

March 16, 2021

Groton Planning Board
c/o Mr. Takashi Tada
Land Use Director/Town Planner
Town of Groton
173 Main Street
Groton, MA 01450

RE: Nitsch Project #13346.12
Hayes Woods Subdivision
Definitive Subdivision and
Flexible Development Plan Review
Groton, MA

Dear Planning Board Members:

Nitsch Engineering has received and reviewed the following documents:

1. The Definite Subdivision and Flexible Development Plan (the Plans) entitled "Definite Subdivision and Flexible Development Plan, Groton, MA, Hayes Woods" (24 sheets), dated February 10, 2021, and prepared by Dillis & Roy, Civil Design Group;
2. The Fire Truck Turning Plans entitled " Fire Truck Turning Exhibit, Hayes Woods – Maple Ave, Groton, Massachusetts" (6 sheets), dated February 10, 2021, prepared by Dillis & Roy, Civil Design Group.

Nitsch Engineering has reviewed the Plans to determine conformance to the following:

1. "Zoning Bylaw", Chapter 218 from the Code of the Town of Groton, latest version; and
2. "Subdivision Rules and Regulations", Chapter 381, Part 1 from the Code of the Town of Groton, latest version.

Nitsch Engineering is also conducting a stormwater review of the project. Our comments on the stormwater design have been provided under separate cover to the Earth Removal Stormwater Advisory Committee.

WAIVERS REQUESTED BY THE APPLICANT

1. Section 381-10.B.(5) – A waiver is being requested to eliminate the curbing requirement.
2. Section 381-11.C.(1) – A waiver is being requested to allow plastic drainage pipe in lieu of reinforced concrete.
3. Section 381-13.A. – A waiver is being requested to remove the sidewalk requirement.
4. Section 381-13.D. – A waiver is being requested to eliminate the curbing requirement.

Based on this review, Nitsch Engineering offers the following comments:

ZONING BYLAW

1. Section 218-6.3.G states that each lot shall be capable of containing a one-hundred-fifty-foot-diameter circle within which there is no area subject to protection under the Wetlands Protection Act, MGL C. 131, § 40, and within which any principal building shall be located. All easements, except easements specifically serving the individual dwelling, shall not intersect with the one-hundred-fifty-foot-diameter circle.

The Applicant should update the Plans to comply with this section, or the Planning Board should confirm if this section will be required. As a flexible development, the project can vary from the dimensional requirements of a standard subdivision.

2. Section 218-9.1.F.(1) states that lots having reduced area or frontage shall not have frontage on a street other than a street created by a flexible development.

Lot 20 has reduced frontage of 40.96 feet on an existing public road (Pepperell Road).

3. Section 218-9.1.I.(1)(a) states that as a condition of a grant of any special permit for a flexible development for any development creating more than 10 dwelling units, affordable units shall be required as follows: Fifteen percent of the units shall be affordable to persons or families qualifying as low or moderate income.

The Plans include a total of 19 single-family house lots (units). The Applicant should confirm the number of affordable units.

4. Section 218-9.1.J. states that residential structures shall be oriented toward the street serving the premises.

The proposed dwelling unit on Lot 20 appears to face the side lot line and not the frontage along Pepperell Road.

5. Section 218-9.1.M. states that a minimum of 35% of the parcel shown on the development plan shall be contiguous open space. Any proposed contiguous open space, unless conveyed to the Town or its Conservation Commission, shall be subject to a recorded restriction pursuant to MGL C. 184, §§ 31 through 33 and enforceable by the Town, providing that such land shall be perpetually kept in an open state, that it shall be preserved for exclusively agricultural, horticultural, educational, or recreational purposes, and that it shall be maintained in a manner which will ensure its suitability for its intended purposes.

There were no open space calculations provided. The Applicant should provide open space calculations to confirm they are meeting the requirements of section 218-9.1.M.

6. Section 218-9.1.O. states that a buffer area of 50 feet shall be provided at the perimeter of the property where it abuts residentially zoned or occupied properties, except for driveways necessary for access and egress to and from the site. No vegetation in this buffer area will be disturbed, destroyed, or removed, except for normal maintenance.

The Applicant should provide a minimum 50-foot buffer area along the perimeter of the property where it abuts a neighboring property. This buffer area is not achieved on the south side of the site at Lot 16.

SUBDIVISION RULES AND REGULATIONS

7. Section 381-8.B.(1)(c) states that the sheet number and the total number of sheets is to be lettered in the lower right-hand corner of the title block on each sheet (example: Sheet 2 of 7).

The Plans should be revised to include the sheet number and the total number of sheets in the lower right-hand corner of the title block on each sheet.

8. Section 381-8.B.(2) states that the Plans shall contain a reduced map showing the layout of the lots at a scale of 200 feet to one inch (to be used by the Board of Assessors to update the Town's maps).

The Plans do not contain a reduced map at a scale of 200 feet to one inch. The Plans should be revised to include said map to meet the requirement per Section 381-8.B.(2).

9. Section 381-8.B.(22) states the Plans shall contain the location of subsurface test pits and percolation tests as required by the Board. The Board will not normally require more than one pit per four proposed lots, locations to be selected after consultation with the Board of Health and the Conservation Commission. Test pits and percolation tests shall be performed at locations of leaching catch basins and detention basins. Test pits shall be performed during that portion of the year when groundwater is at its highest elevation.

The Plans do not include the location of subsurface test pits or percolation tests. The Applicant should provide test pit logs and percolation test information for review.

10. Section 381-8.B.(31) states the Plans shall include the location of specimen trees to be saved.

The Plans do not include the location of specimen trees to be saved. The Applicant should confirm if there are any specimen trees to be saved.

11. Section 381-8.C.(1) states that the definitive plan shall be accompanied by a written statement addressing Section 381-8.C.(1)(a) through Section 381-8.C.(1)(e) including subsections.

Nitsch Engineering did not receive a written statement pursuant to all subsections of Section 381-8.C.(1). The Applicant should provide a written statement that addresses all subsections of this section.

12. Section 381-10.B.(5) states that sloped granite curbing shall be provided at all roundings for lanes.

A waiver has been requested for Section 381-10.B.(5). Nitsch Engineering takes no exceptions to this waiver request and recommends the Planning Board decide if this is acceptable.

13. Section 381-10.C.(3) states that the minimum width of a lane shall be 40 feet for the right-of-way and 20 feet for the pavement.

The Plans show a pavement width of 18 feet and should be revised to comply with this section.

14. Section 381-10.D.(3)(c) states that for a lane all changes in grades shall be connected by vertical curves of sufficient length to afford a safe stopping sight distance of 125 feet.

The Plans show four vertical curves with a stopping sight distance less than 125 feet. The Plans should be updated to comply with this section.

15. Section 381-10.G.(1)(c) states that roadway shoulders for a lane shall have a minimum width of three feet.

The Typical Road Cross-Section detail shows a 2-foot wide roadway shoulder. The detail should be updated to comply with this section.

16. Section 381-10.G.(2) states that the shoulders shall pitch at 3/8 inch to the foot towards the curb or swale.

The Applicant should ensure the proper slope is provided on the landscape shoulders.

17. Section 381-11.C.(1) states all drain pipes shall be at least 12 inches' inside diameter and made of reinforced concrete conforming with Massachusetts Department of Public Works specifications for Class III pipe or such higher class as may be required by the depth of cover, which shall be not less than 36 inches where the pipe is subject to vehicular loads. Manhole covers and grates shall be in conformance with Massachusetts Department of Public Works Specifications 201, designed and placed so as to cause no hazard to bicycles. No catch basins shall serve as manholes. Trash racks shall be installed at both ends of all culverts.

A waiver has been requested for Section 381-11.C.(1) and the Applicant is proposing plastic drainage pipe in lieu of reinforced concrete. Nitsch Engineering takes no exceptions to this waiver request and recommends the Planning Board decide if this is acceptable.

18. Section 381-13.A. states sidewalks are required within the street right-of-way as follows: collector streets on each side, minor streets on one side, and lanes on one side.

A waiver has been requested for Section 381-13.A. The Planning Board should determine if this is acceptable.

19. Section 381-13.D. states that If low-impact development techniques are utilized, granite curb inlets shall be installed at all roundings as required in § 381-10B(5). Granite curb inlets shall be provided for all catch basins located within the roadway as required in § 381-23, Curbs.

A waiver has been requested for Section 381-13.D. Nitsch Engineering takes no exceptions to this waiver request and recommends the Planning Board decide if this is acceptable.

GENERAL COMMENTS

20. The Applicant should consider adjusting the roadway profile by raising sag curves and lowering crest curves to minimize the changes in slope and increase stopping sight distances.
21. The Applicant should consider simplifying the horizontal geometry of the roadway by reducing the number of horizontal curves, specifically those with large radii or short lengths.
22. On Drawing C3.2, some details are overlapping with each other. The Plans should be revised to clearly show the details with no overlapping.
23. On Drawing C2.4, some text is overlapping the titleblock. The Plans should be revised to move this text off the titleblock.

24. Silt fence should be provided in addition to the compost filter sock for all perimeter erosion control protection.
25. The erosion control barrier extends beyond the limit of work line at multiple locations. The Plans should be revised so the erosion control barrier is aligned with and just inside the limit of work line.

RECOMMENDATIONS

The Plan appears to conform to the Code, except as noted. The applicant should revise and resubmit the applicable documents.

If the Planning Board has any questions, please call.

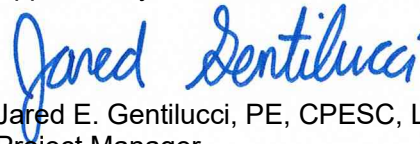
Very truly yours,

Nitsch Engineering, Inc.



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