



**133 Keyes Road  
Concord, MA 01742**

**DATE: November 13, 2020**

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**MEMORANDUM**

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**TO:** Delia Kaye, Natural Resources Director  
**COPY:** Alan Cathcart, Director of Public Works  
**VIA:** Steve Dookran, PE, Town Engineer  
**FROM:** Justin Richardson, PE, Assistant Town Engineer  
**SUBJECT:** Notice of Intent Stormwater Review for Middlesex School for reconstruction of athletic fields with Synthetic Turf Fields.

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Concord Public Works (CPW) Engineering Division has reviewed the application and supplemental documents with a revised date of October 23, 2020 and submitted for Notice of Intent Stormwater review. The Engineering Division offers the following:

1. On Sheet L100 in the South East (lower left corner?? of the sheet) there is an oval shaped feature that the limit of work line runs directly through. Please label this feature.
2. Are the existing water lines under the southerly fields staying in place and in service? Are they to be used on the new fields for cooling in the summer?
3. On Sheet L140 there are two "0.5% 12" Flat Drain Typ." labels and arrows indicating flow on the Northerly fields but one appears to be in the wrong location and direction. Please clarify the labels.
4. The Stormwater Report States "Since there will be no increase in impervious area, post-development (post-improvement) peak discharge rates will not exceed pre-development (pre-improvement) peak discharge rates." However, in larger rain events the piping underneath the new synthetic field could result in the faster transmission of stormwater to the outfall thus changing the time of concentration which could increase the rate of discharge. The piping system can also reduce the amount of recharge that is occurring in this area because the stormwater flows in the pipes more easily than it can recharge. As a result, Stormwater calculations should be provided for the required storm events to prove that the pre-development peak rate and volume to the wetland are not exceeded in the post-development condition.
5. It appears that infiltration is being promoted in the perforated HDPE piping round the field. Has soil testing been performed on site with a Town representative present to observe the testing and groundwater elevation? If the perforated pipes are installed in areas where less permeable soil is located the field infiltration will be reduced.
6. The southeast corner of the field is in approximately 3 feet of cut, and the bottom of the perforated piping system is an additional 3.5 feet deeper than that, which would mean for the



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system to work correctly and not be continually draining groundwater that soil testing should be performed in this area with a Town representative present to observe the testing.

7. On Sheet L140, two new outfalls are proposed with level spreaders. Please provide flow rates and discharge velocities using the rational method for these outfalls.
8. On Sheet L140, two 40 LF stone trench level spreaders are proposed in two locations. Please provide a detail of the level spreader.
9. On Sheets L140 and L504, it is unclear which manhole and catch basin structure is proposed along the perforated Drain line. Structure labels are "AD#..." but AD is not included in the Legend. Please clarify which detailed structures are being used at each drainage structure location.
10. On Sheet L141, is there no drainage system under the synthetic Infield? The Detail on Sheet L501 appears to require a Flat Drain.
11. The Engineering Divisions reserves the right to comment on future submittals related to any new or previously submitted information provided to the Town for review.