KREBS & LANSING
CONSULTING ENGINEERS

Memo

164 Main Street, Suite 201 | Colchester, Vermont | P: (802) 878-0375 | email@krebsandlansing.com

Date: November 18, 2019

To: Amy Minor, Superintendent

From: Scott Homsted

Re: Union Memorial School On-Site Wastewater Disposal System

Krebs and Lansing has performed a review of changes to the State of Vermont Environmental Protection Rules in regards to design flows for schools. These changes went into effect in April of 2019. We offer the following comments regarding the changes in design flows and how they impact Union Memorial School.

- Prior to the rule change, the Agency of Natural Resources design flows for wastewater disposal systems prescribed a design flow of 20 gallons/student/day for schools with a cafeteria and no showers and 15 gallons/day for staff members. Experience and flow metering indicated that these values were high relative to the actual water/wastewater use at schools. Over the years, we used flow meter data to somewhat reduce the design flows, and thus the size of the wastewater systems, for certain school projects. This required months of data collection and negotiation with the State.
- The permitted design flow for Union Memorial School is 6,980 gallons/day. This was based on a capacity of 319 students and 40 employees.
    - (319 students) x (20 gal/student/day) + (40 employees) x (15 gal/employee/day) = 6,980 gpd.
- Projects with design flows greater than 6,500 gallons/day are subject to State permitting through the Indirect Discharge Rules.
- The current rules specify a design flow of **8 gallons**/student or employee/day for a school "grades pre-school through 8 with cafeteria and without showers".
- Using the same capacity as previously permitted, a system under the current wastewater rules would have a design flow of (359 students or employees) x (8 gal/student/day) = 2,872 gpd.
- Projects with design flows less than 6,500 gpd are permitted through the Wastewater System and Potable Water Supply Rules, commonly referred to as "WW permits". Obtaining a WW permit is less rigorous and less time consuming practice than obtaining permits through the Indirect Discharge program.

The changes noted above have the potential to benefit the School District in several ways relating to a possible renovation at Union Memorial School, summarized below:

- Using the current design flows, it should be possible to add students/staff to the school while staying under the permitted design flows for the existing wastewater disposal system. If a

building expansion is involved, an area for a replacement wastewater system will need to be designated, but it would not need to be constructed until the existing system fails.

- Any new system, even with additional flows, could be permitted under a WW permit rather than an Indirect Discharge permit. This is typically an easier, less time consuming task.
- Any new or replacement system will have a smaller footprint than previously envisioned due to the reduction in design flows. This could preserve space for playgrounds, parking, stormwater treatment etc.

Please contact us if you have questions or comments regarding this matter.

Submitted by,

Scott Homsted

Scott Homsted

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