

March 12, 2025

Ms. Gloria Norcross, Town Planner
Amherst Community Development Office
2 Main Street
Amherst, New Hampshire 03031

Subject: **Subdivision of the Land of Robert H. Jacobson Revocable Trust**
 “Jacobson Farm”; Map 5 – Lots 100 & 148
 Christian Hill Road – Amherst, New Hampshire
 KNA Project No. 24-1118-5

Dear Gloria:

At the request of the Amherst Planning Board, we have completed an initial review of project plans and supporting documents submitted by or on behalf of the applicant in the subject matter. To date, we acknowledge receipt of copies of the following documents which were the subject of our review:

- A letter of transmittal addressed to this office prepared by the applicant’s consultant on January 15, 2025.
- Two separate waiver requests, with attachments, each addressed to your office and prepared by the applicant’s consultant on November 04, 2025.
- A Stormwater Management Report dated January 14, 2025.
- A Groundwater Resource Assessment dated February 12, 2020.
- A Fiscal Impact Analysis dated May 30, 2023.
- An Environmental Impact Assessment dated December 2024.
- A Site-Specific Soil Map Report dated October 29, 2024.
- A Wetland Buffer Determination Report dated October 29, 2024.
- A Traffic Impact and Site Access Study dated May 2020.
- Project Plans (43 drawings) dated November 04, 2024.

Based upon consideration and review of the specified documents we offer the following comments and recommendations at this time:

General Comments

1. As acknowledged on the Cover Sheet to the drawings, this proposal necessitates receipt of the following state agency permits: (a) NHDES Subdivision Approval; and (b) a NHDES Alteration of Terrain Permit. We recommend receipt of each permit prior to or as a precedent condition of application approval.

2. We recommend the expansion of the drawings to indicate whether the proposed interior streets (Jake's Hill Road & Lillian Way) are intended for public dedication or remain private ways.
3. We anticipate the proposed composition and configuration of this planned residential development will necessitate preparation and recording of a declaration of covenants, easement and restrictions, as well as other legal instruments of the variety described at Section 210.2.C of the Subdivision Regulations. If so, to satisfy the requirements of that Section, we recommend submission of a draft copy of each such document for consideration and review by Town Counsel.
4. We recommend application approval be subject to a subsequent condition requiring that the applicant comply with applicable provisions of Section 211 of the Subdivision Regulations.

Zoning Matters

1. As acknowledged by Permits/Approvals Note No. 1 on the Cover Sheet, the Planning Board previously granted a Conditional Use Permit (CUP) for Planned Development. Consistent with that approval, the current application has been advanced for the purpose of seeking subdivision/Residential Planned Development (RPD) approval.
2. As acknowledged by Permits/Approvals Note No. 3 the applicant seeks Planning Board approval of a CUP, pursuant to Article IV – Section 4.11.H of the Zoning Ordinance, to permit a series of wetland buffer impacts. We recommend the expansion of the drawings to identify the location and estimated area of each proposed buffer impact.

Planning/Design Matters

1. We recommend a Licensed Land Surveyor, Licensed Professional Engineer, Certified Soil Scientist and/or Certified Wetland Scientist seal all final drawings as applicable.
2. The word “Master” is misspelled in the title of Sheet 3 referenced in the Index of Sheets provided on the Cover Sheet. The word “to” is misspelled in Waiver Note No. 2 on the Cover Sheet.
3. Based upon review of Sheet 3 we offer the following remarks: (a) abutting Lot 5-101 is misidentified as Lot 5-105; (b) the location of abutting Lot 5-91 should be identified; (c) we recommend the addition of a note indicating the ownership of each abutting parcels is specified on Sheet 11; (d) we recommend labeling Spaulding Road; and (e) we recommend the expansion of the NRCS Soil (mapping) Legend to include PfC, LvA, and ReB soil mapping units.

4. We recommend the expansion of Sheets 4 through 7 (Topography & Soils Plan) to depict and define wetland buffers situated on those portions of the premises situated beyond the limits of Site-Specific Soil Survey Mapping.
5. We recommend labeling proposed street names (Jake's Hill Road and Lillian Way) on all applicable drawings.
6. Note No. 6 on Sheet 9 indicates a portion of subject Lot 5-148 is situated in a Special Flood Hazard Area. We recommend the expansion of each applicable drawing to identify the location(s) of the same.
7. Based upon review of Sheets 10 and 11 (Subdivision Plan) we offer the following remarks:
 - We recommend labeling the name and right-of-way width of each proposed street.
 - We recommend labeling Christian Hill Road together with a note indicating it enjoys Class V status.
 - We recommend rechecking/correcting individual frontage length values in the lot geometry tables provided on the drawings.
 - We recommend rechecking/correcting boundary course length dimensions on the northerly lines of future Lots 5-148-1 (121.50 feet) and 5-148-13 (35.21 feet) as their cumulative length dimension (156.71 feet) does not equal that reported (156.77 feet) on Sheet 11.
 - We recommend the expansion of the drawings to depict and define each proposed easement or right-of-way intended to benefit or encumber the premises.
 - We recommend the expansion of the abutters list provided on Sheet 11 to include Map 5 – Lot 91.
 - The lengths of segments L6 through L10 indicated on Sheet 11 appear to be presented in reverse order.
 - We recommend identification of the approved street addresses for each future parcel on the final drawings.
 - We recommend the expansion of the drawings to depict and define all applicable minimum yard, setback and buffer dimensions required under applicable provisions of the Zoning Ordinance.
8. Based upon review of Sheet 12 (Condominium Site Plan) we offer the following remarks:
 - We recommend the expansion of the drawing to depict and define each proposed easement or right-of-way encumbering or benefiting the future condominium parcel.
 - We recommend the expansion of the drawing to fully satisfy applicable requirements of RSA 356-B:20.
 - The word "plane" is misspelled in Note No. 5 on the drawing.
 - We recommend limiting the context of Note No. 8 to future Lot 5-148-3.

9. We recommend the expansion of the proposed Phasing Plans (Sheets 15 & 16) to include a narrative defining the extent and variety of infrastructure improvements and amenities intended to be constructed with each sequential phase of development.
10. We recommend the expansion of Sheets 17, 18 and 22 through 31 to identify a minimum of one elevation control point (temporary benchmark).
11. Based upon consideration and review of design plans for the construction of Jake's Hill Road (Sheets 17 & 18) we offer the following remarks:
 - We recommend labeling the proposed street name on the drawing images and title blocks.
 - We recommend the expansion of the drawings to label the design radius dimensions of pavement curves and flares at the intersection with Christian Hill Road and within the proposed cul-de-sac.
 - We recommend the expansion of Sheet 17 to specify installation of a MUTCD R1-1 "stop" sign and street name sign.
 - Finish grade contours shown on Sheet 17 suggest there are several locations where 2:1 fill embankment slopes are planned. Guardrail installation is required at all locations having fill embankment slopes steeper than 3:1.
 - We recommend the expansion of the drawings to specify installation of streets bounds/monuments as needed to define the limits of right-of-way.
 - We recommend labeling additional finish grade elevations on the drawings.
 - We recommend identifying the location(s) of proposed underground utility installations on the drawings.
 - We recommend the addition of a note citing the requirements of Section 305.3 of the Roadway & Utility Standards pertaining to avoidance of right-of-way obstructions.
 - Section 302.6.A of the Roadway & Utility Standards requires new streets to be constructed with a vertical alignment which affords not less than 200 feet of stopping sight distance. Design K-values for most vertical roadway curves on Jake's Hill Road are too low to fulfill this requirement.
 - To satisfy Section 306.2 of the Roadway & Utility Standards detailed roadway cross-sections must be included with the drawings.
 - A typical cross-section of proposed roadway construction is provided on Sheet 32. We note pavement width, shoulder width, ditch-line geometries and embankment slopes graphically shown on Sheets 17 and 18 appear to vary from the typical. We recommend reconciliation of these discrepancies.
 - Further, the typical cross-section specifies open drainage with roadside ditches. Why then do Sheets 17 and 18 specify catch basin installations 10 feet to the left and right of centerline typically consistent with a curbed roadway section. Again, we recommend reconciliation of this discrepancy.

12. Based upon review of analysis and design of stormwater management provisions for the proposed development we offer the following remarks:

- Drainage Pipe and Structure Schedules are provided on Sheet 13. For improved storm sewer hydraulics, we recommend adjustment of invert elevations of inflowing and outflowing pipes of varying diameter to have matching crown elevations. As an example, pipe diameter across structure CB 307 changes from 15 to 18-inches. At this structure we recommend the invert-out elevation of the 18-inch pipe be set 0.25 feet (or 3-inches) lower than the invert-in elevation of the 15-inch diameter pipe.
- Similarly, we recommend providing a vertical drop of not less than 0.10 feet between inflowing and outflowing pipes of equal diameter at a single structure. We recommend invert elevations at several structures (such as DMH-1) be adjusted accordingly.
- The Drainage Structure Schedule reports an invert-out elevation at CB-303 of 324.75. We believe the correct elevation is 325.75.
- We recommend the expansion of the Drainage Structure Schedule to provide design information for proposed DMH-2.
- We recommend the expansion of Sheets 17 & 18 to label and provide relevant design data for all proposed drainage improvements.
- As shown on the drawings, several proposed stormwater management basins have been designed with 2:1 interior and exterior embankment slopes. For both long-term stability and ease of routine maintenance we recommend embankment slopes of not greater than 3:1.
- The roadway profile on Sheet 18 illustrates proposed underdrain. Similar graphics are omitted on Sheet 17.
- Catch basin CB-301A is mislabeled as CB-301 in the profile on Sheet 18.
- Design elevations for CB-301B provided on Sheet 18 suggest storm drain exiting this structure will enjoy less than 1.5 feet of soil cover. For frost protection we recommend providing not less than 3 feet of soil cover over storm drain situated beneath paved roadway surfaces.
- We recommend the design engineer consider the need for outlet protection at each proposed storm drain discharge point.
- We recommend revision of the typical underdrain detail provided on Sheet 32 to match that included with Figure 2 to the Roadway & Utility Standards.

13. We recommend the expansion of the Stormwater Management Report to include:

- A narrative and exhibits sufficient to demonstrate compliance with stormwater management performance criteria (quantitative and qualitative) specified under Sections 4 & 5 of the Amherst Stormwater Regulations.
- Documentation necessary for fulfillment of applicable requirements of Sections 7 & 8 of the Amherst Stormwater Regulations.
- An inspection and maintenance manual.

14. The proposed vertical alignments of Jake's Hill Road and Lillian Way at approaches to Christian Hill Road do not comply with Section 302.5.B (1) of the Roadway & Utility Standards. A waiver from this requirement has been requested for the Jake's Hill Road approach. Although we could support approval of the requested waiver at Jake's Hill Road provided the Public Works Director is not opposed, we cannot support approval of a similar request for the Lillian Way approach given lack of any platform prior to commencement of a -6.0-percent vertical tangent.
15. We recommend the expansion of the typical roadway cross-sections provided on Sheet 32 to specify installation of not less than 12-inches of sand (304.1) above bedrock/ledge.
16. Section 310.H.13 of the Roadway & Utility Standards requires a minimum tangent length (horizontal separation) between successive driveways intersecting with a street of 100 feet. Proposed placement of several driveways intended to intersect with Christian Hill Road do not conform with this standard. Specifically, as shown on Sheets 22 through 31, nonconforming horizontal separations are planned between driveways at the following locations: Lots 5-148-10 & 5-148-11; Lots 5-148-3 & 5-148-4; and Lots 5-148-1 & 5-148-2.
17. Sheets 22 through 31 illustrate placement of homes with customary site improvements and common infrastructure improvements on individual residential lots. We recommend the expansion of these drawings to include the following information: full and complete design information for proposed stormwater management improvements; erosion and sedimentation control; installation of amenities; match-lines; test pit locations; the labeling of finish grade contour elevations; a septic system installation at Lot 5-100-9; and the extent of what appears to be numerous required public and private easements and cross easements. Upon receipt of updated drawings, we will resume detailed review of proposed improvements.
18. We note the applicant has requested a waiver related to cul-de-sac geometry. In making this request the applicant's consultant correctly acknowledged an "inconsistency" between design dimensions specified in Table 3-1 and corresponding Figure on Page 3-10 of the Roadway & Utility Standards. Given the ambiguity created by this inconsistency we can support approval of this waiver request provided neither the Public Works Director nor Fire Department objects.
19. Sheets 32 through 41 of the drawings include a series of typical construction details. We recommend reconciliation of these details with design plans provided on Sheets 17, 18 and 23 through 31 and in addition, provide callouts on the drawings referencing applicability of specific details at appropriate locations.

Amherst Community Development Office
March 12, 2025

We trust you will find the foregoing comments and recommendations useful in your continued consideration and review of the subject application. As always, please contact this writer in the event you should have specific questions or further instructions.

Sincerely:

Steven B. Keach, P.E.
President
Keach-Nordstrom Associates, Inc.