank Ventimiglia <frankv@ipswichma.gov>
Cc:
Bcc:
Date: Mon, 17 Dec 2018 22:00:16 +0000
Subject: RE: 2018 Ipswich Hazard Mitigation Plan Draft

Thanks, Frank.

This is a series of ques□ons about Heartbreak and County Roads. We will need to include this comment in the plan (it will go in the Appendix on Public Par□cipa□on), and we will just need to provide (brief) answers to the ques□ons. See my sugges□ons below.

The only change to the plan itself that I would recommend is the wording of the mi□ga□on ac□on for Heartbreak Rd/County Rd (item #1 on page 107) from **"Drainage study of affected areas"** to **"Conduct drainage study and implement drainage improvements"** so it doesn't sound like it's just a study by 2023.

Here are my sugges□ons for answering all but the first ques□on. Please "fact check" me on these!

Ques□on 1 is more detailed about the site, so I hope you can add something for that. Also, possibly add to #3, if there is any addi□onal documenta□on available.

1. **What is a drainage study? What areas would this study cover? For example: All of the Saltonstall Watershed? Some of it? Only the hydrologic connected marshes, streams and intermittent streams?**

2. Why was this not done on the original hazard plan from 2012? Were grants pursued?

- Work has begun on drainage improvements in this area, with three culvert replacements done since the 2012 plan. It should also be noted that County Road is a state road, so the Mass. Dept. of Transporta□on has a role with implemen□ng drainage improvements in this area as well.

3. Who/what department is in charge of this?

- The Ipswich Department of Public Works is iden□fied in the plan as the lead local agency, and the MassDOT is also iden□fied since County Road is a state road.

4. What documentation is available on this problem? If this has been identified as a problem area (since at least 2012) and MAPC is aware, I assume there is documentation. I would like to be provided with such information.

- The problem area was iden□fied by the Ipswich Hazard Mi□ga□on Team in the 2012 plan, and MAPC mapped the "Area of Concern" on the GIS hazard maps based on the local Team's input.
  (Frank, if there have been any more specific assessments or studies by the town or the state, please add a reference to them here).

5. I see the Time-line for completion is 2023. Is this a typo? You mean it takes over 11 years to get a study done? Never mind address the issue?

- In this 2018 plan update, the mi□ga□on measure originally listed in 2012 as a "drainage study" should be listed as "**Conduct a drainage study and implement drainage improvements,"**
  Since work on this area has already begun, the □meline in the plan update should be listed as 2018-23, reflec□ng the □me needed for study, engineering and design, permitting, funding, and implementa□on of remaining drainage improvements, as well as coordina□on with MassDOT.

6. **Are Boards and Departments required to review the plan? I am hard pressed to understand how the Planning Board (or other) has approved all the development in the area (Aubochon, True North, Medical Building, Whittier Motel addition, YMCA expansion and Pool) if they had knowledge of this issue.**

- Yes, the plan was presented to the Planning Board at their mee□ng on March 29, 2018.

Any other ques□ons or concerns, please let me know.

Best,

Mar□n

Mar n Pillsbury

Environmental Planning Director

Metropolitan Area Planning Council

60 Temple Place, Boston, MA 02111

617-933-0747

mpillsbury@mapc.org

www.mapc.org

From: Keri MacRae [mailto:kerimacrae11@gmail.com]
Sent: Friday, December 07, 2018 2:32 PM
To: Geilen, Alicia <aliciag@ipswich-ma.gov>; Parsons, Ethan <ethanp@ipswich-ma.gov>; Ven□miglia, Frank <frankv@ipswich-ma.gov>
Cc: tm@ipswich-ma.gov; Clarke, Rick <rickc@ipswich-ma.gov>
Subject: 2018 Ipswich Hazard Mi□ga□on Plan Draft

Hi All,

I am not sure who to direct this email to. If it isn't one of you, please let me know who I should be contacting.

After reading most of the 2018 Ipswich Hazard Mitigation Plan Draft, I have a couple of questions related to Heartbreak and County Rds.

1. What is a drainage study? What areas would this study cover? For example: All of the Saltonstall Watershed? Some of it? Only the hydrologic connected marshes, streams and intermittent streams?

2. Why was this not done on the original hazard plan from 2012? Were grants pursued?

3. Who/what department is in charge of this?

4. What documentation is available on this problem? If this has been identified as a problem area (since at least 2012) and MAPC is aware, I assume there is documentation. I would like to be provided with such information.

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I look forward to hearing from someone.

Thanks,

Keri

Keri MacRae

31 Heartbreak Rd.

Ipswich, MA

978-758-6756

---

2 attachments

noname
47K

Existing_Drainage_Analysis_Ipswich_DPW_Yard.pdf
9766K

Gmail

Keri MacRae <kerimacrae11@gmail.com>

RE: Essex Rd 40b 194 Units

1 message

Wayne Castonguay <wcastonguay@ipswichriver.org> Mon, Oct 15, 2018 at 3:55 PM
To: Keri MacRae <kerimacrae11@gmail.com>

Hi Keri. Yes, all the area development can definitely impact the local hydrology of the River. Your neighborhood is part of the Saltonstall Brook watershed which drains into the river near the Verizon building on route 1A. We have wri en comment le ers to the state and ZBA which control the 40B Development. In terms of flooding, new development must equal pre-development condi ons so the development should not increase flooding. This said, it is only as good as the planning and mi ga on proposed so we all have to review and analyze the proposal vigorously to ensure that this does not happen. We are also very concerned about this impacts to our water supply form increased demand on our limited supplies. A ached is our comment le er to the ZBA and we would appreciate as many folks suppor ng these requirements as possible. If you would like to discuss strategy further, happy to meet at my office some me.

Thanks, Wayne

From: Keri MacRae [mailto:kerimacrae11@gmail.com]
Sent: Monday, October 15, 2018 3:22 PM
To: Wayne Castonguay
Subject: Essex Rd 40b 194 Units

Hi Wayne,

Bill Wasserman suggested I reach out to you. I am trying to fight off (or mitigate) the 194 unit 40b on Essex Rd. I live on Heartbreak and abut the property in the back. With all the recent development (YMCA, Powderhouse, True North, etc) our road is flooding more often. And some property owners have seen changes to their yards (more wet and more flooding).

In my research I found many hydrologic connectors, which I assume connect all the marshes, which makes sense. I also found an old map, showing aquifers on my property and Essex Rd.

What will be the impact to the river and watershed if this is built? Do you know if these marshes eventually drain to the river?

Any help would be appreciated!

Best

Keri

Keri MacRae

31 Heartbreak Rd, Ipswich, MA 01938

978-758-6756

Essex Pastures (Bruni) - Letter to ZBA from IRWA - 8.13.18.pdf
154K

From:	Jacki Kronenberg
To:	Czepiga, Page (EEA)
Subject:	EEA# 16399 Essex Pastures
Date:	Monday, July 26, 2021 4:20:14 PM
Attachments:	Map Ipswich Rt 1A and 133.pdf

Page Czepiga | Assistant Director
Massachusetts Environmental Policy Act Office
100 Cambridge Street, 9th Floor,
Boston, MA 02114

July 26, 2021

Dear Ms. Czepiga,

In 2004, the Cape Ann Transportation Authority (CATA) established the Ipswich Essex Explorer, a shuttle bus on the MBTA Commuter Rail, "to provide an environmentally friendly alternative to the car." According to their pamphlet, "during the course of the summer, the Explorer will reduce traffic congestion by keeping an estimated 1500 cars from entering the area... As a result, the Explorer will significantly reduce air pollutants like VOC, NOx and CO, which would have been released into the environment by these cars."

Despite the MBTA's effort to reduce traffic in the Town of Ipswich, according to Ipswich Chief of Police Paul Nikas, traffic studies conducted in 2013 and 2016 along the Rt 1A corridor in Ipswich have a range of daily traffic counts from 14,000-18,000 depending on count locations and day of the week. And those numbers are now ancient history.

I reside at 6 Essex Road at the intersection of Rts 1A and 133. I am easily able to view the traffic flow from the south (Hamilton/Beverly) and east (Gloucester/Essex) where these two major two-lane roadways merge into one narrow two-lane tree-canopied funnel which continues westward for 1.2 miles through the town's commercial area. Just feet beyond this 1A/133 intersection along the funnel, there are several tightly-built affordable housing communities totaling 112 units sheltering seniors and families. The slow-flow and bumper-to-bumper traffic backs up onto Route 133 -- the only road flowing from Cape Ann -- traffic which blocks my driveway and several others behind mine as it inches to merge. I have had to ask drivers to let me through as they idle their engines in front of my home.

A little history about Route 133: In 1930, Route 133 extended from Lowell to Rowley, ending at Route 1A. Between 1959 and 1961, it was extended to replace what was MA Route 121, which existed from Ipswich to Gloucester via Essex. In other words, today's Route 133 was built to accommodate the traffic of the early 1960s.

In spite of the age of the road which lacks any expansion area, and the air pollution from vehicles in the area acknowledged back in 2004, John Bruni, the Essex Pastures' developer, wants to build an oversized housing complex at 26-44 Essex Road in Ipswich -- a town with no public transportation other than Ipswich Essex Explorer in the summer -- at the gateway to Ipswich's commercial/multi-housing district, just a few hundred feet east of my home. Your own report predicts an 80% increase in vehicle trips from Essex Pastures per day for a total of 1662 cars, even more than the Ipswich Essex Express sought to eliminate in 2004. There will be gridlock as traffic on 1A and 133 merge.

In support of this letter, I have attached a map which shows the intersection of routes 1A and 133, and the "funnel" as traffic moves through low-income housing and our tourist area/commercial strip. We are a small town that will struggle like a snake swallowing an elephant if Essex Pastures is built as either designed by the developer or approved by our Zoning Board of Appeals.

I am aware that your focus is not on automobile congestion or the fact that traffic in a delightful town such as Ipswich will tie up the 4-5 towns that depend on Routes 1A and 133. **It is the emissions the increased number of vehicles will cause as cars idle under people's noses**

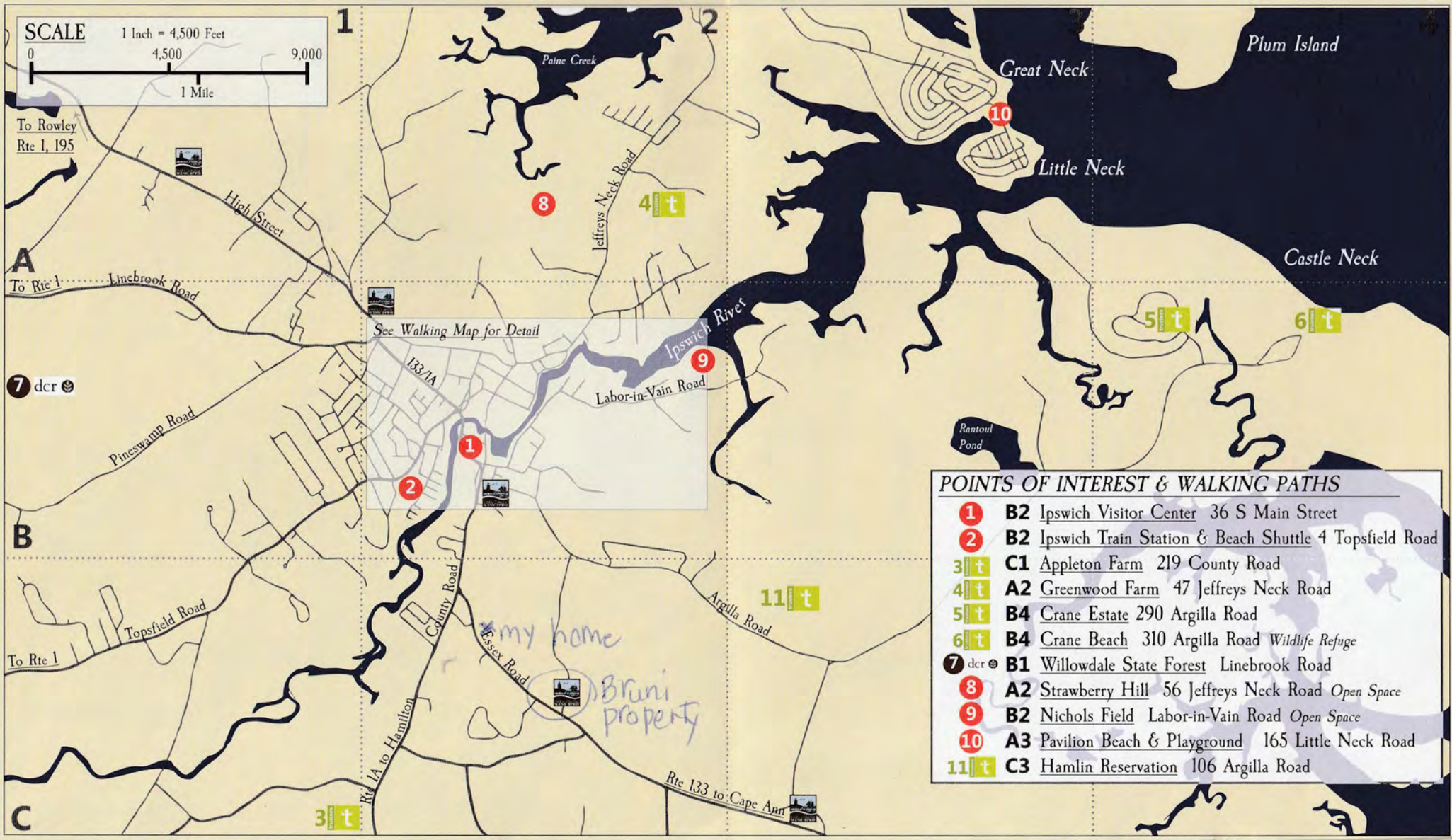
from sun-up to sundown that I would like you to consider, and the health issues caused when people cannot breathe clean air.

As we locally suffer through this summer of increased humidity and non-stop rainfall caused by greenhouse gas emissions, and discuss ways to reduce it, it does not make sense to create a pollution cloud in Ipswich.

As you perform your environmental evaluation on Essex Pastures, please consider the impact of automobile emissions on the health of our residents and our visitors along our densly-populated narrow roads.

Respectfully,

Jacki Kronenberg
617 470-0277
6 Essex Road Unit 15
Ipswich MA 01938
Jacki Kronenberg


SCALE
1 Inch = 4,500 Feet
0
4,500
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1 Mile
1
2
A
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C
To Rowley
Rte 1, 195
High Street
To Rte 1
Linebrook Road
Pineswamp Road
Topsfield Road
To Rte 1
Paine Creek
Jeffreys Neck Road
See Walking Map for Detail
133/1A
Ipswich River
Labor-in-Vain Road
County Road
Essex Road
Rte 1A to Hamilton
Argilla Road
Rte 133 to Cape Ann
Great Neck
Plum Island
Little Neck
Castle Neck
Rantoul Pond
my home
Bruni property
7 dcr
8
4 t
5 t
6 t
9
10
11 t
1
2
3 t
POINTS OF INTEREST & WALKING PATHS
1 B2 Ipswich Visitor Center 36 S Main Street
2 B2 Ipswich Train Station & Beach Shuttle 4 Topsfield Road
3 t C1 Appleton Farm 219 County Road
4 t A2 Greenwood Farm 47 Jeffreys Neck Road
5 t B4 Crane Estate 290 Argilla Road
6 t B4 Crane Beach 310 Argilla Road Wildlife Refuge
7 dcr B1 Willowdale State Forest Linebrook Road
8 A2 Strawberry Hill 56 Jeffreys Neck Road Open Space
9 B2 Nichols Field Labor-in-Vain Road Open Space
10 A3 Pavilion Beach & Playground 165 Little Neck Road
11 t C3 Hamlin Reservation 106 Argilla Road

From: Ipswich Citizens
To: Czepiga, Page (EEA)
Subject: Letter regarding EEA# 16399 (Essex Pastures)
Date: Wednesday, July 28, 2021 5:05:03 PM
Attachments: Ipswich Citizens Letter regarding Essex Pastures.pdf
Ltrfrom Attornet Murphy to Ipswich ZBA re Essex Pastures 40B 4.8.21.pdf

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Dear Page,

Thank you for your help navigating last weeks meeting and the letter submission process. Attached is a letter regarding this project on behalf of the neighborhood group Ipswich Citizens for Sustainable Growth. Also attached is a letter from our attorney Dennis Murphy to the Ipswich Zoning Board. In the MEPA meeting on July 21rst attorney Murphy reference this letter. He asked me to submit it to you.

I and we appreciate the work that you are doing very much.

Gratefully,

Chris

Chris Florio
Ipswich Citizens for Sustainable Growth
ipswichcitizens@gmail.com

July 27th, 2021

Dear MEPA members,

We are writing to ask that you closely examine the environmental impact of the proposed “Essex Pastures” development in Ipswich and its potential impact on the community, and that you impose any conditions on the project that are within your power that you believe are warranted.

In their presentation at the MEPA meeting on July 21st, John Bruni, the owner of the property, and his associates presented this project with the implication that it had the enthusiastic support of the town of Ipswich. Nothing could be further from the truth.

As John Whitten, attorney for the town of Ipswich, stated at this meeting, the developer’s relationship with the ZBA was adversarial. On multiple occasions, the developer turned down requests for extensions that would have allowed for further discussion and input from town committees and town residents. Moreover, they never provided 3D renderings or a pro forma to the Zoning Board of Appeals, forcing it to rule on the project with very incomplete information.

Many town residents, officials, and committees sent letters to the ZBA voicing objections to the development. In their letter of January 20, 2021 to the ZBA, the Select Board concluded by stating: “The Select Board strongly opposes the construction of 191 residential units on this site due to the overwhelming density that is uncharacteristic and unsupportable for the small town of Ipswich, and the substantial and permanently damaging impact it will have on the Town's water supply, public safety, traffic, and neighboring properties.” (The full letter is attached).

The Ipswich Conservation Commission asked the ZBA not to grant any blanket waivers to the developer and pointed out that the ORAD for the project was granted in 2014, extended in 2017, and expired in 2020. This ORAD was allowed to continue because of the state of emergency declared in Massachusetts due to Covid 19, but the state of emergency is now ended and the ORAD is long expired and badly needs to be revisited.

The town's Water Subcommittee sent a letter to the ZBA pointing out the adverse effects the project would have on the town's water supply and asking that "the Zoning Board of Appeals do all that is in their power to minimize the water demand of this project including a request that the size and scope of the project be minimized."

The are many concerns over the wetlands and stormwater on the property that have not been addressed, in the July 21rst meeting attorney Dennis Murphy referred to his letter of April 8, 2021 to the Ipswich ZBA addressing this concerns. We are submitting that letter at the same time as this one. There have also been sightings of endangered Blanding turtles on the property that have not been addressed. Both the Ipswich police and fire chief sent letters to the ZBA expressing concerns that the town did not have the staff or resources to serve such a large project. The Ipswich Planning Board has requested that the ZBA not grant an ANR to the developer for this property.

Over 2500 people have signed a petition voicing objections to this property (https://www.change.org/p/ipswich-zoning-board-and-town-officials-ipswich-citizens-opposed-to-essex-rd-proposal), hundreds of citizens attended meetings objecting to the project (more than doubling the ZBAs previous attendance record), the ZBA and the local newspaper were flooded with letters voicing objections, and over 300 Ipswich Citizens displayed signs on their property objecting to this property. As you are aware the developer has appealed the ZBAs ruling to HAC and a group of abutters and citizens have brought a separate suit against this project.

We fully realize that many of the concerns about this development are outside of your jurisdiction, but we ask you to address those that are within your purview. In the name of environmental justice there are many aspects of this project that should be addressed and improved and we implore you to examine them closely. The project should not be approved without a valid ORAD and the Ipswich Conservation Commission--as well as State agencies--should be given the opportunity to weigh in on project's environmental impacts.

Thank you for giving this matter your consideration.

Sincerely,

Chris Florio
Representing the membership of
Ipswich Citizens for Sustainable Growth
ipswichcitizens@gmail.com

HILL LAW

Dennis A. Murphy, Esq.
dgusmurphy@gmail.com
781-588-7881

April 8, 2021

BY ELECTRONIC MAIL: marier@ipswichma.gov

Ipswich Zoning Board of Appeals
25 Green Street
Ipswich, MA 01938

Re: Comments on requested waivers for Essex Pastures, LLC, comprehensive permit

Dear Members of the Board:

As you know, I represent the abutters to this proposed project and submit these comments on their behalf regarding the waivers requested by Applicant from Ipswich local bylaws, rules and regulations, which are enumerated on the Board's website at: https://www.ipswichma.gov/DocumentCenter/View/12957/Essex-Pastures-Waivers-Revised-31121-00191429xBC4F6.

Stormwater Bylaw and Regulations, waiver #3: applicant requests a waiver "To the extent applicable", claiming a blanket exemption from all local stormwater rules because this issue will be reviewed under state (Wetlands Protection Act, MassDEP Stormwater Policy) and federal (US EPA Stormwater Construction Permit) standards. The Ipswich Conservation Commission, which has jurisdiction over stormwater, has outlined several ways in which a blanket waiver would hamper its review. Town Counsel has also recommended against any such blanket or plan-based waiver. Abutters are concerned that anything less than strict compliance with all applicable federal, state and local requirements could result in runoff, flooding or inundation to their properties.

In addition, waiving the local stormwater bylaw or regulations would violate the Town's MS4 permit from the United States Environmental Protection Agency ("EPA") because the provisions in Ipswich's stormwater bylaw are a condition of its federal EPA permit. The Board cannot grant a waiver that would render the Town non-compliant with a permit that is required by federal law.

Wetlands Protection Bylaw and Rules and Regulations, waiver #6: As is typical in many local wetlands bylaws, Ipswich protects buffer zones within a hundred feet of a wetland as a resource area. (Section 224-2(A)(4)) The science to support such designation is unassailable. Ipswich's wetland rules and regulations presume that alterations in these buffer zones will have an impact on wetlands. Applicant asks this Board to reverse that presumption and strip away buffer zone protections, but its request does not quantify the extent of work or alteration within such areas protected under this provision, which it must do when and if a Notice of Intent is filed with the Conservation Commission. This Board should not thwart the Commission's review by

preemptively waiving this important protection before the impact of such a waiver has even been assessed.

In addition to regulating buffer zones, Ipswich imposes a fifty foot no-disturbance zone ("50' NDZ") as well as a sixty-five foot no-build zone ("65' NBZ"), both of which Applicant seeks to waive in their entirety because its current plans to not comply. The Conservation Commission is in a superior position to evaluate whether and to what extent such deviation from these rules would be warranted based on its past practice and assessment of impact to wetlands. Instead of this Board leap-frogging over that review, a wholesale waiver of the 50' NDZ and 65' NBZ should denied and the issue left in the capable hands of the subject matter experts on the Commission.

Use Regulations, waivers ## 7 & 8: Applicant seeks this Board's permission for multifamily use in the Rural Residence A ("RRA") District where such use is prohibited. It claims this Board is authorized to grant such a use variance by simply waiving the Table of Use Regulations on page 22 of the Ipswich zoning bylaw, a copy of which is enclosed along with the footnotes. Footnote 16 designates the Planning Board as the special permit granting authority ("SPGA") for any such use in the RRA District. Although this Board may be authorized by the bylaw to grant use variances in circumstances where the ZBA is also the SPGA, the bylaw expressly prohibits use variances that are subject to Footnote 16, as in this case:

> A variance may authorize a use or activity not otherwise permitted in the district in which the land or structure is located. Such a variance, however, shall not supersede any special permit requirements for a use or activity as indicated in the Table of Use Regulations or elsewhere in this bylaw, unless the Zoning Board of Appeals is also the SPGA and the special permit is **not subject to Footnote 16 to the Table of Use Regulations**. (Amended by 10/17/05 Special Town Meeting; approved by Attorney General 12/12/05) Ipswich ZBL XI.K (emphasis added)

For the reasons stated in my letter of March 11, 2021, the Board has no authority to permit multifamily use in the RRA District because a use variance is not available under the plain terms of the Ipswich zoning bylaw. See Green v. Zoning Bd. of Appeals of Southborough, 96 Mass. App. Ct. 126 (2019) (considering effectiveness of use variance granted under G.L. c. 40A, s. 10 in tandem with comprehensive permit under G.L. c. 40B).

I look forward to discussing these issues with the Board at the next hearing on April 15.

Very truly yours,

/s/ Dennis A. Murphy

Dennis A. Murphy

cc: Town Counsel
John Smolak, Esq.
clients

TOWN OF IPSWICH

Conservation Department
25 Green Street
Ipswich, Massachusetts 01938

Brendan Lynch, Conservation Agent

BrendanL@ipswichma.gov
Office: (978) 356-6661

Page Czepiga, Assistant Director
Massachusetts Environmental Policy Act Office
100 Cambridge Street, 9th Floor, Boston, MA 02114

Ms. Czepiga:

On May 25, 2021, the Ipswich Zoning Board of Appeals issued a Comprehensive Permit for the project being reviewed. This project would be a "buffer zone only" project as wetland areas are not proposed to be filled. Within the 100' buffer zone to a resource area, Ipswich has two "subzones" that provide even greater protection. There is a No Disturbance Zone (NDZ) and a No Build Zone (NBZ). In this particular case, the property is undergoing a change-in-use which means the NDZ extends 50' from the edge of wetland and the NBZ extends an additional 15'. Essentially, there is a 65' zone of protection for the wetland. The current design of the project has the closest structures (several decks and a stormwater outfall) located within the NBZ, roughly 55' from the edge of wetland. The applicant has appealed the Ipswich Zoning Board of Appeals decision to *not* waive the Local Wetland Bylaw in its entirety.

There was discussion about monumentation of the wetland resource area during the March 25, 2021 Zoning Board of Appeals meeting. The representatives of the applicant mentioned a post-and-rail fence would be an agreeable form of monumentation. There are instances in the past where an applicant has made a preliminary agreement for a post-and-rail fence but after appealing the Conservation Commission's decision, other forms of monumentation were installed. A point was made during the discussion on March 25th about installing netting along the fence to prevent debris from entering the resource area. This design is recommended with the netting at least 6" off the ground to allow for the movement of wildlife.

There is a requested waiver from the Wetland Bylaw for "monitoring of permitted work." This monitoring would include any installation and maintenance of stormwater management systems. It is recommended that this requested waiver be denied as it is supplemental to the Stormwater Bylaw. The Conservation Commission's ability to require monitoring for environmental impacts and stormwater management prevents further impacts to resource areas.

After reviewing the peer review submitted by TEC, Inc. dated January 20, 2021 titled "Essex Pastures Peer Review #2," there are unresolved matters regarding the Stormwater Management for the proposed project. The comments from the Peer Review begin on page 6 of 13. There are numerous references to "preliminary information" that will be revised through the filing of a Notice of Intent and a subsequent Order of Conditions from the Conservation Commission. The details of the Stormwater Management design and calculations should be finalized before continuing with the permitting process. In addition, the use of Low Impact Development site design and techniques must be incorporated into the project design to the maximum extent practicable, as more fully described in the Massachusetts Stormwater Handbook (Volume 1, Chapter 1, Page 4, and Volume 2, Chapter 1).

The proposed project should be held to the highest standard for the protection of environmental resources as well as the management of stormwater. Thank you for your time and consideration of these comments.

Regards,

Brendan Lynch
Conservation Agent

From:	Donald Finocchio
To:	Czepiga, Page (EEA)
Cc:	Ipswich Citizens for Sustainable Growth; Donald Finocchio
Subject:	Ipswich, MA, Essex Pastures Project, EEA# 16399
Date:	Thursday, July 29, 2021 9:14:11 AM

Good Morning,

I'm writing in support of the Ipswich Citizens for Sustainable Growth's concerns regarding the subject project.

Let me be clear, I see the concerns across our town are not to stop the project but to bring it into scale with the town. My understanding is that this project as proposed will have 191 units whereas the largest existing development is in the order of 58 units.

Ipswich has worked hard and is very close to reaching the 10% affordable housing trigger to protect it from a detrimental project like this, which is really a slap in the face for that effort if it gets approved.

I understand MEPA's concerns are environmental so I suggest that this project is not sustainable as it would overstress our already overstressed water and sewer system, police and fire departments, schools and traffic at one of the major junctions in town.

Ipswich has worked incredibly hard over the years, and been successful, at long term planning to meet affordable housing goals, to prioritize land for open space preservation and to preserve the character of our town. Again, as stated above this project is a slap in the face for all that effort.

I urge MEPA to do whatever it can within its jurisdiction to understand our concerns and help us bring this project under control. I urge you to come and visit our town to fully understand what we are trying to protect.

Regards,

Don Finocchio, P.E.

(Former engineer at MWRA, former staff of MA Board of Building Regulations and Standards, former water commissioner for Wenham, former member of Wenham Conservation Commission, former FEMA disaster team member for hurricanes Katrina, Sandy and Harvey.)

Charles D. Baker, Governor
Karyn E. Polito, Lieutenant Governor
Jamey Tesler, Secretary & CEO

massDOT
Massachusetts Department of Transportation

July 29, 2021

Kathleen Theoharides, Secretary
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114-2150

RE: Ipswich: Essex Pastures – ENF
(EEA #16399)

ATTN: MEPA Unit
Page Czepiga

Dear Secretary Theoharides:

On behalf of the Massachusetts Department of Transportation, I am submitting comments regarding the Environmental Notification Form for the Essex Pastures project in Ipswich as prepared by the Office of Transportation Planning. If you have any questions regarding these comments, please contact J. Lionel Lucien, P.E., Manager of the Public/Private Development Unit, at (857) 368-8862.

Sincerely,

David J. Mohler
Executive Director
Office of Transportation Planning

DJM/jll

Ten Park Plaza, Suite 4160, Boston, MA 02116
Tel: 857-368-4636, TTY: 857-368-0655
www.mass.gov/massdot

cc: Jonathan Gulliver, Administrator, Highway Division
Carrie Lavallee, P.E., Acting Chief Engineer, Highway Division
Paul Stedman, District 4 Highway Director
Neil Boudreau, Assistant Administrator of Traffic and Highway Safety
Metropolitan Area Planning Council
Planning Board, Town of Ipswich

Charles D. Baker, Governor
Karyn E. Polito, Lieutenant Governor
Jamey Tesler, Secretary & CEO

massDOT
Massachusetts Department of Transportation

MEMORANDUM

TO: David Mohler, Executive Director
Office of Transportation Planning

FROM: J. Lionel Lucien, P.E, Manager
Public/Private Development Unit

DATE: June 29, 2021

RE: Ipswich – Essex Pastures – ENF
(EEA #16399)

The Public/Private Development Unit (PPDU) has reviewed the Environmental Notification Form (ENF) for the proposed Essex Pastures project in Ipswich submitted by Essex Pastures, LLC ("Proponent"). The project site consists of five parcels of land totaling approximately 13.25 acres. The five parcels are located at 26-44 Essex Road ("The Project site") and is bordered by residential properties to the west, north, and east. Route 133 (Essex Road) borders the Project site to the south. The site includes Bruni Marketplace (a small mixed-use development which includes 8,500 square feet (sf) of commercial space), the Lahey Health Primary Care Ipswich facility (approximately 6,900 sf of medical office space), four apartments above the Lahey Health Primary Care building and three single-family residences. There are currently five driveways into the site (two at Bruni Market Place and three serving the single-family homes.

The proposed development Project will construct 173 residential apartment units, 18 residential townhouse style units and 1,000 square feet (sf) of additional medical office space ("Project"). Twenty-five percent of the residential units (48 units) are proposed to be affordable housing units. The Lahey Health Primary Care Ipswich facility (approximately 6,900 sf of medical office space) and four apartments located above the Lahey Health Primary Care building will remain on the site. The three single family homes and approximately 1,600 sf of commercial retail space will be razed to make way for the new development. The proposed development also includes site amenities for the residential units, including a pool, clubhouse, a maintenance building, bike storage and five detached garages. Access is proposed via two new full-movement driveways that will intersect Route 133, east of County Road (Route 1A).

The Project is expected to generate 1,662 vehicle trips per day and will include provisions for 364 parking spaces. The Project exceeds the MEPA ENF transportation threshold for trip generation and parking spaces. The Project requires a Vehicular Access Permit from MassDOT because it abuts and would be accessed from Route 133, a state highway.

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The ENF includes a transportation study prepared in general conformance with the current MassDOT/EOEEA *Transportation Impact Assessment (TIA) Guidelines.* The TIA provides an analysis of existing and future conditions of transportation conditions within the study area and includes a comprehensive mitigation program. We provide the following comments.

Trip Generation

The TIA includes trip generation estimates calculated using the Institute of Transportation Engineers (ITE)'s *Trip Generation Manual* (10th Edition). The trip generation was based on ITE Land Use Codes (LUC) 220, Multifamily Housing and LUC 720, (Medical Office). Accordingly, the site is expected to generate 1,454 daily weekday vehicle trips including 93 vehicle trips during the weekday morning peak hour and 111 vehicle trips during the weekday evening peak hour.

Safety

The ENF summarizes crash data for the continuous five-year period of 2015 through 2019 at all study area intersections and compares crash rates with the MassDOT District 4 average. The study area intersections are not experiencing any crash rate above the state and District 4 averages and there are no identified Highway Safety Improvement Program (HSIP)-eligible clusters near the Project site.

Traffic Operations

In the TIA, the Proponent provides a comprehensive analysis of the study area intersections for the 2020 existing, 2027 No Build, and 2027 Build conditions. The study area includes eight intersections, including the project site driveways. We generally concur with the study area intersections based on the trip distribution and trip assignment.

According to the TIA capacity analysis, all the intersections within the study area are expected to operate at acceptable levels of service (LOS) and delay during the weekday morning and weekday evening peak hours. The one exception is the intersection of Route 1A with Route 133, which is expected to experience slight worsening of already poor conditions during the weekday morning and evening peak hours. To address these impacts, the Proponent has committed to monitor this intersection 12 and 24 months after issuance of the Final Certificate of Occupancy for the Project. If the resulting measured average delay for the critical movements at the intersection (left turns from Route 133 to Route 1A) exceeds 50 seconds, the Proponent will commit to providing design plans for the signalization of the intersection. MassDOT appreciates the Proponent's offer to improve this intersection; however, we would want to make sure that signal warrants are met or to evaluate alternative designs such as a round-about prior to implementing signalization. In addition, we would also want to evaluate if there are minor geometric improvements that could be implemented at this intersection to address existing conditions.

Multimodal Access and Facilities

Access to the Project site will be provided by way of two driveways that will intersect the north side of Route 133. The driveways will be designed in accordance with MassDOT design standards and provide accommodations for all users. Secure bicycle parking will be provided within the site.

The TIA did not address pedestrian the site connectivity with the sidewalk system along Route 133. The Proponent should ensure that the site design provides adequate on-site pedestrian and bicycle facilities that connect to Route 133. In addition, the Proponent should work with MassDOT to evaluate the feasibility of providing a bike facility from the Project site to the Route 1A/Route 133 intersection. There currently may be sufficient width for an on-road bike lane using the existing shoulder.

According to the TIA, the Massachusetts Bay Transportation Authority (MBTA) currently provides transportation services at the nearby Ipswich Station along Peatfield Street. The Proponent should post in key locations in the development a map and schedule of MBTA services or other services within the area. The Proponent should consider providing a shuttle service between the site and the MBTA station if demand warrants.

Transportation Demand Management (TDM) Program

In the ENF, the Proponent provided a detailed TDM program with the goal of reducing vehicle trips by residents and employees of the project. The program includes:

- A transportation coordinator will be responsible for overseeing the TDM program.
- Ridesharing-The Proponent will promote ridesharing to its tenants by way of carpools. Information regarding carpooling and its benefits will be distributed to all residents and posted in common areas.
- Carpool Parking Spaces-Two parking spaces will be designated as “Carpool Only”. Signage will be provided for each space clearly marking them as carpool spaces only.
- Bicycle Facilities-Provide secure bicycle racks, which provides the cyclist with a degree of comfort, knowing their bicycle is safe, and as such more likely to be used as a means of travel to/from work or for recreation.
- Carsharing-Explore the potential to provide one parking space reserved for carsharing services.

Traffic Monitoring

The Proponent, in consultation with the Town of Ipswich, will conduct a traffic monitoring and reporting program which will include a survey of residents and employee participation in the TDM program. The traffic monitoring program will include measuring traffic volumes at the access points to the project over a continuous 7-day, week-long period

and will be conducted at 12 and 24 months after issuance of the Final Certificate of Occupancy for the Project. This monitoring will also include the intersection of Essex Road and County Road.

MassDOT recommends that no further environmental review be required based on transportation-related issues. The Proponent should continue consultation with the Town of Ipswich and appropriate MassDOT units, including PPDU and the District 4 Office, to finalize the permitting process for the project. If you have any questions regarding these comments, please contact me at *Lionel.Lucien@dot.state.ma.us*.

From: RMStout
To: Czepiga, Page (EEA)
Subject: Essex Pastures Issues
Date: Thursday, July 29, 2021 8:10:37 AM

We happen to be traveling in Uganda just now and have limited Internet access. But as Ipswich residents who do not want to see the town's character irremediably damaged or stand by as the town's infrastructure and already threatened water supply become seriously overburdened, we must object to the proposed development known as Essex Pastures. Ipswich Citizens for Sustainable Growth has done a good job of enumerating the many strikes against Essex Pastures, which feels not unlike a hostile takeover.

We would very much appreciate your careful scrutiny of this proposed project's shortcomings, especially the environmental issues within your purview.

Thank you,
Richard and Martha Stout
Ipswich Residents

Sent from my iPad