December 19, 2025

Nate Guerette
City of Laconia
45 Beacon Street E
Laconia, NH 03246

STORMWATER MANAGEMENT REPORT REVIEW LETTER

Laconia Village, Laconia, NH
HEB Project #2025-027

Dear Nate,

HEB Engineers, Inc. (HEB) has completed our review of the Stormwater Management Report for Laconia Village, prepared by TFMoran, Inc. (TFM) on August 28, 2025. The report provided was noted to be a "Master Planning" level design, and HEB's role was to review the report and analysis provided for general conformance with applicable City and State standards and industry practices.

HEB has found that the submitted conceptual information doesn't appear to adversely impact property, in comparison to the pre-development condition, from a hydraulic perspective. More detailed information will be required to determine if the proposed stormwater plan is acceptable, but the methodology generally follows current Alteration of Terrain Permit (AoT) processes.

PRE-DEVELOPMENT ANALYSIS COMMENTS

HEB reviewed the Stormwater Report and compared information supplied with the HydroCAD and CAD data. We have confirmed that the pre-development model was prepared in conformance with industry standards and best practices.

As part of our review, HEB reviewed the subcatchment areas in CAD and compared them to the values entered into HydroCAD; they all generally matched. The Time of Concentration (Tc) paths were also compared and are all within reason. Lastly, HEB reviewed the Curve Numbers (CN) and compared them to the existing conditions. The CNs also appear to be reasonable based on existing cover types. HEB did not "recreate" any of the factors. Additionally, HEB conducted a review of the recently published NHDES Stormwater Manual and conducted a desktop review of possible wetlands, local overlay districts, and zoning regulations that may be present on site and have an impact on stormwater management.

POST-DEVELOPMENT ANALYSIS COMMENTS

The post-development requirements are dependent on the pre-development conditions. The volume of water leaving the site in the future condition must not exceed the existing condition. To ensure this, a new analysis with the additional impervious areas of development and new stormwater control measures to offset the impervious development areas is run.

Similar to the pre-development analysis, the methodology is generally acceptable; however, there are some items that are not verifiable. HEB has determined the analysis is acceptable for a planning-level concept, knowing that additional information will need to be provided as the project advances into a full-scale design. Additional notes/requirements listed below:

1. Many of the proposed catchment areas have user-defined curve numbers but no backup information to show how the CN was determined. The proposed building footprints, parking lots, etc., are not shown. This backup information will need to be provided.
2. Many of the Tc paths/times are direct entry. Many are 6.0 minutes, which is often used as a minimum, but many are also 10.0 minutes. Provide backup information for how the Tc's were developed.

DETAILED REPORT SPECIFIC COMMENTS

1. Methodology
    a. The report notes SCS Soil Survey data for Belknap County was utilized. This should be updated to note NRCS.
    b. The report notes all soils are Hydraulic Soil Group C or C/D; however, there are also B and D soils. Update the text to match the soil map provided.
    c. The existing drainage infrastructure is noted to be in poor condition and will be replaced as part of the project. Existing infrastructure is not clearly labeled or shown on any plans. Does this include the POA structures? Clarify what will be replaced as part of the project.
        i. Additional coordination with NHDOT may be required to determine their preferred methods and materials and to design and install the infrastructure to accommodate any planned work within the NH-106 Corridor.
2. Rainfall Intensity
    a. The rainfall intensity is based on values obtained from Northeast Regional Climate Center (NRCC). This currently meets AoT requirements, but the NHDES Stormwater Manual, which is a guidance document developed through a Clean Water Act grant, notes using Atlas 14, which includes more extreme weather events rather than just historical weather events, would provide for a more resilient design.
3. Soil Map
    a. Please verify street labels on the Roadways on soil maps.
4. Extreme Precipitation Tables
    a. Per Section 4.8 of the 2025 Stormwater Manual, Atlas 14 Rainfall data should also be reviewed, and the highest value between NRCC and Atlas 14 used. See comment #2 above.
5. Drainage Analysis (HydroCAD Output Data Sheets)
    a. HydroCAD output provided shows that Type III 24-hr rainfall events were used. These are based on old data. Atlas 14 rainfall data should be used per the 2025 Stormwater Manual.

AoT REQUIREMENTS

The following information is needed to meet AoT requirements:

1. Test pits are required to determine the estimated seasonal high-water table. This could affect what drainage practice(s) are viable.
2. Site Specific Soil Mapping will be required and may indicate different hydrologic soil groups than shown on the soil maps from NRCS. Ultimately, this may change the curve number and ripple through drainage practices and their analysis points.
3. Many of the proposed stormwater management practices include infiltration, which is dependent on in-situ soils. The modeling utilized relatively conservative values; however, no backup information for soil infiltration rates was provided. Additional field evaluation and testing of the soils may reveal infiltration is not acceptable.
4. Stormwater BMP worksheets will be required.
5. Wetlands are not identified or lack thereof noted anywhere in the report.

NEXT STEPS

At a conceptual level, this stormwater planning is acceptable. As noted in this letter and at some locations in the report, additional information will be required to complete the design. Upon completion of further field investigations and updates to the design, HEB can further review to ensure compliance.

If you have any questions or would like to discuss this matter further, please do not hesitate to contact me.

Sincerely,
HEB Engineers, Inc.

Jordan Pike, PE, PTOE
Senior Transportation Engineer

Copy: Kirk Beattie – City of Laconia City Manager
Wesley Anderson – City of Laconia Public Works Director
Rob Mora – City of Laconia Planning Director
Tyler Carmichael – City of Laconia Planning Assistant Director
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