



600 Unicorn Park Drive ♦ Woburn, MA 01801  
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## TECHNICAL MEMORANDUM

**TO:** Mr. Bob Gambale, Chair Ipswich Zoning Board of Appeals  
**FROM:** Bree D. Sullivan, P.E.  
**DATE:** July 18, 2019  
**RE:** Essex Pastures - Site Plan Revisions and Responses to Questions  
Essex Road, Ipswich, MA

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This memorandum has been prepared to provide a summary of the plan revisions and to respond to questions since the last submittal.

### **General**

The project proponent and Civil Engineer are scheduled to meet with the Fire Chief on Tuesday July 23, 2019 to discuss fire department requirements.

The project proponent has contacted the interim Conservation Agent, Bill Decie, via email to schedule a meeting to discuss the project with respect to the Wetlands Protection Act.

### **Site Plan**

1. Accessory structure setbacks have been updated.
2. A sign has been added to the west site entrance.
3. Added material details for guardrail on top of retaining wall adjacent to open space area. The guardrail will consist of 6" x 8" x 6' posts spaced 8 feet on-center with 4" x 10" timber rails (see photo included with submittal).
4. A scaled retaining wall section drawing showing planting screening and vinyl fence location has been added (included with submittal).
5. Gravity retaining wall photos have been included.

### **Wastewater Infiltration and Inflow Requirements**

*A question was posed about the project's wastewater generation and applicability of certain standards with respect to Infiltration and Inflow (I&I).*



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MassDEP is the permitting authority for Sewer Extensions and Connection Permits (314 CMR 7.00) and Operation and Maintenance Standards for Wastewater Treatment Plants (314 CMR 12.00). The permit is typically issued to the owner and/or operating authority of the sewer system or treatment works. MassDEP retains individual permitting authority over certain industrial wastes over 25,000 gpd.

Essex Pastures does not meet the requirements for filing a permit with MassDEP. As provided in 314 CMR 7.05 Activities Not Requiring a Permit:

*(1)(a) 2. The sewer extension has been permitted by the local or regional sewer authority and the permittee for such extension is in compliance with the local or regional permit, including, where applicable, any infiltration/inflow removal requirements contained therein;*

The permittee in this case is the Town of Ipswich. The existing on-site sewer pump station has sufficient capacity to accommodate the sewage flow from the proposed development. Since the existing sewer connection to the municipal system was permitted through the Ipswich Utilities Wastewater Department, and the connection meets the Town's requirements, no further action is required other than a new application with the Ipswich Utilities Wastewater Department for the increase in sewage flow. There are no industrial wastes proposed, so the development will not be required to file an individual discharge application for industrial waste.

Under 310 CMR 12.00 – Operation and Maintenance Standards for Wastewater Treatment Plants, specific standards are included for addressing system I&I (emphasis added):

*12.04: continued (2) All **sewer system authorities** shall develop and implement an ongoing plan to control infiltration and inflow (I/I) to the sewer system, which shall be submitted upon request of the Department for review and approval. The plan shall describe the preventative maintenance program that identifies and mitigates infiltration/inflow entering the sewer system in order to prevent all unauthorized discharges of wastewater, including, but not limited to, sanitary sewer overflows and by-passes due to excessive infiltration/inflow.*

The entirety of 310 CMR 12.00 applies to system operators and Industrial discharge permittees. The Town is mandated to have an Infiltration and Inflow (I&I) program as part of their Collection System Operation and Maintenance Procedures as a condition of their discharge permit. I reviewed the Town of Ipswich Sewer Regulations and found no user-level Infiltration and Inflow requirements or fees.



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The proposed development will fully comply with the Infiltration and Inflow provisions of the Ipswich Stormwater Regulations.

### **Water Supply**

The existing 6-inch water main on Essex Road is currently not sufficient to supply the required fire flow for the existing site as well as the existing neighboring properties because of severe corrosion (tuberculation) within the existing water main that reduces the pipe diameter and slows the flow of water. The Town is responsible to provide adequate fire flow.

Replacing the pipe with a new 8-inch main, as proposed by the developer, will provide the required fire flow for the site as well as the neighborhood.

### **Landscaping and Irrigation**

The proposed landscape plantings have been selected for their drought-tolerance. After installation, nearly all plantings have an establishment period where they require a moderate amount of water. This will be accomplished with a separate water distribution system with a separate water meter that will allow for watering the landscaping during the critical 1-2 year establishment period. The distribution system will only be used in strict adherence with the Town's water ban regulations. During a water ban, the irrigation water meter can be turned off and water will be supplied by tanker truck to the distribution system via an auxiliary supply connection. Once the landscaping is established, the distribution system can be deactivated.

Turf-type grasses will consist of a fescue turf grass mix.

Organic landscape practices will be investigated.

### **Pavement De-icing Practices**

We investigated possible solutions to address the de-icing concerns raised in the March 18, 2019 letter to the ZBA from the Ipswich River Watershed Association. We consider the stormwater design an important factor in our investigation process. The project stormwater treatment BMPs will exceed the State requirements with regard to treatment efficiency. In addition, because the site is considered a Land Use with Higher Pollutant loading (LUHPL), additional measures of protection for the groundwater have been implemented as part of the stormwater management plan. Since the project is not located within any critical areas as defined in the stormwater standards and the pavement runoff will be well-treated, one possible option is using a salt-sand mix rather than all salt. This will



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reduce the total salt required for de-icing when compared to salt-only application. Other de-icing options will be considered based on local availability and cost.