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June 19, 2020

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June 19, 2020

Planning Board  
Grafton, MA

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**Subject: Abby Woods  
Definitive Plan Review**

# Exhibit 14

Dear Planning Board Members:

We received the following documents in our office May 13, 2020:

- Correspondence from HS&T Group to Grafton Planning Board dated May 11, 2020 re: Abby Woods Definitive Plan Review.
- Plans entitled Abby Woods, A Definitive Subdivision in North Grafton, Massachusetts, Conventional-Development dated February 11, 2020 and revised May 11, 2020, prepared by HS&T Group, Inc. for Central Massachusetts Home Builders, LLC. (13 sheets)
- Bound document entitled Hydrology & Stormwater Management Report, Abby Woods, Definitive Subdivision dated February 11, 2020 (sic), prepared by HS&T Group for Massachusetts Home Builders LLC. [This Hydrology & Stormwater Management Report is dated February 11, 2020 but bears a Detailed Stormceptor Sizing report dated May 11, 2020]

Graves Engineering, Inc. (GEI) has been requested to review and comment on the plans' and supporting documents' conformance with applicable "Grafton Zoning By-Law" amended through October 21, 2019; "Rules and Regulations Governing the Subdivision of Land, Grafton, Massachusetts" revised through April 27, 2009; Massachusetts Department of Environmental Protection (MassDEP) Stormwater Management Handbook and standard engineering practices.

This letter is a follow-up to our previous review letter dated March 26, 2020. For clarity, the comments from our previous letter are *italicized* and our comments to the design engineer's responses are depicted in **bold**. Previous comment numbering has been maintained.

**Our comments follow:**

### Zoning By-Law

1. *GEI has no issues relative to compliance with the Town of Grafton Zoning By-Law.*  
**No further comment necessary.**

### Rules and Regulations Governing the Subdivision of Land

2. *The notes in the other sheets' title block regarding the decision for the Major Residential Special Permit need to be included on Sheet 1. (§3.3.3.14)*  
**Acknowledged. The notes in the title block have been added to Sheet 1.**

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3. *The plans need to be clear that catch basins are required to have curb inlets. The plan view on Sheet 8 needs to show the granite curbing extending beyond catch basins CB 1 and CB2 enough to accommodate a curb inlet and a transition stone, and on Sheet 9 the "Catch Basin Detail" or the "Municipal Standard Catch Basin Frame & Grate" construction detail needs to specify that a curb inlet (which requires a three-flange frame) is required. (§4.7.8.3)*  
**Acknowledged. Sheet 8 has been revised to show granite curbing beyond CB1 and CB2. The "Catch Basin Detail" has been revised to "Precast Concrete Catch Basin with Curb Inlet Detail".**
4. *On Sheet 10 the "Drain Manhole Detail" needs to be revised to include an invert channel constructed of concrete or sewer brick. (§5.4.1.6)*  
**Acknowledged. The "Drain Manhole Detail" has been revised to include an invert channel.**

### **Hydrology & Stormwater Management Review**

5. *GEI reviewed the hydrology computations and found them to be in order relative to definitive plan review by the Planning Board.*  
**No further comment necessary.**
6. *Compliance with the MassDEP Stormwater Standards and Handbook is in order except as noted in the three following comments.*  
**Compliance with MassDEP Stormwater Standards and Handbook is in order.**
7. *The rip rap calculations need to be revised to incorporate the new (higher) flow rates.*  
**Acknowledged. The riprap calculations have been revised to incorporate the higher flow rates.**
8. *We are concerned about whether the STC450i is suitable for the proposed tributary areas that are larger than those modeled in the supporting documents. Larger areas can produce higher runoff flow rates that could re-suspend accumulated sediments. The TSS removal rates in the supporting documents were based upon one acre of tributary area that is 100% impervious. Although the actual impervious areas are smaller (0.40 and 0.45 acres), the actual tributary areas are much larger (3.66 acres and 5.55 acres). The supporting documents need to be revised to include the entire tributary area. If it is found that larger treatment units are required then the plans will have to be revised accordingly.*  
**Acknowledged. The impervious areas and tributary areas have been updated and the STC450i remains suitable for the corresponding areas.**
9. *Each lot is proposed to have a Cultec system for roof runoff. However, the Cultec details on Sheet 9 are generic instead of being project-specific. A detail needs to be prepared that clearly shows the contractor the Cultec system required for each building lot. (One detail is sufficient if the same configuration is proposed for each of the ten lots.) Required information includes the number of Cultec chambers, and overall system dimensions (footprint).*  
**Acknowledged. A "Cultec Contractor 100HD Detail" has been added to Sheet 9.**

### **General Engineering Comments**

10. *At DMH5, the pipe invert elevation drop of 0.10 feet needs to be increased to accommodate the change in pipe diameter from 12" to 18". The drop needs to be 0.5 feet to match pipe crowns. As an alternative to the 0.5-foot drop, the design engineer could consider matching*

*the 8/10 height of the two pipe sizes, but the invert elevation difference would still be greater than the proposed 0.10 feet.*

**Acknowledged. The invert elevations have been adjusted for DMH5.**

11. *On Sheet 3, the bearings of the access and drain easement lines (four lines) that run parallel to the lot line between Lots 3 and 4 must be revised to be consistent with the bearings of the lot lines. The easement lines were drawn parallel to the lot lines but the bearings of the easement lines are substantially different than the bearings of the lot lines.*

**The bearings have not been revised. The bearings are on Sheet 2, not on Sheet 3 as we commented earlier.**

12. *Sheet 2 shows a snow easement that is in conflict with the driveway of Lot 5 (see Sheet 6 for driveway location). This easement needs to be eliminated and replaced with the snow easement shown on Sheet 3 at the property line between Lots 5 and 6. Also, on Sheet 3 the label for the snow easement needs to be revised from "50' x 10'" to "50' x 15'".*

**Acknowledged. The easement on Sheet 2 has been eliminated and replaced with the easement shown on Sheet 3. The dimensions on sheets 2 and 3 are listed as "50 x 15".**

### General Comments

13. *Grafton Wetlands Regulations and Grafton Stormwater Regulations have additional design requirements. The Applicant should be cognizant of these regulations.*

**The design engineer responded that the wetlands and buffers have been updated based on peer review from JMM Wetland Consulting Services, LLC.**

We trust this letter addresses your review requirements. Feel free to contact this office if you have any questions or comments.

Very truly yours,  
**Graves Engineering, Inc.**



Jeffrey M. Walsh, P.E.  
Principal

cc: Lesley Wilson, HS&T Group, Inc.