YANTIC RIVER CONSULTANTS, LLC

May 3, 2021

Mr. Joseph Wagner, Wetlands Agent
Andover Inland Wetlands and Watercourses Commission
17 School Road
Andover, CT 06232

RE: IWWC 20-36 26 Old Farms Road

Dear Mr. Wagner,

The Inland Wetlands and Watercourses Commission requested that I perform a review of the revised site plan and application documents associated with the above referenced application. The purpose of my review was to evaluate potential upstream impacts and flooding concerns associate with the new crossing.

I performed a review of the following documents:

1. Plan set entitled "Correia-Lotecka Acres, Application for 2 Lot Open Space Resubdivision & Special Permit for 2 Rear Lots, 26 Old Farms Road / Pine Ridge Drive, Andover, CT, Assessor's Map 28, Block 7, Lot 6-23, Total Resubdivision Area 13.86 Acres", Sheets 1 through 6 of 6, dated 8/12/2020, as revised through 3/10/2021.
2. Construction Sequence
3. Letter from REMA Ecological Services, LLC, dated February 26, 2021.
4. Letter from Robert and Florence Dube, dated April 8, 2021.

COMMENTS

1. On 4/19/21 I performed a preliminary review of the application documents and requested that hydrologic and hydraulic calculations be submitted, which are necessary for a review of the impact of flooding:
    a. On 4/29/21 I received an engineering report providing hydrologic and hydraulic information for proposed conditions. This report confirms that the proposed driveway crossing passes the 100-year storm event without overtopping. However, to evaluate the impact of flooding, a comparison of existing and proposed conditions is necessary. A follow-up email was sent on 4/29/21 requesting the following:
        i. Analysis of existing conditions
        ii. Comparison of existing and proposed conditions
        iii. Description of flooding impacts (if any)
        iv. Measures to mitigate impacts
        v. Conclusion and certification by applicant's engineer.
2. On 5/3/21 I received follow-up email including documents related to existing hydrologic and hydraulic conditions at or near 52 Pine Ridge Drive. The email chain includes a conclusion by

Karl F. Acimovic, PE & LS that the hydraulic grade line for the 100-year storm at the proposed crossing is well below the existing HGL at 52 Pine Ridge Drive.

Given the relatively small watershed and steep channel profile (2% +/-) I would anticipate convergence of existing and proposed water surface elevations 400' upstream at 52 Pine Ridge Drive. However, sufficient information was not provided to evaluate the potential impact of flooding on the local area, in particular near the crossing. The following information is requested.

a. Detailed hydrologic calculations within the limits of the study. Confirmation on the type of storm and source of rainfall data should be provided.

b. Evaluation of existing and proposed conditions downstream and upstream of the crossing to the point of water surface elevation convergence.

c. Comparison of existing and proposed water surface elevations and velocities. The comparisons should be provided at reasonable intervals upstream and downstream of the crossing to evaluate impacts at various locations and should be made on a vertical datum consistent with the plans.

d. Any increases in water surface elevations or velocities as a result of the crossing should be evaluated and impacts described.

e. A description of measures to mitigate adverse impacts.

f. An Engineering Report should be submitted with the above data and provide a conclusion as to the impacts of the proposed crossing on upstream and downstream properties, measures to be employed to mitigate any adverse impacts, and provide professional certification for the file.

Should you have any questions, please don't hesitate to contact me at (860) 367-7264.

Sincerely,

Brandon Handfield, PE
Civil Engineer